State Title V Block Grant Narrative

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Sections 5.4 – 5.7, containing standard forms and detailed descriptions of national and State performance and outcome measures, are not included in this PDF. Data from these sections can be viewed in interactive formats on the Title V Information System Web site (http://www.mchdata.net).

This PDF was produced by the National Center for Education in Maternal and Child Health under its cooperative agreement (MCU-119301) with the Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services.

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1.4 Overview of the State

Oklahoma's cultural composition is a major determinant in addressing health issues for the state's maternal and child health population. Classical indicators of maternal and child health associates Oklahoma with some of the poorer states of the Deep South. However, the western plains area contains residents who are culturally linked to the strong independent attitude pervasive in many of the western states today. As a result, the Oklahoma State Department of Health, including the Maternal and Child Health Service, is challenged to provide services that address all the health needs of the MCH populations and yet is responsive to the attitudes of the people who resist governmental involvement.

Historically, the state's politics and its population have been strongly conservative. Nevertheless, many specific issues strongly advocated by the state health agency are supported by the state legislature through funding allocations, enabling legislation, or by both.

Oklahoma's Native American population comprises 7.9% of the 1998 Census estimate of 3,346,700 residents, the second largest population behind California and the fourth highest percent among the 48 contiguous states. Within this racial group, over three dozen tribes are represented. Consequently, it is difficult to define common characteristics that adequately describe these divergent groups. African Americans, the second largest minority group, represent 7.8% of our total population. Hispanics now represent 3.9% of our population, showing a growth rate of more than fifty percent between 1990 and 1998. Almost one-fifth of the state's net growth in population between 1990 and 1998 was due to increases in the Hispanic population.

More than 32% of Oklahomans live in rural areas compared to 24.8% for the United States. Yet, available health care services, both general and specialized care, are clustered in urban areas. Some rural counties in Oklahoma do not have physicians who deliver babies nor have hospitals that provide delivery services except on an emergency basis. One major change, which has been observed during the second half of this decade, is the transformation that corporate health care has brought to both inpatient and ambulatory care. Many of the smaller communities are discovering that their independent hospital cannot survive financially. Even when purchased or managed by a larger hospital corporation or consortium, services are severely curtailed or are eliminated because of cost containment. This transition is continuing and the full impact of local unavailability of traditional care has not been realized by most of the residents who have not yet been directly impacted by these changes. Also, managed care has now been integrated into the state's Medicaid services. However, the Medicaid Program is still evolving as the Oklahoma Health Care Authority continues to seek statewide implementation of Medicaid reimbursed care using health maintenance organizations. Therefore, evaluation of these changes is still difficult.

Currently, one in two children born to Oklahoma residents is the result of a mistimed or unintended pregnancy. Another measure of the potential for good health starting in infancy is the level of prenatal care received during the first trimester of pregnancy. Oklahoma lags behind the rest of the nation in this regard at 78.6% in 1998. Oklahoma has significantly

higher birth rates than the U.S. average for 15-19 year-old females. In 1998 in the U.S., 12.5% of all babies born were born to women under 20. In Oklahoma, the figure was 16.2%. In a 1999 survey, 22% of 2-year-old children were reported to be inadequately immunized in Oklahoma. In Oklahoma for SFY2000, 20.8% of the state's children were enrolled in the state Medicaid program and an estimated 21.7% are without health insurance.

The Oklahoma State Department of Health (OSDH) as the state health agency is responsible for the administration (or supervision of the administration) of programs carried out with allotments under Title V [Section 509(b)]. The Maternal and Child Health Service is responsible for the Women's Health, Screening and Special Services, Child and Adolescent Health, Child Guidance, Immunization, Early Intervention, Children First, Office of Child Abuse Prevention Programs. Administration of these programs includes needs assessment, program planning, program implementation, monitoring and evaluation. Assessment and Epidemiology, Fiscal, Personnel, and Public Health Systems Divisions facilitate these programs. The administration of the Children with Special Health Care Needs program is provided by the Department of Human Services (DHS) according to state statute. The OSDH and the DHS collaborate to administer this program through a memorandum of agreement between the two agencies. The current agreement expires September 30, 2000. A copy of the proposed agreement for FFY2001 is included in **5.3 OTHER SUPPORTING DOCUMENTS**.

In 1995, Oklahoma implemented Medicaid managed care in three urban areas of the state pursuing an HMO model initially under a 1915(b) waiver and later under an 1115(a) waiver. Under the 1115(a) waiver, Oklahoma began implementing a primary care case manager model in 1996 in the rural parts of the state. The rural model is unique in that it partially capitates the primary care services to the primary care provider. Consequently, major disruptions have occurred in the provision of direct services by county health departments because of the shift of patients to Medicaid primary care case managers. The impact of Medicaid managed care and health care reform strongly affects inpatient care as well. In a move seen as cost cutting, the state legislature transferred the management of the teaching hospitals in Oklahoma City to HCA Columbia Corporation in 1998. Previously, these two hospitals, Oklahoma Memorial Hospital and Oklahoma Children's Memorial Hospital, were the state's only indigent care facilities. With these continuing changes in the management and distribution of health care delivery, Oklahoma's Title V MCH Program has redirected efforts toward enabling services, such as outreach and transportation, and population-based services. Many rural physicians have voiced major concerns over the changes forced upon them by Medicaid managed care, and many are refusing to participate. However, the state's Medicaid agency is implementing plans to continue broadening the coverage of the HMO model into rural communities. The implementation of the State Children's Health Insurance Program in Oklahoma has used the Medicaid option, expanding covering children through age 17 at 185% of the Federal Poverty level.

Oklahoma has been quick to implement the Temporary Assistance to Needy Families (TANF) program. Through the Work Experience Program and the Supplemental Work Program, women are offered work experience that can

provide them with skills to become gainfully employed. Concerns still exist, however, on its impact on enrollment in Medicaid and on children previously eligible for SSI.

In early 1998, the state of Oklahoma and three partnership communities were awarded a Turning Point planning grant. This initiative was funded through the Robert Wood Johnson and Kellogg Foundations as an initiative to transform and strengthen the public health infrastructure in the U.S. to meet the challenge to protect and improve the public's health in the 21st century. The Oklahoma proposal focused on state and community partnerships to address community driven population-based public health interventions. MCH has supported Turning Point as part of its overall community-based strategy to address MCH services. Recognizing the success of this planning initiative in Oklahoma, Robert Wood Johnson Foundation awarded a 4 year implementation grant to Oklahoma in 2000. This grant proposes to expand the Turning Point initiative to all 77 counties in Oklahoma by 2005.

1.5 The State Title V Agency

1.5.1 State Agency Capacity

Maternal and Child Health Service (MCH) reorganized in 1999 to improve communication across MCH related programs, to more efficiently utilize limited resources and to better address program outcome measures at the state and federal level. MCH has a broad focus which includes traditional Title V MCH programs as well as Family Planning, Early Childhood Intervention, Child Abuse Prevention, Immunization, Children First and Child Guidance. In May 2000, the Oklahoma State Department of Health's Board of Health appointed a new Acting Director amidst a federal investigation of Medicaid fraud involving the regulation of longterm care facilities. The new Acting Director is currently examining agency structure for needed changes to increase efficiency and effectiveness in addressing the public's health.

Although the Department of Human Services and CSHCN Program leadership has remained stable in the last year, there has been increasing interest this year by the Director of the Department of Human Services to redirect CSHCN funds to target three specific areas: 1) mental health care needs of the CSHCN population that is in the custody of DHS; 2) food products for children with phenylketonuria (PKU); and 3) establishing a center in the state to treat autism. The redirection of CSHCN funds would impact current genetic, nutrition and social work services that have been provided for the past two years through a negotiated services plan with MCH. To meet the challenges of these ongoing changes to include redirect of CSHCN funds, MCH and CSHCN leadership meet on a routine basis to facilitate communication and joint program initiatives.

1.5.1.1 Organizational Structure

Oklahoma is one of seven states who have two agencies that administer the Title V program, the Oklahoma State Department of Health and the Department of Human Services. The Maternal and Child Health Service (MCH) in the Oklahoma State Department of Health (OSDH) is responsible for the Title V MCH programs. With the recent retirement of the Commissioner of Health in June 2000, the new Acting Director of OSDH concurrently serves as the Governor's Cabinet Secretary over Health and Human Services. The Deputy Commissioner for Person Health Services reports to the Commissioner of Health within the OSDH. The Chief of the Maternal and Child Health

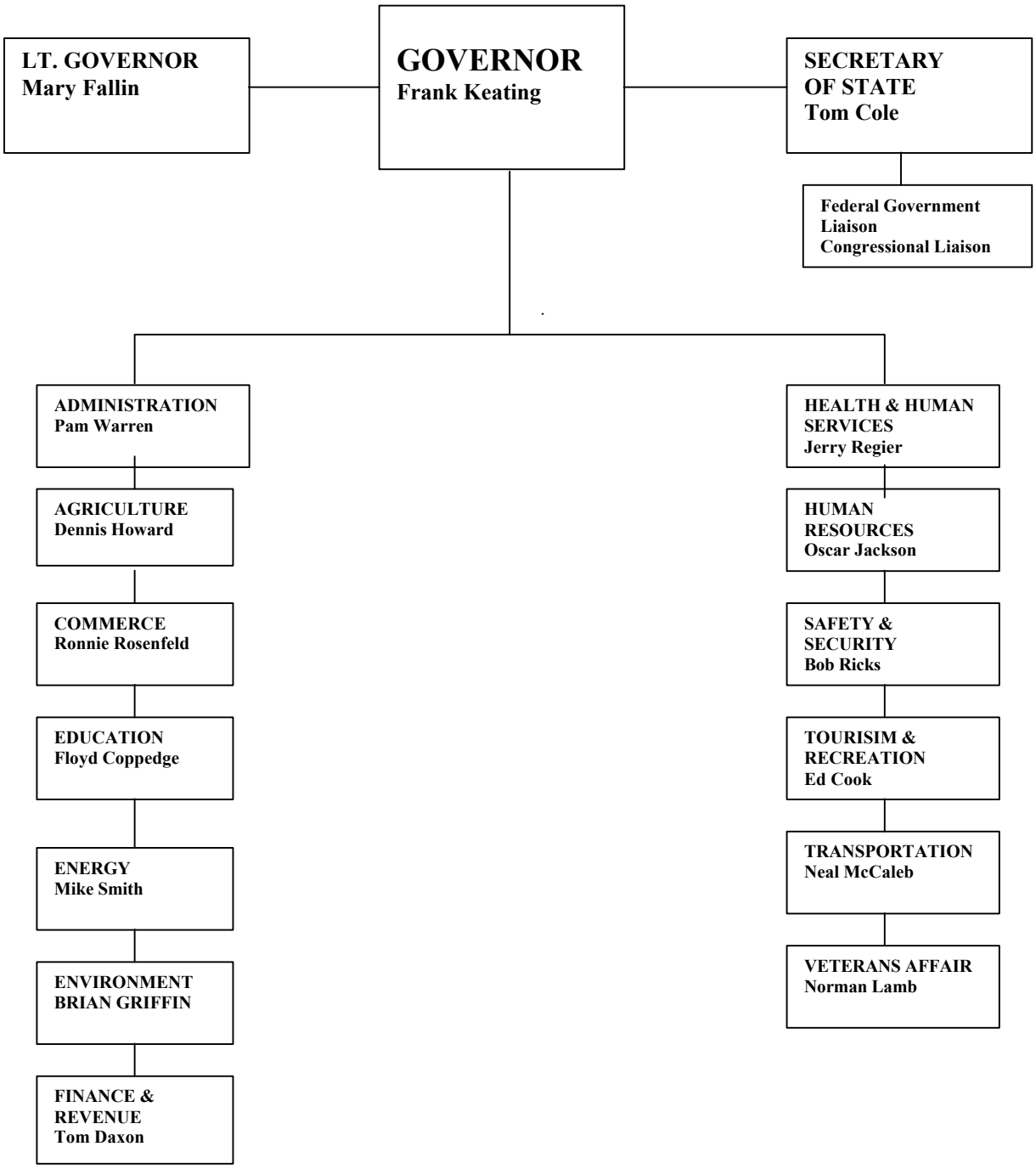
Service reports to the Deputy Commissioner for Personal Health Services. MCH Services are carried out directly at the state level and through negotiated budgets and work plans with OSDH Local Health Service county health departments and contractual agreements with community agencies and organizations.

The Title V Children with Special Health Care Needs (CSHCN) Program is located in the Oklahoma Department of Human Services (DHS) within Health Related Medical Services (HRMS). HRMS is organizationally placed under the Family Support Services Division. The Division Administrator is also the CSHCN Director and reports to the Associate Director. The Associate Director reports directly to the Director of the Department of Human Services. The Director of the Department of Human Services relates to the Governor's Office through the Cabinet Secretary for Health and Human Services. Historically, there has been concern regarding the lack of staff dedicated to the CSHCN Program. DHS works on a different cost allocation system than OSDH. This leads to a lower number of full time equivalent (FTE) staff being reflected than would be reflected under a time and effort reporting system. The CSHCN Program provides services in every county of the state through the local county offices of DHS and through contractual agreements with community agencies and organizations.

The OSDH is authorized to receive and disburse the Title V MCH Block Grant Funds as provided in Title 63 of the Oklahoma Statutes, Public Health Code, Sections 1-105 through 1-108. These sections create the State Department of Health; charge the Commissioner of Health to serve under the Board of Health and outlines his duties as "general supervision of the health of citizens of the state". Title 10 of the Oklahoma Statutes, Section 175.1 et.seq. grants the authority to administer the CSHCN Program with the Oklahoma Department of Human Services.

STATE OF OKLAHOMA

GOVERNOR'S CABINET



Oklahoma State Department of Health
Interim Organizational Chart
May 4, 2000

Commissioner of Health
Jerry R. Nida, MD, MPH
(on medical leave)

State Board of Health

Internal Audit Unit
Chief: Vacant

Acting Director of Health Dept.
Jerry Regier

Legal Division
Chief Legal Counsel: Jack Atkinson

Civil Rights Administrator
Charles Smith

Office of Public Health Innovation
Director: Neil Hann, MPH

Deputy Commissioner & State Vital Records Registrar - Vacant

Office of Communications
Director: Leslea Bennett-Webb

Operations and Management
Deputy Commissioner: Vacant
Internal Services
Assistant Deputy Commissioner: Roger Hartman
Financial Management Service
Chief: Ray Hankins
Data Management Service
Chief: Ernie Landry
Vital Records Management
Chief: John C. Burks, Sr.
Office of Human Resources
Chief: Diane Biard-Holmes

Local Health Services

Deputy Commissioner:
Doyle Carper
Assistant Deputy Commissioner:
Stephen W. Ronck, MPH
Adminstrative Director:
Carla K. Pirrhong
Nursing Service
Chief: Toni Firoux, RNC
Eldercare Service
Coordinator: Robn Mitchell
Records Management
Coordinator: Mike Ewald

Personal Health Services

Deputy Commissioner & State Health Officer:
Sara Reed DePersio, MD, MPH, FACPM
State Epidemiologist: Michael Crutcher, MD, MPH
Administrative Director: Yvonne Myers
Acute Disease Service
Chief Joe Mallonee, MPH
Chronic Disease Service
Chief: Adeline Yerkes, RN, MPH
Dental Service
Chief: Michael l. Morgan, DDS, MPA
HIV/STD Service
Chief: William R. Pierson,
Maternal & Child Health Service
Chief: Edd D. Rhoades, MD, MPH
Public Health Laboratory Service
Chief: John R. Hitz, Dr.PH
WIC Service
Chief: Tom Freeman

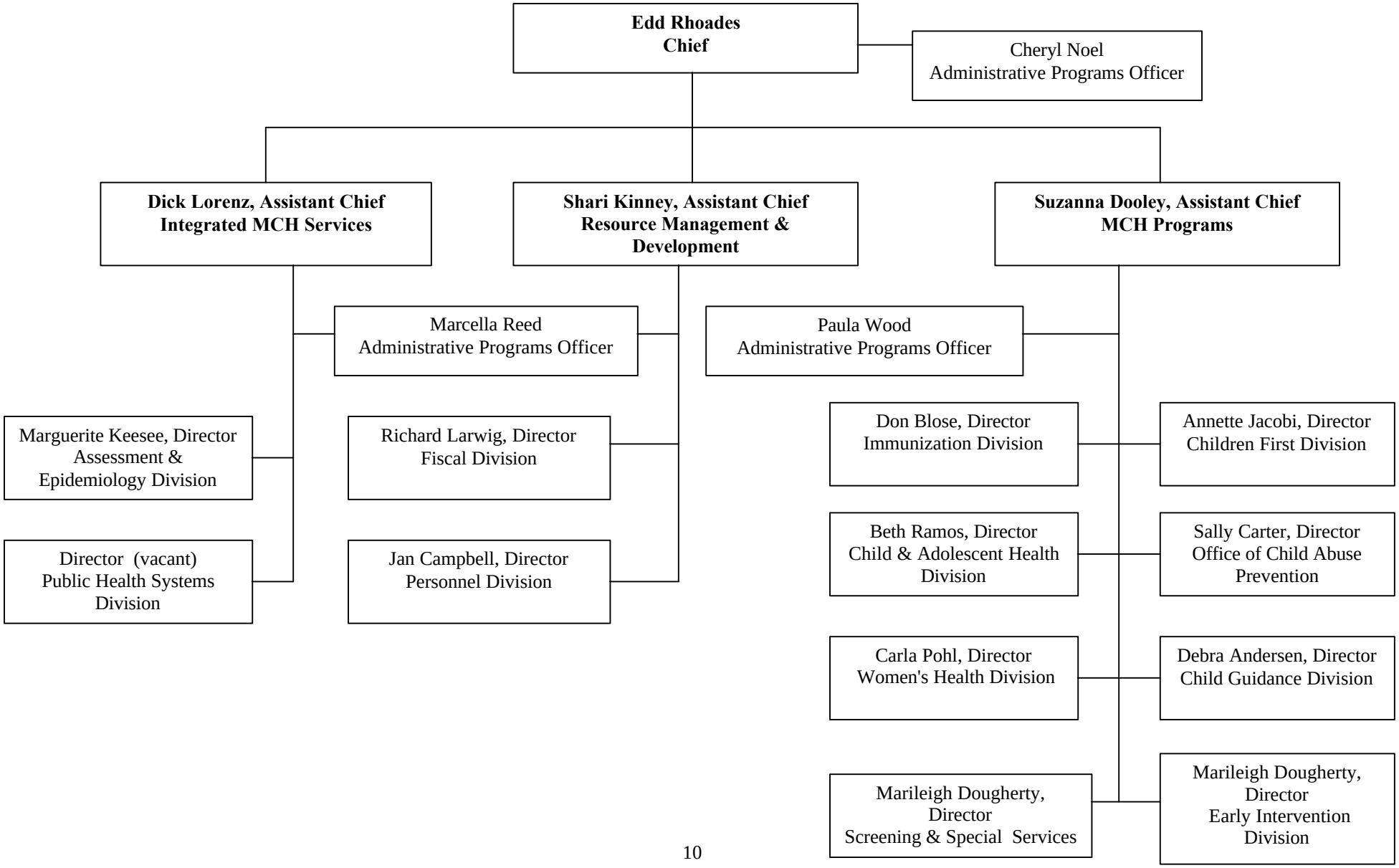
Special Health Services

Deputy Commissioner:
Vacant
Medical Director:
Shelly Jacobs, MD
Health Resources Development Service
Director: Henry Hartsell, Jr., PhD
Environmental Health Service
Chief: Rocky McElvany
Long Term Care Service
Chief: Evelyn Battle
Medical Facilities
Chief; Gary Glover
Office of Rural Health
Director: Val Schott, MPH
Professional Counselors Licensing
Director: Mike Blazi

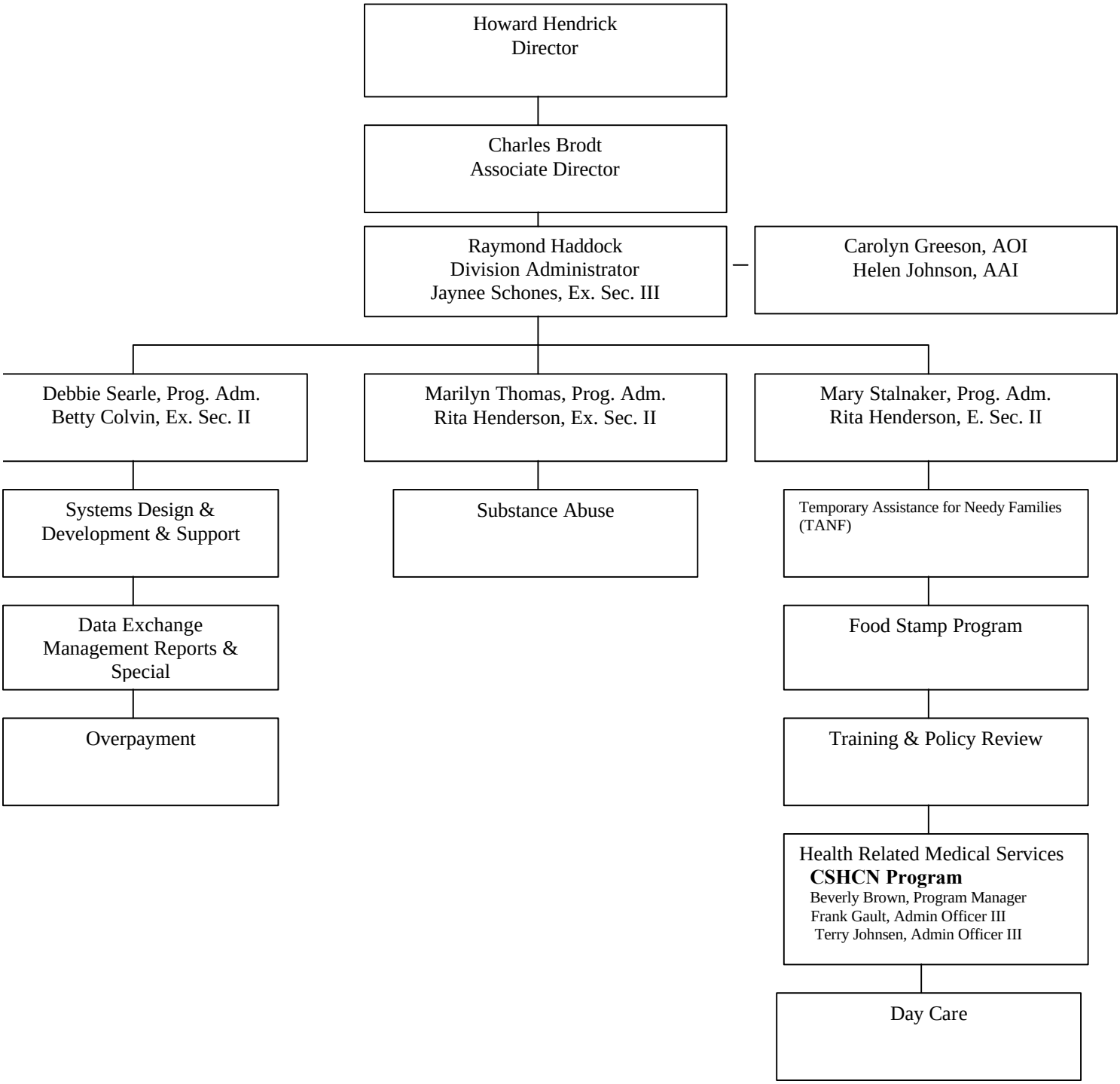
Health Promotion and Policy Analysis

Deputy Commissioner:
Robert D. Vincent, PhD
Office of Tobacco use Prevention
Director: Doug Matheny, MPH
Center for Health Statistics
Director: Sue Mallonee, RN, MPH
Office of Minority Health
Director: Vacant
Office of Primary Care
Director: Mike Brown
Injury Prevention Service
Chief: Sue Mallonee RN, MPH

OKLAHOMA STATE DEPARTMENT OF HEALTH
MATERNAL AND CHILD HEALTH SERVICE



OKLAHOMA DEPARTMENT OF HUMAN SERVICES
FAMILY SUPPORT SERVICES DIVISION
ORGANIZATIONAL CHART
Effective 7-1-99



1.5.1.2 Program Capacity

Presently MCH is organized into the following Divisions to provide preventive and primary care services for pregnant women, mothers and infants, and preventive and primary care services for children and adolescents: Public Health Systems, Assessment and Epidemiology, Fiscal, Personnel, Child and Adolescent Health, Child Guidance, Screening and Special Services, Early Intervention, Women's Health, Children First, the Office of Child Abuse Prevention, and Immunization. CSHCN funds the Oklahoma Commission on Children and Youth (OCCY) for parent travel and child care stipends, the Oklahoma Infant Transition Project (OITP), the Oklahoma Areawide Services Information Systems (OASIS), the J.D. McCarty Center's Respite Care Program, and the Supplemental Security Income-Disabled Child Program (SSI-DCP). DHS and the OSDH are currently negotiating a new service plan for CSHCN services to be provided through the OSDH for State Fiscal Year 2001. CSHCN also funds developmental outreach clinics in rural areas of the state and purchases PKU formulas and amino acid bars for children with phenylketonuria without resource or income tests. The CSHCN Program also provides direct care equipment, specialized adaptive equipment, and purchases direct services for the special needs population.

1.5.1.3 Other Capacity

Leadership of the MCH programs includes a Service Chief, three Assistant Chiefs and twelve program directors. Of approximately 125 central office staff positions within MCH, a total of 38.0 FTE are directly funded by Title V. Grants, state funds, and other federal funds also provide funding for MCH staff. While staff may be assigned responsibility for one program area, their responsibilities dovetail with other MCH program areas. Assessment, planning, evaluation and data analysis has been a major priority in MCH. Epidemiologists and a biostatistician have been hired to fulfill these functions for each MCH program area. A full-time parent advocate has been employed by MCH to represent the interests of families in MCH and CSHCN program planning and activities. Both MCH and CSHCN acknowledge the need for an additional full-time parent advocate but would need to look at redirecting existing funds to pay for this position. Currently, funds are fully budgeted. Related, MCH has been unable to fund the state level MCH Social Work Consultant and State Systems Division Director positions this past year. Pay increases to state employees the past two years have negatively impacted the MCH budget. The state legislature funds increases for employees funded with state dollars but not employees funded with federal dollars. MCH has had to budget additional federal funds to cover staff paid with federal dollars which has led to key positions being vacant until funds can be identified and redirected. As stated before under 1.5.1.1 Organizational Structure, the system used by DHS to track the number of FTE in the CSHCN Program is different that that used by OSDH. No FTE within the DHS is totally funded by Title V. The most recent projection is that approximately 45 FTE were involved with the CSHCN Program during the last fiscal year.

Biographical Sketch

Name (Last, first, middle initial)	Title	Birth Date (Mo. Day Yr.)
Gault, Frank	Administrative Programs Officer III	12/27/49

EDUCATION (begin with baccalaureate or other initial professional education and include postdoctoral training)

Institution and Location	Degree	Year Completed	Field of Study
Oklahoma State University, Stillwater, OK	BS	1972	Psychology
University of Oklahoma, Norman, OK	MS	1978	Social Work

EMPLOYMENT

Department of Human Services
P.O. Box 25352
Oklahoma City, OK 73125
Phone: (405) 521-4394
Fax: (405) 521-4158

Started to work for Department of Human Services in 1972, holding a variety of positions. Presently working in Family Support Services Division, Health Related and Medical Services Unit. Areas of responsibility, EPSDT, Family Planning, CSHCN.

Biographical Sketch

Name (Last, first, middle initial)	Title	Birth Date (Mo. Day Yr.)
Edd D. Rhoades	Chief	09/05/47

EDUCATION (begin with baccalaureate or other initial professional education and include postdoctoral training)

Institution and Location	Degree	Year Completed	Field of Study
University of Oklahoma, Norman, OK	BA	1969	Pre Medicine
University of Oklahoma School of Medicine, Oklahoma City, OK	MD	1972	
University of Oklahoma College of Public Health, Oklahoma City, OK	MPH	1985	Health Administration

EMPLOYMENT

1997 – Present	Chief, Maternal and Child Health Service	OK State Department of Health Oklahoma City, OK
1996 – 1997	Acting Chief, Maternal and Infant Health Service	OK State Department of Health Oklahoma City, OK
1993 – 1996	Chief, Child Health and Guidance Service	OK State Department of Health Oklahoma City, OK
1978 – 1993	Director, Pediatric Division, Maternal and Child Health Services	OK State Department of Health Oklahoma City, OK
1975 – 1978	Chief of Pediatrics, U.S. Public Health Services, PHS Indian Hospital	PHS Indian Hospital Shiprock, New Mexico
1998 – Present	CDC Asthma Contact	OK State Department of Health Oklahoma City, OK
1987 – 1991; 1995 – present	Member, State Interagency Coordinating Council; Part H, Early Intervention Services	Oklahoma Commission for Children and Youth Oklahoma City, OK

Biographical Sketch

Name (Last, first, middle initial)	Title	Birth Date (Mo. Day Yr.)
Johnsen, Terry	Administrative Programs Officer III	04/27/43

Education (begin with baccalaureate or other initial professional education and include postdoctoral training)

Institution and Location	Degree	Year Completed	Field of Study
OCLA, Chickasha, OK	BS	1973	Sociology & Interpersonal Communication
University of Oklahoma - Norman, OK	MSW	1986	Social Work Administration
University of Oklahoma - Norman, OK	MSW	1988	Social Work Clinical

EMPLOYMENT

Employed by the Department of Human Services (DHS) from February, 1974 through current (24 years)

Ms. Johnsen worked at DHS as follows:

1973 -1974 A Disability Examiner for SSI/SSA Disability Determination Unit

1974 -1978 A Social Worker for AFDC, ABD, Food Stamps an CCP

1978 -1981 Intake Worker for All Programs In Two Different County Offices

1981-1990 Social Work Supervisor in Two County Offices

1990 through present Administrative Officer for SSI-DCP Title V

Biographical Sketch

Name (Last, first, middle initial)	Title	Birth Date (Mo. Day Yr.)
Haddock, Raymond	Administrator, Family Support Services Division	12/03/47

Education (begin with baccalaureate or other initial professional education and include postdoctoral training)

Institution and Location	Degree	Year Completed	Field of Study
Southeastern University - Durant, OK	BS	1970	Social Science
Southeastern University - Durant, OK	Graduate Work	1975	Counseling

EMPLOYMENT

Department of Human Services
P.O. Box 25352
Oklahoma City, OK 73125
Phone: (405) 521-3076
Fax: (405) 521-3076

Mr. Haddock has worked for the Department of Human Services for 25 years. He bagan his employment with DHS as a Social Worker in Bryan County. He has held various positions within the county and state offices. Currently, Mr. Haddock is the Division Administrator of the Family Support Services Division.

Biographical Sketch

Name (Last, first, middle initial)	Title	Birth Date (Mo. Day Yr.)
Kinney, Sharyl (Shari) K.	Assistant Chief	05/29/53

EDUCATION (begin with baccalaureate or other initial professional education and include postdoctoral training)

Institution and Location	Degree	Year Completed	Field of Study
University of Kansas - Lawrence, KS	BA	1975	Biology Human Development and Family Life
OU College of Nursing, Oklahoma City, OK	BSN	1978	Nursing
OU College of Nursing, Oklahoma City, OK	MS	1983	Pediatric Clinical Nurse Specialist

EMPLOYMENT

1998 - Present	Assistant Chief, Maternal and Child Health Service	OK State Department of Health Oklahoma City, OK
1996 to 1998	Deputy Chief, Maternal and Child Health Service	OK State Department of Health Oklahoma City, OK
6-93 to 10-96	Director, Congenital Disorders Division	OK State Department of Health Oklahoma City, OK
5-89 to 5-93	Genetic Screening Coordinator	OK State Department of Health Oklahoma City, OK
8-88 to 12-96	Clinical Assistant Professor of Nursing	OU College of Nursing Oklahoma City, OK
1-88 to 5-89	Clinical Nursing Program Manager	Children's Hospital of OK Oklahoma City, OK
7-86 to 12-87	Nursing Quality Assurance/ Discharge Planning Coordinator	Children's Hospital of OK Oklahoma City, OK
9-84 to 7-86	RN Clinical Instructor	Children's Hospital of OK Oklahoma City, OK

Biographical Sketch

Name (Last, first, middle initial)	Title	Birth Date (Mo. Day Yr.)
Dooley, Suzanna D.	Assistant Chief	8/21/59

Education (begin with baccalaureate or other initial professional education and include postdoctoral training)

Institution and Location	Degree	Year Completed	Field of Study
Oklahoma Baptist University, Okla. City, OK	BS	1981	Nursing
University of Colorado, Denver, CO	Certificate	1984	Pediatric Nurse Practitioner
University of Oklahoma, Norman, OK	MS	1986	Community Hlth Nursing Mgmt.

RESEARCH AND PROFESSIONAL EXPERIENCE List in reverse chronological order previous employment and experience. List in reverse chronological order most representative publications.

Assistant Chief, Maternal and Child Health Service, 1998 - present
Oklahoma State Department of Health (OSDH),Oklahoma City, OK

Deputy Chief, Individual and Family Services, 1997 – 1998
OSDH, Oklahoma City, OK

MCH Consultant, Child Health and Guidance Service, 1995-1997
OSDH, Oklahoma City, OK

Advanced Registered Nurse Practitioner, 1993-1995
Self-employed, Hobe Sound, FL, Pediatric Clinical Consultant

Advanced Registered Nurse Practitioner, 1991-1992
Gregory Maternal Child Health Clinic, Conroe, TX

Nursing Instructor, 1990-1992
North Harris College, Houston, TX

Oklahoma State Department of Health 1982-1990
Pediatric Program Consultant, Oklahoma City, OK
Pediatric High Risk Program Coordinator, Oklahoma City, OK
District Nursing Supervisor, Lawton, OK
Pediatric Nurse Practitioner, Oklahoma City, OK
Public Health Nurse, Shawnee, OK

Biographical Sketch

Name (Last, first, middle initial)	Title	Birth Date (Mo. Day Yr.)
Richard R. Lorenz, MSPH	Assistant Chief Maternal and Child Health Service	10/30/46

Education (begin with baccalaureate or other initial professional education and include postdoctoral training)

Institution and Location	Degree	Year Completed	Field of Study
Union College, Lincoln, NE	BA	1969	Mathematics
Loma Linda University, Loma Linda, CA	MSPH	1973	Biostatistics

RESEARCH AND PROFESSIONAL EXPERIENCE List in reverse chronological order previous employment and experience. List in reverse chronological order most representative publications.

March 1997 – Present
Assistant Chief
Maternal and Child Health Service
Oklahoma State Department of Health
Oklahoma City, OK

November 1978 – March 1997
Director, Maternal and Child Health Service
Planning and Evaluation Section
Oklahoma State Department of Health
Oklahoma City, OK

February 1974 – November 1978
Statistician, Family Planning Division
Maternal and Child Health Service
Oklahoma State Department of Health
Oklahoma City, OK

1.5.2 State Agency Coordination

In Oklahoma, state health and human service agencies are loosely organized under the Cabinet Secretary over Health and Human Services who is appointed by the Governor. The new Acting Director of the OSDH concurrently serves as Cabinet Secretary for Health and Human Services. Health and human service agencies in Oklahoma include the Oklahoma State Department of Health (OSDH), Department of Mental Health and Substance Abuse Services (DMHSAS), Department of human Services (DHS), Department of Rehabilitation Services (DRS), Office of Juvenile Affairs (OJA), Oklahoma Health Care Authority (OHCA) {Medicaid Agency}, and the Oklahoma Commission on Children and Youth (OCCY). The Department of Corrections and Department of Education are under different cabinet secretaries. The OCCY is charged with planning and coordinating children's services in the state in addition to providing oversight for juvenile services. The agency heads of all the major agencies serving children are appointed to serve on OCCY. The MCH program coordinates on a number of levels with other state agencies serving children to enhance public health interventions with the MCH population.

Under the provisions of Public Law 97-35, Section 509(b), the administration of the Oklahoma Title V MCH Program is shared by the Oklahoma State Department of Health (OSDH) and the Department of Human Services (DHS). Administration of services to women, infants, children and adolescents is provided by OSDH. Administration of services to children with special health care needs is administered by the DHS. Since the Omnibus Budget Reconciliation Act (OBRA) of 1981, DHS has received its designated portion of the Title V MCH monies to operate the CSHCN Program. The statutory authority which designates DHS to operate the CSHCN Program is covered in Title 10 of the Oklahoma Statutes 1981, Section 175.1 et. seq. And article XXV of the Oklahoma Constitution. This act refers to the Crippled Children's Program (renamed by state statute effective September 1, 1992) as follows:

> *It is the intent and purpose of this act to provide for a more efficient administration of the Crippled Children's Program in Oklahoma and to provide for a continuity of dependable funds to establish and conduct a program of medical care for children who are crippled or who are suffering from conditions leading to crippling, or otherwise handicapped, or who are suffering from conditions or maladies amenable to treatment; to cooperate with counties and all public and private agencies and institutions interested in the care of children in making county funds and resources of these public and private agencies and institutions available for the care of such children; to cooperate with the appropriate agency of the federal government in making effective the provisions of the Federal Social Security Act relating to crippled children and such other laws, provisions, or programs that the Congress has adopted or may adopt for the remedial care of such children, including provisions for prevention, for locating such children and for providing medical, corrective, and other services and care, and facilities for diagnosis, hospitalization, and aftercare for such children.*

The public health system in Oklahoma includes the Oklahoma State Department of Health and county health departments in 69 of 77 counties. The City-County health departments in Oklahoma and Tulsa counties have their own personnel systems and are administratively separate from the state system. The remaining county health departments are administrative units of the OSDH. In addition, there are 4 community health centers in Oklahoma and an extensive network of Indian Health Service hospitals and clinics. Two medical schools are located in Oklahoma with one in Tulsa and the other in Oklahoma City which also maintains a Tulsa campus. In addition, the College of Public Health within the University of Oklahoma Health Sciences Center in Oklahoma City contributes significantly to the advancement of public health in Oklahoma through its education and training programs. The MCH program coordinates on a number of levels with other state agencies serving children to enhance public health interventions with the MCH population.

The Oklahoma Areawide Service Information System (OASIS) is a statewide information and referral system for children with special health care needs, infant, child health and maternity services. The Title V MCH Program funds this toll-free telephone service through contractual arrangements with OASIS. The telephone number for the MCH Hotline is 1-800-OASIS. OASIS is in operation Monday –Friday from 8:00 AM to 6:00 PM with an answering machine for after-hours calls. Individuals who leave a message after hours are contacted the following work day, resources are not currently available to expand this service to provide 24 hour coverage. TDD/TTY services for the deaf are available and bilingual staff are available to Spanish speaking callers. OASIS also maintains a web site for information and referral services. The website contains information about OASIS, SoonerStart, MCH, CSHCN and other programs and agencies as well as a searchable directory of programs throughout the state. The website is being used more and more as noted in the increasing numbers reported on Form 9, 5. Number of Calls Received on the State MCH "Hotline" This Reporting Period. The number reported is a combination of phone calls and web visits.

With the implementation of Medicaid managed care in 1995, local health departments are largely restricted to providing services to a small group of clients with Medicaid cards that are not enrolled in managed care. These services are eligible for fee-for-service reimbursement. Children who receive Aid to the Disabled were transitioned into managed care in 1999- 2000. Foster children, children in Department of Human Services custody, and children in an adoption subsidy remain in a fee-for-service reimbursement.

Local health departments continue to be eligible for certification as Early Periodic Screening, Diagnosis and Treatment (EPSDT) providers under the Child Health Center category. EPSDT services can be provided to children with Medicaid cards who are in fee-for-service and a small number of managed care clients who are referred from the primary care physician and are unable to get EPSDT services in a timely manner (within three weeks).

The OSDH Title V MCH Program and the Oklahoma Health Care Authority (OHCA) Title XIX Medicaid Program have a cooperative agreement whereby the OSDH is responsible for developing the Medical Standards of Care for

Maternity (including high risk case management and enhanced care services), Family Planning, and EPSDT services provided by the OSDH and certain other public clinics. As part of this agreement, OSDH conducts initial and periodic reviews and certification of all Title XIX Medicaid public health agencies (including county health departments) that provide these services. Standards are updated annually and technical assistance and consultation are provided to certified agencies and agencies seeking certification on an ongoing basis as well as when deficiencies are identified. The agreements for the standards and certifying responsibilities are ongoing. Agreements for the provision of direct Title XIX Medicaid services are updated on an annual basis each July. The OSDH-OHCA agreement also provides Medicaid funding for targeted case management for nurse home visitation, family planning, maternity, limited EPSDT, limited immunization reimbursement, and partial support for the state immunization registry.

While OSDH has been completing Medicaid presumptive eligibility applications for pregnant women at numerous public health clinics throughout the state since 1991, a new contract between the OSDH and the OHCA was initiated in SFY 1999 whereby the OHCA will reimburse the OSDH a portion of the cost of this service in order to promote early entry into prenatal care and eliminate the need for a face-to-face interview between the consumer and DHS in order to complete Medicaid certification. Under this agreement, local health department support staff also inform the client about SoonerCare (the state's Medicaid Managed Care Program) and instruct the client in how to enroll in the managed health care program and select a primary health care provider. If the client successfully enrolls in SoonerCare, the OSDH is reimbursed for this service also.

Under a contractual agreement with the OHCA, the OSDH places Regional MCH Coordinators in seven regions throughout the state to assist local communities in developing and managing grassroots MCH health care systems. The contract, which matches state and Medicaid funds, supports the development of a MCH health care system for Medicaid eligible recipients. Working directly with community groups and serving as liaisons between communities and state level resources, the Regional MCH Coordinators strive to assure early access to perinatal and child health services and improve access to care for high risk populations (outreach systems that identify men and women of childbearing age, pregnant women, infants and children in need of care and link them with health services, foreign language interpretation during clinic appointments and completion of Medicaid applications).

MCH continues to participate in the Children's Coordinated Data System Task Force, an initiative coordinated by the Oklahoma Commission for Children and Youth (OCCY). The Commission is a statutorily mandated entity that plans and coordinates the services provided to the children and youth in the state as well as providing oversight to the delivery of services. The Children's Coordinated Data System Task Force is a statutory-based initiative to facilitate the sharing of service data, analytic data, and information and referral data across state agencies serving children. The OSDH, DHS, OHCA, Department of Mental Health and Substance Abuse Services, State Department of Education, Office of Juvenile Affairs, Department of Commerce, Office of State Finance, OCCY and Department of Rehabilitative Services are participants.

MCH provides regularly collaborates and provides technical assistance to both the Oklahoma City and Tulsa -based Healthy Start Programs. In addition MCH has provided support for the initiation of a Fetal and Infant Mortality Review in Tulsa in 1999.

The MCH Service collaborates with local public health agencies, private providers, educational institutions and other health related programs to develop, sponsor and coordinate training events for health care professionals in public and private health settings in order to improve health care delivery. During such events, health and allied health professionals receive information and skill-building opportunities to learn advances in medical technology, innovative approaches to working with high-risk populations and standards of excellence in clinical practice. Additionally, MCH collaborates with colleges and universities in the preparation of health care professionals with regard to public health, population-based services and MCH issues and services.

The CSHCN Program will continue in its interagency agreement with the J.D. McCarty Center for diagnostic services, respite care and parental assistance and training. It will also continue its interagency agreement with Children's Hospital of Oklahoma, Oklahoma Infant Transition Program. This program assists the parents of neonates in providing care for the infant through training, support and follow-up services. In addition, the Oklahoma Infant Transition Program trains professionals in the neonate nurseries. Interagency agreements related to funding of OCCY for parent travel and child care stipends, the Tulsa Pediatric Clinic, University of Oklahoma School of Medicine/Tulsa Medical College and the Regional CSHCN Clinics will continue. These agreements are reviewed on an annual basis and are available from the CSHCN Program.

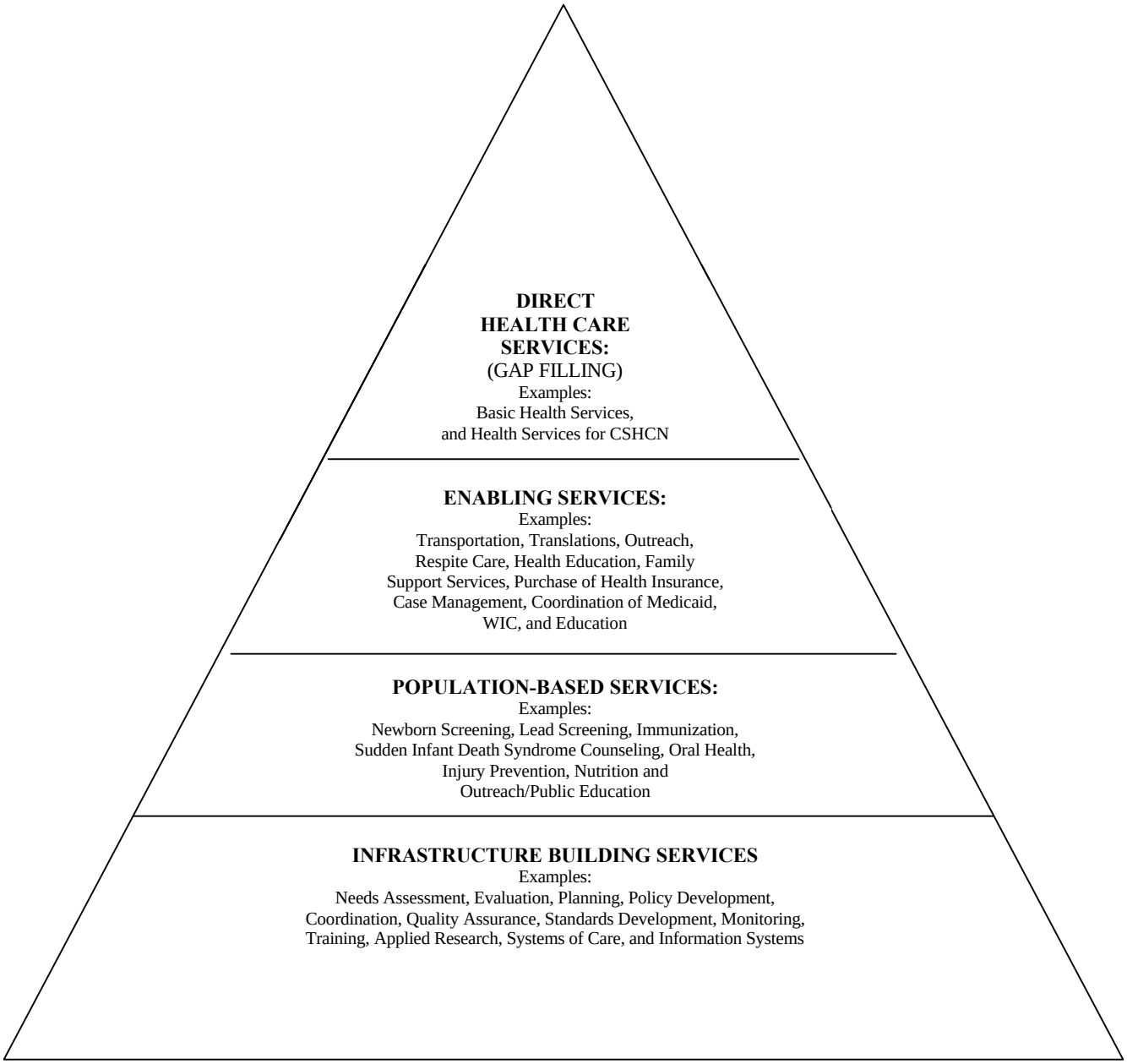
II REQUIREMENTS FOR THE ANNUAL REPORT

2.1 Annual Expenditures

See Forms 3, 4 and 5 in Section V 5.8.

Figure 2

CORE PUBLIC HEALTH SERVICES DELIVERED BY MCH AGENCIES



2.2 Annual Number of Individuals Served

See Forms 6, 7, 8 and 9 in Section V 5.8.

2.3 State Summary Profile

See Form 10 in Section V 5.8.

2.4 Progress on Annual Performance Measures

See Form 11, Section V. 5.8.

2.4A Direct Services

2.4A.1 *Pregnant Women, Mothers and Infants*

There were no specific national or state direct health care service performance measures for this population.

MCH began to experience this year, for the first time since the expansion of Medicaid in 1997 to serve pregnant women up to 185% of Federal Poverty Level (FPL), a decrease in the need to provide full service maternity clinics. With the implementation of the one page Medicaid application, low-income women were being approved for Medicaid coverage and assigned to a provider within a 2 to 6 week period. MCH began to move further toward a role of community education, outreach and the entry point for assuring low-income women received early and appropriate maternity care. County health departments began acknowledging that they would most likely not be the ongoing provider of maternity services for many of these women as had been the norm in past years. The Pottawatomie County Health Department discontinued its maternity clinic indicating that services were no longer needed as pregnant women were being identified and served by private providers in the county.

Approximately 6079 uninsured and underinsured pregnant women were served during SFY 1999 through MCH providers that included county health departments and contract providers. Presumptive eligibility assured immediate Medicaid coverage to pregnant women served in public health maternity clinics. Comprehensive prenatal and postpartum care was provided at each site by multidisciplinary staff to include physicians, physician assistants, advance practice nurses, nurses, nutritionists, social workers, psychologists, patient care assistants and/or outreach workers. Services included comprehensive history and physical exams, pregnancy tests, laboratory services, immunizations, ultrasounds, smoking cessation, health education, psychosocial assessments and counseling and genetic assessments and counseling. Clinic staff also facilitated linkages for women and their families to other health care services such as the Women, Infants and Children (WIC) Nutrition Program, family planning, immunizations, child and adolescent health clinical services, dental services, early intervention and child guidance.

Forty-eight (48) pregnant women positive for hepatitis B were identified statewide through screening by private and public providers. These women, their infants and families received follow-up through the Perinatal Hepatitis B Program to include hepatitis B immune globulin, hepatitis B vaccine, follow-up screening of the infant and family, counseling and education. Although perinatal hepatitis B screening is not mandated in Oklahoma, questions were added to the Pregnancy Risk Assessment Monitoring System (PRAMS) in order to identify estimates of the number of women screened for the virus.

MCH worked closely with the HIV/STD Service to revise the MCH Maternity policy on HIV testing. The new policy, implemented in July 1999, specifies routine HIV testing for all maternity clients. Counseling included: assessing client knowledge of risk; explaining routine HIV testing during pregnancy; discussing the HIV Antibody Test and possible results; and, explaining client right of refusal. Clients testing positive were referred to an identified network of resources.

The Newborn Metabolic Disorder Screening Program (NMDSP) began working closely with metabolic specialists and geneticists in Tulsa to provide preconception diet and counseling for young women with Phenylketonuria (PKU) seeking to become pregnant. Services were provided to 2 women who maintained normal phenylalanine levels during preconception and pregnancy.

The Children First (C1) Program, a nurse home visitation program for first time mothers and their infants, provided limited individual direct health care services as needed. Women were identified and enrolled as early in pregnancy prior to the 28th week of gestation. Services were provided per program guidelines, physician order, mother or family member's request and/or nursing assessment. Blood pressure checks, monitoring of weight gain and nutrition assessments were provided for pregnant women. Measurements of height, weight and/or head circumference, nutrition assessments and developmental screenings were provided for infants.

Family planning services were provided to 58,392 women and men through county health departments and contract providers. Of these, 75% (44,155) were below 100% of Federal Poverty Level (FPL). Services provided included comprehensive history and physical exams, pregnancy testing, laboratory services, provision of contraceptive methods, method counseling, education regarding the method, STD/HIV screening, immunizations and psychosocial services. Health promotion and education on breast exams, cervical cancer screening, smoking cessation, prevention of STD/HIV, exercise and stress management were provided. Cholesterol screening was also available if indicated. Women who presented for pregnancy testing received preconception counseling in addition to contraceptive counseling. During CY 1999, family planning experienced a 2.6% increase in services provided to women and men. The largest increase occurred in females 22-24 years of age (677 or 3.6%). There were a total of 98,968 family planning visits with 373,881 medical services and 334,496 laboratory services provided. In addition, 205 sterilization services were provided to women and men through contractual agreements with 13 physicians located across the state. These services included 171 tubal ligations and 34 vasectomies.

Pediatric Nurse Practitioners, Family Nurse Practitioners and physicians provided child health services to 1893 infants in SFY 1999 in accordance with guidelines of the American Academy of Pediatrics and Bright Futures. Services included comprehensive history and physical exams, developmental and nutritional screenings, safety education, immunizations, treatment of minor acute illnesses and anticipatory guidance.

Immunizations were provided to uninsured and underinsured women, men and infants utilizing state and federal 317 and Vaccine for Children (VFC) purchased vaccine. Providers included physician offices, county health departments, community health clinics, federal qualified health centers, rural health clinics, nursing homes and state universities. Women receiving services through MCH maternity clinics were immunized as indicated for diphtheria/tetanus and influenza. Women and men receiving services through MCH Title X family planning clinics were immunized for diphtheria/tetanus, measles, mumps, rubella (MMR) and influenza as needed. Young adults attending the University of Oklahoma, Langston University, Southern Nazarene University and the University of Central Oklahoma requiring diphtheria/tetanus and MMR were provided services. Routine immunizations were administered to infants. All immunizations were administered per the Advisory Committee on Immunization Practices (ACIP) Guidelines.

MCH worked closely with OSDH Nursing Service and the Oklahoma County Red Cross during the aftermath of the May 3, 1999 tornado. MCH staff from the state and local levels worked in the areas of destruction going from house to house and individual to individual to educate, offer and provide tetanus immunization to children and adults. Diphtheria/tetanus vaccine was provided to approximately 7000 women, men and children.

MCH also worked with eastern border county health departments, food processing plants and Arkansas State officials in July 1999 to implement prevention strategies for a rubella outbreak. Twenty-four hour immunization clinics were established at at least 3 Oklahoma food processing plants. Over 2000 doses of measles, mumps and rubella (MMR) were administered to unprotected employees and their families.

Dental services (preventive and treatment) were provided at 10 county health departments. One hundred and thirty (130) men and women ages 20 to 44 were seen in SFY 1999 for a variety of procedures to include cleanings, topical fluoride, fillings, crowns, x-rays, extractions, oral hygiene instructions and prescriptions for infections.

2.4A.2 *Children*

There were no specific national or state direct health care service performance measures for this population.

MCH's provision of direct health care services to infants, children and adolescents through the Child and Adolescent Health Division continued to decline across the state. The State Children's Health Insurance Program (SCHIP) established in Oklahoma through legislative expansion of Medicaid has provided health insurance coverage for previously uninsured children. Medicaid continued to increase the number of children 0 to 18 years of age served through its "*Sooner Care Plus*" (health maintenance organization urban model) and "*Sooner Care Choice*" (primary care provider rural model). MCH moved away from training and certifying public health nurses to provide and bill for Early, Periodic, Screening, Diagnosis and Treatment (EPSDT) services. The training was revised to become part of the general public health nurse orientation received by new OSDH nurses. Advance Practice Nurses (Pediatric Nurse Practitioners and Family Nurse Practitioners) and physicians continued to provide well child care and comprehensive adolescent health care to uninsured children and youth 0 to 21 years of age. Services included

comprehensive history and physical exams, developmental and nutritional screenings, immunizations, injury prevention, lead screening, treatment of minor acute illnesses and anticipatory guidance. Child Health Clinics, 67 in 56 counties, provided services to 9,237 infants and children for a total of 14,571 visits. Adolescent Health Clinics in 29 sites provided services to approximately 1500 adolescents.

Child and Adolescent Health Division, Women's Health Division and OSDH Nursing Service identified strategies and training needed in FFY 2000 to expand professional capacity within county health departments to provide additional comprehensive adolescent health care, including reproductive health care, for uninsured and underinsured adolescents. Training was developed for pediatric nurse practitioners that would update their clinical assessment and health care management skills for this population with the first class scheduled for January 2000.

The Children First (C1) Program continued to provide services to children, up to 2 years of age, born to the first time mothers in the program. Limited direct health care services such as measurements of height, weight and/or head circumference, nutrition assessments and developmental screenings were provided per program guidelines, physician order, mother or family member's request and/or nursing assessment.

Childhood blood lead testing services for children 0 to 6 years of age were provided in 60 sites in 48 counties. Of the 6807 children who received a blood lead test, 1930 (28.4%) children were provided these services by county health departments and community clinics with the remaining being served by private providers or Medicaid. A total of 7524 blood lead tests were performed with 2267 (30.1%) obtained through county health departments and community clinics.

Dentists who contracted hourly or donated their time provided approximately 5990 dental clinical procedures (preventative and treatment) during 1051 encounters with children ages 0 to 19 in SFY 1999. Procedures included sealants, fillings, cleanings, topical fluoride, x-rays, extractions, fillings, crowns, oral hygiene instruction and prescriptions for infections.

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The Child Guidance Division provided direct services through local county health departments to children and their families. Psychologists, child development specialists, speech language pathologists, audiologists and social workers provided services that included 36,788 sessions to 6322 children and their families in SFY 1999. This included individual, family and group services designed to provide screening, testing and intervention for behavioral, communication, developmental and hearing concerns. Services were short-term in nature and were intended to improve parent-child interaction and parental knowledge of development and behavior management/discipline techniques.

Nearly 1,000,000 doses of vaccine were distributed and administered for CY 1999 through public health clinics. This accounted for approximately half of all immunizations administered to young children. In addition, the School

Administrator's Guide to Oklahoma's Immunization Law was updated to include hepatitis A and varicella vaccine requirements that were added to Oklahoma's School Immunization Law in 1998.

MCH and the Oklahoma Health Care Authority (Oklahoma's Medicaid agency) worked collaboratively to develop a contract that allowed children in Sooner Care Choice (Medicaid rural primary care provider model) to receive immunizations during the months of July and August at county health departments. This agreement facilitated children receiving immunizations needed for school entry and acceptance at child care centers. Fourteen thousand eight hundred and seventy (14,870) Medicaid children received immunization services from county health departments statewide though health fairs, immunization clinics and individual child health appointments during this period.

As previously noted under **2.4A Direct Services, 2.4A.1 *Pregnant Women, Mothers and Infants***, MCH was actively involved in educating and providing children and their parents tetanus immunization during the aftermath of the May 3rd tornado. In addition, a pamphlet entitled "*After the Storm*" was developed by the Child Guidance Division and distributed to over 125,000 families and professionals on helping children cope with fears following the tornado.

2.4A.3 *Children with Special Health Care Needs*

NPM#1: *The percent of State SSI beneficiaries less than 16 years old receiving rehabilitative services from the State Children with Special Health Care Needs (CSHCN) Program.* Less than 1% of the State SSI beneficiaries received rehabilitative services that were funded in whole or part by the CSHCN Program. CSHCN maintained its close relationship with the Oklahoma Health Care Authority (OHCA). The two programs worked together to meet the needs of children. Medically necessary services that were above or beyond the scope of Medicaid were authorized for payment through the CSHCN Program.

NPM#2: *The degree to which the State CSHCN program provides or pays for specialty and subspecialty services, including care coordination, not otherwise accessible or affordable to its clients.* MCH and CSHCN continued to collaborate through a Negotiated Service Plan. Through contractual agreements with the University of Oklahoma Health Sciences Center's (OUHSC) Comprehensive Sickle Cell Clinic and Metabolic Clinic, comprehensive services were maintained and accessible. Both clinics were staffed with a pediatric sub-specialist physician and coordinator. A social worker worked with all clients affected with sickle cell disease and their families. Clinic Coordinators provided monitoring and tracking services. The Sickle Cell Disease Clinic provided comprehensive services for 212 children. The Metabolic Clinic provided comprehensive services for 127 children affected with the disorders of Phenylketonuria (PKU), galactosemia, maple syrup urine disease, methylmalonic aciduria, tyrosinemia and methylmalonic acidemia. The MCH Newborn Metabolic Disorder Screening Program (NMDSP) continued to collaborate with the PKU Parent Support Group and PKU Task Force in addressing the special needs of PKU clients. In addition, contracts with the University of Oklahoma Health Sciences Center and Chapman Institute

provided for 500 prenatal genetic counseling and evaluation encounters for uninsured and underinsured women and their families.

The Negotiated Service Plan also provided support for: the development of a nutrition screening tool and regional nutrition positions to provide services to the CSHCN population referred by local Department of Human Services caseworkers; audiologists to work with hospitals across the state to facilitate implementation of universal newborn hearing screening (see 2.4C Population-Based Services, 2.4C.1 P*regnant Women, Mothers and Infant*s, NPM#10: *Percent of newborns who have been screened for hearing impairment before hospital discharge*); and, social workers to facilitate community meetings to bring CSHCN families and community agencies serving children with special health care needs together to assess system issues and develop strategies to improve these systems (see 2.4D Infrastructure, 2.4D3 *Children with Special Health Care Needs*, SPM #1**:** *Number of communities with a community wide plan for services to the MCH population in at least one specific MCH area*).

Six thousand three hundred twenty eight (6328) individual children received services during SFY99 through the Early Intervention Program (SoonerStart). Home visitation and center-based services were provided by nurses, advance practice nurses, nutritionists, social workers, psychologists, child development specialists, speech language therapists, audiologists, physical therapists and occupational therapists.

Coordination of direct health care services continued to be positively impacted by MCH/CSHCN's involvement with the interagency initiative with Shriners Hospitals for Children known as Children's Healthcare Options Improved Through Collaborative Efforts and Services (CHOICES). MCH/CSHCN staff continued to provide feedback to and gain technical assistance on systems issues in Oklahoma from CHOICES through e-mail, surveys and telephone communications.

2.4B Enabling Services

2.4B.1 *Pregnant Women, Mothers and Infants*

There were no specific national or state enabling health care service performance measures for this population.

Outreach services were supported statewide through Title V, Title X, Centers for Disease Control and Prevention (CDC) and state funding as well as by Medicaid through a contractual agreement with the Oklahoma Health Care Authority (OHCA). Community-based outreach workers working in county health departments, community clinics and agencies facilitated linking families to needed health care services. They worked within their communities to educate individuals and families on health issues and where and how to access services to include assisting in completion of the Medicaid application process. Outreach workers followed up with individuals and families who missed appointments to assure that health care needs were met. Through a contractual agreement with the OHCA, reimbursement was received by MCH or Local Health Service for each Medicaid application completed and approved on women and children eligible for Medicaid services.

MCH noted an increased need for Spanish interpreter services and translation of program education and resource materials as a result of a growing Hispanic population seeking public health services. Strategies implemented to meet these needs included identification of volunteers to provide interpreter and translation services, hiring of support and professional staff with these language skills and contracting for services.

Transportation services continued to be provided in Oklahoma City and Tulsa metropolitan areas as well as rural areas of the state through contract providers. The availability of these services assisted in assuring individuals and families could keep scheduled health care appointments.

The Oklahoma Areawide Services Information System (OASIS) continued to be supported by MCH/CSHCN and to serve as the Title V statewide 1-800 central toll-free telephone information and referral service (see Section V 5.8, Form 9, STATE MCH TOLL-FREE TELEPHONE REPORTING FORM). In addition, OASIS expanded to provide resource and referral information to consumers via a website (see **1.5.2 State Agency Coordination**).

The Regional Maternal and Child Health (RMCH) Coordinators focused on development and enhancement of health care delivery systems for the MCH/CSHCN populations to include enabling services. They participated in state level work groups and community-based task forces. They assisted in community assessments, planning and implementation of activities/strategies targeted toward impacting Title V national and state performance and outcome measures. The RMCH Coordinators provided outreach and facilitated individual and family linkages with Medicaid and other needed community resources through consultation to, education of and information sharing between community agencies.

The Children First (C1) Program expanded to 267 nurses statewide delivering community-based voluntary home visitation family resource and support services to women expecting to deliver and/or parent their first child. Five thousand twenty three (5023) first time mothers were referred with targeted case management and health education provided to 4708 women. Women were enrolled as early in pregnancy as possible prior to 28 weeks gestation. Nurses followed well-developed program protocols that focused on the following domains: personal health of mother and child; environmental health; life course development of the mother; maternal role; family and friends support; and, health and human services. Women and their families were assisted in identifying and accessing needed community resources facilitating self-sufficiency.

The Office of Child Abuse Prevention (OCAP) implemented the Healthy Families America model of voluntary home visitation family resource and support services. These services assist parents in helping to assure children have a healthy start. Through an invitation-to-bid (ITB) in the spring of 1999, 29 projects was awarded funds for a 3 year period to provide services to families across the state. The Healthy Families America model stressed the importance of collaboration at all levels of programming and the need to utilize existing community resources when possible. Program goals were to: systematically assess the strengths and needs of a family and refer as needed;

enhance family functioning by building trusting relationships, teach problem solving skills and improve the family's support system; promote positive parent-child interaction; and, promote healthy childhood growth and development. Services were initiated prenatally or at the time of an infant's birth up to 3 months of age and continued with length and intensity based on the needs of the family. Intensive home visitation services were offered at least once a week with well-defined criteria for increasing or decreasing intensity of service as parents became more self-sufficient and progressed through the program.

The Child Guidance Division provided outreach, education, support and referral services to pregnant women seen through public health maternity clinics. Risk assessments were completed during an initial visit by a psychologist or social worker with appropriate education, short-term intervention or referral to appropriate community resource(s) provided.

The Adult Blood Lead Epidemiology and Surveillance Program worked with lead poisoned adults, their health care providers and communities on outreach, education and follow-up to assure that sources of lead exposure were identified and affected adults and their families received treatment and preventive services.

2.4B.2 *Children*

There were no specific national or state enabling health care service performance measures for this population.

Outreach and transportation services were available to assure children could access needed health care services (see **2.4B Enabling Services, 2.4B.1 *Pregnant Women, Mothers and Infants***).

The Regional Maternal and Child Health (RMCH) Coordinators facilitated enabling services for children as described in **2.4B Enabling Services, 2.4B.1 *Pregnant Women, Mothers and Infants***.

MCH Programs focused on identifying and implementing strategies to meet the needs of an increasing Hispanic population (see **2.4B Enabling Services, 2.4B.1 *Pregnant Women, Mothers and Infants***).

As previously noted in **2.4A Direct Services, 2.4A.2 *Children***, the Children First (C1) Program provided services to children up to 2 years of age. Five hundred twenty six (526) children reached their first birthday with 34 reaching their second birthday. Nurses focused on parent-child relationships through modeling in their interactions with the child, providing anticipatory guidance related to the child's developmental stage and initiating/teaching the mother and family members interactive activities to enhance parent-child relationships and child development. Referrals were also made to other community resources such as parent groups, Office of Child Abuse Prevention (OCAP) center-based activities, child guidance services, early intervention (SoonerStart) and child care.

Office of Child Abuse Prevention providers served children up to 5 years of age and their families depending on the needs of the child and family. Home visitation and center-based services were provided that focused on

strengthening parent-child relationships and child development. Referrals were made to community resources such as child guidance services, early intervention (SoonerStart) and child care.

The Healthy Child Care Oklahoma Project provided health and safety resources to child care providers, Head Start programs, licensing representatives, child care health consultants and resource and referral agencies through the distribution of the "*Child Care Providers' Health and Safety Calendar*" and maintaining a website for consumer access. MCH staff assigned to this Project also participated on the Early Childhood Professional Development Team, a workgroup formed in partnership with the Department of Human Services, to develop a curriculum for Oklahoma child care providers with key components being health, safety and nutrition. On July 9, a one day technical assistance training was provided for county child care health and safety consultants, county licensing representatives, tribal child care licensing staff, Head Start health consultants and the 9 regional resource and referral agencies. Topics covered included how to work with child care providers and health and safety issues.

The Healthy Child Care Oklahoma Advisory Task Force (broad-based membership of state and local representatives) met quarterly. Four work groups: Special Needs Work Group; Training and Education Work Group; Public Awareness Work Group; and, Child Care and Health Consultant Work Group established out of this Advisory Task Force met at least 3 times during the year. The Special Needs Work Group focused on the need for more appropriate child care for children with special health care needs. The Training and Education Work Group focused on promoting the Emergency First Care and Injury Prevention training, the "*Scrubby Bear*" handwashing curriculum, nutrition and food safety training and other health and safety topics. The Public Awareness Work Group worked on development of a brochure for Healthy Child Care Oklahoma to be distributed to child care providers at conferences and training sessions. The Child Care and Health Consultant Work Group assisted in the planning of the July 9th technical assistance conference. This work group also developed a proposal to send 2 trainers to the North Carolina Child Care Health Consultant training.

MCH again co-sponsored a statewide family child care provider conference in July. Several health and safety topics were covered in workshops and resources were provided to over 300 attendees.

The Childhood Lead Poisoning Prevention Program provided outreach with the assistance of local providers to assure that children with high lead levels received appropriate treatment and follow-up. Education on the prevention of lead poisoning was also provided through presentations and development and distribution of educational materials to individuals, county health departments, community health centers, private health care providers, Medicaid providers and other community-based agencies, organizations and groups.

The School Health Program continued to provide technical assistance and serve as a resource to schools, families and other youth serving agencies. MCH staff served as co-chair of the Oklahoma Commission on Children and Youth (OCCY) Strengthening Partnerships Between Schools and Communities Committee. This state level forum

for school issues addressed a variety of health topics during this year to include head lice, immunizations, mental health in the schools, Medicaid reimbursement, rural access to care and asthma control. Four video teleconferences for school/community leaders were also conducted.

The "*Good Health Gets an "A" School Health Calendar*" was updated and distributed. This calendar identified health and safety observances with national and local resources listed. A quarterly school health newsletter continued to be developed and was distributed twice during the year to all public schools through a collaborative relationship with the Oklahoma State Department of Education. Circulation was 15,000 copies for each issue. Strategies were discussed on including private and home-based school settings in coming years.

The OSDH Board of Health approved an updated agency policy statement on school health and injury prevention in the summer of 1999. The planning and development of a standards and guidelines document for utilization by schools in improving student health was initiated by MCH with a target date to distribute the document identified for fall 2000.

2.4B.3 *Children with Special Health Care Needs*

NPM#3: *The percent of Children with Special Health Care Needs (CSHCN) in the state who have a "medical/health home".*

Of the children served by the CSHCN Program, 95% continued to have an identified medical/health home. Local Department of Human Services caseworkers, health department staff and contract providers facilitated access to Medicaid and CSHCN services by providing outreach and education in communities and assisting individuals and families in completing the Medicaid and CSHCN application processes. In addition, the CSHCN Program continued contracts with mobile outreach assessment clinics that provided services across the state as part of an ongoing effort to identify children with special health care needs and facilitate them accessing existing service systems. These contract providers provided important feedback on gaps in service systems that CSHCN has used in their planning and identifying of strategies to improve systems.

Follow-up services for "graduates" of Level III and IV neonatal intensive care units (NICUs) and their families continued to be provided through contractual arrangements between hospitals and the CSHCN Program. These projects focused on maintaining treatment plans and stressed the importance of having a medical/health home.

Oklahoma's Early Intervention Program (SoonerStart) continued to identify and provide services to children, birth through three, and their families in need of early intervention services. This program, a partnership by the State Departments of Education (Special Education), Health (MCH), Human Services (CSHCN) and Mental Health and Substance Abuse Services as well as parents, health care providers and legislators, worked collaboratively to advise and assist agencies to create, implement and support a state-wide system of services. Six thousand three hundred and twenty-eight (6328) individual children received services during SFY 1999. SoonerStart provided coordination and facilitated children and their families remaining linked with their primary health care provider(s). SoonerStart

encouraged families to involve their child's primary health care provider in the development of the child's Individualized Family Service Plan (IFSP). Health care providers received updates on early intervention services received and progress made toward goals identified on the IFSP. If a child was in need of a health care provider, SoonerStart worked with the family to identify and access a provider.

MCH collaborated and provided training to support The Caring for Infants and Toddlers with Disabilities (CFIT) Program, University Affiliated Program of Oklahoma. Approximately 75 physicians and other medical professionals were trained through community-based presentations. Designed to increase physician participation in the early intervention system through replication of a proven model of continuing medical education, the CFIT model addressed two important needs: the need of families of children with disabilities to ensure the involvement of their physicians in community early intervention systems; and, the need of physicians to acquire new information and skills in order to be full participants on community-based early intervention teams.

SPM#4: The *annual percent increase for respite care days for the CSHCN population.*
Work the CSHCN Program began in 1996 with the establishment of the Oklahoma Respite Resource Network (ORRN) continued. The ORRN continued to meet routinely and expanded its vision to facilitate development of a statewide system of respite services not only for the CSHCN population but respite services for special needs individuals of all ages. The CSHCN Program utilized resources of the Department of Human Services' Finance Division to establish a voucher payment system allowing parents to pick their own providers and pay them directly. Pilots were implemented for the CSHCN population utilizing this voucher system. This system allowed parents/guardians of children with special health care needs to identify and utilize a family member, friend or neighbor to provide respite services for their child. Oklahoma's Title V 1-800 number served as a toll free resource for families seeking respite information and applications for services. In 1999, CSHCN doubled the number of days of respite care over the 1996 level.

CSHCN continued to fund respite care for medically fragile children at the J.D. McCarty Center. As a benchmark for the need of respite services, this program was booked six months in advance for slots.

Respite was impacted by the Special Needs Work Group of the Healthy Child Care Oklahoma Advisory Task Force. This group addressed the need for more appropriate child care for children with special health care needs. Activities included: collaborating with the Early Intervention Division and Department of Human Services' CSHCN Program and Division of Child Care to arrange a statewide mailing to child care providers of courses offered through Oklahoma's Early Intervention Program (SoonerStart) for infants and toddlers with disabilities as well as information on how to register; arranging for an Oklahoma team to attend Colorado's First Start National Coordinator Training in May (a 45 hour train the trainer course designed to prepare paraprofessionals, education aides and child care providers to work with infants, toddlers and preschoolers with disabilities and chronic illnesses); and, providing 2 half day sessions of First Start at the statewide Family Child Care Conference in July.

2.4C Population–Based Services

2.4C.1 *Pregnant Women, Mothers and Infants*

NPM#4: *Percent of newborns in the State with at least one screening for each of PKU, hypothyroidism, galactosemia, hemoglobinopathies (e.g. the sickle cell diseases) (combined).*

All newborns born in Oklahoma were screened through the Newborn Metabolic Disorder Screening Program (NMDSP) for the genetic disorders of phenylketonuria (PKU), congenital hypothyroidism, galactosemia, sickle cell disease and other hemoglobinopathies. All infants identified with a disorder were referred for comprehensive medical care and treatment. Infants identified with sickle cell trait and hemoglobin C trait were referred to the Sickle Cell Disease Association of America, Oklahoma Chapter, for counseling. Of the 491 referred, 41% requested and received counseling services. The number of genetic disorders identified in SFY 1999 included: PKU 1; congenital hypothyroidism 17; classic galactosemia 2; sickle cell disease 15 and other hemoglobin disease 2.

Genetic services continued to be provided to include screening and counseling and sickle cell care coordination (see **2.4A Direct Services, 2.4A.3 *Children with Special Health Care Needs*, NPM #2**: The *degree to which the State CSHCN program provides or pays for specialty and subspecialty services, including care coordination, not otherwise accessible or affordable to its clients*).

The Oklahoma Genetics Advisory Council (OGAC) was established to advise the Commissioner of Health regarding genetics and public health. The OGAC mission "*to prevent morbidity and mortality among individuals and families with or at risk of genetic, congenital and/or familial disorders by assuring that all Oklahomans have access to quality screening, education and family-centered comprehensive service*" was developed and approved by a diverse group of individuals to include: parents, health care providers, policy makers and community, business and faith leaders. To address newborn screening issues, OGAC established the standing committee of Newborn Screening Programs and Pediatrics. A primary task of this committee was to look at the feasibility of expanding newborn screening to include the disorders of cystic fibrosis (CF), medium chain acyl-CoA dehydrogenase (MCAD) and congenital adrenal hyperplasia (CAH).

NPM#9: Percent *of mothers who breastfeed their infants at hospital discharge.*

MCH has continued to monitor breastfeeding in Oklahoma through the Pregnancy Risk Assessment Monitoring System (PRAMS) to obtain the most current data on the percentage of mothers who breastfeed their infants at hospital discharge. Inquiries and investigation of other MCH data collection systems were completed but a feasible method to integrate breastfeeding data from these systems was not achieved but was to be explored further.

The Healthy Child Care Oklahoma Project facilitated "*Breastfeeding Promotion in Child Care*" being on the agenda for the statewide child care conference that occurred in April. Plans and activities were also developed and implemented to obtain "*Breastfed Babies Welcome Here*" packets for all licensed Oklahoma child care providers caring for infants and toddlers.

The MCH Breastfeeding Workgroup composed of representatives from state level MCH, Women, Infants and Children (WIC) Nutrition Program, local health departments and community clinics, urban and rural hospitals and a breastfeeding advocate met 8 times during CY 1999. The group focused on identifying systems issues that negatively impact breastfeeding and developing strategies to address improvement/enhancement of these systems. The group shared ideas and activities that promote breastfeeding in their own settings and developed a list of activities to be undertaken to address this performance measure. These activities included: supporting a breastfeeding policy to be presented to the OSDH Board of Health on November 18, 1999; acquiring knowledge of other states' breastfeeding legislation and its impact; and, exploring the feasibility of organizing a state level breastfeeding coalition.

The Children First (C1) Program continued to require nurses to be certified Breastfeeding Educators. Nurses provided continual support and education to mothers wanting to breastfeed and actively breastfeeding.

NPM#10: *Percent of newborns who have been screened for hearing impairment before hospital discharge.*
Ninety-seven percent (97%) of all infants born in Oklahoma were screened using the risk-register screening tool (paper form). Infants identified at risk were referred to private health care providers and the Early Intervention Program (SoonerStart) for further evaluation and early intervention services if appropriate.

Audiologists continued to work with birthing facilities to implement agreements and place physiologic hearing screening equipment in the facilities to universally screen newborn hearing before discharge. By fall 1999, 31 birthing facilities were screening the hearing of all newborns born in their facilities and providing needed follow-up or referral services to those with positive screenings. MCH and CSHCN reviewed the statewide implementation plan and structured the plan to achieve statewide coverage by early 2001.

SPM#3: P*ercent of women who have an unintended pregnancy (mistimed or unwanted) resulting in a live birth.*
MCH continued to monitor unintended pregnancy through the Pregnancy Risk Assessment Monitoring System (PRAMS). Strategies to impact this measure continued to include comprehensive family planning clinics, community education targeted toward promoting pregnancy planning and delaying early childbearing and parenting programs for adolescent parents that included education on pregnancy planning and delaying subsequent pregnancy.

Regional Maternal and Child Health (RMCH) Coordinators participated on community-based teen pregnancy prevention coalitions and assisted in the development and promotion of diverse activities to keep youth aware of the difficulties and health risks of pregnancy. RMCH Coordinators also worked with communities to increase awareness of available family planning services and develop strategic plans for expansion of services in underserved areas.

The Women's Health Division, Department of Human Services and Oklahoma Health Care Authority continued planning and development of an 1115(a) Research and Demonstration Waiver to expand eligibility for family planning services from 36% of Federal Poverty Level (FPL) to 185% FPL. Services identified in the waiver included comprehensive history and physical exams, pregnancy testing, laboratory services, provision of contraceptive methods, method counseling, education regarding the method, STD/HIV screening, immunizations and psychosocial services. Drafts of the waiver were shared with the Health Care Finance Administration (HCFA) with feedback received on how to strengthen the waiver. Constraints were encountered in relation to needed Medicaid data being available leading to a delay in completing a final document this fiscal year.

As stated previously, **2.4A Direct Services, 2.4A.1 *Pregnant Women, Mothers and Infants***, sterilization services were provided to 205 uninsured women and men through contracted providers. These women and men were identified through local county health departments and community clinics. Staff utilized a priority ranking scale (1 to 4) with all priority 1s and 2s receiving services. Staff coordinated 171 tubal ligations and 34 vasectomies.

Collaboration with the Oklahoma Institute for Child Advocacy, Department of Human Services, University of Oklahoma College of Public Health and local Vocational-Technical schools enhanced the implementation of "*Life Skills*" training to women receiving Temporary Assistance to Needy Families (TANF). The week long educational program was provided in Oklahoma City at Oklahoma State University Technical Center and in Poteau at Carl Albert State University. Speakers from across disciplines presented and discussed the topics of sexuality, talking to children about sexuality, healthy relationships, healthy lifestyles, prevention of sexually transmitted diseases and prevention of unintended pregnancy. Discussions were initiated on strengthening the evaluation of the program and how further dissemination across the state might occur.

Reduction of the number of subsequent unintended pregnancies continued to be addressed through the Children First Program, Office of Child Abuse Prevention Family Resource and Support Programs, Margaret Hudson Teen Parenting Program and Emerson Teen Parenting Program. In the Children First Program and Office of Child Abuse Prevention Programs, contraceptive education was provided before women delivered and was routinely followed up on after the delivery to assure that each woman received services and was utilizing the chosen method appropriately. Margaret Hudson Teen Parenting Program and Emerson Teen Parenting Program provided education and support to adolescent parents on preventing subsequent unintended pregnancies.

SPM#5: *The rate of neural tube defects among live births in Oklahoma.*
The Oklahoma Birth Defects Registry (OBDR) continued its active surveillance system (one of only 10 active surveillance registries in the nation).

The OBDR conducted its Oklahoma's Folic Acid Mother's Day Campaign in May. County health departments received a memo from the Commissioner of Health and a media information packet in March to allow planning time

at the county level. An article was placed in the Pharmacy Newsletter and the Oklahoma State Medical Association (OSMA) Newsletter. Campaign materials (posters, educational Mother's Day cards, buttons and stickers) accompanied by a letter from the Commissioner of Health were mailed to county health departments and pharmacies by mid April. The OSDH Office of Communications issued a news release on the Folic Acid Mother's Day Campaign in April. A resolution for the OSMA House of Delegates, *Folic Acid for the Prevention of Neural Tube Defects*, was adopted at the OSMA annual meeting in May.

In July 1999, a Neural Tube Defect (NTD) Prevention Coordinator joined the staff of the Oklahoma Birth Defects Registry (OBDR). The first task was to conduct consumer input groups of women who had neural tube defect affected pregnancies. The consumers reviewed letters and patient education handouts that were developed for use in Oklahoma's neural tube defect recurrence prevention activities. The input of this unique group of women helped assure the sensitivity and appropriateness of materials used to educate women with neural tube defect affected pregnancies. See **2.4C Population-Based Services, 2.4C.3 *Children with Special Health Care Needs*** for additional OBDR activities related to outreach and education.

In the fall of 1999, Pregnancy Risk Assessment Monitoring System (PRAMS) surveillance data was analyzed and used to produce a PRAMS GRAM that focused on women's knowledge of folic acid and prevalence of multivitamin use prior to pregnancy (for further information on PRAMS, **see 2.4D Infrastructure, 2.4D.1 *Pregnant Women, Mothers and Infants*, NPM #15:** *Percent of very low birth weight live births*). Recommendations resulting from the analysis were: create an Oklahoma Coalition on Folic Acid to coordinate neural tube defect (NTD) prevention activities statewide and at the community level; provide educational opportunities for health care professionals concerning folic acid and NTD prevention; incorporate NTD prevention into medical school and other allied health curriculum; assure all health care providers make the standard recommendation that childbearing age women obtain their folic acid from all three sources each day (multivitamin that contains 400 micrograms of folic acid, foods high in folate and foods fortified with folic acid); increase folic acid knowledge of the public to reduce NTDs though educational materials and multimedia; utilize materials developed by the National Council on Folic Acid , the Centers for Disease Control and Prevention and the March of Dimes; develop a system to distribute multivitamins to all childbearing age women throughout the state; and, continue to support and utilize public health surveillance programs such as the Oklahoma Birth Defects Registry, PRAMS and Behavioral Risk Factor Surveillance System to monitor incidence, occurrence and effectiveness of NTD efforts.

Education and counseling on nutrition to include folate use to prevent neural tube defects was provided in family planning clinics as a preventive measure. Also, women on entry into MCH maternity care received nutrition education and counseling to include the importance of folate and were provided prenatal vitamins.

Nurses working in the Children First Program enrolled pregnant women into Children First services as early in the pregnancy as possible so that they could have time to assist the women to improve their health habits during

pregnancy. Included in the education provided were topics to include nutrition and the importance of folic acid in a pregnant woman's diet.

SPM#6: *The proportion of women who achieve the recommended weight gain during pregnancy.*
The importance of appropriate weight gain during pregnancy was emphasized to women in maternity clinics. The importance of normal body mass index (BMI) at time of conception was discussed with women seen in family planning clinics who were considering pregnancy. Pregnancy Risk Assessment Monitoring System (PRAMS) data regarding weight gain during pregnancy was shared with professionals throughout the year.

Pregnant women served by Children First nurses had their weight gain monitored during the prenatal period. Weight and nutritional history was obtained with a baseline weight recorded. Nurses worked with women throughout their pregnancy to assure weight gain was adequate, referring any concerns noted to the woman's primary health care provider. Children First also facilitated linking pregnant women with the Women, Infants and Children (WIC) Nutritional Program.

2.4C.2 *Children*

NPM#5: *Percent of children through age 2 who have completed immunizations for Measles, Mumps, Rubella, Polio, Diphtheria, Tetanus, Pertussis, Hemophilus Influenza and Hepatitis B.*
Oklahoma's immunization rate continued to improve. The results of the annual 2-year-old survey (random sample of 600 children from birth certificate records representing one birth cohort) compiled in April documented 78% of children up-to-date by 24 months with 4 DTP, 3 Polio and 1 MMR. In 1998, the 4:3:1 coverage rate was 72%.

The Immunization Division continued to set state policy for childhood immunizations monitor vaccine coverage levels of children and provide vaccine as needed to meet the immunization needs of uninsured and underinsured children. During the spring of 1999, the Immunization Division revised and received approval to change the state's requirements for infants and children attending daycare centers to include hepatitis A, hepatitis B and varicella.

Budget cuts to the Centers for Disease Control and Prevention (CDC) Immunization Grant resulted in the loss of the Immunization Action Plan (IAP) Program. This program provided local staff (nurses, social workers and administrative support staff) to develop, implement and coordinate community-based coalition activities that promoted increased awareness of the importance of disease prevention with vaccine administration and thus, increased immunization rates of children. Additionally, contracts with community providers were reduced for the second year in a row impacting immunization outreach, education and direct services.

Children First nurses and Office of Child Abuse family resource and support service providers educated parents regarding the importance of routine immunizations in the prevention of illnesses and recommended immunization schedules. Targeted case management was provided to assure that children followed up with their primary health care providers to receive needed immunizations.

The Healthy Child Care Oklahoma Project continued to educate child care providers and parents on immunization issues. Information was shared through presentations, articles and handouts.

NPM#6: The *birth rate (per 1,000) for teenagers aged 15 through 17 years.*
The Child and Adolescent Health Division continued to provide technical assistance and support to 14 community-based teen pregnancy prevention projects located across the state. These projects worked with adolescents utilizing research-based curricula shown to be effective in reducing teen pregnancy rates and/or having an effect on delaying sexual activity. Services to parents emphasized education of parents to be the primary sexuality educators of their children and provided parents with the skills to do this effectively. The projects also supported and facilitated community coalitions with the purposes of building community capacity to address the issue of teen pregnancy and provide a community environment conducive to delaying early sexual involvement. The University of Oklahoma, College of Public Health conducted evaluation training and evaluation protocol implementation.

The Child and Adolescent Health Division also provided training and presentations on adolescent growth and development to health providers and educators through participation in trainings held during the year for school teachers, youth service providers and staff from local teen pregnancy prevention projects. These sessions provided information on growth and development and how to convey information on growth and development to the adolescent audience.

Two additional communities were awarded funding through an invitation-to-bid (ITB) process bringing the total to 6 communities providing services through the Oklahoma Abstinence Education Project. Over 1000 students participated in these projects with 815 participating in the evaluation provided by the University of Oklahoma Institute of Public Affairs. MCH also assisted in the organization of a statewide Governor's Conference on Abstinence Education with over 300 individuals attending. The primary focus of the conference was on supporting and disseminating the message of abstinence only until marriage and how to implement abstinence only education at the community level.

Women's Health Division's health education staff provided services to a total of 5119 teens and adults. Through a variety of community health education programs, staff provided information and resources to teens and adults aimed at pregnancy prevention, adolescent growth and development, development of healthy relationships, prevention of sexually transmitted diseases (STDs), resistance skills and information on how parents can talk to teens about sexuality.

One hundred-twenty (120) skills-based teen pregnancy programs were provided to middle and high school students reaching 1838 students in middle school, high school and college. Curricula included: "*Postponing Sexual Involvement*"; "*Are We Almost There*", "*Streetwise to Sexwise*" and "*Reducing the Risk*". In addition, health educators provided sexuality and family planning seminars, workshops and 2 day trainings to a variety of groups

including parents, nurses, social workers, teachers, faith communities and youth serving organizations. Participants were provided with information and skills to return to their communities prepared to educate others about the prevention of unintended pregnancy and sexually transmitted disease.

Women's Health Division also piloted "*Dad's Make a Difference*" in one Oklahoma City area school. This training program for middle school students focused on responsible decision making, paternity establishment and the importance of fathers in the lives of their children. The Program trained older teens to provide information and skills to younger teens in order to delay sexual involvement and to understand the value of fatherhood. Planning was initiated to expand this training program to additional sites in FY 2000.

Women's Health Division continued to co-sponsor a Summer Adolescent Health Institute with the Oklahoma Teen Pregnancy Coalition and the Oklahoma Institute for Child Advocacy. Activities focused on team building, relationship building both within the team and community and prevention messages.

NPM#7: *Percent of third grade children who have received protective sealants on at least one permanent molar tooth.*
Protective sealants were offered to children seen in dental clinics in county health departments. Additionally, dental health education was provided at the community level with 4689 dental program workshops presented. Topics included appropriate hygiene and care of one's teeth. Also see **2.4C <u>Population-Based Services</u>, 2.4C.2 *Children*, SPM#2**: The *percent of children grades K-6 receiving dental education through public health sponsored professionals.*

MCH, OSDH Dental Service and the Oklahoma Health Care Authority (OHCA) collaborated through a contractual agreement for the Regional Maternal and Child Health (RMCH) Coordinators to work with local communities in identifying gaps in Medicaid dental services for the MCH/CSHCN populations. Based on the information gathered during SFY 1999 and 2000, OHCA would address needed policy and system changes.

NPM#8: *The rate of deaths to children aged 1-14 caused by motor vehicle crashes per 100,000 children.*
MCH continued to support the Oklahoma SAFE KIDS Coalition through assignment of staff from the Child and Adolescent Health Division to support and coordinate Coalition activities. Oklahoma SAFE KIDS focused on prevention of childhood injuries in children 0 to 14 years old through education of children, parents, community leaders, health care providers, school personnel, emergency medical staff and law enforcement on a variety of topics to include car safety restraints, water safety, bicycle safety/helmets and water safety; media coverage (television, radio and newspaper); technical assistance to communities in implementing local coalitions; and, the "*Please Be Seated*" initiative. This initiative was a partnership with the Oklahoma Department of Highway Safety. It provided a means for concerned citizens to report vehicles carrying unrestrained children. The families were then contacted by mail and given helpful information regarding acquisition of free or reduced price car seats for their children.

SAFE KIDS provided child safety seat checks in communities across the state. At least 2 child safety seat check events were held each month. Technical assistance with child safety seats, both via phone and in one-on-one appointments, was offered.

SAFE KIDS also partnered with Infant Crisis Services to distribute approximately 50 car seats per month to low-income families to include education on proper use. Infant Crisis Services screened clients for eligibility and SAFE KIDS handled the distribution and training.

All nurses providing Children First services received car seat safety training from Oklahoma SAFE KIDS. Nurses utilized the information from this training to educate families on selection, care and appropriate installation and use of car safety restraints for their child.

The Healthy Child Care Oklahoma Project distributed brochures and handouts on proper car seat use and installation, passenger safety and "*Please Be Seated*" cards at 4 child care conferences and the statewide Licensing Institute. This information was also distributed to the 9 regional resource and referral agencies in the state and any child care provider who requested the information. The Healthy Child Care Oklahoma Project worked collaboratively with the Oklahoma SAFE KIDS Coalition to distribute announcements of upcoming child safety seat checks and trainings.

Injury prevention was a major component addressed through the Oklahoma County Schools for Healthy Lifestyles Program. This program continued to expand in the Oklahoma City public school district under the leadership of the Oklahoma County Medical Society. MCH provided ongoing technical assistance for the program. During the 1998-1999 school year, 17 elementary schools participated in the program. Each school developed a school-based plan to address issues such as injury prevention to include car safety but also to address issues of cardiovascular disease prevention, cancer prevention and physical fitness. A week long summer institute was held in July for school district participants. MCH provided support and planning for the training.

SPM#2: *The percent of children grades K-6 receiving dental education through public health sponsored professionals.*

Dental health education and tobacco use prevention instruction was provided in 32 counties to 36,296 children daycare through high school. Four thousand six hundred and eighty nine (4,689) dental program workshops were also provided at the community level with the primary target being children. Topics included appropriate hygiene and care of one's teeth, safety (e.g. mouth guards) and nutrition to include healthy snacks. Settings included schools, health department dental clinics, Women, Infants and Children (WIC) Nutrition Program clinics and child care centers.

In February of 1999, the Oklahoma County dental health educators partnered with local dental professions to provide dental screenings and follow-up for all students at the 17 schools providing the Schools for Healthy Lifestyles Program.

SPM#7: *The percent of abused and/or neglected children.*

The Office of Child Abuse Prevention continued to provide leadership across the state by assuring child abuse prevention efforts targeted priorities as outlined in the "*"State Plan for the Prevention of Child Abuse*". The Office of Child Abuse Prevention continued to provide technical assistance to the 17 district task forces that developed community-based priorities that were in harmony with the state plan and implemented local child abuse prevention initiatives. In addition, the Office of Child Abuse Prevention provided staff support for meetings of the state level Interagency Task Force. The Interagency Task Force developed broad, systems initiatives that supported the goals and objectives of the state plan.

In SFY 1999, the Office of Child Abuse Prevention provided home visitation parent education and support services to 3113 families to include 2634 children through 31 community-based programs. Center-based parent education and support services were provided to 3107 parents. Screening and/or assessment services were utilized by 4881 families. Child development screenings and/or assessments were provided for 1391 children. Six hundred twenty four (624) health promotion and public awareness activities were conducted. See **2.4B Enabling Services, 2.4B.1 *Pregnant Women, Mothers and Infants*** for a description of the change in program services to the Healthy Families America model with a new 3 year funding cycle beginning SFY 2000.

The Office of Child Abuse Prevention collaborated with Prevent Child Abuse Oklahoma as well as other agencies, organizations, parents and concerned citizens on the implementation of a statewide public awareness campaign, "*Never Shake a Baby*". The Office of Child Abuse Prevention distributed 1000 "*Never Shake A Baby*" educational packets to community-based family resource and support programs, child care providers and other child advocates.

The Child Abuse Training and Coordination (CATC) Program, Office of Child Abuse Prevention, trained 2333 professionals representing 12 different disciplines in SFY 1999. CATC collaborated with 42 state agencies and organizations and 2 national organizations to provide the trainings. CATC provided technical assistance to communities wanting to develop and maintain child abuse multidisciplinary assessment (CAMA) teams. Teams consisted of prosecutors, medical professionals, mental health staff and child protective service workers. The role of the CAMA teams continued to be one of increasing the communication and collaboration among the professionals responsible for identification, investigation, prosecution and treatment of child abuse and neglect to ensure that children in the community were protected. Two (2) additional teams were formed bringing the total to 34 in the state. Staff actively participated in the development and support of legislation and requests for state appropriated funding for SFY 2000 for CAMA teams to be located in each of the state's district attorney districts. This legislation would provide funding for infrastructure and support of the existing teams and those to be formed.

Additionally, CATC distributed 35,000 English and 8000 Spanish versions of the child abuse hotline reporting cards and 2400 copies of the brochure "*Child Abuse and Neglect: Reporting Information for Public Health Professionals*" to public health employees throughout the state.

Revision of the OSDH Child Abuse Reporting Procedure and Protocol was completed. Training was provided to 247 health department staff through 6 trainings between July 21 and September 24. Dates and locations were identified for FY 2000 to train remaining health department staff.

The Children First (C1) Program provided home visitation services to 4708 families for a total of 47,371 completed home visits. Interaction with the mother, child and support system facilitated the development of healthy relationships and appropriate expectations related to parent-child interactions and child development. Nurses in the C1 Program received Child Abuse Medical Examiner Training. This training provided a base of knowledge that facilitated nurses recognizing early signs of potential abuse and/or neglect and intervening promptly.

Revisions to the licensing requirements for family child care were a focus of the Healthy Child Care Oklahoma Project. MCH staff chaired the subcommittee that developed the revisions focused on health and safety.

Child Guidance staff provided 45,000 screening services and parent/community workshops to over 55,540 individuals in its efforts to prevent child abuse and neglect. Screening services were offered to provide early detection of developmental, communication, hearing and behavioral concerns and assist families in accessing resources. Workshops focused on educational topics such as improving self-esteem, communication and listening skills, children and divorce, toilet training, strengthening stepfamilies and single parenting. Additional topics were grandparenting, helping children adjust to a crisis, infant care, television and children, violence prevention, the importance of play, parenting stress management, strengthening the abused child and understanding and living with a child with attention deficit.

The Healthy Families Oklahoma 1999 Conference was combined with the Seventh Oklahoma Conference on Child Abuse and Neglect. The theme focused on the cost of child abuse and neglect and effective strategies for prevention, intervention and treatment. Nearly 750 participants attended this joint conference sponsored by the Office of Child Abuse Prevention and the Center on Child Abuse and Neglect, University of Oklahoma Health Sciences Center (OUHSC).

SPM#8: *The percent of adolescents grades 9-12 smoking tobacco products.*
The MCH Child and Adolescent Health Division, MCH Assessment and Epidemiology Division and OSDH Office of Tobacco Prevention collaborated together to develop and implement tobacco prevention activities for the pre-adolescent/adolescent populations. The Youth Tobacco Survey was administered to a statewide random sample of 2169 middle school students in 47 schools and 1941 high school students in 48 high schools in 37 counties. The pilot survey was conducted in cooperation with the Centers for Disease Control and Prevention (CDC), Oklahoma

State Department of Education and numerous community partners. Results found that 42% of high school students and 21% of middle school students were current users of tobacco products. Additionally, 22% of 8th grade current smokers began using tobacco when they were 8 years old or younger and only 10% of 12th grade smokers began smoking after age 16. With these findings in mind, prevention activities were identified and implemented: 1) a state plan for use of the tobacco settlement dollars targeting public health prevention activities was written and submitted with the OSDH SFY 2000 budget request; 2) an invitation-to-bid (ITB) was let with 4 communities (2 urban and 2 rural) awarded funds for tobacco prevention community planning demonstration projects; and, 3) networking and coordination of efforts with child advocate groups and legislative committees was accomplished.

2.4C.3 *Children with Special Health Care Needs*

There were no specific national or state population-based health care service performance measures for this population.

The Oklahoma Birth Defects Registry provided information on the Early Intervention Program (SoonerStart) to parents of children identified with diagnoses that would most likely result in the level of developmental delay needed to qualify for services. At the time the OBDR medical record abstractor reviewed medical records for inclusion into the OBDR, it was noted if medical or social work staff had referred the child to SoonerStart. When the OBDR Coordinator edited the abstract, the birth defect was checked against the SoonerStart referral list. If there was no notation of referral in the medical record and the diagnosis was on the SoonerStart referral list, parents were sent a letter stating that the child may qualify for SoonerStart services. Information fact sheets about SoonerStart to include an overview of the program, a map of SoonerStart offices and contact phone numbers were included with the letter. If the child was in foster care, the letter was sent to the Department of Human Services (DHS). The OBDR referred 130 children to SoonerStart in 1999. The OBDR also began planning with the CSHCN Program to implement education and outreach activities in FY 2000 to parents whose children may qualify for CSHCN services.

The Women's Health Division provided training at the Summer Adolescent Health Institute to 50 professional adults who work with developmentally and physically disabled youth. These professionals were trained utilizing the "*Loving Carefully*" curriculum (a family life skills curriculum for the developmentally and physically disabled).

2.4D <u>Infrastructure</u>

2.4D.1 *Pregnant Women, Mothers and Infants*

NPM#15: *Percent of very low birth weight live births.*

Strategies to decrease very low birth weight live births included early entry into prenatal care, education on adequate weight gain and nutritional needs during pregnancy, preconception care, teen pregnancy prevention, smoking cessation activities and risk appropriate care. MCH worked closely with the Oklahoma Health Care Authority to assure that presumptive eligibility for Medicaid coverage of pregnant women served through public health maternity clinics remained intact. The Family Planning Program continued to offer free pregnancy testing to women to ensure early entry into care and reduce unintended pregnancy.

MCH continued to rely on the Pregnancy Risk Assessment Monitoring System (PRAMS) to provide a picture of what issues in Oklahoma might be impacting infant birth weight. Out of 2612 new mothers contacted to participate in PRAMS in 1999, 1974 (76%) responded. Information derived from PRAMS was utilized to educate health care providers on maternal and infant health issues, recommend health care interventions, monitor health outcomes and provide support for policy changes. MCH published 1 PRAMS GRAMS in the fall of 1999 (see **2.4C Population-Based Services, 2.4C.1 *Pregnant Women, Mothers and Infants*, SPM #5:** The *rate of neural tube defects among live births in Oklahoma*).

MCH staff provided input to a multi-agency task force, created by the Oklahoma Institute for Child Advocacy that secured grant funding from the March of Dimes to produce a video on the risks of smoking to the unborn child. The video produced in the early fall of 1999 was targeted to pregnant women and seen as a valuable teaching tool for young adults, parents and health care providers.

The "*Turning Point*" counties (Tulsa, Texas and Cherokee) began to look at the issue of low birth weight and others health care problems that might relate to access to care. These counties began to develop community-based plans to address needed system changes. Regional Maternal and Child Health (RMCH) Coordinators and other MCH staff provided technical assistance and served as resources for these meetings.

As already identified, the Children First Program provided nurse home visitation services statewide to 4708 families in SFY 1999. Pregnant women were identified and enrolled in the program prior to the 28th week of pregnancy. Nurses followed specific protocols and guidelines that included a home visitation schedule. Pregnant women received education on appropriate weight gain, nutrition, smoking cessation and the importance of early and routine prenatal care. Specifically related to smoking cessation, all nurses were trained in Prochaska's Model of Change and Stages of Readiness. Nurses were able to assess the desire to quit smoking as well as provide education on the effects of smoking on the pregnancy and child.

NPM#17: Percent *of very low birth weight infants delivered at facilities for high-risk deliveries and neonates.*
MCH continued to contract with the Oklahoma University Health Sciences Center, Department of Obstetrics and Gynecology to provide the Perinatal Continuing Education Program (PCEP). Five hundred eighty seven (587) staff were trained in Level I and Level II hospitals (71 physicians and 516 nurses). Training provided participants with knowledge and tools to better recognize and manage obstetrical and newborn emergencies that could impact maternal and infant morbidity and mortality.

NPM#18: Percent *of infants born to pregnant women receiving prenatal care beginning in the first trimester.*
Public health and contracted providers continued to offer pregnancy testing on a walk-in as needed basis and/or by scheduled appointment. Presumptive eligibility continued to offer pregnant women entering the system through the public health system the benefit of immediate Medicaid coverage. Local county health departments began to focus

efforts on educating communities on Medicaid services, eligibility and how to access services. In addition, outreach efforts to identify women and assist them in applying for Medicaid were heightened as a result of collaborative efforts between MCH, Local Health Service and the Oklahoma Health Care Authority.

SPM#1: *Number of communities with a community-wide plan for services to the MCH population in at least one specific MCH area.*
MCH continued to support the Robert Wood Johnson and Kellogg Foundations' "*Turning Point*" (an initiative seeking to restructure public health in a way that assists communities in the development of public health priorities through community-based planning). Support was provided through funding staff to provide leadership in the pilot counties of Tulsa, Texas and Cherokee, serving on the "*Turning Point*" Advisory Committee and providing technical assistance and resources as requested in the development of the "*Oklahoma Public Health Innovation Plan*".

MCH routinely participated in meetings of the Tulsa Healthy Start Project and Oklahoma City Healthy Start Project and was part of the conference planning committee for the statewide conference "*Kaleidoscope of Change: Together We Make a Difference*" held on July 15 and 16, in Tulsa. This conference sponsored by the Tulsa Healthy Start Project, Oklahoma City Healthy Start Project and March of Dimes focused on reducing infant mortality. Over 300 maternal and child health professionals, consumers and advocates from all areas of Oklahoma met in Tulsa to share experience, knowledge and understanding of how to develop and sustain a stronger integrated system of maternal and child health services. Presentations focused on: the philosophy of Title V to include the conceptual framework of infrastructure building services, population-based services, enabling services and direct health care services; strategies to bring communities together to address better health for all mothers and babies; risk related behaviors related to infant mortality and morbidity; and, how to change risk behaviors.

The coordination of Sudden Infant Death Syndrome (SIDS) activities transitioned during the early fall of 1999, from the MCH Social Work Consultant to staff in the Child and Adolescent Health Division. Education was provided to individuals and communities on the "*Back To Sleep*" Campaign and the importance of individual and community involvement in spreading the message of prevention of SIDS. Educational information was provided through statewide and local press releases, materials distributed through mailings, workshops to build awareness and conference exhibits. Local county health department staff (nurses, social workers and psychologists) continued to be trained as needed to provide follow-up and referral services. Fifty-six (56) families received services. A toll-free hotline continued to be available through the Oklahoma SIDS Alliance Chapter, a family support organization for families who experience SIDS deaths.

The Adult Lead Surveillance Program continued to work with health care providers across the state on education and follow-up of adults in conjunction with conducting surveillance by monitoring all blood lead levels greater than or equal to 10ug/dL reported by health care providers.

2.4D.2 *Children*

NPM#12: *Percent of children without health insurance.*

The Children's Coordinated Data System Task Force continued to meet to design and implement a system that would provide data linkages for the sharing of case information and for aggregate data analysis for planning, research, outcome evaluation and service coordination. This system would facilitate children receiving appropriate services and reduce duplication. Participants were the Oklahoma Commission on Children and Youth, Department of Human Services, Oklahoma State Department of Health, Department of Mental Health and Substance Abuse Services, Oklahoma Health Care Authority, State Department of Education, Office of State Finance, Office of Juvenile Affairs, State Department of Rehabilitation Services, Oklahoma Department of Commerce and consumer representatives. A funding and implementation plan was further refined and submitted to the legislature to consider during the SFY 2000 session.

MCH continued to support and use data from the Oklahoma Toddler Survey (TOTS) for policy and program development. TOTS was developed to collect health information on 2 year old children whose mothers participated in the Pregnancy Risk Assessment Monitoring System (PRAMS). The primary goal of TOTS has been to establish an active surveillance system that identifies individual behaviors (early child health risk factors) and system barriers related to health care use and status during the first two years of life. During SFY 1999, surveys were mailed to 1947 respondents of PRAMS. The response rate was 66%.

MCH continued to collaborate with the Oklahoma Health Care Authority (OHCA) to implement the State Children's Health Insurance Program (SCHIP) and to assure children and their families were informed about SCHIP and how to access services. Through meetings MCH and Local Health Service scheduled and facilitated, a contract was developed and put in place between the Oklahoma State Department of Health and the OHCA. This contract was for reimbursement to the Oklahoma State Department of Health for each Medicaid application completed and approved for coverage of a child under SCHIP. Health department staff were trained on SCHIP, providing SCHIP information and how to assist a family in completing the application.

Oklahoma was one of the states to receive funding through the Robert Wood Johnson's "*Covering Kids*" Initiative. MCH assisted the Oklahoma Institute for Child Advocacy in its application for these funds. The "*Oklahoma Covering Kids Partnership*" is a health access initiative designed to reduce the number of uninsured children in the state through outreach and education.

The Healthy Child Care Oklahoma Project worked with the Department Of Human Services, Oklahoma Health Care Authority and Oklahoma Institute for Child Advocacy to develop a pilot project for enrolling children in SCHIP at child care facilities. Two (2) child care centers and 2 child care homes in the Oklahoma City area participated in the pilot. Approximately 20 families enrolled their children as a result of the pilot. Feasibility of expanding this approach in other areas of the state was being explored.

NPM#13: *Percent of potentially Medicaid eligible children who have received a service paid by the Medicaid Program.*

The Children First (C1) Program worked with first time mothers and their infants to complete the Medicaid application process. C1 continued to receive Medicaid reimbursement for targeted case management services provided to pregnant women, infants and children up to 2 years of age.

The Immunization Program continued to work with the Oklahoma Health Care Authority (OHCA) in sharing and matching data from the Oklahoma State Immunization Information System (OSIIS) Registry with the Medicaid database to facilitate identifying immunization levels of children receiving Medicaid. In SFY 1999, approximately 46% of all children in the statewide registry were served through Medicaid. 1999 matched data results showed a ten percentage point increase in up-to-date immunizations at 24 months for children covered by Medicaid (1998 – 65%; 1999 – 75%). The OHCA offered to enter into an agreement with MCH during SFY 2000 to provide administrative funding to support the OSIIS Registry due to an ongoing need for this data. Plans were developed to put this agreement into place based on identified cost per child on Medicaid. In addition, throughout the year, the Immunization Program staff met with and served as a resource to the Directors of the state Medicaid HMOs.

As described **in 2.4D <u>Infrastructure</u>, 2.4D2 *Children*, NPM #12**: *Percent of children without health insurance*, MCH and Local Health Service worked collaboratively with the OHCA to implement outreach activities to facilitate Medicaid eligible children being identified and assisted in applying for and accessing Medicaid services.

NPM#16: *The rate (per 100,000) of suicide deaths among youths aged 15-19.*

The Adolescent Suicide Prevention Task Force was created and staffed by the Child and Adolescent Health Division. Representatives from the Oklahoma State Departments of Health, Education and Mental Health and Substance Abuse Services as well as private practice social workers, educators, law enforcement and health care served on the task force. The purpose was to develop a planning process and implementation strategy that would lead to the development of a statewide suicide prevention initiative. In March 1999, with technical assistance and support from Region VI MCH, the task force hosted a technical assistance visit from Dr. Peggy West, Region X MCH and Dr. Leona Eggert, University of Washington School of Nursing. Drs. West and Eggert provided the task force with a best practice model for statewide suicide prevention planning. Through the implementation of the steps described in the model, key components of a statewide plan were identified. These components included: community education regarding adolescent suicide and prevention; gatekeeper training programs that train lay people to identify the warning signals for adolescent suicidal behavior and to intervene on their behalf by connecting them with an individual in the community who is qualified to address and treat suicidal individuals; community resource development which entails identifying and coordinating local prevention and treatment resources; and, the development of measurable objectives and measurement tools for evaluating processes and short/long term outcomes (process, impact and outcome evaluation).

The Adolescent Suicide Prevention Task Force also collaborated with the Mental Health Association **in** Tulsa concerning youth suicide prevention efforts in the northeastern portion of the state. Part of this collaboration included co-sponsoring and assisting with the planning of an area-wide conference on youth violence and self-destructive behavior (suicide). This conference featured mental health professionals from across the nation as well as personnel from local schools.

The Oklahoma Legislature passed House Joint Resolution 1018 during the 1999 session. This legislation called for the assembly of a task force very similar in structure and function to the one established by the Child and Adolescent Health Division. Task force members were to be comprised of representatives from the Oklahoma State Departments of Health, Education, Juvenile Justice and Mental Health and Substance Abuse Services as well as schoolteachers, suicide survivors, private practice social workers/mental health professionals and the faith community. Staff from Child and Adolescent Health Division served on this new task force and functioned as a link between the two suicide prevention initiatives to assist the groups in sharing information and to compliment each other's work rather than duplicate it.

SPM#1: *Number of communities with a community-wide plan for services to the MCH population in at least one specific MCH area.*
Community Integrated Service System (CISS) grant activities continued. MCH staff at both the state and local levels continued to provide technical assistance to schools and communities who wanted to participate in the Youth Risk Behavior Survey (YRBS). In 1999, approximately 25 schools participated in identifying risky behaviors of youth through administration of YRBS. As more schools requested survey administration, plans were implemented to train county health department staff to administer the survey. Local health department staff provided leadership and participated with schools in the identification of local advisory groups and task forces to address identified priorities.

MCH continued to support the "*Turning Point*" initiative as previously discussed **2.4D <u>Infrastructure</u>, 2.4D.1 *Pregnant Women, Mothers and Infants*, SPM#1**: *Number of communities with a community-wide plan for services to the MCH population in at least one specific MCH area*.

Training was provided to Child Guidance staff on conducting and utilizing existing local community needs assessments on services to families. This information was to be used to develop a local plan for service delivery. Oklahoma and Tulsa City-County Health Departments utilized this information and developed a comprehensive plan for child guidance services in their respective counties. Oklahoma County identified violence as an overriding public health concern and developed services through their multidisciplinary team to address violence in their county. Tulsa focused on increasing public awareness of their services and expanding service delivery to high-risk populations.

Child Guidance staff across the state participated in local community groups to improve local collaboration and coordination among service providers. This included the Oklahoma Commission on Children and Youth (OCCY) Planning and Coordinating Boards and Special Services Advisory Boards, Child Abuse Prevention District Task Forces and, in the selected communities, local Turning Point partnerships. The goal of this participation was to assure that the behavioral health, developmental, parenting, speech, language and hearing concerns of a community were addressed through representation of staff within those specialty areas. Child Guidance staff also worked closely with schools, local Department of Human Services staff, youth services agencies, child care providers and many other professionals to assure a continuum of care was available to address the concerns related to service provision. In addition, staff provided consultation to other public health programs related to behavioral, developmental, parenting, speech, language and hearing concerns and assisted with referrals to appropriate service providers for needs identified in these areas.

County health departments continued to partner with local schools to address school health issues. Partnerships focused on the provision of health education services by nursing staff as well as an array of other county health department staff to include health educators, psychologists, social workers and environmental specialists.

The Childhood Lead Poisoning Prevention Program developed the capability to use surveillance data with Geographical Imaging System software to plot the locations of children with elevated blood lead levels and designate high and low risk zip code areas. This information was used to begin discussions for policy and procedure changes to identify pockets of need and to target services. Additionally, the Childhood Lead Poisoning Prevention Program staff continued to provide technical assistance/consultation and to facilitate community-based initiatives for the Ottawa County Lead Project. This Project focused on the institutionalization of lead poisoning prevention education and the monitoring of blood lead levels within the Tar Creek Super Fund Site. A community health coalition was created along with a multi-agency coordination group consisting of the Environmental Protection Agency (EPA), Oklahoma Department of Environmental Quality (ODEQ), Agency for Toxic Substances and Disease Registry (ASTDR), Ottawa County Health Department, OSDH and the five communities in the site.

2.4D.3 *Children with Special Health Care Needs*

NPM#11: *Percent of Children with Special Health Care Needs (CSHCN) in the State CSHCN program with a source of insurance for primary and specialty care.*

Medicaid, private insurance and the CSHCN Program were sources of funding for primary and specialty care. The CSHCN population did not need to rely solely on the CSHCN Program. For example, children receiving service from the Supplemental Security Income Disabled Child (SSI-DC) Program were covered by Medicaid with some items and services being paid for by CSHCN. In addition, Oklahoma continued to be one of the few states that had a Medically Needy Program which allowed individuals or families to spend down part of their income to establish eligibility for Medicaid. This program allowed coverage for many families or individuals whose income made them ineligible for Supplemental Security Income (SSI) payment. As a rule, the few individuals with private insurance

had more involvement with the CSHCN program. Most insurance companies did not cover the kind of services that were needed and CSHCN filled the gap.

The CSHCN Program entered into discussions with the Oklahoma Blue Cross Blue Shield Caring Program about expanding the scope of their program. This program provided health care services to uninsured families and children.

NPM#14: *The degree to which the State assures family participation in program and policy activities in the State CSHCN program.*

Travel and child care stipends for parents were provided by the CSHCN Program to facilitate parent participation in state level and community-based CSHCN activities to include the Title V MCH Block Grant Hearings. CSHCN funded a total of 8 FTE for parents working with community-based CSHCN programs. The MCH Parent Advocate provided leadership through involvement in Family Voices to include the development of a state newsletter. The MCH Parent Advocate participated in meetings with CSHCN staff on family and child health care issues and worked with MCH programs providing CSHCN services to facilitate a parent/family focus staying central to policy and program development.

SPM#1: *Number of communities with a community-wide plan for services to the MCH population in at least one specific MCH area.*

Through activities described in **2.4B <u>Enabling Services</u>, 2.4B.1 *Pregnant Women, Mothers and Infants***, the Regional Maternal and Child Health (RMCH) Coordinators also supported MCH activities related to the State Systems Development Initiative (SSDI). With the goal of SSDI being to build capacity within local communities to identify local health system needs and enhance local leadership skills to translate needs into policy and improved systems, RMCH Coordinators participated in community-based task force meetings to identify and address barriers to care for the CSHCN population. They assisted in the development of community-based needs assessments leading to the identification of systems gaps. They participated on and assisted existing coalitions, groups and local boards to address needed changes to policy and practice at the community level around issues such as child care, respite care and access to dental and health care for the CSHCN population. The RMCH Coordinators also served as liaisons between the state and community levels providing information to facilitate development and changes in state level policy and practice.

Through a Negotiated Service Plan, MCH and CSHCN worked collaboratively to utilize social workers to facilitate local meetings that brought community agencies together to assess system issues around health care services for children with special health care needs and to develop strategies to improve these systems. Eight (8) communities developed resource teams to look at system issues. Participants included health providers, social service agencies, child care providers, schools and parents. Each team looked at specific systems barriers in its particular community and identified strategies to remove these barriers.

2.4 Progress on Outcome Measures

Data for the national outcome measures noted on Form 12 in Section V 5.8. are from SFY 1998 as final data for SFY 1999 are still unavailable.

MCH was involved in numerous state level and community-based activities identified throughout the Annual Report that would impact these outcome measures. In addition, MCH supported and actively participated in the following activities that would impact these outcome measures: Tulsa Fetal and Infant Mortality Project, Oklahoma City and Tulsa Healthy Start Projects, Maternal Mortality Committee and Child Death Review Board.

The Tulsa City County Health Department provided leadership in the Tulsa community for the Tulsa Fetal and Infant Mortality Project supported through a contractual agreement with MCH. This project was designed to decrease fetal and infant deaths in Tulsa County through assessment of the problems associated with fetal and infant deaths, development of community-based intervention strategies to improve pregnancy outcomes and evaluation of community-based intervention. Tulsa City County Health Department has spent the past year planning the implementation of this project. Over the next year, Tulsa will initiate multidisciplinary teams to review Tulsa county fetal and infant deaths within targeted areas of the Tulsa Healthy Start initiative.

MCH worked closely with the community-based Oklahoma City and Tulsa Healthy Start Projects. Mary Mahoney Health Center, lead agency for the project in Oklahoma City, and Tulsa City County Health Department, lead agency for the project in Tulsa, received technical assistance and consultation from MCH. These projects focused on strategies such as education, outreach, care coordination and community coalitions to impact perinatal, neonatal, postneonatal and infant mortality.

MCH began working with the Oklahoma State Medical Association (OSMA) in FY 1999 to reactivate the Maternal Mortality Committee. This committee was created by state statute to review maternal deaths (preventable versus non-preventable) and identify needed systems changes to improve maternal outcome and thus, perinatal, neonatal, postneonatal and infant outcome. In January and February of 2000, new members were selected to serve on this OSMA committee. MCH identified staff support for compiling the information on maternal deaths and meetings of the committee. An initial meeting of the committee was scheduled for March 2000 with future meetings to be scheduled depending on the number of cases for review. Needs identified through the reviews for health care and systems changes were to be published in the OSMA Journal and other professional publications to educate physicians and other health care providers.

MCH staff served on the Child Death Review Board that met throughout 1999 to conduct case reviews of deaths of children in the state. The Board, composed of 27 members, was within the Oklahoma Commission on Children and Youth. Based on case reviews, the Child Death Review Board recommended needed changes in policies, practices and procedures to reduce the child death rate. These recommendations were submitted for inclusion in the "*State*

Plan for Services to Children and Youth". In accordance with the Oklahoma Sunset Law, the legislature did pass legislation during the SFY 2000 session recreating the Child Death Review Board

III. REQUIREMENTS FOR APPLICATION

3.1 Needs Assessment of the Maternal and Child Health Population

3.1.1 Needs Assessment Process

The mission of the Oklahoma State Department of Health Maternal and Child Health Service is to protect and promote the health of Oklahoma's women, children and families by assessing health status, establishing evidence-based priorities and providing leadership to assure the availability of individual, family and population-based services which includes children with special health care needs and their families. This needs assessment is one part of Oklahoma's ongoing assessment process of interpreting and summarizing quantitative and qualitative information in order to obtain an overview of Oklahoma's women of childbearing age, infants, and children and the service and organizational components required to effectively implement and support community-based systems of care.

While the product of the needs assessment is created at a point in time, the Oklahoma process is ongoing and dynamic. Both qualitative and quantitative results of the activities of the MCH services are accumulated to be used as resources for the needs assessment. Qualitative sources are obtained through the interface of direct services provided, population-based activities that provide feedback, and infrastructure-building activities that interface with local communities and consumers via Regional Maternal and Child Health Coordinators whose time is dedicated to systems-building activities. Another important component is the feedback obtained through the Block Grant public hearings, including consumer focus groups who represent selected population subgroups or types of services that generally have limited resources.

Quantitative information is gathered from MCH supported sources, traditional public health data systems, and external sources that are pertinent to MCH activities that interface with other public and private services. Surveillance and survey systems generally target the entire state population of MCH age groups; this better describes the need for services from a population-based perspective rather than looking only at the indigent groups that public health programs typically serve. Other data sources utilized include those of partner agencies, including education, social services, mental health, health care financing, and university-based studies.

Prior to the development of the needs assessment, various leaders of MCH conferenced to identify the direction for determining needs. The product of that meeting was the formation of three teams who would focus on the three areas of MCH: preventive and primary care for reproductive-age women, pregnant women, mothers and infants; preventive and primary care services for children; and services for children with special health care needs. Each team included members of the MCH Assessment and Epidemiology Division (A&E) to lend input as issues were identified. Drawing from their own expertise and from other sources, the team identified priority issues. These

priorities were influenced by experience, observation, emerging issues, external input, and areas that have been identified by the State Legislature and Governor's Office as priorities.

As the A&E staff began to summarize the data, special effort was made to address the priority areas. The net result is an assessment that is not similar to traditional or previous assessments, though it does include the conventional pieces familiar to MCH. However, there was a clear shift to focus on behaviors and other influences that impact public health beyond the traditional medical intervention/prevention models.

Complementary blends of both qualitative and quantitative research tools were used to gather information for analysis. This process allows for a more balanced assessment instead of setting priorities based upon the greatest amount of data available and/or issues with the highest visibility. The present needs assessment is based on information gathered from the Oklahoma Pregnancy Risk Assessment Monitoring System (PRAMS), Oklahoma Toddlers Survey (TOTS), First and Fifth Grade Health Surveys, the Oklahoma Primary Health Care Provider Survey'99, the Community Assessment Tool for Children with Special Health Care Needs (CATCH) survey, the Oklahoma Youth Risk Behavior Survey, the Behavior Risk Factor Surveillance System, the Oklahoma Uniform Crime Report, Oklahoma Department of Human Services 1999 Annual Report, the Oklahoma Department of Education 2000 Annual Report, Injury Prevention Service, The Drug Use Needs Assessment Survey (DUNAS), Oklahoma vital records, and regional Title V focus groups. Also used were the Oklahoma Tobacco Survey, the Consumer Assessment of Health Plan Survey (CAHPS), and the Oklahoma Youth Tobacco Survey. Assessment of health administrative data systems will also be used in this assessment.

The Oklahoma Pregnancy Risk Assessment Monitoring System

The Oklahoma Pregnancy Risk Assessment Monitoring System (PRAMS) is an on-going program funded through a collaborative agreement with the Centers for Disease Control and Prevention. Initiated in 1987, PRAMS conducts statewide population-based surveillance of preconception, prenatal, and postpartum behaviors, attitudes, and practices of women who delivered a live birth. The overall goal of the Oklahoma PRAMS is to reduce infant morbidity and mortality by identifying and measuring the change in maternal behaviors during pregnancy and early infancy. The four objectives identified to met the goal are: 1) describe maternal behaviors during pregnancy and early infancy; 2) analyze relationships between behaviors that occur before, during, and after pregnancy and selected pregnancy outcomes (e.g. prematurity, low birthweight); 3) serve as a resource for the development and implementation of intervention programs and for targeting programs effectively; and 4) assess factors related to utilization of intervention programs.

The PRAMS is a population-based survey of Oklahoma women with a recent delivery. Analysis weights are applied to adjust for selection probability and non-response. By using weighted analysis, researchers can make strong statements about the preconception and prenatal periods for the entire population of women in Oklahoma delivering a live birth. Thus, state-specific decisions on policy and program development can be made. A stratified systematic

sampling approach is used to select approximately 200 new mothers each month from the state's live birth registry. Up to three mailed questionnaires are used to solicit a response. Telephone interviews are attempted for non-respondents. *Components of the needs assessment information address direct health care and enabling services in a population-based format.*

Strengths: 1) Results from the PRAMS are representative of the state's population of mothers who have recently given birth. 2) Mail surveillance is a less expensive method of data collection than other methods. 3) Mail surveillance avoids interviewer bias. 4) Correct addresses are easily obtainable from birth certificates. 5) Mail surveillance is less resource-intensive than methods that rely on interviewers. 6) Telephone follow-up of non-respondents can enhance the woman's willingness to participate. 7) Telephone follow-up can address the issue of women who cannot read or write or who have visual impairments. 8) The study design is thoroughly researched and closely monitored to assure valid survey response and quality data. 9) Surveillance is ongoing, allowing for longitudinal study.

Weaknesses: 1) Sample size is not large enough to provide local level information for community-based planning, nor was the survey designed to provide geographic subanalysis. 2) Survey questions are predetermined, standard and closed ended which could result in a failure to identify new and emerging trends and the most important aspects of current problems and issues. 3) The complexity of the PRAMS database and weighting design requires long-term analysis by specially trained personnel, which limits the timeliness in which new information can be made available. 4) Mail surveys assume that the mothers can read and write and have no visual impairment. 5) Inquiries about questions cannot be readily addressed. 6) The identity of the respondent cannot be verified. 7) Non-respondents without telephones will be lost to follow-up. 8) Telephone interviewer may introduce bias.

<u>The Oklahoma Toddler Survey</u>

The Oklahoma MCH Service implemented The Oklahoma Toddler Survey (TOTS) surveillance system in December of 1994. TOTS actively surveys a sample of state resident mothers with children two years of age. The survey is designed as a longitudinal follow-up survey to the Oklahoma Pregnancy Risk Assessment Monitoring System (PRAMS) and is unique in the nation. TOTS incorporates the use of a combined mail and telephone methodology for data collection similar to that of PRAMS. The overall purpose of TOTS is to: 1) determine the health status of Oklahoma two year olds, 2) determine access to health care and related services, 3) identify behavioral risk factors and system barriers, and 4) inform program planning and policy making. Data elements collected by TOTS include birth defects, childcare, chronic illnesses, developmental delay, use of early intervention services, hospitalizations and injuries, insurance coverage, nutrition, and home safety. *Components of needs assessment information addresses: Direct Health Care, Enabling, Population Based, and Infrastructure Building*.

Strengths: 1) Results from TOTS are generalizable to two year old children who were born in the state as a whole and can be used to make broad estimates of the prevalence of children with special needs throughout the state in this

age group. 2) In combination with the First and Fifth Grade surveys, TOTS information allows the state to look at age-graded issues such as rates of increase or onset of health conditions and use of health care services. 3) Overall, service utilization patterns, which are not limited to those publicly funded, can be identified through TOTS data. 4) TOTS improves the states ability to develop more reliable estimates of condition prevalence, the unidentified population, and health care disparities. 4) Structural or exogenous factors that are not generally studied can be identified. 5) Further, TOTS can be linked back to records in Oklahoma's Pregnancy Risk Assessment Monitoring System (PRAMS) in order to conduct more in-depth analysis of prenatal health and lifestyle factors and the later development of chronic health conditions in children.

Weaknesses: 1) Sample size is not large enough to provide local level information for community-based planning. 2) Survey questions are predetermined, standard and closed ended which could result in a failure to identify new and emerging trends and the most important aspects of current problems and issues. 3) The complexity of the TOTS database and weighting design requires long-term analysis by specially trained personnel, which limits the timeliness in which new information can be made available.

First and Fifth Grade Health Surveys

The First and Fifth Grade Health Surveys are population-based surveys developed and operated by the Assessment and Epidemiology Division (A&E), within MCH. Before 1995, very little was known about the health of young Oklahomans beyond that of mortality statistics. The Oklahoma First Grade Health Survey was implemented statewide in the spring of 1996 to: 1) determine the current health status of young children, 2) determine access to coordinated health care and related services, 3) identify behavioral risk factors and the impact of those behaviors on well-being, and 4) inform program planning and policy making. Data elements collected by the First Grade Health Survey include birth defects, childcare, chronic illnesses, developmental delay, use of early intervention services, hospitalizations and injuries, insurance coverage, nutrition and home safety. With the success of the First Grade Health Survey, the Fifth Grade Health Survey was developed and implemented in the spring of 1998. The methodology and design of the Fifth Grade Survey was modeled after that of the First Grade Survey, and in addition to collecting similar information, the survey incorporates measures of risk behaviors similar to those included on the Youth Risk Behavior Survey (YRBS). *Components of needs assessment information addresses: Direct Health Care, Enabling, Population Based, and Infrastructure Building.*

Strengths: 1) Results from these surveys are generalizable to first and fifth grade children in the public school system and can be used to make broad estimates of the prevalence of children with special needs throughout the state in these age groups. 2) These surveys allow the state to look at age-graded issues such as rates of increase or onset of health conditions and use of health care services. 3) The state is better able to identify overall service utilization patterns which are not limited to those publicly funded. 4) The First and Fifth grade survey methodology enables the state to develop more reliable estimates of condition prevalence, unidentified populations, and health

care disparities. 5) The state is also better able to identify structural or exogenous factors that are not generally considered.

Weaknesses: 1) School-based survey methods may not be able to reach those in the greatest need such as children who are physically, mentally or emotionally unable to attend public school or are receiving home schooling or private instruction. 2) School-based surveys fail to reach children who are ill, truant or otherwise missing on the day the instrument was administered. 3) Sample size is not large enough to provide local level information for community-based planning. 4) Survey questions are predetermined, standard and closed ended which could result in a failure to identify new and emerging trends and the most important aspects of current problems and issues. 5) The surveys are based upon the parents' perceptions of the children's health, and they may not include subtle problems.

Children with Special Health Care Needs Survey

Through a collaborative effort between the Oklahoma State Department of Health (OSDH), the Oklahoma Department of Human Services (ODHS), and the Oklahoma Department of Education (ODE), the Community Assessment Tool for Children with Special Health Care Needs (CATCH) survey was developed and implemented in March of 1998. CATCH is a comprehensive specially designed survey to assess the health system for non-institutionalized special needs children and their families. Approximately 1,500 questionnaires were sent to the parents or guardians of any active recipient of the Early Intervention (EI)/SoonerStart Program in ten designated Oklahoma counties. These groups were predominantly selected based on accessibility and the non-financial inclusion criteria into each program/service. Each group received a CATCH survey to assess factors, which may affect the care and services received. Core data elements collected on the survey include issues pertaining to health care, insurance coverage, barriers to care, community and program support, daycare, respite and child care, nutritional and special equipment needs, as well as social stressors that families or guardians of children with special health care needs (CSHCN) may encounter. *Components of needs assessment information addresses: Direct Health Care, Enabling, and Infrastructure Building***.**

Strengths: 1) Information collected in the survey will assist in determining whether Oklahoma's efforts have been successful in improving the provision of health services that are community-based, family-centered, comprehensive, coordinated, and culturally competent. 2) The ability to access customer satisfaction with services provided. 3) The client list for sampling is readily available. 3) The Early Intervention (EI) population is not biased by limitations on family income. 4) The collaborative work between peer agencies strengthened relationships on a state level and has the potential of strengthening local relationships when OSDH Regional Coordinators implement the tool on a community basis.

Weaknesses: 1) The response rate for the survey was low with 20% of the original 1,500 returned. 2) The EI population only represents a fraction of the CSHCN population in the state and is limited to children under 3 years of age who are 50% disabled. 3) Survey findings are not generalizable to the state as a whole or the state's EI

population due to convenience sampling as well as a low response rate. 4) Even within the ten counties surveyed, the sample size was too small to conduct county level analysis. 5) Local leadership was unable to actively participate in the assessment process due to the confidentiality issues related to the release of client information of the EI/SoonerStart program.

Health Provider Survey

In collaboration with the Oklahoma Health Care Authority (OHCA), the OSDH surveyed all licensed health care providers in selected counties. The purpose of the survey was to identify barriers that may affect the use of health care services by *SoonerCare* (Medicaid managed care system) participants. Information obtained will be used to improve service utilization by supporting community-based efforts to expand the array of health providers and services available. Information was collected on physicians' attitudes toward the *SoonerCare* program, type of practice, location of practice, *SoonerCare* program participation, reasons for nonparticipation, and recommendations for program improvement. Five thousand surveys were mailed to licensed physicians located in select counties in June 1999. Participant counties were selected on population size and distribution of Medicaid HMO and PPO service providers. *Components of needs assessment information addresses: Direct Health Care and Infrastructure Building.*

Strengths: 1) Several opened ended questions were provided on the survey to solicit qualitative feedback from health care providers regarding the states Medicaid managed care program. 2) One of the only mechanisms in the state that provides input from health care providers. 3) The collaborative work between peer agencies strengthened relationships on a state level and has the potential of strengthening local relationships and the provision of quality services if the tool were to be implemented at the community level.

Weaknesses: 1) The response rate for the survey was low with 13% of the original 5,000 returned. It was not possible to isolate the retired and other non-practicing physicians from the survey group. 2) Due to the sampling design and the low response rate, results from this survey are not generalizable to health care providers in state as a whole or within the targeted counties. 3) Even within the ten counties surveyed, the sample size was too small to conduct county level analysis. 4) Local leadership was unable to actively participate in the assessment process.

Title V Focus Groups

Maternal and Child Health Services contracted with Southwest Training & Independent Research, Inc. to conduct focus groups across the state in 1998 and 1999. In 1998, nine focus groups with clients of various Title V services were held in 8 communities. A total of 71 clients participated in the 1998 meetings and remained for a public forum via interactive video. Focus groups were conducted at seven sites across the state of Oklahoma in 1999. The Regional Maternal and Child Health Coordinators recruited participants in each region of the state. A total of 54 mothers or expectant mothers participated in the 1999 group sessions. Standardized questions were used in both the 1998 and 1999 group sessions. The facilitators focused on obtaining as much information as possible on each

question as opposed to covering all questions in the allotted two hours. However, each focus group was able to complete the full set of questions as applied. Questions were not asked if no one in the group had any knowledge of or experience regarding the question topic. *Components of needs assessment information addresses: Direct Health Care, Enabling, Population Based and Infrastructure Building.*

Strengths: 1) The use of focus groups allows the facilitator to solicit in-depth qualitative feedback from clients that otherwise would not be known. 2) A more complete understanding of the exact nature of the problem and its interaction with other aspects of the health care system can be obtained through focus group and town meeting discussions. 3) Focus group interactions can improve communication and relationships between clients and local and state representatives. 4) Information obtained from focus groups and town meetings are important to the development and continual improvement of effective quantitative surveillance and assessment tools. 5) Local leadership and citizens have an opportunity to participate and have a say in the future direction of MCH services**.**

Weaknesses: 1) Due to convenience sampling through voluntary or paid participation and small groups size, results from focus groups and town meetings are not generalizable to clients throughout the state as a whole or within the targeted communities. 2) Since participation in the focus groups relied heavily on the recruitment efforts of county health department staff and regional coordinators, the likelihood of selection bias is high. 3) Qualitative information is difficult and time consuming to condense into a usable format for planning purposes.

Oklahoma Youth Risk Behavior Survey

The Youth Risk Behavior Survey was originally developed by the Division of Adolescent and School Health of the Centers for Disease Control and Prevention. The survey has been implemented nationally approximately every other year since1990. Oklahoma is one of eleven states that does not participate in the national survey effort. The Oklahoma MCH, in cooperation with local school districts, implemented a modified version the Youth Risk Behavior Survey in 1996 with the goal of assessing six areas of adolescent health. These areas include intentional and unintentional injuries, tobacco use, alcohol and other drug use, sexual and dietary behaviors, and physical activity. Until 1999 local school districts contacted the OSDH MCH to request implementation of the survey to high school students in their schools. MCH school health professionals surveyed all students in a selected school hour, termed a “second hour blitz” or in English classes throughout the selected survey day. The time of school year preferred was either October or February. Results of the surveys were presented to the schools and data became the property of the school districts. MCH retained the right to use the data without identifying specific schools. Surveys have been implemented in over 34 different school representing over 7000 students. *Component of needs assessment addresses: Population Based, Infrastructure Building, Enabling.*

Strengths: 1) Results from the YRBS provide local level information on teen health behaviors. 2) Enables communities to identify specific risks and design programs that target those specific risks.

Weaknesses: 1) Because schools have contacted MCH for implementation of the survey in their school, the Oklahoma YRBS is not generalizable to the population of Oklahoma teens. 2) Survey questions are predetermined, standard, and closed ended which could result in a failure to identify new and emerging trends and the most important aspects of current problems and issues. 3) School based survey methods are not able to reach those who are not attending public school or are receiving home or private instruction. 4) Although the methodology attempts to survey all enrolled students on a particular day, school based surveys fail to reach students who are ill, truant, missing on the day of the survey, or are schooled in steeings other than the public school system. 5) While the YRBS investigates risk behaviors that may impact future health, questions addressing current health conditions are limited to weight and dental care.

Behavior Risk Factor Surveillance Survey

The Behavior Risk Factor Surveillance Survey (BRFSS), the world's largest telephone survey, tracks health risks in the United States. Information from the survey is used to improve the health of the American people. The Center for Disease Control developed the standard core questionnaire for states to gather information that could be compared across states. The BRFSS, administered and supported by the Division of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, CDC, is an on-going data collection program. By 1994, all states, the District of Columbia, and three territories were participating in the BRFSS. Information from the BRFSS can be used to identify health risks to very young adults 18 and 19 years old and young adults ages 20 to 24. Survey topics include tobacco and alcohol use, weight and exercise, and diabetes and coronary heart disease risks.

Components of needs assessment information addresses: Population Based, Infrastructure Building, and Enabling.

Strengths: 1)BRFSS is a national survey with a state sample large enough for comparison with other states and national data. 2) Age graded health behaviors and risk factors can be assessed.

Weaknesses: 1) The sample is not large enough to provide local level information for community planning. 2) Survey questions are predetermined, standard and closed ended which could result in a failure to identify new and emerging trends and the most important aspects of current problems and issues. 3) The complexity of the BRFSS database and weighting design requires long-term analysis by specially trained personnel, which limits the timeliness in which new information can be made available. 4) The survey is administered via phone, eliminating some indigent or transient respondents.

Consumer Assessment of Health Plan Survey

The Consumer Assessment of Health Plan Survey (CAHPS) is a product of the Agency for Health Care Research and Quality. The survey was developed to help consumers identify the best health care plans and services for their needs. CAHPS includes adult and children's sections, asking about personal treatment by health care providers and staff, access to care, language and cultural barriers to care. The Oklahoma Health Care Authority used CAHPS to

survey Medicaid enrollees in Health Maintenance Organizations (HMOs) serving the Medicaid population and the Medicaid enrollees in the partially capitated primary care provider case management program operating in areas without HMOs participating in Medicaid. Both adults and children were surveyed with parents or guardians responding to questions about how satisfied they were with the care received for their children. SoonerPlus is a fully capitated HMO model, with selected contracted health plans in the more populated areas of the state, and SoonerChoice is a partially capitated Primary Physician Case Management model. Fee For Service plans were not included in the CAHPS surveys. This needs assessment uses CAHPS for determining parental perceptions of cultural sensitivity toward themselves and their children.
Components of needs assessment information addressed: Direct Health Care, Enabling, and Infrastructure Building.

Strengths: 1) CAHPS is generalizable to the Medicaid population using managed care in Oklahoma. 2) Perceptions of health care receiver's experiences of personal treatment can be assessed and 3) Perceptions of cultural sensitivity and provision of translation services can be assessed.

Weaknesses: 1) CAHPS focuses on Medicaid enrollees, thus eliminating information about those who use private insurance plans or the uninsured. 2) Only enrollees in publicly funded HMO plans were surveyed. Those in private health insurance plans and fee for service plans are not represented, eliminating the possibility for comparisons between plans and funding sources.

Oklahoma Youth Tobacco Survey

The Oklahoma Youth Tobacco Survey was developed by the Centers for Disease Control Foundation, the American Legacy Foundation and the Centers for Disease Control and Prevention to evaluate tobacco use among middle and high school students nation-wide. The CDC provides assistance to states in conducting and analyzing surveys. The Oklahoma Youth Tobacco Survey was conducted in the spring of 1999 by the Oklahoma State Department of Health, in cooperation with the CDC, the Oklahoma State Department of Education and other partners from local health agencies and school districts; MCH collaborated in this effort. The survey provides information about Oklahoma teen tobacco use, and knowledge of and attitudes towards tobacco. The survey is representative of all middle and high school students in Oklahoma, and was administered to over 4000 students in 95 schools. Both public and private schools were surveyed.
Components of needs assessment information addresses: Enabling, Population Based, and Infrastructure Building.

Strengths: 1) While other surveys have been able to provide information about high school students, this is the first directed effort to obtain information specifically about tobacco use, knowledge, and attitudes among middle school students. 2) The results of the survey are generalizable to the middle and high school population of Oklahoma. 3) Private middle and high school students were surveyed as well, giving insight into a previously neglected category of teens.

Weaknesses: 1) School based surveys fail to reach students who are ill, truant, or otherwise missing on the day the instrument was administered. 2) The results do not provide local level information about student tobacco use, except for 5 Oklahoma counties that were purposefully surveyed for reporting at the county level. 3) School based surveys only include students who attend school in public school buildings. Teens who may have dropped out, or students who are home schooled, or students in private schools are not included in the sample.

Oklahoma Uniform Crime Report

The Uniform Crime Report was developed in 1930 to serve as a tool for operational and administrative purposes. To facilitate the program, a standardized set of definitions for specific criminal acts was devised. In the 1960's, funds were made available for states to develop individual reporting systems. The objectives of the Uniform Crime Report include: 1) provide more direct and meaningful contact for contributors; 2) ability to expand contributions; 3) mandatory participation by law enforcement agencies; 4) ability to check state contributions to national system; and 5) ability to address state problems. The Oklahoma State Bureau of Investigation administers the Oklahoma Uniform Crime Reports and has done so since September 1, 1973. The information was used to construct domestic violence priorities

Components of the needs assessment information address issues: population-based and infrastructure.

Strengths: 1) Participation in the system is mandatory. 2) A standard set of definitions has been established and used since 1973. 3) Data represents the entire state. 4) The data is comparable to the nation and other states. 5) The data collected can be modified to meet the changing needs of the users. 6) The information reported is the most current and up-to-date in the state. 7) Local level data is available for community planning.

Weaknesses: 1) Only incidents reported to law enforcement is captured. 2) There is some confusion about jurisdictions and who reports incidents when more than one law enforcement agency responds (for example, city police, county sheriffs and Indian law enforcement on Indian land.) 3) Many contributing factors are not analyzed. 4) Crimes, arrests, and offenders are not the same. Crime reports deal with events. 5) A complete picture of criminality is not presented by the Report.

Reportable OSDH Injury Surveillance System

The OSDH Reportable Injury Surveillance System was developed in 1987 by the OSDH Injury Prevention Service. By mandate from the State Board of Health, the Injury Prevention Service collects data from hospitals, burn centers, rehabilitation centers, Office of the Chief Medical Examiner, and other government agencies including fire departments, lake patrol, public safety, and law enforcement, on four types of hospitalized or fatal injuries: burns, traumatic brain injuries, traumatic spinal cord injuries, and submersions (drowning and near drowning). Other conditions are mandated for time-limited, special study, such as firearm-related injury and fatal occupational-related injuries.

Components of the needs assessment information address population-based services and infrastructure building.

Strengths: 1) Surveillance system is active, using documentation from official records. 2) More than 100 variables are collected for each type of reportable injury incident. 3) Multiple sources of information are used to provide an accurate, detail account of the incident. 4) Emerging types of injury can be mandated for special study. 5) Clusters of injury can be investigated and appropriate intervention implemented.

Weaknesses: 1) Only injuries that result in hospitalization and death are included in the surveillance. 2) Reporting is related to the accuracy of coding among hospitals. 3) Active surveillance is labor-intensive and expensive.

Drug Use Needs Assessment Survey

The Drug Use Needs Assessment Survey (DUNAS) is operated in Oklahoma, one of a few states that has conducted population-based self-report surveys of domestic violence and injury among the general female population. Population-based data on domestic violence were collected recently by the Department of Mental Health and Substance Abuse Services (DMHSAS) as part of DUNAS. Questions on domestic violence experienced during the previous 12 months were asked during telephone interviews with women who were married or currently living with a male partner. In addition, a Native American supplement brought the number of Native American women in the domestic violence sample to 661. Questions on physical and sexual domestic violence were designed by Dr. Malcoe in the College of Public Health at the University of Oklahoma and were adapted from the Conflict Tactics Scale (Straus, 1990) and the Canadian Violence Against Women Survey.

Components of the needs assessment information address population-based services and infrastructure building.

Strengths: 1) The population-based survey is generalized for the general female population of Oklahoma. 2) Telephone interviews can enhance the woman's willingness to participate. 3) Telephone interviews can address the issue of women who cannot read or write or who have visual impairments. 4) An-over sample of Native American women adds to the knowledge base.

Weaknesses: 1) The population selected could exclude women who experienced violence within 12 months of the interview, but were not currently living with a male partner. 2) Telephone interviews have a selection bias, and excludes those without telephones. 3) Interviewers can introduce bias as a potential weakness. 4) It may exclude those at highest risk, women who have left their partners and are in hiding.

Lead

CLPPP competed for and was awarded a three-year grant from CDC to initiate lead prevention in 39 high-risk Oklahoma zip codes. After identifying children at risk for elevated lead exposure, intervention will be initiated to lower blood lead below 10 μg/dL. Another component of the grant will include informing public health practitioners in the state about the effects of lead on children and what forms of intervention are available.

The Childhood Lead Poisoning Prevention Program (CLPPP) has been operational at the Oklahoma State Department of Health since 1994. Health care providers and testing laboratories are required by law to submit blood lead test results on children to the Oklahoma State Department of Health. Starting at 6 months of age and extending to 5 years of age, all children should be screened or tested for elevated blood lead. When children are taken for health checkups, health care provider determine if a blood lead test is necessary based on the residence zip code classified as either Universal or Targeted. Testing is done in a doctor's office, county health department, or other medical facility. Test results are entered in a Centers for Disease Control and Prevention (CDC) database and tracking system known by the acronym STELLAR. Minimum information submitted to OSDH on each child tested include chronological age in months, date of blood lead test, type of test, and amount of lead in blood sample. Data accuracy is verified when the data are entered and analyzed. Data discrepancies are resolved prior to data analysis. Data are displayed using computer zip code maps. *Components of the needs assessment information address Enabling, Population Based, and Infrastructure Building.*

Strengths: 1) Complete annual data are now available for 1995-1999 with the systematic accumulation of blood lead test results on nearly 50,000 children during the last six years. 2) It has been possible to demonstrate that lead toxicity is a major health problem in Oklahoma. 3) A web page is in development that can be accessed by public health professionals throughout the state. The web page will be a source of information on lead, including access to surveillance data. One feature will permit the user to display requested data on computer maps. 3) All 714 zip codes in Oklahoma can be classified as low (Targeted) or high (Universal) risk. Children with residences located in Targeted zip codes will be screened for elevated blood lead, thus identify more children exposed to the toxic effects of lead before the deleterious effects of this substance can produce permanent damage to the brain and other organs.

Weaknesses: 1) Data collected leaves demographic information incomplete, limiting access to understanding the process of lead exposure and blood lead test results. 2) In the absence of laboratory blood tests performed on at least 10 children per zip code, zip codes with at least 27.0% of the housing units built before 1950 are to be classified as high risk for lead exposure. Insufficient numbers of children have been tested in some of these zip codes to classify them 3) The complexity of the database requires specially trained personnel, which limits the timeliness in which new information can be made available.

Immunization

Oklahoma's two-year-old immunization coverage rates are substantiated through two separate surveys: the National Immunization Survey (NIS) and the Oklahoma Two-Year-Old Survey. Both surveys sample children from the birth certificate registry and report consistently similar results. However, slightly different methodologies are used to collect information. The NIS surveys the parents and providers of 400 Oklahoma children aged 19 to 35 months using a telephone survey approach. The Oklahoma Two-Year-Old Survey is based on the results of approximately 400 children aged 24 to 35 months. Data for the Oklahoma Two-Year-Old survey is captured from providers and parents using a variety of methods including clinic visits, the Oklahoma State Immunization Information System (OSIIS), home visits, and phone contact. Both the NIS and Oklahoma Two-Year-Old survey reports two-year-old

state coverage rates for DTP, Polio and MMR. *Components of needs assessment information addresses: Direct Health Care, Enabling, Population Based.*

Strengths: 1) Each reporting system is designed to capture statewide results at a margin of error less than five percent. 2) Each system also captures clinically validated immunizations thereby eliminating the potential for recall bias. 3) Each data system offers the possibility of linkage to other databases such as the Supplemental Feeding Program for Women, Infants and Children (WIC) and state Medicaid.

Weaknesses: 1) The NIS utilizes only children whose families have a telephone. 2) For both surveys assessment can only be generalized to larger populations as a whole thereby preventing specific assessment of sub-populations at risk for low immunization coverage.

Maternal Serum Alpha-fetoprotein Screening (MSAFP)

The Maternal Serum Alpha-fetoprotein (MSAFP) Screening Program was established in 1989 as a fee for service program offered to all public maternity clients. In 1992 the funds were obtained to provide this screening to all public maternity clients in the state. The University of Oklahoma Health Sciences Center, the Chapman Institute of Medical Genetics and NTD Laboratory collaborated to provide screening, counseling and follow-up. The MSAFP is a screening test originally developed to screen for open neural tube defects. The current screening test combines maternal risk factors, MSAFP and the human chorionic gonadotropin free beta to screen for Down syndrome, trisomy 18 and other chromosomal abnormalities.

The MSAFP/hCG free beta screen is optimal if the blood sample is drawn between 15 to 20 weeks from the last menstrual period. Interpretation of data is heavily dependent upon accurate gestational dating and many abnormal results are due to inaccurate dating. It is the policy of the Oklahoma State Department of Health, Maternal and Child Health Service to offer MSAFP/hCG screening to all public maternity clients. *Component of needs assessment addressed: Population based, Enabling, Direct Services.*

Strengths: 1) Provides information to pregnant women regarding the well being of their pregnancy. 2) Identifies high risk pregnancies, so that pregnant women can access high risk care, such as prenatal diagnosis and counseling.

Weaknesses: 1) False positive results are a concern with MSAFP screening. False positive readings from elevated levels of AFP can be due to twins, inaccurate gestational dating, low birth weight infants, or a large or malpositioned placental defect. False positives may cause undue stress and anxiety to the family. 2) Low levels of AFP are associated with Down syndrome. False negatives may lead to a false sense of security. 3) Data were obtained from the 1998 Pregnancy Assessment Center (PAC) database. Not all data fields were complete. Data were not consistently entered in a uniform manner making analysis labor intensive. 4) The MSAFP/hCG test cannot diagnose a birth defect. It is important to understand that testing for MSAFP is intended to identify women who may be at

risk for pregnancy complications. The test results do not unequivocally determine that there is a birth defect nor do the results clearly indicate that a normal birth will occur.

Oklahoma Birth Defects Registry

The Oklahoma Birth Defects Registry (OBDR) began data collection in 1992. Initially, data were collected for only Oklahoma County. However, the OBDR was expanded in 1993 to include Cleveland and Tulsa Counties. In 1994, the registry began statewide case ascertainment. The OBDR is an active, population-based surveillance system and operates under 63 O.S. Section 1-5500.2, which gives the Oklahoma State Department of Health the responsibility for operating the registry and assuring confidentiality of the data collected. Data are collected on all live births and intrauterine fetal deaths 12 weeks or older gestation. An infant meeting the following criteria becomes eligible for case entry into the registry: 1) born on or after January 1, 1992; 2) mother was an Oklahoma resident at time of birth; 3) was born in an Oklahoma hospital (expanded to Fort Smith, Arkansas in 1995); 4) diagnosed with or displaying signs or symptoms of an inclusion diagnosis prior to the second birthday; 5) identified as an OBDR case prior to the child's sixth birthday; and 6) gestational age of 20 weeks or greater. A separate registry is maintained for fetuses between 12 and 19 weeks gestation. All cases in the OBDR are matched against birth and fetal death certificates (except those born in Arkansas).

The primary source of case ascertainment is lists of hospital discharge diagnoses by selected ICD-9-CM codes. Initially, these lists represented predominantly inpatient admissions. As hospitals have developed their computer capabilities and OBDR staffing has improved, outpatient visits have been incorporated into the lists of discharges. In the majority of the metropolitan area hospitals, medical record abstractors periodically examine inpatient admission logs in labor and delivery, pediatric units, newborn nurseries, neonatal intensive care units, and pediatric intensive care units. Logs maintained by cytogenetic and molecular genetics laboratories, and pediatric surgery and prenatal diagnostic units are also examined for potential cases. The OBDR relies upon lists of ICD-9-CM diagnostic codes generated by medical record departments in the rural, Indian Health Service/Tribal and military hospitals. The medical records of the mother and infant are reviewed in all hospitals of admission.

An OBDR Enhancement Project has been implemented which will strengthen the development of annual reports and newsletters improve the evaluation of prevention activities, and implement visual mapping of birth defects through the use of geographical information systems. Another activity of the OBDR is to improve case identification of neural tube defects (NTD), maintain a statewide NTD recurrence prevention education and referral plan, and provide public and professional NTD prevention education.

Strengths: 1) The OBDR links affected families with the necessary healthcare providers and health resources. 2) The ability to identify and describe the patterns of birth defects in the state of Oklahoma. 3) Permits collaboration with others in working towards the prevention of birth defects. 4) Allows education of affected families to reduce the recurrence of congenital anomalies.

Weaknesses: 1) Cases are predominantly reported from inpatient hospital records, since malformations diagnosed on an outpatient basis are not as consistently documented. 2) Accurate hospital clinical identification of abnormalities relies heavily on clinical detail and interest, especially true for conditions that are difficult to recognize. This may cause time and area variation in the identification of cases. 3) Record abstraction requires well-trained personnel who have attention to detail when reporting cases. 4) Geographic areas with hospitals that provide higher levels of care may have more detailed diagnoses and, therefore, higher rates. In areas with few births, small variations in incidence may result in large statistical fluctuation.

3.1.2 Needs Assessment Content

3.1.2.1 Overview of the Maternal and Child Health Population's Health Status

3.1.2.2 Direct Health Care Services

3.1.2.3 Enabling Services

3.1.2.4 Population-Based Services

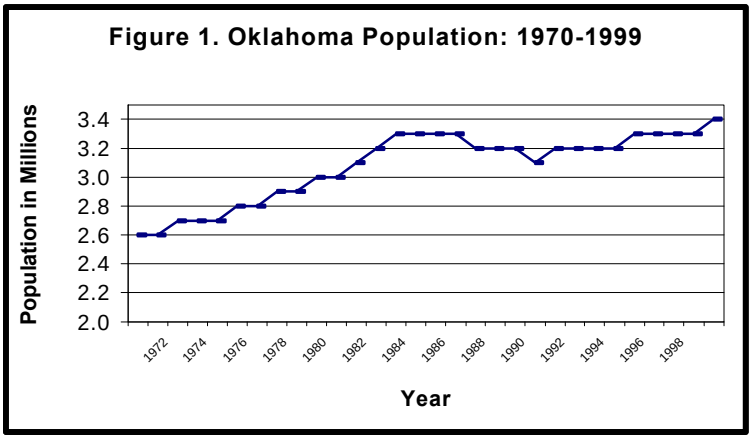
3.1.2.5 Infrastructure Building Service

Demographic Description of Oklahoma MCH Population

According to the U.S. Bureau of the Census, the 1999 population of Oklahoma was estimated at 3,358,044, an increase 0.6 percent from the 1998 population estimate of 3,339,478. The Oklahoma population accounts for 1.2% of the U.S. population and was ranked as the 27th most populous state in the nation in 1999.

State Trends

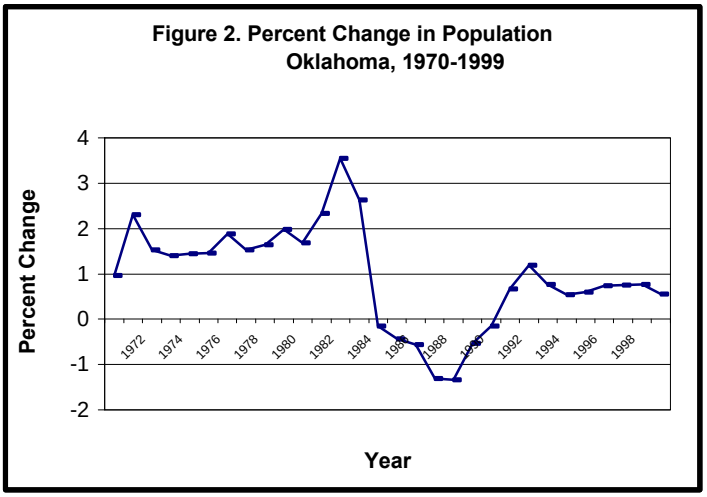
The population of the state of Oklahoma grew 31.2 percent from 2,559,463 in 1970 to 3,358,044 in 1999. The principal of this growth occurred between 1970 and 1980, during what has been called the oil boom, with a rate of 18.2 percent. Due to a decline in the two major sources of revenue, farming, and oil, the state grew less rapidly from 1980 to 1990, (4.0 percent), but has grown slightly faster during the 1990's, at 6.7 percent.



Compared to the annual average growth of 1.8 for the 1970s, the 1980s annual average growth dropped considerably to 0.4 percent, but rose to 0.7 percent for the 1990's. The annual growth for the state increased sharply in the early 1990's, slowed slightly for the years 1993 and 1994, grew modestly between 1995 and 1998, then fell slightly in 1999.

The population of Oklahoma increased every year between 1970 and 1983, growing at a rate of 28.6 percent. Following this period of strong growth, the population decreased by 4.5 percent from 3,290,400 in 1983 to 3,147,088 in 1990. The 1990 Census population for Oklahoma was the lowest population figure since 1981, making Oklahoma the 26th most populous state at that time. Since 1990, the population has increased each year. The 1999 population estimate marks

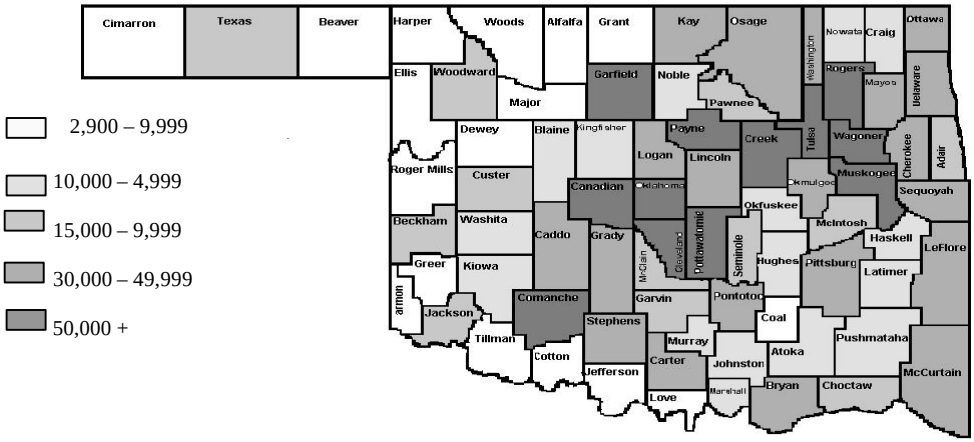
the largest population Oklahoma has ever experienced and ranks the state 32nd in terms of population growth for the decade of the nineties.



County Trends

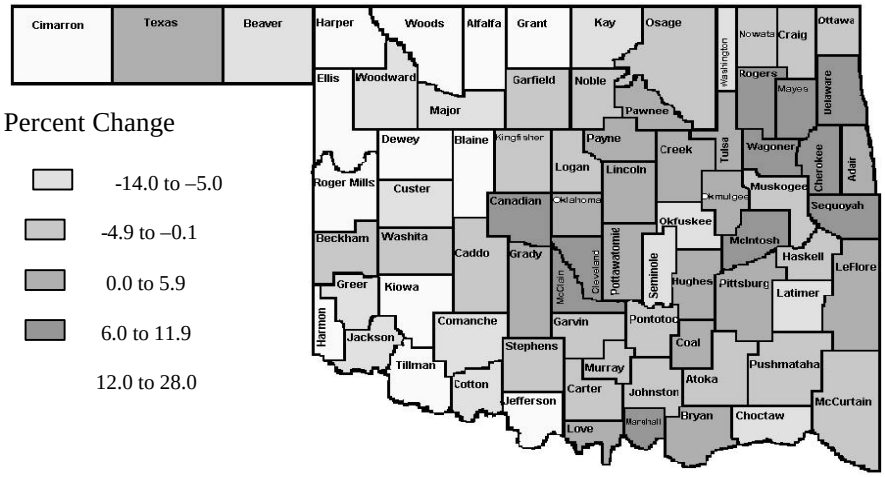
Oklahoma and Tulsa Counties have had the largest populations in the state since 1920, when both counties exceeded 100,000 in residents. In 1970, Comanche County was the third largest county followed by Cleveland County. However, in 1978, Cleveland County overtook Comanche County for third and these two counties remain third and fourth, respectively, in 1999. Seven counties in Oklahoma had populations in excess of 50,000 in 1970. By 1999, there were twelve counties with more than 50,000 residents, seven of which border either Oklahoma or Tulsa counties.

Map DD1: Oklahoma Population, 1999



From 1970 to 1980, Wagoner County led the state in terms of growth rate at 88.6 percent. Harmon County ranked last for the same period with a 12 percent reduction in population. Only nine counties lost population during the 1970s, a period of considerable growth in Oklahoma. During the years 1980 to 1990, Canadian County experienced the highest growth rate of 31.8 percent. Ellis County suffered the largest reduction (19.6%) in population over this period. Forty-seven counties lost population during this decade. For the 1990's, Rogers County had the highest population growth rate (27.9%) and Roger Mills County experienced the largest negative percentage change (13.4%). Twenty-seven counties suffered population loss during the 1990's.

Map DD2: Oklahoma Population Percent Change: 1990-1999



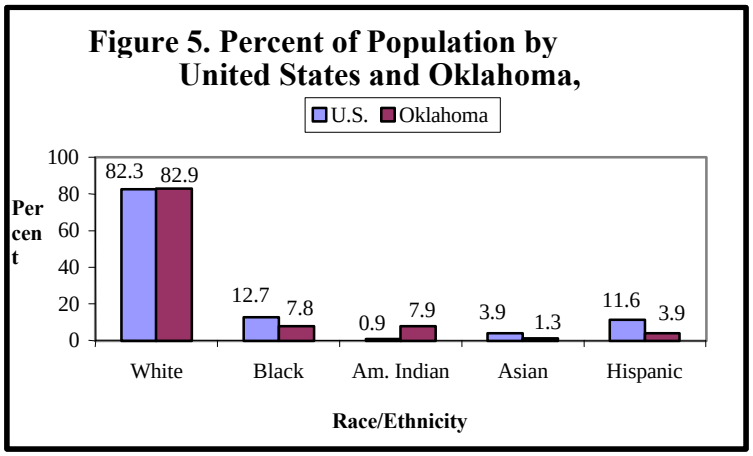
Canadian, Cleveland, Rogers, and Wagoner counties experienced remarkable growth between 1970 and 1999, more than doubling in the number of residents. Each of these counties contains major suburban cities for greater Oklahoma City or greater Tulsa. Table 1 displays the five largest and five smallest counties for 1970 and 1999. As previously mentioned, Oklahoma and Tulsa Counties remain ranked first and second, respectively, in terms of resident population. Cleveland County and Comanche County have exchanged places and rank third and fourth, respectively, for 1999. Canadian County displaced Muskogee County, ranked fifth in 1970, in population size for 1999. Cimarron County remains the least populated county in 1999, with fewer than 3.000 residents and a population density of 1.6 persons per square mile. Despite position shift, the five smallest counties in terms of population numbers in 1970 remain the smallest counties in 1999.

Table 1. Five largest and smallest populated counties: Oklahoma, 1970 and 1999

Five Largest Counties				Five Smallest Counties			
1970		1999		1970		1999	
Oklahoma	527,717	Oklahoma	636,539	Harper	5,151	Ellis	4,194
Tulsa	399,982	Tulsa	548,296	Harmon	5,136	Roger Mills	3,593
Comanche	108,144	Cleveland	203,449	Ellis	5,129	Harper	3,580
Cleveland	81,839	Comanche	106,621	Roger Mills	4,452	Harmon	3,336
Muskogee	59,542	Canadian	86,498	Cimarron	4,145	Cimarron	2,922

Race/Ethnicity

The percent distribution of racial/ethnic categories nationally does not reflect the population distributions for racial/ethnic classifications in Oklahoma. Whites comprise 82.9 percent of the Oklahoma population, which closely resembles the national figure of 82.3 percent. Nationally, African Americans make up 12.7 percent of the population; however, in Oklahoma they represent only 7.8 percent. Asian and Pacific Islanders comprise 3.9 percent of the U.S. population, but represent only 1.3 percent of the Oklahoma population.



Before statehood Oklahoma was known as Indian Territory because many tribes were relocated to the area beginning in the mid-19th century. As tribes were forcibly removed from their ancestral lands, increasing numbers were displaced to the Indian Territory. Oklahoma continues to maintain tribal diversity with 39 federally recognized tribes, more than any other state, and the largest Native American population in the nation. Therefore, Native Americans represent a

considerably higher percentage of the Oklahoma population (7.9%) compared to the national population (0.9%). There is no reservation system in Oklahoma, resulting in the Native American population being unevenly distributed across Oklahoma with the major concentration found in the eastern half of the state. Some of the growth observed in the Oklahoma Native American population is believed to have been due to an increased desire of people of American Indian heritage to self-identify with their tribal heritage.

The 1990 Census undercounted the Hispanic/Latino population because of undocumented immigrants' reluctance to participate in the Census. Thus, when discussing the Oklahoma Hispanic/Latino population estimates, one must be cognizant that the numbers are lower by an estimated 5,500 from the official Census Bureau population estimates. This under-representation allows for a distorted picture of this particular population. Furthermore, over the past five years economic changes in Oklahoma have contributed to an increase in documented Hispanic/Latino migration to Oklahoma as Mexican nationals are recruited to fill expanding agricultural businesses. Nationally, Hispanic/Latinos represent 11.6 percent of the population, but in Oklahoma they comprise only 3.9 percent. This population is somewhat evenly distributed across the state with the exception of larger concentrations seen in far southwestern counties, the panhandle, and the metropolitan areas of Oklahoma City and Tulsa.

Between 1990-98 the total Oklahoma population increased by 6.3 percent from 3,147,088 to 3,346,713, a raw change of nearly 200,000 residents. The rate of increase for Whites (6.1%) was similar to the positive change for the total Oklahoma population. The African American population increased slightly faster at a rate of 10.8 percent over this same period. Growing modestly, the Native American population grew from 258,091 in 1990 to 263,360 in 1998, an increase of 2.0 percent. Due to the high level of Native Americans in the Oklahoma population, it is expected that the multiracial category provided in the census 2000 will result in a dramatic increase of Native American counts. A more substantive increase was evident among the Asian and Hispanic/Latino populations of Oklahoma over this time period. As Table 2 shows, the Asian and Hispanic/Latino populations grew by 27.4 percent and 50.2 percent, respectively, between 1990 and 1998.

Table 2. Percent change in population by Race/Ethnicity: Oklahoma, 1990-1998				
	1990	*1998*	*% Change*	*Raw change*
Total	3,147,088	3,346,713	6.3	199,625
White	2,617,699	2,776,829	6.1	159,130
Black	236,314	261,945	10.8	25,631
Am. Indian	258,091	263,360	2.0	5,269
Asian	34,984	44,579	27.4	9,595
Hispanic*	86,678	130,168	50.2	43,490

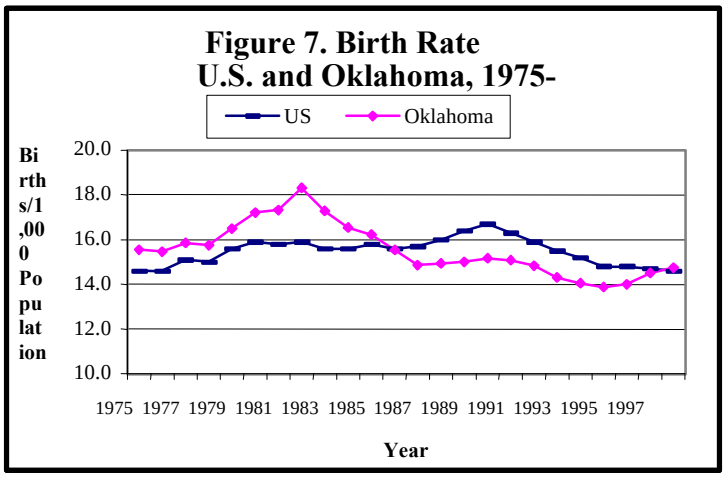
*Hispanics are of any race.

Births and General Fertility

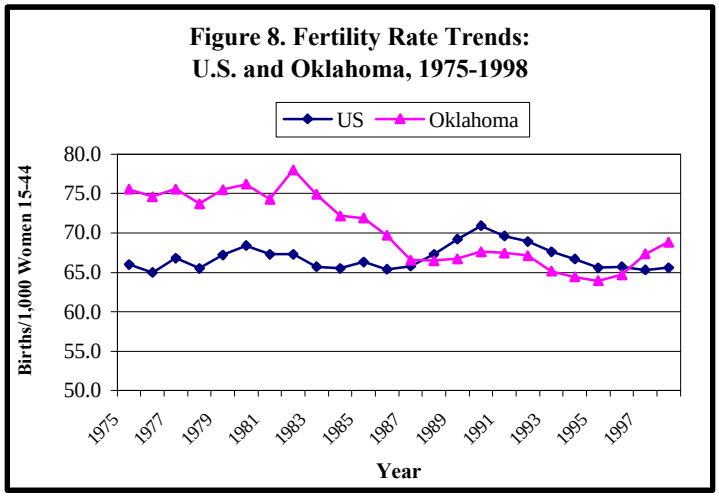
According to Oklahoma Vital Statistics, there were 49,354 births in Oklahoma for 1998, up 2.5 percent from the 48,160 births in 1997. There was a dramatic increase in the number of births from 1975 to 1982. During this period, Oklahoma births increased by more than 36 percent from 43,130 births in 1975 to 58,748 in 1982. Following this period of growth, Oklahoma births decreased by 19.6 percent to 47,238 in 1989. During the 1990's, Oklahoma has averaged 47,090 births per year. The 1998 number marks an increase in the number of births for the third consecutive year.

The birth rate was decreasing from the high point in the state's economy in 1982 (18.3 births per 1,000 total population) until 1987. There was little change between 1987 and 1991. The birth rate then decreased by 7.9 percent, from 15.1 per 1,000 population in 1991 to 13.9 per 1,000 population in 1995. Since 1995, the birth rate has climbed to 14.7 per 1,000 population, an increase of 5.8 percent.

Prior to 1986, the birth rate in Oklahoma had been higher than the national birth rate. A marked elevation can be seen for 1982, also a relative peak performance year for the state's economy. Oklahoma's 1982 rate was 15.2 percent higher than the rate for the nation. Since that time, the Oklahoma rate has been consistently lower than the national birth rate. However, the 1998 birth rate was reported at 1.0 percent higher than the U.S. rate.



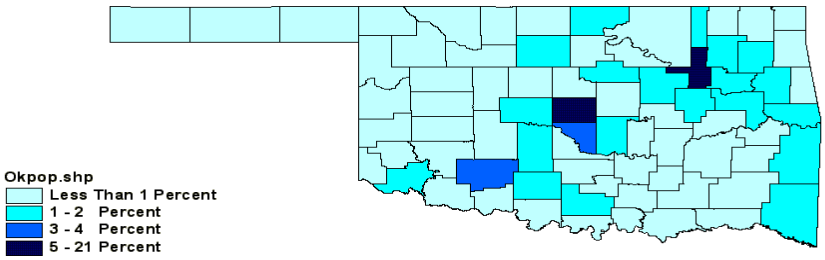
Oklahoma fertility rates follow a similar pattern to the birth rate. The 1982 rate of 78.0 births per 1,000 women aged 15-44 years had dropped to 63.9 by 1995. The birth rate changed little between 1987 and 1991, then decreased 5.5 percent between 1990 and 1995. Recent years have seen a slight increase with the rate climbing to 68.8 per 1,000 women aged 15-44 for 1998, an increase of 7.7 percent since 1995.



The general pattern of comparisons of the U.S. and Oklahoma birth rates holds for the fertility rates as well. The Oklahoma fertility rate was higher than the U.S rate prior to 1988, with the highest percentage difference occurring in 1982. Between 1988 and 1996, the Oklahoma fertility rate averaged 2.9 percent lower than the national. This pattern reversed in 1997 and the

Oklahoma rate was 4.9 percent higher than the national rate of 65.6 per 1,000 women aged 15-44 in 1998.

Map DD3: Percent of total births in Oklahoma: by county, 1998

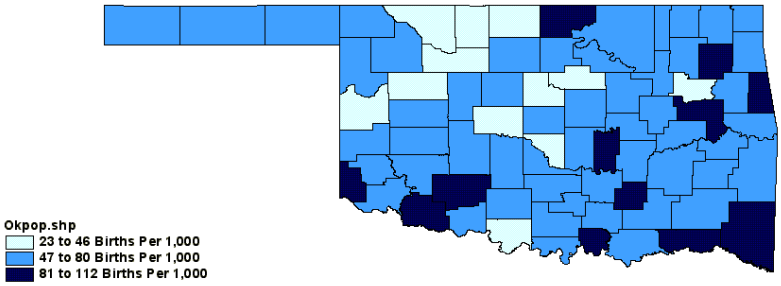


As shown in Map DD3, the Oklahoma and Tulsa counties contributed the highest percentage of births, with six to twenty-one percent. Cleveland and Comanche counties contributed the second highest with three to four percent. The third highest contributors are counties surrounding Oklahoma, Comanche and Tulsa counties and counties bordering Arkansas in the east.

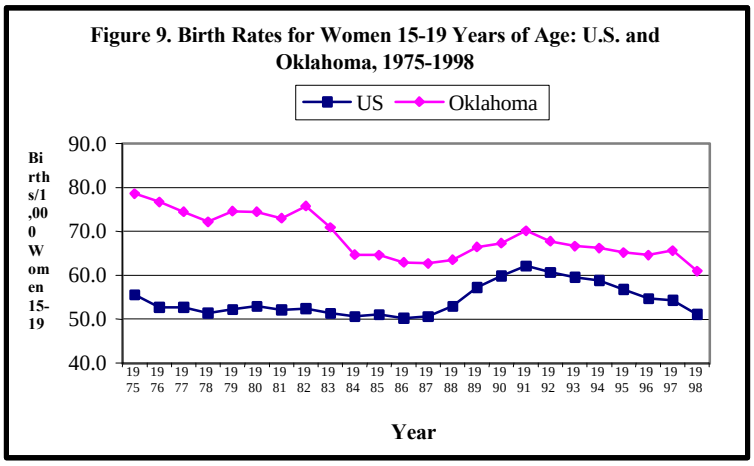
Adolescent Fertility

The fertility rate for women aged 15-19 is typically referred to as the teen birth rate. The1998 Oklahoma rate is 19.4 percent higher (61.0 per 1,000 women aged 15-19) than the comparable national rate (51.1). Despite a reduction of 22.4 percent from the 1975 rate of 78.6, the Oklahoma teen birth rate has always been considerably higher than the national rate. When compared to all 50 states and the District of Columbia, Oklahoma's birth rate ranked the twelfth highest among women aged 15-19 for 1998.

Map DD4: Three Year Average Birth Rate, Teens 15-19, 1998



Map DD4 shows the distribution of three year average birth rates for teens aged 15-19, with highest concentrations in twelve counties: Choctaw and McCurtain in the southeast corner of the state; Comanche, Tillman and Harmon in the southwestern portion of the state; Marshall and Coal in the south central section; Seminole in the central section; Muskogee, Adair and Mayes in the northeastern part of the state; and Kay county, in the north central section.



In 1998 there were 120 births to very young teens under the age of 15, and for young teens age 15-17 there were 2704 births. Older teens 18-19 contributed 64.7 percent of the 7998 births to all teens. Among very young teens, 50 percent of births were to Whites, 27 percent to African Americans, and 21 percent to Native Americans. Among young teens 67 percent were to White females, 15 percent to African Americans, and 17 percent to Native Americans. Among older

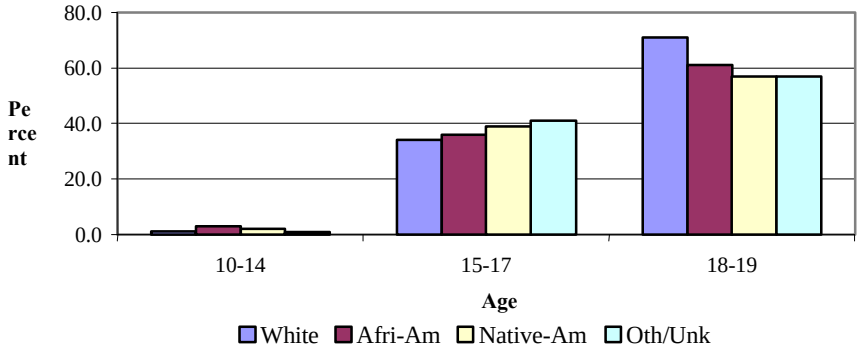
teens, 72 percent of births were to Whites, 13 percent to African Americans, and 13 percent to Native Americans.

Among White teen births, 1 percent were to 10-14 year olds, 34 percent were to 15-17 year olds, and 71 percent were to 18-19 year olds. Among African American teens, 3 percent of births were to very young teens, 36 percent were to 15-17 year olds, and 61 percent were to older teens. Among Native Americans, 10-14 year olds contributed 2 percent of births, 39 percent were to 15-17 year olds, and 57 percent of births were to 18-19 year olds.

Poverty

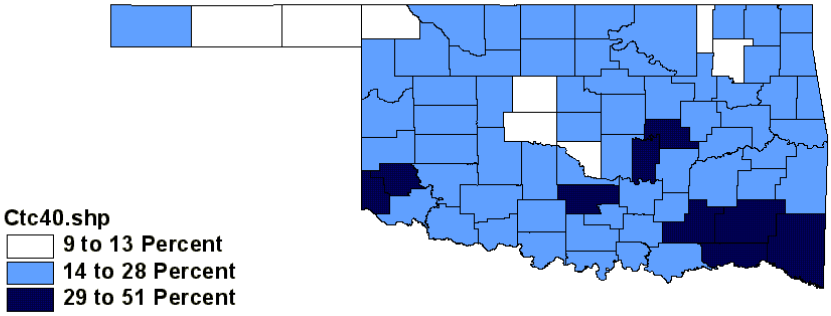
Oklahoma is a poor state. A 1995 study of four decades of poverty in Oklahoma shows that Oklahoma has consistently ranked among the poorest states in the nation (Maril, 2000). A compelling finding from the report states that even though Oklahoma continuously had a low

Figure 10: Percent of births to by age category and race,



unemployment rate from 1960 to 1990 and Oklahomans' educational attainment was comparable to national educational attainment, poverty was persistently high. In 1997, Oklahoma ranked forty-fourth in the nation in per capita income, earning $20,305, or 76.9 percent of the national per capita income of $25,288. The percent of persons below poverty in Oklahoma in 1995 was 18.2, the same as the estimated percent in poverty in 1997. In 1997, the federal poverty threshold for a family of four was $16,400. The poverty threshold for a family of four in 1997 was $16,050.

Map DD5: Estimate of persons at or below the federal poverty level: Oklahoma, 1995



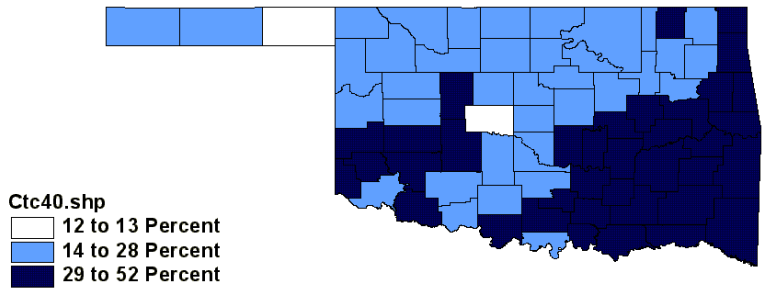
Map DD5 shows the 1995 Census Bureau estimated distribution of poverty for the state. Ten counties were estimated to have between 29 to 51 percent of persons living below the federal poverty level: McCurtain, Choctaw, Pushmataha, Atoka, and Choctaw, located in the southeastern corner counties; Harmon and Greer, in the southwestern corner; Garvin, Seminole, and Okfuskgee in the central section. Eight counties were estimated to have between nine to thirteen percent of persons below the federal poverty level: Texas, Beaver and Harper in the panhandle; Washington and Rogers in the northeastern section; Canadian, Cleveland and Kingfisher in the central part of the state. The panhandle counties are not as wealthy as they appear. While they experience overall incomes higher than average due to farming, their net incomes are very low due to the costs associated with farming.

Poverty is not evenly distributed across lines of race, gender, and age. Although Whites make up 80 percent of the Oklahoma population, their percent in poverty in 1993 was 13.2 percent, a rate that has been fairly consistent over four Census decades. The percent of African Americans in poverty has also remained consistent at 32.4, approximately two and a half times greater than that of Whites. At a lower percent than African Americans, yet higher than Whites, 28.1 percent of Native Americans were in poverty. The percent of Hispanic/Latino in poverty was lower than the Native American rate, yet was also higher than the percent of Whites, with 19.3 percent of all Oklahoma Hispanic/Latinos living in poverty in 1990. The ten most impoverished counties contained the largest proportions of Native American and Hispanic/Latino populations.

Oklahoma's children aged birth to 17 represented 26 percent of the population in 1990, and they made up more than one-quarter of those who lived below the poverty level. Single mother families in poverty increased over the four decades from 1960 to 1990, with the largest increase between 1980 and 1990. In 1990, the number of single-mother families was 14 percent of all families. Of those single-mother families, 38.3 percent lived in poverty. Among all families in poverty, 47.5 percent were single-mother families. Seven of the ten most impoverished counties also had the highest single-mother poverty rates.

Looking at the distribution of poverty across counties in Oklahoma for 1990, it is apparent that three adjacent counties in the southeastern part of the state, Atoka, McCurtain, and Pushmataha counties, were entrenched in poverty at all categories of families, single-mother families, children, adults, and elderly below the poverty level. No county in Oklahoma had a poverty rate above 40 percent for White children aged birth to 17. However, 45 percent of counties had African American child poverty rates over 50 percent. Sixteen percent of counties had Native American poverty rates over 50 percent, and 35 percent of Oklahoma counties had rates over 50 percent for children of other races.

Map DD6: Estimate of children under the age of 18 living below the federal poverty level: Oklahoma, 1995



Map DD6 shows the 1995 U.S. Census Bureau estimate of children under the age of 18 living below the federal poverty level. Heavy concentrations are seen in the eastern half of the state and in about one third of counties in the western half, with an estimate of between 29 and 52 percent of children in poverty. Two counties were estimated to have between 12 to 13 percent in poverty, Texas county in the panhandle and Canadian county in the central section.

For 1997, it is estimated that 28.1 percent of women 15 through 44 years of age were below 150 percent of the poverty level, and 36.1 percent lived below 185 percent of the poverty level. From these numbers, it is clear that women, children, and minority people share a larger portion of the burden of poverty in Oklahoma.

For white children, the greatest concentration of change in children living below the federal poverty level is seen in nine counties: McClain and Logan, in the central section of the state; Marshall in the south central area, and McIntosh, Wagoner, Cherokee, Adair, Delaware and Rogers counties in the northeastern part of the state, with an estimated gain of ten to twenty-eight percent. Counties that experienced an estimated decrease in poverty were Cimarron, Harper, and Woods counties in the panhandle, far northwest; Roger Mills, Custer, Dewey, and Blaine in the western half of the state; Harmon and Tillman in the southwestern section of the state; and Cleveland county in the central part of the state, with an estimated ten to forty percent decrease in children living below the poverty level. Young white adults ages 20 to 24, living below the poverty level were estimated to have increased between ten to twenty-one percent in Marshall, Hughes, McIntosh, Adair, Cherokee, Wagoner, and Rogers Counties.

Counties with African American children under the age of 20 were estimated to have experienced an increase of ten to fifty percent in over one third of Oklahoma's counties between 1990 and 1995. Three counties, Cimarron, Ottawa, and Logan, were estimated to have experienced a ten to eighty-one percent decrease in African American children below poverty. Counties with African American young adults age 20 to 24 were estimated to have experienced a ten to sixty-seven percent increase living below the federal poverty level. Six counties, Johnston, Atoka, and Pushmataha in the southeastern corner of the state, and Logan, Woods and Ottawa in the northern half of the state, were estimated to have had a decrease between 13 to 34 percent.

Counties with Native American children younger than 20 were estimated to have increased by a range of ten to 107 percent the number living below the federal poverty level. Seven counties in the northwestern and western section of the state (Harper, Woodward, Roger Mills, Custer,

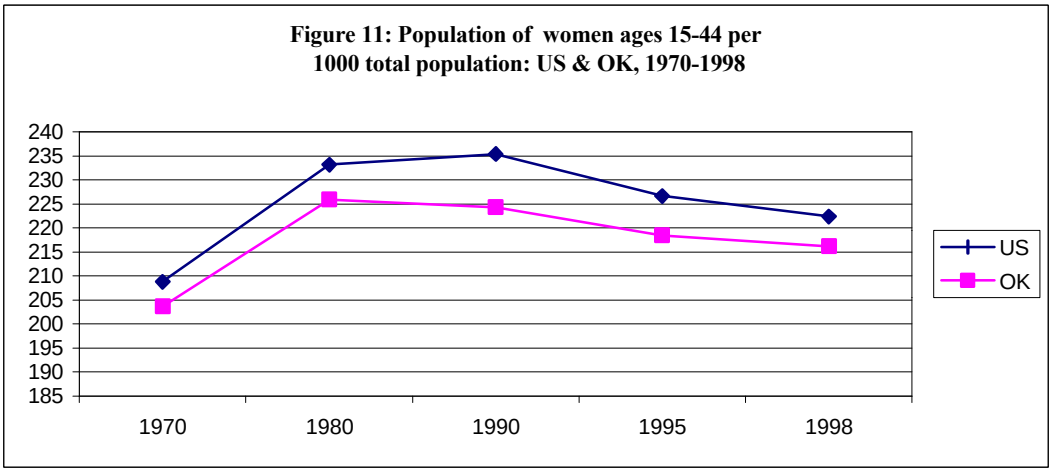
Dewey, Blaine and Alfalfa) were estimated to have decreased the number of children living below poverty by between 13 and 23 percent. Kiowa, Tillman and Jefferson counties were estimated to have decreased the number of children living below poverty by between 13 to 23 percent. Seventeen counties, with eleven clustered in the eastern half of the state, and seven in the western half, were estimated to have increased in poverty between ten to 122 percent between 1990 and 1995 for young adult Native Americans, age 20 to 24.

Seventy-five percent of counties with Asian/Pacific Islander children under the age of 20 were estimated to have increased between 9.5 and 80 percent in the number living below the poverty level. These fifty-eight counties are distributed across the state, with two counties experiencing an estimated .01 to 9.5 percent increase of children below poverty. Sixteen counties were estimated to have decreased the number of Asian/Pacific Islander children between zero to 9.5 percent. Only one county, Logan, was estimated to have had at least a 9.5 percent decrease in children living below poverty. For Asian/Pacific Islander young adults, three counties were estimated to have increased over ten percent in this age group living below poverty. The majority of counties were estimated to have experienced at least a 12 percent decrease in young adult Asian/Pacific Islanders living below the federal poverty level.

Only two counties were estimated to have had at least a 12 percent decrease in the number of Hispanic/Latino children living below the federal poverty level. All other counties in the state were estimated to have had at least a .01 percent to a 70 percent increase in Hispanic children living below poverty. Forty-seven percent of counties were estimated to have had at least a 26 percent increase in young adult Hispanic/Latinos living below the federal poverty level. Eight counties were estimated to have had a decrease of at least 71 percent in the number of young adult Hispanic/Latinos living below poverty.

Women of Childbearing Age

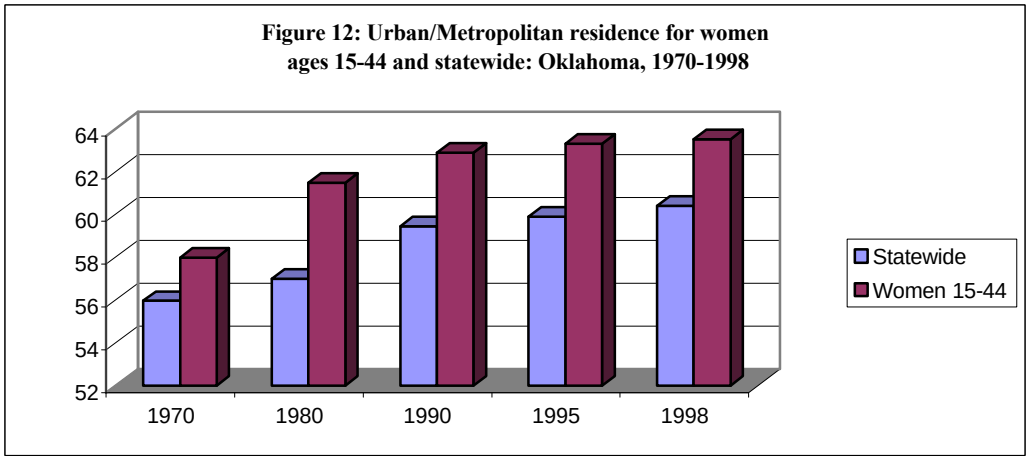
In Oklahoma, the population of women ages 15 – 44 has increased in absolute number as well as percentage of total population for the period 1970 – 1998, with overall growth patterns generally following national trends. In Oklahoma, this pattern of growth peaked during the 1980s, at which time an economic downturn triggered an out-migration of working-age families.



Sources: 1980 US Census of Population: Table 44:1-37; Detailed Population Characteristics, Oklahoma; derived from information obtained from US Census Bureau website (www.census.gov)

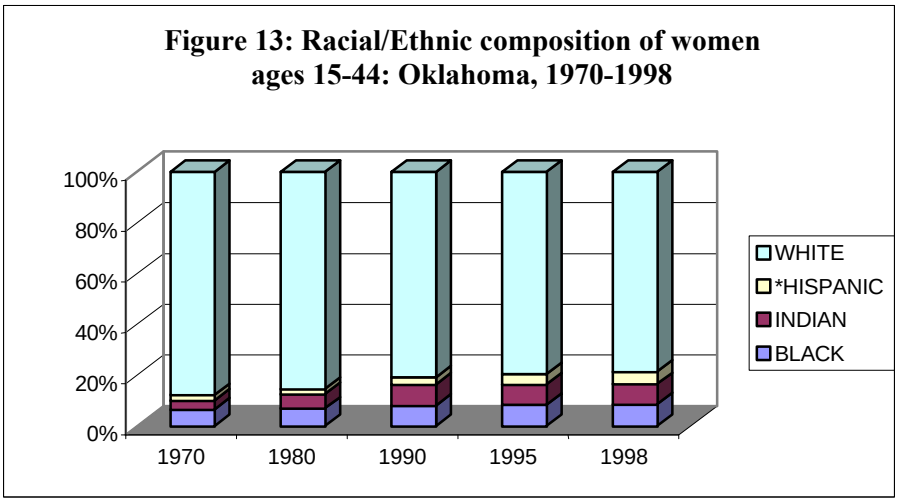
Following a modest economic recovery, Oklahoma's population experienced a moderate increase, which is projected to continue through the early part of the next century. Although the number of women ages 15-44 has continued to increase slightly each year since the 1980s, this population has demonstrated a gradual pattern of decline relative to Oklahoma's total population. In 1980, for example, 683,397 women ages 15-44 represented 22.6 percent of Oklahoma's total population (225.9 per 1000 total population); in 1998, an estimated 717,052 women ages 15-44 accounted for 21.4 percent of the total population (214.2 per 1000 total population).

A relatively large state geographically, Oklahoma spans 77 counties and nearly 70,000 square miles in area, with a population density of approximately 47 persons per square mile. Somewhat over half of the state's 3.4 million people reside in 14 counties located in the State's growing metropolitan corridor, and slightly less than half reside in the remaining 63 rural counties.



Source: OK State Data Center: Population for State, Urban/Rural Areas, Metro/Non-Metro Areas, Counties and Cities, Oklahoma: 1890-1990; County and MSA Population Projections: 1990-2020

Oklahoma's rural communities are varied in terms of population characteristics, geographic isolation and resources. Oklahoma's overall population distribution is becoming increasingly urban over time, especially among women of childbearing age who are more highly concentrated in metropolitan areas as compared to the general population. For women ages 15-44, the largest increase of urban residence occurred 1970-1980, while the largest shift for the general population occurred 1980-1990.

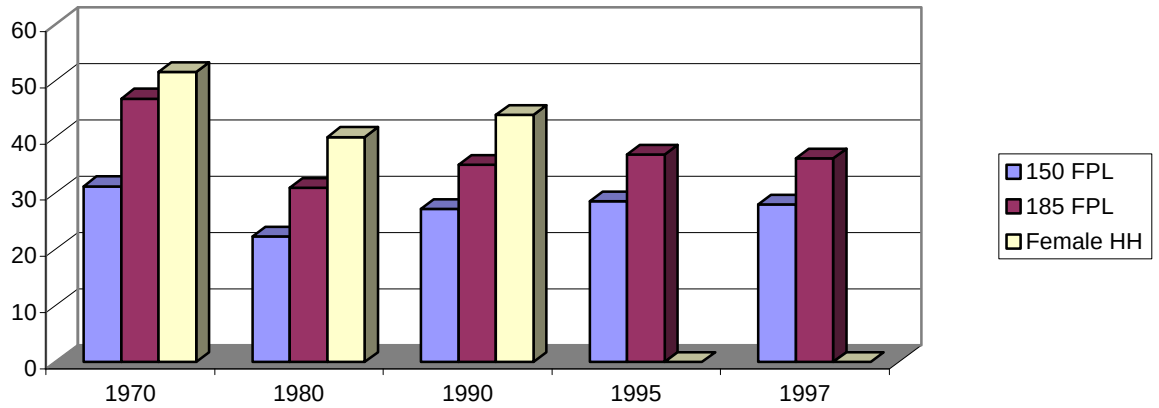


Sources: US Census of Population: 1970, 1980, 1990 and estimates derived from information obtained from US Census Bureau website (www.census.gov)

In 1998, the racial/ethnic composition of Oklahoma women of childbearing age was predominately Anglo-American (White), although decreasing nearly eight percent as a percentage of the entire population of Oklahoma women ages 15-44 since 1970. By contrast, the

African American, Native American, and population of women of Hispanic/Latino/Latino descent (ethnic Hispanic/Latino may be any race) has each increased both in absolute numbers as well as percentages of the population. For example, African American women of childbearing age increased from 6.6 percent in 1970 to 8.8 percent in 1998; Native American women increased from 3.6 percent of the childbearing population in 1970 to 8.3 percent in 1998; and women of Hispanic/Latino/Latino descent comprised 2.2 percent of this population in 1970 compared to 5.0 percent in 1998. Since part of the increase for Native American women is attributed to individual re-classification on the Census rather than natural growth, Hispanic/Latinos most likely represent the fastest growing sub-group of Oklahoma women ages 15 – 44. Rates of decrease among non-Hispanic/Latino Whites and rates of increase among all other racial/ethnic groups are projected to continue through 2025.

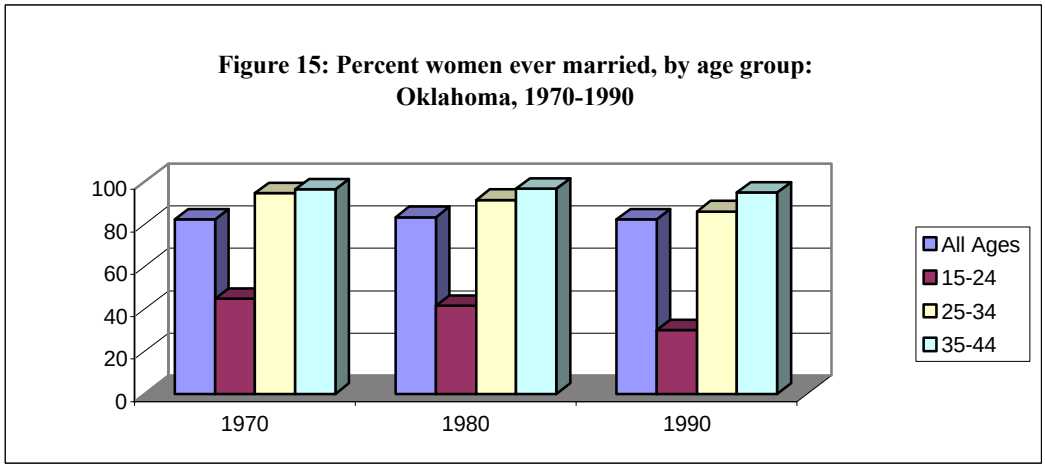
Figure 14: Poverty status of women ages 15-44: Oklahoma, 1970-1997



Sources: estimates derived from US Census of Population: 1970 & 1980, US Census Bureau website (www.census.gov)

With the 1980 Poverty Thresholds set at $8,414 for a family of four, the 1980 Census reported 13.9 percent of all Oklahomans had incomes below federal poverty standards. Poverty levels, which subsided substantially 1970 – 1980, in subsequent years have maintained a moderate, yet steady increase. Barring any significant changes in the economy, poverty levels are projected to continue to increase. Persons from low-income households often experience greater barriers when accessing health care and also face substantially greater risks for a variety of medical

conditions. In Oklahoma, persons whose incomes fall at or below specified levels of poverty and who meet certain conditions become eligible for a variety of services and/or benefits either at no cost to the individual or based on a sliding fee schedule. Designed to lessen the impacts of poverty, these programs include: Medical Services such as Medicaid, Family Planning and Maternity; Nutrition Programs such as Food Stamps; Women, Infants & Children (WIC) services and the School Lunch Program; Temporary Assistance for Needy Families (TANF); Child Care; and/or Energy Assistance. However, cultural influences create a barrier for some groups; many do not feel inclined to participate in publicly funded assistance programs, thus preventing them from being able to access important preventive and primary health care services.

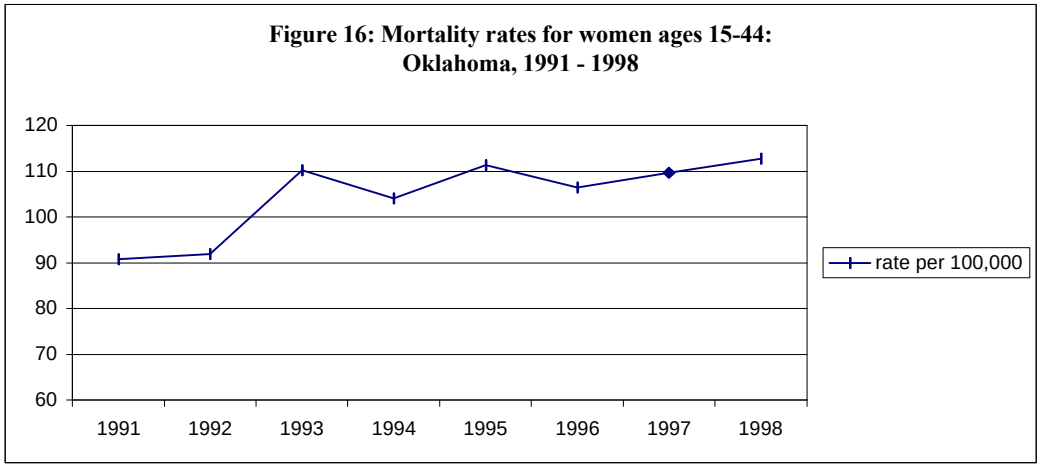


Source: Census of Population: Oklahoma Detailed Characteristics: 1970: Table 152; 1980: Table 205; 1990 Summary Level C90STF3A:p 38

Overall, the percentage of women ever married among Oklahoma women ages 15 – 44 has remained fairly constant since 1970, although different patterns emerge when examined by age. For example, less than one-third (29.9%) of women ages 15 – 24 had ever been married in 1990, compared to nearly one – half (44.7%) who had ever married in 1970. Similarly, the ever-married 25 – 34 year old group decreased from nearly 95 percent in 1970 to 86 percent in 1990. Since overall ever-married rates changed little during this time period, this suggests that women are delaying, rather than foregoing, entry into marriage.

Increasingly, Oklahoma women are opting for smaller size families. For example, the total number of births among women ages 35 – 44 (the age at which the fertility cycle is generally

complete) declined from 2,896 children ever born per 1,000 women for 1970 to 2,066 children ever born per 1,000 women for 1990. Also noteworthy is that the number of children born to women ages 15 – 24 who have ever married has decreased substantially 1980 – 1990 in comparison to the decline in marriage rates among other age groups for the same time period.



Source: Oklahoma State Department of Health Vital Records: 1991-1998

Preliminary results indicate the overall mortality rate for women ages 15 – 44 in 1991 measured 90.7 deaths per 100,000 women of this age group and by 1998 reached 112.7 deaths per 100,000 for this population, an increase of nearly 20 percent. The leading causes of death among Oklahoma women ages 15 – 44 are due to accidents, cancer, heart disease, suicide and homicide. Many of these deaths are preventable. The following table shows the percent difference in mortality 1991 –1998 for specific conditions by race/ethnicity:

Table 3: Percent change in female mortality by cause: Oklahoma, 1991-98

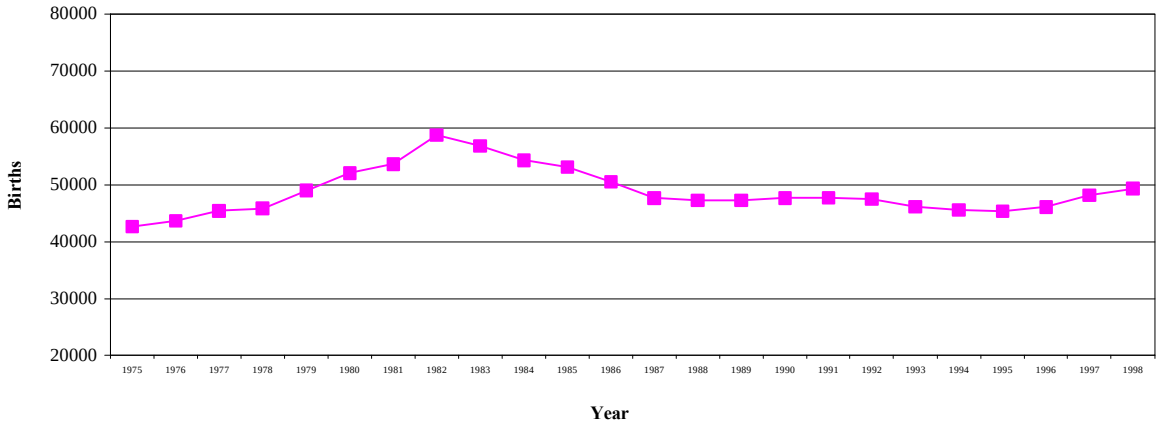
	White	African American	Native American	Asian
Infectious/parasitic	-0.01	**12.31**	**8.39**	0.0
Malignant neoplasms	-1.15	6.37	1.47	-12.79
Other neoplasms	0.70	3.17	0.0	0.0
Endocrine/nutr/metabolic	0.33	7.68	1.64	0.0
Blood diseases	-0.17	4.51	0.0	0.0
Mental disorders	0.68	-3.41	-1.71	0.0
Nervous system/sense organs	2.40	-0.12	1.66	0.0
Diseases of heart	1.68	6.25	-0.11	-9.66
Other circulatory diseases	1.71	**12.43**	-1.75	0.0
Pneumonia/influenza	1.71	1.46	1.68	0.0
COPD	-0.01	-1.94	-1.70	0.0
Other respiratory diseases	-0.69	-3.52	0.0	0.0
Digestive system	0.84	4.75	**11.67**	0.0
Genitourinary system	1.028	1.46	-3.45	0.0
Pregnancy complications	0.17	**9.50**	-1.70	0.0
Musculoskeletal	0.34	-0.24	-1.70	0.0
Congenital anomalies	-0.52	3.17	0.0	**8.61**
Symptoms, signs, ill-defined conditions	3.08	2.93	1.66	0.0
Accidents & adverse effects	**8.31**	-16.03	-7.12	-10.70
Suicide	0.70	0.0	-1.725	-1.04
Homicide & legal intervention	-1.40	-4.12	**6.66**	
Undetermined/other injury	0.51	0.0	-3.43	0.0

Oklahoma Infants

There were 49, 354 births in Oklahoma in 1998 compared with 42,696 births in 1975, a 16 percent increase. In this last half century, the highest number of births occurred in 1982 with 58,745 births, and the lowest number was in 1975 with 42,704. From 1975 to 1982 , births increased steadily. From 1983 births began decreasing until 1990 with most of the reduction

occurring in the first three years , a trend that paralleled the economic depression in the state. From 1993 to 1998 births have primarily increased from approximately 45,000 to 49,000.

Figure 17: Oklahoma Births, 1975-1998

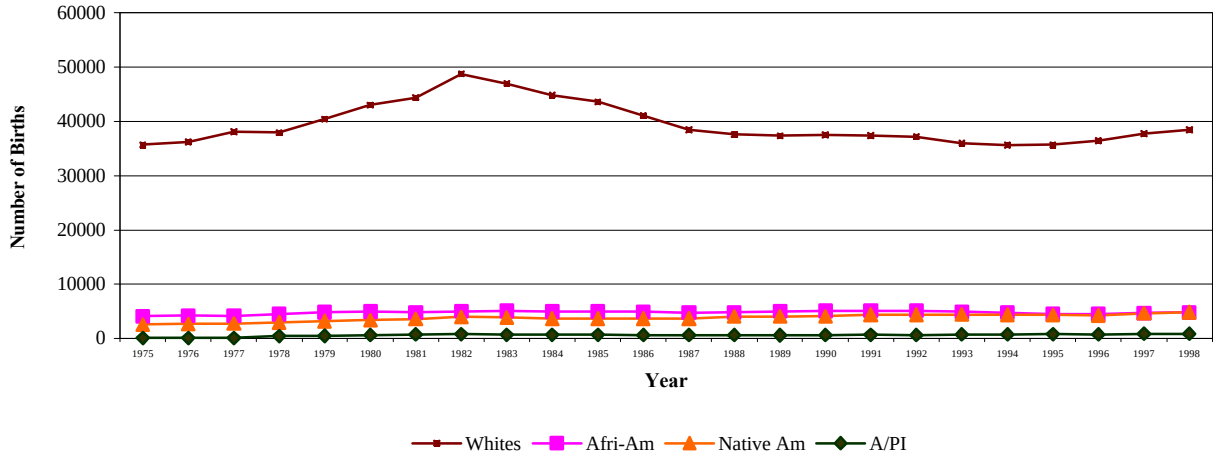


Of births in 1998, 38,464 were classified white, 4,788 African American, 4,846 Native American, 872 Asian/Pacific Islander, and 3,615 Hispanic. Within racial groups, these represented an eight percent increase over the 1975 white births, a 17.4 percent increase for African American, an 89 percent increase for Native Americans, and a 651 percent increase for Asian/Pacific Islander. Hispanic ethnicity began to be recorded on birth certificates in Oklahoma in 1991. Since that year there has been a 95 percent increase in Hispanic births, with 1,859 in 1991 and 3,615 births in 1998.

As expected, Oklahoma County and Tulsa County reported the highest number of births, followed by Cleveland and Comanche Counties. Cimarron and Roger Mills Counties reported the lowest number of births. Harper and Harmon Counties were the next lowest ranked, at 74 and 75, respectively. Racially, Oklahoma, Tulsa, Cleveland, and Comanche Counties ranked 1 through 4, respectively in the highest number of white births. Counties ranking at the lowest 5 were Roger Mills, Harmon, Cimarron, Dewey and Ellis. The top four ranked in births to African Americans were Oklahoma, Tulsa, Comanche, and Muskogee Counties. Seventeen counties located in the western portion of the State did not report any African American births for 1998. Tulsa, Oklahoma, Cherokee and Muskogee Counties are the highest ranked counties, from one to four, respectively, in number of births to Native Americans. Five counties, again located in the

western half of the State, reported no Native American births. Oklahoma, Tulsa, Comanche and Texas Counties were the highest ranking counties in the number of Hispanic/Latino births, ranked one to four, respectively. The four counties with the lowest number of Hispanic/Latino births were Ellis, Dewey, Pawnee, and Coal county.

Figure 18: Oklahoma Births by race, 1975-1998



Oklahoma Children

Oklahoma's population of children birth to twenty years of age is estimated to have increased 5.2 percent between1990 and 1999, from 988,983 in 1990 to 1,040,728 in 1999. In 1999, children under ten years of age represented 14.0 percent of the population compared to 15.1 percent in 1990. Children ages ten to fourteen were estimated to make up 7.4 percent of the total population in 1999; teens ages 15 to make up 7.4 percent, and young adults ages 20 to 24 represented 7.0 percent of the total population.

Table 5: Population of children, ages 0-20: Oklahoma, 1990 and 1999

	1990	1999
Total, All Ages	988,983	1,040,728
Under 1 Year	47,098	47,986
1 - 2	90,483	94,185
3 - 4	93,221	90,446
5	47,597	45,844
6 - 7	98,195	95,073
8 - 9	97,629	97,275
10 - 14	231,316	250,135
15 - 17	134,418	161,118
18 - 19	99,803	106,835
20	49,223	51,831

The 1998 racial distribution of children under the age of 20 is slightly different than for the adult population; minorities represent 22.1 percent of the children as compared to 13.1 percent of adults.

Table 6: Racial composition of Oklahoma children ages 0-19: 1998

	Total	White	African American	Native American	Asian	Hispanic
Number	984,151	766,229	99,005	103,364	15,553	57,993
Percent	100	77.9	10.1	10.5	1.6	5.9

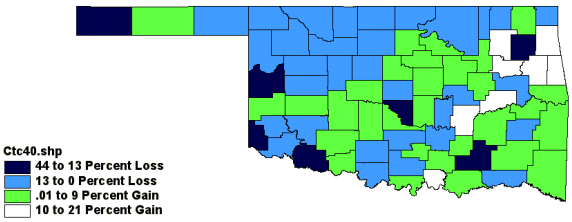
The percent change in the distribution of children birth to 19 and young adults 20 to 24 varies by race. Map DD8 shows the percent change in these age groups for each county by race. Counties in the western half of the state and one county in the center of the state experienced a decrease of ten to 40 percent of white children under age 19.

Two-thirds of Oklahoma counties experienced an increase in the number ofAfrican American children, and approximate half of the state's counties experienced an increase in African American young adults.

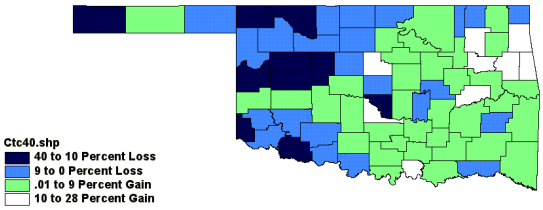
Three-fourths of counties experienced from 23 to less than one percent decreases in Native American children over the time period. In contrast, 42 of the 77 experienced increases among Native American young adults.

Maps DD7: Percent Oklahoma Population Change 1990-1998, Children birth to 19 and young adults 20-24 by race/ethnicity.

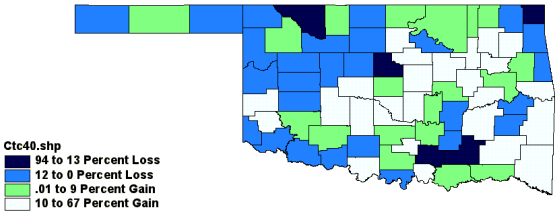
Percent Change in the Distribution of White Young Adults 20 to 24 Years of Age Between 1990 and 1998, Oklahoma



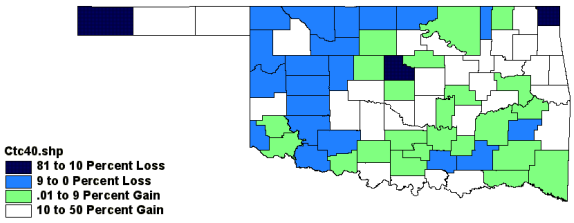
Percent Change in the Distribution of White Children 0 to 19 Years of Age Between 1990 and 1998, Oklahoma



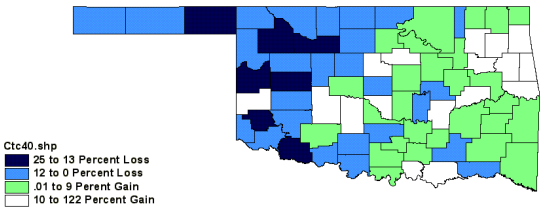
Percent Change in the Distribution of African American Young Adults 20 to 24 Years of Age Between 1990 and 1998, Oklahoma



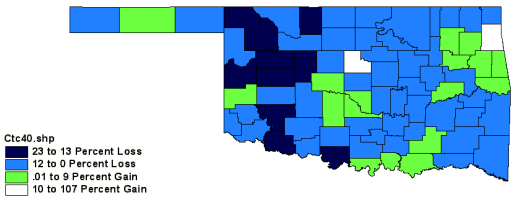
Percent Change in the Distribution of African American Children 0-19 Years of Age Between 1990 and 1998, Oklahoma



Percent Change in the Distribution of Native American Young Adults 20 to 24 Years of Age Between 1990 and 1998, Oklahoma

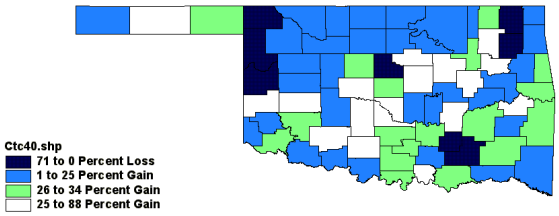


Percent Change in the Distribution of Native American Children 0-19 Years of Age Between 1990 and 1998, Oklahoma

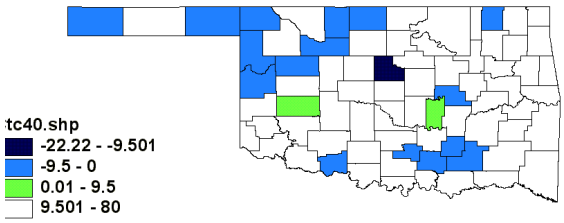


Maps DD7: continued

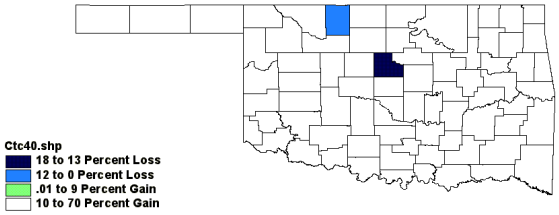
Percent Change in the Distribution of Hispanic/Latino Young Adults 20 to 24 Years of Age Between 1990 and 1998, Oklahoma



Percent Change in the Distribution of Asian/Pacific Islander Children 0-19 Years of Age Between 1990 and 1998, Oklahoma



Percent Change in the Distribution of Hispanic/Latino Children 0-19 Years of Age Between 1990 and 1998, Oklahoma



Asian/Pacific Islanders children increased at varying rates over the time period, though the actual growth overall was only 1.6 percent. The change in population for Asian/Pacific Islander young adults was also slight. Only three counties were estimated to have experienced an increase of up to 7 percent.

Only two counties in Oklahoma were estimated to have had a decrease in Hispanic/Latino children over the time period. All other counties experienced an increase of at least ten percent. Loses were estimated for Hispanic/Latino young adults, however. Eight counties saw decreases that ranged up to 71 percent. Eighteen counties were estimated to have had a 25 to 88 percent increase in this age group. These data should be used with caution, however. The documented

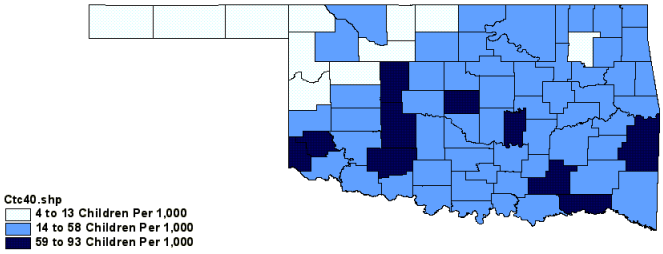
growth of the Hispanic population severely underestimates the actual growth confirmed by observation, if not by documentation.

Children Receiving Public Assistance

The Child Health Insurance Program (CHIP) was implemented in Oklahoma in December 1997. as a Medicaid expansion project, with an income eligibility of 185 percent of the income guidelines. Enrollment of uninsured or under insured children is facilitated with the use of presumptive eligibility, shortened applications, and expanded locations for applying. As of April, 2000, there were 33,568 children enrolled in Oklahoma CHIP.

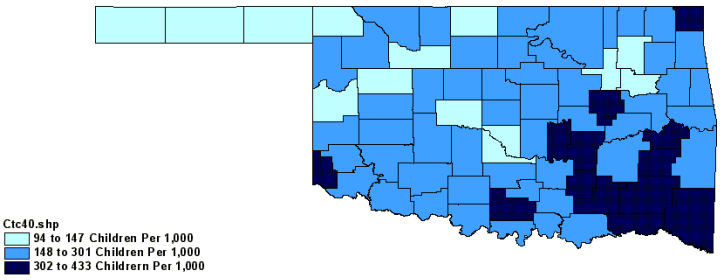
Among children age birth to twenty-one in Oklahoma 39,640 were reported to be receiving Temporary Assistance to Needy Families (TANF) out of a total of 53,127. This compares with 126,539 total recipients in 1995, a decrease in recipients of 58 percent. Of those children receiving TANF in fiscal year 1999, 42.1 percent were White, 40.2 percent were African American, 12.7 percent were Native American, 0.5 percent were Asian, and 4.5 percent were Hispanic/Latino.

Map DD8: Oklahoma children receiving Temporary Assistance to Needy Families, 1999



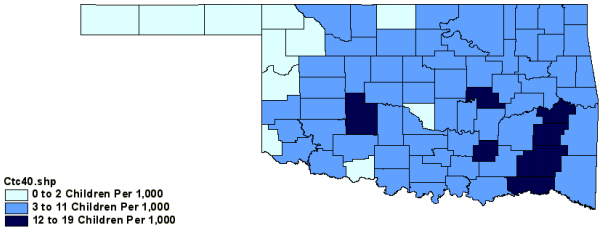
Out of a total 220,265 Medicaid cases statewide, 178,127 were children under the age of 18. Of those children 80,504 were under 5 years of age, 66,085 were between 6 and 12, and 31,538 were between 13 and 17.

Map DD9: Children enrolled in Medicaid per 1000 Children in each county, 1999



Statewide 5,170 children were in DHS foster care in 1999 (DHS, 199). Of those, 53 percent were White, 24 percent were African American, 19 percent Native American, and 5 percent Hispanic/Latino. The largest percent of children in foster care in 1999 were age 5 to 10 (37%) followed by those aged 1 to 4 (29%), those 11-14 (18%), those aged 15-17 (10%) and infants (5%).

Map DD10: Oklahoma children in foster care, for each county, 1999.

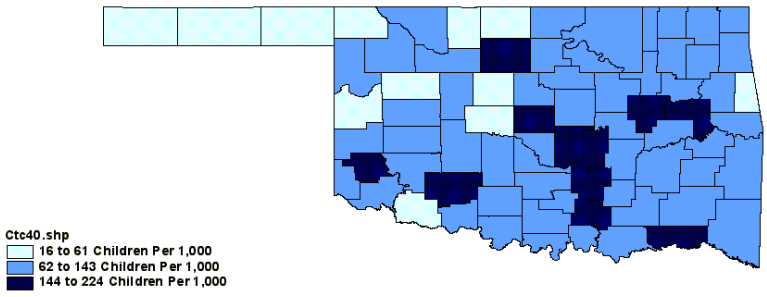


Day Care

Oklahoma parents placed 81,949 children in licensed day care facilities in 1999. Of those children, four percent were infants, toddlers and preschoolers were nearly equally placed in day care, with 22 percent of one and two year olds, and 23 percent of four and five year olds. Eleven percent of those in day care were kindergarten age, and 39 percent were between six and twelve years old. Children 12 and older made up one percent in day care. White children made up the

largest percent in day care (54%), followed by African Americans (32%), Native Americans (10%). Of those in day care, Hispanic/Latinos made up three percent.

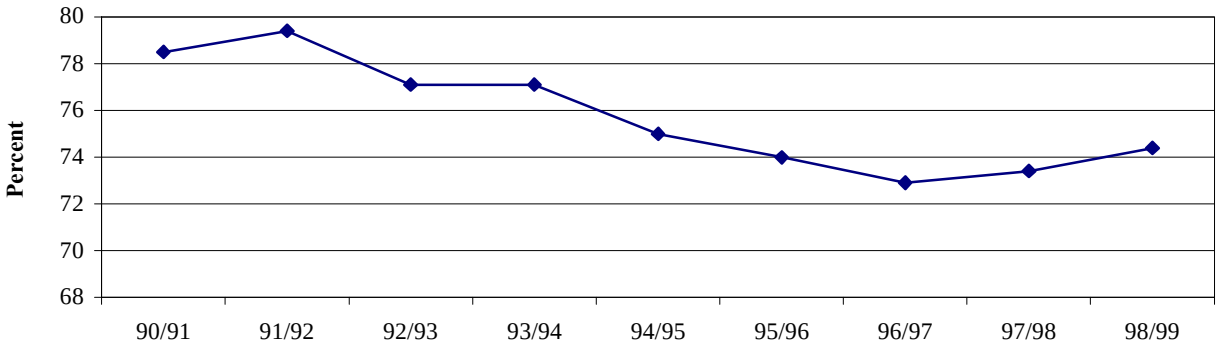
Map DD11: Rate of Oklahoma children receiving assistance for publicly funded day care: Each county, 1999.



School Attendance

Failing to graduate from high school limits employment opportunities and affects income potential. In Oklahoma, the definition of school dropout is "any student who is under the age of nineteen and has not graduated from high school, and is not attending any other public or private school or otherwise receiving an education" (Office of Accountability, 2000). By Oklahoma law, dropout rates are based on a single year snapshot of dropout activity. Among Oklahoma public high school students in 1998-99 the drop out rate was 5.1 percent. This rate is down from the previous academic year's rate of 5.5, a decrease of 7.3 percent. Because the school districts do not share a common enrollment database, students moving from one school to another without officially transferring are also considered dropouts. High school graduation rates have been declining during the decade of the 90's. Among students who complete public education, 79 percent graduated in 1990/91, compared with 74 percent in1998/99.

Figure DD19: Oklahoma high school graduation rates as a percent of freshmen 4 years earlier



Source: State Department of Education, April 2000

Professional careers, with their commensurate incomes, normally require a college degree as a minimum requirement. On average, two thirds of Oklahoma high school students complete college bound high school curricula, with half of high school graduates attending college. Of those students who attend college, 38 percent require at least one remedial course as freshmen. The three-year average of those who completed their college degree requirements was 33 percent.

Table 4: Juveniles under the age of 18 arrested 1989 and 1998 and percent change by type of crime

Arrests	1989	1998	% Change
Total	25,533	31,595	23.7
Violent crimes	1,050	1,145	9
Non-violent crimes	10,``3	8,972	-10.4
Drug related total	944	2007	112.6
Drug sale/mfg	374	218	-41.7
Drug possession	570	1,789	213.9
Alcohol related	2,578	2,725	5.7

Juvenile Crime

The Uniform Crime Report (UCR) reports the number of arrests for indexed crimes. Indexed crimes are further classified as violent and non-violent, and alcohol and or drug related arrests. Statistics are reported annually, including juvenile arrests. Over a ten year period 1989 -1998, there was a 112.6 percent increase in drug related arrests, with 944 reported in 1989, and 2,007

reported in 1998. Drug possession arrests numbered 570 in 1989, and 1,789 in 1998, an increase of 213.9 percent. Drug sale and manufacturing juvenile arrests numbered 374 in 1989, and in 1998, numbered 218, a decrease of 41.7 percent. Alcohol related arrests increased 5.7 percent during the same time period, from 2,578 in 1989 to 2,725 in 1998. In 1998, juveniles made up 18.5 percent of all persons arrested, an increase of 23.7 percent over the ten year period.

Table 7: Disposition of juvenile custody, 1996-1998

Disposition	1996	1997	1998
Handled within department and released to parents	10,680	10,719	10,286
Referred to juvenile court or or probation department	15,447	16,860	16,849
Referred to welfare agency	619	529	448
Referret to other police agency	737	828	752
Referred to criminal or adult court	3,788	4,058	4,339

Of those children whose experience with the criminal justice system were disposed in 1998, 31.4 percent were handled within the Oklahoma Office of Juvenile Justice and released to their parents, 51.6 percent were referred to juvenile court or probation departments, 1.5 percent were referred to a welfare agency, 2.3 percent were referred to another police agency, and 13.3 percent were referred to criminal or adult court.

Women of Childbearing Age and Infants

For preparation of this section, the needs assessment development team for women of childbearing age and infants identified current or emerging issues to be specifically targeted as part of the Title V assessment. These issues are:

- What are the characteristics of women who have unintended (mistimed or unwanted) pregnancies and the impact of unintended pregnancies on the percentage of women receiving first trimester or adequate prenatal care?
- What are the characteristics of families who are impacted by domestic (family) violence?
- What might account for the disparities in health outcomes?
- What are the prevalent lifestyle characteristics of women in childbearing years?
- What are the characteristics of teen pregnancy in the older teen population?

This section of the needs assessment was developed using population-based surveys, surveillance systems, and research-related data. Additionally, current reference and research literature, local program-related data, and service-related narrative contributed to the assessment of the health and needs of Oklahoma's women and infants. Consultation was sought among a variety of maternal and child health experts who provided direct health care services, enabling services, population-based services, and infrastructure building services. The Women's section group of experts also asked for the following areas to be considered:

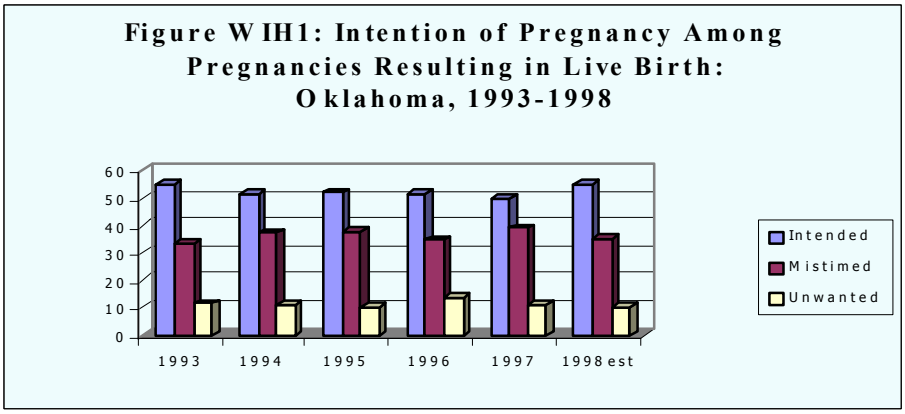
- What are the characteristics of women who have unintended (mistimed or unwanted) pregnancies and the impact of unintended pregnancies on the percentage of women receiving first trimester or adequate prenatal care? – Take an in-depth look at unintended pregnancies using Pregnancy Risk Assessment Monitoring System (PRAMS) and birth certificate information. Currently, statewide data are available; however, community-level data are essential in targeting effective prevention programs. Other issues to consider are the barriers to the access of prenatal care such as availability of providers, transportation issues, denial of pregnancy, and awareness of the signs and symptoms of pregnancy.
- What are the characteristics of families who are impacted by domestic (family) violence? – Potential sources of information include: the Department of Mental Health and Substance Abuse Services (Domestic Violence and Sexual Assault Services) and the Oklahoma State Department of Health (PRAMS), and later, the Intimate Partner Violence Surveillance

Systems in development by the Injury Prevention Service.) and Current legislation regarding child witnesses to domestic violence.

- What might account for the disparities in health outcomes? – Using birth certificate and PRAMS data, determine the characteristics of women who have low birth weight and very low birth weight babies, including maternal age, multiple births, education, race, smoking, etc. Paternal characteristics, such as unemployment and age, and its impact on outcome. Also, look at infant mortality, maternal mortality, and child death examining the same factors with particular attention to any racial disparity. What about mental disabilities?
- What are the prevalent lifestyle characteristics of women in childbearing years? – Examine information from PRAMS, Behavioral Risk Factor Surveillance System (BRFSS), and possibly population -based survey to create a rubrics of health to measure the knowledge, attitude, and behavior concerning Human Immune-deficiency Virus (HIV), sexually transmitted diseases (STDs), smoking, child abuse and neglect, alcohol and illicit drug use, partner characteristics, and others. The purpose is to better define who is being served by MCH, who is not being served by MCH, and those who should be served by MCH.
- What are the characteristics of teen pregnancy in the older teen population? – Re-examine older teens (18-19 year olds) that give birth to determine their characteristics (rate, birth weight, education, race, etc.), the father's (of the baby) characteristics, intended pregnancies, and prenatal care issues.

Unintended Pregnancy

Although the exact extent is unknown, unintended pregnancy represents a large proportion of pregnancies both nationally and in Oklahoma (PRAMS, 1996). To measure the prevalence of unintended pregnancy in Oklahoma, PRAMS respondents were asked to recall how they felt about pregnancy just prior to becoming pregnant. Women who stated they wanted to be pregnant then or sooner are considered to have intended pregnancies. Unintended pregnancy is defined as mistimed (women who wanted to become pregnant later) or unwanted (women who did not want to be pregnant then or at any time in the future). Preliminary estimates for 1998 indicate that 46.9 percent of Oklahoma births were reported as unintended at the time of conception (38% mistimed and 8.9% unwanted), which translates to an estimated 23,147 unintended births of the 49,354 total Oklahoma births in 1998.



Source: PRAMS, 1993-1997; 1998 (preliminary)

Unintended pregnancy, especially unintended live birth, is a public health concern due to consequences associated with adverse outcomes impacting both infants and their families. These adverse outcomes include delayed entry into prenatal care, medical complications and low birth weight. Negative behaviors associated with unintended pregnancy include poor maternal nutrition, smoking and use of alcohol and other drugs (CDC, 1996). Future consequences include higher risk for domestic violence and child neglect and behavioral or learning disabilities (Myhrman, 1988; Furstenberg, et al., 1987). In Oklahoma, for example, women with births resulting from unintended pregnancies are nearly three times more likely to experience physical violence compared to women whose pregnancies are intended (PRAMS, 1996).

Unintended pregnancy may be due to variations in contraceptive use, i.e., not using, inconsistent or improper use of contraceptives (Wilcox, 1995). Thus, younger women (teens) and older women (over 40), who are more likely to follow these utilization patterns, also are at increased risk for unintended pregnancies (Abma, et al., 1997 and Humphrey, et al., 1998). One study that examined state variation for unintended births 1993 – 1995 further found that among the eight states reviewed, the odds that a live birth would result from an unintended pregnancy were lower, overall, in New York and higher in Oklahoma (Dietz et.al., 1999). Additional findings from this study include that women who were African American, were unmarried, were younger than 20 years of age, or had less than a high school education had higher percentages of live births resulting from unintended pregnancy than women with other demographic characteristics.

As shown in the following table, Oklahoma PRAMS data for 1997 lend partial support to these findings, i.e., women at higher risk for unintended births are significantly more likely to be younger than age 20 and unmarried (see Table WIH1). However, for Oklahoma women in 1997, post-secondary education appears to have an ameliorating effect on unintended births and Hispanic/Latinos, compared to non-Hispanic/Latinos, were significantly less likely to report an unintended pregnancy resulting in live birth.

Among 12 states participating in the PRAMS initiative from 1993-1996, the prevalence of unintended pregnancy among women ranged from 34.1 percent in New York to 51 percent in South Carolina; Oklahoma's prevalence was 48.5 percent (PRAMS, 1996). None of the states met the Healthy Peoples 2000 objective to reduce the proportion of live births that resulted from unintended pregnancies to no more than 30 percent. Among women who reported an unintended pregnancy, less than half were using birth control at the time of conception, with prevalence ranging from 48.1 percent in South Carolina to 38.9 percent in Oklahoma. The prevalence of unwanted pregnancies resulting in a live birth ranged from 7.9 percent in Maine to 14.9 percent in Alabama. The prevalence in Oklahoma was 13.8 percent in 1996, an increase since 1993 (11.4%). Interestingly, the prevalence of women whose husband or partner did not want the pregnancy was 11.8 percent in 1996, as perceived by the mother. PRAMS estimates that in 1997 in Oklahoma half (50%) of the pregnancies resulting in a live birth were unintended (Table WIH1).

Table WIH1: Pregnancy Intention Among Live Births by Maternal Characteristics: Oklahoma 1997

Characteristics:	Percent Intended	Percent Mistimed	Percent Unwanted	Total Unintended
Age				
< 20*	24.5	66.6	8.9	75.5
20 – 24	44.3	46.5	9.3	55.7
25 – 34	61.9	26.9	11.2	38.1
35 +	59.9	18.4	21.7	40.1
Race/Ethnicity				
White	55.3	34.8	9.9	44.7
African Am	24.7	53.4	22.0	75.3
Other	36.2	56.9	6.9	63.8
Hispanic/Latino	65.7	23.3	11.0	34.3
Non-Hispanic/Latino	48.5	40.6	10.9	51.5
Education				
< 12th grade	36.0	46.6	17.3	64.0
12th grade	44.4	44.0	11.6	55.6
> 12th grade*	62.2	31.1	6.7	37.8

* Statistically significant at $p \leq .05$ or better

** *Percent Mistimed* plus *Percent Unwanted* may not add to *Total Intended* due to rounding

Source: PRAMS 1997 Surveillance Report: Detailed Summary

With unintended pregnancies, the initiation of prenatal care was delayed as compared to intended pregnancies. Forty percent of mothers who had an unintended pregnancy initiated prenatal care in the second or third trimester, compared to 19 percent of mothers whose pregnancies were intended. Some research has suggested that the delay in the initiation of prenatal care may be related to not recognizing the symptoms of pregnancy (CDC, 1996).

Mothers who experienced an unintended pregnancy were significantly more likely to use Medicaid to pay for prenatal care. Conversely, mothers who experienced an intended pregnancy were more likely to use private insurance to pay for prenatal care.

Table WIH2: Characteristics of pregnancy, by intention: Oklahoma PRAMS, 1997.

	Intended Pregnancy	*Unintended Pregnancy*
Total Pregnancies	50%	50%
*Initiation of Prenatal Care**		
1-12 weeks	80.6%	60.0%
13-24 weeks	17.6%	34.1%
25 or more weeks	1.7%	5.9%
Prenatal Care Payment		
Medicaid use*	23.1%	37.2%
Private insurance use*	48.7%	27.3%
Income use**	30.8%	22.2%
Indian health service use	6.7%	11.1%
Infant Admission to ICU	12.4%	10.1%
Frequency of Abuse		
More often	18.0%	25.8%
Less often	40.4%	46.4%
About the same	18.8%	21.1%
Not abused	22.8%	6.8%
*Father's feelings about the timing of the pregnancy**		
Wanted to be sooner	20.9%	8.0%
Wanted to be later	7.3%	33.6%
Wanted then	41.7%	9.2%
Did not want ever	4.9%	22.0%
Did not matter	25.3%	27.3%
*Married at conception**		
Yes	79.4%	45.9%

Based on weighted sample.

*Statistically significant at $p<0.001$

** Statistically significant at $p<0.01$

Similar percentages of mothers with intended and unintended births reported that fathers' feelings regarding the timing of the pregnancy "did not matter." However, significant differences emerged by intention status when asked whether the pregnancy was "wanted then." For example, compared to mothers having births that were intended, mothers having unintended births were nearly five times more likely to report that fathers "wanted [the pregnancy] to be later."

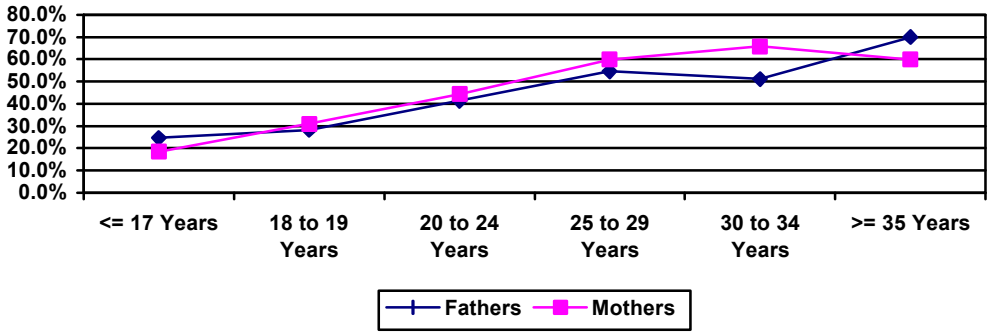
Mothers who experienced an intended pregnancy were significantly more likely to be married at the time of conception compared to mothers whose pregnancies were unintended.

Table WIH3: Pregnancy Intention by Mother's Age and Father's Age: Oklahoma PRAMS, 1997

	Age Group in Years					
	< =17	18-19	20-24	25-29	30-34	>=35
Mother's Age						
Intended	3.0%	4.7%	30.4%	34.0%	19.6%	8.2%
Unintended	13.1%	10.5%	38.1%	22.6%	10.2%	5.5%
Father's Age						
Intended	1.7%	4.3%	19.7%	33.6%	19.3%	21.4%
Unintended	5.3%	11.0%	28.0%	28.1%	18.5%	9.2%

As shown in Table WIH3, overall, the majority of parents are between the ages of 20 – 29, although fathers tend to be older than mothers. Among the intended group, the percentage of teen mothers (7.7%) and teen fathers (6.0%) is similar, however, among the unintended group, the percentage of teen mothers (23.6%) is larger compared to that of teen fathers (16.3%).

Figure WIH1. Intention of pregnancy among mothers having a live birth, by age of mother and father: Oklahoma PRAMS, 1997



Oklahoma's rates of unintended live births recently have declined somewhat, perhaps as a result of higher contraceptive prevalence and the use of more effective methods, such as depo-provera. However, the rate is relatively high and continues to receive attention due to associated negative consequences. Efforts to achieve further decreases should focus on reducing risky behaviors by providing a full range of risk-specific interventions, including abstinence programs and promoting the use of effective contraceptive methods.

Health Status Indicators addressed:

- Confirmed Physical Abuse Cases: the percent of confirmed and probable child abuse cases among children less than 18 years old in the state.
- Low Birth Weight: the percent of live births weighing less than 2,500 grams, and the percent of live births weighing less than 2,500 grams among "singleton" births.
- Adequacy of Prenatal Care

Domestic Violence

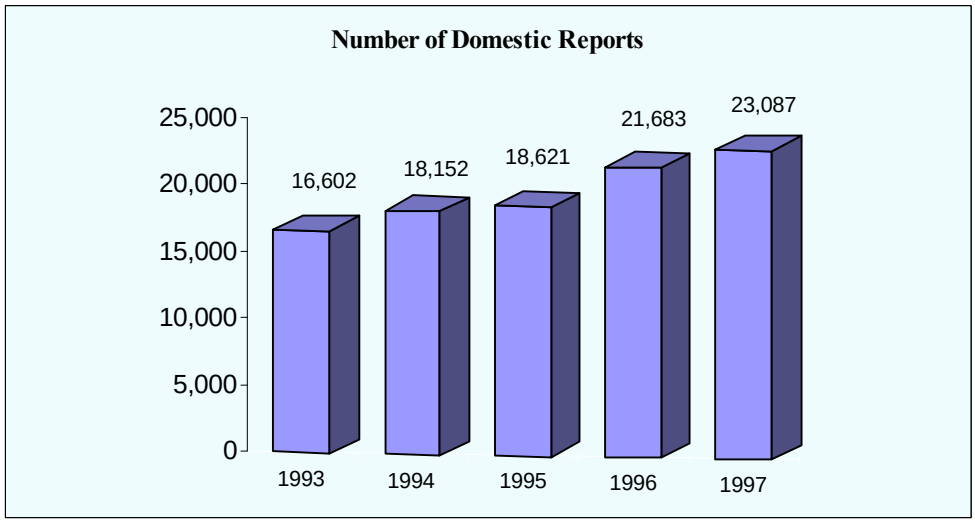
Domestic violence is defined by law enforcement as "threatening, causing, or attempting to cause serious physical harm between family or household members" (Oklahoma State Bureau of Investigation, 1998). It is an issue of power and control maintained by continuous violence and controlling behaviors (Salber and Taliaferro, 1995). Domestic violence can include social isolation, emotional or physical abuse, ecomonic control, threats, acts of dominance, intimidation, sexual abuse, and use of the children to control. (Rosenburg, 1991).

It is estimated that between 20-25 percent of adult women (more than 12 million) in the United States are at risk of being abused (Rosenburg, 1991; National Committee for Injury Prevention and Control, 1989). Data from the National Violence Against Women Survey found that 22 million women are assaulted by their partners in their life timewith 1.3 million being assaulted each year (Tjaden, 1998). In the U.S., it is estimated that only 52 percent of domestic violence incidents are reported to law enforcement (Rosenburg, 1991). Pregnant women who experience domestic violence are more likely to carry to term and have low birth weight babies than women who do not experience abuse (Bullock 1989; Parker, 1994; Schei, 1991). Studies have also linked domestic violence with child abuse; 45 percent of mothers of abused children were themselves victims of abuse (Rosenburg, 1991). In some instances the abuse of the mother preceeded the abuse of the children (Rosenburg, 1986).

Domestic violence is a serious public health problem in Oklahoma. According to the Oklahoma State Bureau of Investigation, police responded to 21,435 domestic violence calls in 1998 and 23, 087 domestic violence calls in 1997 (Figure WIH2.) Domestic violence reports have increased by 42 percent from 1989 to 1998. Of the 1998 domestic violence-related calls, 15,454 were for assault and battery, 5,609 for assault, 317 for sex crimes, and 55 for murder (Oklahoma State Bureau of Investigation, 1998).

There are 23 shelters licensed by the Oklahoma Department of Mental Health and Substance Abuse Services (DMHSAS) for victims of domestic violence statewide. According to the DMHSAS, nearly 88,000 women and children sought shelter or crisis intervention at a DMHSAS facility for domestic violence from 1993 to 1997.

Figure WIH2: Domestic violence calls, Uniform Crime Reports: Oklahoma, 1993-1997.



The Oklahoma *Pregnancy and Risk Assessment Monitoring System* (PRAMS) has been collecting population-based data since 1989 on intimate partner violence among mothers shortly after they deliver. Beginning in 1996, the survey was re-designed to include questions on physical abuse during the 12 months before the mother became pregnant, as well as questions on physical abuse during the most recent pregnancy. Physical abuse is defined as "pushing, hitting, slapping, kicking, or any other way of physically hurting someone." Data from 1996 and 1997 indicate that 6.7 percent of Oklahoma mothers were physically abused by a husband or partner during the 12 months preceding their most recent pregnancy (Table WIH4.)

PRAMS data also indicates that risk of domestic violence among Oklahoma women varies substantially by social and demographic subgroups. For example, 12.0 percent of African American mothers, and nine percent of Native American mothers in Oklahoma reported being physically abused by a partner during the 12 months before pregnancy, compared with 5.5 percent of non-Hispanic/Latino white mothers (Table WIH4.) In addition, high rates of domestic violence were reported among women living below the poverty level (12.0%), women who did not graduate from high school (11.1%), and teenage mothers (13.4%).

Table WIH4: Prevalence of Physical Abuse by Husband/Partner in 12 Months Before Pregnancy by Location and Sociodemographic Characteristics: Oklahoma PRAMS, 1996-1997

*Sociodemographic Characteristics **	*No. of Abused Women in Sample (%)**
Age (yrs)	
18-19	13.4
20-24	8.8
25-29	5.7
30-34	3.0
35+	3.0
Race	
White	5.5
Native American	9.0
African American	12.0
Hispanic/Latino	8.4
Poverty Level	
≤ 100%	12.0
101-185%	7.3
>185%	2.4
Education	
<High School Grad	11.1
High School Grad	7.7
Some College	5.1
Bachelors+	1.7

Table WIH5: Infant birth weights, by reported experience of physical abuse by partner/spouse during 12 months prior to pregnancy: Oklahoma PRAMS, 1996-1997.

Birth Weights In Grams	*Reported Physical Abuse During Pregnancy by Percent*	*Standard Error*	*95% Confidence Interval*
< 1,500	7.93	0.60	6.75 - 9.11
1,500 - 2,499	9.18	0.89	7.44 - 10.92
2,500 – 3,999	6.83	0.83	5.20 - 8.46
4,000 and above	4.10	0.64	2.85 - 5.34

Based on weighted sample.

The PRAMS data for 1996-1997 indicate that mothers reported experience of physical abuse by a partner/spouse prior to pregnancy varied among very low, low, normal, and above normal infants' birth weights (Table WIH5.) The highest percentage of mothers who reported physical abuse

prior to pregnancy occurred in relation to having infants at a low birth weight (9.18%), followed by very low birth weight at 7.93 percent.

Oklahoma is one of the few states that has conducted population-based self-report surveys of domestic violence and injury among the general female population. Population-based data on domestic violence were collected recently by the DMHSAS as part of a statewide Drug Use Needs Assessment Survey (DUNAS). Questions on domestic violence experienced during the previous 12 months were asked during telephone interviews with 2,583 women who were married or currently living with a male partner. In addition, a Native American supplement brought the number of Native American women in the domestic violence sample to 661. Questions on physical and sexual domestic violence were designed by Dr. Malcoe in the College of Public Health at the University of Oklahoma and were adapted from the Conflict Tactics Scale (Straus, 1990) and the Canadian Violence Against Women Survey. The DUNAS asked separate questions about specific types of partner-perpetrated violence (e.g., being pushed, grabbed, or shoved; slapped; kicked or hit with his fist; choked; etc.), and collected information from women of all ages (mean age = 44.6 years).

In addition, the DUNAS asked women how many times they had needed to be seen by a doctor, nurse, or other health professional for injuries caused by a partner, whether or not they were actually seen, as well as the number of times they were actually seen. Self-report population-based estimates from the DUNAS indicate that four percent of all Oklahoma women are physically assaulted by a partner or husband, and 1.6 percent are severely assaulted (Table WIH6.) A total of 10.1 percent of women reporting any domestic violence, and 14.6 percent of women reporting severe domestic violence, also reported needing to be seen by a health professional for injuries caused by their partner. Based on these data, it is estimated that 30,754 Oklahoma women are assaulted by their partners annually, with 3,100 Oklahoma women sustaining partner-perpetrated injuries. Higher prevalence rates of domestic violence were reported by childbearing aged women, including 7.8 percent of 18 through 29 year olds, and 5.2 percent of 30 through 44 year olds (Table WIH6). Additionally, African Americans and Native Americans had higher rates of domestic violence than white women, and those living below the federal poverty level had more than double the rates of those above 200 percent of the poverty level. Increased prevalence rates

were also noted for single (8.8%) and recently divorced or separated women (12.1%) compared with married women (3.6%), and for women with unemployed partners (10.3%) compared with those employed full-time (4.5%).

Two prevalence studies of domestic violence were recently conducted among low-income Native American women in Oklahoma. These studies, conducted by Dr. Malcoe, University of Oklahoma, found substantially higher prevalence rates of domestic violence against Native American childbearing aged women than were observed in the PRAMS or DUNAS data. Data for the two studies utilized self-administered surveys to collect information from Native American women attending tribally-operated Women, Infant, and Children's Nutritional Program (WIC) clinics in western (N=173) and southwestern (N=328) Oklahoma. Questions on past year physical and sexual violence were based on a modified Conflict Tactics Scale. The southwestern study also asked about lifetime exposure to domestic violence as well as domestic violence-related injuries.

In western Oklahoma, past year prevalence of any physical or sexual domestic violence was 34.1 percent (95% CI=27.2, 41.7). Past year prevalence of severe violence was 19.7 percent (95% CI=14.2, 26.5), and 8.7 percent (95% CI=5.1, 14.2) of all women reported being 'beat up'. In southwestern Oklahoma, nearly two thirds (60.5%) of Native American women reported being victims of domestic violence during their lifetimes (median age = 26 years), and 30.1 percent reported domestic violence during the previous 12 months. The prevalence of any domestic violence-related injury was 15.0 percent, and 10.2 percent (95% CI=6.9, 14.8) of women reported past year injuries to their head, neck, or face.

Table WIH6: Prevalence of self-reported intimate partner violence in past year, by sociodemographic characteristics: Oklahoma Drug Use Needs Assessment Survey, 1997-1998

*Sociodemographic Characteristics **	*Estimated No. of Abused Women in Oklahoma*	*Prevalence of Self-Reported Partner Violence (%)*
Age (yrs)		
18-29	11,606	7.8
30-44	13,778	5.2
45-50	3,731	2.7
55-60	322	0.3
65+	975	0.9
Race		
White	23,787	3.5
Native American	2,872	5.0
African American	2,541	8.1
Poverty Level		
≤ 100%	3,448	8.4
101-200%	7,610	5.1
>200%	16,627	3.4
Marital Status		
Married	26,265	3.6
Divorced/Separated	2,070	12.1
Single	2,163	8.8
Partner's Employment		
Employed Full-Time	25,228	4.5
Employed Part-Time	1,429	6.3
Unemployed	2,800	10.3

The Oklahoma State Department of Health (OSDH) has maintained statewide surveillance for mandated reportable conditions, hospitalized and fatal burns, submersions, and traumatic spinal cord injuries for nearly 12 years, and for traumatic brain injuries for 7 years. In addition, data was collected for hospital-treated (including both emergency department patients and inpatients) and fatal gunshot injuries in 1995 and 1996. In 1997, 366 reportable injuries were intentional, 39 (11%) were documented as the result of domestic violence. Ages ranged from 18 to 58 years

(mean 39 years). Thirty-two (82%) of the cases were female; the rate among females was more than 4 times the rate among males. The rate among African Americans and Native Americans was 2.5 times higher than among whites (rates per 100,000 population, respectively: 2.3, 2.3, and 0.9). Among traumatic brain injury cases, all 13 firearm-related injuries were fatal.

Among injuries reported in firearm injury surveillance in 1995 and 1996, nine percent (94/1064) of intentional injuries inflicted by another person were inflicted by a partner or ex-partner; 48 percent (45/94) of injured persons died. Ages of persons receiving a domestic violence firearm injury ranged from 15-84 years of age with a median age of 34 years (mean 37 years). Slightly more than half (50/94, 53%) of the injuries were among females. The rate of injury among African Americans (3.9) was 2-3 times higher than among Native Americans (1.7) and whites (1.1). The type of firearm used was known for 89 percent of incidents. Among these, a handgun was used in 75 percent of incidents, a rifle in 13 percent, and a shotgun in 12 percent.

Health Status Indicators addressed:

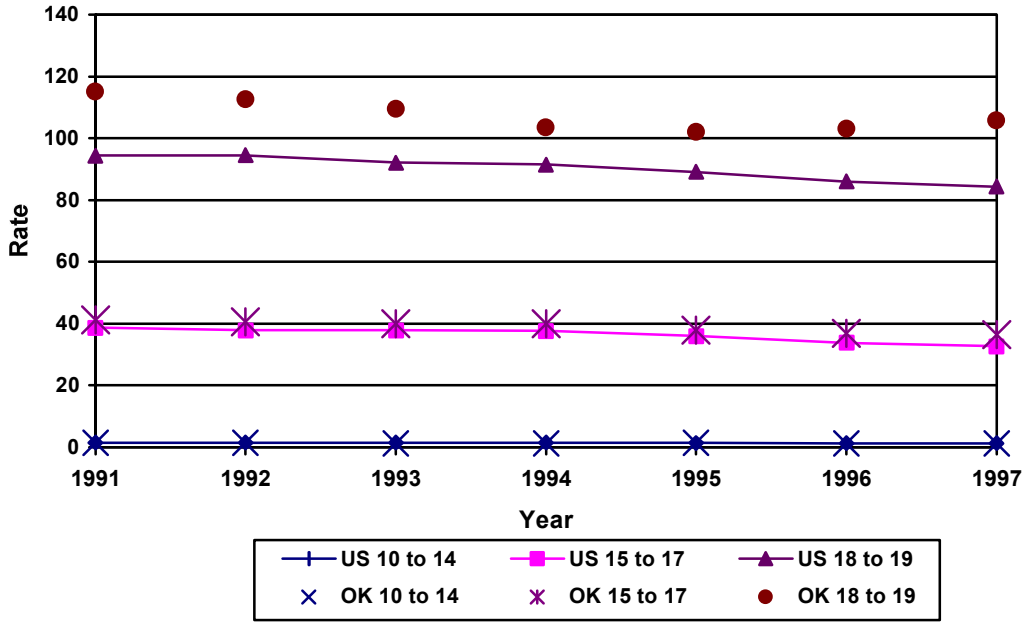
- Confirmed Physical Abuse Cases: the percent of confirmed and probable child abuse cases among children less than 18 years old in the state.
- Low Birth Weight: the percent of live births weighing less than 2,500 grams, and the percent of live births weighing less than 2,500 grams among "singleton" births.
- Very Low Birth Weight: the percent of live births weighing less than 1,500 grams, and the percent of live births weighing less than 1,500 grams among "singleton" births.

Teen Births

Teen births are a significant social (Ager and Saltz, 1997) and public health issue in the United States. Research suggests that giving birth as a teen may have negative health, academic, and economic consequences for mothers as well as for their children. For example, the maternal mortality rate for mothers less than 15 years of age is 60 percent higher than the rate for women in their twenties (Advocates for Youth, 1994.) Teen mothers have a higher rate of preterm labor and giving birth to low birthweight babies than older mothers (Ventura, Mathews, and Curtin, 1998.) Low birthweight babies are at a higher risk of serious or chronic illness, developmental delays, and dying in the first year (Ventura, Martin, Curtin, and Mathews, 1998). Teen mothers are less likely

to receive timely prenatal care and most likely to start care in the third trimester, if at all; additionally, teen mothers are more likely to smoke during pregnancy (Ventura, Mathews, and Curtin, 1998).

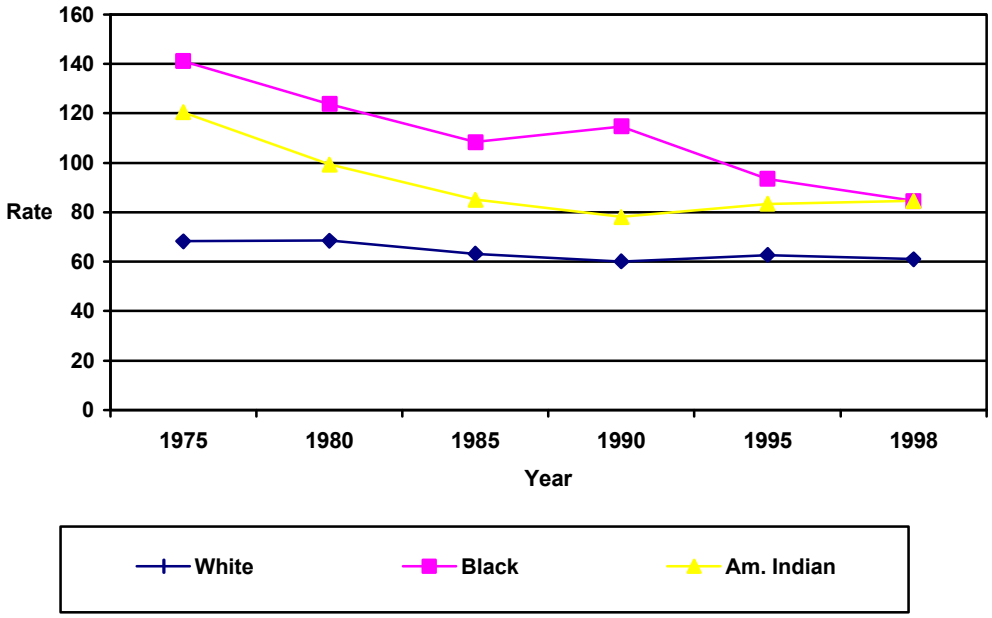
Figure WIH3: Birth rates per 1,000 females in specific age groups: United States and Oklahoma, 1991-1997



Seventy percent of teen mothers drop out of high school compared to only 24 percent of women who delay childbearing until 20 or 21 years of age (Maynard, 1996.) During the first 13 years of parenthood, teen mothers earn an average of $5,600 annually (Maynard, 1996), and teen mothers earn about half the lifetime income of older mothers (Parenting and Prevention, 1995.) Frequently, births to teenagers are unintended or unwanted (Hardy, 1994). In a national survey of urban youths, 82 percent of the 15-19 year old women who experienced a first premarital birth had not intended to become pregnant (Hardy, 1991.) Children of adolescent mothers are more than twice as likely to be victims of abuse and neglect than children of older mothers (20-21 years of age) (Maynard, 1996.) Teenagers who give birth are typically unmarried. The proportion of unmarried births of all teen births reached a record high in 1997 (Ventura, Mathews, and Curtin, 1998.)

Female children of adolescent mothers are 83 percent more likely to become mothers before age 18 compared to female children of older mothers (Maynard, 1996.) Sons of adolescent mothers are 2.7 times more likely to be incarcerated during their lifetime than sons of older mothers in their early 20's (Maynard, 1996.) Children of adolescent mothers are at risk educationally, for example, they score lower on cognitive development, have more difficulty in school, are more likely to repeat a grade, and are more likely to drop out of school than children of older mothers (Maynard, 1996.)

Figure WIH4: Teen birth rates per 1,000 females 15-19 years of age: Oklahoma, 1975-1998.



An Oklahoma PRAMS study reviewed mothers with recent births who had had their first child by the time they were 17 years old. At the time of their subsequent birth, almost two-thirds were living in poverty compared to only one-fifth of women who waited until age 20 or later to have their first child. High school education was delayed or not finished by age 19 for one-half of the mothers who started childbearing early compared to 10 percent of mothers who waited at least until age 20 to begin having children. These same young mothers were 3.9 times as likely not to have private insurance for their pregnancy or delivery. Also, they were 2.6 times as likely not to recognize their pregnancy in the first trimester as were the mothers who started having children later. Not surprisingly, more than one-third did not begin prenatal care in their first trimester of

pregnancy, while only 12 percent of mothers who waited until age 20 to start having children did not receive first trimester prenatal care. Physical violence occurred to mothers who started having children at age 17 or before at a rate 3.75 times that of the mothers who started later. Again, all of these comparisons were at the time of a subsequent birth, not the first births of mothers.

In 1998, the Oklahoma teen birth rate did not compare favorably to the rate of 51.1 per 1,000 female teens for the United States and was more than 16 percent higher than the national birth rate for this age group. Since 1991, the Oklahoma teen birth rate has mirrored the steady decline in the national teen birth rate. The United States birth rate among teens ages 15-19 had a 17 percent reduction, and the Oklahoma rate decreased by 15 percent during the same period, but remained between 10 percent and 16 percent higher than the national rate.

Table WIH7: Teen birth rates, by age and race of mother: Oklahoma, 1975-1998
(rates are per 1,000 population in specified group)

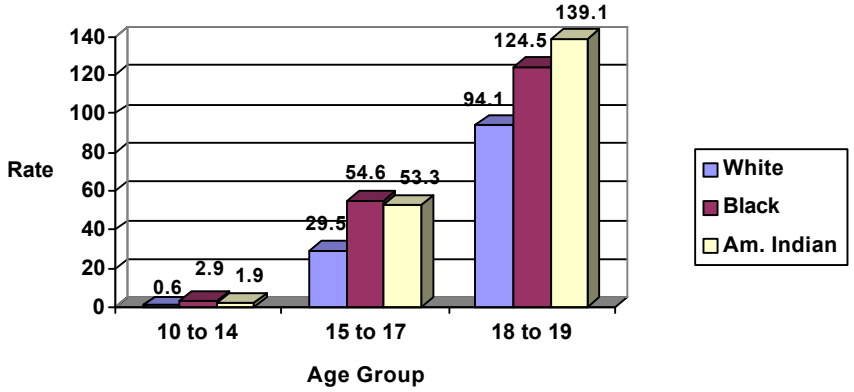
	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
All races												
Ages 10-14	1.5	1.3	1.3	1.0	1.4	1.3	1.2	1.2	1.3	1.2	1.1	1.0
Ages 15-17	51.9	46.1	40.6	38.8	41.2	40.6	40.0	40.0	37.9	36.8	36.5	34.6
Ages 18-19	117.5	113.4	97.2	105.7	115.1	112.6	109.5	103.4	102.1	103.1	105.7	101.8
Ages 15-19	78.6	74.5	69.0	67.1	71.6	69.3	67.7	65.1	63.1	62.6	63.2	61.0
White												
Ages 10-14	0.9	0.8	0.7	0.6	0.9	0.8	0.7	0.7	0.9	0.7	0.7	0.6
Ages 15-17	43.9	41.1	39.0	32.9	33.6	34.1	33.3	33.8	32.9	31.7	31.1	29.5
Ages 18-19	101.2	105.4	98.0	96.8	104.4	105.3	101.4	95.2	93.8	95.5	97.0	94.1
Ages 15-19	68.2	68.5	63.2	60.1	62.6	62.5	60.5	58.1	56.8	57.1	56.6	54.9
Black												
Ages 10-14	5.8	5.7	5.5	3.9	5.3	4.8	4.7	4.3	3.8	4.1	3.7	2.9
Ages 15-17	114.3	86.1	71.3	80.5	90.1	80.0	78.7	73.6	67.5	63.1	66.4	54.6
Ages 18-19	180.6	175.6	131.7	158.6	175.6	154.0	146.9	140.4	131.1	123.5	131.6	124.5
Ages 15-19	141.1	123.7	108.4	114.7	126.9	110.8	107.1	101.2	93.5	87.9	93.0	84.5
Am. Indian												
Ages 10-14	4.1	2.2	1.7	1.3	1.8	1.9	1.6	1.8	1.8	1.6	1.9	1.9
Ages 15-17	86.7	65.3	47.3	45.5	55.6	54.0	55.9	57.8	49.8	49.9	50.2	53.3
Ages 18-19	171.4	150.7	111.6	126.9	144.6	134.1	141.6	134.9	141.7	136.6	149.6	139.2
Ages 15-19	120.4	99.3	85.0	78.1	90.6	84.5	88.5	86.9	83.4	81.1	85.8	84.5

Of the 7,998 births to women less than 20 years of age in 1998, 64.7 percent of the births were among mothers 18 and 19 years of age. In 1994, 61.7 percent of the births among women less than 20 years of age were among the 18-19 year age group. The characteristics of the older teens (18-19 years) slightly differed from the characteristics of the younger teens (Table WIH9.) Among the oldest group of teen mothers, 72 percent were white, 13 percent African American, 13

percent Native American, and 1 percent were unknown or other race. Eight percent of the 18 – 19 year old mothers reported Hispanic/Latino ethnicity.

Oklahoma birth rates among 10-14 and 15-17 year olds has been comparable to the national rates. However, the birth rate among 18-19 year olds in Oklahoma has consistently remained higher than the national rate. In Oklahoma, the teen birth rate for ages 15 through 19 years decreased from 78.6 in 1975 to 61.0 per 1,000 in 1998. The teen birth rate has fluctuated over time with the highest rate recorded in 1981 at 82.8 per 1,000 female teens. The 1998 birth rate of 61.0 marked the lowest rate, reflecting the steady decline recorded from 1991 through 1998.

Figure WIH5: Birth rates per 1,000 females, by specific age group, by Race: Oklahoma, 1998



The decrease in Oklahoma's overall teen birth rate was also seen in the teen birth rate among whites. Among white teenagers, the rate decreased from 68.2 in 1975 to 54.9 per 1,000 population in 1998, a nearly 20 percent decrease. In contrast, the teen birth rate among African Americans fluctuated considerably during the 24-year period. With the exception of 1979 when the rate increased, the African American birth rate decreased rather steadily from 141.2 in 1975 to 104.0 per 1,000 teen women in 1984. This trend reversed between 1984 and 1991, when the African American teen birth rate increased from 104.0 to 126.9. Since 1991, the African American teen birth rate has decreased dramatically to 84.5 per 1,000 population in 1998, a 33% reduction in the rate since 1991.

Table WIH8: Births to women less than 20 years of age, by selected characteristics: Oklahoma and each County, 1998

County	*White*	*African American*	*American Indian*	*% 1st Trimester*	*% Poor Care**	*% Previous Births*	*% Not Married*	*Total < 20 years*
State	5,605	1,123	1,159	65.4	10.0	22.3	70.4	7,998
Adair	42	-	57	56.2	9.0	28.6	55.1	99
Alfalfa	5	1	-	100.0	16.7	20.0	66.7	6
Atoka	17	4	7	55.6	18.5	7.7	82.1	28
Beaver	15	-	-	77.8	-	7.1	73.3	15
Beckham	58	2	1	62.1	20.7	19.0	68.9	61
Blaine	20	1	8	48.1	11.1	23.1	75.9	29
Bryan	92	-	11	67.0	6.2	18.3	68.0	103
Caddo	45	2	32	60.9	12.5	22.7	65.0	80
Canadian	117	6	14	79.5	10.8	17.4	76.3	139
Carter	96	19	22	78.2	5.6	25.0	69.1	139
Cherokee	40	-	65	60.0	2.2	20.0	61.5	106
Choctaw	37	8	8	60.9	10.9	30.0	75.5	53
Cimarron	5	-	-	83.3	16.7	66.7	50.0	6
Cleveland	221	14	18	70.0	8.7	19.8	72.7	257
Coal	20	-	8	54.2	-	33.3	42.9	28
Comanche	187	82	24	71.0	8.9	23.0	62.9	303
Cotton	8	2	2	66.7	16.7	25.0	61.5	13
Craig	14	1	14	72.0	-	19.2	72.4	29
Creek	134	5	15	52.0	10.1	15.1	64.5	155
Custer	51	2	12	62.5	12.5	19.4	63.6	66
Delaware	54	-	18	55.4	7.7	25.8	54.9	72
Dewey	4	-	1	60.0	-	40.0	20.0	5
Ellis	8	-	1	11.1	22.2	62.5	77.8	9
Garfield	115	6	4	72.7	5.8	10.0	73.1	130
Garvin	47	-	6	74.4	12.8	23.3	52.8	53
Grady	97	3	17	70.4	5.1	26.1	69.6	117
Grant	2	-	-	50.0	-	-	50.0	2
Greer	15	-	1	86.7	6.7	26.7	62.5	16
Harmon	7	3	2	90.0	10.0	9.1	83.3	12
Harper	5	-	-	-	-	-	60.0	5
Haskell	19	-	3	66.7	-	40.0	26.1	23
Hughes	19	1	12	61.3	6.5	19.2	66.7	32
Jackson	67	17	2	83.7	5.8	29.1	60.0	90
Jefferson	5	-	1	66.7	-	16.7	50.0	6
Johnston	15	1	5	76.2	4.8	15.8	66.7	21
Kay	116	-	18	46.9	18.5	26.7	72.1	137
Kingfisher	22	-	3	92.0	4.0	28.6	68.0	25
Kiowa	23	3	3	40.7	18.5	23.1	56.7	30
Latimer	21	-	8	71.4	3.6	16.7	55.2	31
LeFlore	114	5	25	62.6	11.5	21.1	57.2	146

Table WIH8: Births to women less than 20 years of age, by selected characteristics: Oklahoma and each County, 1998 (continued)

County	*White*	*African American*	*American Indian*	*% 1st Trimester*	*% Poor Care**	*% Previous Births*	*% Not Married*	*Total < 20 years*
Lincoln	69	1	9	78.6	4.3	26.7	66.7	79
Logan	49	6	3	87.8	4.9	25.9	81.0	59
Love	18	-	2	72.2	11.1	37.5	60.0	20
McClain	58	1	3	79.5	5.1	9.1	68.8	64
McCurtain	80	27	33	81.7	5.6	23.7	71.9	140
McIntosh	36	5	16	60.0	10.9	16.7	73.7	57
Major	5	-	-	80.0	-	-	60.0	5
Marshall	29	2	7	60.6	6.1	26.7	60.5	38
Mayes	69	-	41	69.4	11.1	23.4	63.1	111
Murray	26	2	6	64.3	3.6	25.0	60.6	34
Muskogee	129	47	56	48.0	14.3	30.1	67.5	232
Noble	8	-	7	73.3	-	16.7	73.3	15
Nowata	13	-	7	68.4	15.8	33.3	42.9	21
Okfuskee	18	1	10	67.9	10.7	17.9	69.0	29
Oklahoma	1,026	448	109	62.0	12.2	21.6	79.7	1,615
Okmulgee	80	13	22	66.4	10.3	23.6	68.1	116
Osage	50	5	14	71.6	6.0	23.6	74.6	71
Ottawa	63	-	21	61.4	19.3	21.3	66.7	85
Pawnee	33	2	5	70.0	10.0	15.8	61.0	41
Payne	100	5	3	61.8	10.8	19.1	66.7	108
Pittsburg	68	4	20	72.8	6.5	19.8	71.6	95
Pontotoc	42	1	23	68.8	4.7	25.0	74.2	66
Pottawatomie	129	5	36	74.6	9.4	24.8	72.5	170
Pushmataha	25	-	4	67.9	3.6	17.9	72.4	29
Roger Mills	6	-	-	100.0	-	25.0	66.7	6
Rogers	101	2	25	76.4	7.1	21.1	58.8	131
Seminole	45	4	27	64.4	6.8	34.4	71.1	76
Sequoyah	75	3	29	64.7	13.7	26.7	60.7	107
Stephens	69	7	5	58.4	14.3	26.6	55.4	83
Texas	63	1	1	60.0	32.5	15.9	65.6	65
Tillman	23	1	2	87.5	-	33.3	67.9	28
Tulsa	788	325	130	63.9	11.3	22.1	75.2	1,259
Wagoner	70	14	15	67.0	4.5	14.9	69.4	100
Washington	58	3	16	78.8	4.5	25.7	62.3	77
Washita	26	-	3	77.8	5.6	18.5	44.8	29
Woods	14	-	1	75.0	-	6.7	60.0	15
Woodward	45	-	-	43.9	7.3	17.1	71.1	45

* Poor care defined as beginning prenatal care in third trimester, having less than four prenatal visits, or receiving no prenatal care.

The birth rate for Native American women ages 15-19 decreased between 1975 and 1998 from 120.4 to 84.5 per 1,000 population. The rate declined gradually from 1975 to 1987, when it reached a relative low of 78.7. Since that time the birth rate for Native American women has remained stable. In 1975, the African American and Native American rates were approximately 2.0 and 1.7 times higher, respectively, than the comparable white birth rate. These rates have

decreased to nearly 1.5 times the white rate for 1998 births. As illustrated by Figure WIH4 and Table WIH7, the teen birth rates for African Americans and Native Americans are considerably higher than the rate for whites.

In 1998, the birth rate for teens aged 15 through 17 years was 34.6 per 1,000 and 101.8 per 1,000 teen women aged 18 or 19 years. The rate among adolescent females 10 to 14 years was 1.0 per 1,000 (or 9.3 per 10,000.) For white teens, the birth rate among 18 and 19 year-olds was more than three times higher than the 15 through 17 aged counterparts. African American and Native American teens had higher birth rates among 18 and 19 year olds, more than double the rate among the 15 to 17 year old age group.

From 1996 to 1998, the age-specific birth rate among 15 - 17 year-olds in Oklahoma was 35.9 per 1,000 population. Thus, the Healthy People 2000 objective of no more than 50 births per 1,000 women aged 15-17 was met by the state, overall. However, five counties (Adair, Choctaw, Harmon, Seminole, and Tillman) exceeded a rate of 50, and Harmon County had the rate of 79.0.

From 1994 to 1998, the percent of Oklahoma's women less than 20 years of age who gave birth and received first trimester prenatal care increased seven percent from 60.9 percent to 65.4 percent, respectively. During 1998, in six counties (Blaine, Ellis, Kay, Kiowa, Muskogee, and Woodward) less than 50 percent of the women younger than 20 received first trimester care. Among women less than 20 years of age, only four counties (Alfalfa, Harmon, Kingfisher, and Roger Mills) met the Healthy People 2000 objective of at least 90 percent of women receiving prenatal care in the first trimester.

Poor care was defined as beginning prenatal care in third trimester, having less than four prenatal visits, or receiving no prenatal care. One in 10 Oklahoman women less than 20 years of age received poor prenatal care. Among birth certificates that reported prenatal care, the percentage of women less than 20 who gave birth and received poor prenatal care ranged from a low of 2.2 percent to a high of 32.5 percent. Thirty-two of the 77 counties reported poor prenatal care at or above the state average of 10.0 percent.

Table WIH9: Live births to women less than 20 years of age by age group and selected characteristics: Oklahoma, 1998

Characteristic	All births *all ages*	*10-14 years*	*15-17 years*	*<18 years*	*18-19 years*	*15-19 years*	*<20 years*
Total	49,354	120	2,704	2,824	5,174	7,878	7,998
Race/Ethnicity of mother							
White	38,464	60	1,802	1,862	3,743	5,545	5,605
African American	4,788	34	402	436	687	1,089	1,123
American Indian	4,846	25	455	480	679	1,134	1,159
Other	886	-	17	17	33	50	50
Unknown	370	1	28	29	32	60	61
Hispanic/Latino (can be any race)	3,615	14	302	316	414	716	730
Education of mother							
0-8 years	1,918	96	395	491	236	631	727
9-11 years	9,210	23	1,983	2,006	2,106	4,089	4,112
12 years	17,940	-	250	250	2,389	2,639	2,639
13-15 years	10,470	-	4	4	323	327	327
16+ years	8,850	-	-	-	1	1	1
Unknown	966	1	72	73	119	191	192
Marital status							
Married	32,604	6	496	502	1,851	2,347	2,353
Not married	16,403	112	2,182	2,294	3,293	5,475	5,587
Unknown	347	2	26	28	30	56	58
Percent not married	33.5	94.9	81.5	82.0	64.0	70.0	70.4
Trimester prenatal care began							
1st trimester	32,654	37	1,367	1,404	2,894	4,261	4,298
2nd trimester	6,938	37	614	651	1,098	1,712	1,749
3rd trimester	1,564	12	174	186	233	407	419
No care	394	1	45	46	58	103	104
Unknown	7,804	33	504	537	891	1,395	1,428
Percent 1st trimester	78.6	42.5	62.1	61.4	67.6	65.7	65.4
Number of prenatal care visits							
1-4 visits	2,068	17	189	206	287	476	493
5-9 visits	10,140	41	788	829	1,346	2,134	2,175
10-12 visits	17,018	17	769	786	1,582	2,351	2,368
13+ visits	13,304	16	486	502	1,141	1,627	1,643
No visits	335	1	32	33	54	86	87
Unknown	6,489	28	440	468	764	1,204	1,232
Percent with 10 or more visits	70.7	35.9	55.4	54.7	61.7	59.6	59.3
Adequacy of prenatal care							
1st trimester and 10 or more	26,606	24	995	1,019	2,215	3,210	3,234
Late care	1,564	12	174	186	233	407	419
Little care	615	2	47	49	86	133	135
No care	394	1	45	46	58	103	104
Percent 1st trimester and 10 or	64.0	27.6	45.2	44.6	51.7	49.5	49.2
Percent late, little, or no care	6.2	17.2	12.1	12.3	8.8	9.9	10.0

During 1998 in Oklahoma females 10 -14 years of age accounted for 120 (1.5%) of the 7,998 recorded births to women less than 20 years of age. Among the 10 - 14 year age group, 50 percent of the births were among white, 28 percent among African Americans, 21 percent among Native Americans, and <1 percent were unknown. Overall, mothers with Hispanic/Latino ethnicity accounted for 12 percent of the births among the 10 - 14 year olds.

Table WIH10: Live births to women less than 20 years of age, by birth weight, by age group: Oklahoma, 1998

Characteristic	All births *all ages*	*10-14 years*	*15-17 years*	*<18 years*	*18-19 years*	*15-19 years*	*<20 years*
Birthweight							
< 1500 grams	646	5	42	47	77	119	124
1500-2499 grams	2,880	9	215	224	359	574	583
2500-3999 grams	40,604	98	2,261	2,359	4,321	6,582	6,680
4000 and over	4,951	7	165	172	389	554	561
Unknown	273	1	21	22	28	49	50
Percent < 1500 grams	1.3	4.2	1.6	1.7	1.5	1.5	1.6
Percent < 2500 grams	7.2	11.8	9.6	9.7	8.5	8.9	8.9

On average in the State, slightly more than one out of five (22.3%) women less than 20 years of age who gave birth in 1998 had previously given birth. The counties ranged from 0 percent to 66.7 percent, or two-thirds of births to women under age 20. Also, 70.4 percent of the women less than 20 years of age who gave birth in 1998 were unmarried. The percentage of unmarried women less than 20 years of age ranged from 20.0 percent to 83.3 percent among the 77 counties.

There were 2,704 mothers 15 - 17 years of age who gave birth in 1998. Of those mothers, 67 percent were white, 15 percent African American, 17 percent Native American, and 2 percent were unknown or other race. Eleven percent of the mother in the 15 - 17 year age group reported Hispanic/Latino ethnicity.

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Table WIH11: Population estimates for young females, by race/ethnicity, by selected age group: Oklahoma, 1997.

Race	*10-14 Year Olds*	*15-17 Year Olds*	*10-19 Year Olds*
Total	122,571 (100%)	125,304 (100%)	247,875 (100%)
White	95,459 (78%)	98,187 (78%)	193,646 (78%)
African American	11,757 (10%)	12,512 (10%)	24,269 (10%)
American Indian	14,274 (12%)	13,134 (10%)	27,408 (11%)
Other	1,754 (1%)	1,641 (1%)	3,395 (1%)
Ethnicity			
Hispanic/Latino	6,019 (5%)	5,833 (5%)	11,852 (5%)

Older teen mothers were more likely to be married (36%), have obtained first trimester prenatal care (68%), have received adequate prenatal care (52%), and have fewer very low or low birthweight babies (10%) than younger teens and pre-teens. However, 45 percent of teens 18-19 years of age who gave birth in 1998 reported an educational status of less than a 12 years.

The percent of second births among women less than 20 years of age has remained stable at 17.8 percent since 1994. Since 1975, the percent of women less than 20 years of age with recurring births has risen from a low of 12.3 percent in 1975 to a high of 24.7 percent in 1988 and 1989.

An Oklahoma PRAMS study of repeat births among teens revealed that teen mothers who had repeat births while they were still teens were three times more likely to report physical abuse from a husband or partner than adult mothers. Repeat teen mothers were also more likely to have low weight babies or births with short gestation. Their infants were also more likely to be admitted to a neonatal intensive care unit, and these mothers had a 20 percent likelihood of being hospitalized during their pregnancies for reasons other than for delivery.

Less information is known about the fathers of the babies born to teen mothers. The age of the father was not reported in approximately two out of every five births among women less than 20 years of age. The information about the father is incomplete for those births which do not have paternity established; this occurs most often among mothers who are unmarried at the time of

conception. More than 41 percent of the fathers were not teens at the time of the baby's birth. . Among births to women less than 20 years, the fathers' age ranged from teens to over 35 years.

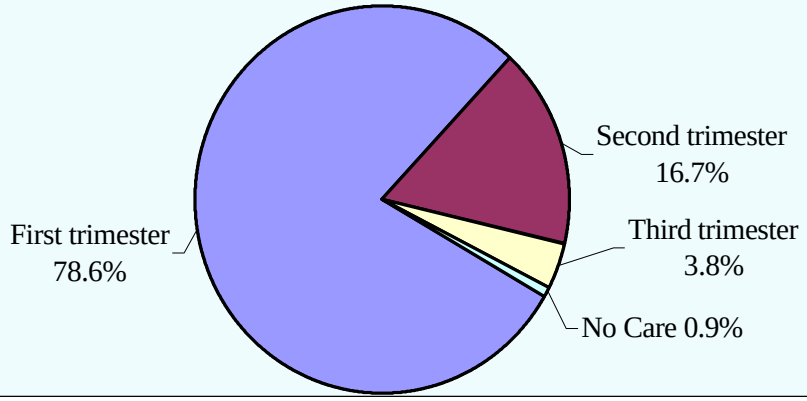
Health Status Indicators addressed:

- Adequacy of Prenatal Care: the percent of women (15 through 44) with a birth during the reporting year whose observed to expected prenatal visits is greater than or equal to 80 percent (Kotelchuck index.)
- Inter-pregnancy intervals: The number of women (15 through 44) with a repeat pregnancy occurring within 18 months of a previous pregnancy.
- Low Birth Weight: the percent of live births weighing less than 2,500 grams, and the percent of live births weighing less than 2,500 grams among singleton births.
- Very Low Birth Weight: the percent of live births weighing less than 1,500 grams, and the percent of live births weighing less than 1,500 grams among "singleton" births.
- Adolescent Tobacco Use: the percent of adolescents aged 15 to 19 years which use tobacco.

Prenatal Care

Early and risk appropriate prenatal care is recommended for all pregnant women because of its potential to improve health and birth outcomes of mothers and infants. Traditionally, prenatal care in Oklahoma has been classified "adequate" if is initiated in the first trimester with ten or more prenatal care visits. Inadequate prenatal care refers to mothers receiving no care or receiving only third trimester care or fewer than four prenatal visits regardless of when the care was initiated. Intermediate prenatal care is defined as all other not defined as adequate or inadequate. More recently, Oklahoma has chosen to review prenatal care primarily by the initiation of care to more closely fit the American College of Gynecology and Obstetrics standard, knowing that risk appropriate care is not quantifiable with current reporting mechanisms or even on some of the client medical charts being used by many physicians. Oklahoma also reviews care based upon the Kotelchuck-modified Kessner index. Early and risk appropriate prenatal care provides the opportunity to diagnose various medical conditions, provide preventive and primary care, and offer education and counseling regarding certain high-risk behaviors.

Figure WIH 6: Trimester of entry into prenatal care: Oklahoma, 1998



The Healthy People 2000 goal was to increase first trimester entry into prenatal care to 90 percent of all live births. In 1998, 78.6 percent of Oklahoma mothers initiated prenatal care in the first trimester and 4.7 percent began prenatal care in the third trimester or not at all. Regarding adequacy of prenatal care, in 1998, 64 percent of women received adequate prenatal care; 10 percent received inadequate prenatal care; and 30 percent received an intermediate level of care.

In 1998, the following counties met or exceeded the Healthy People 2000 goal:

- Alfalfa (94.0%)
- Jackson (91.0%)
- Kingfisher (94.4%)
- Logan (92.0%)
- Major (92.8%)

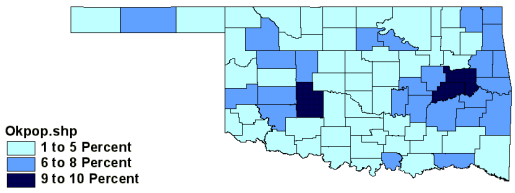
Although trend results for 1975 - 1998 indicate steady improvement in the percentage of mothers receiving first trimester prenatal care, Oklahoma fell short of the Healthy People 2000 performance goal of 90 percent. When first trimester prenatal care is examined for adequacy, the percentage of Oklahoma women receiving early *and* adequate care falls to 64 percent.

Historically, certain groups of women, compared to others, have been less likely to begin prenatal care in the first trimester. For example, African American and Hispanic/Latino women compared to white women are less likely to receive early prenatal care; teens compared to older

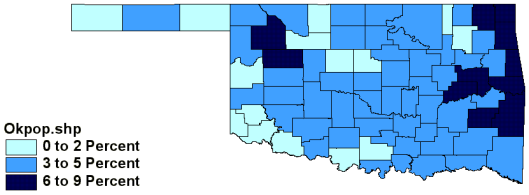
women are less likely to receive early prenatal care; and women whose pregnancies are unintended compared to women with intended pregnancies are less likely to receive early care. Also, low levels of education and lower incomes are associated with late entry into prenatal care. In 1997, out of 13 states providing PRAMS data, the prevalence of late entry into prenatal care was found to be highest in Oklahoma, especially among women receiving Medicaid.

Maps WIH1-5: Percent of mothers receiving late or no prenatal care for each county, by race/ethnicity: Oklahoma, 1994-98

Percent of Mothers of all Race/Ethnicities Reporting Late or No Prenatal Care, Oklahoma 1994 - 1998

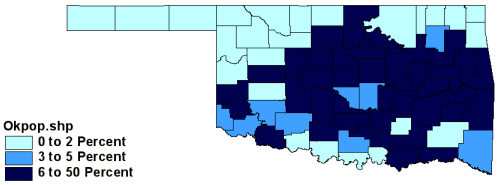


Percent of Non-Hispanic White Mothers Reporting Late or No Prenatal Care, Oklahoma 1994 - 1998



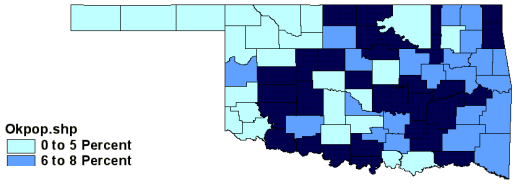
The 3 to 5 percent category represents the state's targeted benchmark.

Percent of African American Mothers Reporting Late or No Prenatal Care, Oklahoma 1994 - 1998

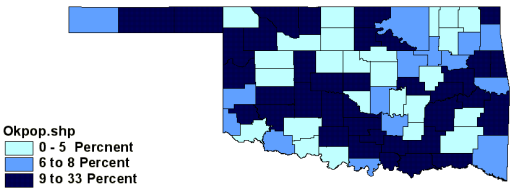


The 3 to 5 percent category represents the state's

Percent of Native American Mothers Reporting Late or No Prenatal Care, Oklahoma 1994 - 1998



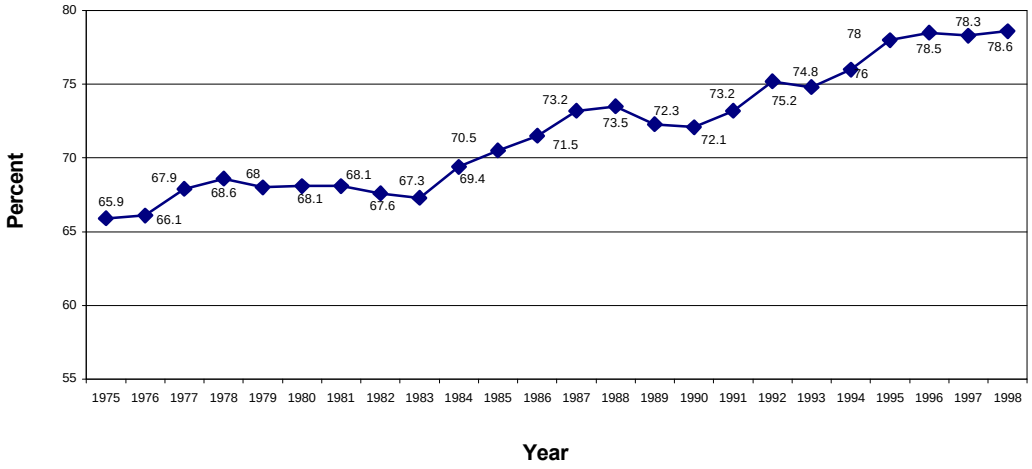
Percent of Hispanic Mothers Reporting Late or No Prenatal Care, Oklahoma 1994 - 1998



MapsWIH1-5 show the percent distribution of women receiving late or no prenatal care between 1994 and 1998 by all women and by race/ethnicity. Three counties, Caddo, McIntosh and Muskogee, had nine to ten percent of mothers of all races/ethnicities receiving late or no prenatal care. For the reporting period, Craig, Ottawa, Delaware, Adair, Sequoyah, Leflore, Murkogee and Okmulgee Counties in the eastern section of the state and Woodward and Dewey counties in the northwest had between six and nine percent of white mothers receiving late or no prenatal care. Thirty-four counties ranged between six to fifty percent of African American mothers receiving late or no prenatal care during the reporting period. Thirty-three counties reported that between nine to twenty-five percent of Native American mothers received late or no prenatal care during the reporting period.

Approximately 45 percent of counties reported that between nine and 33 percent of Hispanic/Latino mothers received late or no prenatal care. These counties are primarily concentrated in the panhandle and western section of the state, along the border with Texas. Most of these counties utilize migrant Hispanics primarily from Mexico to assist in large commercial hog processing farms and plants. Nineteen percent of counties had between six and eight percent of Hispanic/Latino mothers receiving late or no prenatal care.

Figure WIH7: Percent of births to mothers who began prenatal care in first trimester: Oklahoma ,1975-1998



Many of the factors that affect entry into prenatal care have been found to be associated with risk behaviors during pregnancy, adverse medical conditions and adverse birth outcomes. The

following table presents information obtained from Vital Records concerning selected characteristics of prenatal care utilization in Oklahoma for 1998.

Table WIH12: Trimester of entry into prenatal care, by maternal characteristics: Oklahoma, 1998

Characteristics:	Percent 1st Trimester PNC	Percent 2nd Trimester PNC	Percent 3rd Trimester PNC	Percent No PNC
Age				
< 20	65.4	26.6	6.4	1.6
20 - 24	75.3	19.3	4.4	1.0
25 - 29	84.3	12.5	2.6	0.6
30 - 34	86.0	11.0	2.3	0.7
35 - 39	83.8	12.1	3.1	1.1
40 +	80.7	14.0	3.5	1.8
Race/Ethnicity				
White	80.8	15.1	3.2	0.8
African American	69.5	23.3	5.8	1.4
NativeAmerican	69.8	23.0	5.8	1.4
Asian/Other	81.8	14.5	2.8	0.8
Hispanic/Latino	69.0	22.5	6.9	1.6
Education				
< 12th grade	63.9	26.8	7.4	1.9
12th grade	76.9	18.4	3.8	0.9
> 12th grade*	88.2	9.7	1.7	0.4
Marital Status				
Married	84.9	12.2	2.3	0.6
Not Married	65.6	26.0	6.7	1.7
Alcohol Use				
yes	67.7	20.0	9.1	3.2
no	78.6	16.8	3.7	0.9
Tobacco Use				
yes	69.3	23.5	5.6	1.6
no	80.4	15.4	3.4	0.8

Summary of Characteristics of First Trimester Care:

- In Oklahoma in 1998, the prevalence of early entry into prenatal care was highest among older mothers, especially those ages 25 - 34 (84.9%) compared to other age groups.
- White women (80.8%) and Asian women (81.8%) tended to obtain first trimester care more often compared to other racial/ethnic groups.

- The prevalence of early entry increased as the level of education increased, thus women having a post-secondary education had the highest levels of early prenatal care.
- The prevalence of early prenatal care was also higher among married (84.9%) women compared to unmarried women.
- The prevalence of first trimester prenatal care was higher among women who reported they did not use alcohol (78.6%) and among women who did not use tobacco (80.4%) while they were pregnant, compared to women reporting alcohol and tobacco use during pregnancy.
- In Oklahoma in 1998, infants' birth weight increased as the prevalence of early prenatal care increased.
- Lower levels of parity, less than three previous births, were associated with increased prevalence of first trimester care.

Table WIH 13: Trimester of entry into prenatal care by selected outcome measures: Oklahoma, 1998

Characteristics:	Percent 1st Trimester PNC	Percent 2nd Trimester PNC	Percent 3rd Trimester PNC	Percent No PNC
Birth weight				
< 1500	77.7	18.1	0.7	3.5
1500-2499	72.9	20.4	4.7	1.9
< 2500	*73.7*	*20.1*	*4.1*	*2.2*
2500-3999	78.6	16.7	3.8	0.9
> 4000	81.5	14.9	2.9	0.7
Parity				
0-1 previous birth	81.3	14.8	3.1	0.7
2 previous births	78.0	16.8	4.0	1.2
3+ previous births	66.9	24.1	6.6	2.4
Birth Interval				
< 24 months	78.0	17.3	4.0	0.8
24 + months	77.9	17.3	3.8	1.0
Gestational Age				
< 37 weeks	76.3	17.5	3.9	2.3
37-39 weeks	79.8	16.1	3.5	0.6
40 + weeks	77.1	18.0	4.2	0.8

Source: Oklahoma State Department of Health Vital Records 1998

Summary of Characteristics of Third Trimester/No Prenatal Care:

- In Oklahoma in 1998, the greatest risk for having late/no prenatal care occurred among younger women under the age of 20 (8.0%) compared to all other age groups.
- Racial/ethnic ethnic minorities (Hispanic/Latino = 8.5%; American Indian = 7.2%; African American = 7.2%) had prevalence levels of late/no prenatal care generally two times higher than prevalence levels for whites and Asian women.
- The greatest risk of late/no prenatal care occurred among women with less than a high school education, where the risk was four times greater, compared to women with post secondary education.
- Women who were not married (8.4%) had prevalence levels of late/no entry into prenatal care that was three times higher compared to that of married women.
- The prevalence of late/no prenatal care was higher for women who reported alcohol use (12.3%) and women who reported tobacco use (7.2%) while they were pregnant compared to women with late/no prenatal care reporting no use during pregnancy.
- Higher prevalence of late/no prenatal care is associated with lower birth weights.
- Women who began prenatal care in the third trimester or not at all are more likely to have higher parity, i.e., three or more previous births.

Interestingly, examination of fathers' characteristics (not shown) by trimester of prenatal care shows that oldest fathers (ages 40 and over) and youngest fathers (under the age of 20), are associated with the lowest prevalence of early prenatal care. Among racial or ethnic groups, Hispanic fathers were associated with the highest prevalence of late/no prenatal care.

Barriers to Prenatal Care

According to 1997 PRAMS, overall, nearly one-fourth (22.9%) of women reported they did not receive prenatal care as early as they desired. Among women who began prenatal care after the first trimester or who had no prenatal care, this figure increases to over half (56.1%) who reported they did not get care as early as they desired. An Oklahoma PRAMS-Gram on the initiation of prenatal care reported that there are at least three significant barriers to women receiving early prenatal care. Women who did not recognize their pregnancy until after nine weeks gestation were far more likely not to begin early prenatal care. Also, women with unwanted pregnancies

were less than half as likely to receive 1st trimester prenatal care compared to mothers with intended pregnancies. Thirdly, nearly one-half of all mothers starting care after the first trimester indicated that they received prenatal care as early as they wanted. Therefore, improved education for both providers and for women is a critical issue.

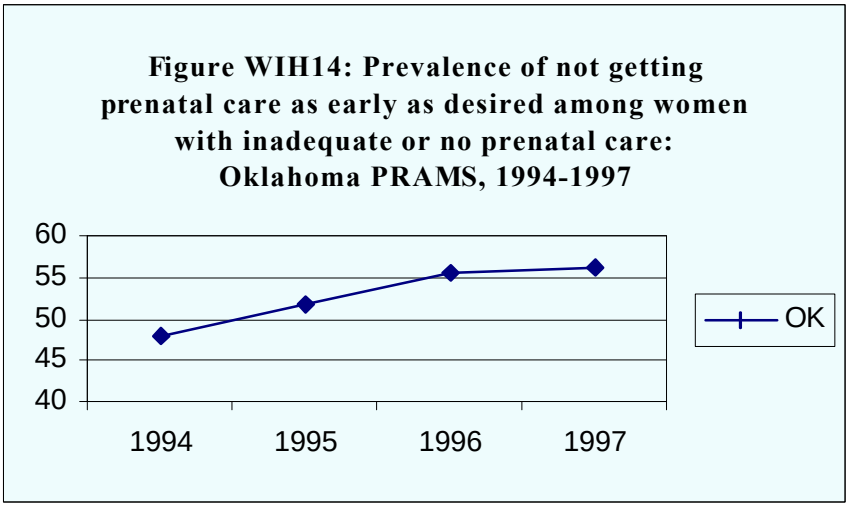


Table WIH14: Barriers to getting prenatal care as early as desired: Oklahoma PRAMS, 1997

Barriers:	*Percent Yes*
Couldn't get an appointment earlier in pregnancy*	33.4
Didn't know I was pregnant	32.0
Not enough money to pay for visits	24.8
No transportation/child care	11.6
Too many other things going on	9.0
Other	21.2

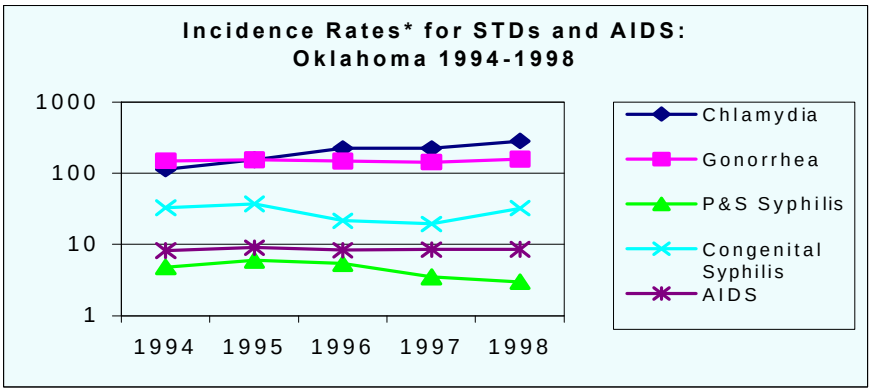
* Includes women who could not find a provider accepting new/Medicaid patients

Source: PRAMS 1997

The ability to obtain care is influenced by a variety of factors including location of provider or clinic, current caseload and willingness of providers to accept Medicaid patients. Also, the ability to pay for care is affected by factors including eligibility for assistance, availability of health insurance and ability to pay insurance premiums and co-payments.

Sexually Transmitted Diseases

Women and infants, especially among some minority racial or ethnic groups, disproportionately bear the long-term consequences of STDs. In fact, the consequences of STDs are potentially more serious—even life threatening—for women and infants if the infection occurs during the pregnancy. Adverse consequences among women include cervical and other cancers, chronic hepatitis and cirrhosis. For infants, harmful effects include stillbirth, low birth weight, neurological disorders and congenital abnormalities. STDs in women are often asymptomatic and usually detected through routine screening.



Note: For congenital syphilis, rates are per 100,000 live births; all other rates, per 100,000 population

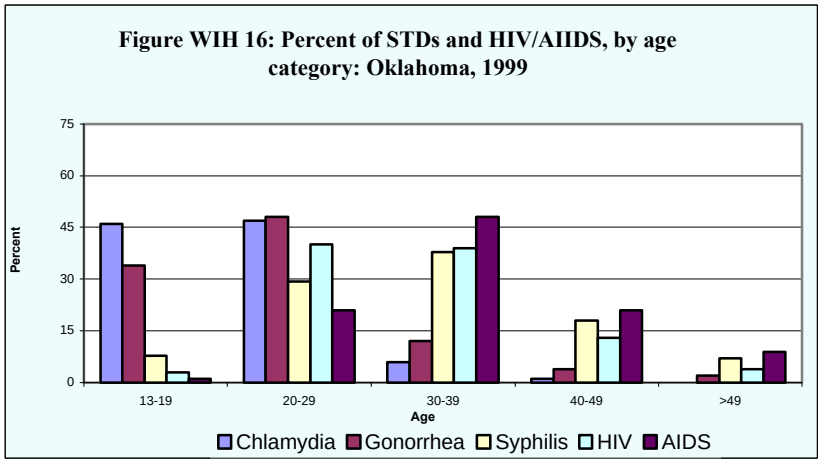
Source: STD Surveillance Report 1998; HIV/AIDS Surveillance Reports: 1994-1998 @ www.cdc.gov

The southern region of the U.S. (which includes Oklahoma) typically reports higher STD rates compared to other regions of the country. Although a recent expansion of screening activity in the South accounts for some of this difference, other reasons for regional differences are not well understood, but may include differences in racial and ethnic population distribution, poverty and differential access to health care.

Infections due to chlamydia are among the most prevalent of all STDs. Chlamydia infection in women often leads to pelvic inflammatory disease (PID), infertility, ectopic pregnancy and chronic pelvic pain. Also, pregnant women infected with chlamydia may pass the infection to their infants during delivery. In 1998, Oklahoma ranked #10 in the nation for the highest overall rate per 100,000 population for cases of chlamydia reported. Between 1997 and 1998, for

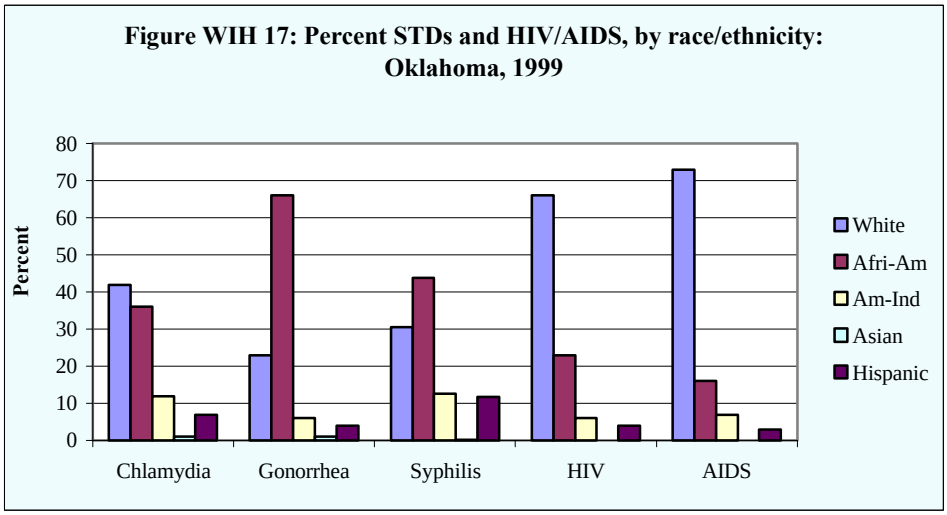
example, overall rates of chlamydia increased from 223.7 to 283.2 and rates among women increased from 370.1 to 454.4.

Although chlamydia is a widely distributed STD in Oklahoma, rates in positivity vary by gender, race/ethnicity, age and geographic location. By gender, the1998 reported rates of chlamydia for women (454.4 per 100,000 persons) exceeded those for men (104.5 per 100,000 persons), due largely to the detection of asymptomatic infection in women through screening. The low rates in men suggest that the sex partners of infected women are not diagnosed or reported. For race/ethnicity (1998 breakout of race is based on percentages reported for 1999): 1998 reported chlamydia rates per 100,000 persons measured 1290.9 for African Americans; 505.1 for Hispanic/Latinos; 428.0 for Native Americans; 210.7 for Asians; and 147.9 for non-Hispanic/Latino whites. Among age groups, chlamydia rates are highest for adolescents and young adults. In 1999, for example, the age group most affected was the 20 to 29 year olds, with 47% of cases found in this age group, followed by 13 to 19 year olds having 46% of cases. Among youth, 3391 girls ages 15-19 had chlamydia compared to 464 boys of the same age. Geographically, the highest county rate was found in Comanche county, with a rate of 495 per 100,000 persons, representing 552 cases. Other counties with elevated chlamydia rates (greater than one standard deviation above the mean) include: Oklahoma (rate = 416); Cherokee (rate = 399); Muskogee (rate = 397); Tulsa (rate = 387); Seminole (rate = 366); Jackson (rate = 365); Logan (rate = 355); Adair (rate = 315); Caddo (rate = 301); Payne (rate = 298); and Kiowa (rate = 291).



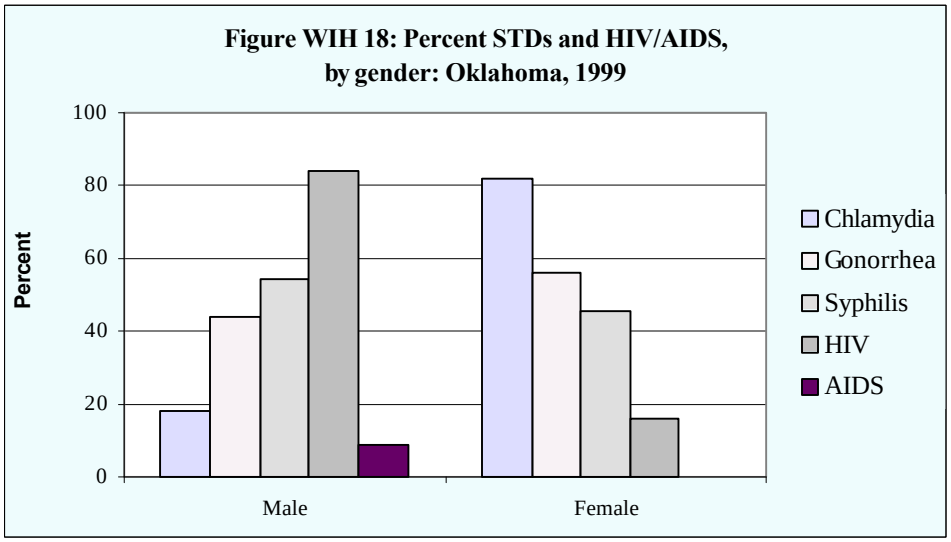
Like chlamydia, gonorrhea in women has similar adverse reproductive consequences, is often asymptomatic and usually detected through screening. The Healthy People year 2000 goal for gonorrhea is 100 cases per 100,000 population. In 1997, the gonorrhea rate in Oklahoma was 143.5 per 100,000 persons and increased to 158.1 in 1998, ranking Oklahoma #15 in the nation for highest overall gonorrhea rates. As with chlamydia, incidence rates for gonorrhea also vary by gender, race/ethnicity, age and geographic location.

While gonorrhea rates among Oklahoma men slightly decreased from 144.3 to 142.4 between 1997 and 1998, gonorrhea rates for Oklahoma women increased from 142.8 to 173.1. By race/ethnicity (1998 breakout of race is based on percentages reported for 1999), the reported rates per 100,000 population for gonorrhea measured 738.8 for African Americans; 90.1 for Hispanic/Latinos; 66.8 for Native Americans; and 65.8 for Asians compared with 25.3 for non-Hispanic/Latino whites. Among age groups, gonorrhea rates generally are highest among persons under 24 years of age who have multiple sex partners and who engage in unprotected sexual intercourse. In 1999, for example, Oklahomans ages 20 - 29 were more frequently diagnosed compared to other age groups and represent 48 percent of cases; followed by 13 to 19 year olds, who comprised 34 percent of cases. Teen girls ages 15 - 19 were diagnosed with gonorrhea at a higher rate compared to teen boys (1,010 for girls compared to 408 for boys). African American teens were diagnosed with gonorrhea at a higher rate compared to teens of other racial/ethnic groups, (5,287 per 100,000 African American females; 2,810 per 100,000 African American males). The second highest rate of gonorrhea among teens by race/ethnicity occurred among Hispanic/Latino teens (888 per 100,000 Hispanic/Latino females; 438 per 100,000 Hispanic/Latino males). Across the state, the incidence of gonorrhea is usually highest in urban areas. In Oklahoma, for example, the highest rates (per 100,000 population) for gonorrhea were found in Oklahoma county (298); Comanche county (286); and Tulsa county (219). Other counties where gonorrhea rates are considered high (greater than one standard deviation above the mean) include: Logan (196); Muskogee (194); Seminole (173); and Caddo (122). Additional counties failing to meet the Healthy People 2000 goal include Okmulgee (112) and Jackson (108).



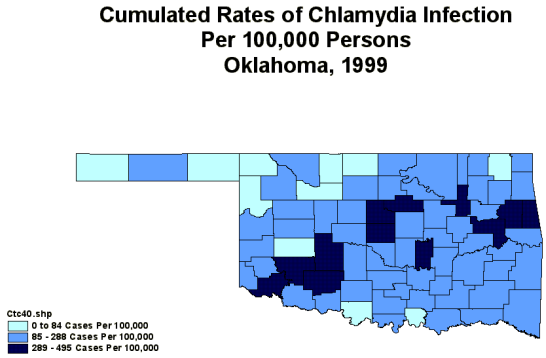
Syphilis is spread through sexual contact, during pregnancy or transmitted at birth and if left untreated, may result in irreparable damage to adults as well as infants. Congenital syphilis occurs in infants whose mothers were infected while pregnant and may result in fetal death or physical and neurological disabilities. The Healthy People year 2000 goal for primary and secondary syphilis is 4.0 per 100,000 population. Although the state, as a whole, meets this objective, primary and secondary syphilis rates for Oklahoma City women in 1998 (11.4 per 100,000) were nearly four times higher than the state average (3.0 per 100,000 population) and had increased since 1997 (6.6 per 100,00).

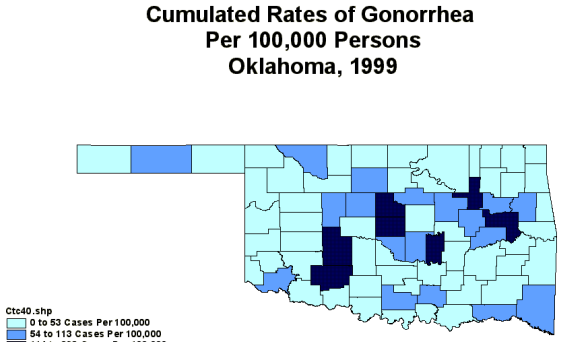
For congenital syphilis among infants less than a year old, the Healthy People year 2000 objective is 40 per 100,000 live births. Although the 1998 rate for Oklahoma (32.5 per 100,000 live births) fell within these parameters, this was an increase compared to the 1997 rate (19.5 per 100,000 live births). Also, nationally, Oklahoma City reported the fourth highest rate for congenital syphilis (136.6) among cities larger than 200,000 in 1998.

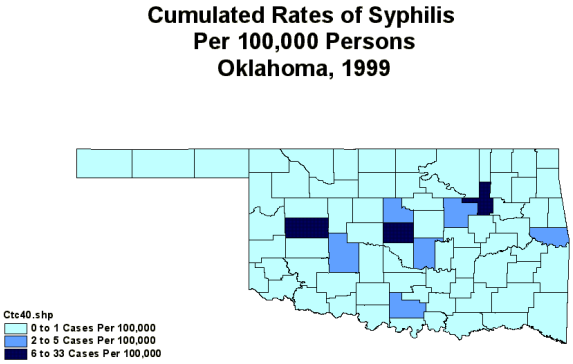


As of March 2000, there were an accumulated 2,294 HIV positive cases and 3,389 AIDS cases in Oklahoma. Of those HIV positive, 84 percent were males, and 16 percent were female. Of those with AIDS, 91 percent were male and 9 percent were female. This cumulative report does not reflect the increasing occurrence of HIV/AIDS among females as the disease continues to migrate into the heterosexual population, beyond the homosexual and drug use cultures. The age group most frequently diagnosed HIV positive were the 20-29 year olds, making 40 percent of the HIV infected, followed by the 30-39 year olds representing 39 percent of HIV infected. Thirty to thirty-nine year olds made up 48 percent of AIDS cases, and the 20-29 and 40-49 year olds both making up 21 percent each. Among 13-19 year olds there were a total of 52 HIV positive boys and 28 HIV positive girls. Whites made up the largest percent of HIV infected and AIDS cases. Whites made up 66 percent of HIV infected and 73 percent of AIDS cases. African Americans made up 23 percent of HIV infections and 16 percent of AIDS cases. Native Americans made up 6 percent of HIV and 7 percent of AIDS cases, and Hispanic/Latinos made up 4 percent of HIV and 3 percent of AIDS cases. Oklahoma and Tulsa counties had the highest number of HIV positive cases, with Oklahoma county having 877 cases, and Tulsa county having 621 cases. Comanche county reported 127 HIV positive cases and Cleveland county reported 131 cases. All other counties reported fewer than 40 cases. Among counties reporting AIDS, Oklahoma county reported 1,262, Tulsa county reported 963, Comanche county reported 116 and Cleveland county reported 148 AIDS cases. All other counties reported fewer than 60 AIDS cases.

Map WIH6-8: Sexually transmitted diseases and HIV/AIDS: Oklahoma, 1999







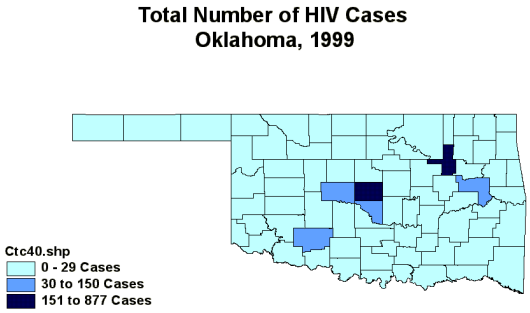
Maps WIH6-8 shows the distribution of chlamydia, gonorrhea and syphilis in the Oklahoma population. The highest concentrations of chlamydia, at 298 to 495 cases per 100,000 are found in roughly a northeast to southwest diagonal including Jackson, Kiowa, Comanche, and Caddo counties in the southwest; Oklahoma, Logan, Payne and Seminole counties in the central section; and Tulsa, Muskogee, Cherokee, and Adair counties in the northeast. Lowest rates of zero to 84 cases per 100,000 population are located in four of the sparsely populated counties in the panhandle area, including Cimarron, Beaver and Ellis counties and Harper counties; Washita county; Major, Alfalfa, Grant counties in the north west area; Jefferson and Marshall counties

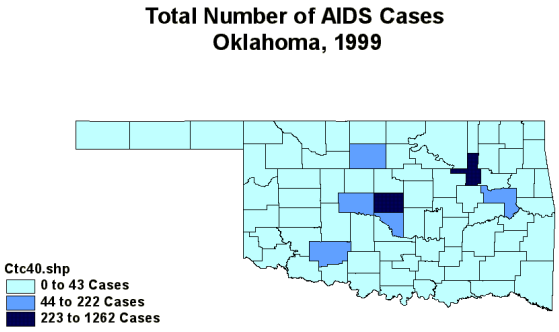
bordering Texas; and in Craig county in far northwest Oklahoma. All other counties have between 85 and 288 cases per 100,000.

Rates of gonorrhea are found in a similar pattern as chlamydia, with highest concentrations of 114 to 296 cases per 100,000 found in Comanche, and Caddo counties; Oklahoma, Logan, and Seminole counties; and Tulsa and Muskogee counties. Lowest rates of zero to 53 cases per 100,000 are found in two-thirds of Oklahoma's counties.

Syphilis rates of six to thirty-three cases per 100,000 are concentrated in Custer, Oklahoma and Tulsa counties. Six counties, Caddo, Carter, Logan, Pottawatomie, Creek and Sequoyah, have rates ranging from two to five per 100,000. The remainder of the state has rates from zero to one per 100,000.

Maps WIH9-10: HIV/AIDS rates for Oklahoma's population, 1999





Maps WIH9-10 presents the distribution of HIV and AIDS within the Oklahoma population for each county. Highest concentrations are located in Oklahoma and Tulsa counties with 151 to 877 cases. From 30 to 150 cases are located in counties with or near metropolitan areas, Comanche, Canadian, Cleveland, and Muskogee counties. The remainder of the state reports from zero to 29 cases.

The number of AIDS cases are located in Oklahoma and Tulsa counties with 223 to 1282 cases. The pattern of cases between 44 and 222 are located in Comanche, Canadian, Cleveland, Muskogee, and Garfield counties. The remaining counties in the state have between zero and 43 cases of AIDS.

Although herpes simples virus (HSV) is one of the three most common STDs in the United States (along with chlamydia and human papillomavirus), neither the Division of Sexually Transmitted Disease Prevention (DSTDP) or the CDC has established programs or recommendations for the prevention of genital herpes aside except those already contained in the STD Treatment Guildelines. However, the DSTDP has initiated a systematic assessment of the need and feasibility of prevention programs for genital herpes and HPV. The main recommendations are for demonstration projects, behavioral and operational research, and other program development activities to inform future strategies to prevent sexual transmission of HSV, neonatal herpes, and herpes-related HIV transmission.

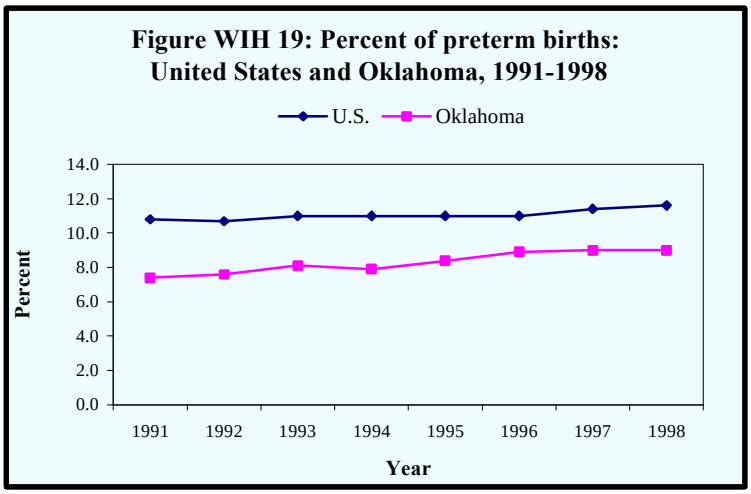
Gestational Age

Preterm delivery, the termination of pregnancy prior to completion of 37 weeks of gestation, is one of the immediate causes of low

. In conjunction with low birth weight, preterm delivery accounts for a considerable proportion of infant mortality in the United States. Among resident Oklahoma live births for 1998, 9.0 percent were delivered before 37 weeks of gestation. No change in the percent of preterm births was observed between 1997 and 1998, yet an increase has been realized since 1991. Nationally, in 1998, 11.6 percent of all live births were delivered preterm. While it is such an important indicator of risk, the measure of gestational age is problematic. Reviewing data from birth certificates and PRAMS mothers revealed that the reported age of gestation varied considerably. Also, the weight-for-age births that appeared to be suspicious were not consistent when comparing the mothers' reported gestational age to the last menstrual period or the clinical estimate as reported on the birth certificates.

African American women are 1.5 times more likely to give birth preterm than are white women. This is, in large, part due to the strength of the relationship between low birth weight and length of

gestation. African American women give birth to low birth weight babies at a higher rate than do white women. Therefore, it is no surprise that African American women have an elevated percentage of preterm deliveries. In Oklahoma for 1998, nearly 13 percent of African American births were delivered before 37 weeks of gestation. This compares to 8.6 percent for white women. In 1998, Hispanic/Latino women had rates of preterm birth lower than whites, yet are more likely to give birth post-term when compared to other race and ethnic groups.



In Oklahoma, preterm births are slightly more common among women at both ends of the age distribution. That is, teenage mothers and mothers 35 and older are more likely to deliver before full-term (Table WIH15). Mothers of primary childbearing age are least likely to have a preterm baby.

Table WIH15: Gestational age distribution by selected characteristics: Oklahoma, 1

Characteristic	< 37 weeks	37-41 weeks	42+ weeks
Race			
White	8.6	89.6	1.7
Black	12.9	85.0	2.1
Native American	8.4	89.4	2.2
Hispanic/Latino*	8.3	89.4	2.3
Age			
10-19 years	9.4	88.3	2.3
20-34 years	8.7	89.6	1.8
35+ years	10.9	87.7	1.4
Marital Status			
Married	8.4	90.2	1.4
Not married	10.1	87.4	2.5
Education			
< 12 years	9.9	87.7	2.3
12 years	8.7	89.4	1.9
13-15 years	8.7	89.6	1.8
16+ years	8.2	90.8	1.0
Trimester Prenatal Care Began			
First	7.8	90.5	1.7
Second	8.2	89.4	2.4
Third	8.2	89.2	2.6
No care	22.6	74.2	3.2
Birth weight			
< 1500 grams	97.2	2.8	0.0
1500-2499 grams	61.0	38.9	0.2
2500-3999 grams	4.8	93.5	1.7
4000 plus grams	1.0	95.0	4.1
< 2500 grams	67.5	32.4	0.1
Previous Births			
1st birth	8.1	90.0	1.9
2nd birth	7.4	91.2	1.4
3rd birth	9.4	89.4	1.3
4th+ birth	10.7	87.3	2.0

*Hispanic births are of any race.

As indicated in Table WIH15, there appears to be an inverse relationship between educational attainment and preterm delivery. Mothers with the fewest years of education are more likely to deliver preterm than are mothers with higher levels of education. In 1998, mothers with less than 12 years of education were nearly 21 percent more likely to give birth prior to 37 weeks of gestation than were women with 16 years or more education. Also, women with low levels of education have a greater chance of delivering a post-term infant.

A single mother at delivery is 1.2 times more likely to have a preterm birth than is a married mother. Single mothers are also more likely to have a post-term birth. Cultural and socioeconomic differences may explain the higher rates of preterm birth among single mothers.

Considerable distinction in preterm delivery is evident among mothers who received timely prenatal care and those who receive no prenatal care during pregnancy. As displayed in Table WIH15, more than 22 percent of mothers receiving no prenatal care had a preterm birth. This represents nearly a three-fold increase over the 7.8 percent preterm births among women receiving first-trimester prenatal care. It also appears that late or no care is associated with a higher rate of post-term births.

Premature infants born weighing less than 2,500 grams (5.5 pounds or less) are at greatest risk of congenital anomalies and infections due to their immaturity. Of the very low birth weight births in Oklahoma (less than 1,500 grams) for 1998, 97.2 percent occurred prior to 37 weeks gestation. Conversely, less than five percent of ideal weight births (2,500-3,999 grams) were preterm.

Cigarette Smoking

Cigarette smoking during pregnancy increases the risk of delivering a low birth weight (LBW) infant. LBW (infants weighing less than 5 ½ pounds or 2500 grants at birth) is a leading indicator of infant mortality and morbidity and occurs over two times more frequently among smokers. The intensity of care necessary for underweight infants alone requires enormous public and private expenditures. These costs could be dramatically decreased if mothers abstained from smoking while pregnant.

Analysis of the Oklahoma PRAMS data (1991) found that one-third (32%) of Oklahoma mothers smoked during the three months prior to pregnancy. Over two-thirds (67.9%) of these new mothers continued to smoke during pregnancy with white mothers least likely to quit (29%) and Native American mothers the most likely to quit (49%). However, most (90%) of the women who quit smoking during their pregnancy resumed the habit after delivery.

One-in-five Oklahoma mothers smoked cigarettes during their last trimester of pregnancy. Further, Oklahoma mothers who smoked during pregnancy were 2.3 times more likely to deliver a low birth weight infant than mothers who did not smoke. Infants of non-smoking mothers weighed one average one-half pound more (8.7 oz.) than infants of smoking mothers. These results varied by the mother's educational level, race/ethnicity, and marital status. Unmarried mothers were nearly twice as likely to smoke during pregnancy as married mothers with nearly one-in-three unmarried women smoking during their pregnancy.

Forty percent of the new mothers with less than 12 years of education smoked during their pregnancy. Women who had completed less than 12 years of formal schooling were 7.3 times as likely to smoke than those with college degrees. Nearly one-in-four white mothers and one-in-five Native American mothers smoked during their pregnancy and were twice as likely to smoke as their Black counterparts.

Alcohol Consumption

Thousands of babies are born each year in the United States with complications related to maternal drinking. Yet, alcohol-related effects are preventable. The time of greatest risk to the fetus is during early pregnancy when women frequently are unaware they are pregnant. Effects of maternal drinking are broad, ranging from no apparent impairment to severe mental retardation. Infants of frequent drinkers may develop a combination of birth defects, growth retardation and developmental disabilities known as Fetal Alcohol Syndrome (FAS), which may account for up to 11 percent of the annual cost of residential core for mental retardation in the U.S. Other adverse outcomes include intrauterine growth retardation and miscarriage.

Analysis of the Oklahoma PRAMS data (1991) found that one-in-ten Oklahoma mothers consume alcoholic beverages during the last three months of their pregnancy. The median number of drinks per month among pregnant Oklahoma women who consume alcohol is 8.2. The average monthly intake is 11.3 drinks. Less than one percent of all mothers consumed seven or more drinks per week during the last three months of their pregnancy. Nearly one-half (45.2%) of all new mothers consumed alcoholic beverages three months prior to the onset of pregnancy with a median number of drinks monthly of 15.5 and average monthly intake of 21.6.

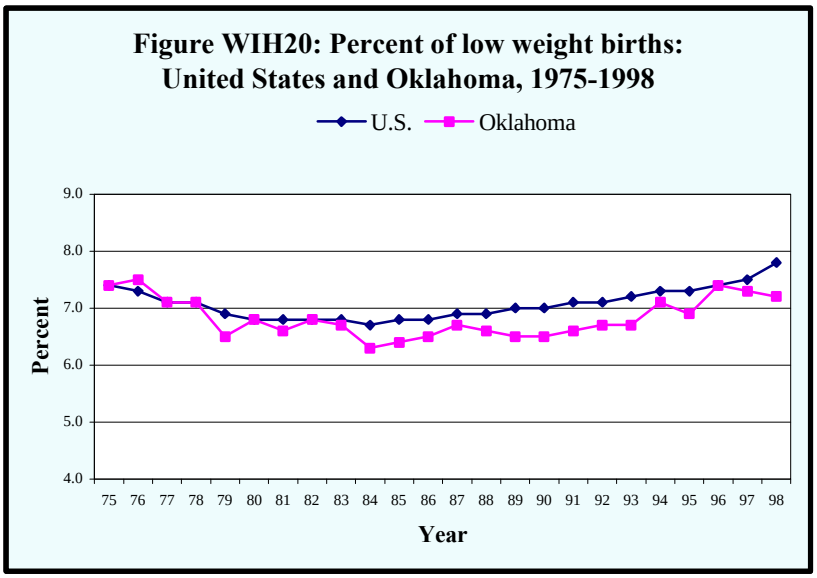
One-in-seven Oklahoma mothers (14.6%) reported that their prenatal care provider did not ask them if they drank alcoholic beverages. And, one-in-four mothers (27.8%) reported that their prenatal care provider did not counsel them on the possible effects of drinking during pregnancy. In addition, women who are smokers were nearly two times more likely to drink during pregnancy than their non-smoking counterparts. These results vary by the mother's level of education and race as well. Women who with a college education were 1.7 times more likely to drink during pregnancy than women with 12 years of education. And, white mothers were more likely to drink during pregnancy than women of other races and ethnicities.

Low Birth weight

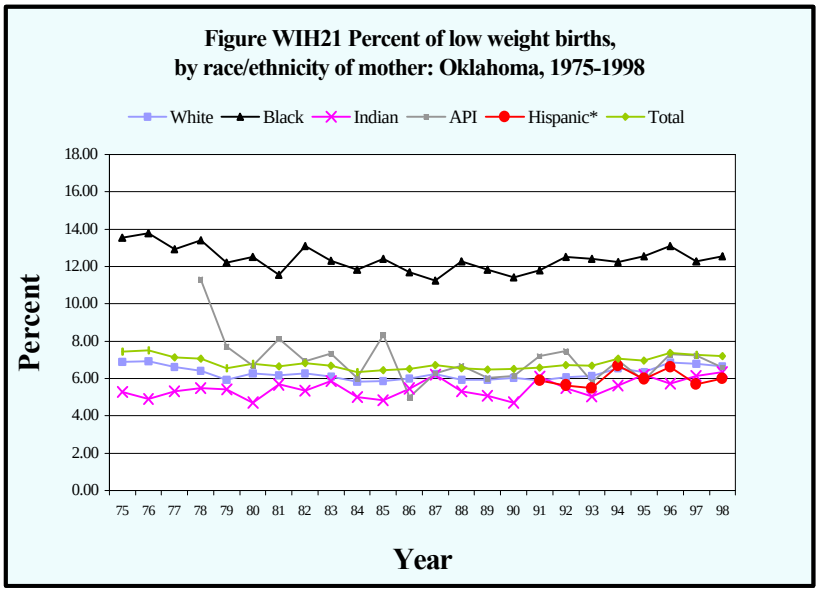
Low birth weight is a key public health concern, accounting for a considerable proportion of infant mortality and childhood health impairment. Babies born weighing less than 2,500 grams (5 pounds, 8 ounces or less) are more likely to die during infancy or suffer health complications than are normal birth weight children. Infants that are born small, as indicated by low birth weight, have different growth patterns than larger infants; they tend to be shorter and lighter than other children. Low birth weight children often require more health care resources. Frequently, very low birth weight infants must remain in intensive care units for extended periods; thus, medical costs for these infants can be exorbitant.

The percent of Oklahoma births born weighing less than 2,500 grams has decreased from 7.4 percent in 1975 to 7.2 percent in 1998, a modest decline (Figure WIH20). The rate of low birth weight infants has fluctuated over this period. As the figure indicates, the rate declined somewhat erratically from 1975 to 1984, where it reached a record low of 6.3 percent of all births. Between 1984 and 1996, the percent of births at low birth weight grew steadily to a recent high of 7.4 percent. The 1998 rate marks the second consecutive year the rate has declined. Despite little overall change, the percent of births at low birth weight in Oklahoma does compare favorably to the rate for the United States. Since the late 1970s, Oklahoma has reported rates of low birth weight consistently lower than the comparable national rate. For 1998, the national rate was at 7.8 percent.

However, the rate of low weight births has not changed significantly for the last half-century. The improved medical interventions to save high-risk pregnancies has impacted the low birth weight rate negatively by increasing the survivability of preterm and other high-risk infant births. Also, assistive reproductive technology (ART) is beginning to provide its own contribution to low weight births which previously would not have occurred.



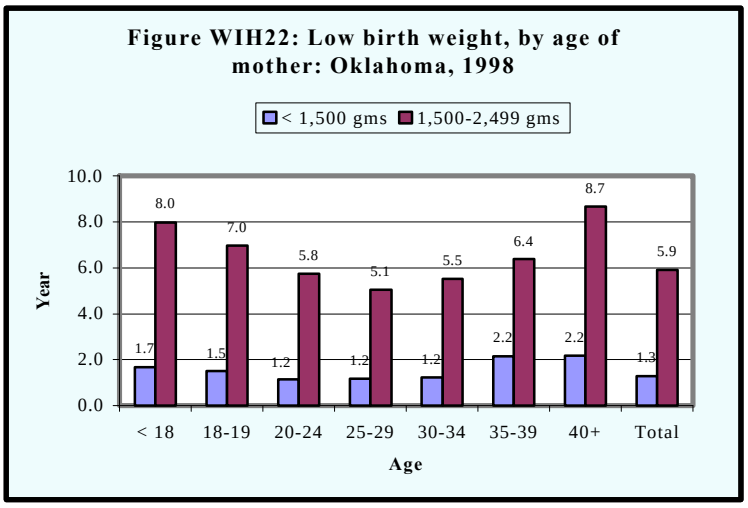
There is racial variation in the rates of low birthweight births. In Oklahoma, African American infants are nearly twice as likely to be born at low birthweight than are white infants. This persistent disparity has diminished only slightly (Figure WIH21). For African American infants the rate has dropped from 13.5 percent in 1975 to 12.5 percent in 1998, a decrease of 7.3 percent. For White infants the rate has dropped from 6.9 percent in 1975 to 6.7 percent in 1998. As a result, the ratio of African American to white low birthweight has decreased from 1.96 in 1975 to 1.88 in 1998. The high rates of low birthweight are not found among other racial/ethnic minorities in Oklahoma. Hispanic/Latinos, Native Americans, and Asian or Pacific Islanders have low birthweight rates very similar to those of whites.



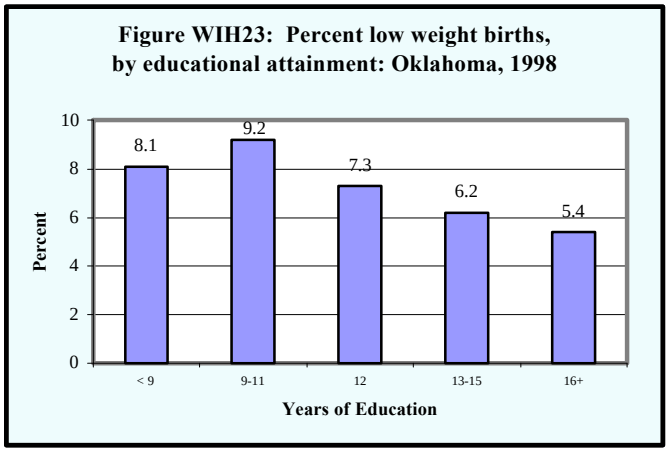
Disparities in low birthweight among African American and white infants are commonly attributed to adverse economic and social conditions. However, adjustment for economic and social factors does not completely eliminate ethnic difference. The principal determinant of low birthweight in the United States has been preterm delivery. In Oklahoma, African American infants are more likely to be born prior to 37 weeks gestation than are white infants. Data for 1998 indicate that 12.9 percent of African American babies were born preterm compared to 8.6 percent of whites. Definitive social and environmental conditions that produce preterm delivery have not been well established. At the same time, African American mothers in Oklahoma are more likely to be single and less likely to have completed 12 years of education. African American mothers are also less likely to receive timely and adequate prenatal care. All of these factors help to explain in some fashion the disparity in low birthweight among the African American population.

As a class, mothers ages 20-34 continue to have the lowest percentage of low weight births. Among women less than 18 years of age, 9.7 percent had low weight births in 1998. Nearly 11 percent of mothers 40 years or older gave birth to low birth weight infants. The age group with the lowest percentage of low birth weight infants was women aged 25 to 29 (6.2%). Thus, age groups experiencing the highest risk for delivery of a low birth weight infant are the younger and older mothers. Nationally, 10.5 percent of all births to women under 18 years of age weighed less than or equal to 2,500 grams. For U.S. women 40 years of age or more, 10.3 percent delivered a

low birth weight infant. Thus, Oklahoma compares favorably to the national low birth weight figure among teenagers less than 18, but has a higher percentage for the older age groups. Nevertheless, it is clear that low birth weight among the younger and older female populations should be of particular concern.



Low birth weight varies by the educational attainment of the mother. As the educational achievement level of the mother increases, the percentage of low birth weight decreases markedly. Mothers who have received less than 12 years of education were 1.5 times more likely to deliver a low birth weight infant than were women with at least some college education. Nine percent of all births occurring to women with less than a high school education were born at low birth weight. This compares to a rate of 5.4 percent for mothers who had graduated from college.



Mothers who live below 100 percent of the Federal Poverty Level (FPL) have an approximately 22 percent higher low birth weight rate than do women living at or above 185 percent of FPL. Women in the higher income categories have higher percentages of low birth weight infants when compared to women in the poorest income group.

Table WIH16: Birth weight by Federal Poverty Level: Oklahoma PRAMS, 1998

FPL	< 2,500 Grams	2,500-3,999 Grams	4,000 + Gram
< 100%	7.3	84.3	8.4
100-185%	5.2	84.7	10.0
185% +	6.0	82.8	11.2

Data source: Oklahoma PRAMS, 1998

Unmarried mothers have consistently higher rates of low birth weight. In Oklahoma for 1998, 9.4 percent of births to unmarried women weighed less than 2,500 grams. The rate for unmarried women was 1.6 times higher than the rate for married women. The elevated risk for unmarried mothers cannot be attributed to differences in age or race. The proportion of unmarried mothers has been increasing since the 1970s. In 1998, 33.5 percent of all births were to unmarried mothers. For African Americans, the percentage was considerably higher (70.2%).

The risk of low birth weight is lower among mothers who initiate prenatal care during the first trimester of their pregnancies. Among mothers beginning prenatal care in the second or third trimester, 7.5 percent of all births were at low birth weight. Mothers receiving no prenatal care are worse yet. More than 14 percent of the births to women in which prenatal care was absent were low birth weight. Six percent of the births for which the mother began timely prenatal care (first trimester entry) were born at low birth weight.

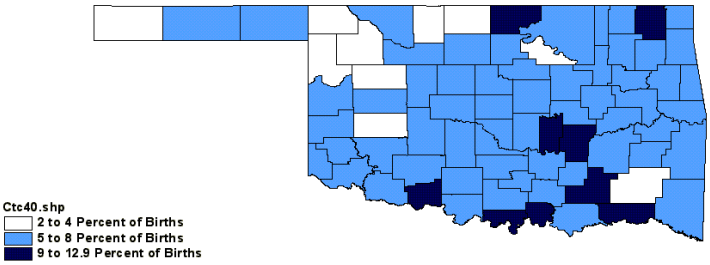
Also, as expected, mothers receiving 10 or more prenatal care visits have lower rates of low birth weight than do mothers who fail to receive an adequate number of visits. For mothers with fewer than 10 visits or no prenatal care visits, 10.5 percent delivered an infant weighing less than 2,500 grams. This compares to the 4.7 percent of births at low birth weight for mothers receiving 10 or

more visits. These figures suggest that the timeliness and frequency of prenatal care may play a key role in the rate of low birth weight.

Though the data are often considered unreliable due to the methods of reporting on birth certificates, the risks of low weight births among alcohol and tobacco users is very noteworthy. Of mothers reporting alcohol use during pregnancy, 13.1 percent had low weight births. Of mothers reporting tobacco use, 11.3 percent had low weight births.

The map below displays the percentage of births delivered at low birth weight by county of residence for Oklahoma in 1998. The percentage of births weighing less than 2,500 grams exceeded 9.0 percent for nine (11.7%) of the 77 Oklahoma counties. The highest low birth weight percentage was recorded for Love County at 12.9 percent. Dewey County, located in the Northwestern portion of the state reported the lowest percentage low birth weight at 2.2 percent. In 1998, the percentage of births born at low birth weight for the state of Oklahoma was 7.2.

Map WIH11: Percent of low weight births, by county: Oklahoma, 1998



Newborn Complications

In 1992, the Oklahoma Birth Defects Registry (OBDR) initiated active surveillance of birth defects and other adverse reproductive outcomes in stillborn/liveborn infants and children up to two years of age. Statewide surveillance began in 1994. Data are considered provisional until the official closing of a collection year. For example, data collected by the OBDR for births occurring in 1994 will not be considered closed and complete until January 2001.

Oklahoma Vital Statistics indicate that there were 45,946 birth and stillborn certificates issued for Oklahoma residents in 1994. Of those 45,946 births, 45,604 (99.3%) were liveborn and 342

(0.7%) were stillborn. At present, 1,836 infants have met the criteria for inclusion into the OBDR, 1,778 (97.1%) liveborn and 54 (2.9%) stillborn. Birth outcome was not recorded on the registry abstract for four infants. These infants are not included in the accompanying Table WIH17. Male infants comprise a larger percentage (58.4%) of the infants born with birth defects for this particular year. In 1994, the distribution of infants born with birth defects did not differ markedly from the distribution of births for race, age, and marital status of mother. A larger number of infants with birth defects were born preterm (less than 37 weeks gestation) and weighed less than 2,500 grams than those infants observed in the general population.

The accompanying tables present data related to birth outcome, sex, race, birth weight, gestational age, plurality of birth, maternal age, marital status, parity, and prenatal care in liveborn infants. The occurrence of selected congenital anomalies in liveborn and stillborn infants is also included. The information was obtained from the OBDR and Oklahoma Vital Statistics. The OBDR information represents provisional data.

Table WIH17: Number of infants with birth defects by birth outcome: Oklahoma, 1994

	Birth Defects Registry		Oklahoma	
Birth Outcome	Number	Percent	Number	Percent
Liveborn	1778	97.1	45604	99.3
Stillborn	54	2.9	342	0.7
Total	1832*		45946	

*Number reporting

Table WIH18:Number of live births with birth defects by sex: Oklahoma, 1994

	Birth Defects Registry		Oklahoma	
Sex	Number	Percent	Number	Percent
Male	1039	58.4	23339	51.2
Female	735	41.4	22265	48.8
Ambiguous	3	0.2	-	-
Total	1777*		45604	

*Number reporting

Table WIH19: Number of live births with birth defects by plurality of birth: Oklahoma, 1994

	Birth Defects Registry		Oklahoma	
Pluarality of birth	Number	Percent	Number	Percent
Single	1691	96.0	44612	97.8
Twin	68	3.9	963	2.1
Other Multiple	2	0.1	29	0.1
Total	1761*		45604	

*Number reporting

Table WIH20: Number of live births with birth defects by race: Oklahoma, 1994

	Birth Defects Registry		Oklahoma	
Race of infant	Number	Percent	Number	Percent
White	1323	74.4	33525	73.6
Black	178	10.0	4724	10.4
Am. Indian/Alaska Native	171	9.6	4316	9.5
Asian/Pacific Islander	21	1.2	730	1.6
Hispanic/Latino	73	4.1	2249	4.9
Other	9	0.5	2	0.0
Total	1775*		45546*	

*Number reporting

Table WIH21:Number of live births with birth defects by birth weight: Oklahoma, 1994

	Birth Defects Registry		Oklahoma	
Birth weight	Number	Percent	Number	Percent
< 1500 grams	95	5.4	646	1.3
1500-2499 grams	244	13.9	2880	5.9
2500-3999 grams	1258	71.4	40604	82.7
4000+ grams	164	9.3	4951	10.1
Total	1761*		49081*	

*Number reporting

Table WIH 22: Number of live births with birth defects by gestational age: Oklahoma, 1994

	Birth Defects Registry		Oklahoma	
Gestational age	Number	Percent	Number	Percent
17-28 weeks	52	3.0	303	0.7
29-32 weeks	72	4.1	468	1.1
33-36 weeks	204	11.7	2495	6.1
37-41 weeks	1378	78.7	36585	89.2
42+ weeks	44	2.5	1152	2.8
Total	1750*		41003*	

*Number reporting

Table WIH23: Number of live births with birth defects by age of mother: Oklahoma, 1994

	Birth Defects Registry		Oklahoma	
Age of mother	Number	Percent	Number	Percent
10-14	5	0.3	120	0.2
15-17	115	6.5	2704	5.5
18-19	178	10.1	5174	10.5
20-24	594	33.5	15771	32.0
25-29	456	25.7	13566	27.6
30-34	275	15.5	7816	15.9
35-39	128	7.2	3415	6.9
40-44	20	1.1	621	1.3
45+	-	-	28	0.1
Total	1771*		49215*	

*Number reporting

Table WIH 24: Number of live births with birth defects by marital status of mother: Oklahoma, 1994

	Birth Defects Registry		Oklahoma	
Marital Status	Number	Percent	Number	Percent
Single	609	35.0	16403	33.5
Married	1133	65.0	32604	66.5
Total	1742*		49007*	

*Number reporting

Table WIH25Prenatal care in women who delivered live births with birth defects: Oklahoma, 1994

	Birth Defects Registry		Oklahoma	
Prenatal care	Number	Percent	Number	Percent
No	35	2.0	394	0.9
Yes	1,708	98.0	41,156	99.1
Total	1743*		41550*	

*Number reporting

Table WIH26: Number of live births with birth defects by parity of mother: Oklahoma, 1994

	Birth Defects Registry		Oklahoma	
Previous live births	Number	Percent	Number	Percent
0	819	46.6	12739	39.8
1	520	29.6	10478	32.7
2	252	14.3	5423	16.9
3	100	5.7	2142	6.7
4	39	2.2	730	2.3
5+	29	1.6	516	1.6
Total	1759*		32028*	

*Number reporting

Table WIH27: Number and rate of selected birth defects: Oklahoma, 1994

Defect	Number	Rate*
Central Nervous System Anomalies		
Total Neural Tube Defects	62	13.49
Anencephaly	20	4.35
Spina Bifida	32	6.96
Encephalocele	10	2.18
Hydrocephalus	45	9.79
Microcephaly	45	9.79
Cardiovascular Anomalies		
Common Truncus	6	1.31
Transposition of Great Vessels	21	4.57
Tetralogy of Fallot	14	3.05
Ventricular Septal Defect	218	47.45
Atrial Septal Defect	212	46.14
Endocardial Cushion Defect	23	5.01
Pulmonary Valve Atresia/Stenosis	23	5.01
Tricuspid Valve Atresia/Stenosis	6	1.31
Ebstein's Anomaly	4	0.87
Aortic Valve Atresia/Stenosis	15	3.26
Coarctation of Aorta	14	3.05
Hypoplastic Left Heart Syndrome	17	3.70
Orofacial Anomalies		
Cleft Palate without Cleft Lip	39	8.49
Cleft Lip with or without Cleft Palate	57	12.41
Choanal Atresia	11	2.39
Gastrointestinal Anomalies		
Esophageal Atresia/Tracheoesophageal Fistual	7	1.52
Rectal and Large Intestinal Atresia/Stenosis	47	10.23
Pyloric Stenosis	102	22.20
Hirshsprung's Disease	13	2.83
Biliary Atresia	3	0.65
Genitourinary Anomalies		
Renal Agenesis/Hyploplasia	29	6.31
Bladder Exstropohy	3	0.65
Obstructive Genitourinary Defect	81	17.63
Hypospadias and Epispadias	148	32.21
Musculoskeletal Anomalies		
Reduction Deformity, Upper Limbs	31	6.75
Reduction Deformity, Lower Limbs	13	2.83
Gastroschisis	13	2.83
Omphalocele	8	1.74
Congenital Hip Dislocaton	57	12.41
Diaphragmatic Hernia	15	3.26
Chromosomal Anomalies		
Down Syndrome, Trisomy 21	46	10.01
Edwards Syndrome, Trisomy 18	3	0.65
Patau Syndrome, Trisomy 13	4	0.87

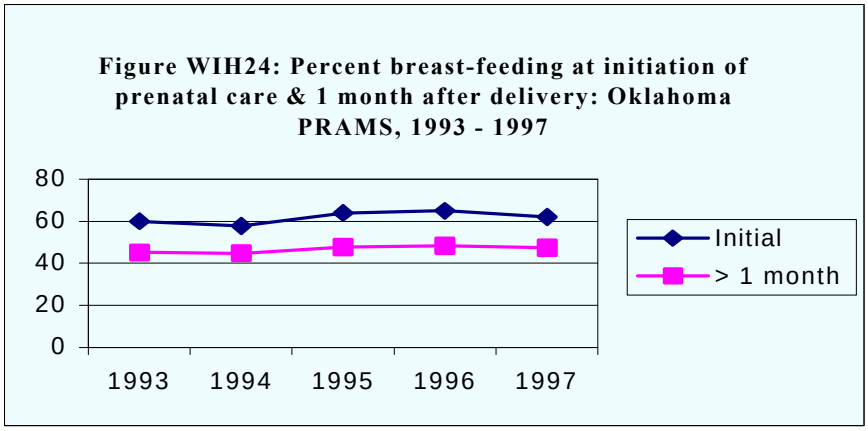
*Rate per 10,000 births

Newborn Hearing

Recent data entry contractual complications and errors related to the keying of data have been obstacles to timely use of data. At present, reliable information for the period 1997 through 1999 is not available. Thus, legitimate evaluation of the implementation of the universal screening project has proven difficult. In 1995, the NHSP reviewed 43,042 newborn infant questionnaires that were received from hospitals within Oklahoma. This represents nearly 95 percent of live births (45,365) for that year. Of the evaluated questionnaires, 11.5 percent indicated that the infant was at an elevated risk for having a hearing defect. Parents or guardians of these high risk infants were notified by mail regarding the possibility of their child having a hearing impairment.

Breast-feeding

Breast-feeding is recommended by various authorities as the best way to feed infants. For example, breast-milk provides infants protection from illness and promotes healthy relationships between mothers and infants. The decision to breast-feed is part of a broader social context involving social and family support as well as a mother's willingness to participate. Also, women who deliver low birth weight infants may encounter added barriers to breast-feeding and require additional support. The Healthy People 2000 goal for breast-feeding is to increase to at least 75 percent the proportion of mothers who breast-feed their infants in the early postpartum period (at hospital discharge) and to at least 50 percent of the proportion of mothers who continue to breast-feed for five to six months.



Source: PRAMS 1997 Surveillance Report; Prevalence of Selected Maternal and Infant Characteristics, PRAMS, 1997 @ www.cdc.gov

Using 1997 PRAMS data, breast-feeding initiation was defined as ever trying to breast-feed the new infant. In Oklahoma, the percentage of mothers who have ever initiated breast-feeding fluctuates from year to year, however, trend results indicate an overall increase of about two percent for the period 1993 – 1997. In 1997, women who were significantly most likely to initiate breast-feeding were older (25 and above) and more educated (post-secondary education).

PRAMS information for 1997 indicates that although 62.1 percent of all women surveyed report they were breast-feeding at hospital discharge, only 47.3 percent of these women were still breast-feeding one month later. As with initial breast-feeding, trend results for breast-feeding at one month following delivery show an overall increase of about two percent for the period 1993 – 1997. Women who were significantly most likely to continue breast-feeding were older, white and more highly educated.

Table WIH23: Prevalence of breast-feeding at initiation of prenatal care and one month after delivery by maternal characteristics: Oklahoma PRAMS, 1997

Characteristics:	Percent Initiate Breast-Feeding	Percent Continue Breast-Feeding (1 Month)	Percent Change
*Age**			
< 20	48.9	29.9	-19.0
20 – 24	53.9	37.7	-16.2
25 – 34	70.5	56.9	-13.6
35 +	77.6	74.3	- 3.3
Race/Ethnicity			
White	66.0	51.1*	-14.9
Afr Amer	43.8	30.1	-13.7
Other	50.6	34.9	-15.7
Hispanic/Latino	71.2	59.6	-11.6
Non-Hispanic/Latino	62.2	46.1	-15.1
*Education**			
< 12th grade	45.5	31.4	-14.1
12th grade	54.8	36.9	-17.9
> 12th grade*	77.1	64.7	-12.4

A recent study of selected states participating in PRAMS surveillance reported Oklahoma as being among the worst in initiation of breastfeeding and in breastfeeding education by a health care

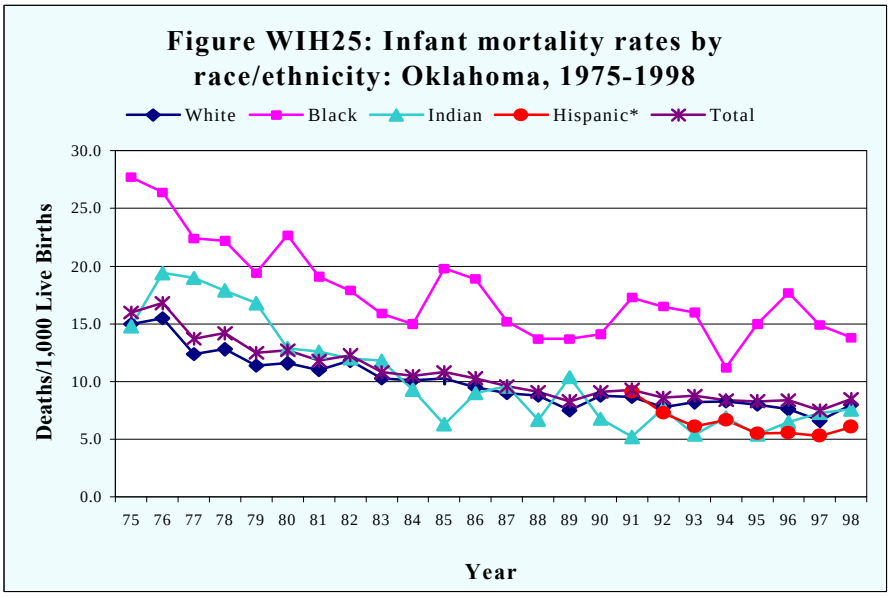
provider. This confirms the need to better educate health care providers and mothers about the benefits of breastfeeding.

Birth defects are the leading cause of infant mortality in the United States. In 1994, one of every five infant deaths was caused by a birth defect. Research has discovered that folic acid, a B vitamin, can help prevent neural tube defects (NTDs), serious defects of the brain and spine. An estimated 50 to 75 percent of NTDs can be prevented if women consume enough folic acid.

Great strides have been made in educating women of childbearing age about the importance of folic acid in preventing birth defects. Analysis of the Oklahoma PRAMS data (1996/1997) found that knowledge of the importance of folic acid in reducing certain birth defects increased from 66% in 1996 to 74% in 1997 for new mothers in Oklahoma. Although their knowledge increased, the use of multivitamins one month prior to pregnancy increased by only 2% during this same time period with only 28% of new mothers in Oklahoma reporting the use of multivitamins daily one month prior to pregnancy. These findings varied by mother's age, pregnancy intentions, and education level. Of the mothers taking folic acid prior to pregnancy, 64.5% of the pregnancies were intentional with 35.5% being unintended. Oklahoma mothers with 13 or more years of education were 2.8 times as likely to take multivitamins daily one month prior to pregnancy if their pregnancy was intended rather than unintended. Additionally, 40% of mothers 30 or older were taking multivitamins one mother prior to pregnancy, but these mothers delivered only 23% of live births. New mothers aged 20-39 delivered 60% of the live births, but were less likely to have taken multivitamins one month prior to pregnancy with 27% reporting having done so.

Infant Mortality

Infant mortality is an important indicator of the health of a nation or community because it is associated with a variety of factors such as maternal health, quality and access to health care, socioeconomic conditions, and public health practices. The Oklahoma infant mortality rate has declined by approximately 47 percent from 16.0 deaths per 1,000 live births in 1975 to 8.5 deaths per 1,000 live births in 1998. This decline in the infant mortality rate has been gradual.



Despite this considerable decline, the problem of infant mortality remains substantial. While a reduction in the infant mortality rates among racial groups has been observed between 1975 and 1998, large disparities in the risk of infant death among racial groups have persisted. This is of particular concern to Oklahoma because of the Healthy People 2010 commitment to eliminate racial disparity. Table WIH24 indicates that rates for whites, African Americans, and Native Americans have declined by more than 45 percent over this period. However, the gap between whites and African Americans in terms of the risk of infant death has remained stable. On average, African American infants are 1.8 times more likely to die before the age of one year than are white infants. For 1998, the African American infant mortality rate was 72.5 percent higher than the comparable white rate. The disparity between whites and Native Americans is much less dramatic. During the same period, the infant mortality rate for Native Americans has averaged only one percent higher than the white rate. An interesting point to note regarding infant deaths among African Americans and Native Americans is the erratic manner in which the infant mortality rates has declined. Data available for Hispanic/Latino indicate that the infant mortality rate for this population has declined from 9.1 deaths per 1,000 live births in 1991 to 6.1 deaths per 1,000 live births in 1998.

A number of interrelated factors may help to explain the high mortality rates for African American infants. African American infants are more likely than white infants to be members of families with income below the poverty level. Infants of families of low socioeconomic

status have been found to be at an increased risk of death. Income differentials may also explain why African American women are less likely to have medical insurance that covers the cost of care for pregnancy and childbirth. Without money mothers cannot receive proper nutrition or prenatal assistance, thereby, increasing the risk of preterm and low birthweight babies and maternal complications during pregnancy. The probability of death varies markedly according to the presence of risk factors. These factors can be attributed to the mother, the baby, or the pregnancy. Maternal characteristics commonly held to influence infant mortality include age, education, marital status, access to health care, and use of cigarettes and alcohol during the pregnancy. Infant and pregnancy-related characteristics may include birth order, previous history of fetal loss, adequacy of prenatal care, period of gestation, birth weight, and plurality.

Table WIH24:Infant mortality rates by race/ethnicity: Oklahoma, selected years

Year	Total	White	Black	Indian	Hispanic*	Ratio Black/White
1975	16.0	15.0	27.7	14.8	**	1.8
1980	12.7	11.6	22.7	12.9	**	2.0
1985	10.8	10.3	19.8	6.3	**	1.9
1990	9.1	8.8	14.1	6.8	**	1.6
1991	9.3	8.7	17.3	5.2	9.1	2.0
1992	8.6	7.8	16.5	7.7	7.3	2.1
1993	8.8	8.2	16.0	5.4	6.1	2.0
1994	8.4	8.3	11.2	6.9	6.7	1.3
1995	8.3	8.0	15.0	5.4	5.5	1.9
1996	8.4	7.6	17.7	6.5	5.6	2.3
1997	7.5	6.6	14.9	7.3	5.3	2.3
1998	8.5	8.0	13.8	7.6	6.1	1.7
% Change 75-98	-46.9	-46.7	-50.2	-48.6	**	
% Change 91-98	-8.6	-8.0	-20.2	46.2	-33.4	

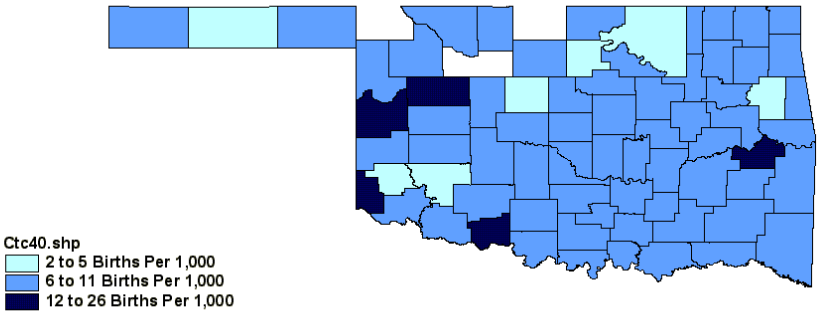
*Hispanics are of any race.

**Data are not available.

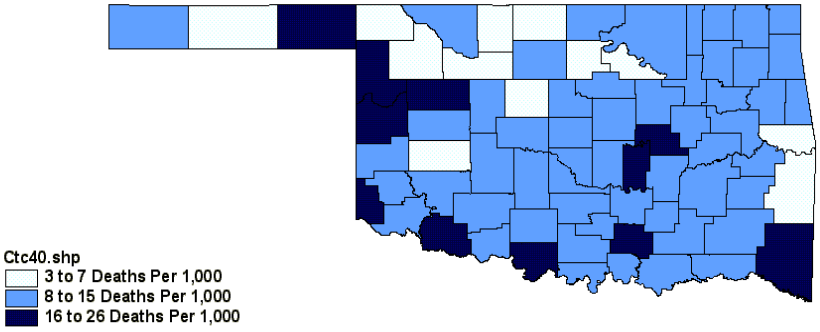
The risk factors mentioned above are difficult to measure because women with the presence of one factor often possess other risk factors. For example, mothers less than 20 years of age are more likely to be unmarried, less educated, and have lower incomes. In 1998, the percent of births to teens was higher among African Americans (23.5%) than whites (14.6%). Teen mothers face difficult socioeconomic obstacles and have limited employment and educational

opportunities. For 1998, the percent of births born to unmarried women is 2.5 times higher among African American women (70.2%) than among white women (27.3%). Single mothers may lack the necessary social and economic support during their pregnancies. African American mothers were slightly more likely to have attained less than 12 years of education when compared to white mothers (24.8% vs. 21.6%).

Map WIH12: Infant mortality rates per 1,000 live births, by county: Oklahoma, 1998



Map WIH13: Perinatal mortality rates per 1,000 live births, by county: Oklahoma, 1998



Perinatal mortality is the number of deaths to infants 28 or less days of age and still born fetuses of 20 or more weeks gestation. Concentrations of perinatal mortality rates of 16 to 26 deaths per 1,000 live births are located in Beaver, Ellis, Roger Mills, and Dewey counties in the western half of the state; Harmon, Tillman, and Jefferson counties in the southwestern portion

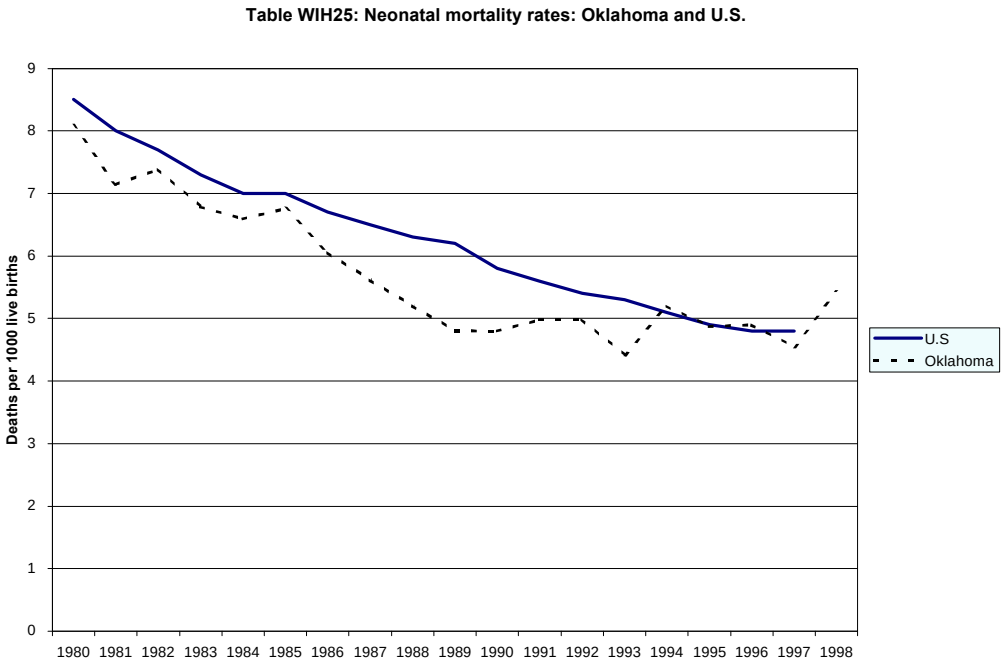
of the state; Johnston, Seminole, and Okfuskee counties in the central part; and McCurtain county in the far southeastern corner. Among counties with rates between 3 to 7 deaths per 1,000 were Cimarron, Harper, Woodward, Major, Alfalfa, and Grant and Garfield counties in the northwestern part of the state; Washita in the southwest; Noble and Pawnee in the north central; and Sequoyah and LeFlore counties in the east bordering Arkansas. The remainder of the state had a perinatal mortality rate between 8 and 15 deaths per 1,000.

Infant mortality rate refers to deaths of infants older than 28 days, and younger than one year per 1,000 live births. Oklahoma's highest infant mortality rates, those between 12 and 26 per 1,000, occurred in Harmon, Roger Mills, and Dewey counties in the western section of the state; Cotton county in the southern region; and Haskell county in the eastern portion of the state. Infant mortality rates of between 2 and 5 births per 1,000 occurred in Cimarron, Osage, Noble, Garfield, and Cherokee counties. The remainder of counties had between six to eleven deaths per 1,000 births.

Neonatal Mortality

Oklahoma's neonatal mortality rate for 1998 was 5.4 deaths per 1,000 live births, well below the Healthy People 2000 goal of 4.5. The average rates for the past three years (1996-1998) reflect the poor outcomes for African American neonates. The African American neonatal mortality was more than twice that of whites, with a rate of 9.3 versus 4.6 for whites. The reported rate for American Indians was 3.8, but the actual rate is disguised by misclassification of American Indian babies being identified as white at death.

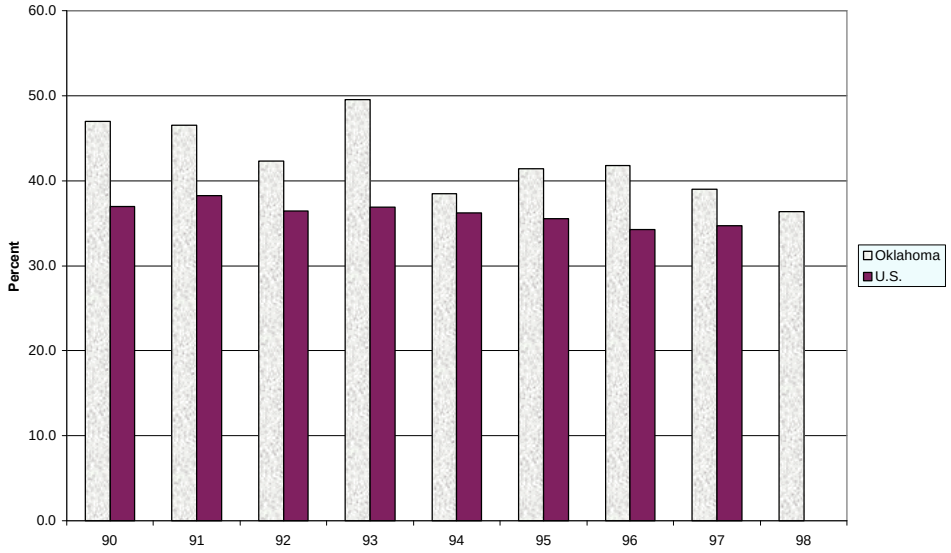
Because of the major increase of the neonatal deaths in 1998, the 1998 rate (5.4) is well above that recorded for 1990, when it was at 4.8 deaths per 1,000 live births. However, the trend has shown some decrease, though not as much as had been hoped. Compared to national data, Oklahoma's rate has been below the U.S. rate until the past few years (Table WIH25).



Postneonatal Mortality

Oklahoma's postneonatal mortality has historically been higher than the national rate. The percentage of infant deaths that occur during the postneonate period is considerable higher than that observed in the nation (Figure WIH26). In 1998, the rate actually increased from 2.9 deaths to newborns between the ages of 28 days to less than 365 days of life per 1,000 live births to 3.1. Even though the African American rate decreased from 6.4 in 1997 to 5.4 in 1998 (a 15.6 percent decrease in just one year), the 1998 rate was 86.2 percent higher than the white rate of 2.9 for the same year. The overall trend for postneonatal mortality is not clear. While there has been some reduction in the past ten years, the rate fluctuates dramatically from one year to the next. The reason for this inconsistency is unknown, because comparing causes of death does not reveal any unusual events occurring to contribute to the irregularity.

Figure WIH 26: Percent contribution of postneonatal mortality to infant mortality: Oklahoma and U.S, 1990-1998



Fetal Mortality

The number of fetal deaths in 1998 was 326, which is largely unchanged for the past three years. In Oklahoma, registered fetal deaths are those that are 20 weeks or more of gestation, regardless of weight. However, up to 30 percent of registered fetal deaths do not report gestational age. In 1998, the fetal mortality ratio was 6.6 deaths per 1,000 live births, compared to a ratio of 7.6 ten years earlier. It is not clear from vital statistics alone why fetal mortality has not declined more. It has been assumed that medical intervention has increased the survivability of high-risk pregnancies, and therefore a corresponding reduction of fetal deaths would have been expected. The race-specific rates still indicate that African American mothers are far more likely to lose their child during pregnancy than white mothers. The average for the past three years shows that African American mothers were 40.9 percent more likely to have a fetal death. Native American mothers were 18.2 percent more likely than white mothers. The Native American ratio seems inconsistent with the infant mortality rate, but much of the variance is due to American Indian infant deaths being classified as white at death, even though the birth mother was classified Native American.

Table WIH 26: Fetal mortality rates, by race of infant: Oklahoma, 1975-98				
	Total	White	Black	Indian
1975	9.7	7.8	15.7	16.0
1976	10.4	8.4	15.7	14.7
1977	9.9	8.1	15.7	12.4
1978	9.5	7.7	15.3	10.5
1979	9.4	7.5	13.6	9.7
1980	9.1	7.0	17.1	10.9
1981	8.5	6.8	11.6	11.2
1982	8.5	6.4	12.3	9.5
1983	8.0	6.4	10.6	8.2
1984	7.2	5.5	9.5	8.2
1985	7.5	5.9	10.1	7.7
1986	8.0	6.3	10.3	7.9
1987	8.0	5.6	13.5	9.5
1988	7.6	5.9	10.6	8.1
1989	8.1	6.0	11.9	9.6
1990	7.0	5.1	8.3	9.2
1991	7.8	5.7	11.9	5.0
1992	7.6	5.3	10.3	7.7
1993	8.0	4.7	10.2	6.3
1994	7.5	5.0	8.0	5.5
1995	7.5	4.9	7.6	4.4
1996	6.8	5.0	5.6	4.4
1997	6.9	4.2	7.6	6.1
1998	6.6	4.0	5.4	5.0

Maternal Mortality

Deaths due to maternal causes have not changed significantly over the past 20 years. Using the International Classification of Diseases Cause of Death codes and the National Center for Health Statistics coding procedures, an average of about five deaths each year are reported. However, there are other deaths occurring to reproductive-age women that should be reviewed. The Oklahoma State Medical Society's Maternal Mortality Review Committee has been mostly inactive for the past ten years. However, there have been recent efforts to begin reviewing obstetric and maternal-age deaths. The Maternal and Child Health Service has offered its assistance in organizing the vital records and in serving as the secretary for Review Committee. This will include the review of all deaths to women of childbearing age and submitting the results for the Committee to take action for further investigation. That work has been accomplished and now MCH is waiting for the Committee to begin meeting to process the information.

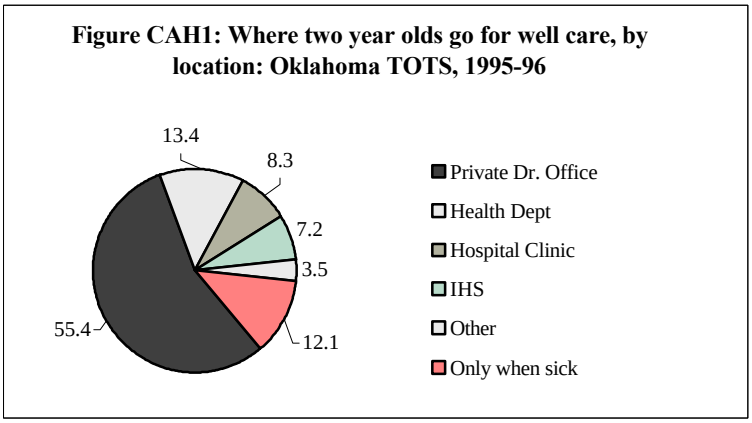
Child, Adolescent, and Young Adult Health

In the initial development of identifying needs of children and adolescents, requests were made by the child health leadership team to place a special focus on the following issues:

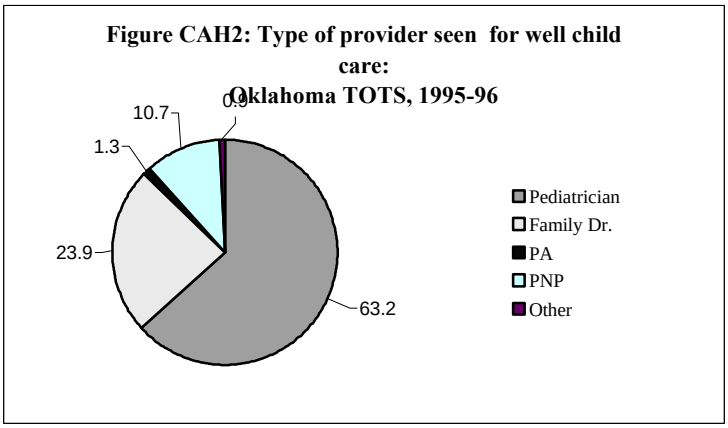
- Access to health care
- Child morbidity
- Barriers to health care
- Care financing
- Immunization
- Cultural sensitivity and care receiver satisfaction
- Child, adolescent and young adult mortality
- Tobacco use
- Teen childbearing
- Home environment, including family structure, exposure to tobacco smoke, injuries, and safety
- Exercise and Nutrition
- Violence
- Firearm Safety
- Mental health
- Suicide
- Alcohol and substance use
- Teen sexual behavior

Access to Health Care

Access to health care for children in the State of Oklahoma is measured through several sources. The Oklahoma Toddlers Survey (TOTS) , Oklahoma First and Fifth Grade Health Surveys, Oklahoma Youth Risk Behavior Survey (YRBS), and the Behavior Risk Factor Surveillance Survey (BRFSS) and Consumer Assessment of Health Plan Survey (CAHPS). BRFSS was used to provide information about the health status of young adults ages 18-24, and CAHPS was used to provide information about satisfaction with health care provision.



Parents of Oklahoma Toddlers were asked where they take their two-year-olds for well child care. The majority of parents (55.4 percent) reported using private doctors' offices. Health departments, followed by hospital clinics were the second and third most frequently identified places for receipt of well care (13.4 percent and 8.3 percent, respectively). The types of providers who most frequently cared for Oklahoma toddlers were pediatricians (63.2 percent) followed by family doctors (23.9 percent). Pediatric nurse practitioners were third at 10.7 percent.



Oklahoma parents were asked where their children go for health care when they are sick. Parents of toddlers, and first and fifth graders most frequently reported they take their children to private doctors' offices (59.4 percent, 64 percent, and 69.2 percent respectively).

Table CAH1: Where Oklahoma Children go for Sick Care

	TOTS*	1ST Grade**	5TH Grade***
Provider	**Percent**	**Percent**	**Percent**
Private Dr. Office	59.4	64.0	69.2
Hospital Clinic	6.9	8.5	6.1
Hospital ER	19.5	2.4	1.7
Health Dept/Free Clinic	3.1	2.8	1.7
Other†	8.1	15.0	12.0
Did not need health care	3.2	7.1	1.4

†Includes Military Facility, Indian Health Service and Other
*Oklahoma 1995-96 The Oklahoma Toddlers Survey Summary Report
**1998 Oklahoma First Grade Health Survey
*** 1998 Oklahoma Fifth Grade Health Survey

First and fifth grade children at all poverty levels were reported to be taken to private doctors for sick care more frequently than other locations. Poor children at or below 150 percent of poverty were reported more frequently to use a combination of private physician, hospital clinic, hospital emergency rooms and county health departments or free clinics compared with children above 151 percent to 185 percent of the federal poverty level. For first graders at 185 percent or below the federal poverty level, 13.8 percent were reported to be taken to a hospital emergency room for sick care. Seventeen percent of first graders at 150 percent or below of the poverty level were reported to be taken to a health department or free clinic, while 1.3 percent of children at 185 percent or above the poverty level were reported to use a health department or free clinic. Using private physicians as the location for sick care consistently increases with each increase in percent of the poverty level, except for those between 186 percent to 200 percent of the poverty level, who fall half way between those children at 151 percent to 185 percent and those at 201 percent to 250 percent of poverty. These children were also reported to use other sources for sick care more frequently than children do at other levels of poverty.

Table CAH2: Where first graders* go for sick care by poverty level

	Priv. Dr.	Hosp Clin	ER	Health Dept	Oth**	Not need
<=50%	33.9	14.5	6.5	9.7	22.6	12.9
51-100%	48.7	13.2	3.2	4.8	20.7	9.0
101-150%	60.8	10.5	2.0	2.6	15.8	7.8
151-185%	71.3	4.3	2.1	0.0	14.9	7.5
186-200%	65.2	4.4	0.0	0.0	27.7	4.4
201-250%	77.4	6.1	0.0	0.9	11.3	4.4
251%+	81.4	6.6	0.8	0.4	5.4	4.6

*1998 Oklahoma First Grade Health Survey
**Other includes Indian Health Service, military facility, and other

Poor Oklahoma fifth graders reflect the reporting of Oklahoma first graders. As percent above poverty increases, the percent of children reported to be taken to private physicians for sick care increases. For fifth graders at 186 percent to 200 percent of poverty the health department continues to be a source of sick care, compared with first grade children, who are also reported to use other locations for sick care. Twelve percent of fifth graders at 200 percent or below the poverty level were reported to be taken to a hospital emergency room for sick care. Fourteen percent of fifth graders at 200 percent or below the poverty level were reported to be taken to a health department or free clinic for sick care.

Table CAH3: Where fifth graders* go for sick care by poverty level

	Priv. Dr.	Hosp Clin	ER	Health Dept	Oth**	Not need
<=50%	51.8	7.1	3.6	3.6	17.9	16.1
51-100%	50.0	9.4	5.8	2.9	19.1	11.6
101-150%	66.0	9.0	0.7	2.8	12.6	8.3
151-185%	69.0	5.0	2.0	2.0	13.0	9.0
186-200%	58.8	0.0	0.0	2.9	20.5	17.7
201-250%	74.5	5.7	0.0	0.0	8.7	9.4
251%+	83.9	4.8	0.0	0.4	6.0	4.8

*1998 Oklahoma Fifth Grade Health Survey

**Other includes Indian Health Service, military facility, and other

white first graders were reported to go to private doctors for sick care more frequently (75.1 percent) than other racial/ethnic categories of children. Hispanic/Latino children were reported second most frequently (52.9 percent) to go to private doctors, followed by African-American and multi-racial/other. Native American parents reported their children went to other locations for sick care, which is expected since Oklahoma has many tribal health clinics operated through the Indian Health Service. African-American, multi-racial/other and Hispanic/Latino children were reported more frequently to use hospital clinics, hospital emergency rooms, and health departments or free clinics than other races/ethnicities.

Table CAH4: Where first graders* go for sick care by race/ethnicity

	Priv. Dr.	Hosp Clin	ER	Health Dept	Oth**	Not need
White	75.1	7.3	1.8	2.7	6.4	6.6
Afri-Am	49.0	16.3	6.1	4.1	13.3	11.2
Am-Ind	30.0	5.7	1.9	1.9	57.9	3.8
Multi/Oth	48.6	16.2	5.4	4.1	10.8	14.9
Hispanic	52.9	12.9	4.3	4.3	10.0	15.7

*1998 Oklahoma Fifth Grade Health Survey

**Other includes Indian Health Service, military facility, and other

As found with first grade children, white fifth graders were reported to utilize private doctors more frequently than other racial/ethnic categories of children. Hispanic/Latino children were reported to go to hospital clinics and health departments or free clinics more frequently than other races/ethnicities.

Table CAH5: Where fifth* graders go for sick care by race/ethnicity

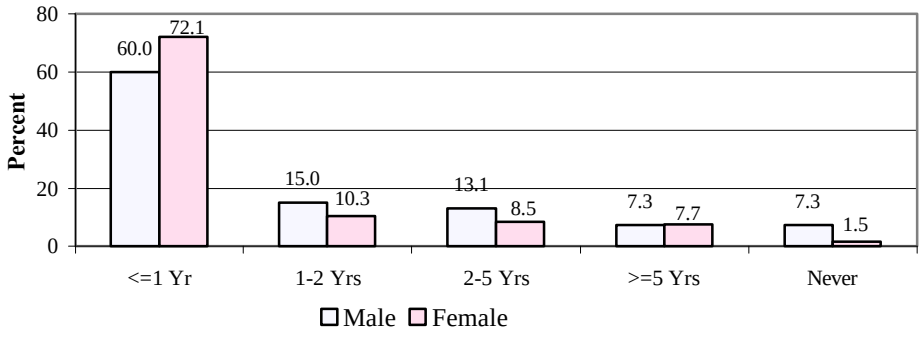
	Priv. Dr.	Hosp Clin	ER	Health Dept	Oth**	Not need
White	78.5	4.8	2.0	1.2	4.1	9.1
Afri-Am	43.9	17.1	2.4	4.9	14.6	17.1
Am-Ind	30.6	5.6	0.0	0.0	59.0	4.9
Hispanic	33.3	25.9	0.0	11.1	7.4	22.2

*1998 Oklahoma Fifth Grade Health Survey

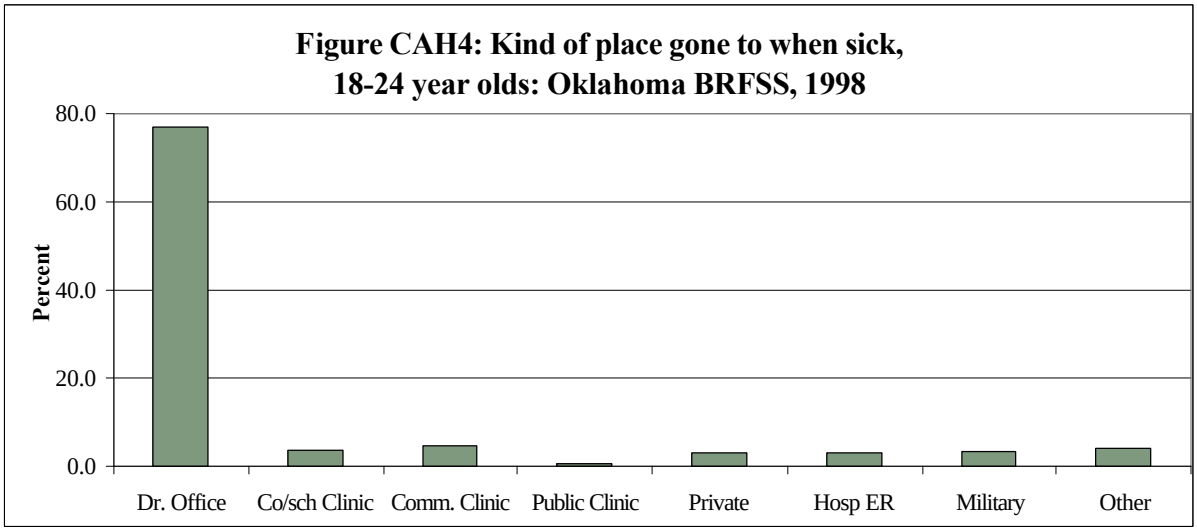
**Other includes Indian Health Service, military facility, and other

The Behavior Risk Factor Surveillance Survey (BRFSS) asks adults how long since the last physical check-up. Sixty-six percent of 18-24 year olds reported they had their last physical checkup within the last year. For 13 percent it had been 1 to 2 years, for 11 percent it had been 2 to 5 years, for 8 percent more than 5 years, and 2 percent had never had a checkup. Among males, 60 percent reported they had had a physical check-up in the past year, compared with 72 percent of females. Fifteen percent of males, compared with 10 percent of females, had their last check-up between one and two years. Thirteen percent of males, compared with 8.5 percent of females, reported they had their last check up five or more years ago.

Figure CAH3: How long since last physical check-up for 18-24 year olds: Oklahoma Behavior Risk Factor Survey, 1997



Among 18-24 year olds, nearly 80 percent of respondents reported they went to a doctor's office when sick, 5 percent report they use a community clinic for sick care, others go to private out patient facilities, public clinics, hospital emergency rooms, military or school clinics.



In summary, approximately 30 percent of Oklahoma children were reported to be taken to hospital emergency rooms or health departments when sick. These children range in age from 2 to 8 years of age. While the majority of children do visit a private physician for well or sick care, there continues to be a need for health care providers for children at or below 200 percent of the federal poverty level. TOTS and the first and fifth grade health surveys were used to provide estimates of health care access for these age groups, but, information about health care access for middle school age children and high school teens is conspicuously lacking. Information about young adults' access to health care, is somewhat more available; however, the information about 18-24 year olds is not detailed enough to give a clear understanding of this age group's access to care.

Morbidity

In order to further understand the health status of Oklahoma's children, parents of toddlers and first and fifth graders were asked if their children had ever been diagnosed with certain conditions by health care professionals. The leading diagnosis for first and fifth graders was

dental caries (33 % and 41 % respectively). For high school students the percent reporting dental caries was 66 percent (not shown). Three and one half percent of toddlers already had dental caries identified. The most frequently reported diagnosis for toddlers was asthma (10%). The second most frequently reported diagnosed condition for fifth graders was poor eyesight, while for first graders it was asthma. Asthma was the third most frequently reported diagnoses for Oklahoma fifth graders. Poor eyesight was the third most frequently diagnosed condition for first graders. Learning disability, hyperactivity, and attention deficit disorder were also frequently reported diagnoses for first and fifth graders.

Differences in diagnosed conditions are observed by race or ethnicity. Among first graders, parents reported 36 percent of white children had been diagnosed with dental caries. Forty-one percent of African American, 15 percent of Native American, 32 percent of multi-racial/other and 33 percent of Hispanic/Latino first grade children had been diagnosed with dental caries. For fifth graders, 43 percent of white children, 23 percent of African American, 46 percent of Native American, and 48 percent of Hispanic/Latino children had been diagnosed with dental caries.

Table CAH6:Conditions diagnosed by a health care professional, by race

	1st Grade*					5th Grade**			
Condition	**White**	**African-American**	**Native American**	**Multi-racial**	**Hispanic/ Latino**	**White**	**African-American**	**Native American**	**Hispanic/ Latino**
Asthma	13.4	21.4	15.0	17.7	14.7	14.5	15.4	13.9	6.9
Cavities	35.5	40.9	45.1	32.2	33.3	43.0	23.1	46.0	47.5
Speech/Lang Delays	11.6	7.9	10.5	10.6	13.0	7.2	10.3	8.6	6.9
Hyperactivity	5.8	6.7	6.6	7.6	10.1	5.4	5.3	4.3	8.0
Monitored for LD	4.9	5.6	6.6	3.0	4.4	5.9	12.8	4.3	5.3
ADD	4.6	2.3	2.6	3.0	4.4	6.7	5.1	2.9	7.0

*1998 Oklahoma First Grade Health Survey

**1998 Oklahoma Fifth Grade Health Survey

Asthma was reported among 13 percent of white first graders, and 21 percent of African American, 15 percent of Native American, 18 percent of multi-racial/other, and 15 percent of Hispanic/Latino first graders. Among fifth graders, parents reported 15 percent of white children, 15 percent of African American, 14 percent of Native American, and seven percent of Hispanic/Latino children having been diagnosed with asthma.

Speech/language delays were reported for 12 percent of white first graders, eight percent of African American, 11 percent of Native American, 11 percent of multi-racial/other and 13 percent of Hispanic/Latino first graders. Seven percent of white fifth graders were diagnosed with speech language delays. Ten percent of African American fifth graders, nine percent of Native American, and seven percent of Hispanic/Latino fifth graders were reported to have been diagnosed with speech/language delays. Less than 10 percent of first graders of all racial/ethnic categories were reported to be diagnosed with learning disability, while 13 percent of fifth grade African Americans were; this was more than twice as high as any other racial/ethnic group of fifth graders. Less than ten percent of all racial/ethnic categories of first and fifth graders were reported to have been diagnosed with ADD.

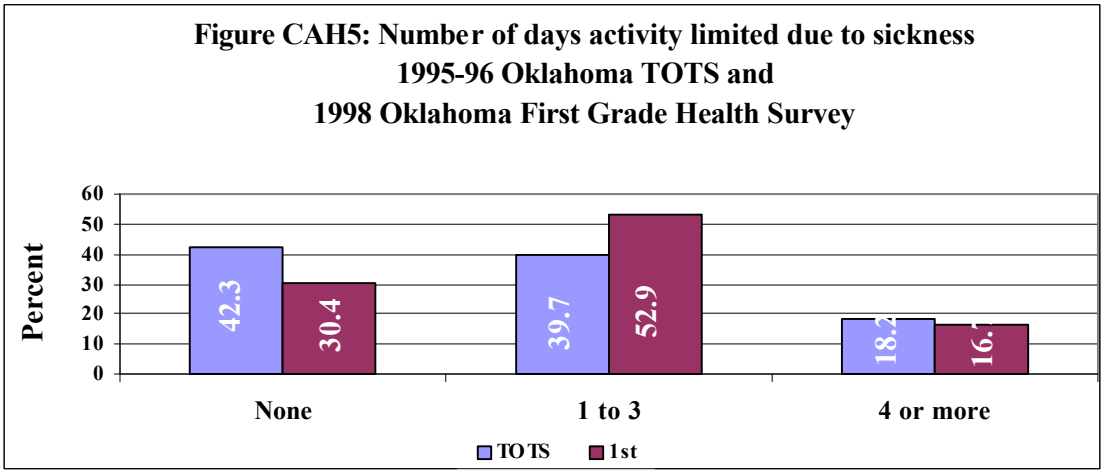
High prevalence of morbidity is associated with poverty. For example, 32 percent of very poor first graders at or below 100 percent the federal poverty level and 18 percent of 5th graders at the same poverty level had been diagnosed with asthma. Forty-four percent of very poor first graders and 28 percent of very poor fifth graders were diagnosed with learning disability. Forty-four percent of first graders at or below 100 percent of the federal poverty level were diagnosed with hyperactivity, and 18 percent of fifth graders at the same level of poverty were diagnosed as hyperactive. Just over one out of four very poor first graders and slightly more than one out of ten very poor fifth graders were reported to be diagnosed with attention deficit disorder. One third of first graders at or below 100 percent of poverty and 27 percent of fifth graders at the same poverty level were diagnosed with speech/language delays. Thirty-three percent of very poor first graders and 22 percent of very poor fifth graders were diagnosed with dental caries. It is notable that fifth graders whose families are 201 percent or above the federal poverty level were reported at higher frequencies to have been diagnosed with asthma, attention deficit

disorder and dental caries, while those between 151 percent and 200 percent of poverty are less frequently reported to have been diagnosed with any condition.

Table CAH7: Conditions diagnosed by a health care professional, by percent of 1998 Federal Poverty Level

	Asthma		LD		Hyper		ADD		Sp/Lan		Cavity	
FPL	1st*	5th**	1st*	5th**	1st*	5th**	1st*	5th**	1st*	5th**	1st*	5th**
<=100%	31.6	17.7	44.4	28.0	44.2	18.4	26.8	11.9	37.0	26.6	32.8	22.3
101-150%	18.8	16.9	27.7	32.0	21.3	18.4	17.1	20.0	20.7	17.2	18.8	17.0
151-185%	10.3	10.8	8.9	4.0	11.5	12.2	14.6	13.6	7.6	9.4	8.4	11.5
186-200%	1.7	5.4	0.0	0.0	1.9	0.0	0.0	1.7	1.1	6.3	3.2	3.8
201-250%	10.3	14.6	6.7	12.0	11.5	10.2	12.3	10.2	9.9	10.9	11.4	12.8
251%+	27.4	34.6	17.8	24.0	9.6	40.8	17.1	45.8	23.9	29.7	25.3	32.6

*1998 Oklahoma First Grade Health Survey
**1998 Oklahoma Fifth Grade Health Survey

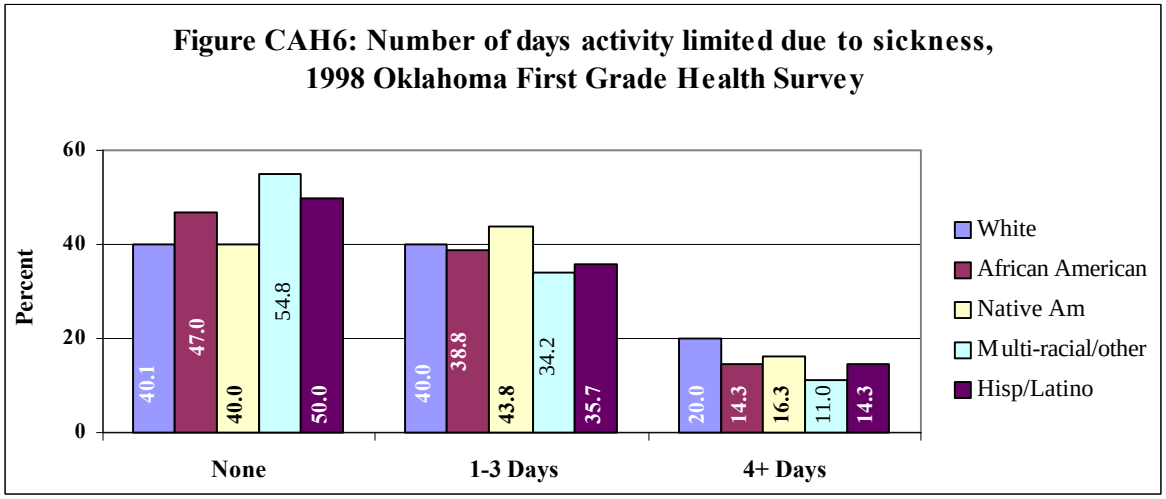


Toddlers and first graders were reported to have suffered with colds, ear-aches, allergies, and diarrhea during the 3 months before the survey. Asked about the number of days children's activities were restricted because of illness, 40 percent of toddlers and 53 percent of first graders were reported to have limited activity for one to three days. Eighteen percent of toddlers and 17 percent of 1st graders were reported to have activity limitation for 4 or more days.

Table CAH8: Number of Days first graders activities limited due to sickness during during past 3 months by poverty level			
	None	1 to 3	4 or more
<50%	22.6	43.5	33.9
51-100%	28.2	53.2	18.6
101-150%	35.3	52.3	12.4
151-185%	25.3	55.3	19.1
186-200%	13.0	69.6	17.4
201-250%	27.0	57.4	15.7
251%+	33.1	54.1	12.8

Looking at first graders activity limitation by percent of federal poverty level shows that parents of poorer children reported higher frequencies their children's activities being limited four or more days compared to more affluent children. Parents of children at 186 percent to 200 percent of poverty reported more frequently that their children's activities were limited one to three days compared with other categories of poverty.

Comparing days of limited activity by race/ethnicity shows that each racial/ethnic category of children experiences approximately the same amount of days of limitation, with the exception of multi-racial children who were more frequently reported to have no days of limited activity.



Parents were asked if their children received selected special services. The TOTS and First Grade Health Survey asked if children were enrolled in programs for Children with Special

Health Care Needs (CSHCN). Additionally, parents of first graders were asked if their children were enrolled in early educational programs like Head Start. Nearly two percent of toddlers (1.7 percent) and three percent of first graders were enrolled in Sooner Start Early Intervention program. Less than one percent (0.7 percent) of toddlers and two percent of first graders were enrolled in Supplemental Security Income (SSI). Less than one percent of toddlers and first graders were enrolled in the CSHCN program that they identified (0.2 percent and 0.4 percent respectively). Just over one third of first graders were reported to have been enrolled in Head Start (34.9 percent) and less than one percent (0.9 percent) were enrolled in Even Start.

Table CAH9: Children ever enrolled in any of the following services

	TOTS*		1st Grade**	
	Number	**Percent**	**Number**	**Percent**
Children with Special Health Care Needs	8	0.2	4	0.4
Supplemental Security Income	86	0.7	23	2.1
Sooner Start Early Intervention Program	190	1.7	38	3.5
Head Start	-	-	377	34.9
Even Start	-	-	10	0.9

*1995-96 The Oklahoma Toddlers Survey Summary Report
**1998 Oklahoma First Grade Health Survey

Additional questions were asked of first and fifth grade parents about special services their children were receiving. Because of the educational differences between first and fifth grade, only parents of fifth graders were asked about math lab and being monitored for learning disability. The most frequently reported special service for both first and fifth graders was reading lab. For first graders the second most frequently reported service was speech/language therapy, whereas math lab was the second most reported special service for fifth graders. Counseling/psychological services for first graders were third most frequently reported. Monitoring for learning disability was the third most frequently reported service for fifth graders followed by speech/language therapy.

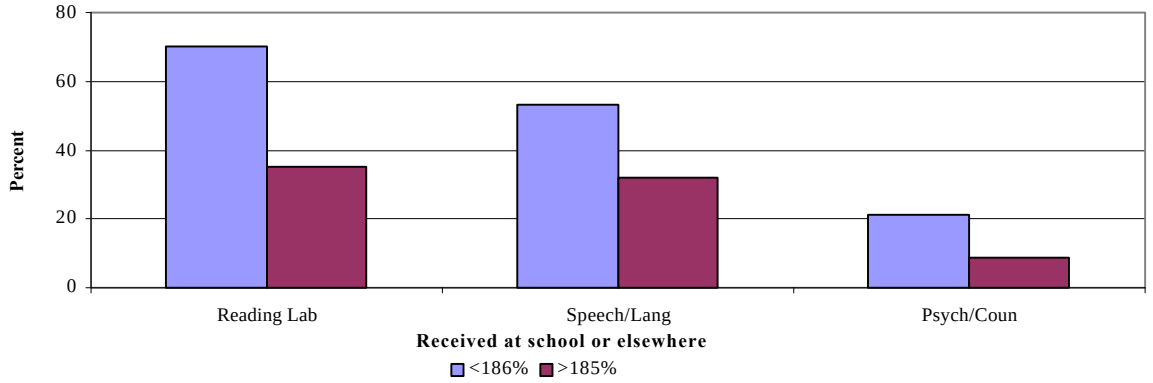
Table CAH10: Services currently received or needed but did not receive

	1st Grade Survey				5th Grade Survey	
	Needed and Received		Needed and Not Received		Received at	Received
Service	At School	Elsewhere	At School	Elsewhere	School	Elsewhere
Reading Lab	11.1	0.6	16.4	3.5	15.2	1.5
Speech/Lnaguage therapy	9.8	0.1	6.8	1.4	6.8	1.3
Counseling/Phychological Svcs.	1.9	2.2	1.5	1.5	4.7	3.3
Nursing Services	0.8	0.3	1.6	0.6	2.7	1.7
Occupational Therapy	0.7	0.1	0.7	0.6	0.7	0.7
Physical Therapy	0.6	0.1	1.3	0.6	0.6	0.6
Math Lab					7.5	1.3
Monitored for Learning Disability					7.1	2.0

Among first graders reported needing, but not receiving services, 57 percent of whites needed reading lab, 68 percent speech/language therapy, and 67 percent psychological/counseling services. Fifteen percent of African-American first graders were reported to be in need of reading lab, 11 percent speech/language therapy, and 13 percent psychological/counseling services. Of all first graders reported to be in need of reading lab, nine percent were Hispanic/Latino. Twenty percent of Native American first graders were reported to be in need of reading lab, 15 percent speech/language therapy, and 13 percent psychological services. Parents of multi-racial/other first graders reported nine percent to be in need of reading lab, seven percent needing speech/language and psychological/counseling services each. Hispanic/Latino first graders were in need of speech/language therapy (7%) and psychological/counseling services (9%).

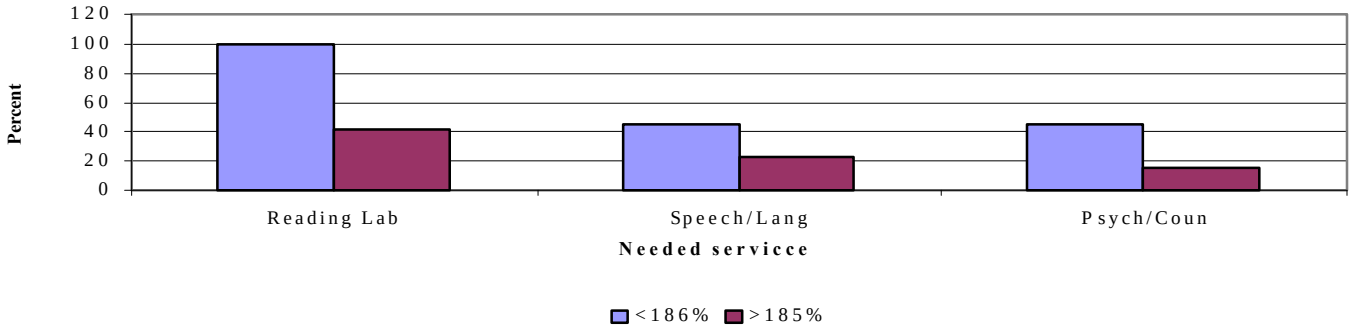
Parents of first graders at or below 185 percent of poverty make up 84 percent of those who were in reading lab. Of first graders at or below 185 percent of the federal poverty level, more than one third of those at 101-150 percent were in reading lab. Twenty-two percent of those at 51 to 100 percent of poverty were in reading lab. Children at 251 percent or above poverty level made up 25 percent of first graders in reading lab. Sixty-five percent of parents of first graders at 200 percent or below poverty reported their children were receiving speech/language therapy.

Figure CAH7: Services received at school or elsewhere:
1998 Oklahoma First Grade Health Survey



First graders at 100 percent or below poverty made up 35 percent of those in speech/language therapy, as well as children at 201 percent or above poverty. Seventy-four percent of parents of first graders at or below 200 percent of poverty were reported to be receiving psychological-counseling services. Among those at or below 200 percent of poverty, 39 percent were receiving psychological services. Twenty-three percent of first graders at or above 201 percent of poverty were reported to be receiving psychological/counseling services. Among all categories of selected services those at 186-200 percent of poverty were reported least frequently to be receiving services.

Figure CAH8: Number needing selected services 1998:
Oklahoma First Grade Health Survey



Among those who needed, but were not receiving special services, 70 percent at or below 200 percent of poverty were reported to be in need of reading lab, 70 percent in need of speech/language therapy, and 75 percent in need of psychological/counseling services. Among

those needing services, those between 186-200 percent of poverty were reported least frequently to be in need of services.

Looking at selected services for fifth graders by race/ethnicity, African-Americans were reported to receive counseling/psychological services and to be monitored for learning disability more frequently than other races/ethnicities. Hispanic/Latino children were reported to use speech/language services more frequently than children of other races/ethnicities.

Table CAH11: Selected services fifth graders* received, by race/ethnicity

	Sp/lan	%	Psych	%	LD	%
White	57	8.5	57	8.7	59	8.9
Afri-Am	3	9.4	5	16.3	4	12.1
Native Am	12	10.9	3	2.9	11	10.5
Other[#]	3	15.8	0	0.0	3	15.8
Hisp/Latino**	4	5.5	4	10.3	3	9.3

*1998 Oklahoma Fifth Grade Health Survey
**Hispanic can be of any race
[#]Other includes Asian, multi-racial, and other non-specified

The same selected services looked at by percent of the federal poverty level shows fifth grade children at 50 percent or below the poverty level were reported to receive counseling or psychological services elsewhere more frequently than other levels of poverty. Children at or below 185 percent of the poverty level were reported to receive counseling or psychological services more frequently than children at higher levels of poverty. Children at 101 percent to 150 percent of poverty were reported to be monitored for learning disability more frequently. Thirty-five percent of children at 200 percent of poverty or below were reported to receive counseling/psychological services elsewhere.

Table CAH12: Selected services received by fifth graders* at school or elsewhere, by poverty level

Percent of federal Poverty Level	Speech/Language		Counseling/Psych		Monitored for LD	
	School	Elsewhere	School	Elsewhere	School	Elsewhere
<=50%	9.3	0.0	1.7	11.1	9.3	0.0
51-100%	6.7	0.9	5.2	5.9	5.9	0.0
101-150%	9.2	0.9	2.8	2.9	10.9	2.9
151-185%	7.1	0.0	6.2	3.7	`6.2	1.3
186-200%	3.0	0.0	3.0	0.0	3.0	0.0
201-250%	6.7	1.1	2.9	2.2	5.9	3.4
251%+	4.1	0.5	4.9	2.9	5.3	1.5

*1998 Oklahoma Fifth Grade Health Survey

Barriers to health care

When asked about barriers to receiving health care for their children, the leading factor preventing access to care was cost. Fourteen percent of parents of toddlers, 17 percent of parents of first graders, and 20 percent of parents of fifth graders reported it was too expense. Parents of two year olds and fifth graders reported they couldn't miss school or work as the second most frequently cited factor preventing them from getting health care for their children (7.3 percent and 8.1 percent respectively). Parents of fifth graders reported not having a regular health care provider as the second most frequently reported factor (14.2 percent), while parents of toddlers and first graders reported this third most frequently (5.5 percent and 7 percent respectively). The third most frequently reported barrier for parents of fifth graders was that the right type of service was not available (5.4 percent). As a comparison, a similar question about access is found on the Behavior Risk Factor Surveillance System (BRFSS) asks adults about barriers they may experience in accessing health care. Eleven percent responded they were unable to see a doctor in the past year because of cost. Twenty-eight percent reported they were without any kind of health insurance.

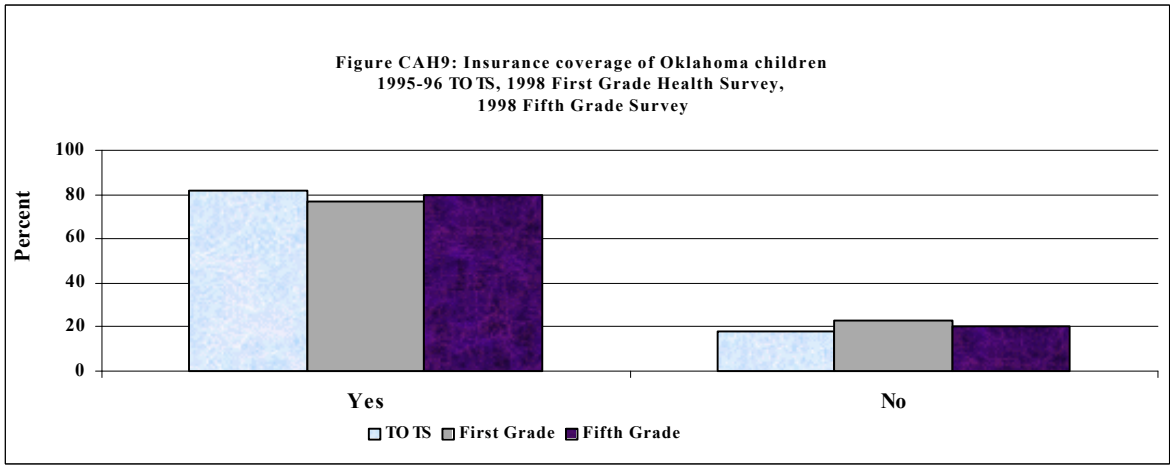
Table CAH12: Factors Preventing Parents from Getting Health Care for Their Children

	TOTS*		1st Grade**		5th Grade***	
Reason	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
It was too expensive	353	14.1	181	16.7	213	20.1
Right type of service not available	74	3.0	51	4.7	57	5.4
No Transportation	155	6.0	71	6.6	51	4.9
Did not have a regular health care provider	134	5.5	76	7.0	149	14.2
Couldn't find a provider who would take my child	65	3.2	35	3.2	31	3.0
Attitude of Provider or Staff	141	5.8	40	3.7	36	3.4
Couldn't miss school or work	173	7.3	88	8.1	74	7.1
No child care for other children	70	2.8	30	2.8	27	2.6
Other	28	1.3	5	0.5	-	-

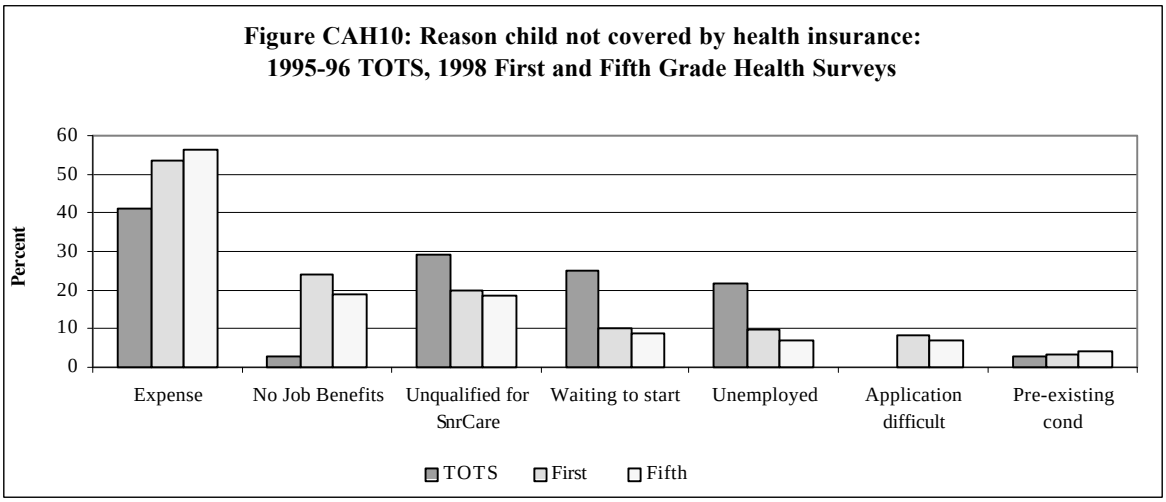
*The Oklahoma Toddler Survey (TOTS) 1995-96 Summary Report
**1998 Oklahoma First Grade Health Survey
***1998 Oklahoma Fifth Grade Health Survey

Health care financing

Eighty-two percent of parents of toddlers reported their children were covered by health insurance. Levels of insurance coverage are slightly lower for first and fifth graders, however. Parents reported that 77 percent of first graders and 80 percent of fifth graders were covered with medical insurance. When asked why their children were not covered by health insurance, parents of all age groups cited expense most often. Forty-one percent of parents of toddlers, 54 percent of first grade parents, and 56 percent of fifth grade parents reported health insurance was too expensive. Nearly 30 percent of toddler parents reported their children were not qualified for Medicaid, and 25 percent reported they were waiting for coverage to begin. Twenty-two percent of toddler parents reported their children were not covered because they were unemployed, and 3 percent reported their job did not offer insurance for their children. Nearly 3 percent reported their children's pre-existing condition prevented them from providing health coverage for their toddler.



Among first grade parents, 25 percent reported they did not have job benefits that covered their children, 10 percent were waiting for coverage to begin, 20 percent were unqualified for Medicaid, and 10 percent were unemployed. Eight percent reported the Medicaid application was too complicated, and 3 percent said their child's pre-existing condition prevented them from insuring their children.

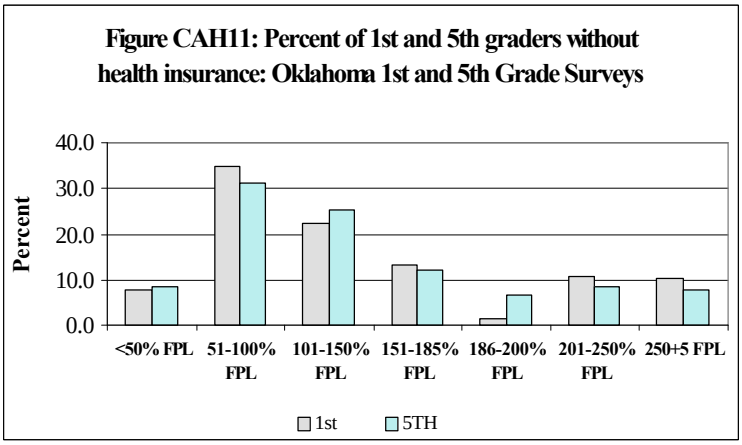


Among uninsured children, eighteen percent of parents of fifth graders did not qualify for Medicaid, and 18 percent reported their jobs did not include insurance benefits for children. Nine percent were waiting for coverage to begin. Seven percent were unemployed, and another 7 percent said the application was too complicated. Four percent reported their children's pre-existing condition prevented them from providing insurance.

Table CAH14: Why first graders do not have insurance coverage by race/ethnicity

	White	Afri-Am	Native Am.	Multi/Oth+	Hisp/Latino
Too expensive	62.6	50.0	37.2	54.2	47.4
Unemployed	11.7	14.3	7.0	4.2	10.5
Employer did not offer	25.8	28.6	25.6	20.8	36.8
Not qualified for Medicaid	25.2	7.1	11.6	16.7	26.3
Medicaid application complicated	8.6	14.3	4.7	12.5	2.3
Waiting for coverage to begin	12.3	7.1	2.33	12.5	15.8
Child's pre-existing condition	3.7	0.0	2.3	0.0	0.0

In analyzing why children are not covered with health insurance by race/ethnicity, the number of fifth grade parents reporting why their children were not insured was too small to calculate reliable percentages. Between 20 percent to 37 percent of first grade parents of all races/ethnicities reported employers did not offer insurance for their children. It is important to note the dramatic increase of employer insurance not covering first and fifth graders as compared to toddlers. Not being qualified for Medicaid was reported frequently for white and Hispanic/Latino parents (25 percent and 26 percent respectively). Unemployment was a reason reported by 14 percent of African-American parents, 11 percent of Hispanic/Latino, 12 percent of white and 7 percent of Native American parents. Over 16 percent of Hispanic/Latino parents reported they were waiting for coverage to begin, and 13 percent of multi-racial/other, 12 percent of white, 7 percent of African-American and 2 percent of Native American reported they were waiting for coverage. Their children's pre-existing condition was reported by just over 4 percent of white and 2 percent of Native American parents.



Poverty, which is associated with greater morbidity, affects ability of parents to provide health insurance for their children. Among uninsured first graders, 42 percent of those at or below 100 percent of poverty were without insurance. Additionally, 22 percent of those at 101 percent to 150 percent of poverty, 13 percent of those at 151 percent to 185 percent of poverty and 2 percent of those at 186 percent to 200 percent above poverty were without insurance coverage for their children. A similar trend is seen with fifth graders. Taken together, approximately 40 percent of fifth graders at or below 100 percent of poverty were without insurance. Twenty-five percent of those at 101 percent to 150 percent of poverty, 12 percent of those 151 percent to 185 percent of poverty, and 7 percent of those 186 percent to 200 percent above poverty were without health insurance.

Reasons for not providing insurance for their children, as reported by parents of first and fifth graders, was analyzed by poverty level. Those at 50 percent or below poverty, and those 186 to 200 percent and above are not represented in the table because the number of respondents were too small to calculate reliable percentages. As seen in previous tables, the most frequently reported reason for not insuring their children was expense. This is found at all levels of poverty for both grade levels. Employer not offering insurance for the their children, and not being qualified for Medicaid were the second most frequently reported reasons for both grade levels. Parents of first and fifth graders at 51-100 percent and 151-185 percent of poverty most frequently reported their employer did not offer insurance for their children. Parents of those two age groups also frequently reported they did not qualify for Medicaid. Children's pre-existing condition was reported as the reason for not having insurance for 16 percent of fifth grade parents.

Table CAH15: Why no health insurance coverage for first* and fifth graders by poverty level**

	First Grade			Fifth Grade		
	51-100%	101-150%	151-185%	51-100%	101-150%	151-185%
Too expensive	68.1	52.2	52.0	62.7	61.9	52.2
Unemployed	8.7	4.6	8.0	6.9	7.1	4.4
Employer not offer	31.9	15.9	32.0	22.4	11.9	21.7
Not qualified for Medicaid	28.3	13.6	24.0	24.1	21.4	17.4
Medicaid application complicated	11.6	6.8	0.0	13.8	4.8	0.0
Waiting for coverage to begin	11.6	9.1	4.0	12.1	9.5	0
Child's pre-existing condition	1.5	2.3	0.0	5.2	2.4	8.7

*1998 Oklahoma First Grade Health Survey

**1998 Oklahoma Fifth Grade Health Survey

In summary, the surveys suggest that families at 51 percent to 185 percent of poverty are vulnerable to not being able to provide health insurance for their children. Also, parental responses about not being eligible for Medicaid, even though some of those were at or below 185 percent of poverty indicates an unawareness of the Children's Health Insurance Program (CHIP) or an unwillingness to participate. Additionally, parents with children with pre-existing conditions may be eligible for the Children with Special Health Care Needs program.

Immunization

The National Immunization Survey (NIS) results showed that for fiscal year 1999 seventy-nine percent of Oklahoma children 19-35 months of age were up-to-date on their immunizations with four doses of diphtheria, tetanus, pertussis, three doses of poliomyelitis, and one dose of measles, mumps, and rubella. Oklahoma's two year old coverage levels improved between FY 1998 and 1999, from 72 percent of two year olds to 78 percent of two year olds being immunized, raising Oklahoma's national ranking from 48th to tying for 31st. This success is partly due to the registry. activities include sending reminders to parents whose children are overdue for immunizations, as well as Governor and Mrs. Keating using Hallmark greeting cards to carry immunization messages to new parents.

Table CAH17: Immunization Two Year Old Survey, 1999

Survey Year	Percent UTD with 4:3:1*	Birth Cohort
1993	65	1990
1994	69	1991
1995	72	1992
1996	74	1993
1997	74	1994
1998	73	1995
1999	78	1996

*4DTP/DTaP, 3 Polio, 1MMR

The Oklahoma Maternal and Child Health Service includes the state's Immunization Division and its Oklahoma State Immunization Information System (OSIIS). As of June 1999, 74 percent of children 5 years of age or younger were enrolled in the registry, and 32 percent of all providers were enrolled. Challenges to enrolling providers have included double entry in billing

and registry data bases resulting in problems for provider staff and non-computerized provider offices, and software purchasing limitations. Also, rapid growth during the initial stages of registry setup delayed enrollment for some providers.

Cultural sensitivity and care receiver satisfaction:

The treatment parents receive and their perceptions of how their children are treated by health care providers and personnel have an impact on accessing health care services. The Consumer Assessment of Health Plan Survey (CAHPS) contains questions that are specifically for Medicaid parents to answer about their experiences with their managed care. Over 1000 consumers of managed care participated in this 1998 survey in Oklahoma. Of those who responded, approximately 2 percent reported they spoke a language other than English in the home. Reports of translation difficulties were minimal. The overwhelming majority of managed care recipients were satisfied with their treatment. For example, less than 10 percent reported they were never or sometimes treated with respect or that things were never or sometimes well explained. However, between 10 percent and 15 percent reported that the staff were never helpful or sometimes were as helpful as expected, that providers listened to them carefully, or respected what the parents had to say.

Table CAH17: Consumer satisfaction with care:
Oklahoma Consumer Assessment of Health Provider Survey: 1998

	Usually/Always	Sometimes/Never
Staff treated parent & child with respect	91.7	8.3
Staff were helpful	86.3	13.7
Providers listened carefully	87.5	12.6
Things explained well	90.6	9.4
Respected what parent had to say	88.7	11.3
Difficulty understanding because of parent's language	4.5	95.5
Difficulty understanding because of providers' language	3.0	97.0
Needed interpreter	1.5	98.5

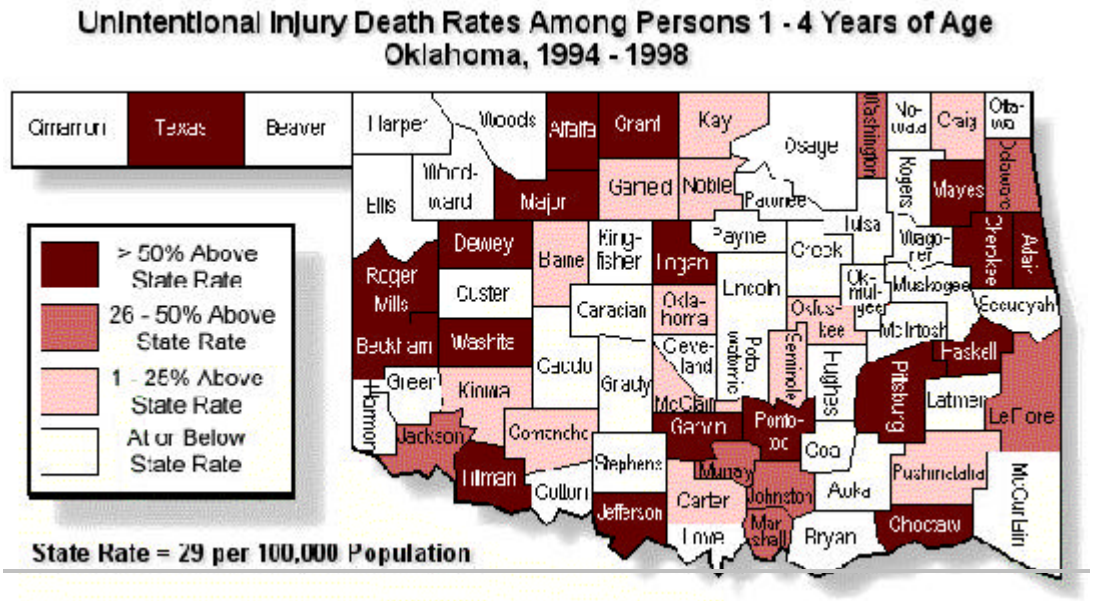
Medicaid managed care in Oklahoma was implemented within the past five years. The CAHPS survey is a tool for assessing care receiver satisfaction with this publicly financed health care. The majority of survey respondents were satisfied with their managed care experiences for their children. However, with close to 10 percent or more of respondents reporting they were not listened to carefully, that provider staffs were not as helpful as expected, or that things were not carefully explained suggests a need for increased provider/staff communication sensitivity, and

that care receivers might benefit from empowerment programs in order to increase satisfaction with these communication issues.

Child, Adolescent, and Young Adult Mortality:

Based on data from Oklahoma Vital Records, 2,075 children, adolescents, and young adults between the ages of 1 and 24 years of age died in Oklahoma during the period 1996 to 1998 (Table CAH18). The death rate for children 1 to 4 years old during 1996-1998 was 44.5 per 100,000 population, 9 percent lower than the rate of 49.1 for the years 1995-1997. For the period 1995-1997 to 1996-1998, the respective death rates for children, teenagers, and young adults aged 10 to 14, 15 to 19, and 20 to 24 declined by 8 percent, 4 percent, and 2 percent, respectively. For children aged 5 to 9 years, the death rates have increased by 4 percent over the same period. Since 1988-1990, death rates have declined by 18 percent for children 1 to 4 years old, by 4 percent for children 5 to 9 years old, by 3 percent for children 10 to 14 years old, by 8 percent for teenagers 15 to 19 years old, and 2 percent for young adults 20 to 24 years old.

Map CAH1:



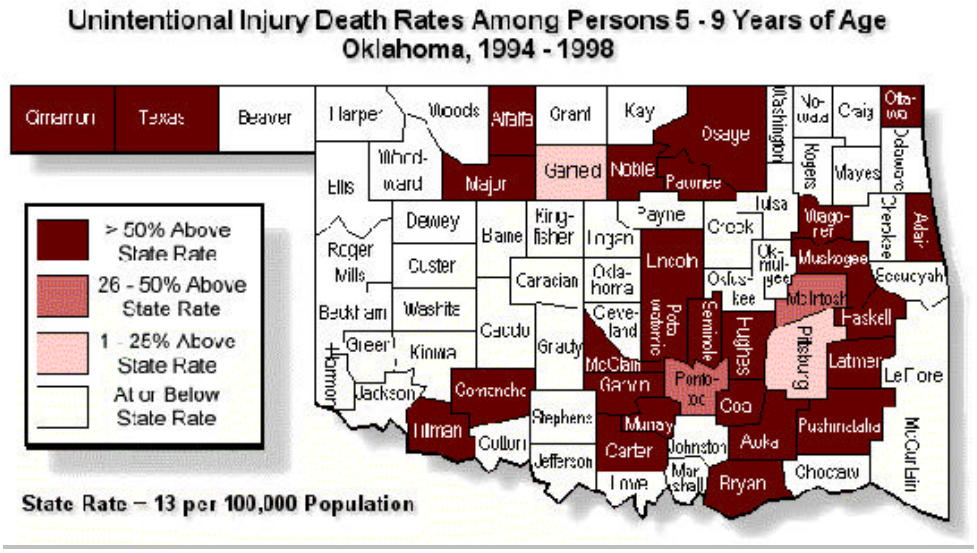
For children 1 to 4 years of age, unintentional injury was the leading cause of death with congenital anomalies and homicide as the second and third causes, respectively. Unintentional

injuries accounted for nearly 46 percent of all deaths in this age group. Death rates for unintentional injuries and congenital anomalies have decreased 19 percent and 26 percent, respectively, since 1988-1990. Nervous system dysfunctions and diseases of the heart were the fourth and fifth leading causes of death in this age group, representing 6 percent and 5 percent of all deaths in this age group for years 1996-1998.

Map CAH1 presents five-year unintentional injury mortality rates for children ages one to four. Counties with rates greater than 50 percent above the state rate include Texas county in the panhandle; Roger Mills, Beckham, Washita, Dewey counties in the western section of the state; Tillman, and Jefferson counties in the south bordering Texas; Major, Alfalfa and Grant counties in the northwestern section of the state; Logan, and Garvin counties in the central portion; Pontotoc, Choctaw, Pittsburg and Haskell counties in the eastern section; and Mayes, Cherokee, and Adair counties in the northeast.

For children 5 to 9 years old, unintentional injury, cancer, nervous system diseases, and congenital anomalies were the leading causes of death. Unintentional injury accounted for 47 percent of all deaths in 1996-1998, while the second leading cause of death, cancer, accounted for 12 percent of all deaths in this age group. Since 1988-1990, death rates attributable to unintentional injury and cancer have declined by 9 percent and 26 percent, respectively.

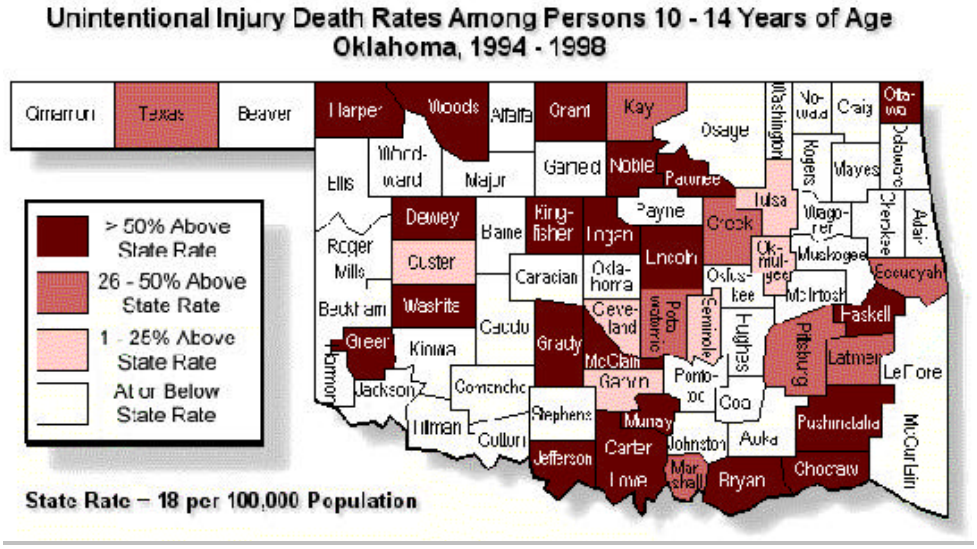
Map CAH2:



Map CAH2 shows the distribution of five-year unintentional injury death rates for children age five to nine for each county. The counties with the higher rates are generally clustered in the central to eastern portion of the state. Twenty-seven counties had rates more than 50 percent higher than the state rate of 13 deaths per 100,000 population in that age group.

For children 10 to 14 years of age, unintentional injury was the leading cause of death and accounted for 42 percent of all deaths in this age group. The second leading cause of death was homicide, followed by cancer and suicide. The death rate attributable to unintentional injuries for this age group has declined by 10 percent since 1988-1990. For the second leading cause of death, homicide, the death rate nearly doubled from 1.7 to 3.3 per 100,000 population over this same period. The cancer and suicide death rates for this age group decreased by 31 percent and 21 percent, respectively, over the period 1988-1990 to 1996-1998.

Map CAH3

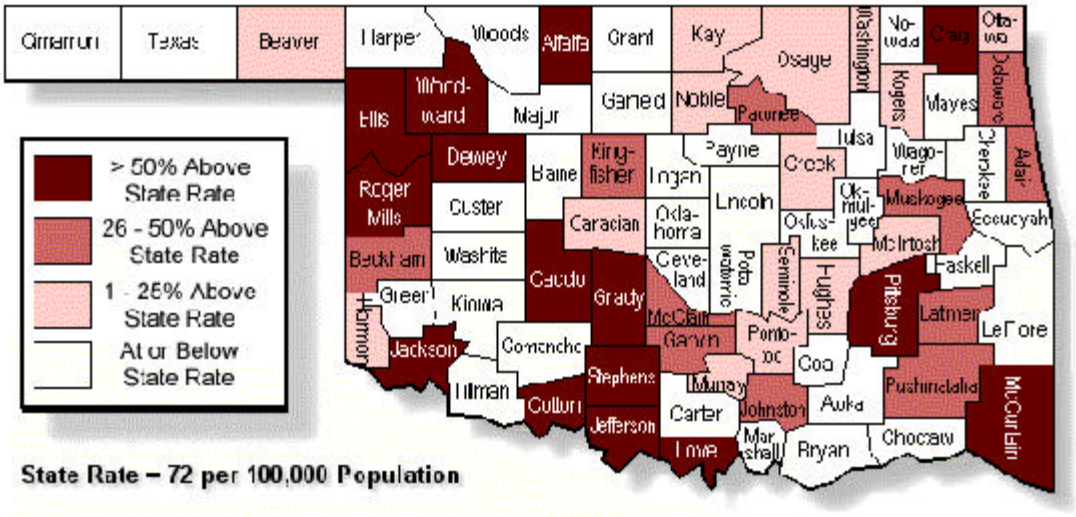


Map CAH3 shows the distribution of 1994-1998 unintentional injury death rates for children between the ages of 10 to 14. There is not a clear geographic pattern to define those counties with rates above the state rate of 18 per 100,000.

For teenagers aged 15 to 19 years, unintentional injuries, the leading category of death, accounted for nearly 53 percent of all deaths in 1996-1998. The death rate for unintentional injuries has dropped by 13 percent since the period 1988-1990. For the age group, suicide was the second leading cause of death for years 1996-1998 with 107 teenagers taking their own life. Suicide deaths accounted for more than 15 percent of all deaths for this age group. The teen homicide rate has increased by nearly 11 percent from 11.1 per 100,000 population in 1988-1990 to 12.3 per 100,000 population in 1996-1998, making homicide deaths the third leading cause of death to teens aged 15 to 19 years. Approximately 29 percent of all deaths to teens can be attributed to homicide and suicide.

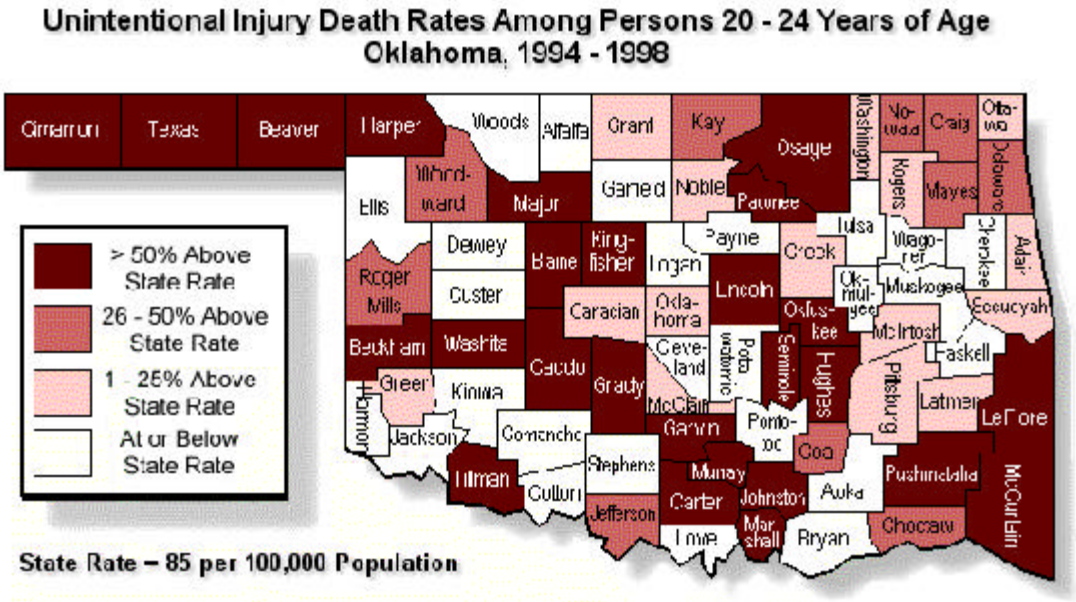
Map CAH4

Unintentional Injury Death Rates Among Persons 15 - 19 Years of Age
Oklahoma, 1994 - 1998



Map CAH4 presents 1994 to 1998 unintentional injury deaths to teens aged 15-19 for each county. Fifteen counties reported rates at least 50 percent higher than the state rate of 72 per 100,000. These counties are located predominately in the central and west portions of the state and are rural areas.

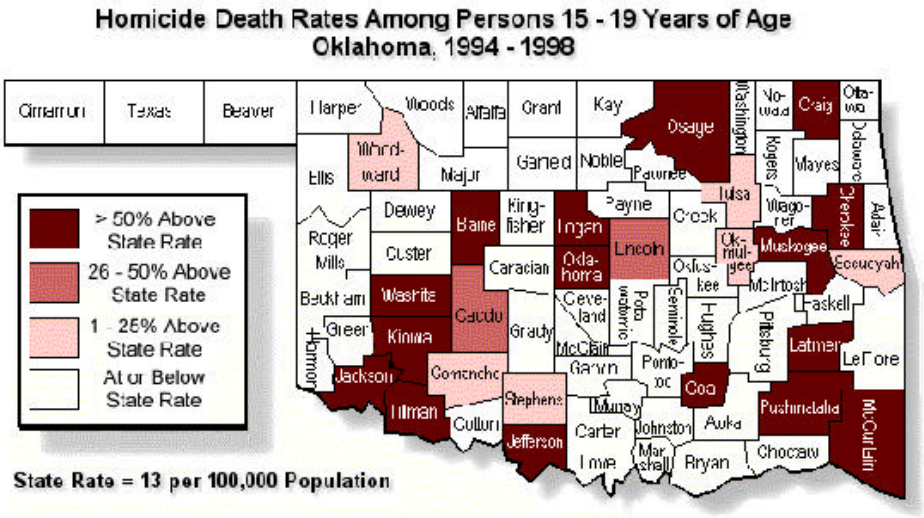
Map CAH5:



Map CAH5 presents the 1994 -1998 unintentional injury death rate for young adults age 20 to 24. These counties are not concentrated, but are distributed somewhat evenly throughout the state and represent counties considered rural.

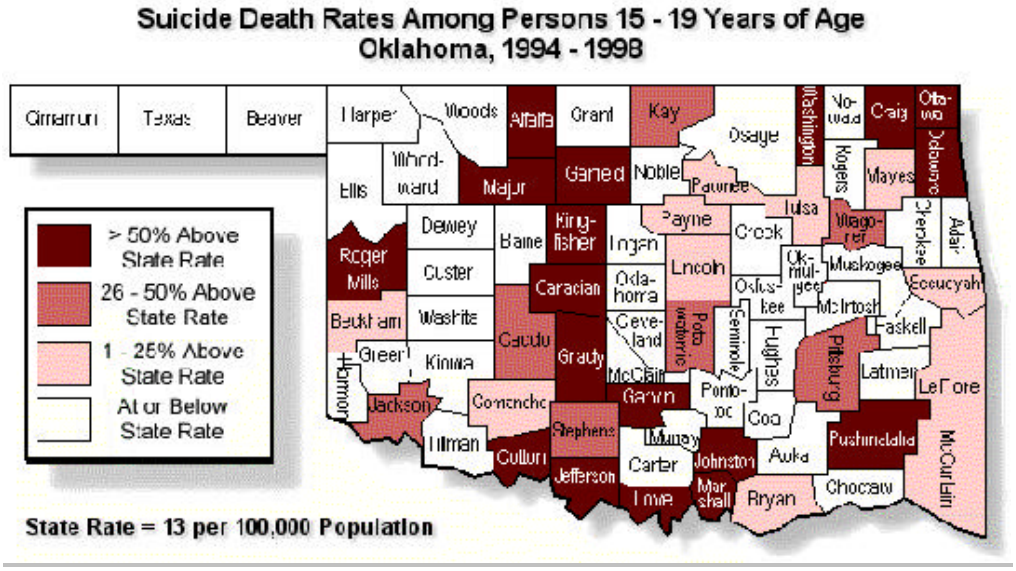
Unintentional injury was the leading cause of death for young adults aged 20 to 24 years with suicide and homicide deaths representing the second and third causes, respectively. Unintentional injuries accounted for nearly 45 percent of all deaths in this age group. The death rate for unintentional injuries has declined by 10 percent over the period 1988-1990 to 1996-1998. Death rates for suicide and homicide have increased by 4 percent and 17 percent, respectively, over this same time period. Of the 742 deaths to this age group for the three-year period 1996 to 1998, 235 deaths were attributed to suicide and homicide, with more than 30 percent of the deaths to young adults were attributed to these causes of death.

Map CAH6:



Counties with rates over 50 percent of the state rate of 13 per 100,000 are clustered in two distinct county groups, among other dispersed counties. McCurtain, Pushmataha, and Latimer counties in the southeast corner is one clustered county group. Blaine, Washita, Kiowa, Jackson Caddo and Tillman in the south/southwest area is a second cluster of counties. Logan, Oklahoma, and Lincoln counties also reported rates from 26 percent to over 50 percent of the state rate, and are part of the Oklahoma City metropolitan statistical area.

Map CAH7



Map CAH7 presents the five year suicide death rates for teens 15-19 years of age . There is an obvious corridor of rates over 50 percent of the state rate of 13 per 100,000. Counties in the corridor include Alfalfa, Major, Garfield, Kingfisher, Canadian, Grady, Garvin, Cotton, Jefferson, Love, Marshall, and Johnston. Three counties, Kay, Caddo and Stephens, with rates 26 to 50 percent above the state rate are also found in this corridor. Other counties with rates over 50 percent of the state rate include Roger Mills, Pushmataha, Washington, Craig, Ottawa, and Delaware. Other counties with rates between 26 and 50 percent over the state rate include Jackson, Pottawatomie, Pittsburg, and Wagoner.

In summary, the leading cause of death for all age groups was found to be unintentional injuries. Further investigation by type of unintentional injury and by gender are needed to obtain a clearer picture of unintentional injury deaths, and possible educational and prevention programs that could ameliorate the affects of unintentional injuries.

Of concern are the increases seen in homicide and suicide among 10 to 24 years olds, an eleven percent increase of homicide among 15-19 year olds, and a 17 percent increase for 20-24 year olds. Further analysis of homicide deaths by type of homicide (i.e., drug or gang related, intimate partner violence) is needed to clarify the threat to teens and young adults.
Thirty percent of deaths to 15-24 year olds is attributed to homicide or suicide. Further analysis of cause of death by race and gender, and relationships in the case of homicide deaths, and by method in the case of suicide, is also needed to better define the contribution of both types of mortality to adolescent and young adult mortality.

Table CAH18. Deaths and rates for leading causes of childhood death, by age groups, for three year periods: Oklahoma

(Rank based on number of deaths for three year period 1996-1998. Rates are deaths per 100,000 population in specified group.)

Cause of death and age	Rank	1996-1998 Number	1996-1998 Percent	1996-1998 Rate	1995-1997 Number	1995-1997 Percent	1995-1997 Rate	1988-1990 Number	1988-1990 Percent	1988-1990 Rate
Total: 1-24 years										
All causes		2075	100.0	59.3	2144	100.0	78.7	2148	100.0	63.2
Accidents and adverse effects (E800-E949)	1	987	47.6	28.2	1006	46.9	36.9	1085	50.5	31.9
Homicide and legal intervention (E960-E978)	2	257	12.4	7.4	277	12.9	10.2	205	9.5	6.0
Suicide (E950-E959)	3	246	11.9	7.0	259	12.1	9.5	236	11.0	6.9
Malignant Neoplasms (140-208)	4	115	5.5	3.3	123	5.7	4.5	126	5.9	3.7
Diseases of heart (390-398, 402, 404-429)	5	70	3.4	2.0	78	3.6	2.9	62	2.9	1.8
1-4 years										
All causes		242	100.0	44.5	269	100.0	49.1	311	100.0	54.8
Accidents and adverse effects (E800-E949)	1	111	45.9	20.4	120	44.6	21.9	143	46.0	25.2
Congenital Anomalies (740-759)	2	26	10.7	4.8	23	8.6	4.2	37	11.9	6.5
Homicide and legal intervention (E960-E978)	3	17	7.0	3.1	32	11.9	5.8	20	6.4	3.5
Nervous system and sense organs (320-389)	4	15	6.2	2.8	13	4.8	2.4	19	6.1	3.3
Diseases of heart (390-398, 402, 404-429)	5	13	5.4	2.4	14	5.2	2.6	12	3.9	2.1
5-9 years										
All causes		176	100.0	24.6	169	100.0	23.7	190	100.0	25.7
Accidents and adverse effects (E800-E949)	1	83	47.2	11.6	72	26.8	10.1	95	50.0	12.8
Malignant Neoplasms (140-208)	2	22	12.5	3.1	25	9.3	3.5	31	16.3	4.2
Nervous system and sense organs (320-389)	3	11	6.3	1.5	13	4.8	1.8	9	4.7	1.2
Congenital Anomalies (740-759)	4	10	5.7	1.4	9	3.3	1.3	13	6.8	1.8
Homicide and legal intervention (E960-E978)	5	9	5.1	1.3	8	3.0	1.1	2	1.1	0.3
10-14 years										
All causes		215	100.0	28.3	237	100.0	30.9	204	100.0	29.4
Accidents and adverse effects (E800-E949)	1	91	42.3	12.0	98	41.4	12.8	93	45.6	13.4
Homicide and legal intervention (E960-E978)	2	25	11.6	3.3	23	9.7	3.0	12	5.9	1.7
Malignant Neoplasms (140-208)	3	22	10.2	2.9	20	8.4	2.6	15	7.4	2.2
Suicide (E950-E959)	4	14	6.5	1.8	19	8.0	2.5	16	7.8	2.3
Respiratory system (460-519)	5	12	5.6	1.6	9	3.8	1.2	8	3.9	1.2
15-19 years										
All causes		700	100.0	89.7	715	100.0	93.9	695	100.0	97.7
Accidents and adverse effects (E800-E949)	1	370	52.9	47.4	375	52.4	49.2	391	56.3	55.0
Suicide (E950-E959)	2	107	15.3	13.7	98	13.7	12.9	102	14.7	14.3
Homicide and legal intervention (E960-E978)	3	96	13.7	12.3	99	13.8	13.0	79	11.4	11.1
Malignant Neoplasms (140-208)	4	26	3.7	3.3	36	5.0	4.7	29	4.2	4.1
Diseases of heart (390-398, 402, 404-429)	5	19	2.7	2.4	25	3.5	3.3	16	2.3	2.2
20-24 years										
All causes		742	100.0	106.7	754	100.0	108.5	748	100.0	109.3
Accidents and adverse effects (E800-E949)	1	332	44.7	47.7	341	45.2	49.0	363	48.5	53.1
Suicide (E950-E959)	2	125	16.8	18.0	142	18.8	20.4	118	15.8	17.2
Homicide and legal intervention (E960-E978)	3	110	14.8	15.8	115	15.3	16.5	92	12.3	13.4
Malignant Neoplasms (140-208)	4	38	5.1	5.5	31	4.1	4.5	40	5.3	5.8
Diseases of heart (390-398, 402, 404-429)	5	28	3.8	4.0	25	3.3	3.6	18	2.4	2.6

Tobacco Use

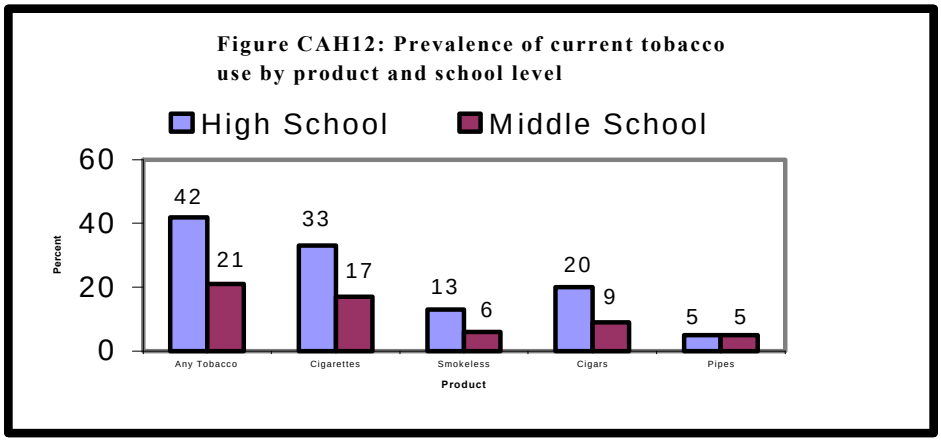
Tobacco use remains the leading preventable cause of death in the United States, causing almost 500,000 deaths per year and resulting in an annual cost of more than $50 billion in direct medical costs. The Centers for Disease Control and Prevention (CDC) has estimated that 20 percent of deaths are caused by tobacco use. Cigarette smoking contributes to a remarkable number of diseases, including coronary heart disease, stroke, chronic obstructive pulmonary disease, peripheral vascular disease, and many types of cancer. Each year, smoking kills more people than AIDS, alcohol, drug abuse, car crashes, murders, suicides, and fires combined. Of the more than 40 million smokers in the United States, 34 percent attempt to quit each year, but less than 10 percent actually succeed.

According to the CDC, approximately 80 percent of present adult smokers began smoking before the age of 18. Each day nearly 3,000 teenagers smoke a cigarette for the first time. Many teens are aware of the hazards of smoking, but few are worried about them. This may be due, in part, to an argument often made by the scientific community to encourage smokers to quit. The conjecture being that all of the adverse health effects of smoking are reversible shortly after cessation, regardless of the duration or intensity of the smoking exposure. Unfortunately, this conjecture is not true. Teenagers may believe incorrectly that they can smoke a few years without suffering any long-term effects. This complacency is particularly troubling given recent scientific findings that suggest the prevalence of teen smoking is on the rise.

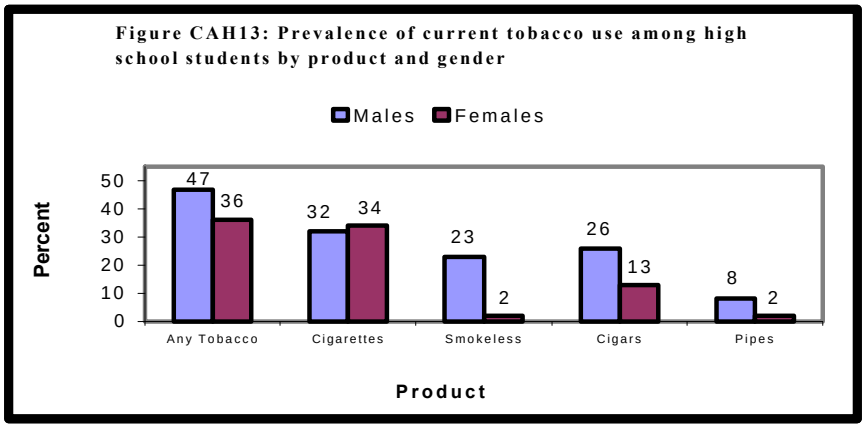
Smoking among young people can have both short- and long-term health consequences. The immediate effects include damage to the respiratory system, addiction to nicotine, and the associated risk of other drug use. Smoking directly irritates and damages the respiratory tract. This irritation and damage may cause a variety of symptoms, including bad breath, cough, sputum production, wheezing, and respiratory infection such as bronchitis and pneumonia. These effects may be reduced, but not completely reversed, by cessation. The younger people start smoking cigarettes, the more likely they are to become addicted strongly to nicotine. Thus, most teen smokers quickly succumb to nicotine addiction. Many report that they want to quit but are unable to do so. Teen smokers experience high relapse rates and debilitating withdrawal symptoms. Youth who smoke are also more likely to use illicit drugs and to drink more heavily

than their peers who do not smoke. The CDC reports that teens who smoke are three times more likely than nonsmokers to use alcohol, eight times more likely than nonsmokers to use marijuana, and 22 times more likely than nonsmokers to use cocaine. In addition, smoking has been associated with a number of other risky behaviors, such as physical fighting and participating in unprotected sex.

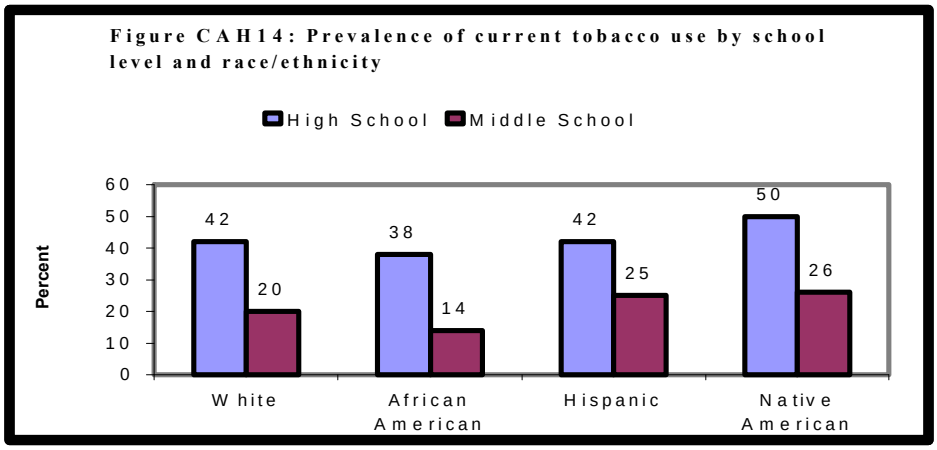
Long-term health consequences of youth smoking are reinforced by the fact that a large proportion of individuals who initiate smoking in adolescence will continue to smoke as adults. Smoking is the principal risk factor for the development of chronic obstructive pulmonary disease (COPD). The deterioration in lung function associated with COPD is directly related to duration of smoking and the number of cigarettes smoked. Smoking during childhood not only increases the risk of developing COPD in adulthood but also lowers the age of its onset. Cigarette smoking during adolescence increases the number and severity of respiratory illnesses. Young persons who smoke are subject to a retardation in the rate of lung development and in the level of maximum lung function. A slower rate of lung growth during childhood means that the lungs may never attain normal function and development. Research indicates the risk for most smoking-related cancers rises as an individual continues to smoke. In particular, smoking at an early age greatly elevates the risk or likelihood of developing lung cancer. In adults, cigarette smoking causes heart disease and strokes. Studies have indicated that early signs of diseases are evident among adolescents who smoke.



In short, cigarette smoking is costly, both to the individual smoker and to society as a whole. Recent long-term studies indicate that more than five million children living today will die prematurely because of a decision made as adolescents to begin smoking.

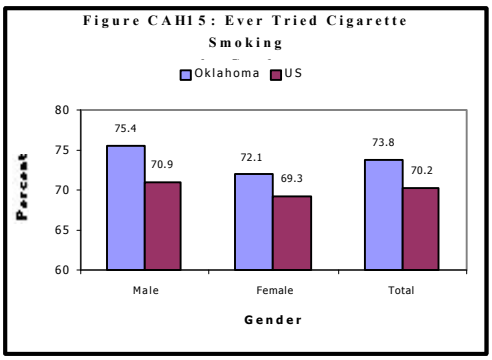


Prevalence of tobacco use among adolescents in Oklahoma has been estimated from data collected from the Oklahoma Youth Tobacco Survey (1999). Overall, 42 percent of high school students and 21 percent of middle school students are current users of any form of tobacco products. Current tobacco use is defined as using tobacco at least once in the preceding 30 days. One-third of Oklahoma high school students and 17 percent of middle school students report being current cigarette smokers. The prevalence of current use of any tobacco product shows an increasing trend as grade level increases. The most striking increase is observed between the sixth and seventh grade, when prevalence doubles from 12 percent among sixth graders to 24 percent among seventh graders (data not shown).



Nearly half (47 percent) of all high school males reported currently using some form of tobacco. For all tobacco products except cigarettes, males reported higher prevalence rates than their female counterparts. The proportion of current smokers among males and females was similar for high school students, 32 percent for males as compared to 34 percent for females. Results for middle school students paralleled those for high school students.

Racial disparities are evident when examining current tobacco use prevalence rates among both middle school and high school students in Oklahoma. The prevalence of current use of any tobacco product was highest among Native American students in both middle school and high school. Figure 3 shows that approximately 50 percent of Native American high school students and about 26 percent of Native American middle school students reported being current users of some form of tobacco. This is considerably higher than their white and African American peers. The high frequency of reported use by Native American teens may be partially attributed to cultural practices, since many religious and cultural ceremonies involve tobacco. African American students at both school levels reported the lowest rates of current tobacco use. Results of the Oklahoma Youth Tobacco Survey also indicate that middle school Native American students have the highest rates of current use for cigarettes and smokeless tobacco. Hispanic/Latino students of the same school level reported the highest prevalence of cigar and pipe smoking.



Aggregate data provided by the 1999 Oklahoma Youth Risk Behavior Survey indicate that 73.8 percent of students have ever tried cigarette smoking. This estimate is five percent higher than the National figure of 70.2 percent. Male students in Oklahoma are more likely than their female peers to have tried cigarette smoking (Figure 1.). This finding mirrors that of the National data; however, there is a larger separation between the percent of male students and the percent of females students who smoke in Oklahoma. Also, a higher percentage of both males and females in Oklahoma report having ever tried cigarette smoking when compared to National data. This large proportion of students experimenting with cigarette smoking puts a considerable

number of adolescents at risk of becoming regular smokers. Further analysis is needed to understand the prevalence of smoking among young adults. Investigation of current smoking, and efforts to stop will provide further information about this health risk behavior.

Home environment

Births to unmarried women numbered 16,403 in 1998, making up 33.5 percent of all births. The age group with the highest proportion of births to unmarried women was the 20 to 24 year old age cohort, with 37.5 percent of births. Of births to teens where marital status is known, 82.5 percent of births to 10 to 15 year olds were to unmarried females. For teens 18-19 years of age, 64 percent of births were to unmarried women. Comparison of 1998 births to 1975 shows that women ages 15-17 contributed to the greater proportion of unmarried births (29.3). Also, all teen births from ages 10 to 19 contributed 54.1 percent to all unmarried births. Unmarried births in Oklahoma follow the national trend.

Table CAH19: Family Structure of Oklahoma Children

	TOTS*	1st**	5th***
Own Parents	73.0	57.0	58.9
Step Parent	3.1	15.5	15.7
Single Parent	23.3	24.1	15.4
Other family	-	-	9.9

*1995-96 The Oklahom Toddler Survey Summary Report
**1998 Oklahoma First Grade Health Survey
***1998 Oklahoma Fifth Grade Health Survey

Surveys of Oklahoma parents can provide an estimate of family structure. The Oklahoma Toddlers Survey summary report for 1995-96 shows that 73 percent of mothers were married to their child's biological father at age two of the child, 3 percent were married to their child's step parent, and 23 percent were not currently married, being either divorced, widowed, separated, or never having been married. The 1998 Oklahoma First Grade Health Survey and the 1998 Oklahoma Fifth Grade Survey asks the current living arrangements of the child. Of first graders, fifty-seven percent of respondents were married to the child's biological parent, 16 percent were married to a person not the child's biological parent, and 24 percent were not currently married, either divorced, widowed, separated, or never married. For fifth graders, of those parents who responded, 59 percent of children were living in a home with their biological parents, 16 percent were living in a step parent household, 15 percent were living with a single parent, and 10 percent were living with other family members.

Exposure to tobacco smoke

Exposure to tobacco smoke is believed to be associated with higher morbidity in children. Parents were asked about how many hours per day their children were exposed to tobacco smoke. Thirty-seven percent of parents of toddlers reported their children were exposed to tobacco smoke for at least one hour per day, compared with 47 percent of first graders, and 43 percent of fifth graders.

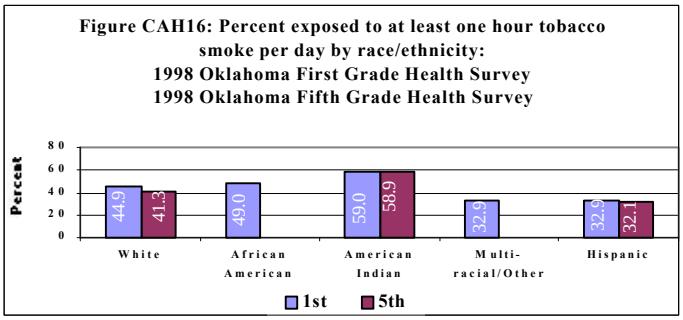
Table CAH20:Exposure to at least one hour of cigarette smoke per day, by Poverty Level

	1st	5th
	Percent	Percent
<50%	61.3	72.2
51-100%	63.6	60.1
101-150%	57.9	53.2
151-185%	53.2	49.5
186-200%	27.3	36.4
200-250%	39.5	36.5
251%+	26.4	19.6

Source: Oklahoma 1st and 5th Grade Surveys

When exposure to tobacco smoke is examined by poverty level, it is found that the lower the poverty level, the greater the percent reported to be exposed to tobacco smoke at least one hour per day.

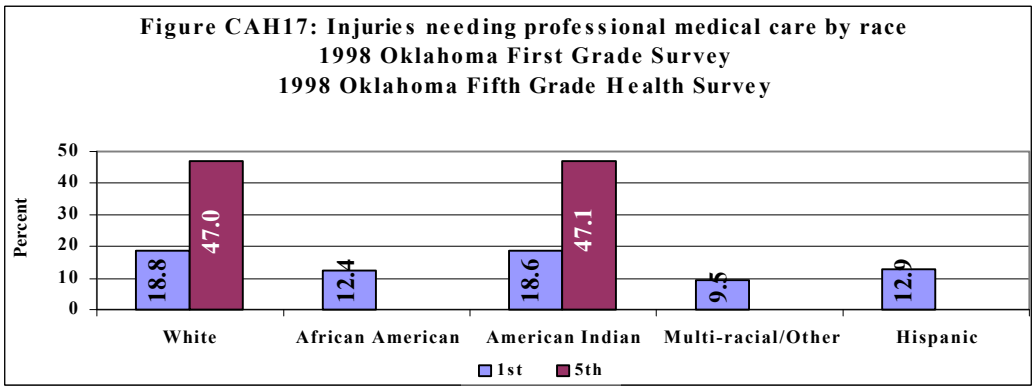
Looking at the same question by race reveals that nearly 60 percent of parents of Native American first and fifth graders reported their children are exposed to at least one hour of tobacco smoke per day, compared with 49 percent of African American children, 45 percent of white first graders, and 41 percent of white fifth graders. Multi-racial/other race children and Hispanic/Latino first and fifth graders were less frequently reported to be exposed to at least one hour of tobacco smoke per day, with 33 percent Multiracial first graders, 33 percent Hispanic/Latino first graders, and 32 percent Hispanic/Latino fifth graders.



Injuries

Being curious and in the process of developing muscle control, coordination, balance and testing their limits, children of all ages are at risk of unintentional injuries. Parents of toddlers, first graders, and fifth graders were asked about their children's injuries.

Parents were asked how many times during the past year their toddler or first grader needed medical attention due to an injury. Parents of fifth graders were asked how many times in the past year their child was injured. This question is followed up by asking if the most recent time their child was injured was professional medical attention needed. Forty-five percent of fifth graders, 18 percent of first graders and 24 percent of toddlers were reported to have been injured seriously enough to need professional medical care.



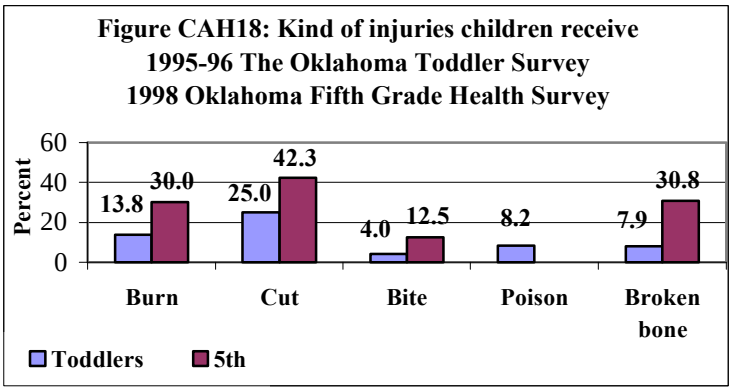
White and Native American children were most frequently reported to be injured and need medical care, with just under 50 percent of both white and Native American children needing medical care. Children living at various levels of poverty needed medical care due to injuries. Parents of more affluent children more frequently reported their children needed professional medical attention. However, fifth grade children at 186 percent to 200 percent of the federal poverty level were most frequently reported to have been injured and subsequently need medical care.

Table CAH21: Number of times needing medical care due to injury by poverty level

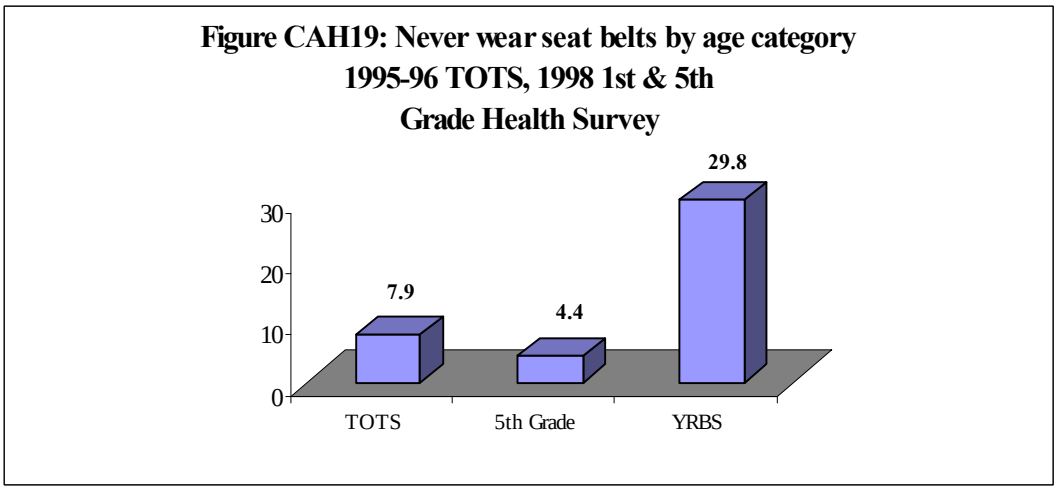
	1st	5th
<50%	16.1	47.4
51-100%	23.1	50.0
101-150%	17.8	43.4
151-185%	16.1	60.5
186-200%	22.7	77.8
201-250%	18.4	59.3
251% +	16.1	54.9

The type of injuries children receive was reported by parents of Oklahoma toddlers and fifth graders. Overall, fifth grade children were more frequently reported among all categories of injuries with the exception of poisonings. Over eight percent of toddlers were reported to have experienced poisoning. For both age categories, cuts were the

most frequently reported, with 25 percent of toddlers and 42 percent of fifth graders experiencing cuts.



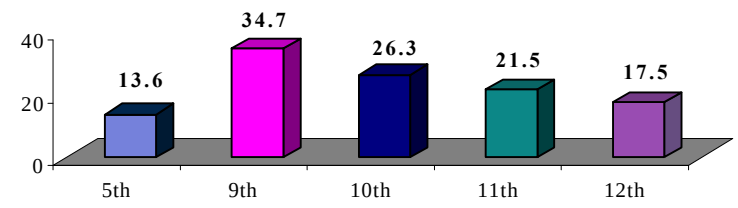
According to Oklahoma law a child must be restrained in a car seat or booster seat while traveling in an automobile. A child under the age of 6 is required to be restrained by a car seat belt. The Oklahoma Toddler Survey, 1995-96, reports car seat use. Nearly 8 percent of parents reported their toddler was not restrained in a child seat. Parents of fifth graders were asked if in the past month their child wore a seat belt while riding in an automobile. Four percent of parents responded their child did not wear a seat belt. High school students were asked how often they wear a seat belt when riding in a car driven by someone else. Nearly 30 percent of students responded they never or rarely wore seat belts while a passenger.



Regarding family structure, Oklahoma has implemented a fatherhood initiative which should improve father-child relations in Oklahoma families, and the Governor of Oklahoma has expressed interest in decreasing the Oklahoma divorce rate, along with encouraging couples to marry for life. Statistics on unmarried births and family structure provide an estimated baseline for these efforts. Efforts are underway to implement statewide programs to build stronger relationships that, in turn, will strengthen marriages. An evaluation strategy is being designed to track these efforts.

Violence

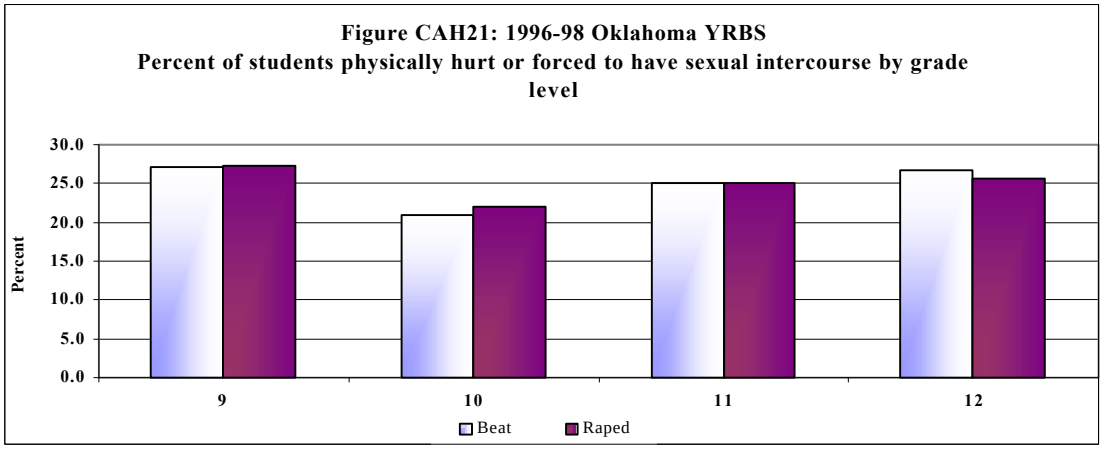
Violence is recognized as a serious problem facing American children and young adults. Violence has been defined as behavior ranging from emotional and verbal abuse to physical assault. Violence against children in the home is reported as child abuse and neglect. Annually, the Oklahoma Department of Human Services reports investigations and confirmed cases of child abuse and neglect. In 1998 the number of investigations was 61,709 with 16,710 incidences confirmed (a rate of 20 per 1000 children under 18 in the population). In 1999, the number of investigations was 57,026 with 16,217 incidents confirmed (a rate of 28.4 per 1000 children under 18 in the population). Nationally, in 1997 (the latest year data is available) the U.S. Department of Health and Human Services, Children's Bureau reported that over 2 million investigations of child maltreatment were investigated with over one million confirmed.



The Oklahoma Fifth Grade Health Survey asks parents about their children's experiences with physical violence and their children's sense of safety, while the 1998 Oklahoma Youth Risk

Behavior Survey asked high school students themselves about their experiences of school and relationship violence. According to parents of fifth graders, 14 percent had been in at least one physical fight during the past year. Among high school students, 35 percent of 9th graders reported they had been in a physical fight during the past year, compared with 26 percent of 10th graders, 22 percent of 11th graders, and 18 percent of 12th graders.

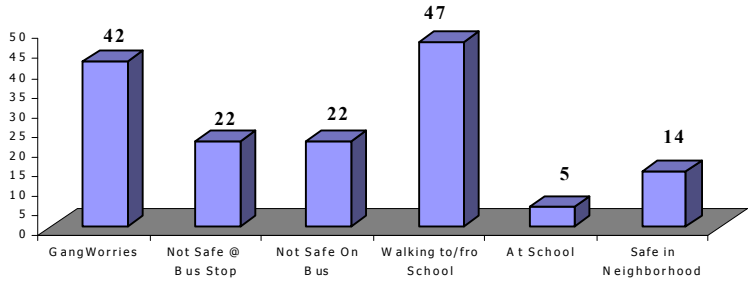
Asked if they had been injured and needed medical attention as a result of a physical fight, 2 percent of fifth grade parents reported their children had been injured. Forty-one percent of Ninth graders reported they had been injured and needed medical care as the result of a physical fight. As students progress in school, and grow older, fighting diminishes, as well as injuries associated with fights. Twenty five and one half percent of 10th graders, 19 percent of 11th graders, and 15 percent of 12th graders were injured and needed medical care as the result of a fight within the past year.



In addition to asking about physical fighting, the YRBS asks high school students if they have ever been hit, slapped or physically hurt by their girlfriend or boyfriend, and if they have ever been forced to have sexual intercourse when they didn't want to. Of the sample, approximately 10 percent reported they had been physically hurt, and approximately 9 percent reported they had been forced to have sexual intercourse. Of those, who reported being hurt or sexually forced, 27 percent of 9th graders reported intimate partner violence and sexual violence, 21 percent of 10th graders reported they had been physically hurt, 22 percent reported they had been sexually forced, 25 percent of 11th graders had been both hurt and forced, and approximately 27 percent

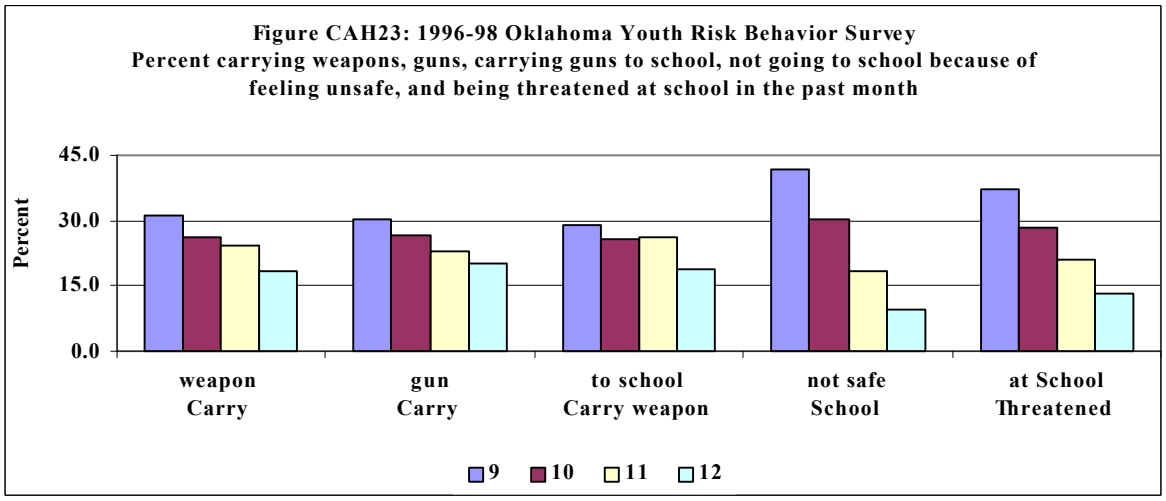
of 12th graders reported they had been physically hurt and approximately 26 percent reported they had been sexually forced.

Figure CAH22: 1998 Oklahoma Fifth Grade Survey- Feeling of Not Being Safe by Environment



To understand children's sense of safety in their school environment the survey asked parents if their children had mentioned gang activity at school, were worried about gang activity at school, felt safe walking to and from school in the past month, felt safe at the school bus stop, felt safe on the school bus, and felt safe at school. Of the parents who responded to these questions, 4 percent reported their children had mentioned gang activity at school, and 4 percent said their children were worried about gang activity. Eleven percent said their child never felt safe walking to and from school, 4 percent said their fifth grader never felt safe at the school bus stop, 4 percent reported their child never felt safe on the school bus, and less than one percent said their child never felt safe at school. One percent of parents reported their children never felt safe in their neighborhood.

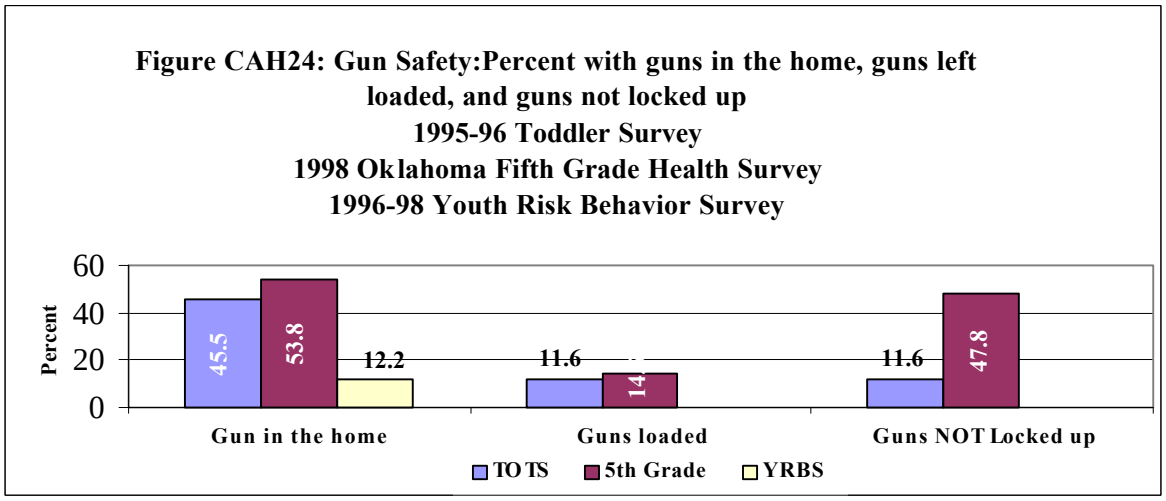
High school students were asked if they carried weapons and if they avoided going to school for at least one day because they felt unsafe at school. Approximately 30 percent of students carried a weapon during the past month, 12 percent had carried a gun, 14 percent had carried a weapon to school during the past month, and approximately 4 percent reported not going to school at least one day during the past month because they felt unsafe at school. Seven percent of students reported they had been threatened or injured with a weapon on school property during the past year.



Carrying weapons is not considered threatening in Oklahoma because of the popularity of hunting in rural areas. However, carrying weapons and guns to school is threatening. Greater than 10 percent of students admitted to carrying a gun and nearly 15 percent reported carrying a weapon to school. Clearly, violence is a risk among Oklahoma's teens. Information about violence among Oklahoma's middle school is lacking. Information is needed about violence among 12 to 15 year olds as a method of determining when and under which conditions students begin to become violent.

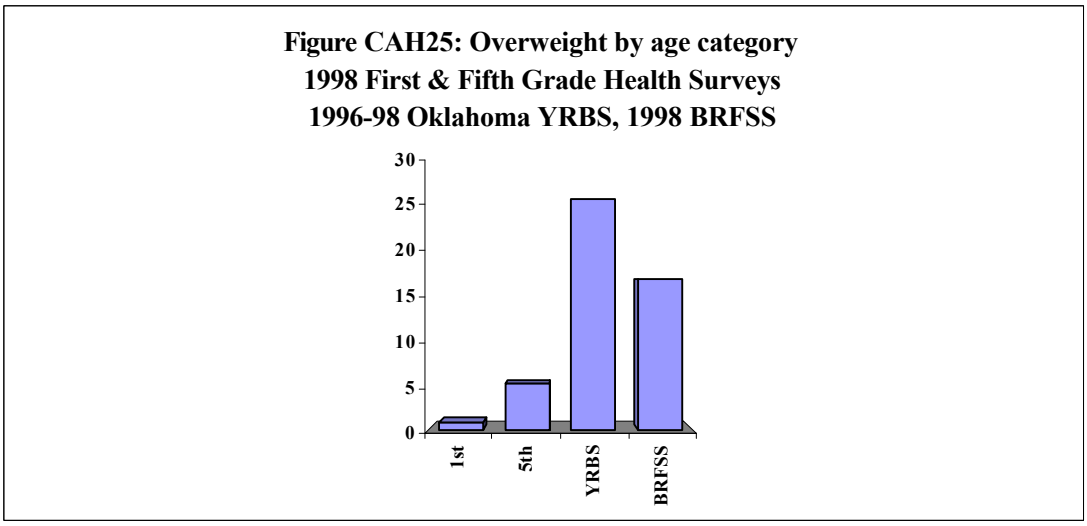
Firearm Safety

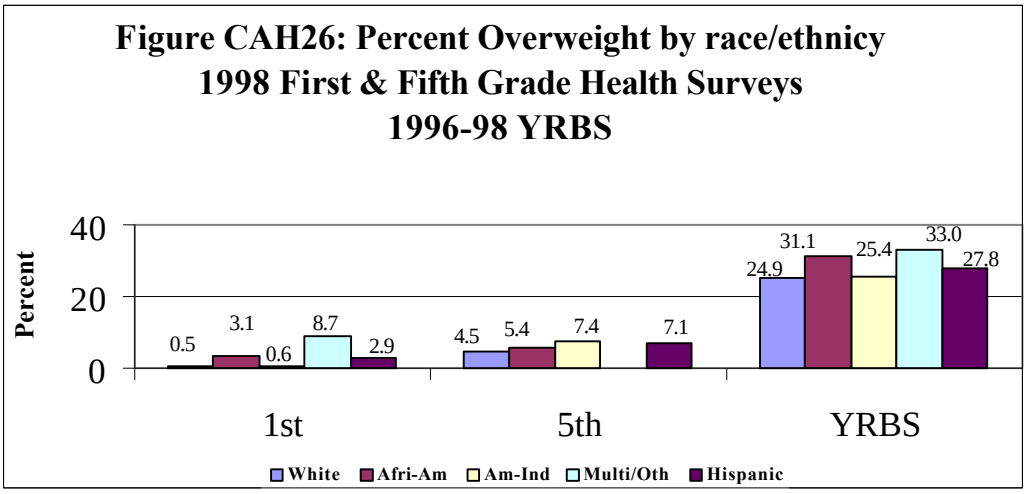
Parents and high school students were asked about gun safety in their homes. Nearly half of parents (45.5 percent) of toddlers reported they kept guns in their homes. Over half of parents of 5th graders (53.8 percent) reported they kept guns in the home. Based on the number of high school students reporting they had carried a gun in the past month, it is calculated at least 12.2 percent of high school homes have guns in them. In order to understand gun safety behaviors in the homes, parents of toddlers and fifth graders were asked if the guns in their homes were kept unloaded and locked up. Nearly 12 percent of parents of toddlers reported they kept guns loaded and in an unlocked location. Nearly 15 percent of fifth grade parents reported they kept their guns loaded, and nearly half reported they did not keep their guns locked up.



Exercise and nutrition

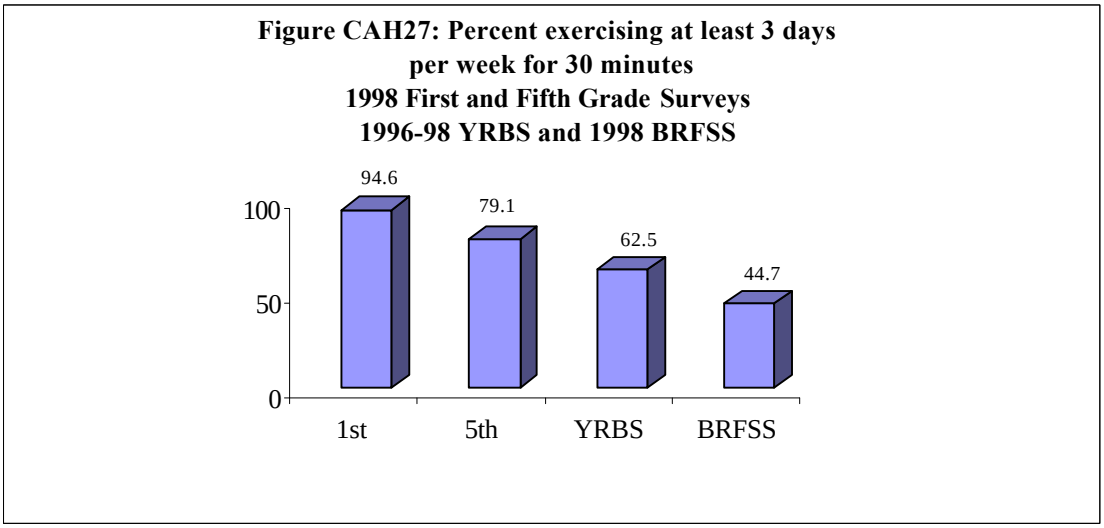
The 1998 Oklahoma First and Fifth Grade Health Surveys, the 1996-98 Oklahoma Youth Risk Behavior Survey and the 1998 Behavior Risk Factor Surveillance Survey were used to estimate the extent of obesity among Oklahoma's children and young adults. Less than one percent of first graders were reported to be very overweight by their parents. Five percent of fifth grade parents reported their children to be diagnosed with a need for weight loss. The YRBS and the BRFSS both use body-mass index (BMI) to calculate the ratio of body height to weight. A value of 25 or greater indicates obesity. According to the YRBS, 26 percent of high school students who responded to the survey were found to be overweight, and 17 percent of 18-24 year olds from the BRFSS.



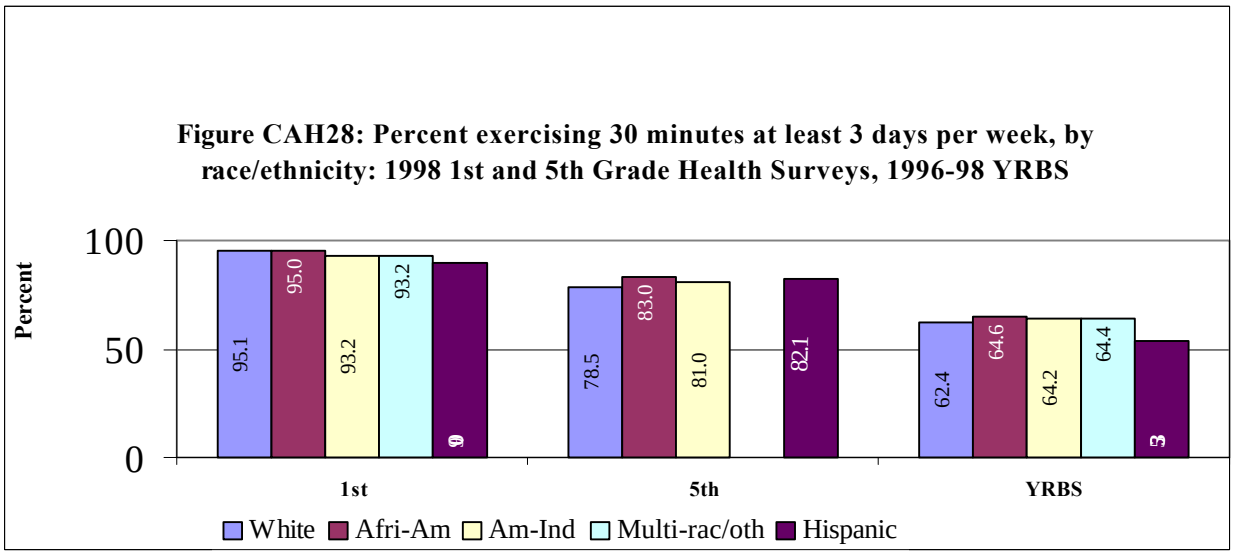


Information is lacking from the BRFSS sample on obesity by race/ethnicity. However, it is available from the First and Fifth grade surveys and the YRBS. Among younger children the prevalence of obesity is low, with most categories of race/ethnicity below 3.5 percent, with the exception of multi-racial first graders children, with 8 percent of parents reporting their children were very overweight. Less than 8 percent of fifth grade children of all races/ethnicities were reported to be overweight. Among high school students, according to calculation of individual BMIs, percent of obesity ranged from 25 percent among whites to 33 percent among multi-racial/other. Thirty-one percent of African American teens were overweight, 25 percent of Native Americans, and 28 percent of Hispanic/Latinos.

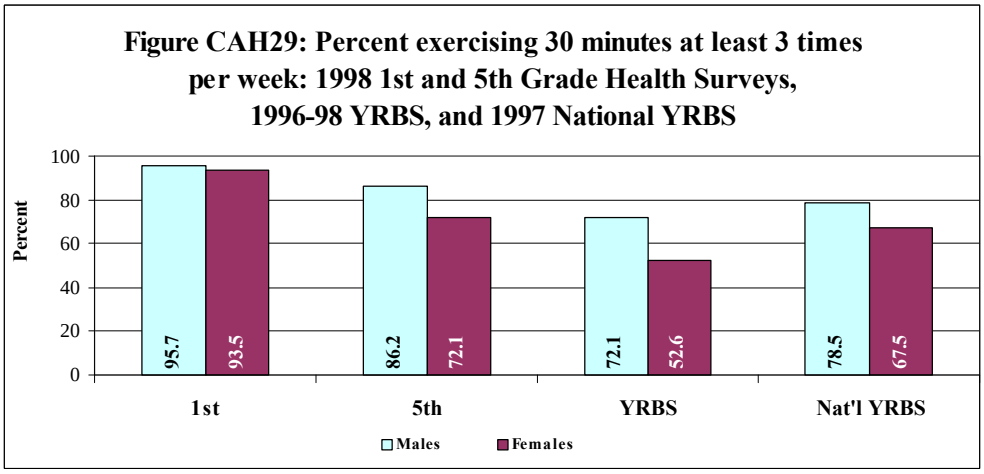
Examination of obesity among varying levels of poverty shows that less than 2 percent of poor first graders were reported very overweight by their parents. Also, just under 2 percent of children at 201-250 percent of poverty were reported to be overweight. Among fifth graders, less than 7 percent were reported to be diagnosed with the need to loose weight across all poverty levels. However, it is notable that poorer fifth graders were more frequently reported to be diagnosed with needing to loose weight than more affluent children.



To estimate the amount of exercise Oklahoma's children and youth are getting, the First and Fifth grade surveys, the YRBS and the BRFSS were used. Parents of first and fifth graders were asked how much time per day their children did things that made their children sweat or breathe hard. Ninety-five percent of parents of first graders reported their children sweat or breathe hard while doing things like riding their bikes or playing sports. Seventy-nine percent of parents reported their fifth graders sweat or breathed hard at least thirty minutes per day. High school students and BRFSS respondents self-reported the amount of exercise they were engaged in. Sixty-three percent of high school students, and 45 percent of 18-24 year olds reported they exercise for 30 minutes at least three days per week.



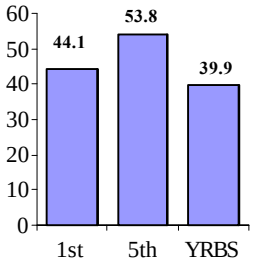
Among racial/ethnic categories, 90 percent or more of first graders of all races/ethnicities were reported to sweat or breathe hard doing things like riding their bikes, and playing sports. Among 5th graders, 56 percent of white parents reported their children sweat or breathed hard while playing sports or riding their bikes. Thirty-one percent of Native Americans, 27 percent of African American and 14 percent of Hispanic/Latino children were reported to sweat or breathe hard while playing. There were not enough multi-racial/other parents reporting to calculate the percent for these children. Among high school students, approximately 62-65 percent of all racial categories and 53 percent of Hispanic/Latino students reported they exercise for 30 minutes at least three days per week.



A steady decrease in exercising activity is seen for both males and females over the course of their school years. Ninety-six percent of parents of first grade boys and 94 percent of girls reported strenuous exercise. For fifth graders, 86 percent of parents of boys, and 72 percent of parents of girls reported strenuous exercise. Among high school students, 72 percent of boys, and 53 percent of girls reported they exercised 30 minutes at least three times per week.

In order to estimate the extent to which Oklahoma's children are sedentary, parents of first and fifth graders were asked how many hours per day their children watched television, played video games, or sat at a computer. Forty-four percent of parents of first graders and 54 percent of parents of fifth graders reported their children are engaged in video entertainment for two or more hours per day. Forty percent of high school students reported they engaged in these sedentary activities.

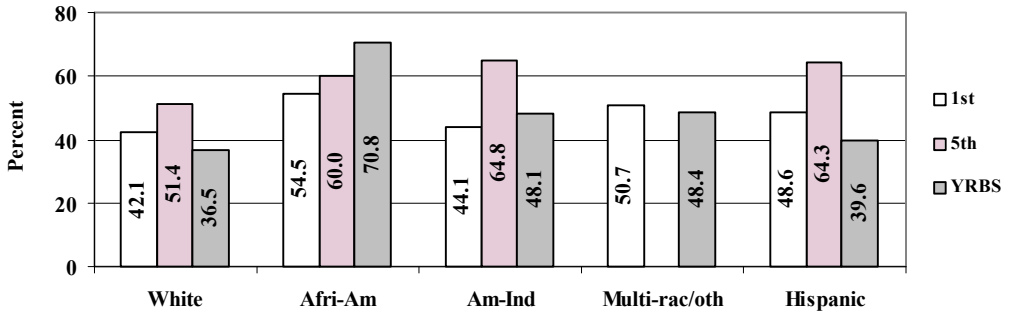
Figure 30: Percent watching television, sitting at a computer, or playing video games 2 or more hours per day: 1998 1st and 5th Grade Health Surveys, 1996-98 YRBS*



*YRBS teens = 3 or more hours per day

Examination by race/ethnicity reveals that 55 percent of African-American first graders, 51 percent of multi-racial/other, 44 percent of American-Indian and 42 percent of white first graders watch 2 or more hours of television per day. Levels of sedentary activity show an increase among fifth graders. Sixty-five percent of parents of Native American fifth graders, 64 percent of Hispanic/Latino, 60 percent of African-American, and 51 percent of white fifth graders were reported to practice these sedentary behaviors for two or more hours per day. There were not enough responses from Multi-ethnic/Other parents to calculate reliable percentages for this group. Among high school students, 71 percent of African-American students reported they watch TV, play video games or sit at a computer for 3 or more hours per day. Forty-eight percent of American-Indian and multi-racial/other, 40 percent of Hispanic/Latino and 37 percent of white students reported these behaviors.

Figure CAH31: Percent watching TV, playing video games or sitting at a computer for 2 or more hours per day by race/ethnicity 1998 1st and 5th Grade Health Surveys, 1996-98 YRBS



An examination of television watching and exercise by income level and by after school supervision reveals that both those below and above 185% of the federal poverty level watch about the same amount of television.

Table CAH22:Number of hours watching television and exercising by poverty level and after school supervision, 1998

	<= 185%		>=186%	
	Supervised	Not Supervised	Supervised	Not Supervised
No TV	1.1	1.3	0.6	0.8
<1hr TV	44.6	42.3	46.5	47.0
>1hr TV	4.2	6.4	2.9	2.3
No Exer	2.1	2.1	2.1	0.8
<1hr Exer	25.8	26.5	17.6	18.4
>1hr Exer	22.2	21.4	30.4	30.8

1998 Oklahoma Fifth Grade Health Survey

Nutrition

Nutrition provides the energy for growth, both mentally and physically. There is not abundant information about Oklahoma's toddlers' nutritional intake. The Oklahoma Toddlers' Survey asked mothers about discontinuing use of a bottle and if the children ever used Women, Infants and Children's (WIC) nutritional program. Sixty percent of mothers reported their toddlers used WIC services, and approximately one third were still receiving WIC services.

It is known that in order to get a good start to the school day that children eat breakfast. In order to understand how well this advice is followed, parents of first and fifth graders were asked about their children's breakfast behavior. Ninety-one percent of parents of first graders reported their children have breakfast 5 or more days per week. The question was asked somewhat differently for parents of fifth graders. Ninety-two percent of parents reported their children had eaten breakfast the morning of the survey. The Fifth Grade Health Survey obtains more nutritional and dietary information. Asked if their children received free or reduced cost school lunches, 49 percent responded their children did. This compares with the approximately 50 percent of Oklahoma children statewide, who receive or are eligible for and receive free or reduced lunches. Twenty-eight percent of the fifth graders' parents reported their children ate 5 servings of fruits and vegetables per day.

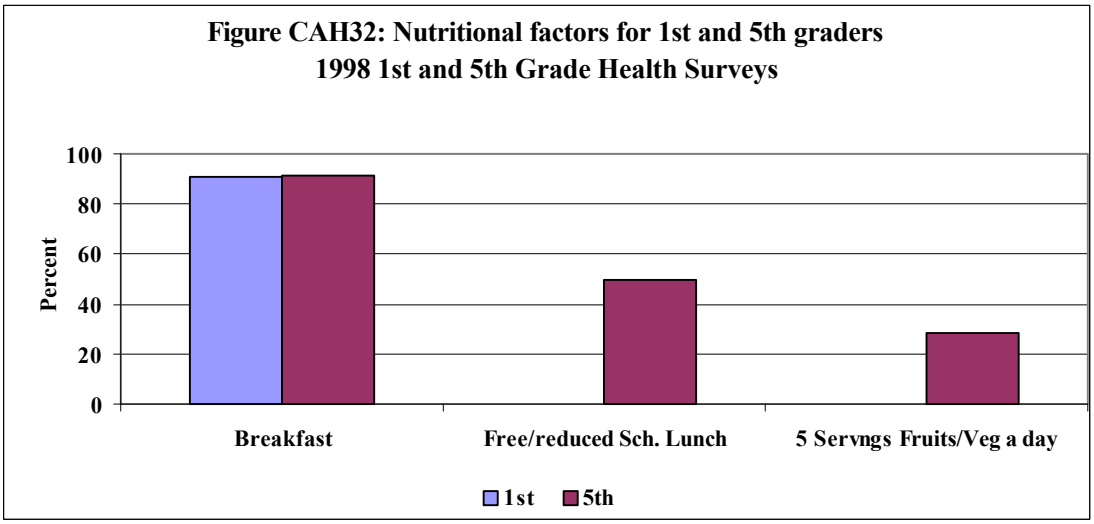


Figure CAH32: Nutritional factors for 1st and 5th graders
1998 1st and 5th Grade Health Surveys
Percent
100
80
60
40
20
0
Breakfast
Free/reduced Sch. Lunch
5 Servngs Fruits/Veg a day
1st
5th

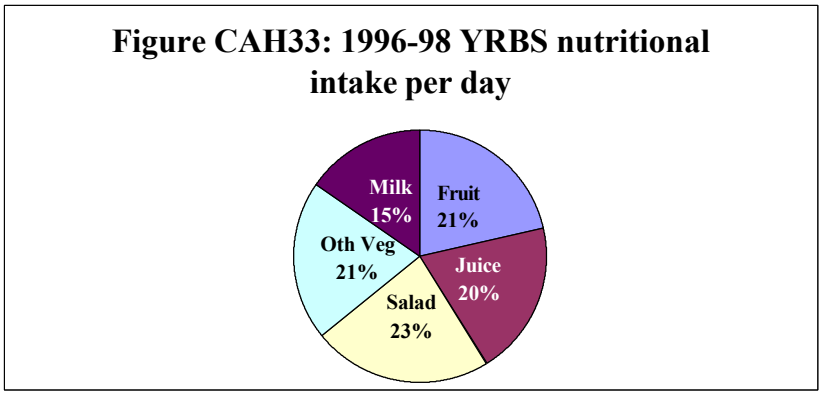


Figure CAH33: 1996-98 YRBS nutritional intake per day
Milk 15%
Fruit 21%
Oth Veg 21%
Juice 20%
Salad 23%

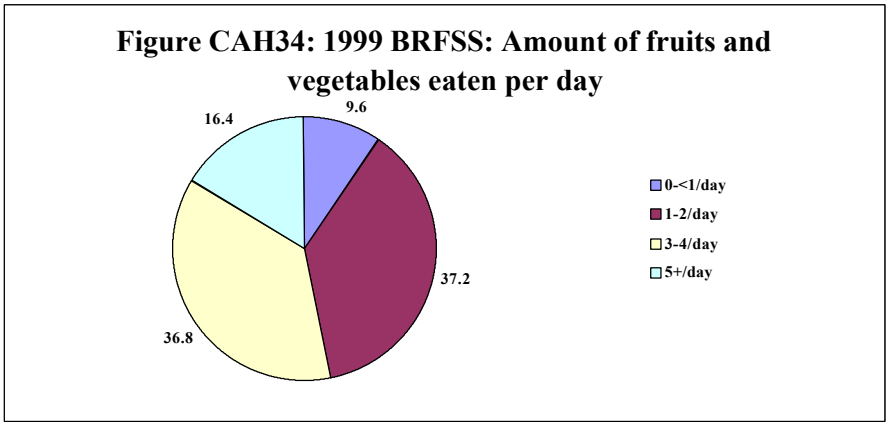


Figure CAH34: 1999 BRFSS: Amount of fruits and vegetables eaten per day
9.6
16.4
37.2
36.8
0-<1/day
1-2/day
3-4/day
5+/day

Table CAH23: 1996-98 YRBS: Nutritional intake per day by gender

	Males		Females	
	<1/day	1+/day	<1/day	1+/day
Fruit	74.7	25.3	79.7	20.3
Juice	80.6	19.4	85.5	14.5
Salad	89.5	10.5	90.7	9.3
Oth Veg	80.7	19.3	79.3	20.7
Milk	51.5	48.5	68.3	31.7

High school students were asked about their dietary behaviors relative to the Five a Day nutrition campaign. The surgeon general has released recommendations for adequate nutritional intake, including 5 servings per day of fruits and vegetables, and at least two 8 ounce glasses of milk. Questions about nutrition were added to the YRBS in 1998. Identical nutrition questions also appear on the BRFSS. Ninety percent of young adults ages 18-24 reported they consumed fruits and vegetables at least once per day. Seventy-seven percent of high school students reported they did not drink fruit juice every day, and 83 percent reported they did not eat fruit everyday. Ninety percent of students reported they did not eat green salad every day, and 80 percent reported they did not eat other vegetables every day. Additionally, 60 percent reported they did not drink at least 8 ounces of milk every day. Of young adults aged18-24, 16 percent reported they ate the recommended amount of fruit and vegetables. Nearly 10 percent reported they do not consume the recommended amounts daily, 37 percent reported they eat fruits and vegetables 1-2 times per day, and 37 percent reported they eat fruits and vegetables 3-4 times per day.

Examining nutritional intake by gender shows that males more frequently report drinking fruit juice or eating fruit at least once per day than do females (25 percent and 20 percent for drinking 100 percent fruit juice and 19 percent and 15 percent eating fruit respectively). Males and females equally reported eating salads and other vegetables (11 percent and 9 percent for salads and 19 percent and 21 percent for other vegetables, respectively). Milk is a source of calcium which is important for the formation of strong bones. Females particularly are encouraged to consume calcium-rich foods during their lifetimes. Comparisons of males and females shows that there is a statistically significant difference between genders in whether they drink at least one glass of milk daily but the results are reversed from what is desired. Thirty-two percent of

females reported they drank at least one glass of milk per day, compared with 49 percent of males so reporting.

Examination of nutritional intake by race/ethnicity shows that recommended dietary intake is less than 50 percent for all racial/ethnic categories of students. Twenty-two percent of African Americans reported eating fruit at least once per day, and 36 percent reported they drink 100 percent fruit juice daily. Forty percent of Native Americans reported they drink at least one glass of milk daily.

Table CAH24: Nutritional intake per day by race/ethnicity*

	Fruit		Juice		Salad		Other Veg		Milk	
	<1/day	1+/day	<1/day	1+/day	<1/day	1+/day	<1/day	1+/day	<1/day	1+/day
White	83.8	16.2	78.9	21.1	91.0	9.0	80.1	19.9	58.8	41.2
Afri-Am	77.8	22.2	63.9	36.1	87.0	13.0	82.4	17.6	66.7	33.3
Am-Ind	83.1	16.9	75.2	24.8	90.6	9.4	82.2	17.8	59.9	40.1
Multi/Oth	80.0	20.0	76.7	23.3	80.0	20.0	76.7	23.3	63.3	36.7
Hispanic	81.3	1838	71.9	28.1	90.6	9.4	85.4	14.6	72.6	27.4

*1996-98 Oklahoma Youth Risk Behavior Survey

Exercise habits appear to be well practiced across all racial/ethnic categories and poverty levels, although levels decrease with age.

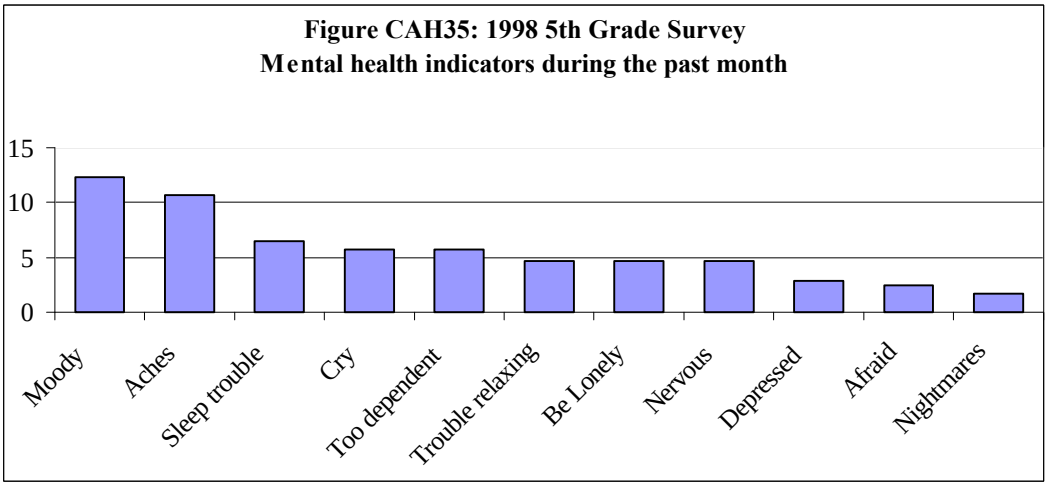
Mental Health

Mental health conditions in elementary school age children were identified using the 1998 First and Fifth Grade Health Surveys. Four percent of Oklahoma's first grade children receive psychological counseling either at school or elsewhere. Three percent of parents responded that they felt their first grader should receive counseling/psychological services if they were not currently receiving them.

Parents of Oklahoma Fifth graders were surveyed about their children's mental health risk indicators. These indicators include having trouble falling asleep or staying awake, having nightmares, appearing depressed, having trouble relaxing, seeming nervous or afraid, appearing moody, crying, complaining of being lonely, seeming to be overly dependent, and finally, complaining of aches or pains in the stomach or headaches. The survey also asks parents about their perceptions of their children's mental health building self concepts, including believing

he/she has a lot of good qualities, feels proud and satisfied with oneself, and feels accepted by other children.

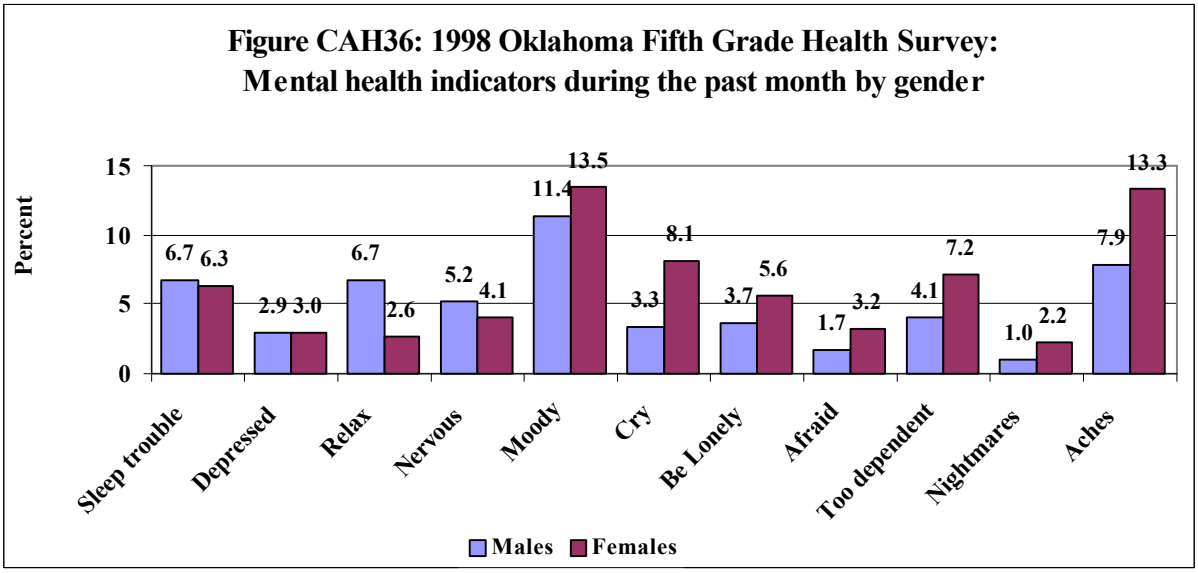
Responding to their perception of their child's self esteem, nearly 100 percent of parents of fifth graders reported they believe their children to have a lot of good qualities, are proud of themselves, and are satisfied with their lives and feel accepted by other children. This suggests the questions be modified to be more quantifiable rather than relying on the parents' prceptions or desired behaviors in their children. A significant number of pre-adolescent children are known to have behavioral problems; therefore, either the parents are unaware of problems or they would prefer to deny the behavior.



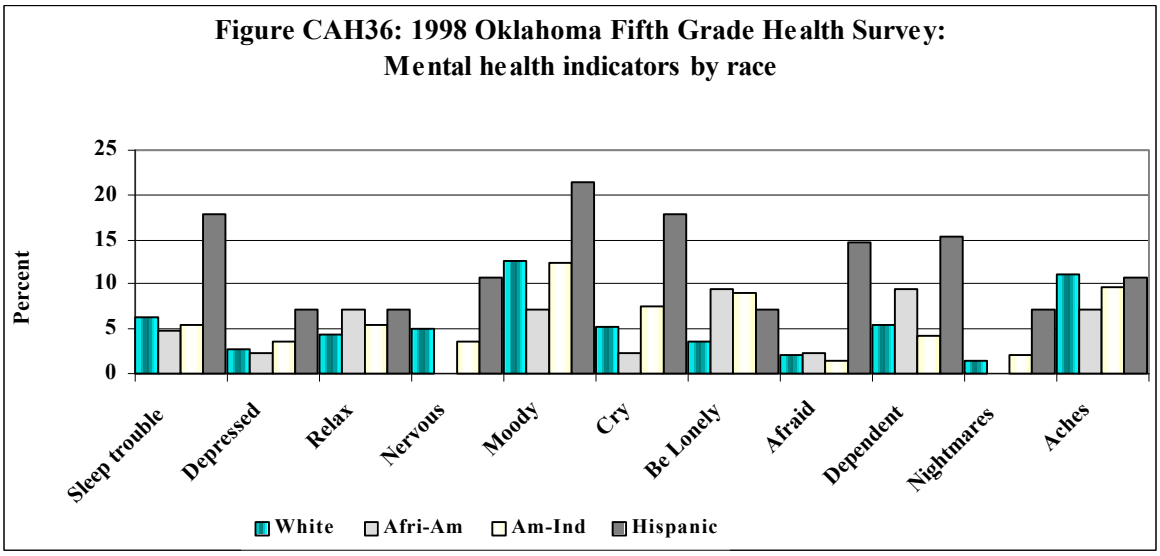
The most frequently reported emotional indicator parents reported for their fifth graders was that they seemed moody. Twelve percent indicated their children often seemed moody. Eleven percent of parents reported their male children seemed moody compared with 14 percent of females. Complaining of chronic aches and pains was the second most frequently reported behavior. Parents also reported their daughters experienced chronic aches or pains (13 percent) at higher proportions than sons (8 percent).

When asked if their fifth grader suffered from certain emotional difficulties, nearly equal numbers of parents of males and females indicated their children had experienced sleep problems

(7 percent males, 6 percent females) and felt depressed or blue (3 percent males, 3 percent females) during the past month. Males were reported to have been more likely to have trouble relaxing (7 percent) than females (3 percent). Nearly equal proportions of males and females appeared nervous or upset (5 percent males, 4 percent females).



Examining mental health indicators by race/ethnicity shows Hispanic/Latino fifth graders appear to be at higher risk. Over 20 percent of Hispanic/Latino parents reported their children to seem moody. Over 15 percent of Hispanic/Latino parents reported their children to have trouble falling asleep or staying awake, to cry and to cling to adults or seem too dependent. Ten percent or higher of Hispanic/Latino parents reported their children seemed afraid, seemed nervous or uptight, and had chronic stomach pains or headaches. Higher percentages of Hispanic/Latino fifth graders were reported to be depressed and have nightmares. African-American and Native American children were reported at higher frequencies for complaining of being lonely than Hispanic/Latino or white children (9.5%, 9.0%, 7.1% and 3.5%, respectively). Higher percentages of white parents reported their children had chronic stomach pains or headaches than African-American, Native American or Hispanic/Latino children (11.1%, 7.1%, 9.7%, and 10.7% respectively). African-American children were less frequently reported to be nervous (0.0 percent), have nightmares (0.0 percent), cry(2.4 percent) or seem depressed (2.4 percent).



Poverty is often associated with poor health outcomes, including mental health. Looking at the fifth grade health survey mental health indicators shows high percentages of parents of all poverty levels reported their children seemed moody. Forty percent of parents at or below 185 percent of the federal poverty level reported their children had trouble falling asleep or staying awake. Higher percentages of poor families also reported their children clung to adults or seemed too dependent, compared with parents at 201 percent of the federal poverty level or above. Parents at 185 percent or below the poverty level more frequently reported their children had nightmares, compared with parents at 186 percent of the federal poverty level or above. Also, parents at 100 percent of the federal poverty level or lower reported their children cry more frequently compared to other poverty levels. Very poor children (at or below 50 percent of the federal poverty level) report their children seem depressed more frequently compared to other levels of poverty (7 percent at or below 50 percent fpl). Parents at 250 percent of the federal poverty level or higher less frequently report their children showing any of the indicators.

The most readily available information about the mental health of elementary school children, The Fifth Grade Health Survey shows Hispanic/Latino children to more frequently display mental health risk behaviors. Possible explanations for this may be that cultural acceptance of emotional behaviors facilitates recognition of those behaviors. The data suggest that Hispanic/Latino children may be in need of mental health building services. It would be

particularly helpful to identify which generation of immigration Hispanic/Latino children were being surveyed.

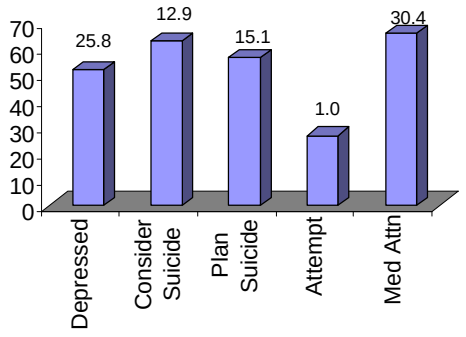
Table CAH25: 1998 Oklahoma Fifth Grade Health Survey: Mental Health Indicators by Poverty Level

	<=50%	51-100%	101-150%	151-185%	186-200%	201-250%	250%+
Sleep trouble	10.7	11.9	6.9	10.1	2.9	4.7	3.2
Depressed	7.1	3.7	2.1	4.1	2.9	2.8	0.8
Trouble relaxing	7.1	5.8	6.9	7.1	2.9	5.7	2.0
Nervous	7.1	5.1	7.0	4.1	2.9	4.7	2.8
Moody	17.9	15.4	11.9	17.2	11.8	14.2	7.3
Cry	10.7	10.2	4.9	2.0	0.0	6.6	4.4
Be Lonely	5.4	5.1	9.0	2.0	8.8	2.8	2.4
Afraid	1.8	2.2	1.4	3.1	2.9	2.8	1.6
Too dependent	16.4	9.5	5.6	3.1	2.9	0.9	3.2
Nightmares	3.6	0.7	2.8	1.0	0.0	0.0	0.8
Aches	10.7	15.3	11.2	10.1	17.7	7.6	8.9

Suicide

High school students themselves responded to questions about their emotional health. Asked if they had felt sad or hopeless for two or more weeks in a row, 26 percent responded affirmatively. Twenty percent of males, and 32 percent of females reported they had felt sad or hopeless for two weeks or more in a row. This finding is supported by national data that shows females report being depressed more frequently than males.

Figure CAH38: 1997-99 Youth Risk Behavior Survey: Percent Depression, Suicide Contemplation, Planning and Attempts



A sense of sadness or hopelessness over prolonged periods of time can contribute to thoughts of wanting to end one's life. Thirteen percent responded they had seriously considered suicide during the past year, compared with 20 percent of teens at the national level. Asked if they had made a plan about how they would attempt suicide, 15 percent said they had made a plan, compared with 14 percent nationwide. One percent of high school students report they tried to commit suicide during the past year, compared with 10 percent of teens nationwide. Fewer individuals consider suicide, but of those who attempt it, the efforts are more serious and lethal. Of those who attempted suicide, 30 percent required medical attention, compared with 3 percent nationwide.

Analysis of suicide ideation by race shows multi-racial/other individuals reported more frequently they had seriously considered suicide (15.4 percent) compared with all other races, and eight percent of Hispanic/Latinos so reporting. Nationally, Hispanic/Latino teens more frequently reported considering suicide (23 percent).

Fifteen percent or more of Multi-racial/other and Native American students more frequently reported they made a suicide plan (19 percent and 16 percent, respectively). Nationally Hispanic/Latino students most frequently reported making a plan to commit suicide.

Of those students who actually attempted suicide, white teens more frequently reported at least one attempt (72%) compared with other races/ethnicities. This compares with ten percent Hispanic/Latinos, eight percent of African-American and eight percent of Native American high school students who reported attempts on their lives.

Of those who attempted suicide, 24 percent of whites students, three percent of African-American and five percent of Hispanic/Latino and five percent of Native Americans needed medical attention. This compares to less than three percent nationally for the three racial/ethnic categories reported.

Table CAH26: Suicice ideation and attempts: Oklahoma and National YRBS

	Seriously consider suicide		Made a plan		Actually attemped suicide		Attempted & needed medical attention	
	Oklahoma	National	Oklahoma	National	Oklahoma	National	Oklahoma	National
White	12.6	19.5	14.8	14.3	72.1	6.3	24.3	2.0
Afri-Am	10.2	16.4	13.6	12.5	8.3	7.3	2.7	2.4
Native Am	14.3	-	15.6	-	8.3	-	5.4	-
Multi-Oth	15.4	-	18.6	-	1.2	-	--	-
Hisp/Latino	8.2	23.1	13.6	19.6	10.0	3.3	5.4	2.8

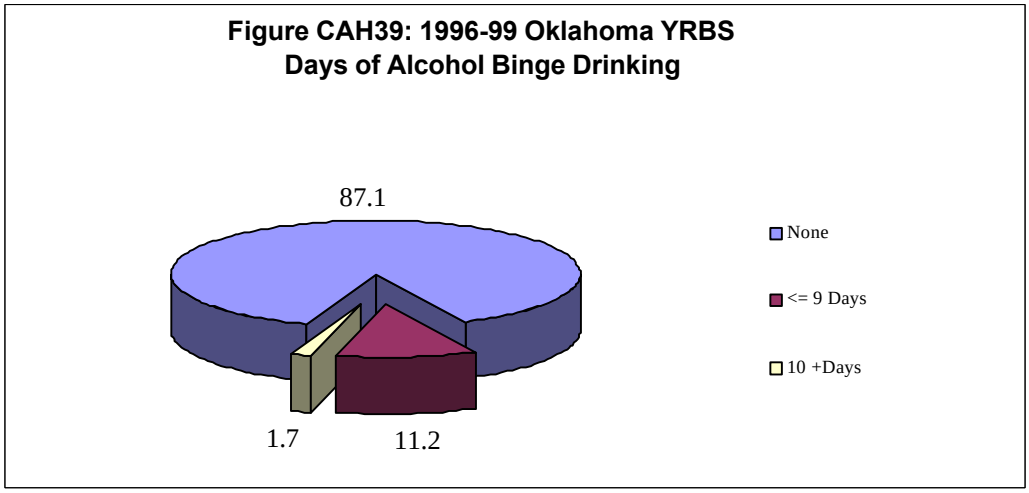
Title V focus groups were held in several communities across Oklahoma in 1997 and 1998. Participants were asked questions about teen suicide. Questions included if they knew a teen who had attempted suicide, if teens in their communities had access to counselors or hot-lines if they were depressed or considering suicide, and where the participants would go if they were depressed or considering suicide. Group participants had been acquainted with teens who had attempted suicide or knew of a case. When asked who teens could talk with, adult participants were not sure, except to recommend clergy or family members. Teens responding to this question commented that confidentiality was an issue and that even though teens are depressed and/or contemplating suicide they "…don't think they have a problem, or think they can handle it, until it is too late to talk to someone." One teen participant said, "I think they do [have suicide hot lines or counselors] but they don't want to use them 'cause they're ashamed and don't want them to know how they feel." Another teen participant said about the issue of confidentiality, "I think they don't believe in confidentiality…the number is going to show up on a screen with a name, your picture, the information and where they live…" Both adults and teens stated that suicide threats need to be taken seriously. One participant told of her son telling her that one of his classmates had said he was going to kill himself, and the son said, "'well, if that is what you want to do, go ahead.' And I said that's the wrong thing to say to a suicidal person. I said tell me who it was …and I called the principal that next day and told and he said, 'No I wasn't aware of that', and they did get that young man and get him to the school counselor and called his parents and everything."

Alcohol and substance abuse:

Alcohol use and illegal drug use can be used as an indicator of mental well being. If untreated, substance abuse can escalate, resulting in impairments of social functioning, mental judgment,

and physical damage. The National Institutes on Alcohol Abuse and Alcoholism (NIAAA) found that the younger the age of first drinking, the greater the risk addiction will develop sometime during the life course. Further, binge drinking by youth is associated with use of illicit drugs. Nationally, 31 percent of high school seniors reported drinking alcohol more than one time during the past month. Approximately one half of Oklahoma teens in grades 9 through 12 reported using alcohol or illegal drugs. Alcohol use is highly prevalent among both male and female high school students. Over the course of their high school years, equivalent percents of high school males and females had used alcohol from 1 to 10 or more days. However, more teen males had consumed alcohol ten or more days over the course of their life (56 percent), compared with teen females (43 percent).

More than 80 percent of students did not report drinking alcoholic beverages during the past month. Approximately equal percents of males and females had reported drinking 1 to 5 days during the past month. However, males greatly out-number females when the days of drinking range from 6 to daily. Of those who reported daily drinking during the past month, 77 percent were male.



Binge drinking is defined as having five or more drinks of alcohol in a row over the course of a few hours. Thirteen percent of students reported binge drinking during the past month. Nearly equal percentages of males and females reported they binged up to 5 days during the past month (53 percent males, 47 percent females). Among seniors, 60 percent of males and 40 percent of

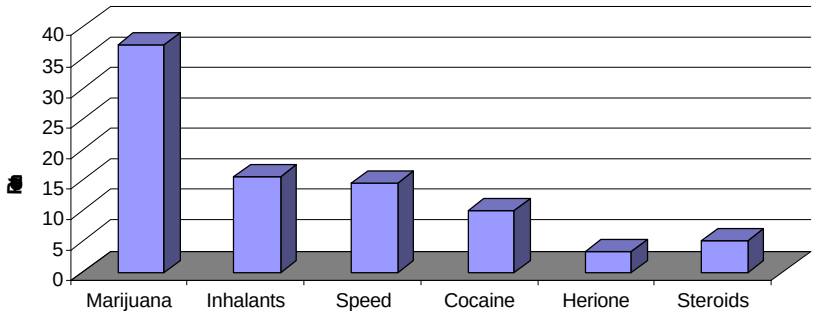
females reported they had binged during the past 30 days. This differs from national figures of 38 percent of males and 24 percent of females reporting to have binged in 1997.

Approximately one-half of high school students nationally report they ever used illicit drugs during their lives. Marijuana use is reported by more students nationally than any other drug. The Oklahoma Youth Risk Behavior Survey shows marijuana is reported to have been used at least once by one third of students. Nearly two thirds of students initiated marijuana use between 13 and 16 years of age.

Oklahoma YRBS teens report using inhalants second most frequently of substance use. Inhalants, or huffing, involves sniffing glue or paint or breathing the contents of aerosol cans, Over 15 percent of Oklahoma high school students report they have ever sniffed glue, paint, or breathed the contents of aerosol spray cans. Nationally, in 1997, three percent of high school seniors used inhalants during the past month. National Youth Risk Behavior Survey results on inhalant use among respondents who were high school seniors show that eleven percent had used inhalants at least once during their lifetime. When asked if they had used inhalants during the past month, five percent reported they had.

Other drug use includes cocaine use, speed, or methamphetamines, and steroids. Steroid use by males and females is different depending on the number of times during the students' lives. For example, if the number of times steroids were used was less than twenty over their lives, 34 percent of females reported use, and 51 percent of males report using steroids. When use exceeds 20 times over their life, 66 percent of males report using steroids, compared to 49 percent of females.

Figure CAH40: 1996-99 Oklahoma YRBS: Percent reporting tyep of drug used at least once during lifetime



Sexual Behavior

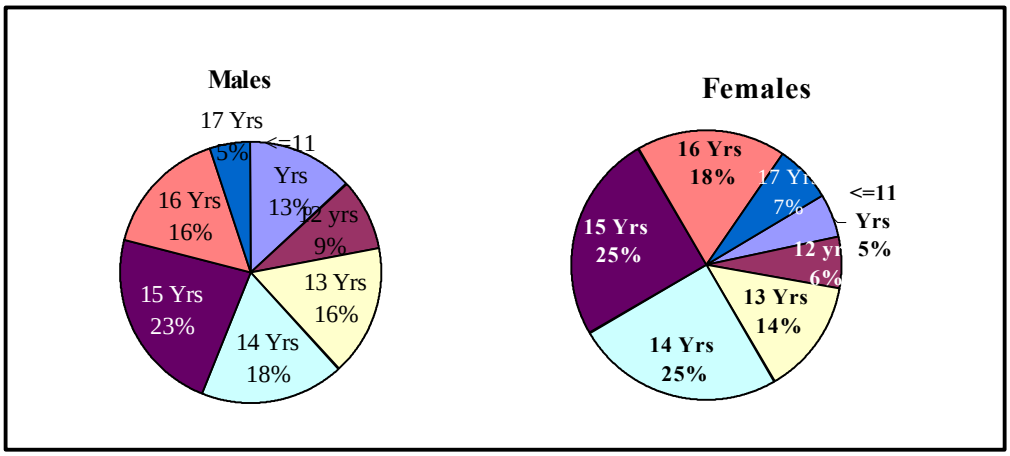
Information obtained from the Youth Risk Behavior Survey shows for some Oklahoma teens, initiation of sexual behavior begins at an early age. Twenty-three percent of male students who participated in the survey reported initiating sexual intercourse at age 15. Thirteen percent of males reported they were age 11 or younger, 9 percent reported they were 12 years of age, 16 percent reported they were 13 years of age, 18 percent reported they were 14 years of age, 16 percent reported they were 16 years of age and 5 percent reported they were 17 years old. Nationally, 9 percent of males reported they had first had sexual intercourse at age 13 or younger. One out of four females surveyed reported initial sexual intercourse at age14 and a similar proportion reported they were 15 years of age. Five percent reported they were 11 years of age or younger at first intercourse, six percent reported they were 12 years of age, 14 percent reported they were 13 years of age, 18 percent reported they were 16 years old, and 7 percent reported they were 17 years of age. Nationally, 5 percent of females reported they had first had sexual intercourse at age 13 or younger.

Overall, 51 percent of all males surveyed reported they had ever had sexual intercourse, compared with 50 percent nationally. Forty-eight percent of females who participated in the survey reported sexual intercourse, matching the national level of 48 percent. Fifty percent of all males and females in Oklahoma who were surveyed reported they had ever had sexual intercourse in their life, compared with 48 percent nationally.

Sexually active teens were asked about birth control methods used at last intercourse. Half of the surveyed students reported they used condoms, 15 percent used birth control pills, 9 percent used Depo-Provera, and 3 percent used some other method. Seventeen percent reported they used no method to prevent pregnancies at last intercourse, 5 percent reported they used withdrawal, and 1 percent reported they were not sure about the method used. Thus, nearly 25 percent, or one out of four sexually active teens used no effective method of birth control.

Asked if they have ever been pregnant or gotten someone pregnant, two percent responded they had. Of those who reported they had been or had gotten someone pregnant, 1.2 percent of females reported they had been pregnant at least once and 3.8 percent of males reported they had gotten someone pregnant at least once. National comparisons indicate that nine percent of females have been pregnant, and five percent of males report having gotten someone pregnant. It is not clear why Oklahoma data are so low, considering the state's abnormally high teen fertility rate.

Figure CAH47: 1996-98 Oklahoma Youth Risk Behavior Survey: Age at first intercourse by gender



Children with Special Health Care Needs (CSHCN)

The development team targeting CSHCN Services specified the following areas as priorities to be reviewed:

- Defining and identifying Children with Special Health Care Needs in Oklahoma.
- Determining the service needs of all families of Children with Special Health Care Needs including, service availability at the community level, accessibility, knowledge of available services, and barriers to service utilization.
- Identifying provider needs that may interfere with the provision of reliable and high quality services to Children with Special Health Care Needs and their families.
- Determining the extent to which the lack of financial resources affect families' access to care and the systems ability to make care available.
- Determining effective system coordination, monitoring and evaluation of the institutional, and community level and the systems' ability to assist families in the coordination of services.
- Determining the extent to which families are supported by existing programs and services and active participants in improving the functioning of the health care system.

Complementary blends of both qualitative and quantitative research tools were used to gather information for this analysis. This process allows for a more balanced assessment instead of setting priorities based on the greatest amount of data available and/or issues with the highest visibility. The present needs assessment is based on information gathered from the Oklahoma Toddler Survey (TOTS), First and Fifth Grade Health Surveys, the Oklahoma Primary Health Care Provider Survey '99, the Community Assessment Tool for Children with Special Health Care Needs (CATCH) survey and regional focus groups. Administrative data systems were also used in this assessment in of unavailable population-based tools. After QUICC-R is executed and analyzed,

Oklahoma will incorporate these findings into its assessment of children with special health care needs.

Prevalence and Demographic Description

For the purposes of the needs assessment, Oklahoma has adopted the Maternal and Child Health Bureau's (MCHB) definition of Children with Special Health Care Needs (CSHCN):

> *"...those who have or are at increased risk for chronic physical, developmental, behavioral, or emotional conditions who require health and related services of a type or amount beyond that required by children generally."*

Using a modified version of the procedures developed by Newacheck and his colleagues (1998), Oklahoma has operationalized the new MCHB definition using two statewide representative surveys of first and fifth graders in the public school system. The estimates are based on 2162 questionnaires completed by parents of sampled first and fifth graders. The definition is limited to only the population of children with existing health care needs. Presently we do not have a mechanism in place nor has one been developed nationally to identify the at-risk population (Newacheck, 1998). Children were identified as having special health care needs if they meet the following conditions listed under Definition 1 (Parts a & b) or 2 (Parts a & b):

Definition I Part a: The child had been diagnosed by a health care provider with asthma, diabetes, epilepsy, convulsions, seizures without fever, heart conditions requiring surgery or medication, poor hearing, hearing aids, learning disabilities, attention deficit disorder, hyperactivity, speech or language delays, ongoing bone joint or other orthopedic conditions.

And

Part b: The child had been hospitalized in the last 12 months, treated in the emergency room in the last 12 months., or limited in their activity due to illness in the past 3 months significantly more often than other children (i.e., two Standard Deviations above the mean).

OR

Definition II Part a: The child had been diagnosed by a health care provider with asthma, diabetes, epilepsy, convulsions, seizures without fever, heart conditions requiring surgery or medication, poor hearing, hearing aids, learning disabilities, attention deficit disorder, hyperactivity, speech or language delays, ongoing bone joint or other orthopedic conditions.

And

Part b: They currently receive special services (speech/language therapy, occupational therapy, physical therapy, reading lab, nursing services, counseling/psychological services, math lab, monitored for learning disabilities), have an Individualized Education Plan (I.E.P), require the routine use of prescription medication; or have been enrolled in HeadStart, EvenStart, the CSHCN program, Supplemental Security Income, and/or the SoonerStart Early Intervention Program.

Health Care Needs: United States, 1994 and Oklahoma, 1998

Characteristics	US Cases Per 100 [1, 2]	Est. US Population (in 1000s) [3]	Oklahoma Cases Per 100	Oklahoma Estimated Population [4]
All Children	18	12,608	19	164,266
Age				
0 to 2 years	9.1	1,085	~9.1	12,590
3 to 5 years	15.3	1,914	~15.3	20,907
6 to 10 years	21.0	4,043	23.2	55,961
11 to 14 years	21.0	3,222	20.6	41,495
15 to 17 years	21.5	2,343	20.6	33,314
Gender				
Male	20.9	7,482	24.1**	94,453
Female	15.0	5,125	17**	69,813
Race				
White	18.6	8,552	20.0	122,707
African American	19.8	2,162	28.9	9,199
Native American	N/A	N/A	21.1	22,340
Asian	N/A	N/A	10	821
Hispanic	15.0	1,490	16.4	8378
Other	13.0	402	20	821
Poverty				
At or Below Poverty	22.9	2,997	23.8	42,709
Above Poverty	16.9	8,850	20.7	121,557
Parental Education				
Less than 12 years	20.6	1,853	26.2	20,369
12 years	19.5	4,577	20.0	60,286
More than 12 years	16.5	6,146	20.0	83,611
Family Structure				
Single Parent	23.3	4,130	25.7**	36,631
Two Parent	16.2	8,435	18.8**	127,634

1. Using Newacheck et al.'s (1998) national estimates for this age group. All other state estimates based on findings from Oklahoma's Fifth Grade Survey, 1998.
2. National estimates are based on the study by P. W. Newacheck et.al. (1998) and are derived from the 1994 National Health Interview survey on Disability.
3. Reported cases per 100 reflect the % of a given racial, income, family category that falls within the category of CSHCN. (Example: Of African American children between the ages of 6 to 9, 27.7% are estimated to be CSHCNs.)
4. Population estimates are based on the % of the CSHCN population that fall within the listed demographic categories. (Example: Of Oklahoma CSHCN's between the ages of 6 to 9, it is estimated that 4998 or 11.2% are African American).

Results from the 1998 First and Fifth Grade Health Surveys indicate that between 23.2% (first graders) and 20.67% (fifth graders) of Oklahoma children less than 18 years old had

a chronic, developmental, behavioral, or emotional condition and used health related services significantly more often than Oklahoma children in general. In Table CSH1, prevalence estimates and profiles of CSHCN populations are provided for both the State of Oklahoma and the United States as a whole. National estimates were obtained from the 1994 National Health Interview Survey on Disability (Newacheck, 1998). Newacheck 's estimates indicate that the size of the CSHCN population tends to increase from birth to between six and 10 years of age at which time it becomes relatively stable. Therefore, the results from the 1998 Oklahoma Fifth Grade Health Survey are used as preliminary estimates for the state's overall CSHCN population with the exception of age group estimates. As can be seen in Table CSH2, results from the Oklahoma First Grade Survey do not follow the trend of gradual increase and stability observed by Newacheck. However, this is probably due to differences in questions used to estimate these populations. Standardized screens will be added to future Oklahoma surveys to correct for these variations. Estimates given for the 6 to 10 year old CSHCN population in Oklahoma were obtained from the 1998 First Grade Health Survey. Oklahoma estimates for the zero to two and three to five year old population are based on the estimates given for their national counterparts. Although Newacheck et al. (1998) found significant variation in the CSHCN population by race/ethnicity, gender, poverty status, and family structure, the only consistent difference found in both the First and Fifth Grade Health survey was for gender. Newacheck et al. report that African Americans, males, children at or below poverty and children living in single parent households are significantly more likely to be categorized as having special health care needs under the new MCHB definition than others. With the exception of gender, our survey results suggest that the significance of these characteristics may vary by age (Table CSH2). Overall, Children with Special Health Care Needs in Oklahoma tend to be white, male, living above the poverty level and with two parents that have at least a 12th grade education or better. However, children who live with two parents are significantly less likely to be classified as in need of special health care than children who live with a single parent. As alluded to earlier, the results from the First and Fifth grade survey suggest that this profile does vary by age. For first graders, children who live in a household with a family income at or below the 1998 federal poverty level are significantly more likely to be classified as in

need of special health care than children with family incomes above the poverty level. Additionally, first grade children whose parents have less than a 12th grade education are more likely to be classified as in need of special health care than children with parents that have some college.

Table CSH2. Estimates of Oklahoma's Children With Existing Special Health Care Needs: Oklahoma, 1998

	Oklahoma First Graders		Oklahoma Fifth Graders	
Characteristics	**Cases Per 100**	**Estimated Population**	**Cases Per 100**	**Estimated Population**
All Children	23.2	44623	20.6	95621
Gender				
Male	30.4	29139	24.1	54982
Female	16.3	15484	17	40639
Race				
White	21.4	27220	20	71429
African American	27.7	4998	28.9	5355
Native American	27.4	7586	21.1	13004
Asian	9.1	178	10	478
Hispanic	28.4	3748	16.4	4877
Other	31.3	892	20	478
				95621
Poverty				
At or Below Poverty	36.4	13075	23.8	24862
Above Poverty	20.4	31549	20.7	70760
Parental Education				
Less than 12 years	32.7	6470	26.2	11857
12 years	25.4	20794	20	35093
More than 12 years	19.4	17403	20	48671
Family Structure				
Single Parent	25	10576	25.7	21324
Two Parent	22.8	35029	18.8	74298

Services Provided

In Oklahoma, the Children with Special Health Care Needs Program is administered by the Department of Human Services according to Title 10, O.S. Supp. 1995, Section 175.5. Services are provided by a number of agencies and organizations, including but not limited to the State Department of Health (OSDH), the Department of Education (ODOE), and the Department of Human Services (ODHS). This section includes descriptive and service provision data (when available) from Special Education Services, SoonerStart Early Intervention, Supplemental Security Income (SSI) and the Children with Special Health Care Needs Program.

Special Education

Public Law 105-17 legally mandates the provision of special education services through the Individuals with Disabilities Act (IDEA-B), Part B. The Oklahoma State Department of Education receives all official records on children receiving special education services in the state and publishes the "Oklahoma Child Count Data" report annually. According to the State Department of Education, 80,292 children between the ages of 3 and 21 received special education services during the school year 1998-1999 (Table CSH3). This represents an increase of 9,483 from 70,809 children served in 1995-1996. The total number of children served in 1998-1999 by age category and disability classification is presented in Table CSH3. The five most commonly occurring conditions include Specific Learning Disability (51.97%), Speech or Language Impairment (17.41%), Mental Retardation (11.58%), Developmental Delays (7.23%), and Serious Emotional Disturbance (4.44%). This pattern of occurrence has remained relative stable since the 1995 –1996 school year with slight increases in the number of children being served with Specific Learning Disability (48.89%), Developmental Delays (7.02%), Serious Emotional Disturbance (3.26%), and decreases in Speech or Language Impairment (19.88%), and Mental Retardation (15.87%).

Table CSH4 shows numbers and rates by state and county of Oklahoma student enrollment in Special Education services (3 to 21), SSI recipients under 21, SoonerStart

average monthly caseload and an estimate for the total number of children served by all three programs for calendar year 1998.

Table CSH3: Total Number of Children Served: P.L. 105-17
01-Dec-98

Disability Classification	3 to 5 Years of Age	6 to 11 Years of Age	12 to 17 Years of Age	18 to 21 Years of Age	22+ Years of Age	Total	Percent of Total
Specific Learning Disability	0	15512	23537	2674	1	41724	51.97
Speech or Language Impairment	0	12807	1151	24	0	13982	17.41
Mental Retardation	0	3691	4833	769	1	9294	11.58
Developmental Delays	5805	0	0	0	0	5805	7.23
Serious Emotional Disturbance	0	1293	2131	142	0	3566	4.44
Other Health Impairments	0	1115	926	73	0	2114	2.63
Multiple Disabilities	0	734	644	155	1	1534	1.91
Hearing Impairment	0	218	226	34	0	478	0.60
Autism	0	305	135	14	0	454	0.57
Orthopedic Impairment	0	251	167	24	0	442	0.55
Visual Impairment	0	154	168	21	0	343	0.43
Deafness	0	133	138	33	0	304	0.38
Traumatic Brain Injury	0	94	111	27	0	232	0.29
Deaf-Blindness	0	3	13	4	0	20	0.02
Total	5805	36310	34180	3994	3	80292	

Table CSH4a: Rate of Special Education, SSI, and Early Intervention Service Enrollments by County

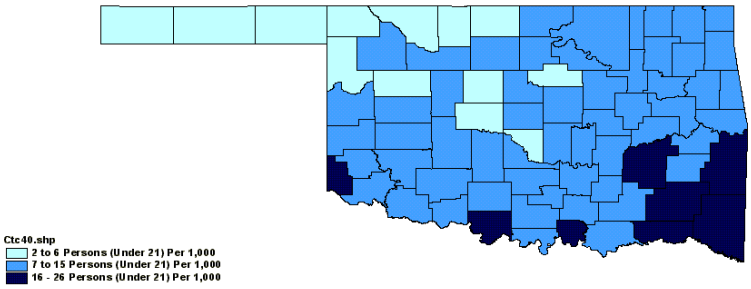
	Total Special Care Needs Children Between 3 and 21 Years of Age Served by DOE, 1998		SSI Recipients Under 21 Years of Age With Open Blind, Disabled or Medical Assistance Only Cases, As of Dec. 1, 1999			Sooner Start Early Intervention Average Monthly Caseload for Children 0 to 36 mos. of Age, CY98		Total Children Served (0 to 21) by DOE and SoonerStart Early Intervention Programs, CY98	
County	*Number*	*Rate* (per 1,000)	*Number*	**Rate** (per 1,000)	*Rate* (per 1,000)	*Caseload*	*Rate* (Per 1,000)	*Number*	*Rate* (Per 1,000)
State of Oklahom	80,292	85.00	10,048	945,564	10.63	2,722	20.94	83014	76.59
Adair	744	**115.89**	72	6,420	11.21	10	10.66	754	**102.09**
Alfalfa	133	98.15	7	1,355	5.17	5	**27.78**	138	90.15
Atoka	302	83.84	54	3,602	14.99	15	**32.24**	317	77.85
Beaver	129	77.52	5	1,664	3.00	4	15.51	133	69.96
Beckham	407	70.56	56	5,768	9.71	15	16.94	422	63.63
Blaine	288	99.24	34	2,902	11.72	5	11.83	293	87.33
Bryan	884	88.35	153	10,006	**15.29**	28	21.21	912	80.48
Caddo	900	100.94	117	8,916	13.12	16	11.58	916	89.17
Canadian	1,517	59.00	114	25,711	4.43	40	11.11	1557	53.11
Carter	1,370	**112.76**	178	12,150	14.65	53	**30.77**	1423	**102.51**
Cherokee	1,058	90.91	148	11,638	12.72	21	12.58	1079	80.91
Choctaw	409	95.74	86	4,272	**20.13**	17	**25.43**	426	86.43
Cimarron	75	93.63	5	801	6.24	2	12.50	77	83.06
Cleveland	4,639	74.24	365	62,484	5.84	127	15.56	4766	67.47
Coal	220	**129.11**	24	1,704	14.08	7	**32.47**	227	**118.37**
Comanche	2,459	67.79	372	36,272	10.26	104	18.61	2563	61.23
Cotton	178	98.45	19	1,808	10.51	6	22.40	184	89.12
Craig	344	98.17	35	3,504	9.99	11	21.68	355	88.30
Creek	1,605	85.71	215	18,726	11.48	53	19.85	1658	77.49
Custer	521	62.88	73	8,285	8.81	17	16.70	538	57.74
Delaware	922	108.48	83	8,499	9.77	25	20.48	947	97.30
Dewey	131	99.92	6	1,311	4.58	3	17.75	134	90.54
Ellis	89	80.76	4	1,102	3.63	4	**32.55**	93	75.75
Garfield	1,154	76.78	190	15,030	12.64	55	**23.83**	1209	69.75
Garvin	839	**116.04**	88	7,230	12.17	13	13.87	852	**104.46**
Grady	968	70.95	146	13,644	10.70	27	14.60	995	64.29
Grant	145	110.27	8	1,315	6.08	6	**29.27**	151	99.34
Greer	128	88.77	16	1,442	11.10	3	15.68	131	80.42
Harmon	98	94.78	27	1,034	**26.11**	3	18.09	101	84.95
Harper	125	**137.82**	3	907	3.31	3	**23.36**	128	**125.74**
Haskell	305	100.69	43	3,029	14.20	12	**30.65**	317	92.58
Hughes	352	101.27	43	3,476	12.37	6	**14.66**	358	92.03
Jackson	547	60.76	92	9,003	10.22	17	**10.53**	564	53.09
Jefferson	241	**139.07**	31	1,733	**17.89**	3	**12.54**	244	**125.62**
Johnston	253	82.06	27	3,083	8.76	7	18.75	260	75.44
Kay	1,153	92.48	96	12,467	7.70	27	**14.38**	1180	82.32
Kingfisher	374	97.04	25	3,854	6.49	10	19.31	384	87.83
Kiowa	267	91.97	41	2,903	14.12	2	**4.75**	269	80.52

Table CSH4b: Rate of Special Education, SSI, and Early Intervention Service Enrollments by County

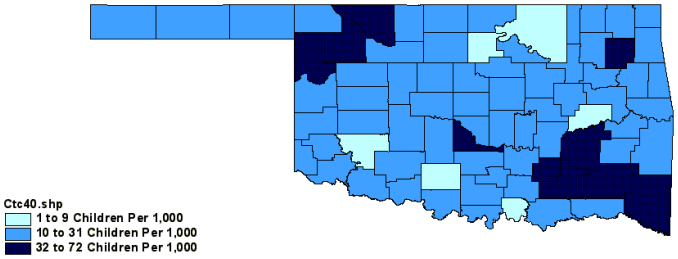
County	Total Special Care Needs Children Between 3 and 21 Years of Age Served by DOE, 1998		SSI Recipients Under 21 Years of Age With Open Blind, Disabled or Medical Assistance Only Cases, As of Dec. 1, 1999			Sooner Start Early Intervention Average Monthly Caseload for Children 0 to 36 mos. of Age, CY98		Total Children Served (0 to 21) by DOE and SoonerStart Early Intervention Programs, CY98	
	Number	*Rate* (per 1,000)	*Number*	*Rate* (per 1,000)	*Rate* (per 1,000)	*Caseload*	*Rate* (Per 1,000)	*Number*	*Rate* (Per 1,000)
Latimer	297	93.72	33	3,169	10.41	7	**17.73**	304	85.03
LeFlore	1,335	99.53	216	13,413	**16.10**	35	18.89	1370	89.68
Lincoln	676	75.10	76	9,001	8.44	20	**17.00**	696	68.34
Logan	594	59.13	73	10,046	7.27	17	**14.57**	611	54.55
Love	240	102.56	27	2,340	11.54	7	21.71	247	92.46
Major	305	**144.41**	19	2,112	9.00	11	**12.13**	316	**104.89**
Marshall	239	79.83	47	2,994	**15.70**	4	**2.60**	243	52.89
Mayes	885	87.06	93	10,165	9.15	25	**42.67**	910	84.67
McClain	629	83.20	59	7,560	7.80	16	**56.85**	645	82.26
McCurtain	1,019	98.02	169	10,396	**16.26**	30	**71.68**	1049	96.99
McIntosh	525	**115.56**	69	4,543	**15.19**	11	**7.33**	536	89.62
Murray	385	**118.39**	36	3,252	11.07	11	**25.85**	396	**107.54**
Muskogee	1889	95.16	277	19,851	13.95	35	**12.70**	1924	85.11
Noble	295	94.49	22	3,122	7.05	4	**9.18**	299	83.66
Nowata	224	87.33	26	2,565	10.14	10	**28.88**	234	80.28
Okfuskee	295	96.06	30	3,071	9.77	5	**11.40**	300	86.26
Oklahoma	14047	81.10	2,059	173,215	11.89	635	22.38	14682	72.84
Okmulgee	1032	92.21	170	11,192	**15.19**	43	**27.74**	1075	84.33
Osage	727	60.51	90	12,014	7.49	10	**6.21**	737	54.09
Ottawa	763	92.82	116	8,220	14.11	22	18.86	785	83.81
Pawnee	327	73.62	37	4,442	8.33	11	**17.05**	338	66.39
Payne	1576	70.39	137	22,388	6.12	42	18.88	1618	65.73
Pittsburg	1359	**126.14**	206	10,774	**19.12**	54	**38.77**	1413	**116.11**
Pontotoc	1054	104.95	155	10,043	**15.43**	25	19.39	1079	95.22
Pottawatomie	1503	80.10	206	18,763	10.98	39	**16.61**	1542	73.03
Pushmataha	319	105.87	49	3,013	**16.26**	16	**39.80**	335	98.10
Roger Mills	87	86.74	8	1,003	7.98	2	**14.63**	89	78.41
Rogers	1633	85.77	164	19,039	8.61	48	18.20	1681	77.51
Seminole	738	107.55	97	6,862	14.14	20	21.46	758	97.33
Sequoyah	1220	**111.77**	156	10,915	14.29	24	**15.25**	1244	**99.76**
Stephens	906	78.56	119	11,532	10.32	14	**9.31**	920	70.37
Texas	322	54.72	31	5,884	5.27	16	20.91	338	50.80
Tillman	298	104.86	33	2,842	11.61	4	**10.42**	302	93.00
Tulsa	13634	92.79	1,496	146,933	10.18	560	**23.01**	14194	82.88
Wagoner	820	48.58	138	16,880	8.18	25	**11.62**	845	44.34
Washington	955	78.64	121	12,144	9.96	40	**23.27**	995	71.71
Washita	221	68.36	40	3,233	12.37	9	20.19	230	62.47
Woods	234	103.49	10	2,261	4.42	9	**35.71**	243	96.70
Woodward	412	77.41	37	5,322	6.95	25	**34.23**	437	72.25
No County Identified	n/a	n/a	n/a		n/a	1	n/a	1	

The ten counties with the highest rates of enrollment in Department of Education's special education programs per 1,000 children (3 to 21 years of age) in the population in descending order are: Major, Jefferson, Harper, Coal, Pittsburgh, Murray, Garvin, Adair, McIntosh, and Carter. Counties with the lowest rate of enrollment in special education programs in ascending order are: Wagoner, Texas, Canadian, Logan, Osage, Jackson, Custer, Comanche, Washita, Payne, and Beckham. The concentration of children under the age of 21 who are SSI recipients can be seen in the Map CSH1. The highest concentration of children is seen in the southeastern counties with 16 to 26 persons per 1,000. The distribution of those served by Early Intervention is heavily concentrated in the southeastern and northwestern counties, with 32 to 72 children per 1,000. Those who receive services from DOE and SoonerStart Early Intervention are heavily concentrated in ten counties: Jefferson, Carter, Murray, and Garvin in the south central section of the state; Coal, Pittsburg ,Sequoyah and Adair in the eastern portion of the state; and in two northwestern counties, Major and Harper.

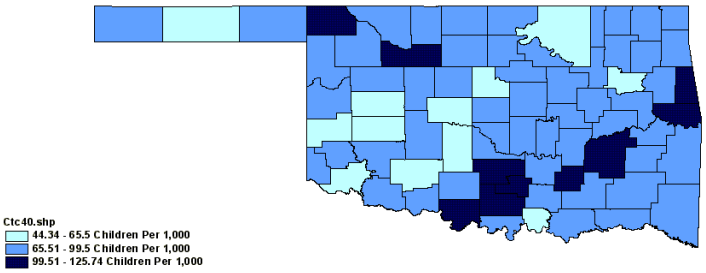
Map CSH1: Rate of SSI recipients under 21 years of age per 1,000 persons: Oklahoma, December 1999



Map CSH 2: Rate of children 0 to 36 months receiving Early Intervention Services per 1,000 children ages 0 to 36 months per county: Oklahoma CY98



Map CSH 3: Rate of children 0 to 21 years of age served by DOE and SoonerStart Early Intervention per 1,000 children 0 to 21 years of age by county: Oklahoma CY98



SoonerStart Early Intervention

Early Intervention programming is stipulated in Public Law 101-476, Section H. In Oklahoma, SoonerStart is the early intervention program serving infant and toddlers with developmental delays from birth through 36 months. It is a joint effort of the Oklahoma Departments of Education, Health, Human Services and Mental Health and Substance Abuse Services. Coordinating their efforts is the Oklahoma Commission on Children and Youth. The program is mandated by federal and state law and is funded through various state and federal sources.

It is estimated that over 13,000 (10% of two year olds) infants and toddlers in Oklahoma have developmental delays (i.e., conditions that slow mental functioning, speech, language, self-help, physical or social development based on the TOTS Survey. The Oklahoma Early Intervention Act of 1989 applies a more restrictive definition to developmental delay, using this classification for infants and toddlers who show a 50 percent delay in one or 25 percent delay in two or more of the following areas: mental functioning (cognitive development), communication development, adaptive development, physical development, and social/emotional development.

The Department of Education is the central point of contact for information on services provided through the Early Intervention Program. Data currently available for the Early Intervention Program is provided in Table CSH5 and presents average monthly caseloads by county and regional office for SFY99. An ongoing collaborative effort among the agencies involved with early intervention programming is underway to enhance data collection and analysis capacities and to create a standard reporting system that can be used by all agencies providing services for Children with Special Health Care Needs regardless of age or type of service provided.

Monthly Caseload by Region and County, SFY99

	Jul-98 Monthly Caseload	Aug-98 Monthly Caseload	Sep-98 Monthly Caseload	Oct-98 Monthly Caseload	Nov-98 Monthly Caseload	Dec-98 Monthly Caseload	Jan-99 Monthly Caseload	Feb-99 Monthly Caseload	Mar-99 Monthly Caseload	Apr-99 Monthly Caseload	May-99 Monthly Caseload	Jun-99 Monthly Caseload	FY99 Average Monthly Caseload
Statewide	2,660.00	2,644.00	2,728.00	2,729.00	2,693.00	2,608.00	2,684.00	2,751.00	2,546.00	2,890.00	2,858.00	2,878.00	***2,722.42***
Enid - Region 1	*203.00*	*199.00*	*214.00*	*205.00*	*189.00*	*195.00*	*201.00*	*207.00*	*208.00*	*218.00*	*234.00*	*224.00*	***208.08***
Alfalfa	3.00	3.00	4.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	5.00	4.00	***4.83***
Beaver	4.00	3.00	4.00	6.00	6.00	4.00	4.00	4.00	2.00	2.00	2.00	2.00	***3.58***
Canadian	35.00	35.00	35.00	39.00	37.00	37.00	34.00	40.00	42.00	42.00	49.00	56.00	***40.08***
Cimarron	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	***1.50***
Dewey	4.00	3.00	3.00	3.00	3.00	4.00	4.00	4.00	2.00	2.00	2.00	2.00	***3.00***
Ellis	5.00	5.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	5.00	3.00	***4.17***
Garfield	62.00	64.00	64.00	57.00	45.00	49.00	48.00	50.00	59.00	59.00	52.00	49.00	***54.83***
Grant	6.00	5.00	6.00	5.00	5.00	5.00	7.00	7.00	7.00	7.00	6.00	6.00	***6.00***
Harper	3.00	3.00	3.00	2.00	2.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00	***2.50***
Kingfisher	5.00	6.00	10.00	10.00	11.00	10.00	12.00	11.00	11.00	12.00	13.00	9.00	***10.00***
Logan	15.00	12.00	14.00	17.00	14.00	14.00	16.00	15.00	16.00	18.00	24.00	26.00	***16.75***
Major	12.00	16.00	19.00	13.00	11.00	9.00	10.00	10.00	7.00	7.00	9.00	8.00	***10.92***
Texas	12.00	11.00	14.00	14.00	14.00	18.00	18.00	18.00	15.00	22.00	23.00	15.00	***16.17***
Woods	13.00	10.00	10.00	10.00	10.00	8.00	9.00	9.00	7.00	7.00	7.00	8.00	***9.00***
Woodward	23.00	22.00	23.00	19.00	21.00	23.00	24.00	24.00	26.00	26.00	33.00	33.00	***24.75***
Altus - Region 2	*73.00*	*74.00*	*73.00*	*79.00*	*80.00*	*79.00*	*77.00*	*87.00*	*67.00*	*75.00*	*83.00*	*81.00*	***77.33***
Beckham	12.00	13.00	13.00	15.00	14.00	15.00	16.00	16.00	11.00	12.00	19.00	18.00	***14.50***
Blaine	4.00	4.00	4.00	6.00	5.00	5.00	5.00	7.00	5.00	6.00	7.00	7.00	***5.42***
Custer	14.00	17.00	18.00	16.00	17.00	17.00	15.00	20.00	18.00	20.00	19.00	17.00	***17.33***
Greer	4.00	4.00	4.00	4.00	6.00	5.00	2.00	2.00	1.00	1.00	1.00	1.00	***2.92***
Harmon	3.00	3.00	4.00	5.00	5.00	4.00	2.00	2.00	1.00	1.00	1.00	2.00	***2.75***
Jackson	18.00	19.00	15.00	16.00	17.00	16.00	18.00	21.00	16.00	16.00	18.00	15.00	***17.08***
Kiowa	5.00	4.00	3.00	2.00	1.00	1.00	1.00	1.00	0.00	2.00	2.00	3.00	***2.08***
Roger Mills	2.00	2.00	2.00	3.00	2.00	2.00	3.00	3.00	1.00	1.00	1.00	1.00	***1.92***
Tillman	1.00	2.00	2.00	2.00	3.00	4.00	5.00	5.00	5.00	7.00	7.00	8.00	***4.25***
Washita	10.00	6.00	8.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	8.00	9.00	***9.08***

Table CSH5: Oklahoma SoonerStart Early Intervention Monthly Caseload by County, SFY '99

	Jul-98 Monthly Caseload	Aug-98 Monthly Caseload	Sep-98 Monthly Caseload	Oct-98 Monthly Caseload	Nov-98 Monthly Caseload	Dec-98 Monthly Caseload	Jan-99 Monthly Caseload	Feb-99 Monthly Caseload	Mar-99 Monthly Caseload	Apr-99 Monthly Caseload	May-99 Monthly Caseload	Jun-99 Monthly Caseload	FY99 Average Monthly Caseload
Lawton - Region 3	***111.00***	***105.00***	*118.00*	*128.00*	*117.00*	*120.00*	*124.00*	*123.00*	*110.00*	*130.00*	*129.00*	*121.00*	***119.67***
Caddo	12.00	10.00	12.00	14.00	14.00	15.00	14.00	15.00	14.00	20.00	23.00	25.00	***15.67***
Comanche	99.00	95.00	106.00	114.00	103.00	105.00	110.00	108.00	96.00	110.00	106.00	96.00	***104.00***
Ada - Region 4	***156.00***	***159.00***	*159.00*	*153.00*	*152.00*	*138.00*	*156.00*	*148.00*	*145.00*	*164.00*	*155.00*	*150.00*	***152.92***
Carter	53.00	58.00	60.00	52.00	54.00	48.00	56.00	49.00	51.00	56.00	56.00	48.00	***53.42***
Cotton	9.00	8.00	5.00	5.00	4.00	3.00	4.00	6.00	6.00	7.00	6.00	5.00	***5.67***
Grady	26.00	32.00	31.00	30.00	31.00	23.00	26.00	27.00	20.00	25.00	25.00	24.00	***26.67***
Jefferson	2.00	1.00	2.00	2.00	3.00	2.00	3.00	3.00	3.00	4.00	4.00	2.00	***2.58***
Johnston	8.00	7.00	6.00	6.00	5.00	6.00	7.00	6.00	5.00	8.00	8.00	9.00	***6.75***
Love	8.00	6.00	6.00	7.00	5.00	7.00	7.00	7.00	10.00	10.00	7.00	7.00	***7.25***
Murray	11.00	12.00	11.00	11.00	10.00	14.00	15.00	11.00	10.00	10.00	9.00	10.00	***11.17***
Pontotoc	26.00	22.00	26.00	28.00	25.00	22.00	22.00	23.00	26.00	27.00	24.00	29.00	***25.00***
Stephens	13.00	13.00	12.00	12.00	15.00	13.00	16.00	16.00	14.00	17.00	16.00	16.00	***14.42***
Norman - Region 5	***207.00***	***219.00***	*218.00*	*203.00*	*213.00*	*218.00*	*229.00*	*234.00*	*205.00*	*237.00*	*230.00*	*234.00*	***220.58***
Cleveland	121.00	136.00	136.00	123.00	123.00	124.00	133.00	134.00	112.00	129.00	126.00	125.00	***126.83***
Garvin	9.00	9.00	11.00	9.00	10.00	12.00	11.00	12.00	16.00	19.00	18.00	18.00	***12.83***
Hughes	5.00	4.00	3.00	3.00	4.00	4.00	7.00	10.00	9.00	10.00	7.00	7.00	***6.08***
McClain	13.00	13.00	13.00	13.00	15.00	16.00	18.00	21.00	15.00	17.00	19.00	18.00	***15.92***
Pottawatomie	36.00	36.00	37.00	38.00	41.00	41.00	40.00	38.00	37.00	41.00	40.00	44.00	***39.08***
Seminole	23.00	21.00	18.00	17.00	20.00	21.00	20.00	19.00	16.00	21.00	20.00	22.00	***19.83***
Oklahoma Co. Region – 6	***631.00***	***604.00***	*626.00*	*633.00*	*626.00*	*621.00*	*602.00*	*644.00*	*584.00*	*671.00*	*660.00*	*713.00*	***634.58***
Oklahoma	631.00	604.00	626.00	633.00	626.00	621.00	602.00	644.00	584.00	671.00	660.00	713.00	***634.58***

Table CSH5: Oklahoma SoonerStart Early Intervention
Monthly Caseload by County, SFY '99

	Jul-98 Monthly Caseload	Aug-98 Monthly Caseload	Sep-98 Monthly Caseload	Oct-98 Monthly Caseload	Nov-98 Monthly Caseload	Dec-98 Monthly Caseload	Jan-99 Monthly Caseload	Feb-99 Monthly Caseload	Mar-99 Monthly Caseload	Apr-99 Monthly Caseload	May-99 Monthly Caseload	Jun-99 Monthly Caseload	FY99 Average Monthly Caseload
Bartlesville – Region 7	***150.00***	***158.00***	*172.00*	*181.00*	*168.00*	*170.00*	*165.00*	*157.00*	*151.00*	*178.00*	*156.00*	*173.00*	***164.92***
Kay	24.00	19.00	24.00	26.00	27.00	25.00	28.00	27.00	29.00	35.00	27.00	31.00	***26.83***
Lincoln	16.00	20.00	23.00	26.00	20.00	22.00	19.00	21.00	18.00	20.00	17.00	20.00	***20.17***
Noble	4.00	5.00	5.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	5.00	5.00	***4.17***
Nowata	6.00	9.00	10.00	12.00	11.00	12.00	12.00	5.00	10.00	11.00	12.00	12.00	***10.17***
Osage	13.00	8.00	13.00	11.00	9.00	9.00	9.00	8.00	8.00	10.00	10.00	12.00	***10.00***
Pawnee	8.00	7.00	9.00	11.00	12.00	12.00	12.00	16.00	11.00	14.00	10.00	11.00	***11.08***
Payne	43.00	48.00	49.00	50.00	44.00	43.00	38.00	37.00	34.00	39.00	38.00	42.00	***42.08***
Washington	36.00	42.00	39.00	41.00	41.00	43.00	43.00	39.00	38.00	46.00	37.00	40.00	***40.42***
Tulsa Co. – Region 8	***553.00***	***545.00***	*573.00*	*566.00*	*558.00*	*524.00*	*550.00*	*569.00*	*527.00*	*599.00*	*590.00*	*563.00*	***559.75***
Tulsa	553.00	545.00	573.00	566.00	558.00	524.00	550.00	569.00	527.00	599.00	590.00	563.00	***559.75***
Tahlequah – Region 9	***187.00***	***190.00***	*192.00*	*182.00*	*180.00*	*163.00*	*187.00*	*188.00*	*174.00*	*202.00*	*199.00*	*194.00*	***186.50***
Adair	8.00	13.00	8.00	10.00	10.00	11.00	13.00	10.00	9.00	12.00	11.00	9.00	***10.33***
Cherokee	26.00	22.00	20.00	18.00	20.00	17.00	19.00	21.00	20.00	24.00	25.00	25.00	***21.42***
Craig	9.00	8.00	12.00	10.00	9.00	9.00	10.00	14.00	13.00	14.00	14.00	13.00	***11.25***
Delaware	27.00	26.00	26.00	27.00	24.00	21.00	22.00	24.00	26.00	28.00	27.00	26.00	***25.33***
Mayes	21.00	19.00	20.00	19.00	20.00	22.00	26.00	29.00	25.00	28.00	32.00	36.00	***24.75***
Ottawa	26.00	25.00	25.00	20.00	23.00	18.00	22.00	22.00	19.00	20.00	19.00	19.00	***21.50***
Rogers	49.00	53.00	56.00	51.00	50.00	41.00	51.00	44.00	41.00	51.00	49.00	43.00	***48.25***
Sequoyah	21.00	24.00	25.00	27.00	24.00	24.00	24.00	24.00	21.00	25.00	22.00	23.00	***23.67***

Table CSH5: Oklahoma SoonerStart Early Intervention
Monthly Caseload by County, SFY '99

	Jul-98 Monthly Caseload	Aug-98 Monthly Caseload	Sep-98 Monthly Caseload	Oct-98 Monthly Caseload	Nov-98 Monthly Caseload	Dec-98 Monthly Caseload	Jan-99 Monthly Caseload	Feb-99 Monthly Caseload	Mar-99 Monthly Caseload	Apr-99 Monthly Caseload	May-99 Monthly Caseload	Jun-99 Monthly Caseload	FY99 Average Monthly Caseload
Okumulgee – Region 10	*152.00*	*163.00*	*168.00*	*182.00*	*185.00*	*159.00*	*165.00*	*168.00*	*162.00*	*183.00*	*191.00*	*183.00*	***171.75***
Creek	38.00	47.00	56.00	57.00	65.00	48.00	54.00	54.00	51.00	59.00	55.00	52.00	***53.00***
McIntosh	10.00	11.00	11.00	16.00	15.00	13.00	11.00	12.00	6.00	6.00	6.00	9.00	***10.50***
Muskogee	36.00	33.00	37.00	40.00	37.00	39.00	35.00	32.00	31.00	33.00	36.00	31.00	***35.00***
Okfuskee	6.00	7.00	5.00	4.00	4.00	3.00	4.00	4.00	4.00	5.00	5.00	4.00	***4.58***
Okmulgee	42.00	45.00	42.00	44.00	44.00	35.00	38.00	38.00	39.00	44.00	53.00	55.00	***43.25***
Wagoner	20.00	20.00	17.00	21.00	20.00	21.00	23.00	28.00	31.00	36.00	36.00	32.00	***25.42***
McAlester – Region 11	***237.00***	***228.00***	*215.00*	*216.00*	*224.00*	*221.00*	*228.00*	*226.00*	*213.00*	*233.00*	*231.00*	*242.00*	***226.17***
Atoka	16.00	19.00	16.00	16.00	14.00	14.00	13.00	14.00	15.00	15.00	15.00	16.00	***15.25***
Bryan	20.00	20.00	23.00	26.00	28.00	26.00	28.00	29.00	29.00	35.00	38.00	36.00	***28.17***
Choctaw	20.00	15.00	19.00	15.00	15.00	17.00	17.00	17.00	16.00	17.00	16.00	15.00	***16.58***
Coal	7.00	7.00	8.00	7.00	7.00	10.00	10.00	9.00	4.00	4.00	5.00	5.00	***6.92***
Haskell	8.00	7.00	6.00	11.00	12.00	12.00	13.00	12.00	15.00	17.00	16.00	17.00	***12.17***
Latimer	8.00	7.00	5.00	5.00	6.00	6.00	8.00	10.00	9.00	9.00	6.00	8.00	***7.25***
LeFlore	41.00	39.00	36.00	33.00	34.00	33.00	33.00	32.00	34.00	38.00	35.00	35.00	***35.25***
Marshall	4.00	4.00	6.00	5.00	6.00	4.00	4.00	4.00	2.00	2.00	3.00	6.00	***4.17***
McCurtain	42.00	40.00	34.00	33.00	34.00	29.00	28.00	28.00	23.00	23.00	24.00	25.00	***30.25***
Pittsburg	56.00	56.00	49.00	52.00	54.00	53.00	58.00	55.00	50.00	55.00	53.00	59.00	***54.17***
Pushmataha	15.00	14.00	13.00	13.00	14.00	17.00	16.00	16.00	16.00	18.00	20.00	20.00	***16.00***
No County Identified			*0.00*	*1.00*	*1.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	***0.17***

Supplemental Security Income (SSI)

Supplemental Security Income, usually called SSI, provides basic income for needy children under 18 and for active students under 22 who are blind or have a severe disability or chronic illness. Eligible children can receive up to $407.00 a month in federal benefits as well as possible additional dollars provided through some states. Oklahoma also provides free health care through Medicaid to individuals who meet the federal criteria. To be eligible, a child must be both 1) financially needy and 2) blind or disabled. Social Security does include parental income and resources in their assessment of the child's eligibility if the child is under 18 and lives with his/her parent(s) or stepparent(s).

A child is considered disabled by the Social Security Administration if his/her physical or mental condition (or a combination conditions) results in "marked and severe functional limitations". The condition must last or be expected to last at least 12 months or be expected to result in his/her death. And, the child must not be working at a job that is considered to be substantial work. A child is considered blind by the Social Security Administration if, with corrective glasses, the child's vision is no better than 20/200 OR the child's visual field is 20 degrees or less. Children whose visual problems are not that serious can still qualify as "disabled" if the problems are severe and long lasting. As presented earlier in Table CSH4a, 10,048 or 10 per every 1000 Oklahoma children under 18 were receiving SSI in December of 1999.

Children with Special Health Care Needs

The Children with Special Health Care Needs Program focuses on providing services for children and their families who, because of the level of impairment of the child, need specialized services or equipment in order to maintain the child in his or her own home. The thrust of the program has been to insure that all children in the state have knowledge and access to the specialized services that are available through various agencies in their area or at a centralized location.

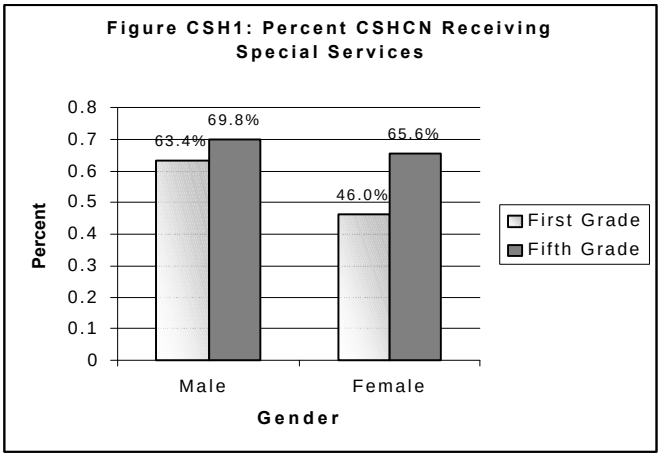
Overall the services provided by the Department of Education, the SoonerStart/Early Intervention program and Social Security Income serve approximately 50 percent of the estimated Children with Special Health Care Needs in the state (see Table CSH6). This varies by age group with 21.6 percent of the identified 0 to 2 year olds receiving services followed by 27.8 percent of 3 to 5 year olds, 55 percent of 6 to 11 year olds, and 52.8 percent of 12 to 17 year olds. It is estimated that an additional 37,448 families would use these services and that 19,201 of families being served report needing additional services.

Table CSH6: Estimated CSHCN Service Utilization Compared to Estimated Need

Age	Est. Number Of State CSHCN	% of State CSHCN Pop. Receiving Public Services[1]	Est. % CSHCN Not Receiving Pub. Services	Est. CSHCN W/O Service But Would Use Public Services[2]	Est. CSHCN Rec. Service But Require Add'l Services[2]
0 to 2 years	12,590	21.6	78.4	6,204	661
3 to 5 years	20,907	27.8	72.2	9,018	1,411
6 to 11 years	66,007	55.0	45.0	10,489	8,823
12 to 17 years	64,762	52.8	47.2	11,736	8,306
Est. State Total	164,266	50.5	49.5	37,448	19,201

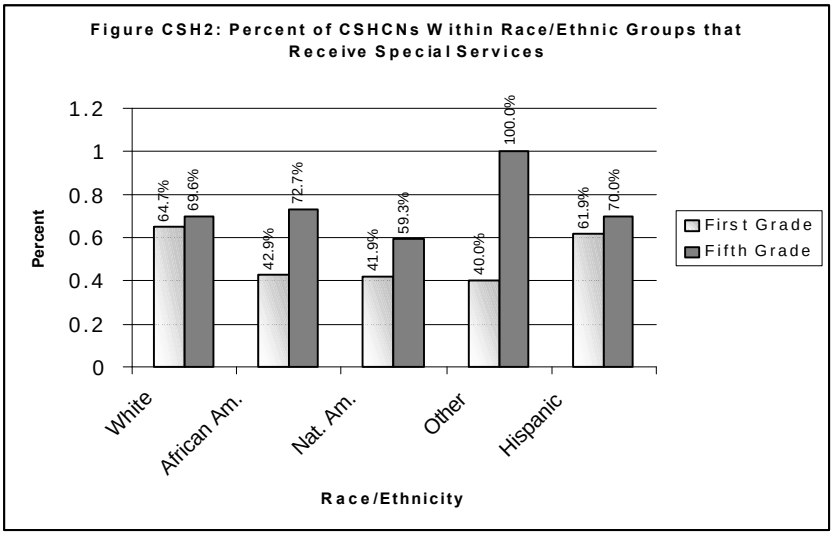
1. Estimates of number served only include client counts of DOE, SoonerStart/EI and assumes that clients receiving SSI are also receiving services from SoonerStart/EI or DOE. Unduplicated clients counts are not currenly available from these sources at this time and linked and unduplicated client counts from private providers are not available.
2. Estimates based on the proportion of 1st grade parents of identified CSHCN reporting the need for services (70.9% currently use or need) and a need for additional services (24.3%) (First Grade Health Survey, 1998).

In addition, it was found that service utilization varies significantly by gender and race/ethnicity of the child. Results from the First Grade survey indicate that Native American and female CSHCNs are significantly less likely to receive special services. Interestingly however, the



reported need for services does not vary significantly by gender or race/ethnicity. Further, these differences appear to be rectified by the fifth grade with no significant racial/ethnic or gender differences found on the Fifth Grade Health Survey. These findings suggest that Native American and female children may not be identified as early as others may. This may be due to a lack of cultural sensitivity on the part of service providers or perhaps a tendency for females and Native American children to present significant symptomolgy at later ages. More research is needed in this area.

Information obtained from regional focus groups conducted in 1998 indicates that a lack of effective advertising is a major problem. When asked if people were generally aware of services offered in their area, focus group participants responded with an emphatic NO. There was a consensus at each focus group location that people are NOT aware of the services available and that services are not well advertised (exception was the new expanded Medicaid program). In addition, focus group participants indicated that they received most services through the schools and that they learned about most services through word-of-mouth.



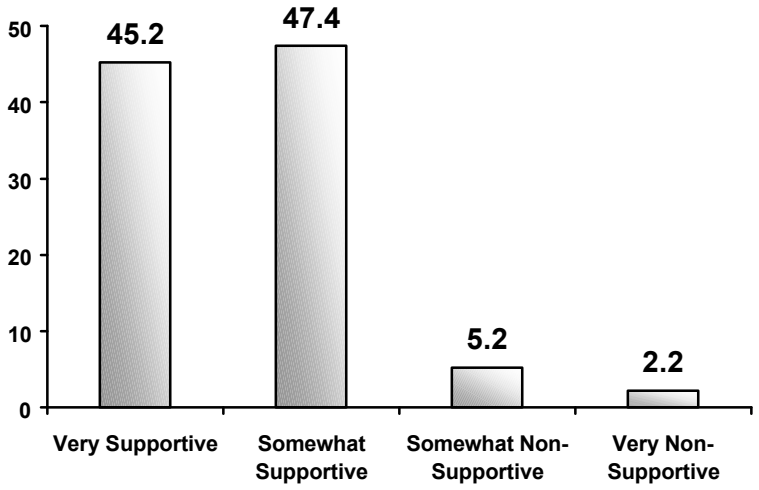
Findings from the TOTS survey indicate that health care providers referred 4.4% of Oklahoma's toddlers to the either the Early Intervention, SSI, or CSHCN program. Of those referred, about one-half of the children were enrolled in one or more of these programs. Overall these findings suggest several factors may be affecting service

utilization including but not limited to: 1) a lack of effective advertising for existing services, 2) a need for and a lack of services for children whose conditions are not severe enough to qualify for existing programs; 3) an under identification of conditions by health care providers; 4) a lack of parental follow through on provider referrals; and 5) a lack of cultural awareness or sensitivity by service providers.

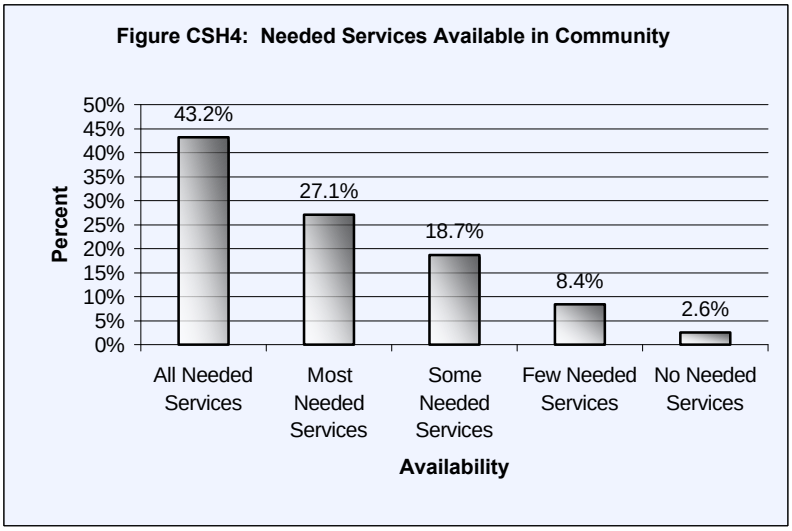
Social and Community Support

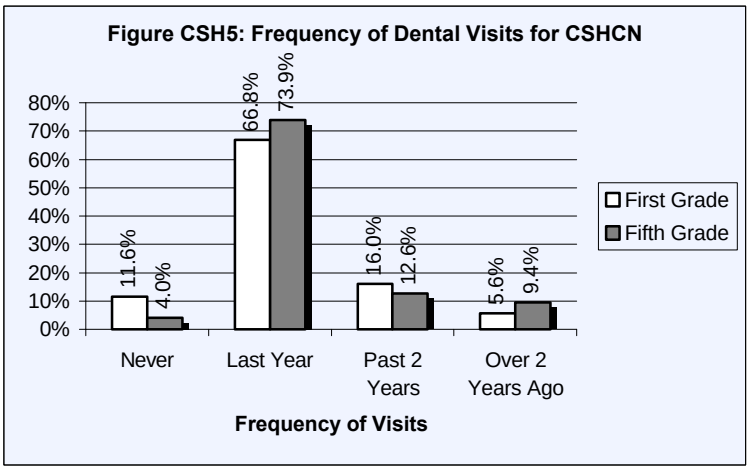
Social and community support of families with CSHCN children is crucial. The ability of a family to have strong community assistance enables them to provide better care to their CSHCN children and to themselves. Forty-five percent of CATCH respondents reported that their community was very supportive of children with special health needs and their families. (Figure CSH3) Approximately 7% of families with a CSHCN child reported that their community was somewhat or very non-supportive. Forty-three percent of these communities were reported to provide all the services that CATCH families needed. Eleven percent of the communities however, provided few or none of the services needed.

Figure CSH3: Perceived Community Support of 1998 CATCH Respondents and CSHCN Families



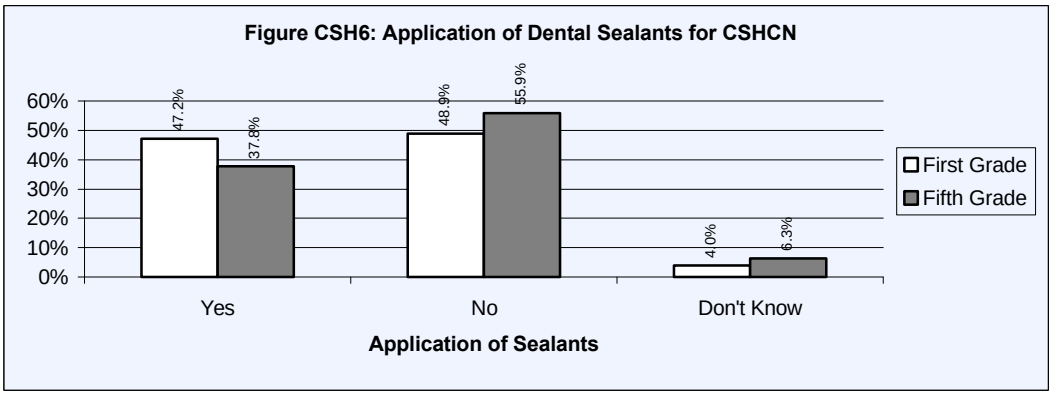
Similarly, the majority (73.3%) of CATCH survey respondents report that all or most of the services they need for their children are available in their communities. However, 11 percent of the respondents report that few or none of the services they need are available in the community. Unfortunately the response rate and sampling design does not allow these data to be analyzed by geographic region, which is possibly a critical factor in the reported lack of services (Figure CSH4).





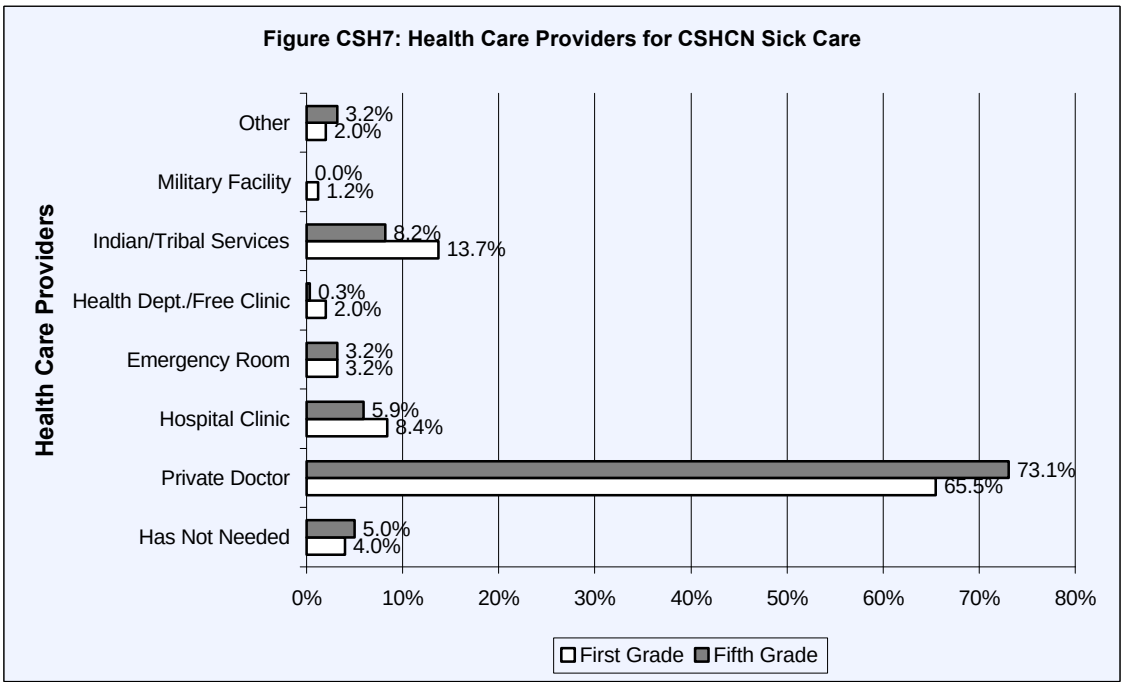
Although frequently mentioned as a need during focus group sessions in 1998, the majority of parents with special need children in the first and fifth grades reported that their children had seen a dentist within the last year (66.8% and 73.9% respectively). Approximately eleven percent of first grade and four percent of fifth grade parents reported that their special needs child had never been to a dentist and 5.6% of first and 9.4% of fifth grade special needs children had not been in over two years (Figure CSH5). In regard to the use of preventative sealants however, 55.9% of

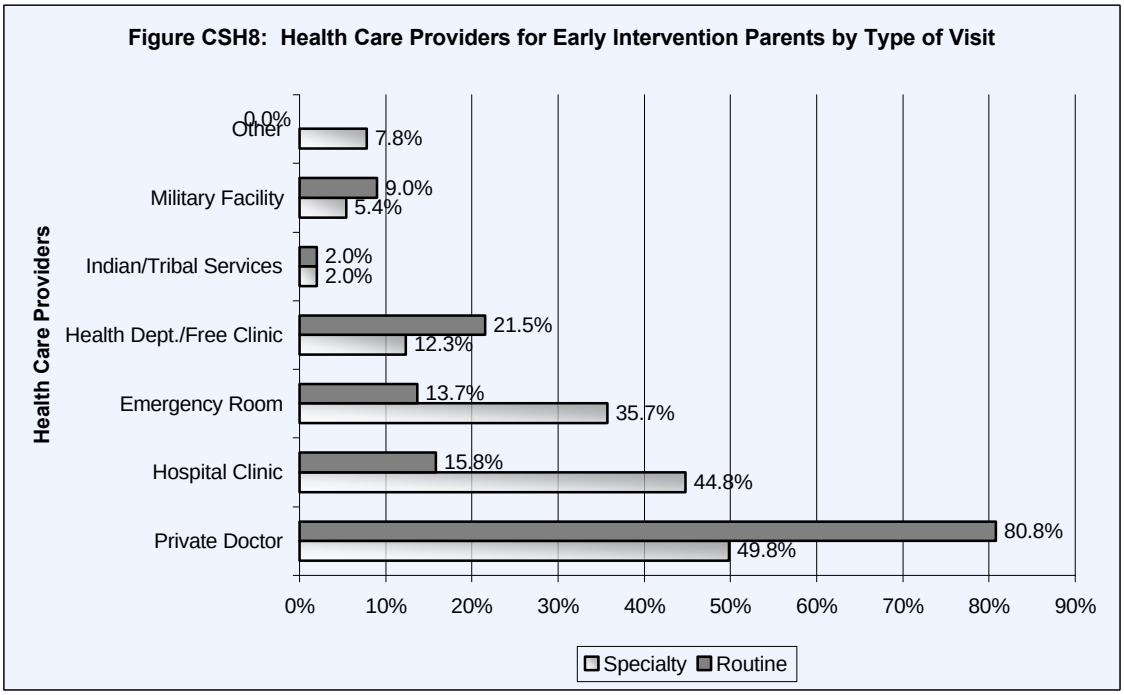
fifth grade parents and 48.9% of first grade parents reported that their children do not have protective dental sealants on their teeth (Figure CSH6).



When needing sick care, the great majority of fifth and first graders receive services from a private physician (73.1% and 65.5% respectively). Almost 14 percent of first grade CSHCN receive sick care services from Indian/Tribal services followed by hospital clinics (8.4%), emergency rooms (3.2%), local health departments or free clinics (2.0%), and military health services (1.2%). After private physicians, fifth grade CSHCN receive sick care services from Indian/Tribal services (8.2%), hospital clinics (5.9%), emergency rooms (3.2%), and other sources (3.2%). Parents report that 4 percent of special needs children in the first grade and 5% in the fifth grade did not require sick care during the past 12 months (see Figure CSH7).

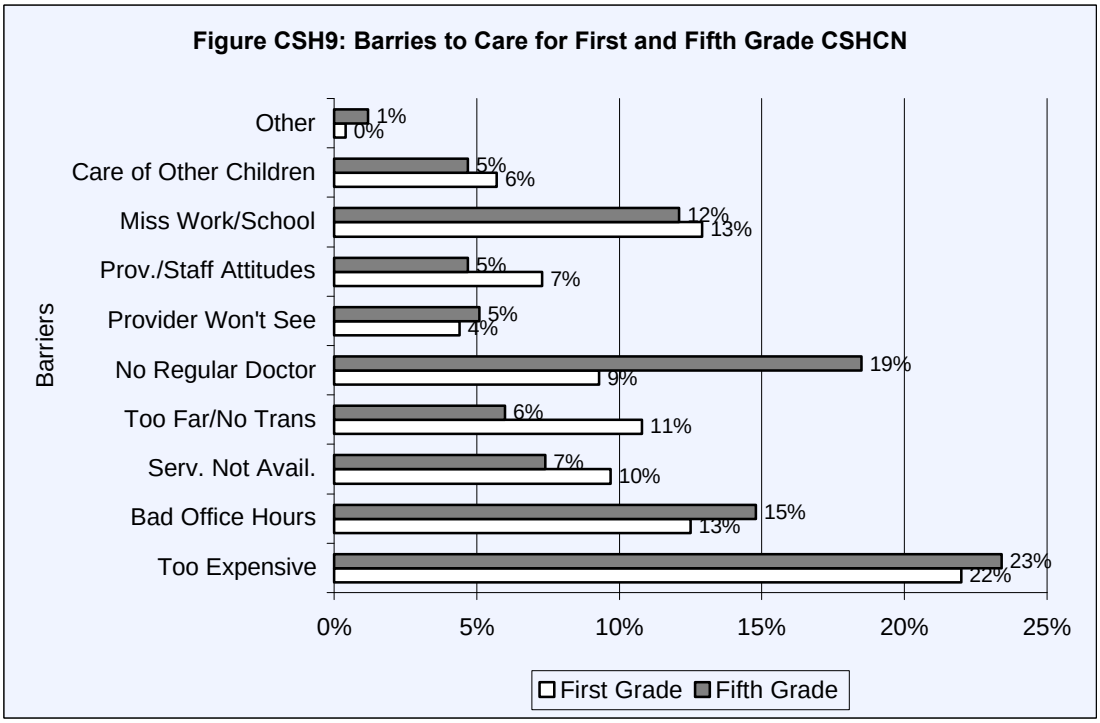
The majority of parents responding to the CATCH survey report that their younger children see a private physician over 80 percent of the time for routine health care but only 50 percent see a private physician for specialty services (Figure CSH8). For specialty services, many younger special needs children use hospital clinics (44.8%) and emergency room services (35.7%). It should be noted however, that a distinction between specialty and routine health care services was not made available on the First and Fifth Grade Health Surveys. Therefore, it cannot be assumed that the older fifth and first grade children do not rely on hospital clinics and emergency room services any less frequently when specialty services are required.





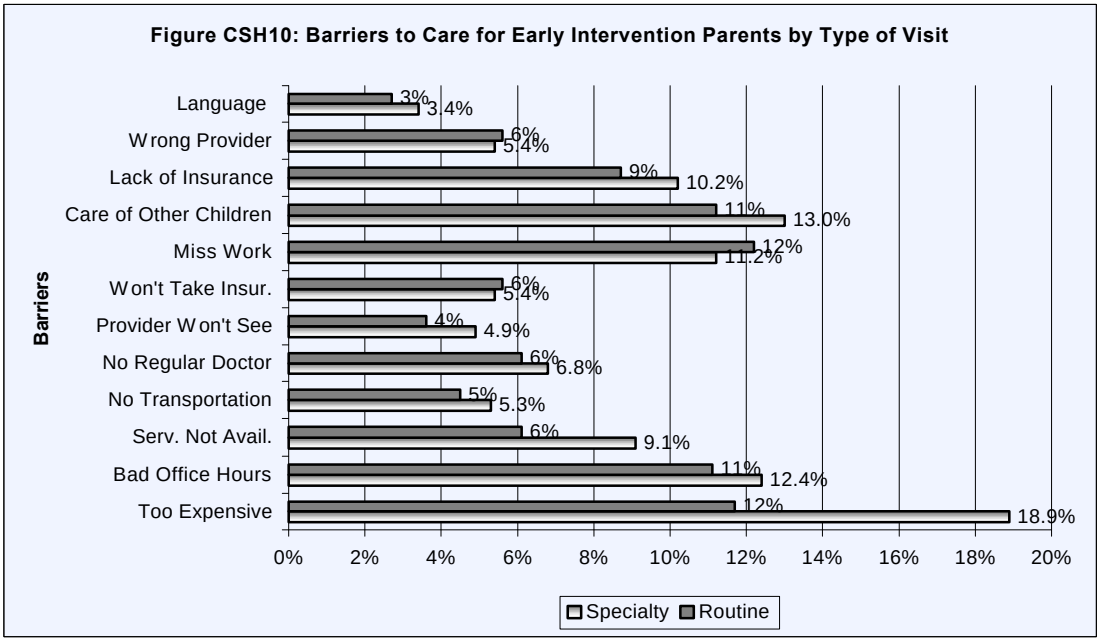
The most frequently identified barriers to obtaining health care in the past 12 months for parents of first grade special needs children include expense (22%), can't afford to miss work or school (13%), inconvenient offices hours of the provider (13%), too far to travel

for services (11%), needed services are not available (10%), and not having a regular health care provider (9%). Fifth grade parents report these problems at a similar rate but over twice as many fifth grade parents report the lack of a regular health care provider (19%) (Figure CSH9).



Almost 19% of CATCH survey respondents report that the expense of specialty health care services has prevented them from getting their child needed services in the past 12 months (Figure CSH10). This percentage reduces to 12 percent for routine health care. With the exception of expense, the top barriers to obtaining routine and specialty health care services for children in the early intervention program is similar and includes lack of child care for other children (13% specialty, 11% routine), inconvenient provider office hours (12.4% specialty, 11% routine), inability to miss work (11.2% specialty, 12% routine), and lack of insurance (10.2% specialty, 9% routine). It should be noted that between four and five percent of first, fifth and CATCH parents report that health care providers are refusing to see their children. In addition, the establishment of a medical home for a special needs child appears to vary significantly by age. Six to seven percent

of the parents of zero to 36-month year olds report that their child does not have a regular physician followed by first graders at 9% and fifth graders at 19%.



Regional focus group participants report that it is hard to get Dentists to provide services for special needs children and that local Optometrist will only see older children. They also have difficulty getting Pediatricians to see CSHCN. In order to get their children seen, they never tell the health care provider that they have a special needs child for the first appointment. Focus group participants also report that lack of information about services that already exist and lack of knowledgeable referral services are major problems as well. The following quotes provide a good summation of the experience of focus group participants in trying to obtain needed health services.

> "Family members of kids who need services don't know, professionals don't know, agencies don't know. Health department refers to DHS who refers to Social Security, i.e., the shuffle – that's not our job. No one wants to take responsibility because they are afraid they will have to pay."

"Even when you do know of a service, the eligibility rules often keep them from getting it. All services based on parental income, even for the most severely disabled child. Costs for the care of these children are high! Good incomes aren't enough, yet if you have any income at all, you don't qualify for assistance. Kids are falling through the cracks."

"Few therapists, what few they have are part time. Professional schools don't train enough. Those that are trained leave the state for bigger salaries."

Interesting racial/ethnic, age and gender differences were found in relation to health care providers used for sick care and barriers to obtaining health care services. Overall, parents of African American CSHCN first and fifth graders were more likely to report that their children did not need sick and/or well care in the past 12 months (Table CSH7 and CSH8). In addition, they are less likely to use a private physician and more likely to use hospital clinics and emergency room services for health care services. As would be expected Native American CSHCN in the first grade are more likely to use Indian Health Services, however fifth grade Native American CSHCN reported more frequent use of private physicians.

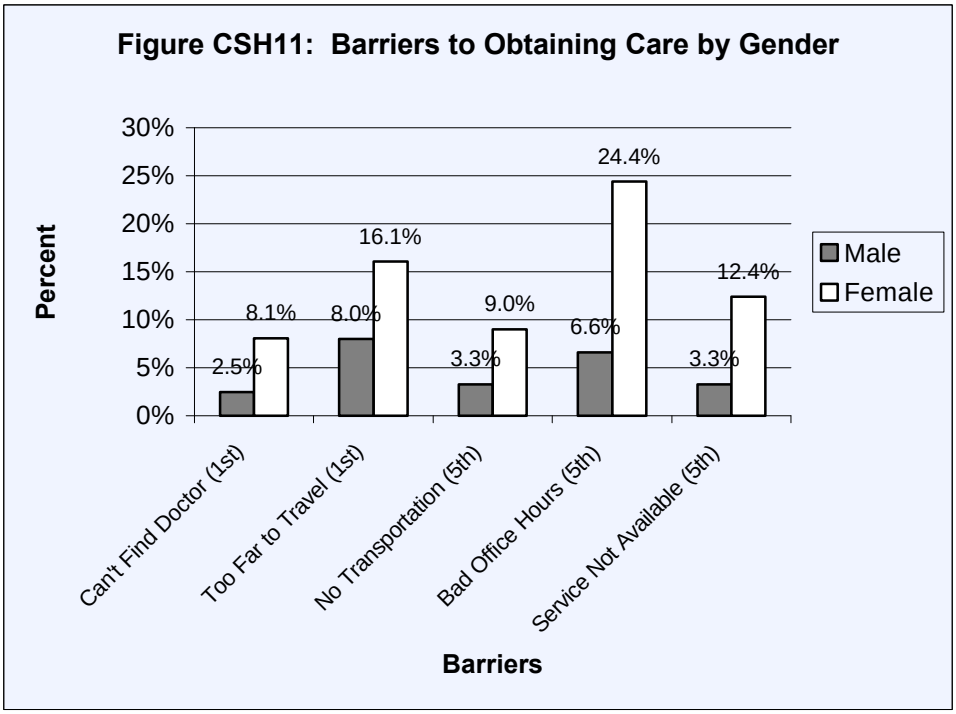
Table CSH7: Providers of Sick Care for First Grade CSHCN

Provider	White	African American	Native American	Hispanic
Services Not Needed	2.0%	14.8%	0.0%	14.3%
Private Doctor	78.9%	51.9%	32.6%	57.1%
Hospital Clinic	9.2%	11.1%	4.7%	9.5%
Emergency Room	2.0%	11.1%	0.0%	4.8%
Health Dept./Free Clinic	3.3%	0.0%	0.0%	0.0%
Indian/Tribal Services	2.6%	3.7%	60.5%	4.8%
Military Facility	0.7%	0.0%	0.0%	9.5%
Other	1.3%	7.4%	2.3%	0.0%

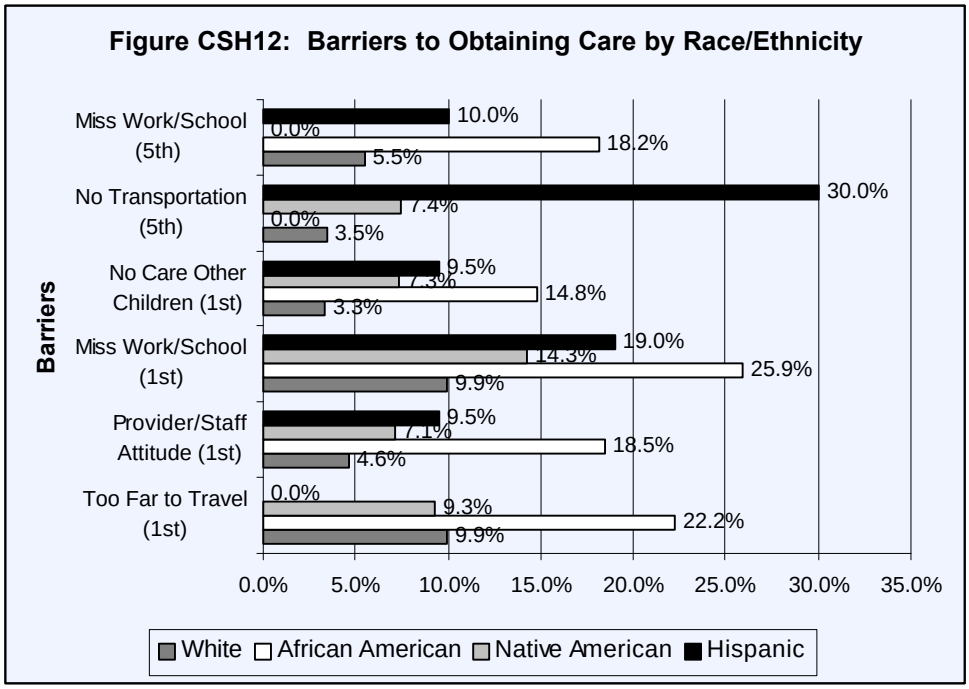
Table CSH8: Providers of Sick Care for Fifth Grade CSHCN

Provider	White	African American	Native American	Hispanic
Services Not Needed	5.5%	18.2%	0.0%	0.0%
Private Doctor	77.4%	45.5%	55.6%	70.0%
Hospital Clinic	5.5%	18.2%	0.0%	10.0%
Emergency Room	4.1%	9.1%	0.0%	0.0%
Health Dept./Free Clinic	1.4%	0.0%	0.0%	0.0%
Indian/Tribal Services	2.1%	9.1%	44.4%	10.0%
Military Facility	0.0%	0.0%	0.0%	0.0%
Other	4.1%	0.0%	0.0%	10.0%

Regarding barriers to obtaining health care services, parents of female first grade CSHCN are significantly more likely to report problems with finding a physician to provide needed services (8.2%) and having to travel too far to obtain services (16.1%) than the parents of male first grade CSHCN. Further, parents of female fifth grade CSHCN are significantly more likely to report that the needed service is not available (12.4%), health provider office hours are inconvenient (24.4%), and that they lack transportation (9.0%) when compared to parents of male CSHCN (Figure CSH11).



Parents of African American first grade CSHCN are more likely to experience problems with missing work or school (25.9%), finding care for other children when they need to take their first grader for services (14.8%), having to travel too far for services (22.2%) and poor health care provider or staff attitudes (18.5%) (Figure CSH12). Missing school or work continues to be an important barrier for parents of African American fifth grade CSHCN (18.2%) as well. For parents of Hispanic fifth grade CSHCN, lack of transportation appears to be a significant barrier to obtaining services for their children.



In summary, for the majority of Children with Special Health Care Needs, the communities in which they live are seen as supportive and able to provide needed services. However, it appears that almost a third of the population does experience problems finding and receiving needed services depending on the services needed and the age of the child needing services. It also appears that as special needs children get older they are less likely to have a regular caregiver, which is extremely important for the continued well being of these children. Major barriers include expense, lack of information and knowledge (both consumer and service provider), inconvenient office hours, distance of travel for services and/or transportation, childcare for siblings, the availability of needed services and willing health care professionals.

In 1998, the Injury Prevention Service of the Oklahoma State Department of Health conducted a comprehensive statewide assessment of service system resources and needs for victims of traumatic brain injury (TBI) (R. Azeredo, 1998). Between 1992 and 1997, 13,182 people survived accidents in which they sustained traumatic brain injury. Of the survivors, 5,569 or 42.2 percent were children 24 years of age and younger (0 – 4 years: 1068; 5 – 14 years: 1517; and 15 – 24 years: 2984). This study is relevant here because a significant portion of TBI survivors experience long-term effects from the injury, which

include but are not limited to cognitive problems, hearing/vision/speech deficits, physical limitations and behavior problems. Many of these survivors require continued therapy to develop new daily living and coping skills and continued rehabilitation to impede the disabling process. In other words, once released from the hospital, TBI survivors enter the world of other children with special needs and their system of health care services. Surveillance of this population is difficult because once entering the health care system they are no longer identified by the cause of their condition(s). It also provides an opportunity to see the needs of the older transition CSHCN as many of these individuals enter the system during their adolescent and teenage years.

Although many of the needs identified are stated specific to TBI, they appear to be generally applicable to most CSHCN regardless of the cause of the conditions. Results from the needs assessment reported here indicate that the CSHCN health care system could benefit from the implementation of an ongoing Quality Improvement process and surveillance system.

Service System Needs and Gaps in Care

The assessment conducted by the Injury Prevention Service focused on services provided statewide and across the continuum of care including prevention, pre-hospital, acute care, rehabilitation, patterns of referral and community services (R. Azeredo, 1998). The assessment included surveys and interviews with professionals, service provider organizations (incl. prevention, acute medical, rehabilitation, education, job/employment, long term community support services, finance and training issues), focus groups, TBI survivors and their families. Although a multitude of services are being provided through the CSHCN system, service providers identified several system needs and gaps. The most frequently cited needs for their facilities include: 1) referral to services; 2) day programs; 3) long term community services; 4) employment/vocational services; 5) information services; 6) outpatient and ongoing community rehabilitation services especially for persons without insurance; 7) increased knowledge and awareness for the public and professionals of TBI; 8) inpatient and community services for children and screening tools; and 9) increased capabilities for TBI and neuropsychological services.

The main gaps reported in statewide services include: 1) community-based residential care; 2) education of families and the public; 3) poor connections/continuity of medical care; 4) information resources; 5) vocational rehabilitation services; and 6) financing of acute services, rehabilitation, staff education, and proper referral (R. Azeredo, 1998).

Local Agency Needs and Gaps

Overall service needs identified by local community agencies include: 1) lack of referral and networking for continuity of services in the community; 2) adult assessment, planning and re-integration; 3) adult and child neurocognitive diagnosis and rehabilitation; 4) lack of outpatient services for TBI; and 5) lack of staff and public awareness of TBI and its effects on patients and families. Identified gaps in services statewide include 1) lack of TBI service providers outside Oklahoma City and Tulsa; 2) quality pediatric services for acute to residential care; 3) need for diagnosis, treatment, and planning the continuum of care for inpatient to the community; and 4) safety education and programs in the community.

Needs and Gaps Identified by Survivors and Families

Overall, families and survivors rated emergency medical services, inpatient hospital services, and rehabilitation services as being at least adequate with emergency medical services being rated by some as good. The gaps and service problems associated identified by survivors and families are listed below by type of service. It is important to bear in mind that these comments do not necessarily reflect the views of the majority of respondents (R. Azeredo, 1998).

> Emergency medical /Emergency department services: Emergency Department staff were too slow and overworked with long wait times.
>
> Inpatient Hospital Services: Lengthy hospital admission procedures, lack of medical information and referrals for all staff, and lack of insurance or ability to pay.

Rehabilitation: Insufficient number of staff, lack of or limited accessibility to cognitive and other therapies, lack of family and patient counseling and education during rehabilitation, lack of resource information, lack of follow-up functional and neuropsychological services, and lack of referral to community services.

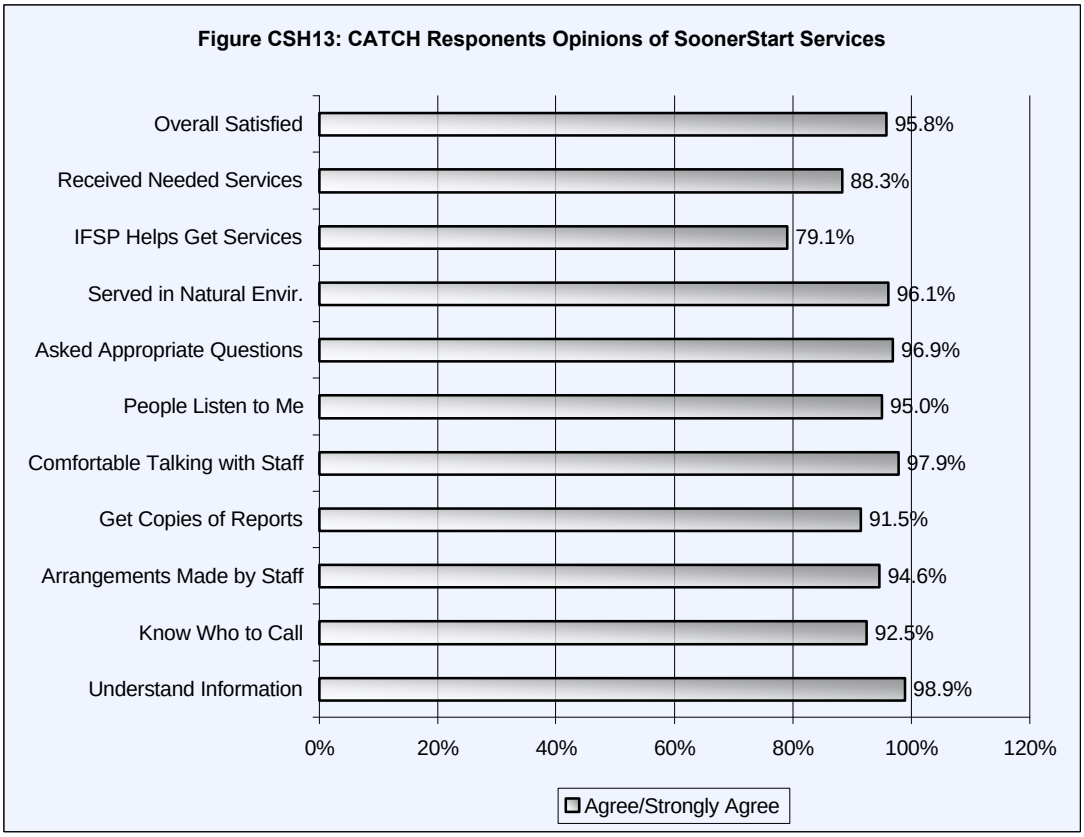
Long term/community services: Although responses to these questions varied by the survivors and families experience, most respondents identified the following service needs:

1) *Education* – a need for training of teachers concerning the needs of children and adults with TBI, assisted funding for higher education and training, and appropriate transition programs for students following their 21st birthdays;
2) *Employment* – lack of job assessment, training and placement, and employment services generally;
3) *Patient/family education and training* – lack of knowledge about TBI and how to help and work with survivors to increase functional and coping skills;
4) *Long term community services* – Need for a wide array of services such as substance abuse programs, basic health care, transportation, housing assistance, group homes, independent living centers, and assistance in paying for these services; and
5) *Referral and information services* – Lack of referral to services or health care professionals from time of discharge from hospitals, rehabilitation centers and other facilities and/or returns to the community making it difficult to find, obtain financial assistance and/or pay for needed services. Difficulty in locating information about the prevention and treatment of the long term effects of TBI, how to get help in returning to school or work, re-learning daily living skills, and surviving in the community.

Gaps and Needs Identified by Focus Group Participants

Two focus groups were conducted in a community with a TBI support group and health care professionals covering the continuum of care from pre-hospitalization to ongoing community care. The results from this activity were very similar to those already presented. Support group participants identified the lack of knowledge and accessibility functional assessment services, interest and knowledge of teachers and the education system about TBI related student needs, and job and employment services. The professional health care provider group identified the lack of emergency intercept care and immediate brain injury-specific services, longer inpatient and community rehabilitation services, and resource information at all levels of care to ensure continuity of needed services (R. Azeredo, 1998).

The CATCH survey, conducted in March of 1998, asked the parents of Early Intervention/SoonerStart Services to respond to questions regarding the services that their child received and the family participation in the receipt of that care. When asked if the parent/guardian felt that the concerns of what would be best for their child were listened to by EI staff, 95% of respondents agreed, 64% of that group strongly agreed that they were listened to in regards to the best interests of their child. Less than 5% of respondents to the CATCH survey disagreed when asked about knowing who to contacting among EI staff if they encountered any problems with the EI services that their child or family were receiving (Figure CSH13).



In addition, CATCH survey respondents report that overall they have received the services they needed for their child (88.3%), are served in a natural environment (96.2%), asked appropriate questions by staff and providers (96.9%), comfortable with talking to SoonerStart staff regarding their child's needs and services (97.9%), understand the information they are given regarding the SoonerStart program (98.9%), arrangements were made by SoonerStart staff to begin service delivery as soon as the child became known to the program (94.6%), receive copies of health care reports on their child (91.5%), and that they are generally satisfied with the program (95.8%). A slightly smaller percent of respondents reported that their child's IFSP plan helped their child get needed services (79.1%).

Information presented in earlier sections of the report suggests that the CSHCN health care system as whole may not be viewed as positively. When regional focus group participants were asked if they had a way of providing input into the development of programs and/or policies concerning CSHCN, participants indicated that in reality they

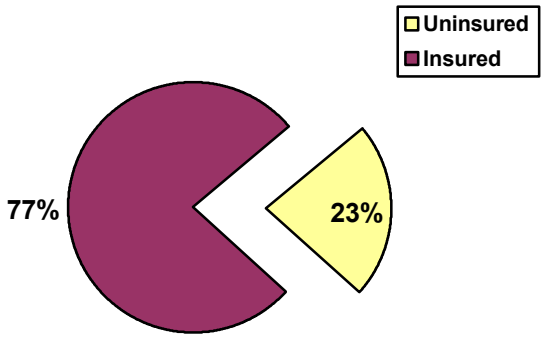
did not believe they had much say in things. Participants from the 1999 focus groups said that they did not know of any mechanisms for providing input. Focus group participants (1998) indicated that theoretically there were mechanisms in place for them to provide input – OSDH, schools, SoonerStart, Pro-Oklahoma, and the Oklahoma Disability Law Center. However, participants indicated that their children were seen as second-class citizens and sometimes the only way they could get things done was through threatening the schools with due process. Further participants stated that generally their input was sought for solving individual problems, specific cases and not system change. Recommendations made by the participants include the development of more community support groups, a web page, a 1 – 800 support number, a Nurse Health Care Advisor service, brochures that include information on services available and how to contact, and conferences for parents.

Further, representative quantitative data sources are not available to evaluate this aspect of the CSHCN system. Evaluation efforts have relied heavily on non-representative convenience samples of service providers and clients and their families. Therefore, a complete understanding of these issues is not available. This again supports the need to develop a quality improvement process and surveillance system for this health care system.

CSHCN children and families need a diversity of routine and specialty services. They also need a way to pay for them. The percentage of first graders in Oklahoma who are uninsured, regardless of disability is approximately 23% (Figure CSH14). However, those children who were identified to have a special health need by the 1998 First Grade Health Survey, were 1.4 times more likely to have been reported by parents/guardians to experience expense as a barrier to receiving health care than when compared to responses of parents of first graders in general.

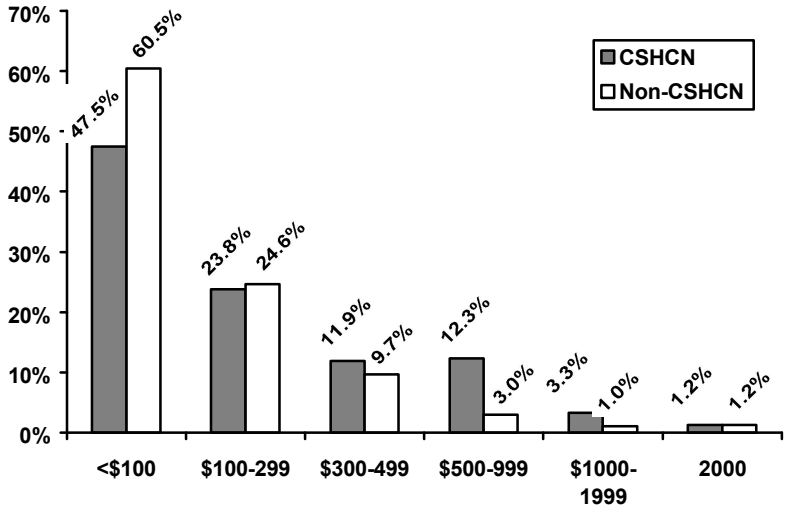
Figure CSH14: Percent of 1998 First-Graders

with Health Insurance Coverage



Out-of-pocket expenditures for health care among parents or guardians of CSHCN first graders were significantly higher than out-of-pocket costs among parents or guardians of first graders in general. These CSHCN families were significantly more likely to report paying between $550-1999 on out-of-pocket heath care expenses during the past 12 months than were parents or guardians of first graders in general (Figure CSH15). While new initiatives in Oklahoma, which address insurance coverage, have greatly improved the number of children with coverage, ***SoonerCare*** covered only 31% of CSHCN first graders. Among those children who were uninsured, 32% listed lack of qualification for ***SoonerCare*** as a reason for lack of coverage.

Figure CSH15: Percent of Out-of-Pocket Health Care Expenditures Among 1998 First Grade Respondents



Younger children also experience barriers to care. Among Oklahoma toddlers regardless of disability or special need, approximately 70% of parents reported in the TOTS survey, not having experienced any barriers to providing health care for their children. However, for those parents who have encountered problems, expense (14.1%) was listed as the primary reason. This finding is also true among parents of younger Children with Special Health Care Needs. When asked about barriers to specialty care, care relating to the child's condition(s), 18.9% of parents, of CSHCN children aged 0-3 identified in the CATCH survey, reported that the primary barrier to care was expense. Almost twelve percent of these respondents also reported expense as a barrier to routine care; care not related to the child's condition. Clearly the added expense that the family of a CSHCN child makes it more difficult for the provision of care that is related to the child's condition than when care is related to routine care such as well child care or regular check-ups.

With almost a third of the CSHCN population reliant upon ***SoonerCare*** to cover their health care expenses, the programs ability to attract and keep health care providers in general and specialty service in particular is crucial to the well being of CSHCN and their

families. In 1999, the Oklahoma Health Care Authority (OHCA) and the Oklahoma State Department of Health (OSDH) surveyed all licensed health care providers in a select group of counties. Due to the use of complete canvassing, nonrandom county selection, and a low response rate, results from the study are not statistically generalizable to physicians in the State of Oklahoma or within the selected counties. However, the information obtained can be used as an indicator of problem areas and as a tool to refine future efforts. Health care providers were asked if they would be interested in increasing their ***SoonerCare*** caseloads, if not why not and to provide any recommendations for improving the system. Survey findings are divided into three categories of health care providers – current, past and never ***SoonerCare*** providers.

Current *SoonerCare* providers: Overall, the majority (66.33%) of current providers reported that they are unwilling to accept new ***SoonerCare*** patients. The top four reasons given for not wishing to increase the number of ***SoonerCare*** patients in their practices include inadequate reimbursement rates (76.32%), too much paperwork (47.74%), comfortable with current practice the way it is (34.59%) and ***SoonerCare*** clients require more time than other clients (22.93%). Top recommendations for improvement included higher capitation rates (68.80%), improved training and updates (21.43%), streamlining the referral process (18.05%), and more realistic and improved reimbursement rates (12.03%).

Past *SoonerCare* providers: Overall, less than 10 percent of the respondent's reported being past providers. The most frequently cited reasons given by past providers for no longer participating in the program include: inadequate reimbursement rates (81.25%), too much paperwork and administrative hassle (67.19%), too difficult to keep track of ***SoonerCare*** clients eligibility status (42.19%), ***SoonerCare*** clients require more time than other clients (29.69%), chose not to be in managed care (18.75%), and comfortable with current number of patients in practice (17.19%).

Never *SoonerCare* providers: Approximately one-fourth of the survey respondents report that they have never been ***SoonerCare*** providers (26.3%). The most frequently stated

reasons for not participating in the ***SoonerCare*** program include: inadequate reimbursement rates (69.77%), comfortable with the way practice is now (43.60%), too much paperwork (42.44%), chose not to be in managed care (35.47%), ***SoonerCare*** patients require more time (22.67%), practice group decided against participation (22.67%) and not interested in state or federal programs like ***SoonerCare*** (21.51%).

In summary, without adequate financing, the CSHCN system cannot adequately meet the needs of its clients. Clients without adequate insurance or medical assistance are unable to obtain needed services. Inadequately reimbursed health care practitioners are fiscally unable (and to a certain extent unwilling) to increase their ***SoonerCare*** caseloads without jeopardizing the financial stability of their current practice. And, as was seen in the TBI system assessment, governmental and local community private nonprofit agencies are reporting an inability to provide needed services due to a lack of funding.

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STATE OF OKLAHOMA

MATERNAL, INFANT AND CHILD HEALTH

1998 SELECTED DEMOGRAPHIC INFORMATION

EACH COUNTY IN OKLAHOMA

PREPARED FOR USE IN PLANNING
AND TARGETING SERVICES

OKLAHOMA STATE DEPARTMENT OF HEALTH
MATERNAL AND CHILD HEALTH SERVICE
JULY 2000

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Forward

The information contained in this publication has been prepared as reference data, which may be used in planning of maternal, infant or child health programs. The information presented here is taken from birth, death, and fetal death certificates. Population estimates are obtained from the U.S. Bureau of the Census.

Philosophical considerations are made to the concept of providing commonly used data and giving a survey of the types of data available. Should more detailed information be required in some area, this office may be able to supply that on request. In regard to a break in the annual consistency of tables, this office has consistent trend data on many factors from 1975.

Some tables contain data of resident births, deaths, and population estimates for each county and other tables are for residents of the state as a whole. Some tables are for the year 1998, while others are for 1996-1998 and 1994-1998. Multiple years are used to avoid the great fluctuation sometimes found between single years. Other tables cover the time period between 1975 and 1998 to demonstrate trends.

A major change has occurred in regard to the classification of race of an infant. The birth certificate lists only the reported race of each parent. Until 1989 the National Center for Health Statistics (NCHS), the federal agency in charge of all Vital Records, used a complex algorithm to determine the race of the infant. Generally speaking, this formula identified the race of the infant as the race of the darker parent. In 1989 NCHS began classifying infant race as the race of the mother. Until 1991 both classifications were reported. Since then national comparisons with race can be made only by using that of the mother. In this office we have data using both classifications back to 1975.

The American Indian population does not reside within reservation boundaries in Oklahoma and is, therefore, more heterogeneously distributed throughout the population of the state. As a result the standard way of classifying race does not reliably document American Indian births and infant deaths. Special attention should be given to the data when studying information related to race.

There are a large number of unknown values for some characteristics on the birth certificate. When calculating percentages, unknown values are subtracted from the total number of births. Therefore, the percentages are based solely on reported values.

Other types of data and more detailed information from Vital Records may be requested by contacting Public Health Statistics, (405) 271-5161, or Assessment and Epidemiology, (405) 271-4470, of the Oklahoma State Department of Health.

Definitions

Live births: An infant with signs of life at birth.

Low birthweight: A live birth weighing 5 lb. 8 oz or less (under 2,500 grams).

Very low birthweight: A live birth weighing 3 lb. 5 oz or less (under 1,500 grams).

Prenatal Care:

- *First trimester* - care beginning during first 3 months of pregnancy
- *Adequate care* - entry in first trimester and 10 or more visits
- *Little care* - entry in first or second trimester and 1 to 3 visits
- *Late care* - entry in third trimester with 1 or more visits
- *No care* - never entered care (coding – zero trimester with zero or unknown visits, or unknown trimester with zero visits)

Low education: less than 12 grades of school completed

Unmarried: never married, divorced, or widowed at the time of infant's birth.

Fertility: births to a particular population of women (i.e. age group and/or race).

Short birth interval: less than 18 months since last delivery
less than 24 months since last delivery

High parity: teens - under 20 years of age with 2 or more previous births
adults - ages 20 and over with 4 or more previous births

Gestational age: the time in weeks from last reported menses to birth

Race: the race of mother unless otherwise specified

County: the county of residence unless otherwise specified

Infant death: a live birth dying before completing one year of life

Neonatal death: a live birth dying before 28 complete days of life

Post-neonatal death: a live birth dying between 28 days and one year of life

Fetal death (still birth): fetus 20 weeks or more gestation, born dead

Perinatal death: combined fetal and neonatal deaths

Formulas

NOTE: When calculating percentages for various maternal characteristics, the unknown values are always subtracted from the total values before the calculation is undertaken. Some of the tables in this document do not show the unknown values; however, they are used in the computations.

Birth rate (crude):

$$\frac{\text{All live births}}{\text{Total population}} \times 1{,}000$$

Age-specific Fertility rate (birth rate):

$$\frac{\text{Births to women in specified age group}}{\text{Population of women in specified age group}} \times 1{,}000$$

Percent low birthweight:

$$\frac{\text{All births under 2,500 grams}}{\text{All births minus births of unknown birthweight}} \times 100$$

Percent short birth interval:

$$\frac{\text{All births under 24 months}}{\text{All births minus no previous births and unknown}} \times 100$$

Note: A similar calculation is made for the short birth interval of less than 18 months. Only the primary birth is included in the case of multiple births.

Percent high parity:

Teens -

$$\frac{\text{Births to women under 20 years with 2 or more previous births}}{\text{All births to women under 20 years with a previous birth}} \times 100$$

Adults -

$$\frac{\text{Births to women 20 years or older with 4 or more previous births}}{\text{All births to women 20 years or older with a previous birth}} \times 100$$

Infant mortality rate:

$$\frac{\text{All infant deaths}}{\text{All live births}} \times 1{,}000$$

Neonatal mortality rate:

$$\frac{\text{All neonatal deaths}}{\text{All live births}} \times 1{,}000$$

Post-neonatal mortality rate:

$$\frac{\text{All post-neonatal deaths}}{\text{All live births}} \times 1{,}000$$

Fetal mortality ratio:

$$\frac{\text{All fetal deaths}}{\text{All live births}} \times 1{,}000$$

Perinatal mortality rate:

$$\frac{\text{All fetal deaths + all neonatal deaths}}{\text{All live births + all fetal deaths}} \times 1{,}000$$

Table 1. Number of births by race and Hispanic origin of mother, crude birth rates, and population estimates: Oklahoma and each County, 1998

(Crude birth rates are live births per 1,000 population. Population estimates provided by the U.S. Census Bureau, enumerated as of July 1, 1998.)

		Race of mother							
County	*Total*	*White*	*Black*	*Am. Indian*	*Other*	*Unk*	*Hispanic*[1]	*Crude birth rate*	*Population estimate*
State	49,354	38,464	4,788	4,846	886	370	3,615	14.7	1,153,873
Adair	358	154	1	202	-	1	18	17.6	20,349
Alfalfa	57	52	1	1	2	1	3	9.4	6,044
Atoka	150	110	8	32	-	-	2	11.3	13,237
Beaver	71	69	-	-	2	-	16	11.7	6,056
Beckham	307	291	9	5	2	-	23	15.7	19,584
Blaine	150	107	6	35	-	2	15	14.3	10,513
Bryan	478	414	5	56	3	-	15	13.8	34,690
Caddo	395	260	9	124	-	2	49	12.7	30,981
Canadian	1,059	952	13	61	29	4	52	12.4	85,463
Carter	686	514	71	80	11	10	23	15.4	44,503
Cherokee	611	301	4	302	3	1	27	15.6	39,138
Choctaw	208	158	23	27	-	-	5	13.8	15,077
Cimarron	34	32	1	-	-	1	10	11.5	2,959
Cleveland	2,453	2,153	80	112	80	28	110	12.2	201,110
Coal	96	75	-	21	-	-	-	16.0	6,009
Comanche	2,065	1,403	431	131	70	30	222	18.2	113,508
Cotton	91	73	3	10	-	5	9	13.6	6,705
Craig	175	134	3	37	1	-	3	12.1	14,450
Creek	893	779	26	81	5	2	21	13.3	67,142
Custer	368	319	10	34	5	-	55	14.4	25,493
Delaware	437	301	1	133	1	1	13	12.8	34,154
Dewey	45	38	-	7	-	-	1	9.1	4,928
Ellis	45	43	-	1	1	-	1	10.5	4,291
Garfield	812	722	30	25	19	16	52	14.3	56,859
Garvin	343	306	5	31	1	-	8	12.7	27,044
Grady	612	548	17	43	2	2	17	13.3	45,934
Grant	49	48	-	-	1	-	3	9.2	5,338
Greer	66	65	-	1	-	-	15	10.4	6,366
Harmon	42	32	5	3	1	1	15	12.1	3,479
Harper	44	44	-	-	-	-	2	12.2	3,596
Haskell	118	94	1	22	-	1	3	10.4	11,368
Hughes	193	137	4	52	-	-	5	13.7	14,081
Jackson	514	433	50	8	14	9	101	17.9	28,771
Jefferson	64	61	-	1	-	2	12	9.7	6,583
Johnston	139	109	3	27	-	-	2	13.4	10,346
Kay	717	609	11	73	7	17	40	15.4	46,698
Kingfisher	199	185	-	13	-	1	32	14.7	13,528
Kiowa	129	108	10	8	2	1	10	12.2	10,613
Latimer	132	98	2	29	1	2	3	12.8	10,321
Leflore	688	563	11	103	2	9	26	14.8	46,564

[1]Hispanic births are of any race
-Denotes no events in that category

Table 1 (cont). Number of births by race and Hispanic origin of mother, crude birth rates, and population estimates: Oklahoma and each County, 1998

(Crude birth rates are live births per 1,000 population. Population estimates provided by the U.S. Census Bureau, enumerated as of July 1, 1998.)

		Race of mother							
County	*Total*	*White*	*Black*	*Am. Indian*	*Other*	*Unk*	*Hispanic* [1]	*Crude birth rate*	*Population estimate*
Lincoln	434	395	3	36	-	-	3	13.8	31,361
Logan	385	327	36	17	3	2	16	12.4	30,970
Love	116	105	-	7	-	4	15	13.6	8,536
McClain	356	328	3	20	2	3	32	13.6	26,224
McCurtain	530	336	74	116	4	-	25	15.2	34,783
McIntosh	231	157	18	54	2	-	4	12.1	19,050
Major	74	70	-	-	-	4	7	9.5	7,829
Marshall	186	150	3	31	-	2	19	15.1	12,326
Mayes	552	374	1	165	4	8	13	14.7	37,638
Murray	168	130	8	27	1	2	3	13.6	12,335
Muskogee	1,069	663	181	216	8	1	42	15.3	70,004
Noble	138	115	1	20	2	-	2	12.1	11,425
Nowata	120	89	2	28	1	-	2	12.0	9,969
Okfuskee	122	78	7	37	-	-	2	10.7	11,402
Oklahoma	10,788	8,006	1,949	425	334	74	1,269	17.0	632,988
Okmulgee	552	402	65	83	2	-	8	14.2	38,860
Osage	409	307	13	87	2	-	10	9.5	42,838
Ottawa	458	371	-	78	-	9	30	14.8	30,944
Pawnee	203	174	3	24	-	2	-	12.3	16,438
Payne	823	722	33	41	26	1	25	12.6	65,109
Pittsburg	485	384	17	73	6	5	15	11.3	42,798
Pontotoc	489	386	9	92	1	1	14	14.1	34,591
Pottawatomie	864	703	22	128	8	3	16	13.9	62,244
Pushmataha	125	104	-	20	-	1	4	10.8	11,584
Roger Mills	28	27	-	1	-	-	3	7.8	3,580
Rogers	862	728	10	114	3	7	17	12.7	68,128
Seminole	369	248	19	101	-	1	8	14.9	24,770
Sequoyah	502	373	11	113	3	2	9	13.4	37,531
Stephens	528	477	18	24	5	4	25	12.2	43,410
Texas	349	342	3	1	3	-	141	18.7	18,640
Tillman	109	90	5	4	2	8	37	11.5	9,503
Tulsa	9,137	6,927	1,375	586	178	71	689	16.8	543,539
Wagoner	687	567	35	74	7	4	16	12.4	55,259
Washington	539	455	10	61	11	2	26	11.3	47,519
Washita	132	126	-	6	-	-	6	11.2	11,796
Woods	103	100	-	1	2	-	2	12.3	8,366
Woodward	239	234	-	4	1	-	21	12.9	18,553

[1]Hispanic births are of any race
-Denotes no events in that category

Table 2. Percent of births by race and Hispanic origin of mother and percent of state for each county: Oklahoma, 1998

	Race of mother						
County	*White*	*Black*	*American Indian*	*Other*	*Hispanic* [1]	*Total births*	*% of state*
State	78.5	9.8	9.9	1.8	7.4	49,354	100.00
Adair	43.1	0.3	56.6	-	5.1	358	0.73
Alfalfa	92.9	1.8	1.8	3.6	5.3	57	0.12
Atoka	73.3	5.3	21.3	-	1.3	150	0.30
Beaver	97.2	-	-	2.8	22.5	71	0.14
Beckham	94.8	2.9	1.6	0.7	7.5	307	0.62
Blaine	72.3	4.1	23.6	-	10.0	150	0.30
Bryan	86.6	1.0	11.7	0.6	3.1	478	0.97
Caddo	66.2	2.3	31.6	-	12.5	395	0.80
Canadian	90.2	1.2	5.8	2.7	4.9	1,059	2.15
Carter	76.0	10.5	11.8	1.6	3.4	686	1.39
Cherokee	49.3	0.7	49.5	0.5	4.5	611	1.24
Choctaw	76.0	11.1	13.0	-	2.4	208	0.42
Cimarron	97.0	3.0	-	-	29.4	34	0.07
Cleveland	88.8	3.3	4.6	3.3	4.5	2,453	4.97
Coal	78.1	-	21.9	-	-	96	0.19
Comanche	68.9	21.2	6.4	3.4	10.8	2,065	4.18
Cotton	84.9	3.5	11.6	-	10.0	91	0.18
Craig	76.6	1.7	21.1	0.6	1.7	175	0.35
Creek	87.4	2.9	9.1	0.6	2.4	893	1.81
Custer	86.7	2.7	9.2	1.4	15.0	368	0.75
Delaware	69.0	0.2	30.5	0.2	3.0	437	0.89
Dewey	84.4	-	15.6	-	2.2	45	0.09
Ellis	95.6	-	2.2	2.2	2.2	45	0.09
Garfield	90.7	3.8	3.1	2.4	6.4	812	1.65
Garvin	89.2	1.5	9.0	0.3	2.3	343	0.69
Grady	89.8	2.8	7.0	0.3	2.8	612	1.24
Grant	98.0	-	-	2.0	6.1	49	0.10
Greer	98.5	-	1.5	-	22.7	66	0.13
Harmon	78.0	12.2	7.3	2.4	35.7	42	0.09
Harper	100.0	-	-	-	4.5	44	0.09
Haskell	80.3	0.9	18.8	-	2.5	118	0.24
Hughes	71.0	2.1	26.9	-	2.6	193	0.39
Jackson	85.7	9.9	1.6	2.8	19.8	514	1.04
Jefferson	98.4	-	1.6	-	18.8	64	0.13
Johnston	78.4	2.2	19.4	-	1.4	139	0.28
Kay	87.0	1.6	10.4	1.0	5.6	717	1.45
Kingfisher	93.4	-	6.6	-	16.1	199	0.40
Kiowa	84.4	7.8	6.3	1.6	7.8	129	0.26
Latimer	75.4	1.5	22.3	0.8	2.3	132	0.27
Leflore	82.9	1.6	15.2	0.3	3.8	688	1.39

[1]Hispanic births are of any race
-Denotes no events in that category

Table 2 (cont). Percent of births by race and Hispanic origin of mother and percent of state for each county: Oklahoma, 1998

	Race of mother						
County	*White*	*Black*	*American Indian*	*Other*	*Hispanic* [1]	*Total births*	*% of state*
Lincoln	91.0	0.7	8.3	-	0.7	434	0.88
Logan	85.4	9.4	4.4	0.8	4.2	385	0.78
Love	93.8	-	6.3	-	12.9	116	0.24
McClain	92.9	0.8	5.7	0.6	9.0	356	0.72
McCurtain	63.4	14.0	21.9	0.8	4.7	530	1.07
McIntosh	68.0	7.8	23.4	0.9	1.7	231	0.47
Major	100.0	-	-	-	9.6	74	0.15
Marshall	81.5	1.6	16.8	-	10.3	186	0.38
Mayes	68.8	0.2	30.3	0.7	2.4	552	1.12
Murray	78.3	4.8	16.3	0.6	1.8	168	0.34
Muskogee	62.1	16.9	20.2	0.7	3.9	1,069	2.17
Noble	83.3	0.7	14.5	1.4	1.4	138	0.28
Nowata	74.2	1.7	23.3	0.8	1.7	120	0.24
Okfuskee	63.9	5.7	30.3	-	1.6	122	0.25
Oklahoma	74.7	18.2	4.0	3.1	11.9	10,788	21.86
Okmulgee	72.8	11.8	15.0	0.4	1.5	552	1.12
Osage	75.1	3.2	21.3	0.5	2.5	409	0.83
Ottawa	82.6	-	17.4	-	6.6	458	0.93
Pawnee	86.6	1.5	11.9	-	-	203	0.41
Payne	87.8	4.0	5.0	3.2	3.0	823	1.67
Pittsburg	80.0	3.5	15.2	1.3	3.1	485	0.98
Pontotoc	79.1	1.8	18.9	0.2	2.9	489	0.99
Pottawatomie	81.6	2.6	14.9	0.9	1.9	864	1.75
Pushmataha	83.9	-	16.1	-	3.2	125	0.25
Roger Mills	96.4	-	3.6	-	10.7	28	0.06
Rogers	85.1	1.2	13.3	0.4	2.0	862	1.75
Seminole	67.4	5.2	27.4	-	2.2	369	0.75
Sequoyah	74.6	2.2	22.6	0.6	1.8	502	1.02
Stephens	91.0	3.4	4.6	1.0	4.7	528	1.07
Texas	98.0	0.9	0.3	0.9	40.5	349	0.71
Tillman	89.1	5.0	4.0	2.0	33.9	109	0.22
Tulsa	76.4	15.2	6.5	2.0	7.7	9,137	18.51
Wagoner	83.0	5.1	10.8	1.0	2.4	687	1.39
Washington	84.7	1.9	11.4	2.0	4.9	539	1.09
Washita	95.5	-	4.5	0.0	4.6	132	0.27
Woods	97.1	-	1.0	1.9	1.9	103	0.21
Woodward	97.9	-	1.7	0.4	8.8	239	0.48

[1]Hispanic births are of any race
-Denotes no events in that category

Table 3. Number of births by age of mother: Oklahoma and each County, 1998

		Age of mother								
County	*Total*	*10-14 years*	*15-17 years*	*18-19 years*	*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-44 years*	*45+ years*
State	49,354	120	2,704	5,174	15,771	13,566	7,816	3,415	621	28
Adair	358	2	35	62	130	83	30	11	3	-
Alfalfa	57	-	2	4	15	17	10	7	2	-
Atoka	150	3	13	15	57	37	18	8	1	1
Beaver	71	3	6	9	16	27	12	1	-	-
Beckham	307	1	17	43	110	77	39	17	2	-
Blaine	150	-	15	14	46	43	22	8	1	-
Bryan	478	4	33	66	168	110	63	29	3	-
Caddo	395	1	30	49	138	97	52	23	4	-
Canadian	1,059	-	56	83	261	334	224	84	14	1
Carter	686	4	52	83	259	162	81	38	7	-
Cherokee	611	-	43	63	207	172	80	38	6	-
Choctaw	208	-	17	36	75	48	19	13	-	-
Cimarron	34	-	2	4	12	11	3	2	-	-
Cleveland	2,453	1	89	167	667	736	521	222	44	1
Coal	96	-	12	16	24	24	16	4	-	-
Comanche	2,065	4	97	202	793	569	272	116	11	1
Cotton	91	-	4	9	27	30	18	2	1	-
Craig	175	-	7	22	56	50	24	15	1	-
Creek	893	-	64	91	300	237	139	45	9	-
Custer	368	3	27	36	130	93	49	26	3	-
Delaware	437	-	23	49	167	120	51	23	4	-
Dewey	45	-	-	5	19	11	7	2	-	-
Ellis	45	1	2	6	10	18	7	1	-	-
Garfield	812	-	49	81	247	246	130	49	8	-
Garvin	343	-	15	38	125	104	43	12	4	-
Grady	612	-	40	77	194	163	86	46	5	-
Grant	49	-	2	-	16	17	9	2	3	-
Greer	66	-	6	10	23	18	8	1	-	-
Harmon	42	-	6	6	10	10	10	-	-	-
Harper	44	-	-	5	17	7	8	5	2	-
Haskell	118	-	6	17	49	26	17	3	-	-
Hughes	193	-	12	20	72	53	21	12	1	-
Jackson	514	3	23	64	177	137	72	34	4	-
Jefferson	64	-	3	3	29	12	15	1	1	-
Johnston	139	-	8	13	54	43	11	8	1	-
Kay	717	4	44	89	254	160	109	50	5	1
Kingfisher	199	1	5	19	66	57	33	13	4	-
Kiowa	129	-	12	18	44	25	23	7	-	-
Latimer	132	-	7	24	51	28	14	4	4	-
Leflore	688	4	47	95	266	140	93	32	5	1

-Denotes no events in that category

Table 3 (cont). Number of births by age of mother: Oklahoma and each County, 1998

		Age of mother									
County	*Total*	*10-14 years*	*15-17 years*	*18-19 years*	*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-44 years*	*45+ years*	*Unk*
Lincoln	434	-	24	55	143	121	57	29	4	-	1
Logan	385	1	21	37	124	102	57	32	10	-	1
Love	116	-	7	13	43	32	14	5	2	-	-
McClain	356	-	18	46	107	100	62	21	2	-	-
McCurtain	530	3	44	93	207	110	45	22	6	-	-
McIntosh	231	1	22	34	74	53	27	15	5	-	-
Major	74	-	1	4	21	26	14	5	3	-	-
Marshall	186	-	10	28	59	50	28	9	1	-	1
Mayes	552	2	40	69	212	131	59	34	5	-	-
Murray	168	1	10	23	54	46	24	7	3	-	-
Muskogee	1,069	2	68	162	391	248	133	53	11	-	1
Noble	138	-	6	9	42	52	20	6	3	-	-
Nowata	120	-	7	14	44	32	13	10	-	-	-
Okfuskee	122	-	18	11	44	29	16	4	-	-	-
Oklahoma	10,788	37	528	1,050	3,352	2,986	1,830	820	146	7	32
Okmulgee	552	4	40	72	209	135	54	25	13	-	-
Osage	409	-	23	48	140	102	57	33	4	1	1
Ottawa	458	1	34	50	158	133	57	22	3	-	-
Pawnee	203	1	15	25	58	58	32	11	2	-	1
Payne	823	1	31	76	243	236	151	64	14	-	7
Pittsburg	485	1	38	56	175	125	65	22	2	-	1
Pontotoc	489	2	21	43	184	129	65	34	8	1	2
Pottawatomie	854	4	64	102	255	267	111	52	7	-	2
Pushmataha	125	-	10	19	44	33	13	5	1	-	-
Roger Mills	28	-	2	4	7	10	2	2	1	-	-
Rogers	862	-	33	98	253	257	149	61	8	-	3
Seminole	369	-	25	51	136	98	37	16	3	-	3
Sequoyah	502	1	39	67	199	116	58	16	5	-	1
Stephens	528	-	28	55	170	153	76	39	6	-	1
Texas	349	2	27	36	125	103	36	14	6	-	-
Tillman	109	-	11	17	30	29	16	5	1	-	-
Tulsa	9,137	19	428	812	2,568	2,611	1,717	782	151	13	36
Wagoner	687	2	32	66	194	204	119	54	16	-	-
Washington	539	2	25	50	162	166	81	46	3	-	-
Washita	132	-	7	22	44	34	17	8	-	-	-
Woods	103	-	3	12	35	35	10	7	1	-	-
Woodward	239	-	13	32	84	62	35	11	2	-	-

-Denotes no events in that category

Table 4. Age-specific birth rates by age of mother: Oklahoma and each County, average 1996-1998

(Rates are per 1,000 female population in specified age group. Fertility rates are total live births per 1,000 female population aged 15-44.)

County	*15-19 years*	*15-17 years*	*18-19 years*	*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-44 years*	*Fertility rate*
State	62.3	35.9	103.5	133.2	120.8	73.8	25.3	4.6	67.0
Adair	111.5	62.2	204.4	182.3	130.3	50.4	23.0	4.5	86.3
Alfalfa	40.7	16.8	141.4	136.6	126.3	80.6	36.9	4.1	63.4
Atoka	60.8	37.1	109.5	196.6	114.7	56.6	14.9	2.8	68.2
Beaver	60.6	32.6	150.8	135.5	133.9	70.6	15.2	0.0	56.6
Beckham	77.6	39.0	155.2	187.4	119.2	61.4	16.4	3.1	70.0
Blaine	75.8	41.8	141.7	221.3	120.4	75.1	17.8	2.0	74.2
Bryan	65.0	38.9	99.5	118.8	120.7	68.0	20.0	2.4	64.3
Caddo	71.9	39.5	135.3	145.7	108.2	64.0	23.7	3.6	67.9
Canadian	39.9	21.4	77.9	125.7	118.0	73.6	21.0	3.3	54.6
Carter	80.0	43.4	155.8	192.1	116.8	60.2	20.8	4.0	71.8
Cherokee	67.6	40.4	103.4	116.4	119.1	71.9	28.4	5.2	68.9
Choctaw	89.5	52.3	165.2	174.3	106.7	48.6	19.2	0.6	70.7
Cimarron	61.7	33.2	129.5	189.7	168.2	40.0	28.8	14.5	74.4
Cleveland	29.2	19.0	40.2	64.2	99.6	72.8	25.2	4.6	47.3
Coal	88.7	46.8	173.1	159.5	128.1	94.7	15.0	6.5	74.8
Comanche	81.9	46.9	133.7	161.0	129.5	71.1	25.7	4.3	83.2
Cotton	56.7	30.5	115.4	150.4	148.3	102.3	9.1	4.3	68.8
Craig	63.6	25.8	136.7	142.2	137.7	57.8	21.8	1.9	63.8
Creek	65.0	35.3	128.0	164.9	129.2	73.7	18.8	2.4	66.4
Custer	51.6	41.7	60.2	90.5	122.3	69.0	24.5	6.3	62.7
Delaware	65.9	31.0	137.0	186.8	123.8	59.8	18.7	4.4	72.0
Dewey	27.2	8.4	84.6	127.1	90.7	51.1	11.6	2.0	45.1
Ellis	49.8	25.5	121.6	190.2	174.4	68.6	7.7	2.5	62.2
Garfield	66.0	35.5	123.3	136.3	132.2	72.0	24.0	4.9	69.2
Garvin	60.4	31.5	119.2	177.9	127.0	55.6	16.1	3.5	66.7
Grady	61.0	35.5	104.4	144.1	111.6	59.5	19.8	2.6	61.7
Grant	23.3	15.4	47.6	111.1	109.0	71.4	19.8	5.6	49.3
Greer	69.1	42.4	115.9	137.0	124.3	65.0	12.9	2.0	62.8
Harmon	101.0	79.0	140.7	151.0	114.6	125.0	12.3	3.3	74.9
Harper	49.6	19.7	135.7	242.0	91.4	80.8	21.3	6.0	61.3
Haskell	62.9	35.2	124.7	206.5	116.2	59.6	16.7	0.8	67.2
Hughes	71.0	38.9	143.2	201.9	134.6	60.5	20.0	1.3	70.8
Jackson	73.2	39.1	124.6	156.4	130.0	77.1	26.5	4.4	82.5
Jefferson	40.2	17.0	97.1	129.3	93.5	92.0	11.5	2.8	49.6
Johnston	59.0	36.9	87.9	163.3	123.3	40.3	20.2	4.4	65.4
Kay	84.5	41.1	158.2	185.7	119.8	83.1	28.5	5.8	76.8
Kingfisher	50.9	19.0	120.0	183.9	135.8	74.8	21.3	10.9	70.2
Kiowa	76.6	49.8	144.1	156.5	92.8	79.0	22.1	7.9	67.1
Latimer	60.7	40.3	81.3	152.5	87.6	55.8	13.5	6.5	60.9
Leflore	73.1	35.9	143.3	182.4	119.5	69.4	17.5	3.6	72.3

-Denotes no events in that category

Table 4 (cont). Age-specific birth rates by age of mother: Oklahoma and each County, average 1996-1998

(Rates are per 1,000 female population in specified age group. Fertility rates are total live births per 1,000 female population aged 15-44.)

County	*15-19 years*	*15-17 years*	*18-19 years*	*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-44 years*	*Fertility rate*
Lincoln	57.9	27.9	125.0	166.8	117.6	63.9	17.8	2.8	62.1
Logan	35.6	27.6	42.8	89.4	117.0	62.3	28.1	7.1	52.6
Love	64.2	27.0	170.1	162.1	122.4	58.6	13.2	5.3	63.6
McClain	46.9	28.3	85.2	148.0	118.4	80.2	23.2	2.6	60.5
McCurtain	88.4	42.4	180.2	199.0	115.8	46.9	15.8	4.0	77.1
McIntosh	78.6	36.0	181.5	170.2	121.0	61.1	22.1	4.6	68.7
Major	33.2	15.8	73.3	176.1	105.2	62.2	30.7	5.1	58.3
Marshall	81.0	31.6	169.2	209.3	127.2	94.9	22.3	2.3	77.5
Mayes	81.2	44.0	150.2	192.0	127.1	59.9	19.1	3.5	76.1
Murray	61.8	29.2	127.2	183.2	131.4	78.2	12.9	3.3	66.2
Muskogee	86.5	44.7	159.7	177.4	109.5	63.9	18.4	3.6	71.5
Noble	53.3	32.3	91.9	156.0	141.7	59.2	18.8	5.0	67.4
Nowata	65.4	40.0	112.4	179.1	131.3	49.6	28.0	1.9	70.1
Okfuskee	76.4	49.5	129.8	182.0	136.6	65.3	19.2	0.9	73.9
Oklahoma	68.2	41.1	109.1	136.9	123.0	82.5	30.3	5.7	72.9
Okmulgee	74.4	44.6	125.5	182.0	121.3	49.5	20.0	5.4	69.3
Osage	49.9	24.0	109.2	124.9	87.5	44.4	16.8	2.1	47.9
Ottawa	67.8	44.2	96.9	163.5	145.5	73.8	20.2	4.3	74.1
Pawnee	67.6	34.7	145.3	172.6	146.4	61.8	21.6	6.2	67.2
Payne	29.2	24.7	31.3	45.9	100.3	80.4	30.7	6.1	46.5
Pittsburg	67.4	36.8	131.3	157.6	117.2	60.8	16.8	1.5	62.6
Pontotoc	53.8	33.5	77.7	120.6	123.6	64.6	24.0	3.1	63.1
Pottawatomie	54.4	37.0	75.8	128.1	129.2	64.1	22.3	2.5	63.9
Pushmataha	77.3	35.3	174.0	139.2	113.1	46.8	14.5	4.1	62.6
Roger Mills	41.3	17.5	107.6	126.3	122.7	20.6	9.5	5.4	47.2
Rogers	50.6	21.8	105.7	136.5	128.7	74.2	22.9	3.5	60.8
Seminole	84.0	53.8	138.7	194.9	122.8	56.0	14.5	4.3	76.1
Sequoyah	70.9	37.2	135.6	157.5	110.8	55.7	15.7	3.8	67.2
Stephens	63.5	32.2	130.9	170.4	114.8	59.1	20.0	3.7	63.2
Texas	67.2	42.3	105.1	192.0	171.3	68.4	17.8	5.4	82.4
Tillman	87.9	63.3	136.1	138.8	120.7	68.1	18.6	1.1	70.3
Tulsa	65.1	38.6	106.3	124.1	127.0	87.6	32.7	5.9	70.3
Wagoner	42.3	21.2	87.2	135.9	115.7	66.7	19.7	4.3	54.5
Washington	51.4	25.9	101.1	140.8	115.2	56.4	23.4	3.7	57.7
Washita	67.5	28.1	162.0	177.2	94.2	54.0	19.7	4.6	62.6
Woods	35.6	19.2	47.6	101.5	146.9	48.3	24.9	5.2	58.9
Woodward	70.3	32.0	154.3	180.4	101.6	58.3	19.3	4.5	65.4

-Denotes no events in that category

Table 5. Births to women less than 20 years of age by race of mother and percent of teen births by first trimester prenatal care, previous births, marital status, and total births to teens: Oklahoma and each County, 1998

	Race of mother							
County	*White*	*Black*	*American Indian*	*Total < 20 years*	*% 1st Trimester*	*% Poor [1] Care*	*% Previous Births*	*% Not Married*
State	5,605	1,123	1,159	7,998	65.4	10.0	22.3	70.4
Adair	42	-	57	99	56.2	9.0	28.6	55.1
Alfalfa	5	1	-	6	**	**	**	**
Atoka	17	4	7	28	55.6	18.5	7.7	82.1
Beaver	15	-	-	15	**	-	**	**
Beckham	58	2	1	61	62.1	20.7	19.0	68.9
Blaine	20	1	8	29	48.1	11.1	23.1	75.9
Bryan	92	-	11	103	67.0	6.2	18.3	68.0
Caddo	45	2	32	80	60.9	12.5	22.7	65.0
Canadian	117	6	14	139	79.5	10.8	17.4	76.3
Carter	96	19	22	139	78.2	5.6	25.0	69.1
Cherokee	40	-	65	106	60.0	2.2	20.0	61.5
Choctaw	37	8	8	53	60.9	10.9	30.0	75.5
Cimarron	5	-	-	6	**	**	**	**
Cleveland	221	14	18	257	70.0	8.7	19.8	72.7
Coal	20	-	8	28	54.2	-	**	42.9
Comanche	187	82	24	303	71.0	8.9	23.0	62.9
Cotton	8	2	2	13	**	16.7	**	**
Craig	14	1	14	29	72.0	-	19.2	72.4
Creek	134	5	15	155	52.0	10.1	15.1	64.5
Custer	51	2	12	66	62.5	12.5	19.4	63.6
Delaware	54	-	18	72	55.4	7.7	25.8	54.9
Dewey	4	-	1	5	**	-	**	**
Ellis	8	-	1	9	**	**	**	**
Garfield	115	6	4	130	72.7	5.8	10.0	73.1
Garvin	47	-	6	53	74.4	12.8	23.3	52.8
Grady	97	3	17	117	70.4	5.1	26.1	69.6
Grant	2	-	-	2	**	-	-	**
Greer	15	-	1	16	**	**	26.7	**
Harmon	7	3	2	12	**	**	9.1	**
Harper	5	-	-	5	-	-	-	**
Haskell	19	-	3	23	66.7	-	40.0	26.1
Hughes	19	1	12	32	61.3	6.5	19.2	66.7
Jackson	67	17	2	90	83.7	5.8	29.1	60.0
Jefferson	5	-	1	6	**	-	**	**
Johnston	15	1	5	21	76.2	4.8	**	66.7
Kay	116	-	18	137	46.9	18.5	26.7	72.1
Kingfisher	22	-	3	25	92.0	4.0	**	68.0
Kiowa	23	3	3	30	40.7	18.5	23.1	56.7
Latimer	21	-	8	31	71.4	3.6	16.7	55.2
Leflore	114	5	25	146	62.6	11.5	21.1	57.2

[1]Beginning prenatal care in 3rd trimester, having less than four visits, or no prenatal care
-Denotes no events in that category
**Percent not computed when denominator <20

Table 5 (cont). Births to women less than 20 years of age by race of mother and percent of teen births by first trimester prenatal care, previous births, marital status, and total births to teens: Oklahoma and each County, 1998

	Race of mother							
County	*White*	*Black*	*American Indian*	*Total < 20 years*	*% 1st Trimester*	*% Poor [1] Care*	*% Previous Births*	*% Not Married*
Lincoln	69	1	9	79	78.6	4.3	26.7	66.7
Logan	49	6	3	59	87.8	4.9	25.9	81.0
Love	18	-	2	20	72.2	**	**	60.0
McClain	58	1	3	64	**	5.1	9.1	68.8
McCurtain	80	27	33	140	81.7	5.6	23.7	71.9
McIntosh	36	5	16	57	60.0	10.9	16.7	73.7
Major	5	-	-	5	**	-	-	**
Marshall	29	2	7	38	60.6	6.1	26.7	60.5
Mayes	69	-	41	111	69.4	11.1	23.4	63.1
Murray	26	2	6	34	64.3	3.6	25.0	60.6
Muskogee	129	47	56	232	48.0	14.3	30.1	67.5
Noble	8	-	7	15	**	-	**	**
Nowata	13	-	7	21	**	**	33.3	42.9
Okfuskee	18	1	10	29	67.9	10.7	17.9	69.0
Oklahoma	1,026	448	109	1,615	62.0	12.2	21.6	79.7
Okmulgee	80	13	22	116	66.4	10.3	23.6	68.1
Osage	50	5	14	71	71.6	6.0	23.6	74.6
Ottawa	63	-	21	85	61.4	19.3	21.3	66.7
Pawnee	33	2	5	41	70.0	10.0	**	61.0
Payne	100	5	3	108	61.8	10.8	19.1	66.7
Pittsburg	68	4	20	95	72.8	6.5	19.8	71.6
Pontotoc	42	1	23	66	68.8	4.7	25.0	74.2
Pottawatomie	129	5	36	170	74.6	9.4	24.8	72.5
Pushmataha	25	-	4	29	67.9	3.6	17.9	72.4
Roger Mills	6	-	-	6	**	-	**	**
Rogers	101	2	25	131	76.4	7.1	21.1	58.8
Seminole	45	4	27	76	64.4	6.8	34.4	71.1
Sequoyah	75	3	29	107	64.7	13.7	26.7	60.7
Stephens	69	7	5	83	58.4	14.3	26.6	55.4
Texas	63	1	1	65	60.0	32.5	15.9	65.6
Tillman	23	1	2	28	87.5	-	33.3	67.9
Tulsa	788	325	130	1,259	63.9	11.3	22.1	75.2
Wagoner	70	14	15	100	67.0	4.5	14.9	69.4
Washington	58	3	16	77	78.8	4.5	25.7	62.3
Washita	26	-	3	29	**	**	18.5	44.8
Woods	14	-	1	15	**	-	**	**
Woodward	45	-	-	45	43.9	7.3	17.1	71.1

[1]Beginning prenatal care in 3rd trimester, having less than four visits, or no prenatal care
-Denotes no events in that category
**Percent not computed when denominator <20

Table 6. Number and percent of births by low birthweight, marital status, and low educational attainment of mother: Oklahoma and each County, 1998

	Low Birthweight				*Not*		*Education*		
	< 1500 grams		*< 2500 grams*		*Married*		*< 12 grades*		*Total*
County	*Number*	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*	*Births*
State	646	1.3	3,526	7.2	16,403	33.5	11,128	23.0	49,354
Adair	5	1.4	22	6.2	137	38.5	140	40.0	358
Alfalfa	-	-	2	3.5	10	17.5	9	15.8	57
Atoka	-	-	16	10.7	58	38.9	46	30.7	150
Beaver	-	-	4	5.7	21	29.6	18	25.7	71
Beckham	3	1.0	22	7.2	107	35.0	67	22.3	307
Blaine	-	-	11	7.3	58	38.7	49	32.9	150
Bryan	4	0.8	36	7.5	168	35.2	124	26.1	478
Caddo	6	1.5	29	7.4	167	42.6	115	29.3	395
Canadian	21	2.0	82	7.8	254	24.1	164	15.7	1,059
Carter	6	0.9	42	6.2	264	38.7	184	26.9	686
Cherokee	6	1.0	39	6.5	213	35.0	185	30.9	611
Choctaw	5	2.4	18	8.7	92	44.9	58	28.2	208
Cimarron	-	-	1	2.9	5	15.2	11	33.3	34
Cleveland	43	1.8	144	5.9	551	22.6	283	12.1	2,453
Coal	1	1.0	8	8.3	23	24.0	32	33.3	96
Comanche	26	1.3	159	7.7	593	29.0	310	15.2	2,065
Cotton	-	-	9	9.9	28	31.5	17	18.7	91
Craig	2	1.1	16	9.2	55	31.6	45	25.7	175
Creek	12	1.3	73	8.2	299	33.5	215	24.3	893
Custer	4	1.1	20	5.4	105	28.5	99	27.2	368
Delaware	4	0.9	27	6.2	143	32.8	107	24.8	437
Dewey	-	-	1	2.2	12	26.7	4	8.9	45
Ellis	1	2.2	2	4.4	12	26.7	9	20.0	45
Garfield	5	0.6	50	6.2	274	33.8	168	21.3	812
Garvin	3	0.9	18	5.3	98	28.7	86	25.6	343
Grady	8	1.3	41	6.7	189	31.1	139	23.1	612
Grant	-	-	2	4.1	9	18.4	6	12.5	49
Greer	-	-	5	7.6	20	30.3	14	21.5	66
Harmon	-	-	2	4.8	18	42.9	15	37.5	42
Harper	1	2.3	1	2.3	7	15.9	6	13.6	44
Haskell	3	2.5	10	8.5	28	23.7	37	31.9	118
Hughes	3	1.6	20	10.4	71	37.2	39	20.5	193
Jackson	5	1.0	28	5.5	138	27.2	116	22.9	514
Jefferson	1	1.6	4	6.3	11	17.2	14	22.2	64
Johnston	3	2.2	10	7.2	45	32.4	31	22.8	139
Kay	8	1.1	68	9.5	277	38.7	233	32.6	717
Kingfisher	3	1.5	15	7.7	47	23.7	48	24.6	199
Kiowa	1	0.8	8	6.2	44	34.1	36	27.9	129
Latimer	-	-	7	5.3	45	34.6	32	24.6	132
Leflore	8	1.2	48	7.0	216	31.8	209	30.9	688

-Denotes no events in that category

Table 6 (cont). Number and percent of births by low birthweight, marital status, and low educational attainment of mother: Oklahoma and each County, 1998

	Low Birthweight				*Not*		*Education*		
	< 1500 grams		*< 2500 grams*		*Married*		*< 12 grades*		*Total*
County	*Number*	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*	*Births*
Lincoln	9	2.1	29	6.7	128	29.8	86	20.0	434
Logan	4	1.0	26	6.8	120	31.5	79	21.1	385
Love	4	3.4	15	12.9	33	28.9	37	32.2	116
McClain	5	1.4	22	6.2	91	25.7	56	16.6	356
McCurtain	2	0.4	34	6.4	237	45.0	160	30.6	530
McIntosh	1	0.4	16	6.9	97	42.0	66	28.9	231
Major	2	2.7	5	6.8	11	14.9	9	12.7	74
Marshall	1	0.5	16	8.8	53	28.5	65	35.9	186
Mayes	6	1.1	32	5.8	195	35.4	163	29.7	552
Murray	2	1.2	12	7.1	60	35.9	48	28.6	168
Muskogee	13	1.2	78	7.3	426	39.9	316	29.8	1,069
Noble	1	0.7	9	6.5	37	26.8	24	17.8	138
Nowata	1	0.8	10	8.4	39	32.5	24	20.0	120
Okfuskee	1	0.8	6	4.9	47	38.5	44	36.1	122
Oklahoma	160	1.5	858	8.0	4,114	38.7	2,520	24.4	10,788
Okmulgee	7	1.3	44	8.0	226	41.1	156	28.3	552
Osage	4	1.0	24	5.9	142	34.8	89	21.8	409
Ottawa	4	0.9	35	7.6	162	35.5	119	26.5	458
Pawnee	-	-	6	3.0	53	26.1	58	29.1	203
Payne	12	1.5	58	7.1	192	23.4	116	14.4	823
Pittsburg	6	1.2	28	5.8	178	36.7	129	26.7	485
Pontotoc	3	0.6	27	5.5	139	28.5	83	17.1	489
Pottawatomie	9	1.0	54	6.3	293	34.4	209	24.7	864
Pushmataha	-	-	5	4.0	48	38.7	35	28.0	125
Roger Mills	-	-	2	7.1	6	21.4	2	7.4	28
Rogers	8	0.9	47	5.5	203	23.6	144	16.9	862
Seminole	8	2.2	38	10.3	179	48.5	104	28.2	369
Sequoyah	2	0.4	29	5.8	177	35.5	158	31.7	502
Stephens	3	0.6	29	5.5	130	24.6	109	20.8	528
Texas	4	1.1	20	5.7	104	29.9	135	39.1	349
Tillman	1	0.9	6	5.5	41	37.6	38	35.5	109
Tulsa	146	1.6	688	7.5	3,084	33.9	1,910	21.1	9,137
Wagoner	7	1.0	38	5.5	174	25.4	121	17.7	687
Washington	4	0.8	37	7.0	147	27.4	102	19.0	539
Washita	1	0.8	6	4.5	30	22.9	25	19.1	132
Woods	3	2.9	8	7.8	25	24.3	14	13.6	103
Woodward	1	0.4	9	3.8	70	29.4	55	23.2	239

-Denotes no events in that category

Table 7. Number and percent of births by short-birth interval and high parity: Oklahoma and each County, 1998

	Short-birth interval				*< 20 years of age and 2 or more previous births*		*20 years or older and 4 or more previous births*		
	< 18 months		*< 24 months*						
County	*Number*	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*	*Total Births*
State	4,893	18.0	8,502	31.3	204	17.8	1,240	6.9	49,354
Adair	62	26.3	94	39.8	4	33.3	6	5.6	358
Alfalfa	9	20.9	17	39.5	-	-	6	16.7	57
Atoka	20	23.0	26	29.9	-	-	2	2.8	150
Beaver	8	21.1	11	28.9	-	-	1	2.8	71
Beckham	32	17.2	52	28.0	-	-	5	3.0	307
Blaine	20	24.1	28	33.7	3	50.0	7	10.6	150
Bryan	45	16.7	86	31.9	2	11.8	11	4.9	478
Caddo	39	16.3	73	30.5	4	23.5	19	9.5	395
Canadian	77	14.0	136	24.7	2	12.5	22	6.4	1,059
Carter	56	15.0	101	27.1	1	5.9	18	5.6	686
Cherokee	50	13.1	86	22.5	2	18.2	15	7.3	611
Choctaw	22	16.8	43	32.8	2	16.7	7	7.1	208
Cimarron	6	24.0	11	44.0	1	25.0	1	5.0	34
Cleveland	189	15.3	336	27.1	3	17.6	37	7.5	2,453
Coal	14	26.9	17	32.7	1	20.0	3	9.1	96
Comanche	240	20.7	418	36.0	11	16.9	59	6.0	2,065
Cotton	9	15.3	18	30.5	1	33.3	3	5.8	91
Craig	24	21.4	39	34.8	-	-	9	9.8	175
Creek	93	17.4	149	27.9	-	-	25	7.4	893
Custer	37	17.5	62	29.2	1	8.3	14	7.9	368
Delaware	46	16.2	84	29.6	2	12.5	10	4.8	437
Dewey	3	11.1	7	25.9	-	-	-	-	45
Ellis	4	14.8	10	37.0	1	20.0	-	-	45
Garfield	92	20.8	160	36.1	3	25.0	25	6.0	812
Garvin	30	16.3	50	27.2	1	14.3	11	9.9	343
Grady	48	14.2	93	27.4	5	20.8	16	7.2	612
Grant	4	13.8	6	20.7	-	-	2	6.9	49
Greer	2	5.9	8	23.5	2	50.0	1	3.7	66
Harmon	4	20.0	6	30.0	1	100.0	1	5.9	42
Harper	2	8.0	5	20.0	-	-	3	11.1	44
Haskell	12	15.4	24	30.8	1	12.5	2	3.0	118
Hughes	16	14.5	34	30.9	1	20.0	7	8.9	193
Jackson	31	11.4	74	27.1	4	16.0	12	4.7	514
Jefferson	7	16.3	9	20.9	-	-	2	5.4	64
Johnston	16	18.0	25	28.1	2	66.7	3	3.8	139
Kay	57	20.7	94	34.2	2	25.0	17	12.4	717
Kingfisher	15	12.6	32	26.9	-	-	3	5.1	199
Kiowa	12	24.0	17	34.0	-	-	5	9.6	129
Latimer	9	12.2	23	31.1	1	20.0	3	4.8	132
Leflore	73	19.0	123	31.9	3	10.7	30	9.1	688

-Denotes no events in that category

Table 7 (cont). Number and percent of births by short-birth interval and high parity: Oklahoma and each County, 1998

	Short-birth interval				*< 20 years of age and 2 or more previous births*		*20 years or older and 4 or more previous births*		
	< 18 months		*< 24 months*						
County	*Number*	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*	*Total Births*
Lincoln	38	16.2	59	25.2	3	25.0	8	6.3	434
Logan	50	23.3	75	34.9	3	42.9	15	15.5	385
Love	10	14.5	20	29.0	-	-	3	4.5	116
McClain	30	15.6	57	29.7	-	-	7	9.2	356
McCurtain	40	12.8	84	26.9	10	32.3	17	6.4	530
McIntosh	29	21.8	42	31.6	2	25.0	7	8.0	231
Major	4	8.5	8	17.0	-	-	2	4.1	74
Marshall	14	13.0	27	25.0	1	12.5	6	8.3	186
Mayes	65	18.7	110	31.6	2	11.1	12	4.9	552
Murray	17	17.7	28	29.2	-	-	5	6.4	168
Muskogee	162	23.0	269	38.2	8	13.6	36	7.0	1,069
Noble	10	12.7	25	31.6	1	50.0	2	2.9	138
Nowata	21	26.3	32	40.0	-	-	4	6.3	120
Okfuskee	14	20.9	23	34.3	2	40.0	6	10.5	122
Oklahoma	841	17.4	1,506	31.2	29	22.5	184	7.8	10,788
Okmulgee	94	26.0	144	39.8	-	-	26	9.0	552
Osage	41	17.7	68	29.4	2	15.4	17	8.5	409
Ottawa	47	17.5	79	29.4	4	23.5	16	6.2	458
Pawnee	18	15.5	33	28.4	-	-	7	10.8	203
Payne	96	20.3	157	33.2	3	23.1	12	3.8	823
Pittsburg	58	19.3	109	36.3	3	16.7	15	5.7	485
Pontotoc	47	20.3	80	34.6	3	33.3	9	6.0	489
Pottawatomie	75	15.9	148	31.4	8	21.6	24	6.6	864
Pushmataha	13	15.9	20	24.4	1	20.0	1	1.5	125
Roger Mills	1	7.1	5	35.7	-	-	-	-	28
Rogers	91	16.6	182	33.2	5	25.0	31	7.3	862
Seminole	40	18.8	83	39.0	1	4.5	12	7.3	369
Sequoyah	77	23.5	115	35.2	1	4.3	14	6.3	502
Stephens	63	18.9	101	30.2	3	14.3	15	5.2	528
Texas	25	17.0	36	24.5	2	20.0	6	3.5	349
Tillman	13	19.7	19	28.8	2	22.2	2	3.4	109
Tulsa	1,033	18.9	1,763	32.2	30	20.5	236	7.1	9,137
Wagoner	70	15.7	125	28.1	3	23.1	21	6.0	687
Washington	57	16.5	101	29.3	3	15.8	23	7.5	539
Washita	12	17.1	22	31.4	-	-	6	10.2	132
Woods	15	26.3	19	33.3	-	-	4	7.7	103
Woodward	27	20.3	41	30.8	2	28.6	6	5.2	239

-Denotes no events in that category

Table 8. Number and percent of births by first trimester and adequacy of prenatal care: Oklahoma and each County, 1998

County	1st trimester Number	1st trimester %	1st trimester and > 9 visits Number	1st trimester and > 9 visits %	Late care: 3rd trimester	Little care: < 4 visits	No care	% Poor[1] care	Total Reporting Care
State	32,654	78.6	26,606	64.0	1,564	615	394	6.2	41,550
Adair	217	65.2	140	42.0	20	9	7	10.8	333
Alfalfa	47	94.0	39	78.0	1	1	-	4.0	50
Atoka	104	73.2	70	49.3	5	4	2	7.7	142
Beaver	49	84.5	42	72.4	2	-	-	3.4	58
Beckham	119	75.3	108	68.4	16	-	-	10.1	158
Blaine	104	78.2	91	68.4	2	1	1	3.0	133
Bryan	355	79.6	248	55.6	12	4	5	4.7	446
Caddo	240	71.9	175	52.4	25	9	6	12.0	334
Canadian	619	88.4	517	73.9	22	13	4	5.6	700
Carter	524	86.6	464	76.7	17	3	7	4.5	605
Cherokee	403	72.2	272	48.7	17	14	7	6.8	558
Choctaw	135	70.7	102	53.4	8	2	3	6.8	191
Cimarron	24	82.8	14	48.3	1	3	1	17.2	29
Cleveland	1,435	86.9	1,224	74.1	41	14	10	3.9	1,651
Coal	64	71.9	49	55.1	1	-	-	1.1	89
Comanche	1,243	80.5	1,062	68.8	83	14	11	7.0	1,544
Cotton	59	74.7	55	69.6	4	1	1	7.6	79
Craig	117	70.9	97	58.8	8	2	1	6.7	165
Creek	643	74.9	510	59.4	37	10	6	6.2	858
Custer	254	79.1	217	67.6	17	3	5	7.8	321
Delaware	275	66.9	195	47.4	29	8	9	11.2	411
Dewey	28	71.8	23	59.0	2	-	3	12.8	39
Ellis	28	62.2	22	48.9	3	-	2	11.1	45
Garfield	654	87.4	602	80.5	9	4	2	2.0	748
Garvin	218	83.2	178	67.9	5	3	3	4.2	262
Grady	397	79.1	323	64.3	13	2	4	3.8	502
Grant	39	86.7	35	77.8	1	-	-	2.2	45
Greer	48	88.9	40	74.1	1	-	-	1.9	54
Harmon	26	81.3	24	75.0	-	2	-	6.3	32
Harper	29	69.0	25	59.5	-	-	-	-	42
Haskell	80	71.4	54	48.2	1	2	1	3.6	112
Hughes	134	75.3	110	61.8	6	3	1	5.6	178
Jackson	424	91.0	385	82.6	5	1	6	2.6	466
Jefferson	49	81.7	39	65.0	1	-	1	3.3	60
Johnston	109	83.2	75	57.3	7	-	1	6.1	131
Kay	446	65.6	364	53.5	59	9	6	10.9	680
Kingfisher	168	94.4	148	83.1	-	3	2	2.8	178
Kiowa	86	75.4	76	66.7	8	1	1	8.8	114
Latimer	90	72.0	67	53.6	3	3	-	4.8	125
Leflore	442	69.7	311	49.1	35	11	9	8.7	634

[1]Beginning prenatal care in third trimester, having less than four prenatal care visits, or receiving no prenatal care
-Denotes no events in that category

Table 8 (cont). Number and percent of births by first trimester and adequacy of prenatal care: Oklahoma and each County, 1998

County	1st trimester Number	1st trimester %	1st trimester and > 9 visits Number	1st trimester and > 9 visits %	Late care: 3rd trimester	Little care: < 4 visits	No care	% Poor[1] care	Total Reporting Care
Lincoln	309	83.1	248	66.7	7	4	9	5.4	372
Logan	265	92.0	226	78.5	5	2	1	2.8	288
Love	84	80.8	70	67.3	2	2	2	5.8	104
McClain	205	86.5	172	72.6	2	2	1	2.1	237
McCurtain	404	83.1	334	68.7	11	8	2	4.3	486
McIntosh	152	67.9	116	51.8	6	3	3	5.4	224
Major	64	92.8	56	81.2	-	-	-	-	69
Marshall	132	76.3	88	50.9	5	7	5	9.8	173
Mayes	419	77.4	352	65.1	18	12	2	5.9	541
Murray	111	78.7	101	71.6	4	1	-	3.5	141
Muskogee	633	60.8	474	45.5	68	8	14	8.6	1,041
Noble	97	74.0	84	64.1	6	1	2	6.9	131
Nowata	88	83.8	75	71.4	5	1	-	5.7	105
Okfuskee	86	76.1	64	56.6	4	4	1	8.0	113
Oklahoma	5,883	80.8	4,848	66.5	241	153	80	6.5	7,285
Okmulgee	401	73.8	356	65.6	32	6	8	8.5	543
Osage	303	79.1	247	64.5	11	2	1	3.7	383
Ottawa	318	71.3	234	52.5	34	8	5	10.5	446
Pawnee	154	79.4	123	63.4	11	2	-	6.7	194
Payne	579	75.8	514	67.3	21	7	5	4.3	764
Pittsburg	360	77.3	304	65.2	23	4	-	5.8	466
Pontotoc	385	82.8	330	71.0	10	4	2	3.4	465
Pottawatomie	592	82.9	481	67.4	12	15	6	4.6	714
Pushmataha	90	75.0	67	55.8	1	1	1	2.5	120
Roger Mills	17	73.9	16	69.6	1	-	1	8.7	23
Rogers	721	86.1	619	74.0	21	7	7	4.2	837
Seminole	243	75.2	179	55.4	11	8	3	6.8	323
Sequoyah	344	70.3	265	54.2	31	11	9	10.4	489
Stephens	359	74.0	285	58.8	23	2	7	6.6	485
Texas	150	65.5	63	27.5	20	28	6	23.6	229
Tillman	75	83.3	66	73.3	1	2	-	3.3	90
Tulsa	6,865	77.8	5,520	62.5	334	132	74	6.1	8,827
Wagoner	520	79.8	407	62.4	26	3	4	5.1	652
Washington	421	86.4	365	74.9	7	5	3	3.1	487
Washita	63	75.0	61	72.6	6	-	1	8.3	84
Woods	83	88.3	70	74.5	1	-	1	2.1	94
Woodward	154	69.1	134	60.1	16	1	-	7.6	223

[1]Beginning prenatal care in third trimester, having less than four prenatal care visits, or receiving no prenatal care
-Denotes no events in that category

Table 9. Number of births by selected health indicators: Oklahoma and each County, 1994-1998

County	Low Birthweight < 2500 gms	Teen Births < 20 years	Beginning Prenatal Care 1st Trimester	Unmarried Births	Education < 12 grades	Birth Interval < 24 months	Previous births Age < 20 2+ births	Previous births Age > 19 4+ births	Infant deaths
State	16,708	39,405	159,396	73,620	52,544	41,689	1,221	7,048	1,930
Adair	105	456	1,194	648	641	384	10	63	14
Alfalfa	18	33	213	57	47	56	-	14	3
Atoka	59	152	542	251	209	157	4	16	8
Beaver	21	56	217	64	67	53	3	7	3
Beckham	92	271	524	459	343	224	7	25	11
Blaine	47	142	495	288	223	162	6	33	8
Bryan	168	459	1,656	664	574	466	13	45	17
Caddo	139	437	1,168	801	554	369	19	95	18
Canadian	293	644	3,452	1,141	763	675	13	128	38
Carter	227	658	2,322	1,074	848	551	30	91	22
Cherokee	176	538	1,913	975	780	518	18	81	13
Choctaw	77	249	635	381	263	194	10	23	7
Cimarron	17	31	131	32	51	46	2	3	1
Cleveland	695	1,297	7,075	2,543	1,423	1,531	21	211	64
Coal	30	98	288	105	137	75	4	14	4
Comanche	792	1,699	6,311	2,857	1,682	2,036	53	262	93
Cotton	28	71	257	112	76	61	3	15	5
Craig	66	154	577	229	199	175	3	32	8
Creek	309	819	3,252	1,377	1,056	838	16	117	29
Custer	107	278	1,250	484	389	289	7	51	15
Delaware	160	395	1,330	668	566	416	12	59	14
Dewey	11	32	135	52	34	46	-	7	6
Ellis	11	42	169	50	41	40	1	4	2
Garfield	291	610	2,964	1,157	813	753	18	111	33
Garvin	111	316	1,051	477	467	267	9	53	11
Grady	220	544	1,920	818	660	441	22	65	22
Grant	9	25	183	46	34	51	1	8	-
Greer	21	64	223	99	84	41	2	8	1
Harmon	17	52	153	76	72	46	4	6	3
Harper	5	28	108	39	33	28	1	5	1
Haskell	47	153	475	174	192	119	7	18	10
Hughes	54	172	568	312	199	142	4	22	5
Jackson	173	462	2,276	702	542	463	14	74	18
Jefferson	18	54	243	61	79	51	-	14	3
Johnston	50	128	481	213	167	130	3	11	7
Kay	224	671	2,531	1,105	996	689	14	131	32
Kingfisher	50	117	732	196	201	128	-	28	4
Kiowa	54	141	420	218	172	107	3	19	3
Latimer	26	143	415	188	166	103	1	16	6
Leflore	208	669	2,119	955	985	584	19	91	21

-Denotes no events in that category

Table 9 (cont). Number of births by selected health indicators: Oklahoma and each County, 1994-1998

County	Low Birthweight < 2500 gms	Teen Births < 20 years	Beginning Prenatal Care 1st Trimester	Unmarried Births	Education < 12 grades	Birth Interval < 24 months	Previous births Age < 20 2+ births	Previous births Age > 19 4+ births	Infant deaths
Lincoln	117	352	1,379	535	417	345	11	57	21
Logan	134	285	1,246	542	330	277	10	79	13
Love	37	99	377	139	137	75	1	10	3
McClain	76	232	939	373	281	244	2	28	10
McCurtain	187	653	1,929	1,034	787	498	29	107	23
McIntosh	78	234	683	413	299	218	5	38	10
Major	16	51	309	64	69	56	1	11	-
Marshall	61	163	563	231	278	163	5	27	9
Mayes	168	514	1,923	793	711	549	11	77	25
Murray	57	155	527	202	193	115	-	17	7
Muskogee	392	1,184	2,924	2,027	1,472	1,204	50	154	44
Noble	42	110	493	177	135	142	5	22	2
Nowata	53	123	455	201	131	148	3	10	6
Okfuskee	57	172	458	256	242	145	13	36	7
Oklahoma	4,142	7,990	31,256	18,625	11,807	7,336	312	1,522	495
Okmulgee	187	552	1,884	921	662	579	10	105	20
Osage	142	367	1,470	616	436	407	9	83	11
Ottawa	137	429	1,391	674	470	334	17	66	17
Pawnee	55	176	731	267	252	196	3	32	6
Payne	215	489	2,971	843	541	719	16	83	30
Pittsburg	160	510	1,720	779	567	494	15	62	19
Pontotoc	159	410	1,806	703	462	382	6	62	22
Pottawatomie	284	801	3,017	1,406	1,027	786	13	133	35
Pushmataha	24	135	438	205	178	118	2	12	5
Roger Mills	15	26	92	32	26	25	-	6	3
Rogers	283	619	3,454	892	747	864	12	143	28
Seminole	138	413	1,153	804	529	357	13	60	15
Sequoyah	156	539	1,693	838	745	570	18	73	19
Stephens	168	489	1,762	655	651	452	9	69	16
Texas	75	243	547	363	444	190	2	28	5
Tillman	42	157	383	227	224	112	3	23	5
Tulsa	3,097	6,043	31,575	13,540	8,791	8,551	208	1,488	352
Wagoner	212	524	2,370	854	688	644	13	102	25
Washington	169	404	1,994	692	524	494	10	84	17
Washita	40	130	369	148	147	105	1	21	4
Woods	31	53	356	99	48	63	-	10	5
Woodward	76	219	791	302	268	227	6	32	9
Unknown	-	-	-	-	-	-	-	-	4

-Denotes no events in that category

Table 10. Percent of births by selected health indicators: Oklahoma and each County, 1994-1998

(Infant mortality rates are infant deaths per 1,000 live births.)

County	Low Birthweight < 2500 gms	Teen Births < 20 years	Beginning Prenatal Care 1st Trimester	Unmarried Births	Education < 12 grades	Birth Interval < 24 months	Previous births Age < 20 2+ births	Previous births Age > 19 4+ births	Infant Mortality Rate
State	7.2	16.8	77.9	31.6	23.1	31.4	17.2	6.4	8.2
Adair	6.0	26.0	69.9	36.9	36.8	34.5	14.7	8.6	7.9
Alfalfa	6.6	12.0	85.9	20.8	17.3	29.9	0.0	8.6	10.9
Atoka	7.8	19.9	73.9	34.0	27.4	33.3	14.3	4.0	10.5
Beaver	7.0	18.3	84.1	21.1	22.1	28.8	33.3	4.3	9.8
Beckham	7.1	21.0	71.9	35.6	27.1	30.1	15.2	3.9	8.5
Blaine	6.5	19.6	75.6	39.9	31.6	35.9	23.1	8.8	11.0
Bryan	7.5	20.4	76.3	31.0	25.7	34.2	12.5	4.1	7.6
Caddo	6.9	21.7	68.7	39.9	27.9	30.2	22.6	9.6	8.9
Canadian	5.8	12.6	88.4	22.4	15.8	25.5	14.9	5.4	7.4
Carter	7.5	21.6	83.3	35.3	28.0	31.8	23.8	6.1	7.2
Cherokee	6.4	19.4	72.8	35.2	28.4	29.2	20.2	6.5	4.7
Choctaw	7.9	25.4	67.8	42.5	27.0	33.4	19.2	4.7	7.1
Cimarron	9.6	17.3	82.9	18.8	28.7	36.8	20.0	2.8	5.6
Cleveland	6.1	11.3	86.2	22.2	14.0	26.4	14.5	4.6	5.6
Coal	7.4	24.3	75.0	26.0	33.9	34.2	16.0	7.4	9.9
Comanche	7.7	16.5	79.1	27.8	16.6	33.9	15.1	5.3	9.0
Cotton	6.7	16.9	78.6	27.7	18.5	23.8	23.1	6.9	11.9
Craig	7.8	18.2	70.8	27.0	23.5	32.8	10.7	7.2	9.4
Creek	7.1	18.7	76.3	31.4	24.2	30.7	12.2	5.4	6.6
Custer	6.1	15.9	80.7	27.8	22.8	28.7	15.6	5.9	8.6
Delaware	7.9	19.4	69.0	32.8	28.0	32.0	15.2	5.7	6.8
Dewey	4.9	14.2	67.8	22.9	15.0	31.3	0.0	5.5	26.4
Ellis	5.0	19.3	78.6	23.0	18.8	28.0	11.1	3.7	9.2
Garfield	7.6	15.7	83.8	29.9	21.4	33.2	20.2	5.5	8.5
Garvin	6.6	18.8	79.7	28.3	29.6	30.1	19.6	7.1	6.5
Grady	7.6	18.6	78.8	28.1	23.6	28.3	20.8	4.8	7.5
Grant	3.7	10.2	81.0	18.9	14.1	32.1	20.0	5.4	0.0
Greer	7.0	21.3	84.5	33.1	28.6	25.0	18.2	5.7	3.3
Harmon	8.0	24.2	81.8	36.2	34.1	34.1	22.2	5.3	14.0
Harper	3.0	16.6	67.5	23.1	19.5	27.2	33.3	5.6	5.9
Haskell	6.5	21.2	68.1	24.0	26.7	27.1	25.0	4.8	13.8
Hughes	6.6	21.0	72.9	38.1	24.5	30.7	12.9	5.5	6.1
Jackson	6.3	16.9	89.8	25.9	20.0	28.5	15.1	5.1	6.6
Jefferson	5.6	16.8	82.9	20.0	24.8	25.4	0.0	8.1	9.3
Johnston	7.7	19.6	78.0	33.2	25.8	33.2	13.0	3.4	10.7
Kay	6.5	19.4	74.7	31.9	28.8	34.5	13.1	8.1	9.2
Kingfisher	5.8	13.5	91.8	22.7	23.8	24.7	0.0	7.0	4.6
Kiowa	8.7	22.5	76.6	34.9	27.8	36.0	12.0	6.7	4.8
Latimer	4.2	23.0	69.3	30.3	26.8	28.0	5.6	4.9	9.6
Leflore	6.5	20.8	69.7	29.7	30.8	30.6	14.8	5.4	6.5

Table 10 (cont). Percent of births by selected health indicators: Oklahoma and each County, 1994-1998

(Infant mortality rates are infant deaths per 1,000 live births.)

County	*Low Birthweight < 2500 gms*	*Teen Births < 20 years*	*Beginning Prenatal Care 1st Trimester*	*Unmarried Births*	*Education < 12 grades*	*Birth Interval < 24 months*	*Previous births*		*Infant Mortality Rate*
							Age < 20 2+ births	*Age > 19 4+ births*	
Lincoln	6.1	18.5	81.5	28.1	22.1	30.7	16.7	6.5	11.0
Logan	7.8	16.4	88.1	31.4	19.7	29.5	25.6	10.9	7.5
Love	7.4	19.6	81.8	28.4	27.5	26.1	7.1	3.9	5.9
McClain	4.8	14.4	84.1	23.3	20.0	28.6	12.5	4.1	6.2
McCurtain	7.2	24.9	79.1	40.9	30.4	31.9	19.9	8.0	8.8
McIntosh	7.2	21.7	64.9	38.3	27.9	32.5	13.5	7.3	9.3
Major	4.2	13.4	86.8	16.8	18.4	23.7	9.1	5.0	0.0
Marshall	7.6	20.2	73.7	29.0	35.1	33.3	15.6	7.1	11.1
Mayes	6.6	20.1	76.4	31.0	27.8	33.1	11.1	5.8	9.7
Murray	7.8	21.2	80.5	27.8	27.1	29.4	0.0	4.8	9.6
Muskogee	7.7	23.2	58.8	39.8	29.0	37.4	18.9	6.4	8.6
Noble	6.0	15.5	73.5	25.1	19.4	34.8	26.3	6.1	2.8
Nowata	8.5	19.7	82.6	32.2	21.0	35.9	10.3	2.9	9.6
Okfuskee	8.3	25.0	70.4	37.1	35.4	34.3	31.0	10.4	10.1
Oklahoma	8.1	15.6	80.6	36.5	24.8	30.5	22.4	7.5	9.6
Okmulgee	7.4	21.9	75.9	36.6	26.4	35.8	9.8	7.8	7.9
Osage	7.1	18.2	79.8	30.7	21.7	32.8	13.0	7.8	5.5
Ottawa	6.6	20.7	69.0	32.5	23.1	27.3	18.9	5.7	8.2
Pawnee	5.5	17.5	75.8	26.5	25.1	30.4	10.7	6.1	5.9
Payne	5.6	12.6	79.8	21.7	14.2	32.7	21.1	4.6	7.7
Pittsburg	6.5	20.7	72.1	31.6	23.2	33.1	14.9	4.9	7.7
Pontotoc	6.8	17.4	79.6	29.9	19.8	33.6	8.2	5.9	9.3
Pottawatomie	6.9	19.3	81.5	34.1	25.3	32.3	9.4	6.4	8.4
Pushmataha	3.7	20.6	69.3	32.0	27.1	28.4	9.1	3.3	7.6
Roger Mills	9.2	15.8	70.8	19.5	16.4	26.9	0.0	6.7	18.2
Rogers	6.8	14.9	84.4	21.4	18.0	32.2	11.4	6.2	6.7
Seminole	7.8	23.4	70.3	45.7	30.2	34.3	15.9	6.7	8.5
Sequoyah	6.1	20.9	67.1	32.5	29.1	35.8	17.8	5.8	7.3
Stephens	6.6	19.1	76.2	25.6	25.7	29.4	8.6	5.4	6.2
Texas	5.5	17.7	73.2	26.6	32.6	26.9	4.8	4.3	3.6
Tillman	6.8	25.2	75.8	36.9	36.7	29.6	8.1	7.5	8.0
Tulsa	7.3	14.3	76.6	32.1	20.9	32.7	18.2	7.1	8.3
Wagoner	6.5	16.0	74.7	26.0	21.1	30.6	14.9	5.8	7.6
Washington	6.5	15.4	86.8	26.4	19.9	30.1	12.7	6.0	6.4
Washita	6.2	20.1	77.5	22.9	23.0	27.3	5.6	6.0	6.2
Woods	7.0	12.0	85.8	22.5	10.9	25.3	0.0	4.4	11.3
Woodward	6.3	18.1	68.9	25.0	22.3	30.9	15.0	4.9	7.4

Table 11. County rankings for selected health indicators: Oklahoma, 1994-1998

(Lowest rank indicates best value for the lowest percentage or rate except for beginning prenatal care in first trimester of pregnancy.)

County	Low Birthweight < 2500 gms	Teen Births < 20 years	Beginning Prenatal Care 1st Trimester	Unmarried Births	Education < 12 grades	Birth Interval < 24 months	Previous births Age < 20 2+ births	Previous births Age > 19 4+ births	Infant Mortality Rate
Adair	16	77	32	67	77	69	37	73	38
Alfalfa	34	4	5	6	9	29	1	72	68
Atoka	64	48	27	58	52	59	35	8	66
Beaver	44	33	7	7	26	23	76	12	63
Beckham	49	58	30	63	49	30	46	7	45
Blaine	29	44	24	74	70	73	69	74	70
Bryan	57	52	22	45	43	64	27	9	33
Caddo	43	64	36	73	57	33	68	75	50
Canadian	13	5	3	11	6	7	40	30	30
Carter	56	63	9	62	59	43	71	46	27
Cherokee	24	42	29	61	60	24	62	52	7
Choctaw	69	76	38	76	48	60	57	16	26
Cimarron	77	26	11	2	62	76	60	1	11
Cleveland	18	2	4	10	2	9	36	15	10
Coal	55	72	25	24	72	65	50	64	64
Comanche	63	21	16	31	8	62	44	25	51
Cotton	38	25	19	30	12	2	69	57	73
Craig	66	31	31	29	33	52	20	62	57
Creek	47	36	23	47	36	39	26	28	23
Custer	20	18	14	33	29	22	47	43	47
Delaware	70	43	35	55	58	45	45	37	25
Dewey	7	9	39	14	5	42	1	32	77
Ellis	8	39	18	16	13	16	22	5	52
Garfield	58	16	8	40	24	56	62	33	46
Garvin	36	37	15	36	66	31	58	59	21
Grady	59	35	17	35	34	18	64	18	32
Grant	3	1	13	3	3	46	60	30	1
Greer	46	62	6	56	61	4	54	36	4
Harmon	71	71	12	64	73	63	66	26	75
Harper	1	22	40	17	15	13	76	35	12
Haskell	30	60	37	19	46	12	72	17	74
Hughes	37	59	28	70	37	38	30	34	15
Jackson	23	24	2	23	20	20	43	24	22
Jefferson	12	23	10	5	38	6	1	71	56
Johnston	62	46	20	57	44	57	31	4	67
Kay	27	41	26	49	63	68	33	70	53
Kingfisher	14	8	1	13	35	3	1	58	6
Kiowa	75	67	21	60	54	75	25	55	8
Latimer	4	68	34	42	47	17	9	22	60
Leflore	26	56	33	39	69	36	38	29	20

Table 11 (cont). County rankings for selected health indicators: Oklahoma, 1994-1998

(Lowest rank indicates best value for the lowest percentage or rate except for beginning prenatal care in first trimester of pregnancy.)

County	*Low Birthweight < 2500 gms*	*Teen Births < 20 years*	*Beginning Prenatal Care 1st Trimester*	*Unmarried Births*	*Education < 12 grades*	*Birth Interval < 24 months*	*Previous births*		*Infant Mortality Rate*
							Age < 20 2+ births	*Age > 19 4+ births*	
Lincoln	19	34	21	34	27	40	51	53	69
Logan	65	20	4	46	16	27	73	77	31
Love	53	45	20	37	53	8	11	6	13
McClain	6	11	13	18	19	21	27	10	17
McCurtain	50	73	32	75	68	44	59	69	49
McIntosh	51	65	76	71	56	49	34	63	54
Major	5	7	6	1	11	1	15	23	1
Marshall	60	51	52	38	74	58	48	60	71
Mayes	33	49	40	44	55	54	22	40	62
Murray	67	61	26	32	50	25	1	19	58
Muskogee	61	69	77	72	64	77	56	51	48
Noble	15	14	53	21	14	70	74	48	3
Nowata	74	47	18	52	22	74	19	2	59
Okfuskee	73	74	61	69	75	67	75	76	65
Oklahoma	72	15	25	65	39	35	67	65	61
Okmulgee	54	66	44	66	45	71	18	67	39
Osage	48	32	28	43	25	53	31	68	9
Ottawa	35	54	68	54	31	15	55	38	41
Pawnee	9	28	46	27	40	34	20	47	14
Payne	11	6	27	9	4	51	65	14	37
Pittsburg	31	55	57	48	32	55	39	20	36
Pontotoc	39	27	30	41	17	61	13	42	55
Pottawatomie	42	40	22	59	41	48	17	50	43
Pushmataha	2	53	65	50	51	19	15	3	34
Roger Mills	76	17	60	4	7	10	1	56	76
Rogers	40	12	11	8	10	47	24	49	24
Seminole	68	70	62	77	67	66	49	54	44
Sequoyah	17	57	75	53	65	72	52	41	28
Stephens	32	38	43	22	42	26	14	27	18
Texas	10	29	54	28	71	11	8	11	5
Tillman	41	75	45	68	76	28	12	66	40
Tulsa	52	10	39	51	21	50	53	61	42
Wagoner	25	19	49	25	23	37	40	39	35
Washington	28	13	5	26	18	32	29	44	19
Washita	21	50	37	15	30	14	9	45	16
Woods	45	3	9	12	1	5	1	13	72
Woodward	22	30	69	20	28	41	42	21	29

Table 12. Infant, neonatal, post-neonatal, fetal, and perinatal mortality: Oklahoma and each County, 1994-1998

NOTE: See definitions for explanation of rates.

	Infant		*Neonatal*		*Post-Neonatal*		*Fetal*		*Perinatal*	
County	*Number*	*Rate*	*Number*	*Rate*	*Number*	*Rate*	*Number*	*Ratio*	*Number*	*Rate*
State	1,930	8.2	1,171	5.0	236	3.2	1,652	7.0	2,823	11.9
Adair	14	7.9	9	5.1	5	2.8	14	7.9	23	12.9
Alfalfa	3	10.9	1	3.6	2	7.3	-	-	1	3.6
Atoka	8	10.5	4	5.2	4	5.2	7	9.2	11	14.2
Beaver	3	9.8	3	9.8	-	-	2	6.5	5	16.2
Beckham	11	8.5	4	3.1	7	5.4	12	9.3	16	12.3
Blaine	8	11.0	4	5.5	4	5.5	3	4.1	7	9.6
Bryan	17	7.6	12	5.3	5	2.2	19	8.4	31	13.7
Caddo	18	8.9	7	3.5	11	5.4	17	8.4	24	11.8
Canadian	38	7.4	23	4.5	15	2.9	20	3.9	43	8.4
Carter	22	7.2	14	4.6	8	2.6	21	6.9	35	11.4
Cherokee	13	4.7	5	1.8	8	2.9	20	7.2	25	8.9
Choctaw	7	7.1	3	3.1	4	4.1	8	8.2	11	11.1
Cimarron	1	5.6	-	-	1	5.6	2	11.2	2	11.0
Cleveland	64	5.6	38	3.3	26	2.3	79	6.9	117	10.1
Coal	4	9.9	2	5.0	2	5.0	3	7.4	5	12.3
Comanche	93	9.0	58	5.6	35	3.4	62	6.0	120	11.5
Cotton	5	11.9	3	7.1	2	4.8	2	4.8	5	11.8
Craig	8	9.4	7	8.2	1	1.2	6	7.1	13	15.2
Creek	29	6.6	14	3.2	15	3.4	37	8.4	51	11.5
Custer	15	8.6	9	5.1	6	3.4	8	4.6	17	9.7
Delaware	14	6.8	8	3.9	6	2.9	8	3.9	16	7.8
Dewey	6	26.4	3	13.2	3	13.2	3	13.2	6	26.1
Ellis	2	9.2	2	9.2	-	-	3	13.8	5	22.6
Garfield	33	8.5	17	4.4	16	4.1	30	7.7	47	12.0
Garvin	11	6.5	7	4.2	4	2.4	7	4.2	14	8.3
Grady	22	7.5	14	4.8	8	2.7	15	5.1	29	9.9
Grant	-	-	-	-	-	-	1	4.1	1	4.1
Greer	1	3.3	1	3.3	-	-	2	6.7	3	9.9
Harmon	3	14.0	2	9.3	1	4.7	2	9.3	4	18.4
Harper	-	-	-	-	-	-	1	5.9	1	5.9
Haskell	11	15.2	8	11.0	3	4.1	2	2.8	10	13.8
Hughes	5	6.1	3	3.7	2	2.4	6	7.3	9	10.9
Jackson	18	6.6	13	4.7	5	1.8	10	3.6	23	8.4
Jefferson	3	9.3	3	9.3	-	-	3	9.3	6	18.5
Johnston	7	10.7	5	7.6	2	3.1	9	13.8	14	21.1
Kay	32	9.2	21	6.0	11	3.2	30	8.6	51	14.6
Kingfisher	4	4.6	2	2.3	2	2.3	3	3.5	5	5.7
Kiowa	3	4.8	3	4.8	-	-	5	8.0	8	12.7
Latimer	6	9.6	5	8.0	1	1.6	3	4.8	8	12.8
Leflore	21	6.5	10	3.1	11	3.4	13	4.0	23	7.1

-Denotes no events in that category

Table 12 (cont). Infant, neonatal, post-neonatal, fetal, and perinatal mortality: Oklahoma and each County, 1994-1998

NOTE: See definitions for explanation of rates.

	Infant		*Neonatal*		*Post-Neonatal*		*Fetal*		*Perinatal*	
County	*Number*	*Rate*	*Number*	*Rate*	*Number*	*Rate*	*Number*	*Ratio*	*Number*	*Rate*
Lincoln	21	11.0	13	6.8	8	4.2	11	5.7	24	12.5
Logan	13	7.5	10	5.7	3	1.7	12	6.9	22	12.5
Love	3	5.9	2	4.0	1	2.0	4	7.9	6	11.8
McClain	10	6.2	8	5.0	2	1.2	9	5.6	17	10.5
McCurtain	23	8.8	15	5.7	8	3.0	27	10.3	42	15.8
McIntosh	10	9.3	4	3.7	6	5.6	8	7.4	12	11.0
Major	-	-	-	-	-	-	2	5.2	2	5.2
Marshall	9	11.1	5	6.2	4	5.0	3	3.7	8	9.9
Mayes	25	9.7	16	6.2	9	3.5	18	7.0	34	13.2
Murray	7	9.6	5	6.8	2	2.7	3	4.1	8	10.9
Muskogee	44	8.6	18	3.5	26	5.1	39	7.6	57	11.1
Noble	2	2.8	1	1.4	1	1.4	3	4.2	4	5.6
Nowata	6	9.6	3	4.8	3	4.8	5	8.0	8	12.7
Okfuskee	7	10.1	5	7.2	2	2.9	7	10.1	12	17.2
Oklahoma	495	9.6	313	6.1	182	3.5	417	8.1	730	14.1
Okmulgee	20	7.9	11	4.4	9	3.6	19	7.5	30	11.8
Osage	11	5.5	5	2.5	6	3.0	12	6.0	17	8.4
Ottawa	17	8.2	10	4.8	7	3.4	6	2.9	16	7.7
Pawnee	6	5.9	2	2.0	4	4.0	3	3.0	5	4.9
Payne	30	7.7	15	3.9	15	3.9	24	6.2	39	10.0
Pittsburg	19	7.7	10	4.1	9	3.6	14	5.7	24	9.7
Pontotoc	22	9.3	13	5.5	9	3.8	17	7.2	30	12.6
Pottawatomie	35	8.4	19	4.6	16	3.8	28	6.7	47	11.2
Pushmataha	5	7.6	4	6.1	1	1.5	5	7.6	9	13.6
Roger Mills	3	18.2	3	18.2	-	-	-	-	3	18.2
Rogers	28	6.7	22	5.3	6	1.4	22	5.3	44	10.5
Seminole	15	8.5	9	5.1	6	3.4	19	10.7	28	15.7
Sequoyah	19	7.3	11	4.3	8	3.1	6	2.3	17	6.6
Stephens	16	6.2	11	4.3	5	1.9	17	6.6	28	10.8
Texas	5	3.6	3	2.2	2	1.5	5	3.6	8	5.8
Tillman	5	8.0	2	3.2	3	4.8	9	14.4	11	17.4
Tulsa	352	8.3	221	5.2	131	3.1	314	7.4	535	12.6
Wagoner	25	7.6	14	4.3	11	3.3	23	7.0	37	11.2
Washington	17	6.4	4	1.5	13	4.9	21	8.0	25	9.4
Washita	4	6.2	2	3.1	2	3.1	2	3.1	4	6.2
Woods	5	11.3	5	11.3	-	-	1	2.3	6	13.5
Woodward	9	7.4	7	5.8	2	1.6	2	1.6	9	7.4
Unknown	4	-	3	-	1	-	17	-	20	-

-Denotes no events in that category

Table 13. Number of child deaths by age of child and county of residence: Oklahoma, 1998

County	*< 1 year*	*1-4 years*	*5-9 years*	*10-14 years*	*15-19 years*	*1-19 years*
State	421	74	67	68	226	435
Adair	2	-	2	-	1	3
Alfalfa	-	-	-	-	-	-
Atoka	1	-	-	-	1	1
Beaver	1	-	-	-	-	-
Beckham	2	1	2	-	3	6
Blaine	-	-	-	-	-	-
Bryan	2	-	-	1	2	3
Caddo	6	2	1	-	5	8
Canadian	17	-	-	2	7	9
Carter	4	1	1	1	2	5
Cherokee	1	1	-	1	2	4
Choctaw	4	2	-	1	-	3
Cimarron	-	-	-	-	-	-
Cleveland	16	3	5	4	12	24
Coal	1	1	-	-	-	1
Comanche	19	5	6	1	11	23
Cotton	1	-	1	1	-	2
Craig	1	-	-	-	3	3
Creek	8	-	2	2	3	7
Custer	3	-	1	1	1	3
Delaware	4	-	-	-	5	5
Dewey	1	1	-	1	-	2
Ellis	-	-	-	-	1	1
Garfield	6	2	-	1	2	5
Garvin	5	-	-	1	3	4
Grady	4	1	-	1	4	6
Grant	-	1	-	-	-	1
Greer	-	-	-	-	-	-
Harmon	-	-	-	-	-	-
Harper	-	-	-	-	-	-
Haskell	2	-	1	1	2	4
Hughes	1	-	-	-	1	1
Jackson	3	-	-	-	3	3
Jefferson	2	-	-	-	1	1
Johnston	1	-	-	-	2	2
Kay	7	4	1	-	2	7
Kingfisher	-	-	-	-	1	1
Kiowa	1	-	-	-	-	-
Latimer	1	-	-	-	1	1
Leflore	4	1	1	1	2	5

-Denotes no events in that category

Table 13 (cont). Number of child deaths by age of child and county of residence: Oklahoma, 1998

County	*< 1 year*	*1-4 years*	*5-9 years*	*10-14 years*	*15-19 years*	*1-19 years*
Lincoln	4	-	-	2	-	2
Logan	6	1	-	1	1	3
Love	2	-	-	-	-	-
McClain	3	-	1	2	3	6
McCurtain	4	1	-	-	4	5
McIntosh	3	-	-	-	1	1
Major	-	-	-	-	1	1
Marshall	2	-	-	-	2	2
Mayes	3	-	-	1	4	5
Murray	1	-	-	-	1	1
Muskogee	11	-	2	-	5	7
Noble	-	1	-	2	3	6
Nowata	2	-	-	-	-	-
Okfuskee	1	-	-	-	-	-
Oklahoma	121	18	9	14	30	71
Okmulgee	4	-	1	-	2	3
Osage	1	1	2	-	1	4
Ottawa	4	-	2	1	3	6
Pawnee	1	-	-	1	-	1
Payne	6	-	-	1	5	6
Pittsburg	2	1	2	1	3	7
Pontotoc	3	2	3	-	4	9
Pottawatomie	5	-	3	2	8	13
Pushmataha	1	-	1	1	1	3
Roger Mills	-	-	-	-	3	3
Rogers	8	1	-	2	6	9
Seminole	4	-	2	-	3	5
Sequoyah	4	1	1	2	1	5
Stephens	3	-	-	-	5	5
Texas	2	-	-	1	1	2
Tillman	1	-	-	-	-	-
Tulsa	63	14	6	11	35	66
Wagoner	6	2	6	1	4	13
Washington	4	2	1	-	1	4
Washita	-	1	-	1	-	2
Woods	3	-	-	-	1	1
Woodward	-	2	1	-	1	4
Unknown	2	-	-	-	-	-

-Denotes no events in that category

Table 14. Number of child deaths by age and sex[1] of child and county of residence: Oklahoma, 1998

	Age of child									
	< 1 year		*1-4 years*		*5-9 years*		*10-14 years*		*15-19 years*	
County	M	F	M	F	M	F	M	F	M	F
State	243	178	42	32	39	28	45	23	162	64
Adair	1	1	-	-	1	1	-	-	1	-
Alfalfa	-	-	-	-	-	-	-	-	-	-
Atoka	1	-	-	-	-	-	-	-	-	1
Beaver	1	-	-	-	-	-	-	-	-	-
Beckham	2	-	1	-	2	-	-	-	3	-
Blaine	-	-	-	-	-	-	-	-	-	-
Bryan	2	-	-	-	-	-	1	-	2	-
Caddo	2	4	1	1	-	1	-	-	3	2
Canadian	10	7	-	-	-	-	1	1	6	1
Carter	3	1	-	1	-	1	1	-	2	-
Cherokee	-	1	-	1	-	-	-	1	1	1
Choctaw	2	2	2	-	-	-	1	-	-	-
Cimarron	-	-	-	-	-	-	-	-	-	-
Cleveland	7	9	2	1	2	3	3	1	8	4
Coal	-	1	1	-	-	-	-	-	-	-
Comanche	11	8	3	2	5	1	1	-	7	4
Cotton	-	1	-	-	1	-	1	-	-	-
Craig	-	1	-	-	-	-	-	-	2	1
Creek	3	5	-	-	1	1	-	2	3	-
Custer	2	1	-	-	1	-	1	-	-	1
Delaware	3	1	-	-	-	-	-	-	4	1
Dewey	1	-	1	-	-	-	1	-	-	-
Ellis	-	-	-	-	-	-	-	-	-	1
Garfield	2	4	2	-	-	-	1	-	1	1
Garvin	5	-	-	-	-	-	1	-	2	1
Grady	3	1	-	1	-	-	-	1	3	1
Grant	-	-	-	1	-	-	-	-	-	-
Greer	-	-	-	-	-	-	-	-	-	-
Harmon	-	-	-	-	-	-	-	-	-	-
Harper	-	-	-	-	-	-	-	-	-	-
Haskell	2	-	-	-	1	-	1	-	-	2
Hughes	1	-	-	-	-	-	-	-	1	-
Jackson	1	2	-	-	-	-	-	-	1	2
Jefferson	2	-	-	-	-	-	-	-	1	-
Johnston	-	1	-	-	-	-	-	-	2	-
Kay	2	5	3	1	-	1	-	-	1	1
Kingfisher	-	-	-	-	-	-	-	-	1	-
Kiowa	1	-	-	-	-	-	-	-	-	-
Latimer	1	-	-	-	-	-	-	-	1	-
Leflore	4	-	-	1	1	-	-	1	2	-

[1]M=Male, F=Female
-Denotes no events in that category

Table 14 (cont). Number of child deaths by age and sex[1] of child and county of residence: Oklahoma, 1998

	Age of child									
	< 1 year		*1-4 years*		*5-9 years*		*10-14 years*		*15-19 years*	
County	M	F	M	F	M	F	M	F	M	F
Lincoln	3	1	-	-	-	-	2	-	-	-
Logan	2	4	1	-	-	-	1	-	-	1
Love	-	2	-	-	-	-	-	-	-	-
McClain	1	2	-	-	1	-	1	1	3	-
McCurtain	2	2	1	-	-	-	-	-	2	2
McIntosh	3	-	-	-	-	-	-	-	1	-
Major	-	-	-	-	-	-	-	-	-	1
Marshall	1	1	-	-	-	-	-	-	2	-
Mayes	-	3	-	-	-	-	1	-	2	2
Murray	-	1	-	-	-	-	-	-	1	-
Muskogee	9	2	-	-	1	1	-	-	5	-
Noble	-	-	-	1	-	-	1	1	3	-
Nowata	2	-	-	-	-	-	-	-	-	-
Okfuskee	1	-	-	-	-	-	-	-	-	-
Oklahoma	76	45	11	7	5	4	9	5	20	10
Okmulgee	3	1	-	-	1	-	-	-	1	1
Osage	1	-	-	1	1	1	-	-	1	-
Ottawa	1	3	-	-	1	1	-	1	3	-
Pawnee	-	1	-	-	-	-	1	-	-	-
Payne	3	3	-	-	-	-	-	1	4	1
Pittsburg	1	1	-	1	2	-	1	-	1	2
Pontotoc	2	1	2	-	-	3	-	-	3	1
Pottawatomie	2	3	-	-	1	2	1	1	4	4
Pushmataha	1	-	-	-	1	-	1	-	1	-
Roger Mills	-	-	-	-	-	-	-	-	3	-
Rogers	3	5	1	-	-	-	1	1	5	1
Seminole	1	3	-	-	-	2	-	-	2	1
Sequoyah	3	1	-	1	1	-	1	1	1	-
Stephens	3	-	-	-	-	-	-	-	2	3
Texas	1	1	-	-	-	-	-	1	-	1
Tillman	-	1	-	-	-	-	-	-	-	-
Tulsa	31	32	7	7	5	1	8	3	29	6
Wagoner	4	2	1	1	4	2	1	-	3	1
Washington	4	-	1	1	-	1	-	-	1	-
Washita	-	-	-	1	-	-	1	-	-	-
Woods	2	1	-	-	-	-	-	-	-	1
Woodward	-	-	1	1	-	1	-	-	1	-
Unknown	2	-	-	-	-	-	-	-	-	-

[1]M=Male, F=Female
-Denotes no events in that category

Table 15. Number of deaths to children ages 0-19 by race of decedent and county of residence: Oklahoma, 1998

County	*White*	*Black*	*American Indian*	*Other*	*Unk*	*Total*
State	646	120	73	10	7	856
Adair	2	-	3	-	-	5
Alfalfa	-	-	-	-	-	-
Atoka	2	-	-	-	-	2
Beaver	1	-	-	-	-	1
Beckham	8	-	-	-	-	8
Blaine	-	-	-	-	-	-
Bryan	5	-	-	-	-	5
Caddo	8	-	6	-	-	14
Canadian	23	-	2	1	-	26
Carter	6	3	-	-	-	9
Cherokee	2	-	3	-	-	5
Choctaw	5	2	-	-	-	7
Cimarron	-	-	-	-	-	-
Cleveland	36	1	1	2	-	40
Coal	1	-	1	-	-	2
Comanche	30	11	1	-	-	42
Cotton	3	-	-	-	-	3
Craig	4	-	-	-	-	4
Creek	14	-	1	-	-	15
Custer	5	-	1	-	-	6
Delaware	8	-	1	-	-	9
Dewey	3	-	-	-	-	3
Ellis	1	-	-	-	-	1
Garfield	11	-	-	-	-	11
Garvin	9	-	-	-	-	9
Grady	9	-	-	-	1	10
Grant	1	-	-	-	-	1
Greer	-	-	-	-	-	-
Harmon	-	-	-	-	-	-
Harper	-	-	-	-	-	-
Haskell	4	-	1	1	-	6
Hughes	1	-	1	-	-	2
Jackson	3	2	-	-	1	6
Jefferson	3	-	-	-	-	3
Johnston	3	-	-	-	-	3
Kay	12	1	1	-	-	14
Kingfisher	1	-	-	-	-	1
Kiowa	1	-	-	-	-	1
Latimer	2	-	-	-	-	2
Leflore	8	1	-	-	-	9

-Denotes no events in that category

Table 15 (cont). Number of deaths to children ages 0-19 by race of decedent and county of residence: Oklahoma, 1998

County	*White*	*Black*	*American Indian*	*Other*	*Unk*	*Total*
Lincoln	6	-	-	-	-	6
Logan	8	1	-	-	-	9
Love	2	-	-	-	-	2
McClain	7	-	2	-	-	9
McCurtain	5	1	3	-	-	9
McIntosh	4	-	-	-	-	4
Major	1	-	-	-	-	1
Marshall	4	-	-	-	-	4
Mayes	7	-	1	-	-	8
Murray	2	-	-	-	-	2
Muskogee	13	4	1	-	-	18
Noble	4	-	1	1	-	6
Nowata	1	-	1	-	-	2
Okfuskee	1	-	-	-	-	1
Oklahoma	126	54	5	2	5	192
Okmulgee	5	-	2	-	-	7
Osage	5	-	-	-	-	5
Ottawa	7	-	3	-	-	10
Pawnee	1	-	1	-	-	2
Payne	10	-	2	-	-	12
Pittsburg	6	-	3	-	-	9
Pontotoc	8	-	4	-	-	12
Pottawatomie	12	1	5	-	-	18
Pushmataha	3	1	-	-	-	4
Roger Mills	3	-	-	-	-	3
Rogers	15	-	2	-	-	17
Seminole	5	-	4	-	-	9
Sequoyah	8	1	-	-	-	9
Stephens	8	-	-	-	-	8
Texas	3	1	-	-	-	4
Tillman	1	-	-	-	-	1
Tulsa	84	34	8	3	-	129
Wagoner	19	-	-	-	-	19
Washington	8	-	-	-	-	8
Washita	1	1	-	-	-	2
Woods	4	-	-	-	-	4
Woodward	3	-	1	-	-	4
Unknown	1	-	1	-	-	2

-Denotes no events in that category

Table 16. Number of child deaths by cause of death and age of decedent: Oklahoma, 1998

Cause of death by ICD-9 Code	*< 1 year*	*1-4 years*	*5-9 years*	*10-14 years*	*15-19 years*	*Total*
All deaths	421	74	67	68	226	856
Infectious & Parasitic Disease (010-139)	8	2	1	2	3	16
Malignant Neoplasm (140-239)	3	3	8	6	11	31
Endocrine, Nutritional, Metabolic (240-279)	4	-	2	3	2	11
Blood & Blood-Forming Disease (280-289)	3	-	-	-	1	4
Major Cardiovascular (390-448)	18	2	4	2	5	31
Pneumonia & Flu (480-489)	5	-	1	-	1	7
Chronic Obstructive Pulmonary Disease (490-499)	-	-	1	3	3	7
Residual Respiratory (470-479, 500-519)	4	2	1	1	1	9
Digestive System (520-579)	7	3	1	-	2	13
Nephritis, Nephrotic Syndrome, Nephrosis (580-589)	2	-	-	1	-	3
Congenital Anomalies (740-759)	94	9	4	2	3	112
Perinatal Period Conditions (760-779)	180	2	-	-	-	182
Sudden Infant Death Syndrome (798)	48	-	-	-	-	48
Symptoms, Signs, Ill-Defined Conditions (780-799)	20	2	2	2	2	28
Motor Vehicle Accidents (E810-E819)	7	7	21	22	89	146
Residual Accidents (E800-E809, E820-E849, E870-E879, E900-E909, E916-E949)	1	10	-	4	12	27
Accidental Poisoning by Other Solid and Liquid Substances, Gases, and Vapors (E860-E869)	-	-	-	2	-	2
Accidental Falls (E880-E888)	-	-	-	-	1	1
Accidents Caused by Fire and Flames (E890-E899)	-	3	6	2	2	13
Accidental Drowning (E910)	2	12	7	1	10	32
Accidents Caused by Suffocation (E911-E915)	2	4	1	1	-	8
Suicide (E950-E959)	-	-	-	4	41	45
Homicide (E960-E969)	3	6	5	6	22	42
Other Injuries (E970-E979, E990-E999)	-	-	-	-	1	1
Undetermined Accidents/Injuries (E980-E989)	1	1	-	2	4	8
All Other Causes	9	6	2	2	10	29

- Denotes no events in that category.

Table 17. Female population estimates by age: Oklahoma and each County, 1998

(Estimates provided by the U.S. Census Bureau, enumerated as of July 1, 1998.)

County	*15-17 years*	*18-19 years*	*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-44 years*
State	78,228	50,844	114,379	108,739	105,926	128,190	130,746
Adair	574	311	725	638	595	693	751
Alfalfa	140	33	107	129	124	159	164
Atoka	335	166	319	343	318	419	473
Beaver	168	53	116	167	170	199	237
Beckham	501	252	555	571	635	711	665
Blaine	255	135	230	294	293	349	326
Bryan	836	647	1,386	976	927	1,181	1,307
Caddo	766	400	874	922	813	1,014	1,046
Canadian	2,192	1,093	2,131	2,766	3,043	3,774	3,923
Carter	1,125	557	1,169	1,315	1,346	1,702	1,612
Cherokee	944	732	1,757	1,283	1,112	1,308	1,458
Choctaw	385	193	427	421	391	515	525
Cimarron	79	33	55	68	75	99	90
Cleveland	4,641	4,347	9,798	7,469	7,156	8,713	8,522
Coal	171	86	161	159	169	194	208
Comanche	2,472	1,700	4,690	4,261	3,825	4,036	3,678
Cotton	175	80	197	198	176	215	233
Craig	327	171	375	388	415	500	532
Creek	1,757	847	1,858	1,917	1,886	2,594	2,813
Custer	528	605	1,370	800	710	880	792
Delaware	812	407	896	875	853	1,050	1,176
Dewey	121	40	107	132	137	142	170
Ellis	107	37	67	93	102	174	143
Garfield	1,253	677	1,758	1,798	1,805	2,114	2,058
Garvin	659	331	685	746	773	941	870
Grady	1,159	692	1,392	1,485	1,445	1,774	1,817
Grant	130	42	107	147	126	179	177
Greer	124	72	136	125	123	173	164
Harmon	73	43	99	79	80	106	102
Harper	85	30	49	82	99	124	112
Haskell	298	135	262	312	285	334	440
Hughes	340	155	320	325	347	430	515
Jackson	717	481	1,124	1,063	934	1,088	912
Jefferson	177	74	160	179	163	225	240
Johnston	257	205	305	287	273	362	391
Kay	1,004	591	1,240	1,337	1,312	1,704	1,753
Kingfisher	322	152	296	395	441	477	432
Kiowa	274	111	273	309	291	324	343
Latimer	235	235	330	305	251	316	365
Leflore	1,199	646	1,393	1,324	1,340	1,639	1,779

Table 17 (cont). Female population estimates by age: Oklahoma and each County, 1998
(Estimates provided by the U.S. Census Bureau, enumerated as of July 1, 1998.)

County	*15-17 years*	*18-19 years*	*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-44 years*
Lincoln	861	392	754	919	892	1,153	1,222
Logan	722	821	1,179	843	915	1,156	1,149
Love	237	84	241	207	239	319	319
McClain	714	350	701	772	773	973	1,070
McCurtain	990	508	1,094	1,056	959	1,228	1,341
McIntosh	452	193	432	445	442	557	663
Major	196	85	159	192	225	247	264
Marshall	280	160	283	336	295	344	457
Mayes	872	480	1,015	1,063	985	1,271	1,351
Murray	310	155	300	327	307	432	506
Muskogee	1,764	1,028	2,127	2,170	2,083	2,689	2,610
Noble	263	145	304	336	338	388	411
Nowata	230	127	238	271	262	343	353
Okfuskee	292	153	270	280	245	345	392
Oklahoma	13,960	9,435	23,573	23,417	22,194	25,546	25,359
Okmulgee	961	576	1,050	1,033	1,091	1,397	1,496
Osage	1,094	492	1,036	1,168	1,284	1,721	1,772
Ottawa	678	564	905	842	772	1,047	1,117
Pawnee	413	178	372	407	518	569	670
Payne	1,160	2,472	5,227	2,299	1,879	2,040	2,037
Pittsburg	1,003	492	1,070	1,121	1,069	1,418	1,561
Pontotoc	821	695	1,426	1,009	1,006	1,187	1,303
Pottawatomie	1,633	1,326	2,155	1,874	1,732	2,219	2,414
Pushmataha	276	123	329	267	278	382	410
Roger Mills	96	35	71	89	97	137	123
Rogers	1,716	908	1,822	1,957	2,007	2,671	3,054
Seminole	598	338	679	684	661	812	864
Sequoyah	1,029	546	1,238	1,155	1,042	1,333	1,448
Stephens	1,023	482	1,050	1,178	1,286	1,635	1,638
Texas	516	343	603	563	526	744	699
Tillman	233	120	268	251	235	299	295
Tulsa	11,627	7,630	19,402	19,696	19,590	23,186	23,203
Wagoner	1,574	749	1,542	1,645	1,783	2,326	2,629
Washington	1,043	542	1,144	1,257	1,435	1,813	1,929
Washita	305	128	258	353	315	405	373
Woods	140	193	314	199	207	250	261
Woodward	429	199	449	575	600	677	669

Table 18. Population estimates of children by age group: Oklahoma and each County, 1998
(Estimates provided by the U.S. Census Bureau, enumerated as of July 1, 1998.)

County	*< 1 year*	*1-4 years*	*5-9 years*	*10-14 years*	*15-19 years*	*1-19 years*
State	16,185	62,279	83,549	89,783	95,221	330,832
Adair	339	1,174	1,587	1,814	1,874	6,449
Alfalfa	54	243	331	382	384	1,340
Atoka	163	620	854	1,028	1,104	3,606
Beaver	75	287	450	536	463	1,736
Beckham	281	1,133	1,600	1,653	1,523	5,909
Blaine	156	586	807	819	780	2,992
Bryan	437	1,770	2,249	2,515	3,072	9,606
Caddo	466	1,734	2,267	2,501	2,538	9,040
Canadian	1,201	4,991	6,991	7,433	6,902	26,317
Carter	607	2,323	3,155	3,524	3,406	12,408
Cherokee	599	2,110	2,741	2,977	3,400	11,228
Choctaw	248	785	1,062	1,258	1,226	4,331
Cimarron	41	154	215	235	234	838
Cleveland	2,761	10,805	14,304	14,913	18,327	58,349
Coal	74	284	395	509	511	1,699
Comanche	1,940	7,128	8,740	8,393	9,999	34,260
Cotton	93	318	475	518	508	1,819
Craig	168	655	825	1,001	1,064	3,545
Creek	899	3,564	4,731	5,244	5,410	18,949
Custer	373	1,418	1,938	1,959	2,361	7,676
Delaware	409	1,603	2,143	2,345	2,508	8,599
Dewey	59	230	341	451	317	1,339
Ellis	51	165	288	355	327	1,135
Garfield	776	2,953	4,098	4,371	3,916	15,338
Garvin	323	1,219	1,884	2,063	2,097	7,263
Grady	599	2,480	3,540	3,923	3,735	13,678
Grant	72	277	371	386	344	1,378
Greer	57	257	341	393	421	1,412
Harmon	56	197	272	311	272	1,052
Harper	33	154	241	279	262	936
Haskell	130	534	758	858	908	3,058
Hughes	138	561	797	1,020	1,068	3,446
Jackson	551	2,024	2,367	2,344	2,397	9,132
Jefferson	61	305	421	488	519	1,733
Johnston	134	489	740	850	963	3,042
Kay	652	2,484	3,357	3,489	3,350	12,680
Kingfisher	172	737	1,112	1,130	995	3,974
Kiowa	146	567	804	822	792	2,985
Latimer	146	514	743	863	991	3,111
Leflore	645	2,447	3,214	3,830	3,953	13,444

Table 18 (cont). Population estimates of children by age group: Oklahoma and each County, 1998
(Estimates provided by the U.S. Census Bureau, enumerated as of July 1, 1998.)

County	*< 1 year*	*1-4 years*	*5-9 years*	*10-14 years*	*15-19 years*	*1-19 years*
Lincoln	372	1,643	2,356	2,609	2,597	9,205
Logan	404	1,536	2,235	2,373	3,304	9,448
Love	108	410	584	676	701	2,371
McClain	288	1,283	1,961	2,074	2,214	7,532
McCurtain	561	1,964	2,617	3,015	3,004	10,600
McIntosh	206	774	1,118	1,301	1,352	4,545
Major	95	392	576	661	558	2,187
Marshall	144	541	718	800	955	3,014
Mayes	451	1,963	2,617	2,848	2,858	10,286
Murray	156	544	860	941	931	3,276
Muskogee	926	3,643	5,219	5,558	5,609	20,029
Noble	135	616	854	929	806	3,205
Nowata	127	465	632	748	736	2,581
Okfuskee	117	566	776	836	943	3,121
Oklahoma	9,687	36,519	45,540	44,046	46,941	173,046
Okmulgee	526	2,070	2,771	2,961	3,359	11,161
Osage	527	2,277	3,105	3,541	3,344	12,267
Ottawa	382	1,465	1,895	2,157	2,642	8,159
Pawnee	217	847	1,115	1,319	1,292	4,573
Payne	739	2,918	3,897	3,861	7,227	17,903
Pittsburg	484	1,852	2,637	3,147	3,148	10,784
Pontotoc	449	1,667	2,288	2,557	3,013	9,525
Pottawatomie	774	3,149	4,436	4,888	5,824	18,297
Pushmataha	136	556	767	850	867	3,040
Roger Mills	45	179	268	296	278	1,021
Rogers	898	3,589	4,894	5,345	5,440	19,268
Seminole	324	1,183	1,795	1,924	1,976	6,878
Sequoyah	544	1,995	2,606	3,148	3,179	10,928
Stephens	537	2,086	2,967	3,475	3,187	11,715
Texas	269	1,016	1,479	1,560	1,745	5,800
Tillman	118	540	773	797	792	2,902
Tulsa	8,278	31,470	38,647	37,964	39,357	147,438
Wagoner	730	2,994	4,348	4,860	4,879	17,081
Washington	581	2,379	3,281	3,461	3,237	12,358
Washita	143	608	925	915	875	3,323
Woods	79	362	483	534	697	2,076
Woodward	245	973	1,454	1,546	1,416	5,389

Table 19. Number and percent of births by age of mother and selected characteristics: Oklahoma, 1998

Characteristic	*Total*	*Age of mother*							
		10-14 years	*15-19 years*	*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-44 years*	*45+ years*
Total	49,354	120	7,878	15,771	13,566	7,816	3,415	621	28
Race/ethnicity of mother									
White	38,464	60	5,545	11,917	11,034	6,463	2,809	499	28
Black	4,788	34	1,089	1,780	1,041	535	242	54	-
Am. Indian	4,846	25	1,134	1,797	1,104	506	226	39	-
Other	886	-	50	157	289	254	110	25	-
Unknown	370	1	60	120	98	58	28	4	-
Hispanic[1]	3,615	14	716	1,210	913	515	195	38	2
Marital status									
Married	32,604	6	2,347	9,525	10,760	6,585	2,789	495	21
Not married	16,403	112	5,475	6,129	2,729	1,169	598	122	7
Unknown	347	2	56	117	77	62	28	4	-
Percent Not Married	33.5	94.9	70.0	39.2	20.2	15.1	17.7	19.8	25.0
Education of mother									
0-8 years	1,918	96	631	528	349	192	99	19	1
9-11 years	9,210	23	4,089	3,124	1,190	484	216	43	3
12 years	17,940	-	2,639	7,301	4,521	2,247	1,003	176	3
13-15 years	10,470	-	327	3,626	3,669	1,873	812	131	7
16+ years	8,850	-	1	906	3,594	2,870	1,211	239	12
Unknown	968	1	191	286	243	150	74	15	2
Percent less than 12 years education	23.0	100.0	61.4	23.6	11.6	8.8	9.4	10.2	15.4
Birthweight									
< 1500 grams	646	5	119	180	158	95	73	14	-
1500-2499 grams	2,880	9	574	904	681	429	216	49	7
2500-3999 grams	40,604	98	6,582	13,223	11,136	6,290	2,659	487	19
4000 and over	4,951	7	554	1,388	1,523	966	432	67	2
Unknown	273	1	49	76	68	36	35	4	-
Percent < 1500 grams	1.3	4.2	1.5	1.1	1.2	1.2	2.2	2.3	0.0
Percent < 2500 grams	7.2	11.8	8.9	6.9	6.2	6.7	8.6	10.2	25.0
Plurality									
Single birth	48,182	120	7,782	15,470	13,170	7,561	3,297	621	28
Multiple birth	1,204	-	96	301	396	255	118	27	5
Live-birth order									
1st birth	12,739	65	3,921	4,448	2,711	1,128	370	62	2
2nd birth	10,478	-	939	3,625	3,312	1,863	611	100	2
3rd birth	5,423	1	169	1,513	1,856	1,214	570	87	2
4th birth	2,142	-	31	454	716	546	320	67	4
5th birth	730	-	3	94	208	221	171	28	4
6th or more	516	-	-	35	124	151	143	59	2
Unknown	17,326	54	2,815	5,602	4,639	2,693	1,230	218	12

-Denotes no events in that category
[1]Hispanic births are of any race

Table 19 (cont). Number and percent of births by age of mother and selected characteristics: Oklahoma, 1998

Characteristic	Total	Age of mother							
		10-14 years	*15-19 years*	*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-44 years*	*45+ years*
Total	49,354	120	7,878	15,771	13,566	7,816	3,415	621	28
Birth interval									
Less than 18 months	4,893	2	746	1,934	1,214	650	278	51	1
Percent less than 18 months	18.0	**	42.0	23.4	14.1	11.9	11.0	11.3	**
Less than 24 months	8,502	2	1,159	3,332	2,204	1,181	515	83	2
Percent less than 24 months	31.3	**	65.3	40.4	25.7	21.5	20.4	18.3	**
Trimester prenatal care began									
1st trimester	32,654	37	4,261	9,967	9,725	5,733	2,402	419	20
2nd trimester	6,938	37	1,712	2,559	1,446	733	347	73	3
3rd trimester	1,564	12	407	583	295	156	88	18	1
No care	394	1	103	127	74	47	31	10	-
Unknown	7,804	33	1,395	2,535	2,026	1,147	547	101	4
Percent 1st Trimester Care	78.6	42.5	65.7	75.3	84.3	86.0	83.8	80.6	83.3
Number of prenatal care visits									
No visits	335	1	86	110	63	38	27	9	-
1-4 visits	2,068	17	476	762	433	224	123	26	-
5-9 visits	10,140	41	2,134	3,478	2,379	1,324	636	109	5
10-12 visits	17,018	17	2,351	5,326	4,944	2,871	1,237	207	10
13+ visits	13,304	16	1,627	4,013	4,100	2,382	941	185	9
Unknown	6,489	28	1,204	2,082	1,647	977	451	85	4
Percent with 10 or more visits	70.7	35.9	59.6	68.2	75.9	76.8	73.5	73.1	79.2
Adequacy of prenatal care									
1st trimester and 10 or more visits	26,606	24	3,210	8,034	8,139	4,783	1,981	351	17
Late care	1,564	12	407	583	295	156	88	18	1
Little care	615	2	133	230	128	73	33	12	-
No care	394	1	103	127	74	47	31	10	-
Percent 1st trimester and 10 or more visits	64.0	27.6	49.5	60.7	70.5	71.7	69.1	67.5	70.8
Percent late, little, or no care	6.2	17.2	9.9	7.1	4.3	4.1	5.3	7.7	4.2
Tobacco use during pregnancy									
No	30,571	85	4,589	9,410	8,750	5,069	2,158	407	20
Yes	6,961	13	1,400	2,553	1,555	860	470	82	4
Unknown	11,822	22	1,889	3,808	3,261	1,887	787	132	4
Percent with tobacco use	18.5	13.3	23.4	21.3	15.1	14.5	17.9	16.8	16.7
Alcohol use during pregnancy									
No	36,877	97	5,887	11,771	10,157	5,823	2,537	476	23
Yes	521	1	83	140	116	91	74	14	1
Unknown	11,956	22	1,908	3,860	3,293	1,902	804	131	4
Percent with alcohol use	1.4	1.0	1.4	1.2	1.1	1.5	2.8	2.9	4.2

-Denotes no events in that category

Table 20. Number and percent of births by race of mother and selected characteristics: Oklahoma, 1998

Characteristic	*Total*	*Race of mother*					*Hispanic* [1]
		White	*Black*	Am. Indian	*Other*	*Unk*	
Total	49,354	38,464	4,788	4,846	886	370	3,615
Age of mother							
10-14 years	120	60	34	25	-	1	14
15-19 years	7,878	5,545	1,089	1,134	50	60	716
20-24 years	15,771	11,917	1,780	1,797	157	120	1,210
25-29 years	13,566	11,034	1,041	1,104	289	98	913
30-34 years	7,816	6,463	535	506	254	58	515
35-39 years	3,415	2,809	242	226	110	28	195
40-44 years	621	499	54	39	25	4	38
45 and over	28	28	-	-	-	-	2
Unknown	139	109	13	15	1	1	12
Marital Status							
Married	32,604	27,772	1,410	2,450	747	225	2,281
Not married	16,403	10,453	3,317	2,368	134	131	1,286
Unknown	347	239	61	28	5	14	48
Percent not married	33.5	27.3	70.2	49.1	15.2	36.8	36.1
Education of mother							
0-8 years	1,918	1,556	97	194	24	47	852
9-11 years	9,210	6,575	1,052	1,421	87	75	973
12 years	17,940	13,597	1,965	1,989	283	106	1,001
13-15 years	10,470	8,338	1,077	870	149	36	378
16+ years	8,850	7,752	447	318	305	28	216
Unknown	966	646	150	54	38	78	195
Percent less than 12 years education	23.1	21.6	24.8	33.7	13.1	41.8	53.4
Birthweight							
< 1500 grams	646	487	109	36	8	6	37
1500-2499 grams	2,880	2,060	486	270	51	13	178
2500-3999 grams	40,604	31,746	3,912	3,880	779	287	3,016
4000 and over	4,951	4,003	242	633	43	30	352
Unknown	273	168	39	27	5	34	32
Percent < 1500 grams	1.3	1.3	2.3	0.7	0.9	1.8	1.0
Percent < 2500 grams	7.2	6.7	12.5	6.3	6.7	5.7	6.0
Plurality							
Single birth	48,150	37,510	4,657	4,747	873	363	3,546
Multiple birth	1,204	954	131	99	13	7	69
Live-birth order							
1st birth	12,739	10,137	921	1,358	249	74	825
2nd birth	10,478	8,433	793	1,012	175	65	622
3rd birth	5,423	4,312	452	565	62	32	370
4th birth	2,142	1,603	227	266	22	24	152
5th birth	730	533	77	105	9	6	63
6th or more	516	344	82	75	9	6	50
Unknown	17,326	13,102	2,236	1,465	360	163	1,533

[1]Hispanic births are of any race
-Denotes no events in that category

Table 20 (cont). Number and percent of births by race of mother and selected characteristics: Oklahoma, 1998

Characteristic	*Total*	*Race of mother*					*Hispanic* [1]
		White	*Black*	Am. Indian	*Other*	*Unk*	
Total	49,354	38,464	4,788	4,846	886	370	3,615
Birth interval							
Less than 18 months	4,893	3,651	549	592	72	29	295
Percent less than 18 months	18.0	17.3	21.3	20.9	16.9	15.7	17.7
Less than 24 months	8,502	6,424	929	970	125	54	482
Percent less than 24 months	31.3	30.4	36.1	34.2	29.4	29.2	29.0
Trimester prenatal care began							
1st trimester	32,654	26,242	2,595	3,046	579	192	1,758
2nd trimester	6,938	4,910	868	1,003	103	54	573
3rd trimester	1,564	1,055	215	253	20	21	175
No care	394	273	54	60	6	1	41
Unknown	7,804	5,984	1,056	484	178	102	1,068
Percent 1st trimester care	78.6	80.8	69.5	69.8	81.8	71.6	69.0
Number of prenatal care visits							
No visits	335	224	50	54	6	1	36
1-4 visits	2,068	1,336	323	362	22	25	236
5-9 visits	10,140	7,413	1,103	1,357	183	84	773
10-12 visits	17,018	13,652	1,354	1,590	323	99	931
13+ visits	13,304	10,900	1,036	1,096	209	63	674
Unknown	6,489	4,939	922	387	143	98	965
Percent with 10 or more visits	70.7	73.2	61.8	60.2	71.6	59.6	60.6
Adequacy of prenatal care							
1st trimester and 10 or more visits	26,606	21,763	1,986	2,243	468	146	1,341
Late care	1,564	1,055	215	253	20	21	175
Little care	615	397	111	96	5	6	71
No care	394	273	54	60	6	1	41
Percent 1st trimester and 10 or more visits	64.0	67.0	53.2	51.4	66.1	54.5	52.7
Perent late, little, or no care	6.2	5.3	10.2	9.4	4.4	10.4	11.3
Tobacco use during pregnancy							
No	30,571	23,474	3,147	3,126	623	201	2,686
Yes	6,961	5,494	467	941	31	28	170
Unknown	11,822	9,496	1,174	779	232	141	759
Percent with tobacco use	18.5	19.0	12.9	23.1	4.7	12.2	6.0
Alcohol use during pregnancy							
No	36,877	28,472	3,555	3,978	648	224	2,827
Yes	521	393	51	69	4	4	28
Unknown	11,956	9,599	1,182	799	234	142	760
Percent with alcohol use	1.4	1.4	1.4	1.7	0.6	1.8	1.0

[1]Hispanic births are of any race
-Denotes no events in that category

Table 21. Number and percent of births by birthweight and selected characteristics: Oklahoma, 1998

Characteristic	Total	Birthweight < 1500 grams	1500-2499 grams	2500-3999 grams	4000 grams or more	Unk	Total < 2500 grams Number	Percent
Total	49,354	646	2,880	40,604	4,951	273	3,526	7.2
Race/ethnicity of mother								
White	38,464	487	2,060	31,746	4,003	168	2,547	6.7
Black	4,788	109	486	3,912	242	39	595	12.5
American Indian	4,846	36	270	3,880	633	27	306	6.3
Other	886	8	51	779	43	5	59	6.7
Unknown	370	6	13	287	30	34	19	5.7
Hispanic[1]	3,615	37	178	3,016	352	32	215	6.0
Age of mother								
10-14 years	120	5	9	98	7	1	14	11.8
15-19 years	7,878	119	574	6,582	554	49	693	8.9
20-24 years	15,771	180	904	13,223	1,388	76	1,084	6.9
25-29 years	13,566	158	681	11,136	1,523	68	839	6.2
30-34 years	7,816	95	429	6,290	966	36	524	6.7
35-39 years	3,415	73	216	2,659	432	35	289	8.6
40-44 years	621	14	49	487	67	4	63	10.2
45 and over	28	-	7	19	2	-	7	25.0
Unknown	139	2	11	110	12	4	13	9.6
Marital Status								
Married	32,604	372	1,585	26,812	3,683	152	1,957	6.0
Not married	16,403	267	1,272	13,532	1,235	97	1,539	9.4
Unknown	347	7	23	260	33	24	30	9.3
Education of mother								
0-8 years	1,918	24	131	1,580	168	15	155	8.1
9-11 years	9,210	129	713	7,641	685	42	842	9.2
12 years	17,940	225	1,076	14,805	1,758	76	1,301	7.3
13-15 years	10,470	134	517	8,588	1,200	31	651	6.2
16+ years	8,850	108	367	7,271	1,054	50	475	5.4
Unknown	966	26	76	719	86	59	102	11.2
Plurality								
Single birth	48,150	519	2,342	40,075	4,949	265	2,861	6.0
Multiple birth	1,204	127	538	529	2	8	665	55.6
Live-birth order								
1st birth	12,739	152	724	10,760	1,055	48	876	6.9
2nd birth	10,478	90	479	8,711	1,171	27	569	5.4
3rd birth	5,423	56	314	4,401	635	17	370	6.8
4th birth	2,142	28	132	1,714	260	8	160	7.5
5th birth	730	6	54	581	85	4	60	8.3
6th or more	516	11	32	387	81	5	43	8.4
Unknown	17,326	303	1,145	14,050	1,664	164	1,448	8.4

[1]Hispanic births are of any race
-Denotes no events in that category

Table 21 (cont). Number and percent of births by birthweight and selected characteristics: Oklahoma, 1998

Characteristic	Total	Birthweight < 1500 grams	1500-2499 grams	2500-3999 grams	4000 grams or more	Unk	Total < 2500 grams Number	Percent
Total	49,354	646	2,880	40,604	4,951	273	3,526	7.2
Gestational age								
< 37 weeks	3,991	561	1,592	1,770	44	24	2,153	54.3
37-39 weeks	20,387	10	776	18,162	1,388	51	786	3.9
40 weeks or more	20,063	6	244	16,707	3,059	47	250	1.2
Unknown	4,913	69	268	3,965	460	151	337	7.1
Trimester prenatal care began								
1st trimester	32,654	314	1,626	27,103	3,522	89	1,940	6.0
2nd trimester	6,938	73	456	5,749	644	16	529	7.6
3rd trimester	1,564	3	105	1,320	126	10	108	6.9
No care	394	14	43	304	29	4	57	14.6
Unknown	7,804	242	650	6,128	630	154	892	11.7
Number of prenatal care visits								
No visits	335	13	36	257	26	3	49	14.8
1-4 visits	2,068	85	217	1,605	146	15	302	14.7
5-9 visits	10,140	195	768	8,310	838	29	963	9.5
10-12 visits	17,018	66	762	14,391	1,751	48	828	4.9
13+ visits	13,304	61	525	10,996	1,690	32	586	4.4
Unknown	6,489	226	572	5,045	500	146	798	12.6
Tobacco use during pregnancy								
No	30,571	406	1,610	25,008	3,428	119	2,016	6.6
Yes	6,961	115	669	5,760	386	31	784	11.3
Unknown	11,822	125	601	9,836	1,137	123	726	6.2
Alcohol use during pregnancy								
No	36,877	503	2,214	30,251	3,765	144	2,717	7.4
Yes	521	13	55	407	43	3	68	13.1
Unknown	11,956	130	611	9,946	1,143	126	741	6.3

[1]Hispanic births are of any race
-Denotes no events in that category

Table 22. Number and percent of births to teens by age group and selected characteristics: Oklahoma, 1998

Characteristic	*All births all ages*	*10-14 years*	*15-17 years*	*<18 years*	*18-19 years*	*15-19 years*	*<20 years*
Total	49,354	120	2,704	2,824	5,174	7,878	7,998
Race/Ethnicity of mother							
White	38,464	60	1,802	1,862	3,743	5,545	5,605
Black	4,788	34	402	436	687	1,089	1,123
American Indian	4,846	25	455	480	679	1,134	1,159
Other	886	-	17	17	33	50	50
Unknown	370	1	28	29	32	60	61
Hispanic[1]	3,615	14	302	316	414	716	730
Education of mother							
0-8 years	1,918	96	395	491	236	631	727
9-11 years	9,210	23	1,983	2,006	2,106	4,089	4,112
12 years	17,940	-	250	250	2,389	2,639	2,639
13-15 years	10,470	-	4	4	323	327	327
16+ years	8,850	-	-	-	1	1	1
Unknown	966	1	72	73	119	191	192
Marital status							
Married	32,604	6	496	502	1,851	2,347	2,353
Not married	16,403	112	2,182	2,294	3,293	5,475	5,587
Unknown	347	2	26	28	30	56	58
Percent not married	33.5	94.9	81.5	82.0	64.0	70.0	70.4
Trimester prenatal care began							
1st trimester	32,654	37	1,367	1,404	2,894	4,261	4,298
2nd trimester	6,938	37	614	651	1,098	1,712	1,749
3rd trimester	1,564	12	174	186	233	407	419
No care	394	1	45	46	58	103	104
Unknown	7,804	33	504	537	891	1,395	1,428
Percent 1st trimester	78.6	42.5	62.1	61.4	67.6	65.7	65.4
Number of prenatal care visits							
1-4 visits	2,068	17	189	206	287	476	493
5-9 visits	10,140	41	788	829	1,346	2,134	2,175
10-12 visits	17,018	17	769	786	1,582	2,351	2,368
13+ visits	13,304	16	486	502	1,141	1,627	1,643
No visits	335	1	32	33	54	86	87
Unknown	6,489	28	440	468	764	1,204	1,232
Percent with 10 or more visits	70.7	35.9	55.4	54.7	61.7	59.6	59.3
Adequacy of prenatal care							
1st trimester and 10 or more visits	26,606	24	995	1,019	2,215	3,210	3,234
Late care	1,564	12	174	186	233	407	419
Little care	615	2	47	49	86	133	135
No care	394	1	45	46	58	103	104
Percent 1st trimester and 10 or more visits	64.0	27.6	45.2	44.6	51.7	49.5	49.2
Percent late, little, or no care	6.2	17.2	12.1	12.3	8.8	9.9	10.0

[1]Hispanic births are of any race
-Denotes no events in that category

Table 22 (cont). Number and percent of births to teens by age group and selected characteristics: Oklahoma, 1998

Characteristic	*All births all ages*	*10-14 years*	*15-17 years*	*<18 years*	*18-19 years*	*15-19 years*	*<20 years*
Total	49,354	120	2,704	2,824	5,174	7,878	7,998
Birthweight							
< 1500 grams	646	5	42	47	77	119	124
1500-2499 grams	2,880	9	215	224	359	574	583
2500-3999 grams	40,604	98	2,261	2,359	4,321	6,582	6,680
4000 and over	4,951	7	165	172	389	554	561
Unknown	273	1	21	22	28	49	50
Percent < 1500 grams	1.3	4.2	1.6	1.7	1.5	1.5	1.6
Percent < 2500 grams	7.2	11.8	9.6	9.7	8.5	8.9	8.9

-Denotes no events in that category

Table 23. Number and crude rate of births and deaths: Oklahoma, 1975-1998
(Crude rates are per 1,000 total population.)

	Births		*Deaths*	
Year	*Number*	*Rate*	*Number*	*Rate*
1975	43,130	15.6	27,165	9.8
1976	43,663	15.5	27,103	9.6
1977	45,449	15.9	26,766	9.3
1978	45,885	15.8	27,892	9.6
1979	49,007	16.5	27,802	9.4
1980	52,065	17.2	28,227	9.3
1981	53,620	17.3	28,568	9.2
1982	58,748	18.3	29,305	9.1
1983	56,859	17.3	29,426	8.9
1984	54,323	16.5	28,635	8.7
1985	53,100	16.2	29,735	9.1
1986	50,536	15.5	29,708	9.1
1987	47,701	14.9	29,191	9.1
1988	47,279	14.9	29,766	9.4
1989	47,238	15.0	29,487	9.4
1990	47,725	15.2	30,301	9.6
1991	47,759	15.1	30,172	9.5
1992	47,544	14.8	30,425	9.5
1993	46,165	14.3	32,265	10.0
1994	45,607	14.0	32,082	9.9
1995	45,365	13.9	32,431	9.9
1996	46,133	14.0	32,872	10.0
1997	48,160	14.5	33,780	10.2
1998	49,354	14.7	33,796	10.1

Figure 1. Crude Birth and Death Rates
Oklahoma, 1975-1998
(rates per 1,000 total population)

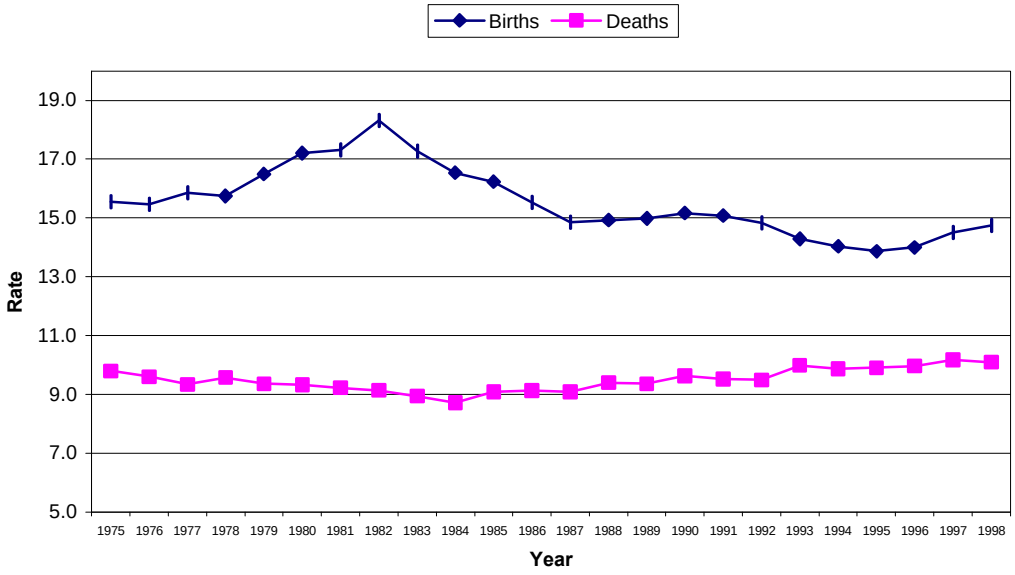


Table 24. Race-specific infant deaths and infant mortality rates: Oklahoma, 1975-1998

(Infant mortality rates are infant deaths per 1,000 live births for specified racial group.)

	Number of infant deaths				*Infant mortality rate*			
Year	*White*	*Black*	*American Indian*	*Total* [1]	*White*	*Black*	*American Indian*	*Total* [1]
1975	537	113	38	690	15.0	27.7	14.8	16.0
1976	561	111	53	732	15.5	26.4	19.4	16.8
1977	472	93	52	624	12.4	22.4	19.0	13.7
1978	487	99	53	653	12.8	22.2	17.9	14.2
1979	459	94	54	611	11.4	19.4	16.8	12.5
1980	498	113	44	660	11.6	22.7	12.9	12.7
1981	486	92	45	632	11.0	19.1	12.6	11.8
1982	576	90	48	722	11.8	17.9	12.0	12.3
1983	483	81	46	616	10.3	15.9	11.8	10.8
1984	453	74	34	568	10.1	15.0	9.3	10.5
1985	449	98	23	574	10.3	19.8	6.3	10.8
1986	391	93	33	519	9.5	18.9	9.0	10.3
1987	345	72	35	458	9.0	15.2	9.6	9.6
1988	331	66	27	428	8.8	13.7	6.7	9.1
1989	280	69	42	394	7.5	13.7	10.4	8.3
1990	329	71	28	432	8.8	14.1	6.8	9.1
1991	325	89	23	445	8.7	17.3	5.2	9.3
1992	290	85	34	411	7.8	16.5	7.7	8.6
1993	297	79	24	404	8.2	16.0	5.4	8.8
1994	296	53	30	385	8.3	11.2	6.9	8.4
1995	284	67	23	377	8.0	15.0	5.4	8.3
1996	276	79	28	388	7.6	17.7	6.5	8.4
1997	251	70	34	359	6.6	14.9	7.3	7.5
1998	309	66	37	421	8.0	13.8	7.6	8.5

[1] Includes unknown race and races other than White, Black, and American Indian.

Figure 2. Race-Specific Infant Mortality Rates
Oklahoma, 1975-1998

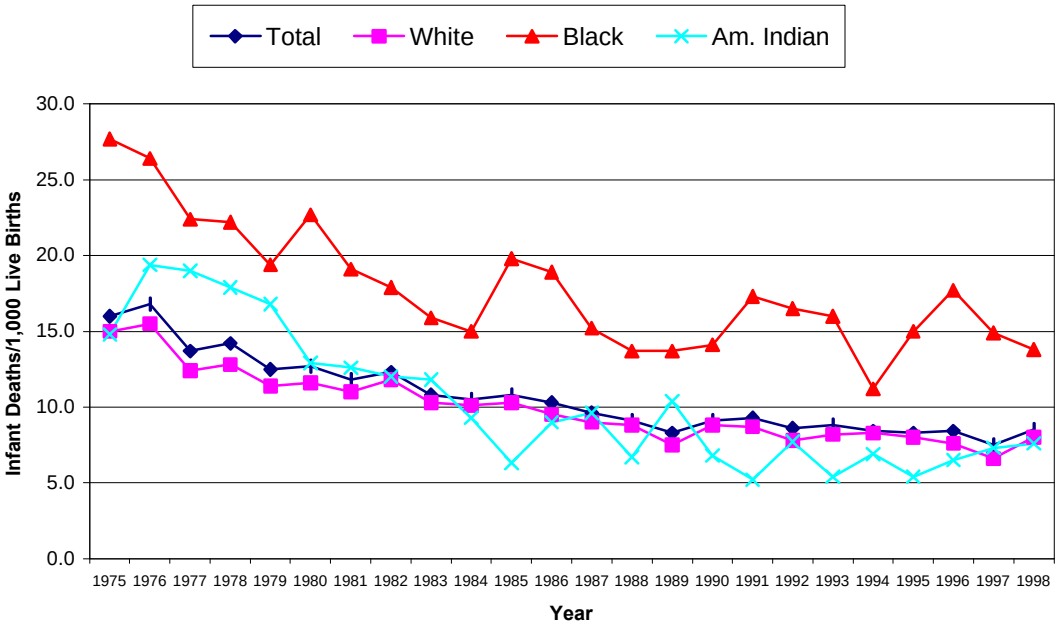


Figure 3. Number of Infant Deaths
Oklahoma, 1975-1998

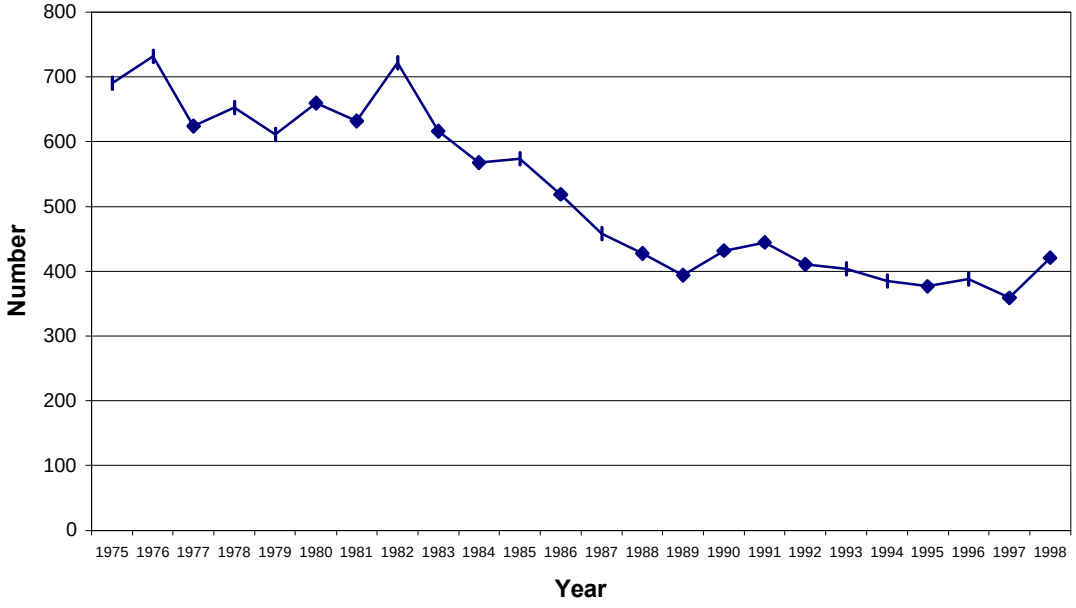


Table 25. Percent of births by short birth interval, high parity, number of teen births, percent of births to teens, and teen fertility rate aged 15-19: Oklahoma, 1975-1998

(Teen fertility rates are live births per 1,000 female population aged 15-19.)

	Short birth interval		*Previous births*				
Year	*< 18 months*	*< 24 months*	*Age < 20 2+ births*	*Age > 19 4+ births*	*Number of teen births*	*% of births to women < 20 years*	*Fertility rate ages 15-19*
1975	17.0	30.1	12.3	8.0	10,061	23.6	78.6
1976	17.0	30.5	13.6	7.5	9,931	22.8	76.7
1977	17.2	30.8	14.1	6.7	9,740	21.4	74.5
1978	17.2	31.0	15.0	6.4	9,574	20.9	72.2
1979	17.4	31.5	15.3	6.1	10,032	20.5	74.6
1980	18.8	33.3	15.0	5.9	10,192	19.6	74.5
1981	19.3	34.6	13.6	5.6	10,210	19.0	73.0
1982	19.4	35.0	15.6	5.6	10,752	18.3	75.8
1983	19.8	35.0	13.9	5.7	10,014	17.6	70.9
1984	18.9	34.0	15.1	5.4	8,807	16.2	64.7
1985	18.2	32.8	14.9	5.5	8,410	15.8	64.6
1986	18.7	32.8	16.6	5.6	7,894	15.6	62.9
1987	18.3	32.9	22.0	6.1	7,648	16.0	62.7
1988	18.6	32.8	24.7	6.3	7,561	16.0	63.5
1989	18.6	32.6	24.7	6.7	7,736	16.4	66.4
1990	19.6	33.6	23.7	6.3	7,719	16.6	67.3
1991	20.4	35.4	18.7	6.1	8,147	17.1	70.1
1992	20.3	35.1	23.9	6.1	7,950	16.8	67.7
1993	20.3	34.5	16.9	6.1	7,880	17.1	66.6
1994	19.6	33.7	17.8	6.3	7,757	17.0	66.2
1995	18.8	32.6	18.1	6.4	7,706	17.0	65.2
1996	18.0	31.3	16.2	6.2	7,842	17.0	64.6
1997	18.0	31.7	16.1	6.5	8,104	16.8	65.6
1998	18.0	31.3	17.8	6.9	7,998	16.3	61.0

Table 26. Number of teen births and age-specific birth rates by age and race of mother: Oklahoma, 1975-1998

(Rates are live births per 1,000 population in specified group.)

	10-14 Years		*15-17 Years*		*18-19 Years*		*Race of mother: Ages 15-19*		
Year	*Number*	*Rate*	*Number*	*Rate*	*Number*	*Rate*	*White*	*Black*	*American Indian*
1975	179	1.5	3,881	51.9	6,001	117.5	68.2	141.1	120.4
1976	171	1.5	3,822	50.8	5,938	114.0	67.0	132.7	117.9
1977	148	1.3	3,666	48.4	5,926	111.6	66.0	124.7	111.3
1978	147	1.3	3,481	45.6	5,946	109.7	64.3	121.5	107.4
1979	154	1.4	3,624	47.1	6,254	112.7	66.3	130.5	109.0
1980	146	1.3	3,593	46.1	6,453	113.4	68.5	123.7	99.3
1981	134	1.2	3,414	42.8	6,662	114.4	70.3	109.4	92.2
1982	133	1.1	3,523	43.5	7,096	119.9	76.2	91.2	96.5
1983	148	1.3	3,302	41.1	6,564	111.6	71.6	96.6	89.7
1984	164	1.4	3,025	39.2	5,618	99.4	64.8	92.1	77.1
1985	150	1.3	2,997	40.6	5,263	97.2	64.2	97.2	72.9
1986	133	1.2	2,848	40.0	4,913	94.0	61.2	97.8	71.6
1987	145	1.3	2,772	40.2	4,731	93.3	59.7	100.7	72.0
1988	141	1.3	2,710	40.2	4,710	95.0	58.5	106.4	78.7
1989	120	1.1	2,596	39.3	5,020	103.1	60.6	114.8	81.0
1990	113	1.0	2,531	38.9	5,075	105.8	61.2	117.9	79.4
1991	166	1.5	2,708	41.3	5,273	109.1	62.4	128.8	89.9
1992	153	1.3	2,751	41.5	5,046	103.2	62.0	115.2	82.0
1993	143	1.2	2,744	41.1	4,993	101.3	60.5	112.2	86.0
1994	150	1.3	2,823	41.9	4,784	96.1	58.9	108.5	85.1
1995	158	1.3	2,763	41.2	4,785	97.6	58.6	103.2	83.2
1996	145	1.2	2,758	41.0	4,939	96.5	61.7	89.9	83.5
1997	139	1.1	2,819	38.0	5,146	104.1	57.6	96.7	90.0
1998	120	1.0	2,704	34.6	5,174	101.8	54.9	84.5	84.5

Figure 4. Race-Specific Teen Birth Rates, Aged 15-19
Oklahoma, 1975-1998

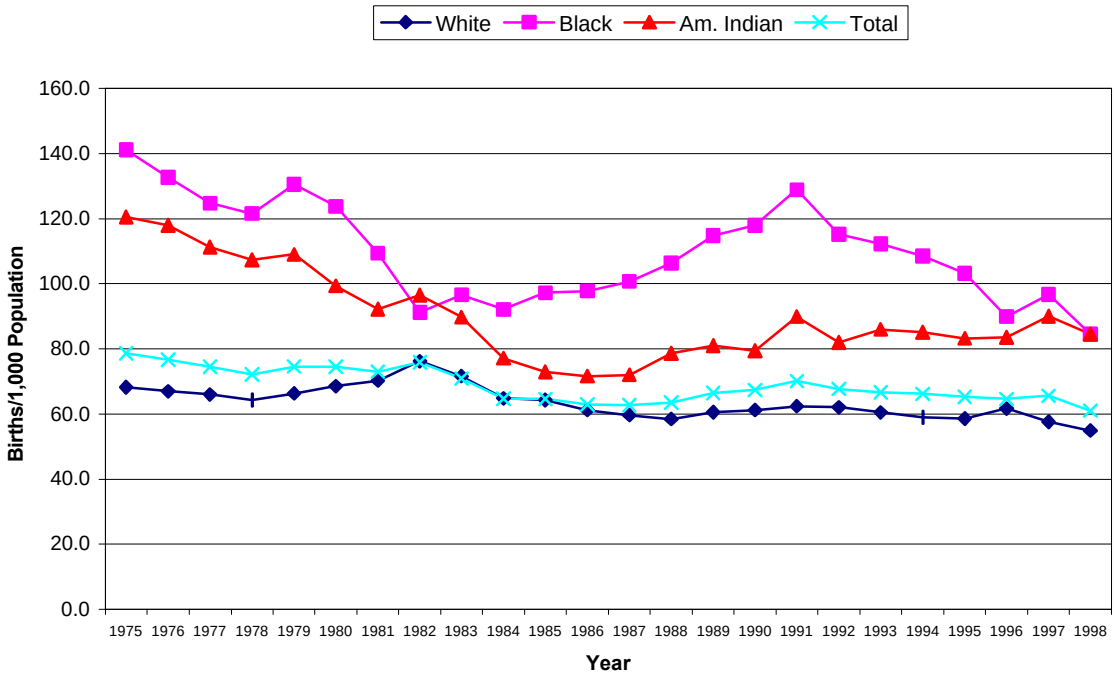


Table 27. Percent of births by race, low birthweight, low educational attainment, and marital status: Oklahoma, 1975-1998

	Race of mother			*Birthweight*		*Education*	*Not married*	
Year	*White*	*Black*	*American Indian*	*< 1500 grams*	*< 2500 grams*	*< 12 grades*	*All ages*	*Age < 20 years*
1975	82.8	9.5	6.0	1.2	7.4	30.7	11.9	28.7
1976	83.0	9.7	6.2	1.2	7.5	29.6	12.5	29.9
1977	83.9	9.1	6.0	1.0	7.1	28.5	13.0	31.5
1978	82.7	9.7	6.4	1.0	7.1	27.8	14.8	33.1
1979	82.6	9.9	6.5	1.0	6.5	27.0	15.5	34.7
1980	82.6	9.5	6.5	1.0	6.8	26.8	14.1	33.0
1981	82.8	9.0	6.7	1.0	6.6	26.2	14.2	32.8
1982	83.0	8.6	6.8	1.1	6.8	25.6	14.0	32.4
1983	82.6	8.9	6.9	1.0	6.7	24.9	15.3	35.9
1984	82.6	9.1	6.8	1.0	6.3	24.0	16.2	39.4
1985	82.2	9.3	6.9	1.1	6.4	23.3	17.2	42.6
1986	81.3	9.8	7.3	1.0	6.5	23.0	18.6	46.6
1987	80.6	10.0	7.7	1.0	6.7	23.1	20.7	50.7
1988	79.5	10.2	8.6	1.0	6.6	23.4	22.4	52.9
1989	85.1	11.4	9.2	1.1	6.5	23.7	23.8	54.3
1990	78.7	10.6	8.7	1.0	6.5	23.6	25.2	56.3
1991	78.4	10.8	9.2	1.1	6.6	23.7	27.1	58.1
1992	78.3	10.8	9.2	1.1	6.7	23.4	28.4	60.9
1993	78.1	10.7	9.6	1.1	6.7	23.5	29.2	62.0
1994	78.3	10.4	9.6	1.2	7.1	23.3	29.8	62.9
1995	78.8	9.9	9.5	1.2	6.9	23.3	30.6	65.0
1996	79.3	9.7	9.3	1.1	7.4	22.9	31.1	66.7
1997	78.4	9.8	9.6	1.2	7.3	23.2	32.7	69.2
1998	78.5	9.8	9.9	1.3	7.2	23.1	33.5	70.4

Figure 5. Percent of Births of Low Birthweight
(Birthweight < 2,500 grams)
Oklahoma, 1975-1998

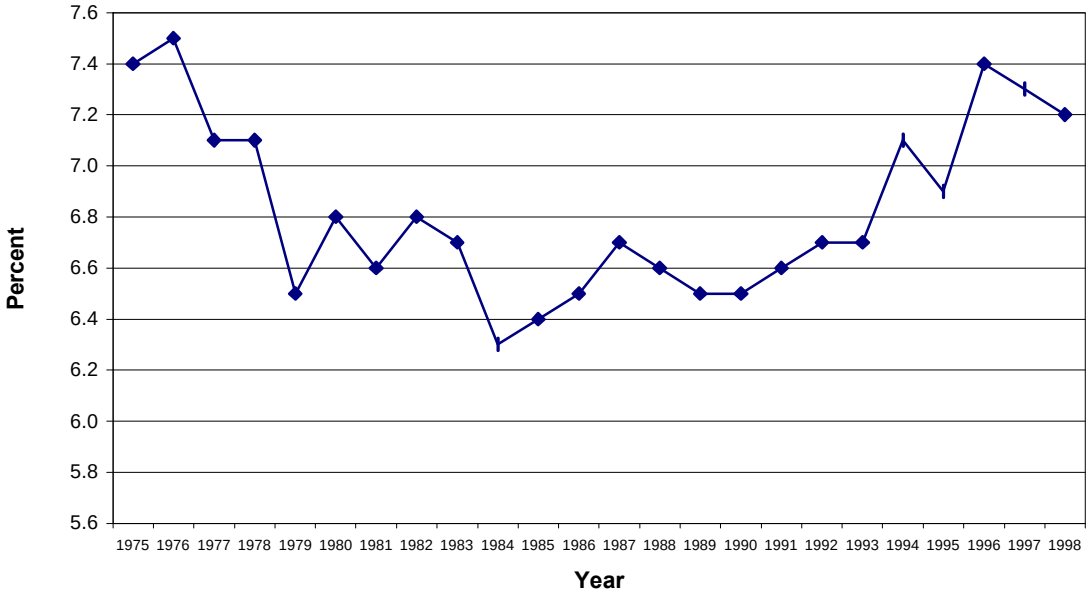


Figure 6. Percent of Births to Unmarried Mothers
Oklahoma, 1975-1998

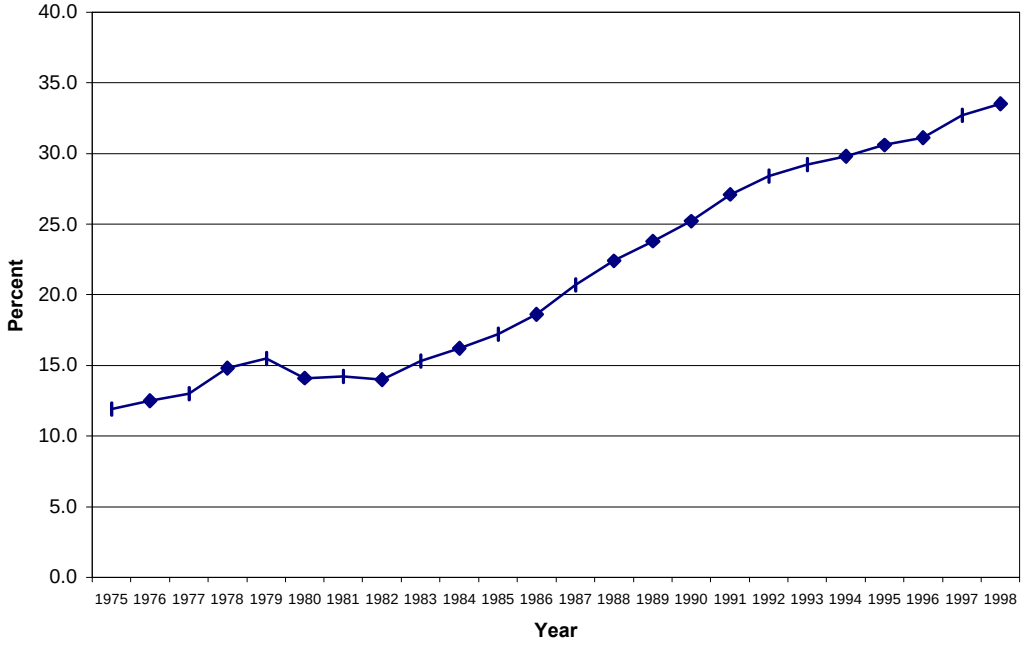


Figure 7. Percent of Teen Births to Unmarried Mothers
Oklahoma, 1975-1998

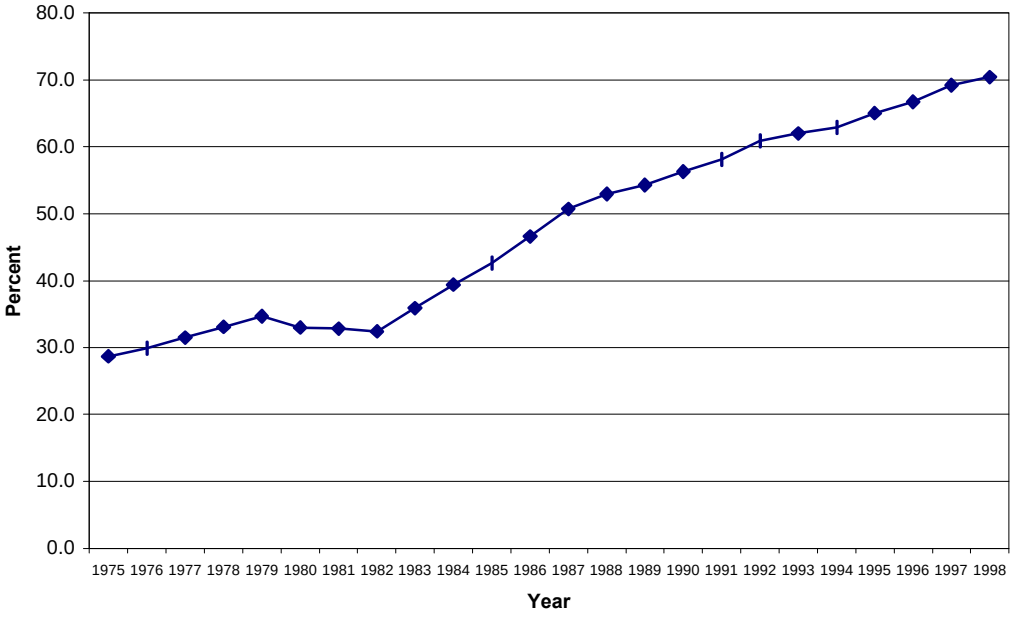


Figure 8. Percent of Births to Mothers with Low Education
Oklahoma, 1975-1998

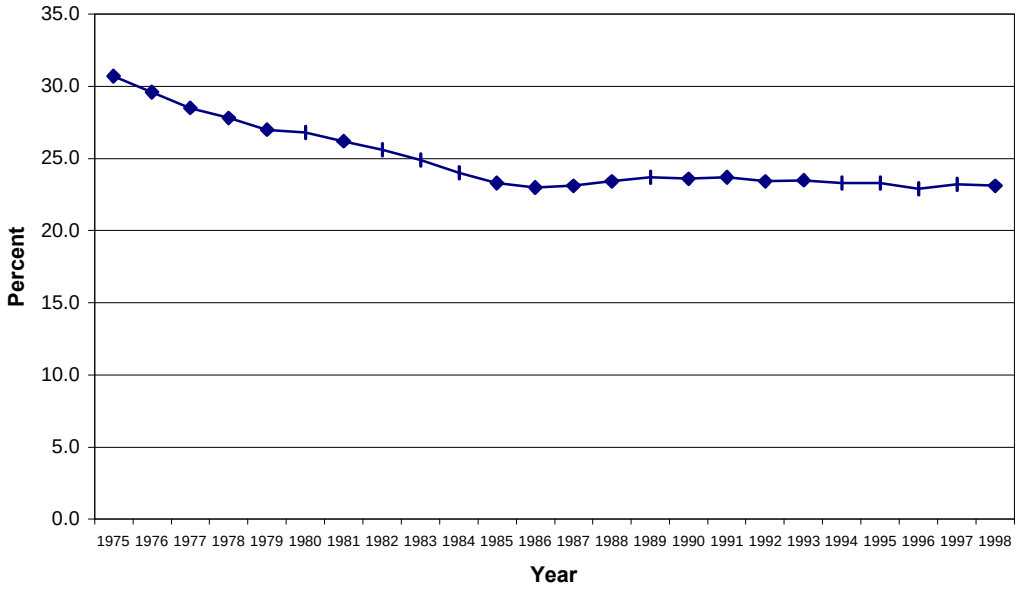


Table 28. Percent of births by first trimester and adequacy of prenatal care: Oklahoma, 1975-1998

Year	*1st trimester*	*1st trimester & 10 or more prenatal visits*	*Late [1] prenatal care*	*Little [2] prenatal care*	*No prenatal care*	*Total births*
1975	65.9	46.4	7.3	2.2	1.5	43,130
1976	66.1	46.6	7.4	2.3	1.6	43,663
1977	67.9	48.5	6.4	2.1	1.9	45,449
1978	68.6	50.1	6.3	2.0	1.8	45,885
1979	68.0	51.2	6.7	1.8	1.8	49,007
1980	68.1	51.7	6.6	2.0	1.9	52,065
1981	68.1	51.5	6.2	2.4	2.1	53,620
1982	67.6	50.8	6.4	2.3	3.0	58,748
1983	67.3	51.4	6.3	1.9	2.8	56,859
1984	69.4	53.0	6.1	2.0	2.3	54,323
1985	70.5	54.9	5.6	2.0	1.7	53,100
1986	71.5	56.4	5.4	2.0	1.9	50,536
1987	73.2	58.4	5.0	1.8	1.6	47,701
1988	73.5	58.4	5.0	1.8	1.4	47,279
1989	72.3	57.3	5.0	2.2	1.5	47,238
1990	72.1	57.2	5.6	2.1	1.5	47,725
1991	73.2	57.3	4.4	1.8	1.3	47,759
1992	75.2	61.7	4.2	1.3	1.2	47,544
1993	74.8	60.6	4.2	1.5	2.1	46,165
1994	76.0	61.1	3.7	1.4	2.4	45,607
1995	78.0	63.8	3.7	1.4	1.2	45,365
1996	78.5	63.4	3.4	1.4	1.3	46,133
1997	78.3	65.3	3.4	1.4	1.4	48,160
1998	78.6	64.0	3.8	1.5	0.9	49,354

[1]Prenatal care beginning in the third trimester of pregnancy.

[2]Prenatal care beginning in the first or second trimester and less than four prenatal care visits.

Figure 9. Percent of Births to Mothers Who Began Prenatal Care in First Trimester Oklahoma, 1975-1998

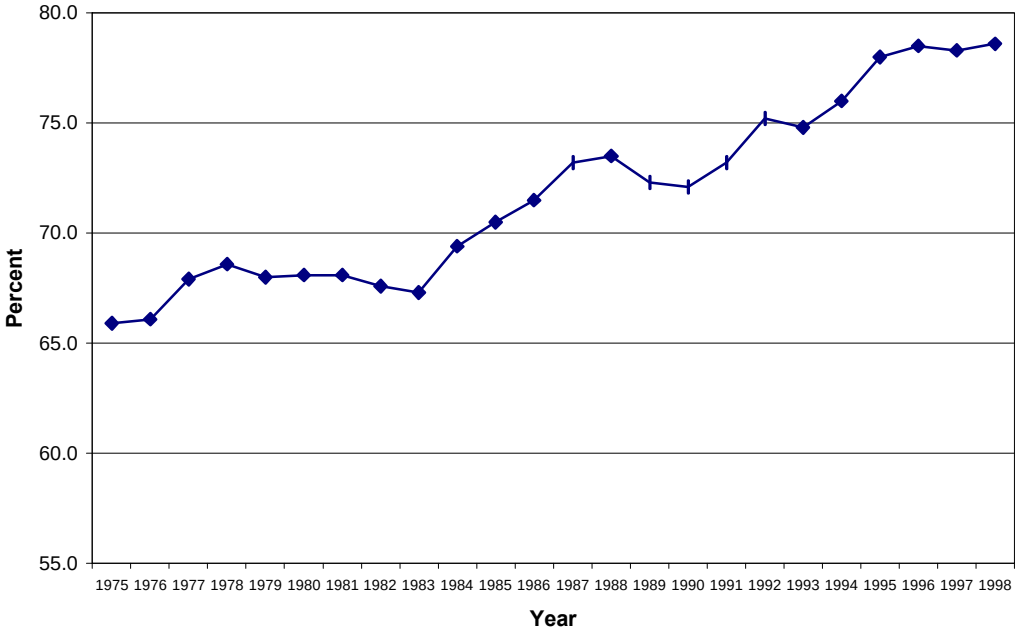


Figure 10. Number of Births
Oklahoma, 1975-1998

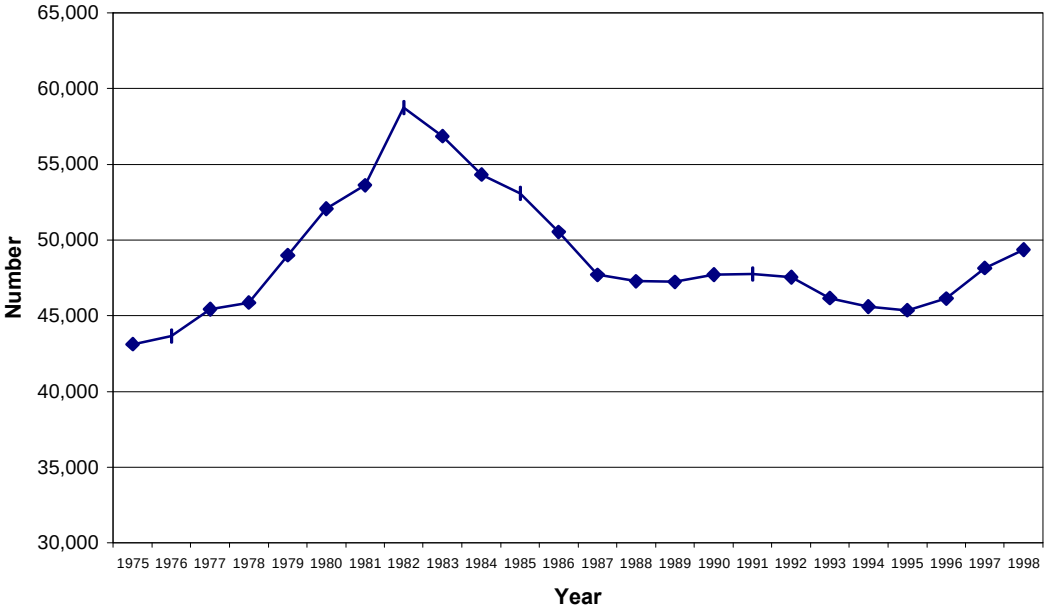


Table 29. Total and accidental deaths to children by age group: Oklahoma, 1975-1998

	Ages 1-4		*Ages 5-9*		*Ages 10-14*		*Ages 15-19*	
Year	*Total*	*Accident*	*Total*	*Accident*	*Total*	*Accident*	*Total*	*Accident*
1975	157	73	97	48	116	68	308	251
1976	142	77	88	54	113	71	287	226
1977	122	61	84	43	106	61	346	282
1978	141	80	77	45	101	59	346	302
1979	123	62	91	49	88	51	323	270
1980	110	52	93	58	70	41	325	276
1981	151	72	78	47	88	57	330	271
1982	140	72	105	57	107	59	335	270
1983	136	65	77	38	91	57	249	197
1984	124	55	73	38	86	51	240	194
1985	132	68	73	35	89	62	247	199
1986	119	66	62	36	56	42	241	184
1987	101	55	76	45	51	35	213	172
1988	102	59	63	32	68	42	213	173
1989	105	51	62	33	65	35	245	204
1990	104	56	65	35	71	48	237	196
1991	103	56	57	38	58	32	241	205
1992	93	41	55	31	61	36	221	184
1993	106	51	61	26	77	47	255	207
1994	107	62	55	30	60	36	238	201
1995	101	45	60	24	90	39	241	119
1996	75	32	55	23	73	29	220	125
1997	93	44	54	25	74	30	254	134
1998	74	36	67	35	68	32	226	114

NOTE: Accidental deaths ICD Codes (E800-E929)

Table 30. Child mortality rates by age group and number of suicides and homicides for children ages 15-19: Oklahoma, 1975-1998

(Rates are deaths per 100,000 population in specified age group.)

	Age of decedent				*Ages 15-19*	
Year	*1-4 years*	*5-9 years*	*10-14 years*	*15-19 years*	*Number of Suicides*	*Number of Homicides*
1975	84.6	40.1	49.5	135.4	30	32
1976	75.5	37.4	48.5	124.0	19	10
1977	65.1	36.8	45.6	143.6	31	24
1978	75.5	34.1	43.6	136.8	26	28
1979	67.0	39.9	38.1	121.9	37	28
1980	61.4	40.3	30.3	116.2	28	28
1981	85.8	33.4	37.6	114.8	30	22
1982	82.5	44.5	44.7	115.7	27	19
1983	78.5	32.7	37.4	87.4	32	16
1984	68.2	31.3	35.0	88.9	33	21
1985	70.7	31.4	36.1	97.8	32	16
1986	63.2	26.6	22.7	100.4	36	16
1987	53.8	32.3	20.8	91.6	31	20
1988	54.4	26.4	28.2	93.2	31	24
1989	56.3	25.7	27.4	107.0	35	21
1990	55.9	26.6	30.6	101.7	36	34
1991	55.0	23.2	25.5	101.6	29	35
1992	49.3	22.5	27.1	92.5	34	25
1993	54.9	25.3	34.4	107.6	37	12
1994	57.5	21.7	25.0	98.5	29	40
1995	53.9	23.6	37.2	99.1	32	25
1996	41.3	23.0	28.3	86.5	30	31
1997	50.7	22.4	28.5	99.2	36	41
1998	40.8	28.0	27.2	84.8	41	22

Figure 11. Age-Specific Child Mortality Rates
Oklahoma, 1975-1998

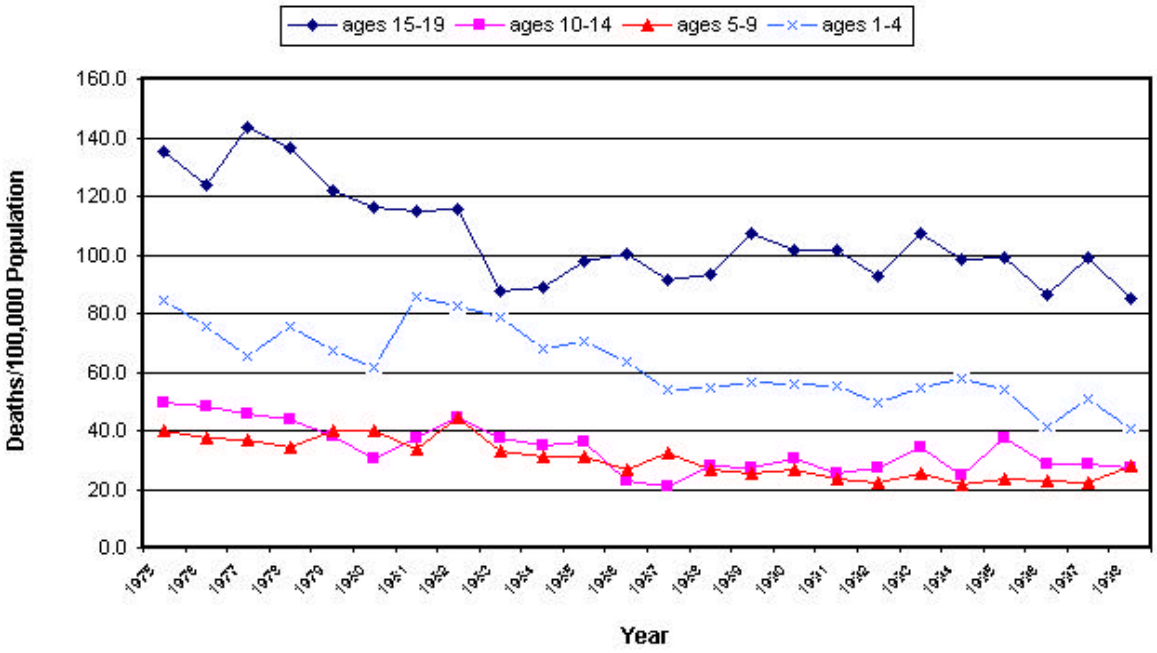


Table 31. Crude birth rates, birth rates for teens aged 15-19, percent of births to women less than 20 years of age, fertility rates, fertility rates by race of mother, and percent of births of low birthweight: United States, 1975-1998

(Crude birth rates are per 1,000 total population. Fertility rates are live births per 1,000 female population aged 15-44.)

Year	*Crude birth rate*	*Birth rate ages 15-19*	*% of births to women < 20 years*	*Fertility rate*	*Fertility rates by race of mother*			*% Low birthweight*
					White	*Black*	*American Indian*	
1975	14.6	55.6	18.9	66.0	62.5*	87.9	-	7.4
1976	14.6	52.8	18.0	65.0	61.5*	85.8	-	7.3
1977	15.1	52.8	17.2	66.8	63.2*	88.1	-	7.1
1978	15.0	51.5	16.6	65.5	61.7*	86.7	-	7.1
1979	15.6	52.3	16.0	67.2	63.4*	88.3	-	6.9
1980	15.9	53.0	15.6	68.4	65.6	84.7	82.7	6.8
1981	15.8	52.2	14.8	67.3	64.8	82.0	79.6	6.8
1982	15.9	52.4	14.2	67.3	64.8	80.9	83.6	6.8
1983	15.6	51.4	13.7	65.7	63.4	78.7	81.8	6.8
1984	15.6	50.6	13.1	65.5	63.2	78.2	79.8	6.7
1985	15.8	51.0	12.7	66.3	64.1	78.8	78.6	6.8
1986	15.6	50.2	12.6	65.4	63.1	78.9	75.9	6.8
1987	15.7	50.6	12.4	65.8	63.3	80.1	75.6	6.9
1988	16.0	53.0	12.5	67.3	64.5	82.6	76.8	6.9
1989	16.4	57.3	12.8	69.2	66.4	86.2	79.0	7.0
1990	16.7	59.9	12.8	70.9	68.3	86.8	76.2	7.0
1991	16.3	62.1	12.9	69.6	67.0	85.2	75.1	7.1
1992	15.9	60.7	12.7	68.9	66.5	83.2	75.4	7.1
1993	15.5	59.6	12.8	67.6	65.4	80.5	73.4	7.2
1994	15.2	58.9	13.1	66.7	64.9	76.9	70.9	7.3
1995	14.8	56.8	13.1	65.6	64.4	72.3	69.1	7.3
1996	14.8	54.7	12.9	65.7	64.7	70.8	69.8	7.4
1997	14.7	54.4	12.8	65.3	64.2	70.8	68.9	7.5
1998	14.6	51.1	12.5	65.6	64.6	71.0	70.7	7.8

- Data not available.

*Race of child-NCHS classification prior to 1980.

Figure 12. Percent of Births of Low Birthweight
United States and Oklahoma, 1975-1998
(Birthweight < 2,500 grams)

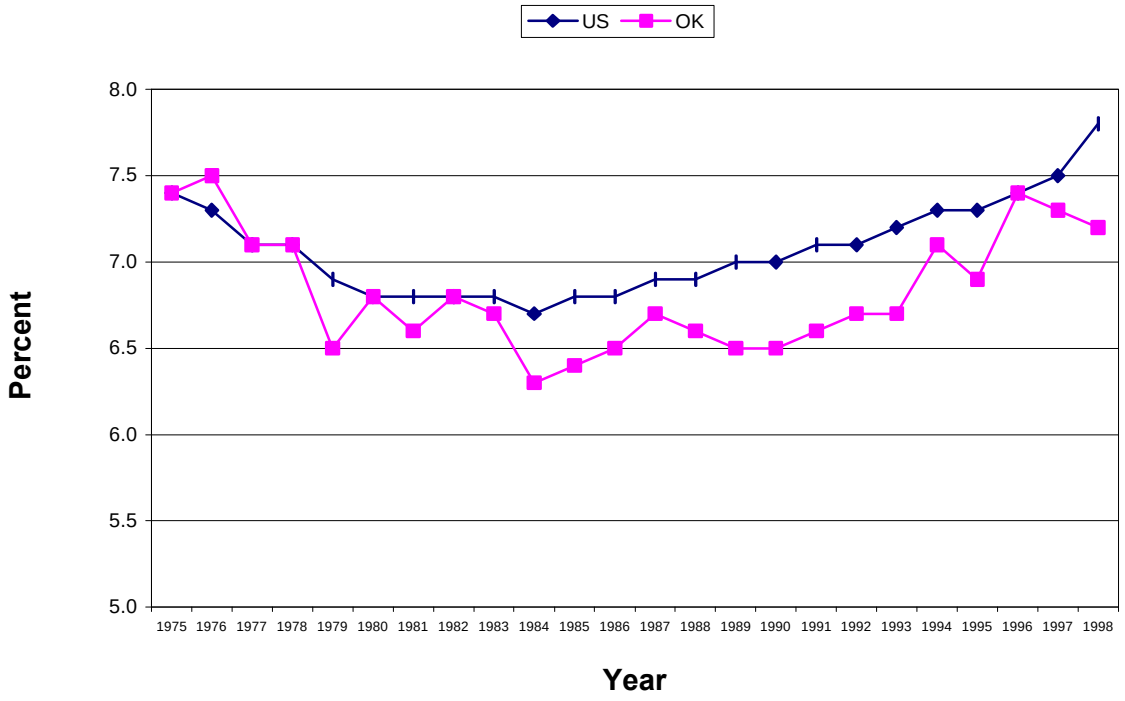


Table 32. Percent of births by first trimester prenatal care, low educational attainment, marital status, gestational age, short birth interval and infant mortality rate: United States, 1975-1998
(Infant mortality rates are deaths per 1,000 live births.)

		Education			*Birth interval*	
Year	*1st trimester*	*< 12 grades*	*Not married*	*< 37 weeks gestation*	*< 24 months*	*Infant mortality rate*
1975	72.4	28.6	14.2	8.9	25.2	16.1
1976	73.5	27.4	14.8	8.8	25.2	15.2
1977	74.1	26.2	15.5	8.8	25.2	14.1
1978	74.9	26.1	16.3	8.9	26.1	13.8
1979	75.9	24.4	17.1	8.9	26.6	13.1
1980	76.3	23.7	18.4	8.9	27.5	12.6
1981	76.3	22.9	18.9	9.4	28.0	11.9
1982	76.1	22.3	19.4	9.5	27.7	11.5
1983	76.2	21.7	20.3	9.6	27.3	11.2
1984	76.5	20.9	21.0	9.4	26.9	10.8
1985	76.2	20.6	22.0	9.8	26.5	10.6
1986	76.0	20.4	23.4	10.0	26.9	10.4
1987	76.0	20.2	24.5	10.2	26.9	10.1
1988	75.9	20.5	25.7	10.2	26.9	10.0
1989	75.5	23.2	27.1	10.6	27.3	9.8
1990	75.8	23.8	28.0	10.6	27.8	9.2
1991	76.2	24.3	29.5	10.8	28.4	8.9
1992	77.7	23.6	30.1	10.7	-	8.5
1993	78.9	23.3	31.0	11.0	-	8.4
1994	80.2	22.9	32.6	11.0	-	8.0
1995	81.3	22.6	32.2	11.0	-	7.6
1996	81.8	-	32.4	-	-	7.2
1997	82.5	22.1	32.4	11.4	-	7.1
1998	82.8	21.9	32.8	11.7	-	7.2

Figure 13. Infant Mortality Rate
United States and Oklahoma, 1975-1998

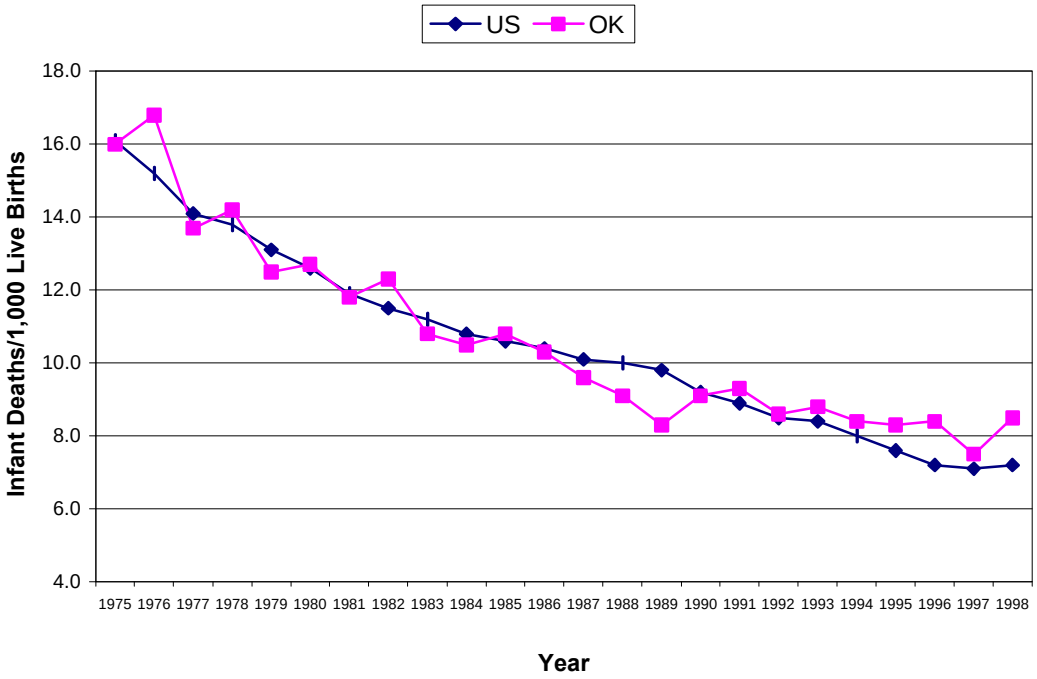


Figure 14. Percent of Births to Unmarried Mothers
United States and Oklahoma, 1975-1998

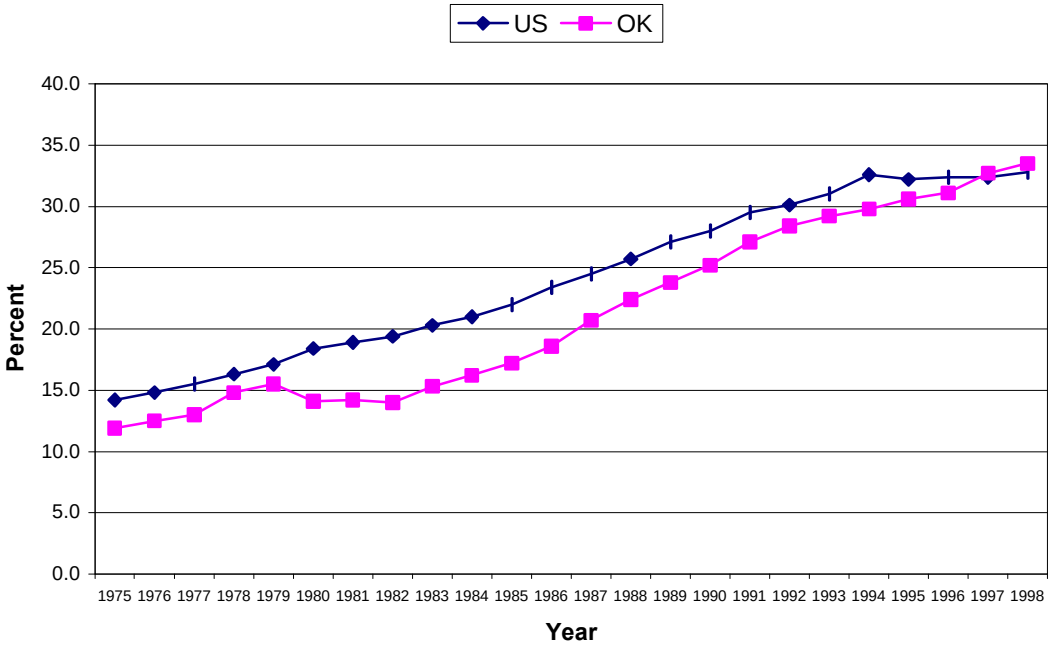


Table 33. Risk factors and other data from birth certificate check boxes: Oklahoma, 1998

Risk Factors	*Count*
Anemia (HCT < 30/HGB < 10)	870
Cardiac Disease	290
Lung Disease	542
Diabetes	1,050
Genital Herpes	280
Hydramnios/Oligohydramios	389
Hemoglobinopathy	14
Hypertension, Chronic	324
Hypertension, Preg. Assoc.	1,616
Eclampsia	180
Incompetent Cervix	104
Previous Infant > 4000 gms.	399
Previous Preterm Infant	539
Renal Disease	98
RH Sensitization	458
Uterine Bleeding	374
Other	5,912
Blank/Unknown	38,753
Risk Count	*13,439*
Patient Count	*10,601*

Complications	*Count*
Febrile (> 100 F)	365
Meconium, Moderate/Heavy	1,445
Pre. Ruptured Membrane	794
Abruptio Placenta	199
Placenta Previa	99
Other Excessive Bleeding	247
Seizures During Labor	21
Precipitious Labor < 3 hrs	668
Prolonged Labor > 20 hrs	274
Dysfunctional Labor	831
Breech/Malpresentation	1,314
Cephalopelvic Disproportion	960
Cord Prolapse	290
Anesthetic Complication	28
Fetal Distress	1,117
Other	4,010
Blank/Unknown	38,841
Complication Count	*12,662*
Patient Count	*10,513*

OB Procedures	*Count*
Amniocentesis	654
Electronic Fetal Monitor	29,100
Induction of Labor	7,889
Stimulation of Labor	6,498
Tocolysis	1,063
Ultrasound	20,384
Other	1,134
Blank/Unknown	17,320
Procedure Count	*66,722*
Patient Count	*32,034*

Delivery Method	*Count*
Vaginal	26,130
Vaginal after C-Section	976
Primary C-Section	5,068
Repeat C-Section	3,339
Forceps	1,448
Vacuum	2,280
Blank/Unknown	13,196
Type/Method Count	*39,241*
Deliveries Reported	*36,158*

Abnormal Conditions	*Count*
Anemia (HCT < 39/HGB < 13)	78
Birth Injury	106
Fetal Alcohol Syndrome	-
Hyline Membrane Disease/Rds.	564
Meconium Aspiration Syndrome	109
Assisted Ventilation (< 30 min.)	270
Assisted Ventilation (> 30 min.)	456
Seizures	64
Other	2,184
Blank/Unknown	46,280
Abnormal Count	*3,831*
Patient Count	*3,074*

Congenital Anomalies	*Count*
Anencephalus	15
Spina Bifida/Meningocele	7
Hydrocephalus	11
Microcephalus	6
Other Central Nervous System Anomalies	8
Heart Malformation	38
Other Circulatory/Respiratory	23
Rectal Atresia/Stenosis	3
Traceo-Esophageal Atresia	11
Omphalocele/Gastroschisis	19
Other Gastrointestinal Anomalies	11
Malformed Genitalia	19
Renal Agenesis	3
Other Urogenital Anomalies	34
Cleft Lip/Palate	26
Polydactyly/Syndactyly/Adactyly	19
Club Foot	23
Diaphragmatic Hernia	10
Other Musculoskeletal/Integumental Anomalies	23
Down's Syndrome	14
Other Chromosomal Anomalies	101
Other	270
Blank/Unknown	48,739
Anomaly Count	*694*
Patient Count	*615*
Total Births	49,354

Table 34. Number of births by age of mother: Oklahoma and selected cities, 1998

Resident city	Age of mother: 10-14 years	15-17 years	18-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-54 years	Unk	Total
State	120	2,704	5,174	15,771	13,566	7,816	3,415	649	139	49,354
Ada	2	10	26	104	72	28	14	4	1	261
Altus	3	18	51	143	116	59	29	3	-	422
Alva	-	1	10	27	19	7	5	1	-	70
Anadarko	1	16	13	40	23	14	6	1	1	115
Antlers	-	5	5	16	13	-	1	0	-	40
Ardmore	4	33	46	153	105	50	25	4	-	420
Atoka	-	7	8	28	14	5	3	1	-	66
Bartlesville	1	13	38	121	129	63	36	3	4	408
Bethany	1	11	21	83	78	45	18	1	1	259
Bixby	-	3	7	43	56	42	22	1	-	174
Blackwell	1	7	18	59	20	18	8	0	-	131
Bristow	-	6	13	32	21	11	3	0	1	87
Broken Arrow	3	33	55	222	422	285	111	35	7	1,173
Broken Bow	2	11	15	47	16	9	2	2	-	104
Catoosa	-	5	6	26	22	8	2	0	-	69
Chandler	-	1	7	19	12	3	4	1	-	47
Checotah	-	7	11	27	20	4	3	2	-	74
Chickasha	-	23	36	85	56	28	16	3	1	248
Choctaw	-	6	16	50	34	30	11	4	1	152
Claremore	-	11	45	86	96	49	15	3	-	305
Cleveland	1	3	8	17	19	11	2	0	-	61
Clinton	2	15	20	63	41	18	9	2	-	170
Collinsville	-	4	7	31	27	19	5	0	-	93
Cordell	-	1	6	5	12	2	2	0	-	28
Coweta	-	8	11	47	44	20	7	2	-	139
Cushing	-	5	17	42	30	19	7	0	4	124
Davis	-	4	11	15	14	7	2	0	-	53
Del City	-	20	30	122	83	38	11	1	-	305
Dewey	1	3	5	17	11	6	4	0	-	47
Drumright	-	1	9	11	12	6	2	0	2	43
Duncan	-	12	35	103	81	42	20	2	-	295
Durant	3	19	37	96	46	29	14	2	1	247
Edmond	1	18	45	192	414	347	154	20	5	1,196
El Reno	-	14	22	70	54	30	10	1	-	201
Elk City	-	13	36	69	51	25	12	0	-	206
Enid	-	44	72	221	205	100	45	7	2	696
Eufaula	1	3	7	10	10	8	2	1	-	42
Fairview	-	1	2	4	11	2	2	1	-	23
Fort Gibson	-	8	6	21	18	6	2	0	-	61
Frederick	-	5	10	15	15	10	2	1	-	58

-Denotes no events in that category

Table 34 (cont). Number of births by age of mother: Oklahoma and selected cities, 1998

Resident city	Age of mother 10-14 years	15-17 years	18-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-54 years	Unk	Total
Glenpool	-	7	7	37	53	29	5	1	-	139
Grove	-	3	3	25	12	16	5	1	-	65
Guthrie	-	11	18	53	42	21	12	3	-	160
Guymon	2	20	25	77	53	17	9	4	-	207
Harrah	-	2	3	23	18	15	9	2	2	74
Healdton	-	3	9	23	8	5	2	1	-	51
Heavener	-	3	10	31	9	13	1	0	-	67
Henryetta	2	5	13	35	25	7	3	0	-	90
Hobart	-	6	12	15	11	13	4	0	-	61
Holdenville	-	5	7	29	26	11	5	1	2	86
Hollis	-	6	6	7	7	7	-	0	-	33
Hugo	-	7	15	40	23	8	8	0	-	101
Idabel	-	12	33	48	31	11	7	0	-	142
Jenks	-	2	3	16	33	31	10	1	-	96
Kingfisher	-	2	10	29	19	11	3	1	1	76
Lawton	3	77	176	675	425	197	91	9	-	1,653
Lindsay	-	3	7	19	11	6	2	0	-	48
Lone Grove	-	4	6	28	17	6	3	0	-	64
Madill	-	4	10	27	20	9	4	0	1	75
Mangum	-	5	6	17	12	4	1	0	-	45
Marlow	-	2	6	17	12	9	1	1	1	49
Mcalester	-	17	30	78	56	24	10	1	-	216
Miami	-	15	23	80	67	30	11	2	-	228
Midwest City	1	24	79	308	234	111	50	8	-	815
Moore	1	25	52	199	205	125	40	5	2	654
Muldrow	-	4	10	22	13	4	-	0	-	53
Muskogee	2	37	112	257	157	82	37	7	-	691
Mustang	-	9	19	46	68	29	19	1	-	191
Newcastle	-	3	5	12	16	13	3	2	-	54
Nichols Hills	-	-	-	-	1	1	-	3	-	5
Noble	-	6	10	37	43	14	8	1	-	119
Norman	-	35	62	293	311	274	121	31	-	1,127
Nowata	-	2	4	23	13	3	7	0	-	52
Okema	-	11	5	15	11	4	1	0	-	47
Oklahoma City	34	410	808	2,433	2,080	1,234	566	114	19	7,698
Okmulgee	2	24	35	96	54	18	10	7	-	246
Owasso	-	9	19	54	100	59	26	1	-	268
Pauls Valley	-	2	11	31	28	9	1	0	1	83
Pawhuska	-	2	5	19	7	5	4	1	-	43
Perry	-	1	4	18	21	8	3	0	-	55

-Denotes no events in that category

Table 34 (cont). Number of births by age of mother: Oklahoma and selected cities, 1998

Resident city	Age of mother 10-14 years	15-17 years	18-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-54 years	Unk	Total
Piedmont	-	-	1	7	16	18	9	3	-	54
Pocola	-	2	1	16	15	8	2	0	-	44
Ponca City	3	21	52	150	98	60	26	5	1	416
Poteau	1	8	18	50	27	18	9	0	1	132
Pryor Creek	-	5	15	58	28	14	7	1	-	128
Purcell	-	5	15	29	23	12	5		-	89
Sallisaw	-	10	21	58	26	14	4	1	-	134
Sand Springs	-	10	33	83	67	54	21	3	-	271
Sapulpa	-	23	25	101	86	51	20	1	3	310
Sayre	-	1	5	17	7	6	2	0	1	39
Seminole	-	6	14	45	31	16	6	1	-	119
Shawnee	1	35	59	127	142	61	26	4	-	455
Skiatook	-	10	11	31	25	19	4	0	2	102
Spencer	-	12	19	29	14	5	4	0	1	84
Stigler	-	4	5	16	7	5	1	0	-	38
Stillwater	1	13	33	127	139	94	42	6	3	458
Stilwell	-	12	10	43	24	6	1	1	1	98
Stroud	-	3	4	19	12	5	2	0	-	45
Sulphur	-	6	10	24	17	12	3	0	-	72
Tahlequah	-	19	30	96	61	29	10	4	2	251
Tecumseh	-	2	10	35	42	9	5	0	-	103
The Village	-	-	-	1	3	-	-	0	-	4
Tishomingo	-	3	5	20	15	2	4	0	-	49
Tonkawa	-	3	5	10	14	7	3	0	-	42
Tulsa	16	340	664	1,989	1,795	1,154	552	122	27	6,659
Tuttle	-	-	11	20	22	5	4	1	-	63
Vinita	-	3	11	23	23	17	10	1	-	88
Wagoner	2	10	14	68	22	16	8	3	-	143
Walters	-	4	5	12	14	9	1	1	-	46
Warr Acres	-	1	3	14	12	8	5	1	-	44
Watonga	-	6	10	17	11	11	4	0	1	60
Weatherford	1	8	12	40	32	19	9	1	1	123
Wewoka	-	9	9	33	15	2	3	0	-	71
Wilburton	-	5	11	24	8	6	-	0	-	54
Woodward	-	8	30	64	49	26	10	2	-	189
Yukon	-	20	28	97	137	106	32	7	-	427
Unknown	21	824	1,444	4,304	3,593	1,916	811	162	35	13,110

-Denotes no events in that category

Table 35. Number of births by race and Hispanic origin of mother: Oklahoma and selected cities, 1998

(Estimates provided by the U.S. Census Bureau, enumerated as of July 1, 1998.)

Resident city	Race of mother: White	Black	Am. Indian	Other	Unk	Hispanic [1]	Total	Population Estimate
State	38,464	4,788	4,846	886	370	3,615	49,354	3,339,478
Ada	202	8	49	1	1	6	261	15,313
Altus	346	49	4	14	9	93	422	21,552
Alva	68	-	-	2	-	1	70	4,995
Anadarko	53	4	56	0	2	14	115	6,782
Antlers	32	-	8	0	-	0	40	2,502
Ardmore	292	63	48	10	7	18	420	23,436
Atoka	45	6	15	0	-	0	66	3,268
Bartlesville	344	8	44	11	1	23	408	33,672
Bethany	229	15	8	6	1	18	259	20,269
Bixby	163	1	9	0	1	16	174	12,694
Blackwell	124	-	5	1	1	6	131	7,134
Bristow	74	9	4	0	-	2	87	4,173
Broken Arrow	1,047	37	59	23	7	38	1,173	72,564
Broken Bow	56	13	32	3	-	9	104	4,299
Catoosa	63	-	6	0	-	1	69	3,870
Chandler	44	1	2	0	-	0	47	2,644
Checotah	54	5	15	0	-	1	74	3,663
Chickasha	209	16	21	2	-	6	248	16,180
Choctaw	140	6	6	0	-	3	152	9,797
Claremore	245	9	43	2	6	9	305	20,085
Cleveland	53	-	7	0	1	0	61	3,064
Clinton	139	10	18	3	-	47	170	8,707
Collinsville	80	1	12	0	-	0	93	3,970
Cordell	26	-	2	0	-	1	28	2,781
Coweta	115	6	17	1	-	4	139	6,646
Cushing	105	4	13	1	1	7	124	7,606
Davis	42	5	6	0	-	0	53	2,614
Del City	230	55	9	8	3	14	305	23,817
Dewey	40	2	4	0	1	1	47	3,213
Drumright	40	-	3	0	-	0	43	2,885
Duncan	266	18	5	4	2	17	295	21,816
Durant	206	2	36	3	-	7	247	13,187
Edmond	1,097	44	19	33	3	29	1,196	64,962
El Reno	161	8	28	4	-	17	201	15,786
Elk City	192	7	5	2	-	17	206	11,062
Enid	611	27	23	19	16	51	696	45,234
Eufaula	18	9	14	1	-	1	42	3,404
Fairview	23	-	-	0	-	0	23	2,721
Fort Gibson	39	-	22	0	-	2	61	3,745
Frederick	49	2	3	2	2	22	58	4,688

[1]Hispanic births are of any race

-Denotes no events in that category

Table 35 (cont). Number of births by race and Hispanic origin of mother: Oklahoma and selected cities, 1998

(Estimates provided by the U.S. Census Bureau, enumerated as of July 1, 1998.)

Resident city	Race of mother: White	Black	Am. Indian	Other	Unk	Hispanic [1]	Total	Population Estimate
Glenpool	117	2	18	1	1	2	139	7,934
Grove	55	1	9	0	-	1	65	5,438
Guthrie	135	17	7	1	-	6	160	10,281
Guymon	204	1	-	2	-	106	207	8,999
Harrah	70	-	2	1	1	4	74	4,624
Healdton	44	1	5	0	1	1	51	2,884
Heavener	49	-	17	0	1	10	67	2,485
Henryetta	78	-	12	0	-	1	90	6,002
Hobart	50	8	2	1	-	6	61	3,885
Holdenville	57	2	27	0	-	3	86	5,343
Hollis	23	5	3	1	1		33	2,380
Hugo	66	21	14	0	-	1	101	5,974
Idabel	70	48	23	1	-	9	142	7,278
Jenks	89	-	5	2	-	1	96	9,245
Kingfisher	68	-	8	0	-	12	76	4,212
Lawton	1,076	396	93	60	28	188	1,653	81,107
Lindsay	45	-	3	0	-	0	48	2,871
Lone Grove	53	3	7	0	1	1	64	4,483
Madill	59	3	11	0	2	15	75	3,225
Mangum	45	-	-	0	-	12	45	2,974
Marlow	45	-	4	0	-	2	49	4,446
McAlester	170	14	26	2	4	12	216	17,074
Miami	179	-	47	0	2	7	228	12,760
Midwest City	607	156	25	26	1	32	815	54,037
Moore	590	23	23	11	7	32	654	45,318
Muldrow	46	1	6	0	-	0	53	3,188
Muskogee	399	167	118	7	-	30	691	38,386
Mustang	181	1	5	3	1	8	191	12,409
Newcastle	52	-	2	0	-	1	54	5,381
Nichols Hills	5	-	-	0	-	0	5	4,036
Noble	111	1	7	0	-	4	119	5,170
Norman	950	49	57	55	16	50	1,127	93,019
Nowata	35	2	14	1	-	1	52	3,735
Okemah	25	2	20	0	-	0	47	2,911
Oklahoma City	5,453	1,570	344	268	63	1,152	7,698	472,221
Okmulgee	148	51	45	2	-	3	246	13,981
Owasso	247	1	14	5	1	15	268	15,032
Pauls Valley	74	2	7	0	-	2	83	5,964
Pawhuska	27	1	15	0	-	0	43	3,585
Perry	51	-	4	0	-	1	55	5,136

[1]Hispanic births are of any race

-Denotes no events in that category

Table 35 (cont). Number of births by race and Hispanic origin of mother: Oklahoma and selected cities, 1998

(Estimates provided by the U.S. Census Bureau, enumerated as of July 1, 1998.)

Resident city	Race of mother: White	Black	Am. Indian	Other	Unk	Hispanic [1]	Total	Population Estimate
Piedmont	53	-	1	0	-	4	54	3,401
Pocola	40	2	2	0	-	0	44	3,835
Ponca City	346	10	44	4	12	22	416	25,943
Poteau	115	5	10	1	1	5	132	7,755
Pryor Creek	97	1	24	2	4	3	128	9,056
Purcell	73	3	9	2	2	17	89	5,198
Sallisaw	103	2	28	1	-	5	134	7,910
Sand Springs	248	5	16	1	1	8	271	17,255
Sapulpa	265	10	29	4	2	10	310	19,844
Sayre	37	2	-	0	-	1	39	2,760
Seminole	81	6	32	0	-	3	119	6,698
Shawnee	357	18	70	7	3	11	455	27,008
Skiatook	86	1	15	0	-	2	102	5,331
Spencer	28	55	1	0	-	2	84	4,005
Stigler	35	-	3	0	-	2	38	2,550
Stillwater	391	26	17	24	-	11	458	38,765
Stilwell	38	-	60	0	-	9	98	2,978
Stroud	38	-	7	0	-	1	45	2,861
Sulphur	52	2	16	1	1	2	72	4,882
Tahlequah	137	2	108	3	1	19	251	12,336
Tecumseh	80	1	21	1	-	0	103	5,856
The Village	4	-	-	0	-	0	4	10,289
Tishomingo	35	3	11	0	-	0	49	3,030
Tonkawa	34	1	3	1	3	9	42	2,943
Tulsa	4,704	1,330	421	147	57	600	6,659	381,393
Tuttle	59	-	4	0	-	2	63	3,247
Vinita	68	3	16	1	-	1	88	5,741
Wagoner	104	17	22	0	-	2	143	7,281
Walters	36	1	7	0	2	1	46	2,334
Warr Acres	35	5	1	0	3	3	44	9,291
Watonga	40	6	14	0	-	10	60	3,068
Weatherford	112	-	11	0	-	6	123	9,598
Wewoka	36	11	24	0	-	0	71	3,772
Wilburton	45	-	9	0	-	3	54	3,138
Woodward	186	-	2	1	-	18	189	12,034
Yukon	390	3	12	19	3	16	427	22,897
Unknown	10,666	258	2,047	60	79	561	13,110	-

[1]Hispanic births are of any race

-Denotes no events in that category

Table 36. Percent of births by prenatal care, birthweight, low educational attainment, and marital status of mother: Oklahoma and selected cities, 1998

Resident city	*First trimester*	*Adequate care*[1]	*Poor care*[2]	*Number reporting prenatal care*	*Birthweight < 2,500 grams*	*Education < 12 grades*	*Unmarried mothers*	*Total births*
State	78.6	64.0	6.2	41,550	7.2	23.0	33.5	49,354
Ada	83.5	73.0	4.8	248	6.9	18.5	31.4	261
Altus	91.2	84.2	2.9	385	5.5	22.8	27.9	422
Alva	90.8	73.8	0.0	65	8.6	14.3	24.3	70
Anadarko	71.7	45.7	14.1	92	7.1	36.0	55.8	115
Antlers	82.5	57.5	2.5	40	2.5	30.0	37.5	40
Ardmore	85.6	75.5	5.4	368	6.5	27.4	44.4	420
Atoka	71.0	46.8	11.3	62	7.6	33.3	50.0	66
Bartlesville	86.4	76.4	3.3	368	7.4	18.9	29.0	408
Bethany	88.9	70.9	5.8	189	9.7	20.3	30.7	259
Bixby	88.2	70.4	3.0	169	6.3	14.0	18.5	174
Blackwell	68.4	57.3	8.5	117	13.7	33.6	41.1	131
Bristow	69.8	48.8	8.1	86	10.3	27.9	41.4	87
Broken Arrow	85.3	70.0	2.8	1,152	6.0	8.1	15.5	1,173
Broken Bow	82.0	64.0	1.1	89	2.9	33.0	53.4	104
Catoosa	69.7	56.1	12.1	66	7.2	29.0	42.0	69
Chandler	77.5	65.0	2.5	40	10.6	31.9	42.2	47
Checotah	68.1	55.6	8.3	72	6.8	23.3	44.6	74
Chickasha	79.6	63.9	3.2	216	7.7	28.7	43.1	248
Choctaw	82.4	64.8	2.8	108	6.6	15.4	28.9	152
Claremore	87.1	75.9	4.1	294	4.3	18.7	27.4	305
Cleveland	79.7	61.0	0.0	59	1.6	29.5	24.6	61
Clinton	73.3	58.7	10.7	150	5.9	43.1	35.9	170
Collinsville	79.5	71.6	4.5	88	8.6	19.6	15.1	93
Cordell	86.4	81.8	4.5	22	3.6	10.7	18.5	28
Coweta	79.5	63.6	6.8	132	4.3	20.3	26.6	139
Cushing	73.6	59.4	8.5	106	8.1	25.8	36.4	124
Davis	74.4	74.4	2.3	43	5.7	32.1	34.6	53
Del City	79.5	62.1	4.6	195	9.5	20.5	44.0	305
Dewey	95.2	78.6	0.0	42	4.3	28.3	30.4	47
Drumright	71.4	66.7	2.4	42	9.5	16.3	34.9	43
Duncan	72.9	57.1	7.7	273	4.8	22.4	27.8	295
Durant	78.5	53.5	4.8	228	10.2	29.1	40.5	247
Edmond	92.2	83.4	1.3	890	5.7	5.8	13.7	1,196
El Reno	87.2	70.9	9.3	86	9.5	26.3	42.3	201
Elk City	67.4	63.0	15.2	92	6.4	25.0	39.5	206
Enid	87.2	80.4	2.3	642	6.4	22.9	35.9	696
Eufaula	65.0	42.5	7.5	40	4.8	33.3	66.7	42
Fairview	86.4	77.3	0.0	22	0.0	13.6	39.1	23
Fort Gibson	70.0	45.0	8.3	60	5.0	38.3	32.8	61
Frederick	84.8	76.1	2.2	46	5.2	38.6	39.7	58

[1]Beginning in first trimester and 10 or more prenatal visits
[2]Beginning in third trimester, having less than four prenatal care visits, or receiving no prenatal care

Table 36 (cont). Percent of births by prenatal care, birthweight, low educational attainment, and marital status of mother: Oklahoma and selected cities, 1998

Resident city	*First trimester*	*Adequate*[1] *care*	*Poor*[2] *care*	*Number reporting prenatal care*	*Birthweight < 2,500 grams*	*Education < 12 grades*	*Unmarried mothers*	*Total births*
Glenpool	83.9	64.2	5.1	137	4.3	12.4	26.1	139
Grove	65.0	41.7	10.0	60	10.8	15.6	40.0	65
Guthrie	93.2	78.6	3.4	117	7.0	25.5	39.0	160
Guymon	68.1	23.7	23.0	135	5.3	45.6	34.0	207
Harrah	87.0	73.9	0.0	46	2.8	12.9	23.0	74
Healdton	85.1	74.5	6.4	47	3.9	41.2	37.3	51
Heavener	71.9	45.6	3.5	57	15.2	49.3	40.0	67
Henryetta	68.5	60.7	13.5	89	3.4	36.7	43.3	90
Hobart	67.9	62.5	8.9	56	9.8	29.5	37.7	61
Holdenville	74.7	62.0	6.3	79	12.8	28.2	32.9	86
Hollis	80.0	72.0	8.0	25	3.0	41.9	48.5	33
Hugo	67.0	48.4	7.7	91	8.0	26.7	54.0	101
Idabel	81.5	71.5	7.7	130	7.0	38.6	58.2	142
Jenks	87.0	72.8	2.2	92	5.3	10.4	14.9	96
Kingfisher	95.6	86.8	2.9	68	5.3	27.6	25.0	76
Lawton	78.8	66.9	7.8	1,231	7.8	15.2	31.2	1,653
Lindsay	78.6	60.7	7.1	28	4.2	30.4	31.3	48
Lone Grove	89.3	82.1	3.6	56	4.8	21.9	25.0	64
Madill	73.5	44.1	8.8	68	8.1	45.2	29.3	75
Mangum	91.9	73.0	2.7	37	4.4	22.7	33.3	45
Marlow	73.8	57.1	4.8	42	10.2	26.5	28.6	49
McAlester	80.4	68.6	6.4	204	6.5	32.1	42.6	216
Miami	71.5	51.6	10.4	221	7.5	22.5	35.5	228
Midwest City	82.9	71.9	5.2	516	7.4	14.8	33.1	815
Moore	82.7	70.6	4.7	473	5.8	14.7	23.2	654
Muldrow	69.8	58.5	15.1	53	11.3	41.5	47.2	53
Muskogee	58.2	42.8	8.9	673	7.7	30.5	43.6	691
Mustang	91.8	75.4	3.0	134	6.4	11.7	21.6	191
Newcastle	97.6	85.7	0.0	42	7.4	8.0	26.4	54
Nichols Hills	100.0	100.0	0.0	3	40.0	0.0	0.0	5
Noble	91.5	81.7	1.4	71	6.8	16.1	23.9	119
Norman	89.3	76.8	3.5	712	5.5	9.7	23.2	1,127
Nowata	77.3	68.2	4.5	44	7.8	15.4	42.3	52
Okema	74.4	58.1	7.0	43	4.3	48.9	46.8	47
Oklahoma City	78.6	63.6	7.8	5,164	8.5	28.6	42.6	7,698
Okmulgee	69.4	63.6	9.5	242	9.3	32.2	48.4	246
Owasso	85.6	73.8	2.7	263	5.2	13.9	20.7	268
Pauls Valley	84.1	68.3	4.8	63	4.9	35.0	30.5	83
Pawhuska	88.2	73.5	0.0	34	2.3	25.6	47.6	43
Perry	70.6	64.7	3.9	51	9.1	14.8	23.6	55

[1]Beginning in first trimester and 10 or more prenatal visits
[2]Beginning in third trimester, having less than four prenatal care visits, or receiving no prenatal care

Table 36 (cont). Percent of births by prenatal care, birthweight, low educational attainment, and marital status of mother: Oklahoma and selected cities, 1998

Resident city	*First trimester*	*Adequate care*[1]	*Poor care*[2]	*Number reporting prenatal care*	*Birthweight < 2,500 grams*	*Education < 12 grades*	*Unmarried mothers*	*Total births*
Piedmont	93.5	87.0	2.2	46	5.6	0.0	5.6	54
Pocola	78.9	68.4	2.6	38	4.5	18.2	20.5	44
Ponca City	64.0	52.6	11.3	397	8.0	33.6	39.2	416
Poteau	68.0	39.3	13.1	122	6.1	33.9	38.8	132
Pryor Creek	82.7	71.7	5.5	127	5.5	28.1	39.4	128
Purcell	78.9	64.9	3.5	57	7.9	22.9	30.7	89
Sallisaw	68.5	50.8	14.6	130	6.0	39.1	37.1	134
Sand Springs	82.7	67.7	3.4	266	9.6	20.4	25.6	271
Sapulpa	76.3	62.4	5.8	295	9.4	25.0	36.6	310
Sayre	79.3	65.5	6.9	29	10.3	21.6	30.8	39
Seminole	80.6	63.1	6.8	103	10.9	26.9	48.7	119
Shawnee	82.5	65.8	5.0	377	8.2	27.3	38.8	455
Skiatook	76.6	60.6	3.2	94	4.0	18.8	24.5	102
Spencer	80.0	52.5	10.0	40	15.9	26.0	63.8	84
Stigler	73.0	54.1	5.4	37	10.5	44.7	26.3	38
Stillwater	75.9	68.3	4.4	432	6.8	8.3	20.7	458
Stilwell	64.4	40.0	7.8	90	6.3	44.9	44.9	98
Stroud	84.4	68.9	4.4	45	4.4	24.4	42.2	45
Sulphur	78.1	65.6	6.3	64	6.9	31.9	43.1	72
Tahlequah	67.7	45.1	5.8	226	5.6	29.0	37.5	251
Tecumseh	78.0	67.0	5.5	91	2.0	19.6	32.7	103
The Village	100.0	100.0	0.0	2	0.0	0.0	0.0	4
Tishomingo	87.5	56.3	4.2	48	8.2	23.4	30.6	49
Tonkawa	76.2	64.3	7.1	42	7.1	28.6	28.6	42
Tulsa	75.3	59.8	7.2	6,409	7.8	24.1	39.5	6,659
Tuttle	84.3	74.5	3.9	51	3.2	17.7	15.9	63
Vinita	62.2	52.4	11.0	82	9.2	31.8	34.1	88
Wagoner	65.6	50.8	7.8	128	8.5	30.3	40.6	143
Walters	77.5	72.5	7.5	40	4.3	26.1	37.8	46
Warr Acres	86.2	72.4	3.4	29	2.4	12.2	27.9	44
Watonga	68.5	61.1	3.7	54	8.3	43.3	46.7	60
Weatherford	86.7	77.1	3.8	105	3.3	13.8	22.8	123
Wewoka	60.3	39.7	4.8	63	11.3	36.6	73.2	71
Wilburton	74.5	56.9	5.9	51	5.6	39.6	43.4	54
Woodward	66.7	57.1	7.3	177	4.8	23.4	31.2	189
Yukon	86.7	71.7	5.7	300	7.3	14.0	20.0	427
Unknown	78.2	62.9	5.9	11,682	6.6	22.6	28.5	13,110

[1]Beginning in first trimester and 10 or more prenatal visits
[2]Beginning in third trimester, having less than four prenatal care visits, or receiving no prenatal care

3.1 Health Status Indicators

The health status indicators have been added by the Maternal and Child Health Bureau to assist in tracking selected measures that are useful at the federal level. While many of these measures are also useful at the state level, the Indicators cannot describe the content of state-level implementation of Title V resources nor of state-funded services to the maternal and child health population. The Indicators are included in Forms D1 and D2; they are also addressed in the overview narrative of the Oklahoma needs assessment.

3.1.1 Priority Needs

The priority needs for Oklahoma have been modified and appended based upon the experience of having worked with the previous priorities and in identifying new issues that are demanding attention. These new issues have been identified through the ongoing needs assessment for maternal and child health related services to Oklahoma's population, feedback from participating and non-participating consumers of those services, and from MCH leadership who are regularly engaged in the delivery of the four levels of service.

One effect of changes in health care has been a reassertion of the State's public health systems' focus on core public health functions. While identifying needs, setting standards and policies, and assuring MCH populations have access to appropriate care are fundamental functions of the OSDH, it is also important for the OSDH to be an active partner with other care providers in a statewide health delivery system. In order to achieve the goal of reducing high-risk behaviors and adverse outcomes, a major responsibility of OSDH is to provide family education and support. Intervention and care for health problems are important. However, by focusing on preventive measures, MCH programs will effectively reduce poor health outcomes.

There is a documented historical summary of information addressing the status of the maternal and child health populations in Oklahoma. Through the continual review of this information, it is recognized that improvement in many of the broad health status indicators may need to utilize new approaches beyond the traditional medical or public health practices. That tradition has included providing assurances for services as a priority; most of this has been through direct care. Knowing that limited resources cannot fill those gaps and that public health models focus on prevention, the priorities have been adjusted to direct our attention to more social and behavioral issues that can be addressed through infrastructure, population-based, and enabling services.

3.2 Annual Budget and Budget Justification

3.2.1 Completion of Budget Forms

See Forms 2,3,4,5 in Section V 5.8

3.2.2 Other Requirements

Maintenance of effort from 1989:

For FY 89, the State Health Department administered 77.5% of the Block Grant Funds, and the Department of Human Services administered 22.5% for programs for children with special health care needs. The amount of the Block Grant award for FY 89 was $5,980,100. The Health Department share was $4,634,578 and the Department of Human Services received $1,345,522.

The agency expenditure reports indicate that a total of $4,634,578 of Block funds were expended during the grant period October 2, 1988 through September 30, 1989.

For that period, a total $4,109,415 of State Health Department and County Health Department resources were expended for Block Grant activities. The amount of state/local expenditures exceeded the required Block Grant match of $3,475,932 by an amount of $633,483.

Health Department Block Grant program value is determined through the agency time and effort reporting in which all State and local staff code their daily time to program activities. Non-personnel expenses are made as direct charges to the appropriate program budgets. State funds include state and county appropriations for local health departments. Other contributions included in-kind monies. Program income included fee revenues from Title XIX and family planning patient fee revenues, as applicable to the Title V Block. No other patient fee charges are made for Title V services. The agency is audited each year by the state auditor's office following the federal guidelines applicable to the Block Grant. All appropriate fiscal records are maintained to insure audit compliance.

Summary - FY 89 Block Grant Expenditures

	Title V	Match	Overmatch	Local/Other	Total
State Health Department	$4,634,578	$3,475,932	$ 291,025	$342,458	$ 8,743,933
Dept. of Human Services	$1,345,522	1,061,546	0	0	2,407,068
	$5,980,100	$4,537,478	$ 291,025	$342,458	$11,151,061

Special consideration for funding pre-1981 projects:
Prior to the Block Grant, MCH funded a combined, Maternal and Infant Care, Children & Youth and Dental Project in an urban area. The Block Grant Funds continue to fund these programs although they have evolved from the "program of projects" scope. Additionally, an Adolescent Project in place prior to 1981 continues to receive a share of Block Grant funds ($89,400) originally earmarked. MCH Grant funds allocated to family planning services have continued to support that program in the amount of $500,000.

Special consolidated projects:
Block Grant funds will be used to carry out the purpose of Title V under the consolidated health programs, including the SIDS activities, genetics services, and SSI. This includes support for a SIDS educational and follow-up service. A Program Consultant is the individual responsible for coordination of SIDS activities. Follow-up and consultation is

provided by Local Health Department Nursing and Social Work staff. Genetic services include the Genetic Services Network, which consists of regional genetic clinics across the state, as well as a statewide prenatal genetic referral program. Consultants in Screening and Special Services Division provide consultation to Women's Health Nurse Practitioners, Maternity Nurse Coordinators, Maternity Clinic Physicians, Public Health Nurses, Pediatric Nurse Practitioners, and Child Health Clinic Physicians. Statewide lead screening for children 6 months to 72 months of age is provided through OSDH Child Health Clinics. Special projects are initiated in communities with an identified environmental exposure to lead such as Ottawa County. Funds are also used for Supplemental Securities Income-Disabled Children's Program. CSHCN also promotes public awareness and the need to refer children to Social Security for the purpose of applying for the program.

State provides a reasonable portion of funds to deliver services:
Funds administered by the Maternal and Child Health Service are targeted towards those programs for which monies may be earmarked and/or are of priority for state/local needs. Through the development of demographic data, assistance is provided to state and local agencies to: 1) identify specific MCH areas of need, 2) assist in planning action or programs to address their needs and, 3) provide resources to assist in carrying out those programs. Allocation of resources to local communities is based on such factors as: the identified need and scope of the particular health problem; community interest in developing service to eliminate the problem, including the extent and ability to which local resources are made available; ability to recruit the specialized staff which are often needed to carry out the proposed service; the cost effectiveness of the service to be provided; coordination with existing resources to insure non-duplication of services; periodic evaluation to determine if resources have impacted on the problem.

The Oklahoma Department of Human Services (DHS) administers the CSHCN Program through the Family Support Services Division/Health Related Services Section and a contractual agreement with the Oklahoma Health Care Authority (OHCA). The Family Support Services Division (FSSD) is administratively responsible for CSHCN and also administers the SSI-DCP for SSI recipients under age 16. Coordination is provided between FSSD and the OHCA to ensure services are not duplicated and policies and procedures are in compliance with federal and state mandates. The FSSD utilizes Title V funding to assure the development of community-based systems of services for children with special health care needs and their families.

Anticipated Federal MCH dollars, State matching funds:
Based on a FY-01 preliminary Block Grant Allocation of $7,869,642, a minimum of 30% ($2,360,893) must be designated for programs for Primary Care for Children and Children with Special Health Care Needs. It is understood that the combined components must also meet the required match of three state dollars for each four of federal. These requirements are met with estimated budgets reflecting the following will be expended as validated program costs:

Budget	Title V	Match	Overmatch	Total
Primary Care for Children	$ 2,993,683 (38.0%)	$ 2,245,262	$ 136,892	$ 5,375,837
Children with Special Health Care Needs	$ 2,360,893 (30.0%)	$ 1,770,670	$ 306,597	$ 4,438,160
Mat. & Inf. Care	$ 1,728,102 (22.0%)	$ 1,296,077	$ 2,002,922	$ 5,027,101
Administration	$ 786,964 (10.0%)	$ 590,223	$ 133,265	$ 1,510,452
Total	$ 7,869,642 (100.0%)	$5,902,232	$2,579,626	$16,351,550

Other Federal programs or State funds to meet needs and objectives:
The Pregnancy Risk Assessment Monitoring System (PRAMS), is funded by the Centers for Disease Control and Prevention (CDC). The State Systems Development Initiative (SSDI) Grant is funded by MCHB. The Community Integrated Service System (CISS) state community organizations grant is funded by MCHB. Both the SSDI and CISS grants enhance the epidemiologic and systems development capacity of local communities by providing them tools and resources that identify systems of care that impact the health of the MCH populations. These grants all assist MCH in designing and maintaining core public health infrastructure.

The Healthy Child Care in America Grant is funded by MCHB and is designed to facilitate the implementation of healthy child care initiatives, training of county child health consultants and other health department personnel and the dissemination of child care resource materials statewide.

The Enhanced Birth Defects Registry Grant is funded by the Centers for Disease Control and Prevention and is designed to gather birth defects information and collaborate with professional and community groups for neural tube defect prevention and oversight of preconception care.

The Oklahoma Genetics State Planning Grant is funded by MCHB and its purpose is to facilitate the development of a state genetics plan including needs assessment, tools for ongoing surveillance and a plan for data integration.

Early Intervention Services are funded through a contract with the Oklahoma State Department of Education. These monies allow for the provision of services to infants and toddlers with disabilities according to Part H of the Individuals with Disabilities Education Act and the Oklahoma Early Intervention Act.

The Immunization Program is funded primarily through CDC and coordinates and facilitates all immunization and vaccine preventable disease activities throughout the state The purpose is to increase vaccine coverage to prevent the occurrence of illness and death associated with vaccine preventable diseases.

Childhood Lead Surveillance is a new grant obtained this year funded through CDC which will enhance the statewide capacity for surveillance of blood lead levels in children.

Adult Blood Lead grant is funded through CDC and enhances the statewide capacity for implementation of an adult blood lead program. This assists with the identification of high risk industries and occupations and allows for the targeting of preventive activities in the prevention of adult lead poisoning.

Community-based Family Resources Project is funded through the National Office of Child Abuse and Neglect. This project provides funds for the development and enhancement of programs that provide assistance to families, comprehensive support to parents, development of parenting skills, promotion of family stability, improvement of family access to care and other support systems, fostering the continuum of preventive services for children, identification of unmet needs to families, expansion of a statewide network of community-based prevention focused, family resource and support programs, information activities that focus on the healthy and positive development of parent and children and promotion of child abuse and neglect prevention activities and decrease the risk of homelessness.

Title X federal funding provides Family Planning Services. Transitions, a teen sexuality education project, is also funded through Title X. In addition, the Service Enhancement Project for Family Planning provides funding for education for the prevention of family violence.

The Abstinence Education grant is funded by MCHB and is designed to facilitate a reduction in teen pregnancy and STD rates by delaying the onset of sexual intercourse.

The Children First Program is a state funded nurse home visitation program that provides for care and education to first time mothers in order to improve: pregnancy outcomes, child health and development, and parental lifestyles.

The State Child Guidance Program is a state funded program that provides behavioral health, child development, speech language and audiology services for the MCH population.

State Perinatal monies are utilized by MCH Services to provide services for pregnant women and infants. State funding also is provided for the Birth Defects Registry, and state funds are earmarked for sickle cell disease intervention and adolescent services.

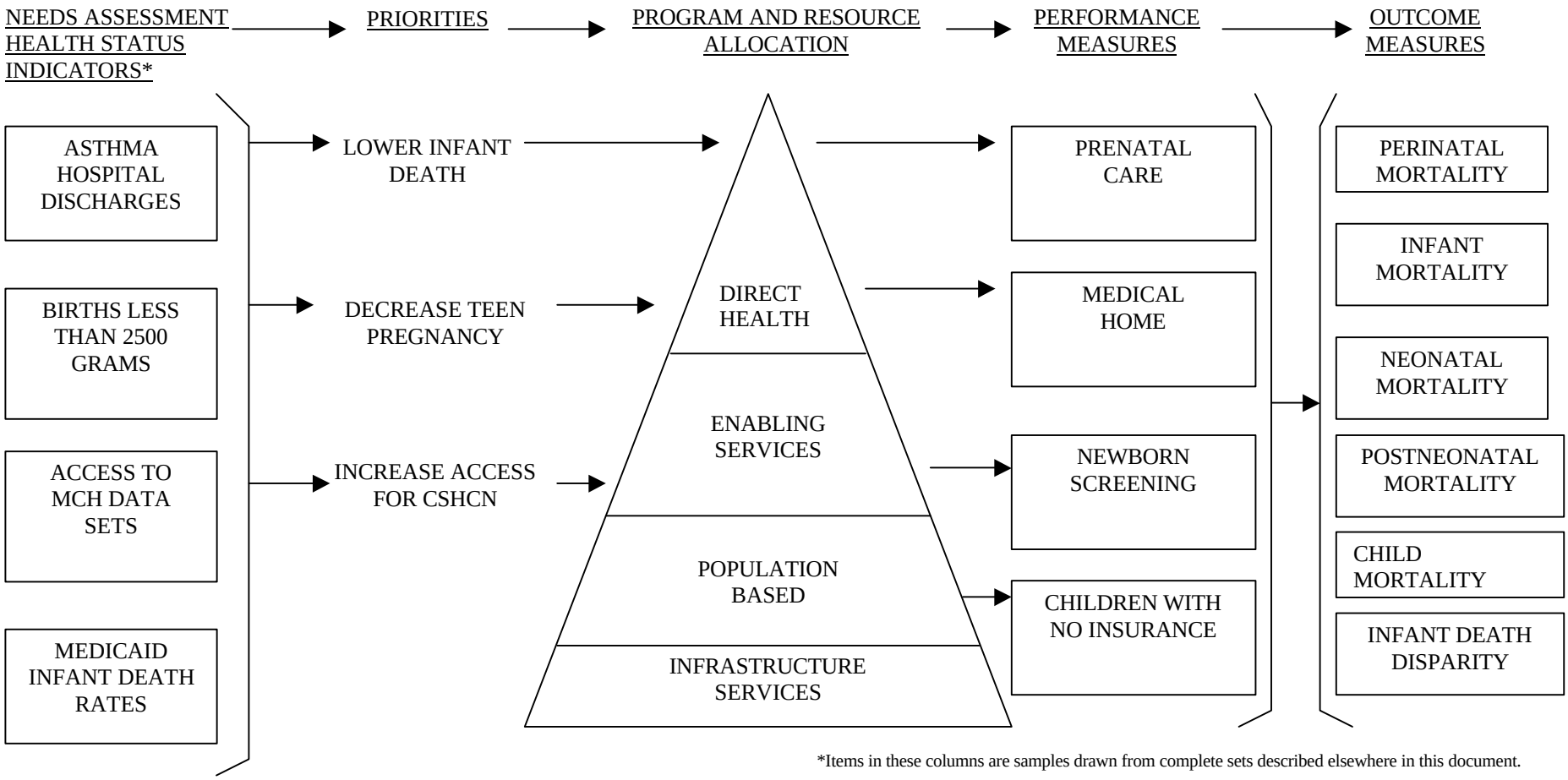
Budget Documentation:
Overall budget preparation and monitoring is provided through administrative offices within MCH Service, with each Assistant Chief responsible for budget oversight of their particular areas including compliance with program standards and federal and state requirements.

The State Health Department receives an annual independent audit of program and financial activities. The State's Office of the State Auditor and Inspector conducts this annual audit in accordance with OMB circular A-128 and related guidance as part of the annual statewide single audit. Additionally, the agency maintains an internal audit staff who reviews county health departments and subcontractors for compliance with contract/fiscal matters relating to State Health Department support.

3.4 Performance Measures

The Government Performance and Results Act (GPRA), enacted in 1993, requires federal agencies to establish standards measuring their performance and effectiveness. Performance measures are used to monitor the effect that MCH services have on important health outcomes and processes. These measures in effect are markers of progress in improving health and reducing related risks of our target populations. While many external forces beyond the control of the MCH programs can affect these measures, they still provide direction to the MCH services and assure that the focus remains on health improvement.

Figure 3
TITLE V BLOCK GRANT PERFORMANCE MEASUREMENT SYSTEM



*Items in these columns are samples drawn from complete sets described elsewhere in this document.

3.4.1 National "Core" Five Year Performance Measures

The Maternal and Child Health Bureau determines the 18 National Core Performance measures to be used by all Title V projects. They set common standards among the states to measure progress toward selected outcomes, and they incorporate national objectives that are addressed in Healthy People 2010.

3.4.1.1 Five Year Performance Objectives

The following figure identifies each performance measure and the primary level and type of service targeted by each measure. Form 11 lists all performance measures for Oklahoma, the target objective, and progress indicators tracked for each measure.

Figure 4

Performance Measures Summary

Performance Measure	Pyramid Level of Service				Type of Service		
	DHC	ES	PBS	IB	C	P	RF
1) The percent of State beneficiaries less than 16 years old receiving rehabilitative services from the State Children with Special Health Care Needs (CSHCN) Program.	✓				✓		
2) The degree to which the State Children with Special Health Care Needs (CSHCN) Program provides or pays for specialty and subspecialty services, including care coordination, not otherwise accessible or affordable to its clients.	✓				✓		
3) The percent of Children with Special Health Care Needs (CSHCN) in the State who have a "medical home."		✓			✓		
4) Percent of newborns in the State with at least one screening for each of PKU, hypothyroidism, galactosemia, hemoglobinopathies (e.g., sickle cell diseases)(combined).			✓				✓
5) Percent of children through age 2 who have completed immunizations for Measles, Mumps, Rubella, Polio, Diphtheria, Tetanus, Pertussis, Haemophilus Influenza, Hepatitis B.			✓				✓
6) The birth rate (per 1,000) for teenagers aged 15 through 17 years.			✓				✓
7) Percent of third grade children who have received protective sealants on at least one permanent molar tooth.			✓				✓
8) The rate of deaths to children aged 1-14 caused by motor vehicle crasher per 100,000 children.			✓				✓
9) Percentage of mothers who breastfeed their infants at hospital discharge.			✓		✓		
10) Percentage of newborns who have been screened for hearing impairment before hospital discharge.			✓				✓
11) Percent of Children with Special Health Care Needs (CSHCN) in the State CSHCN Program with a source of insurance for primary and specialty care.				✓	✓		
12) Percent of children without health insurance.				✓	✓		
13) Percent of potentially Medicaid eligible children who have received a service paid by the Medicaid Program.				✓		✓	
14) The degree to which the State assures family participation in program and policy activities in the State CSHCN Program.				✓		✓	
15) Percent of very low weight live births.				✓			✓
16) The rate (per 100,000) of suicide deaths among youths 15-19.				✓			✓
17) Percent of very low birth weight infants delivered at facilities for high-risk deliveries and neonates				✓			✓
18) Percent of infants born to pregnant women receiving prenatal care in the first trimester.				✓			✓

Figure 4, continued

Performance Measure	Pyramid Level of Service				Type of Service		
	DHC	ES	PBS	IB	C	P	RF
19) The number of communities with a community-wide plan for services to the MCH population in at least one specific MCH area.				✓	✓		
20) The percent of children grades K-6 receiving dental education through public health sponsored professionals.			✓		✓		
21) Percent of women who have an unintended pregnancy (mistimed or unwanted) which results in a live birth.			✓				✓
22) The annual percent increase for respite care days for the CSHCN population.		✓		✓			
23) The rate of neural tube defects among live births in Oklahoma.			✓				✓
24) The proportion of women who achieve the recommended weight gain during pregnancy.			✓				✓
25) The percent of abused and/or neglected children.			✓				✓
26) The percent of adolescents grades 9-12 smoking tobacco products.			✓				✓
27) Number of communities with a Turning Point initiative that addresses needs of their MCH population.			✓		✓		
28) The incidence of confirmed child abuse and neglect.			✓				✓
29) The prevalence of partner violence in adolescent relationships.			✓				✓
30) The number of citations related to transition in SoonerStart/Early Intervention and local school special education compliance monitoring reports.			✓		✓		
31) Percent of fathers who are involved in the care-giving of their newborn.			✓				✓

3.4.2 State "Negotiated Five Year Performance Measures

See Form 16 and Section 5.9 for detailed descriptions of the State performance measures. The proposed Oklahoma State "Negotiated" Five Year Performance Measures are:

21 Percent of women who have an unintended pregnancy (mistimed or unwanted) resulting in a live birth

22 The annual percent increase for respite care days for the CSHCN population

23 The rate of neural tube defects among live births in Oklahoma

24 The proportion of women who achieve the recommended weight gain during pregnancy

26 The percent of adolescents smoking tobacco products

27 Number of communities with a Turning Point initiative that addresses needs of the MCH population

28 Incidence of confirmed child abuse and neglect

29 Prevalence of partner violence in adolescent relationships

31 Percent of fathers who are involved in the care-giving of their newborn

30 The number of citations related to transition in SoonerStart (Early Intervention) and local school special education compliance monitoring reports

21.4.1.1 Development of State Performance Measures

Continuing the process of the development of the needs assessment, the same leadership group reconvened to review the needs assessment issues and to reassess the current state negotiated and national core performance measures as they related to the revised priorities for the State. The results of those follow-up meetings determined that some measures needed to be modified so that they could more clearly document the desired products of the State's MCH programs, particularly with infrastructure and population-based issues. Secondly, new priorities required new measures to monitor the results of efforts directed towards those priorities.

All Oklahoma MCH programs participated in identifying measures that were relevant to their areas' needs, but framed within the greater scope of need for the Title V program and the MCH Service. Determinants for keeping existing measures, modifying or adding new measures were based on assessing the quantitative and qualitative information of the needs assessment. That included input provided through public hearings, community-based systems-building staff, the delivery of services, and other assessment tools that were utilized when possible. Through consensus, the leaders re-negotiated to select the final measures, making sure that they contained the correct focus and would be able to be measured adequately.

21.4.1.2 Discussion of State Performance Measures

The first State measure is a modification of a previous measure. It was selected because of the need for community-based planning and ownership of public health issues. Several years ago, community-based systems enhancement was identified and has been the focus of both CISS and SSDI grants from MCHB that provide for enhancing systems development in Oklahoma communities. The previous measure was modified to align more closely to the OSDH priority of building community-based public health systems through Turning Point, a Robert Wood Foundation initiative for building local community capacities to address their own health issues. The measure was also modified to provide a more accurate definition for tracking purposes.

Oklahoma has long identified unintended pregnancies as a primary public health concern. Though it cannot be seen as the solution to the reduction of infant death, childhood morbidity, child abuse and neglect, and poverty, all of these problems are directly impacted by providing families the information and services necessary to have planned, wanted, and healthy children.

Perhaps the most commonly identified problem form the Title V public hearings and focus groups is the need for improved respite care to Oklahoma's CSHCN children.

The occurrence of neural tube defects is s severe problem that has a profound response to public health intervention. Because the prevention of this class of birth defects is so inexpensive compared to the emotional and financial costs to impacted families and individuals, Oklahoma has included this as a performance measure.

National studies and Oklahoma's own PRAMS data show a strong association with poor birth outcomes associated with inadequate or inappropriate weight gain during pregnancy. Five of the six outcome measures can be positively impacted by proper nutrition before and during pregnancy.

Many deaths to children, including infants, are being identified as the result of direct or indirect child abuse or neglect. Improved reporting practices and public awareness of the problem have not eliminated this growing concern. This measure is a modification to the one previously used, in that it reports incidence of confirmed child abuse/neglect instead of a percentage. This provides for a more accurate description and better tracking.

Tobacco costs the nation billions of dollars annually in the loss of health quality and quality of life. It is far more effective to prevent children from using tobacco than attempts to get them to stop, or use smoking cessation programs after adulthood. Teaching young adolescents the harmful effects of smoking tobacco also increases their awareness of other high-risk behaviors to
which they are exposed.

Partner violence is not only a direct physical and emotional problem, it is also associated with other behaviors and poor health outcomes. Building healthy relationships through early education and development will also improve the home environment for healthier pregnancies and children.

Studies show that a healthy involvement of fathers with their newborns improves the emotional and physical health of children. Having a positive emotional and financial support for the mother also supports a healthy environment for the prenatal period, including support for medical and health problems when they occur.

Even when services are available to children with special health care needs, there is a gap when transitioning them into the regular systems of care and independent living. The Early Intervention program has identified this as a very significant CSHCN problem, and has addressed this need by monitoring compliance to this important piece of care.

21.4.1.3 Five Year Performance Objectives

The objectives for each of the State measures, grouped by the levels of the pyramid, are included on Form 11.

21.4.1.4 Review of State Performance Measures

The central and regional MCHB staff will complete the review of the proposed State measures. Any recommendations will be addressed when they are made available to the State.

21.4.2 Outcome Measures

Details of each Outcome Measure is located in Section 5.11. Currently, Oklahoma has not added additional outcome measures. Efforts are being made to identify outcomes other than mortality that can be reliable measures of the effectiveness of the State Title V Program.

IV. REQUIREMENTS FOR THE ANNUAL PLAN [Section 505(a)(2)(A)]

4.1 Program Activities Related to Performance Measures

4.1A Direct Services

4.1A.1 *Pregnant Women, Mothers and Infants*

There are no specific national or state direct health care service performance measures for this population.

4.1A.2 *Children*

There are no specific national or state direct health care service performance measures for this population.

4.1A.3 Children with Special Health Care Needs

NPM#1: *The percent of State SSI beneficiaries less than 16 years old receiving rehabilitative services from the State Children with Special Health Care Needs (CSHCN) Program.*

CSHCN will continue to work closely with the Oklahoma Health Care Authority (OHCA) to assure that the needs of families with a child with special health care needs are met. CSHCN plans to redefine the role the program plays in the needs of youth with special health care needs who are 18, 19 and 20 years old. The present administrative policy will be reviewed and revised as needed for clarification and codification.

NPM#2: *The degree to which the State CSHCN program provides or pays for specialty and subspecialty services, including care coordination, not otherwise accessible or affordable to its clients.*

CSHCN will continue to strive to provide the full range of services that are medically necessary. As stated above, CSHCN will explore the role the program has with 18, 19 and 20 year old youth with special health care needs. The administrative policy will be reviewed and revised as a step toward working with the Oklahoma Health Care Authority in a possible state plan expansion that could meet more of the needs of children with special health care needs through Medicaid.

CSHCN will continue to support services for children through the Comprehensive Sickle Cell Clinic. CSHCN will also continue to provide special formulas. Formula and amino acid bars will be provided for children with Phenylketonuria (PKU). In addition, CSHCN will explore the establishment of a mental health service contract for special needs children in the custody of the state as well as the feasibility of the establishment of a center for the treatment of severely autistic children. The closest center is presently in Texas.

4.1B Enabling Services

4.1B.1 *Pregnant Women, Mothers and Infants*

There are no specific national or state enabling health care service performance measures for this population.

4.1B.2 *Children*

There are no specific national or state enabling health care service performance measures for this population.

4.1B.3 *Children with Special Health Care Needs*

NPM#3: *The percent of Children with Special Health Care Needs (CSHCN) in the State who have a "medical/health home".*

Local Department of Human Services caseworkers, health department staff and contract providers will continue to facilitate access to Medicaid and CSHCN services by providing outreach and education in communities and

assisting individuals and families in completing the Medicaid and CSHCN application processes. CSHCN will continue contracts with mobile outreach assessment clinics that provide services across the state as part of an ongoing effort to identify children with special health care needs and facilitate them accessing appropriate service systems. Contractual agreements will also remain in place with the Oklahoma Infant Transition Project and the Tulsa Neonate Program for follow-up and care coordination of families and their neonates to assure establishment and maintenance of a medical/health home. In addition, CSHCN will continue to support the Oklahoma Areawide Services Information System (OASIS), Title V's toll free 1-800 number.

Oklahoma's Early Intervention Program (SoonerStart) will continue to identify and provide services to children, birth through three, and their families in need of early intervention services. SoonerStart will encourage families to involve their child's primary health care provider in the development of the child's Individualized Family Service Plan (IFSP). Health care providers will receive updates on early intervention services received and progress made toward goals identified on the IFSP. If a child is in need of a health care provider, SoonerStart will work with the family to identify and access a provider.

SPM#4: *The annual percent increase for respite care days for the CSHCN population.*
CSHCN will continue to fund the J.D. McCarty Center for respite care provided for medically fragile children. CSHCN will be working with the J.D. McCarty Center to explore ways in which the provider may be able to expand its respite services. CSHCN will continue to provide funding for emergency respite care through the Supplemental Security Income Disabled Children (SSI-DC) Program. A study on the effect of respite care on parental stress and health care utilization has just been completed. The investigator is in the final stages of writing the formal report that will be forwarded to CSHCN in the next few months. Once received, CSHCN will use the report to begin a planning process to address the issues found in the study.

CSHCN and MCH will continue to work with the Oklahoma Respite Resource Network (ORRN) to strengthen and expand respite care services across Oklahoma. Oklahoma Areawide Services Information Service (OASIS), Title V's 1-800 number, will continue to serve as a toll free resource for families seeking respite information and applications for services. MCH will be working with Oklahoma State Department of Health and Department of Human Services' legal and procurement staff to identify a means for MCH to utilize the voucher system that the Department of Human Services has implemented to pay for respite care. The Office of Child Abuse Prevention, Children First Program and Early Intervention Program are interested in linking with this system.

4.1C <u>Population–Based Services</u>

4.1C.1 *Pregnant Women, Mothers and Infants*

NPM#4: *Percent of newborns in the State with at least one screening for each of PKU, hypothyroidism, galactosemia, hemoglobinopathies [(e.g. the sickle cell diseases) (combined)].*
All newborns born in Oklahoma will continue to be screened through the Newborn Metabolic Disorder Screening Program (NMDSP) for the genetic disorders of phenylketonuria (PKU), congenital hypothyroidism, galactosemia, sickle cell disease and other hemoglobinopathies. The NMDSP will maintain follow-up to assure all infants with

abnormal lab results are followed until resolution with diagnosis and date of treatment, normal lab result or lost to follow-up.

The Oklahoma Genetics Advisory Council (OGAC) will meet at least quarterly to advise Oklahoma State Department of Health leadership and MCH on genetics and public health. Strategies will be identified to support expansion of genetic services to include a SFY 2002 MCH and OSDH Laboratory Service legislative budget request. This request will be to support expanding newborn metabolic screening to include the disorders of cystic fibrosis (CF), medium chain acyl-CoA dehydrogenase (MCAD) and congenital adrenal hyperplasia (CAH). MCH also recently received a Maternal and Child Health Bureau (MCHB) Genetics State Planning Grant (see 4.2 Infrastructure, **4.2D.3 *Children with Special Health Care Needs*** for further information).

NPM#9: *Percent of mothers who breastfeed their infants at hospital discharge.*
MCH will monitor breastfeeding through the Pregnancy Risk Assessment Monitoring System (PRAMS). Data will be obtained on the percentage of mothers who breastfeed their infants at hospital discharge. The Children First Program data will also provide breastfeeding information on mothers served through this home visitation program.

The MCH Breastfeeding Workgroup will evaluate the need for continued work. This workgroup will be linking with other partners at the state and local levels to include the Women, Infants and Children (WIC) Nutrition Program, La Leche League, hospitals, lactation consultants, physicians, nurses, nutritionists and other individual and agency health care providers to form and support a state level breastfeeding coalition.

The Children First Program will continue to require new nurses hired to provide services in the program to become certified Breastfeeding Educators. This will enable nurses to provide continual support and education to mothers wanting to breastfeed and actively breastfeeding.

The Healthy Child Care Oklahoma Project will distribute information and educate child care providers on the importance of breastfeeding. The Project will work with child care providers to be supportive of parents who continue to breastfeed when they return to work.

NPM#10: *Percent of newborns who have been screened for hearing impairment before hospital discharge.*
Senate Bill 1474 was signed by Governor Frank Keating on May 19, 2000. This legislation created the "*Newborn Infant Hearing Screening Act*". This act requires every infant born in Oklahoma to be screened for the detection of congenital or acquired hearing loss prior to discharge from the facility where the infant was born or, if the infant requires emergency transfer to another facility, screening is to be administered by the receiving facility prior to discharge of the infant. This act becomes effective November 1, 2000. The State Board of Health will promulgate rules necessary to enact the provisions of this act. The MCH Newborn Hearing Screening Program will facilitate the development of procedures and guidelines and formulate the rules to be presented to the Board of Health for approval on September 6, 2000.

The MCH Newborn Hearing Screening Program will continue to work with the Oklahoma Hospital Association and hospitals across the state to place physiologic hearing screening equipment funded by CSHCN in all identified birthing facilities and assure appropriate training of staff before November 1. An audiologist will continue to provide technical assistance and serve as resources to hospitals across the state.

SPM#3: P*ercent of women who have an unintended pregnancy (mistimed or unwanted) resulting in a live birth.* MCH will continue to monitor unintended pregnancy through the Pregnancy Risk Assessment Monitoring System (PRAMS). Strategies to impact this measure will continue to include comprehensive family planning clinics, community education targeted toward promoting pregnancy planning and delaying early childbearing and parenting programs for adolescent parents that include education on pregnancy planning and delaying subsequent pregnancy.

Regional Maternal and Child Health (RMCH) Coordinators will continue to participate on community-based teen pregnancy prevention coalitions and assist in the development and promotion of diverse activities to keep youth aware of the difficulties and health risks of pregnancy. RMCH Coordinators will also work with communities to increase the awareness of available family planning services.

The Women's Health Division, Department of Human Services and Oklahoma Health Care Authority will continue to work together toward approval and implementation of an 1115(a) Research and Demonstration Waiver to expand eligibility for family planning services from 36% of Federal Poverty Level (FPL) to 185% FPL. Services will include comprehensive history and physical exams, pregnancy testing, laboratory services, provision of contraceptive methods, method counseling, education regarding the method, STD/HIV screening, immunizations and psychosocial services.

Women's Health Division will continue to provide sterilization services for uninsured women and men through contracted providers. Identification and screening will continue to occur at the county health department level with final approval through the Women's Health Division.

"*Life Skills*" training for women receiving Temporary Assistance to Needy Families (TANF) will be expanded to new sites in the state. The Women's Health Division will continue to collaborate with the Oklahoma Institute for Child Advocacy, Department of Human Services, University of Oklahoma College of Public Health and local Vocational-Technical schools to develop and implement a dissemination plan. It is anticipated that TANF funds will be used to facilitate the expansion. The weeklong educational program will address topics of sexuality, talking to children about sexuality, healthy relationships, healthy lifestyles, prevention of sexually transmitted diseases and prevention of unintended pregnancy.

Reduction of the number of subsequent unintended pregnancies will continue to be addressed through the Children First Program, Office of Child Abuse Prevention Family Resource and Support Programs, Margaret Hudson Teen

Parenting Program and Emerson Teen Parenting Program. The Children First Program and Office of Child Abuse Prevention programs will provide contraceptive education before women deliver and will routinely follow up on women after the delivery to assure each woman receives services and uses the chosen method appropriately. Margaret Hudson and Emerson Teen Parenting Programs will continue to provide education and support to adolescent parents on preventing subsequent unintended pregnancies.

MCH, in partnership with the Centers for Disease Control and Prevention (CDC) funded Teen Pregnancy Prevention Project located at the Oklahoma Institute for Child Advocacy, will coordinate with 15 additional agencies and organizations in the state to develop and implement a statewide plan for the reduction of births to 18 and 19 year olds. Technical assistance will be received from the national Joint Work Group that consists of eight national organizations.

SPM#5: *The rate of neural tube defects among live births in Oklahoma.*
The Oklahoma Birth Defects Registry (OBDR) will continue active surveillance. The OBDR Enhancement Project will continue to improve neural tube defects case ascertainment, maintain a statewide neural tube defects recurrence prevention education and referral plan and provide public and professional neural tube defects prevention education. The parents of each child identified by the OBDR will receive a letter informing them their child may qualify for services through CSHCN and/or the Early Intervention (SoonerStart) Program and providing them with a referral to the nearest Department of Human Services county office and county health department.

A statewide neural tube defects occurrence prevention campaign will be planned in collaboration with the Oklahoma Coalition on Folic Acid. Activities will include distribution of educational materials through the Coalition's 22 member organizations and a statewide neural tube defects prevention conference: "*Folic Acid – Make It a Habit!*".

Education and counseling on nutrition to include folate use to prevent neural tube defects will be provided in family planning clinics as a preventive measure. Also, women on entry into MCH maternity care will receive nutrition education and counseling to include the importance of folate and will be provided prenatal vitamins.

The Children First Program will continue to enroll pregnant women into Children First services as early in the pregnancy as possible so that nurses have time to assist the women to improve their health habits during pregnancy. Included in the education will be topics to include nutrition and the importance of folic acid in a pregnant woman's diet.

SPM#6: *The proportion of women who achieve the recommended weight gain during pregnancy.*
The importance of appropriate weight gain during pregnancy will continue to be emphasized to women in maternity clinics. The importance of normal body mass index (BMI) at time of conception will be discussed with women seen in family planning clinics who are considering pregnancy. Pregnancy Risk Assessment Monitoring System (PRAMS) data regarding weight gain during pregnancy will continue to be shared with professionals throughout the year through publications, trainings and conferences.

Pregnant women served by nurses in the Children First Program will have their weight gain monitored during the prenatal period. Weight and nutritional history will be obtained with a baseline weight recorded. Nurses will work with women throughout their pregnancy to assure weight gain is adequate, referring any concerns noted to the woman's primary health care provider. The Children First Program will also facilitate linking pregnant women with the Women, Infants and Children (WIC) Nutrition Program.

SPM #13: *Percent of fathers who are involved in the care-giving of their newborn.*
The Pregnancy Risk Assessment and Monitoring System (PRAMS) data will be used to provide information on fathers' involvement in the care-giving of their newborns. MCH will also look over the next year at what information is or could be available from the Children First, Office of Child Abuse Prevention, Child Guidance and Early Intervention Programs. This information will assist MCH as it moves forward in developing activities to address this new state performance measure. Currently, plans are for state and county level staff in these programs to receive training from a national expert on fatherhood. MCH will then look at how to strengthen components of all MCH programs to enhance the father and child relationship. It is anticipated that the Department of Human Services will partner with MCH in this initiative and assist in supporting part of the training with Temporary Assistance to Needy Families (TANF) funds.

The Women's Health Division will expand "*Dad's Make a Difference*" to at least 2 additional middle high schools. Provided through a collaborative relationship with Department of Human Services' Child Support Enforcement Office, this training program for middle school students focuses on responsible decision making, paternity establishment and the importance of fathers in the lives of their children. The program trains older teens to provide information and skills to younger teens in order to delay sexual involvement and to understand the value of fatherhood.

4.1C.2 *Children*

NPM#5: *Percent of children through age 2 who have completed immunizations for Measles, Mumps, Rubella, Polio, Diphtheria, Tetanus, Pertussis, Hemophilus Influenza and Hepatitis B.*
The Immunization Division will continue to set state policy for childhood immunizations, monitor vaccine coverage levels of children and provide vaccine as needed to meet the immunization needs of uninsured and underinsured children. The 1999 4:3:1 coverage rate for 2 year olds of 78% still falls below the goal of 90%. Examination of individual antigen status indicates efforts to improve state coverage levels must focus on the fourth DTaP while maintaining and/or improving status among other antigens. Data from the Center for Disease Control and Prevention (CDC) indicates efforts to improve coverage should concentrate on the elimination of missed opportunities though outreach, referral, improved documentation of immunizations and assessment of local provider coverage. Strategies that will be applied to meet coverage goals will include expansion of the Oklahoma State Immunization Information System (OSIIS), improving local clinical coverage rates, increasing collaboration with state Medicaid and improving efforts with the Women, Infants and Children (WIC) Nutrition Program.

OSIIS, Oklahoma's statewide computerized immunization registry, will continue to be developed with the goal that 95% of children aged 0-6 will have an active immunization record containing shots other than the first Hepatitis B. Currently, 56% of Oklahoma children are in OSIIS and meet this criteria. Immunization staff will continue to enroll providers in the registry and will work to implement a web enabled version of OSIIS that will allow for broader provider participation and the integration of existing provider databases. In addition to documenting immunization events, OSIIS will continue to generate reminder/referral postcards to parents whose child falls behind schedule. One reminder/referral postcard strategy to be added this year will be a specific focus on children lacking the fourth DTaP.

Strategies for improving local clinical coverage rates incorporate the use of CDC's Clinical Assessment Software Application (CASA) and Assessment, Feedback, Incentives and eXchange (AFIX). Improved understanding of how well a practice is doing with respect to immunization coverage will provide opportunities for the local clinic to identify methods to improve their efforts. Quarterly CASA/AFIX assessments will be conducted at all county health department facilities and annually at 25% of private Vaccine For Children (VFC) provider sites.

Collaboration with the Oklahoma Health Care Authority is proving to increase coverage rates among this special population (2 year old rates: 1999 – 75%; 1998 – 65%). Improved documentation by providers and use of OSIIS will help facilitate further progress.

The Immunization Division will continue to partner with WIC to cross screen young children for services needed by either program. Additionally, local CASA assessments of WIC children will be sought as well as a data linkage between the Two-Year-Old Survey and WIC recipients.

Children First nurses and Office of Child Abuse family resource and support service providers will educate parents regarding the importance of routine immunizations in the prevention of illnesses and recommended immunization schedules. Targeted case management will be provided to assure that children follow up with their primary health care provider to receive needed immunizations on schedule.

The Healthy Child Care Oklahoma Project will educate child care providers and parents on immunization issues. Information will be provided through presentations, articles and handouts.

NPM#6: *The birth rate (per 1,000) for teenagers aged 15 through 17 years.*

The Child and Adolescent Health Division will provide technical assistance and support to 12 community-based teen pregnancy prevention projects located across the state. These projects work with adolescents utilizing research-based curricula shown to be effective in reducing teen pregnancy rates and/or having an effect on delaying sexual activity. Services to parents will emphasize education of parents to be the primary sexuality educators of their children and provide parents with the skills to do this effectively. The projects will also support and facilitate community coalitions with the purposes of building community capacity to address the issue of teen pregnancy and

providing a community environment conducive to delaying early sexual involvement. The University of Oklahoma, College of Public Health will conduct evaluation training and evaluation protocol implementation.

The Child and Adolescent Health Division will work with the Women's Health Division to implement a new plan this year to expand teen pregnancy prevention efforts. This plan will assist interested communities and schools to implement the "*Postponing Sexual Involvement*" curriculum with their middle school population. These communities/schools must identify an individual what will be responsible for curriculum implementation. The Women's Health Division will provide the adult and teen curriculum training and the Child and Adolescent Health Division will provide the curriculum materials with both areas providing needed technical assistance.

The Child and Adolescent Health Division will continue to provide training and presentations on adolescent growth and development to health care providers and educators through trainings held during the year for school teachers, youth service providers and staff from local teen pregnancy prevention projects. These sessions will provide information on growth and development and how to convey information on growth and development to the adolescent audience.

Six (6) communities will be provided services through the Oklahoma Abstinence Education Project. Through an invitation-to-bid (ITB) process, it is anticipated that 1 to 2 additional communities will be provided with these services during FFY 2001. These projects will use age appropriate curricula to promote sexual abstinence among youth 13 through 17 years of age, include an active parent component and demonstrate community participation. Evaluation of each community-based project will be done by the University of Oklahoma, Institute of Public Affairs. Twenty five thousand ($2500) new state dollars were appropriated in the SFY 2000 legislative session to assist with a statewide media campaign.

Women's Health Division's health education staff will continue to provide services to teens and adults. Through a variety of community health education programs, staff will provide information and resources to teens and adults aimed at pregnancy prevention, adolescent growth and development, development of healthy relationships, prevention of sexually transmitted diseases (STDs), resistance skills and information on how parents can talk to teens about sexuality.

Skills-based teen pregnancy programs will continue to be provided to middle, high school and college students to include students with special health care needs. Curricula will include: "*Postponing Sexual Involvement*"; "*Are We Almost There*", "*Streetwise to Sexwise*" and "*Reducing the Risk*". In addition, health educators will provide sexuality and family planning seminars, workshops and trainings to a variety of groups including parents, physicians, nurses, social workers, teachers, faith communities and youth serving organizations. Participants will be provided with information and taught skills enabling them to return to their communities prepared to educate others about the prevention of unintended pregnancy and sexually transmitted disease.

"*Transitions*" training will continue to be offered in at least 3 communities serving at least 100 adults who are working with the 15-17 year old population. This adolescent sexuality training attracts youth service workers, parents, clergy, classroom teachers, school nurses, public health nurses, school board members and social workers.

The Summer Adolescent Health Institute will again be co-sponsored with the Oklahoma Teen Pregnancy Coalition and the Oklahoma Institute for Child Advocacy. The focus of the Institute will be determined in late fall.

NPM#7: *Percent of third grade children who have received protective sealants on at least one permanent molar tooth.*

The 1st Grade Health Survey will be used to obtain population-based estimates on the number of children with protective sealants. This information will be used by the Child and Adolescent Health Division and Dental Service as they work with communities to bring attention to the importance of this effective preventive intervention.

Protective sealants will continue to be offered to children seen in dental clinics in county health departments. Dental health education will also continue to be provided at the community level with topics to include appropriate hygiene, care of one's teeth and protective sealants.

MCH, Dental Service and the Oklahoma Health Care Authority will continue to collaborate through a contractual agreement for the Regional Maternal and Child Health (RMCH) Coordinators to work with local communities in identifying gaps in Medicaid dental services for the MCH/CSHCN populations.

NPM#8: *The death rate per 100,000 from unintentional injuries due to motor vehicle crashes among children aged 14 years and younger.*

MCH will continue to support the Oklahoma SAFE KIDS Coalition through assignment of staff from the Child and Adolescent Health Division to support and coordinate Coalition activities. The Oklahoma SAFE KIDS Coalition is part of a national campaign initiated by Surgeon General C. Everett Koop, M.D., to reduce unintentional injuries among children. SAFE KIDS, a group of organizations and concerned citizens, will continue to persist in its multi-faceted approach to childhood injury: community action, educational interventions, public policy initiatives and media efforts. SAFE KIDS will continue to offer training in child passenger safety across the state specifically targeting hospital discharge nurses, childbirth educators, law enforcement, firefighters, EMS providers, child care providers, county health department staff and any other interested individuals.

SAFE KIDS will also continue to provide child safety seat checks in communities across the state. At least 2 child safety seat check events will occur per month this next year. Technical assistance with child safety seats, both via phone and in one-on-one appointments, will continue to be offered.

The "*Pleased Be Seated* " Program will continue to allow concerned citizens to report vehicles carrying unrestrained children. The families will then be contacted by mail and provided helpful information regarding acquisition of free or reduced-price car seats for their children.

SAFE KIDS will continue its partnership with Infant Crisis Services. Approximately 50 car seats per month are given to low-income families along with instruction in proper use. Infant Crisis Services will screen the clients for eligibility and SAFE KIDS will handle the distribution and training.

All new nurses providing Children First services will receive car seat safety training from Oklahoma SAFE KIDS. Nurses will use the information and training received to educate families on selection, care and appropriate installation and use of car safety restraints for their child.

Oklahoma City Schools for Healthy Lifestyles Program will continue to address unintentional injuries related to car safety restraints. This program, in the Oklahoma City public school district under the leadership of the Oklahoma County Medical Society, will be provided with ongoing technical assistance from MCH. Each school will develop a school-based plan to address issues such as car safety as well as cardiovascular disease prevention, cancer prevention and physical fitness.

SPM#10: *The incidence of confirmed child abuse and neglect.*
Revisions to the OSDH Child Abuse Reporting Procedure and Protocol will be completed to incorporate changes made in state statute during the SFY 2000 legislative session. Training will be provided to health department staff to assure compliance with new state statute.

The Office of Child Abuse Prevention will continue to provide leadership for the statewide promotion of child abuse prevention. The Office of Child Abuse Prevention will assure child abuse prevention efforts target priorities as outlined in the "*State Plan for the Prevention of Child Abuse*". The Office of Child Abuse Prevention will provide technical assistance to the 17 district task forces. These district task forces will continue to develop community-based priorities that are in harmony with the state plan and also implement local child abuse prevention initiatives. In addition, the Office of Child Abuse Prevention will continue to staff meetings of the Interagency Task Force. The Interagency Task Force will continue to develop broad systems initiatives that support the goals and objectives of the state plan.

The Office of Child Abuse Prevention will continue to provide services to families across the state using the Healthy Families America model of voluntary home visitation family resource and support services as well as center-based services. Three hundred thousand ($300,000) new state dollars were appropriated in the SFY 2000 legislative session to expand services. Goals of the Healthy Families America model are to: systematically assess the strengths and needs of a family and refer as needed; enhance family functioning by building trusting relationships, teach

problem solving skills and improve the family's support system; promote positive parent-child interaction; and, promote healthy childhood growth and development. Services will continue to be initiated prenatally or at the time of an infant's birth up to 3 months of age and will continue with the length and intensity based on the needs of the family.

The Office of Child Abuse Prevention will conduct a statewide Child Abuse Prevention Awareness Month campaign in April in collaboration with Prevent Child Abuse America. The campaign will be comprised of news releases, distribution of campaign materials to agencies and organizations statewide and special events.

The Office of Child Abuse Prevention will continue to collaborate with Prevent Child Abuse Oklahoma as well as other agencies, organizations, parents and concerned citizens on the statewide public awareness campaign, "*Never Shake a Baby*". Educational packets will be distributed to community-based family resource and support programs, child care providers and other child advocates.

One hundred thousand ($100,000) new state dollars were appropriated in the SFY 2000 legislative session to the Child Abuse Training and Coordination Program, Office of Child Abuse Prevention. These new funds are to support the Child Abuse Training and Coordination Program continuing to train professionals from a variety of disciplines on identification and intervention related to child abuse and neglect. The Child Abuse Training and Coordination Program will provide technical assistance to state district attorneys' districts having child abuse multidisciplinary assessment teams or needing to implement teams. These teams will consist of prosecutors, medical professionals, mental health staff and child protective service workers. The role of the child abuse multidisciplinary assessment teams will continue to be one of increasing the communication and collaboration among the professionals responsible for identification, investigation, prosecution and treatment of child abuse and neglect to ensure that children in the community are protected.

Four hundred thousand ($400,000) new state dollars were appropriated in the SFY 2000 legislative session for expansion of the Children First Program. The Children First Program will continue to provide home visitation services to low resource women expecting to deliver and/or parent for the first time. Interaction with the mother, child and support system facilitates the development of healthy relationships and appropriate expectations related to parent-child interactions and child development. New nurses hired into the Children First Program will receive Child Abuse Medical Examiner Training. This training provides a base of knowledge that facilitates nurses recognizing early signs of potential abuse and/or neglect and intervening promptly.

Child Guidance staff will continue to provide screening services and parent/community workshops to individuals and families in its efforts to prevent child abuse and neglect. Screening services will be offered to provide early detection of developmental, communication, hearing and behavioral concerns and assist families in accessing resources. Workshops will focus on educational topics such as improving self-esteem, communication and listening

skills, children and divorce, toilet training, strengthening stepfamilies and single parenting. Additional topics will include grandparenting, helping children adjust to a crisis, infant care, television and children, violence prevention, the importance of play, parenting stress management, strengthening the abused child and understanding and living with a child with attention deficit.

The Healthy Families Oklahoma 2000 Conference scheduled in the fall will be sponsored by the Office of Child Abuse Prevention and the Center on Child Abuse and Neglect, Oklahoma University Health Sciences Center (OUHSC).

SPM#8: *The percent of adolescents grades 9-12 smoking tobacco products.*
The Child and Adolescent Health Service and Women's Health Service will continue to work with the OSDH Office of Tobacco Prevention to plan and begin to implement tobacco prevention activities within schools and communities over the next year. The focus will be on elementary and middle school prevention activities and high school cessation programs.

Child and Adolescent Health Service and Child Guidance Service will continue to work with schools on administration of the Youth Risk Behavior Survey (YRBS). Child Guidance staff located in the communities will work with the schools on strategies to impact risky behaviors identified by the YRBS to include the use of tobacco products.

SPM#11: *The prevalence of partner violence in adolescent relationships.*
MCH will implement new initiatives over the next year to target this performance measure and will use the Youth Risk Behavior Survey (YRBS) to provide data on this measure. Child Guidance staff will be trained on a variety of curricula to use with middle and high school students. Curricula that will be explored for possible use includes "*Connections*", "*The Art of Loving Well*" and "*The 7 Habits of Highly Effective Teens*".

In addition, Child and Adolescent Health and Women's Health Divisions will work with communities to provide education on assets building, developing healthy relationships, dating violence and prevention of sexual abuse and sexual coercion.

4.1C.3 *Children with Special Health Care Needs*

There are no specific national or state population-based health care service performance measures for this population.

4.1D <u>Infrastructure</u>

4.1D.1 *Pregnant Women, Mothers and Infants*

NPM#15: *Percent of very low birth weight live births.*
Early entry into prenatal care, education on adequate weight gain and nutritional needs during pregnancy, preconception care, reduction of unintended pregnancy, teen pregnancy prevention, smoking cessation activities and

risk appropriate care will continue to be strategies that MCH uses and promotes to impact this performance measure. MCH will work closely with the Oklahoma Health Care Authority to assure that presumptive eligibility for Medicaid coverage of pregnant women served through public health maternity clinics remains intact. The Family Planning Program will continue to offer free pregnancy testing to women to ensure early entry into care and reduce unintended pregnancy through education on contraception and contraceptive use.

The Pregnancy Risk Assessment Monitoring System (PRAMS) will continue to be a primary source of information to provide a picture of what issues in Oklahoma might be impacting infant birth weight. With funding from the Centers for Disease Control and Prevention (CDC) expected to decrease this year, MCH will be adding additional support to assure this population-based surveillance system is maintained. Information derived from PRAMS will be used to educate health care providers on maternal and infant health issues, recommend health care interventions, monitor health outcomes and provide support for policy changes. This information will be shared through a variety of means to include PRAMS GRAMs, medical journals, nursing journals, presentations at state and national conferences, radio, television and local and state newspapers.

As already mentioned, the Children First Program will provide nurse home visitation services statewide. Pregnant women will be identified and enrolled in the program prior to 28 weeks gestation. Nurses will follow specific protocols and guidelines that include a home visitation schedule. Pregnant women will receive education on appropriate weight gain, nutrition, smoking cessation and the importance of early and routine prenatal care. Specifically related to smoking cessation, all new nurses will be trained in Prochaska's Model of Change and Stages of Readiness. Nurses will be able to assess the desire to quit smoking as well as provide education on the effects of smoking on the pregnancy and child.

NPM#17: *Percent of very low birth weight infants delivered at facilities for high-risk deliveries and neonates.*
MCH will continue to contract with the University of Oklahoma Health Sciences Center, Department of Obstetrics and Gynecology to provide the Perinatal Continuing Education Program (PCEP). This training is targeted to medical and nursing staff in Level I and Level II hospitals. Training will provide participants with knowledge and tools to better recognize and manage obstetrical and newborn emergencies that could impact maternal and infant morbidity and mortality.
NPM#18: *Percent of infants born to pregnant women receiving prenatal care beginning in the first trimester.*
Public health and contracted providers will continue to offer pregnancy testing on a walk-in as needed basis and/or by scheduled appointment. Presumptive eligibility will continue to offer pregnant women entering the system through the public health system the benefit of immediate Medicaid coverage. County health departments will continue to focus efforts on educating communities on Medicaid services, eligibility and how to access services. In addition, outreach efforts to identify women and assist them in applying for Medicaid will continue through a collaborative partnership between MCH, Local Health Service and the Oklahoma Health Care Authority.

SPM#9: *Number of communities with a Turning Point initiative that addresses needs of their MCH populations.*
The state "*Turning Point*" initiative will expand. This initiative's vision of "healthy communities" is being accomplished through restructuring public health through community-based planning. Funding from Robert Wood Johnson will be received to accomplish 3 main objectives: 1) expand Turning Point into each of Oklahoma's 77 counties over the next 4 years; 2) establish a formal process for a partnership approach to public health decision-making through the Oklahoma Turning Point Advisory Committee; and, 3) develop new mechanisms for the flexible use of public health resources. MCH staff to include the Regional Maternal and Child Health (RMCH) Coordinators will continue to provide technical assistance and serve as resources for this initiative. MCH will also continue to fund staff providing leadership for this initiative.

4.1D.2 *Children*

NPM#12: *Percent of children without health insurance.*
The Children's Coordinated Data System Task Force received funding during the SFY 2000 legislative session. One hundred eighty nine thousand dollars ($189,000) and 2 full time equivalent (FTE) positions were provided. The Task Force will be coordinating with the Oklahoma Employment Security Commission (OESC) on strategies to use the OESC's current system as a basis to expand and incorporate other data systems toward the goal of a children's coordinated data system. This system will provide data linkages for the sharing of case information and for aggregate data analysis for planning, research, outcome evaluation and service coordination.

MCH will continue to support and use data from the Oklahoma Toddler Survey (TOTS) for policy and program development. The active surveillance system will continue to be used to identify individual behaviors (early child health risk factors) and system barriers related to health care use and status during the first two years of life.

MCH will continue to collaborate with the Oklahoma Health Care Authority in support of the State Children's Health Insurance Program (SCHIP) and to assure children and their families are informed about SCHIP and how to access services. MCH providers will continue to provide education to and assist families with enrollment in Medicaid. The Regional Maternal and Child Health Coordinators will work with communities to provide this information to families.

The Healthy Child Care Oklahoma Project will collaborate with state and community-based agencies to develop a statewide plan for child care facilities to distribute information on health services and enrollment forms for parents to enroll their children in SCHIP.

NPM#13: *Percent of potentially Medicaid eligible children who have received a service paid by the Medicaid Program.*
As described above and in **4.2B <u>Enabling Services</u>, 4.2B.1 *Pregnant Women, Mothers and Infants*,** MCH continues to educate and assist families with enrollment in Medicaid.

The Children First (C1) Program will continue to assist first time mothers served by the program to complete the Medicaid application process. C1 will continue to receive Medicaid reimbursement for targeted case management services provided to pregnant women, infants and children up to 2 years of age. During SFY 2001, MCH will be re-evaluating this reimbursement rate and negotiating any needed changes with the Oklahoma Health Care Authority.

The Immunization Program will continue to work with the OHCA in sharing and matching data from the Oklahoma State Immunization Information System (OSIIS) Registry with the Medicaid database to facilitate identifying immunization levels of children receiving Medicaid. The agreement entered into this past year with the OHCA for administrative funding to support the OSIIS Registry will continue in SFY 2001. Funds received will be based on a formula that identifies a cost per child. In addition, Immunization staff will continue to meet with and serve as resources to the Directors of the state Medicaid Health Maintenance Organizations.

NPM#16: *The rate (per 100,000) of suicide deaths among youths aged 15-19.*
The Youth Suicide Prevention Task Force created by House Joint Resolution 1018 (1999) will finalize its recommendations for the State Legislature by October 15, 2000. The recommendations will involve the development of a statewide plan for the prevention of suicide among adolescents and young adults through age 24. The state plan will be structured around the core public health functions of assessment, assurance of services and policy development. Components being investigated for possible implementation include the improvement of suicide completion and attempt surveillance, the coordination of mental health services with schools and other community sectors and community trainings involving the identification of suicide warning signs in youth and subsequent referral to services. MCH will continue to provide leadership for these activities through the Child and Adolescent Health Division.

SPM#9: *Number of communities with a Turning Point initiative that addresses needs of their MCH populations.*
MCH will continue to support the "*Turning Point*" initiative as previously discussed **4.1D Infrastructure, 4.1D.1 *Pregnant Women, Mothers and Infants*, SPM#9**: *Number of communities with a Turning Point initiative that addresses needs of their MCH populations.*

4.1D.3 *Children with Special Health Care Needs*

NPM#11: *Percent of Children with Special Health Care Needs (CSHCN) in the State CSHCN program with a source of insurance for primary and specialty care.*
Medicaid, private insurance and the CSHCN Program will continue to be the sources of funding for primary and specialty care. CSHCN will provide information to all its contractors about the medically needy program and how to make appropriate referrals. CSHCN will also increase the visibility of the programs it supports and continue to push for an oversight role in the care of the special needs population receiving Medicaid.

NPM#14: *The degree to which the State assures family participation in program and policy activities in the State CSHCN program.*

Travel and child care stipends for parents will continue to be provided by the CSHCN Program to facilitate parent participation in state level and community-based CSHCN activities to include the Title V Block Grant Hearing. CSHCN will continue to encourage its contract providers to hire parents of special needs children and to actively seek the input of parents and families in the development of policy, procedures and new products. The MCH Parent Advocate will continue to provide leadership through involvement in Family Voices. The MCH Parent Advocate will also continue to participate in meetings with CSHCN staff on family and child health care issues and work with MCH programs providing CSHCN services to facilitate a parent/family focus being central to policy and program development.

SPM#9: *Number of communities with a Turning Point initiative that addresses needs of their MCH populations.* Regional Maternal and Child Health (RMCH) Coordinators will participate in the community-based Turning Point initiatives (see **4.1D Infrastructure, 4.1D.1 *Pregnant Women, Mothers, and Infants*, SPM#9**: *Number of communities with a Turning Point initiative that addresses needs of their MCH populations*). The RMCH Coordinators will assist in the development of community-based needs assessments and actively participate in activities to address needed changes to policy and practice at the community level. The RMCH Coordinators will also serve as liaisons between the state and community levels providing information to facilitate development and changes in state level policy and practice.

SPM#12: *The number of citations related to transition in SoonerStart/Early Intervention and local school special education compliance monitoring reports.*
Strategies will be identified and implemented over the next year that will begin to provide parents and children with special health care needs a foundation (knowledge and skills) to enhance the child's success in school and later, as an adolescent and young adult, in the work force. One strategy will be for the Early Intervention Program (SoonerStart) to use a monitoring approach that requires local team leaders to prepare an annual report. This annual report will include transition information related to children moving out of SoonerStart into the school system. Several transition items in the report will indicate the extent to which multiple options are considered by a broad-based collaborative team, to include the child's parents, within the timelines defined in federal regulations. A state leadership team will review the reports with follow-up site visits to occur at defined intervals and as needed to enhance the transition process.

Another strategy for children with special health care needs in the school system who are transitioning to work or other settings will be through the Special Education Section of the Oklahoma State Department of Education. Staff will make regularly scheduled site visits to local schools to monitor local compliance with the Individuals with Disabilities Education Act (IDEA). MCH will be collaborating with the Oklahoma State Department of Education to obtain baseline data and assist with the development of measures to track compliance as well as improvement in the transition process.

In addition, the Special Education Section of the Oklahoma State Department of Education has received a transition grant from the Office of Special Education Programs. The purpose of the grant is to facilitate the assessment, planning and improvement of the transition process and options for children with special health care needs at the time of making the transition from school to work or other settings. One of the grant activities involves the establishment of 27 local transition councils that include representation from the school, parents, business community and vocational rehabilitation. MCH will be working with the Oklahoma State Department of Education and local councils to expand the representation to include individuals to assist with the transition needs as they relate to access to health care and related services in the community.

4.2 Other Program Activities

4.2A Direct Services

4.2A.1 *Pregnant Women, Mothers and Infants*

MCH will provide maternity services to uninsured and underinsured women through county health departments and contract provider. As identified in the **Annual Report, 2.4A Direct Services, 2.4A.1 *Pregnant Women, Mothers and Infants*,** MCH is finding a decrease in the need to provide full service maternity clinics. Stronger roles are being found in community education, outreach and serving as the entry point for assuring low-income women receive early and appropriate maternity care. In maternity clinics, comprehensive prenatal and postpartum care will be provided by multidisciplinary staff to include physicians, physician assistants, advance practice nurses, nurses, nutritionists, social workers, psychologists, patient care assistants and/or outreach workers. Services will include comprehensive history and physical exams, pregnancy tests, laboratory services, immunizations, ultrasounds, smoking cessation, health education, psychosocial assessments and counseling and genetic assessments and counseling. Clinic staff will facilitate linkages for women and their families to other health care services such as the Women, Infants and Children (WIC) Nutrition Program, family planning, immunizations, child and adolescent health clinical services, dental services, early intervention and child guidance.

MCH and the Oklahoma Health Care Authority have agreed to continue to support presumptive eligibility for Medicaid. This will allow immediate coverage of care for women being served in the public health system. MCH will also be working with the Oklahoma Health Care Authority over the next several months to revise Medicaid reimbursement rates for maternity services provided by MCH.

The Perinatal Hepatitis B Program will work with private and public health care providers on the importance of screening for Hepatitis B during the prenatal period. The program will also work with hospitals to assure that each has a policy and procedures in place for appropriate care of mothers, infants and their families who are positive for Hepatitis B.

MCH will continue to work with metabolic specialists and geneticists in Tulsa to provide preconception diet and counseling for young women with Phenylketonuria (PKU) seeking to become pregnant. MCH will purchase the

formula and the metabolic specialists and geneticists will provide the medical care to include nutrition counseling and follow-up.

The Children First Program will continue to provide limited individual direct health care as needed to the first time mothers and their infants served by the program. Services will be provided per program guidelines, physician order, mother or family member's request and/or nursing assessment. Blood pressure checks, monitoring of weight gain and nutrition assessments will be provided for pregnant women. Measurements of height, weight and/or head circumference, nutrition assessments and developmental screenings will be provided for infants.

Family planning services will be provided by county health departments and contract providers. Services will include comprehensive history and physical exams, pregnancy testing, laboratory services, provision of contraceptive methods, method counseling, education regarding the method, STD/HIV screening, immunizations and psychosocial services. Health promotion and education on breast exams, cervical cancer screening, cholesterol screening, smoking cessation, prevention of STD/HIV, exercise and stress management will also be provided. Sterilization services (tubal ligations and vasectomies) will be available statewide through contract providers. In addition, MCH will be working with the Oklahoma Health Care Authority over the next several months to revise reimbursement rates for family planning services provided by MCH.

Pediatric Nurse Practitioners, Family Nurse Practitioners and physicians will provide well child services to infants. These services will be provided in accordance with guidelines of the American Academy of Pediatrics and Bright Futures. Services will include comprehensive history and physical exams, developmental and nutritional screenings, safety education, immunizations, treatment of minor acute illnesses and anticipatory guidance. Over the next several months, MCH will be working with the Oklahoma Health Care Authority to revise reimbursement rates for these services provided by MCH.

Immunizations will be provided to uninsured and underinsured women, men and infants. Providers will include physician offices, county health departments, community health clinics, federal qualified health centers, rural health clinics, nursing homes and state colleges and universities. With the recent approval of Prevnar for prevention of pneumococcal disease in infants and young children, the Immunization Division will be working with providers and the OSDH Board of Health on implementation of and education on this new childhood immunization.

Dental services will continue to be provided at the 10 county health departments that are currently providing services. Services will include cleanings, topical fluoride, fillings, crowns, x-rays, extractions, oral hygiene instructions and prescriptions for infections.

4.2A.2 *Children*

Pediatric Nurse Practitioners, Family Nurse Practitioners and physicians will provide comprehensive well child care and adolescent health care to uninsured children and youth 0 to 21 years of age. Clinical services will include

comprehensive history and physical exams, developmental and nutritional screenings, immunizations, injury prevention, lead screening, treatment of minor acute illnesses and anticipatory guidance. As indicated **in 4.2A Direct Services, 4.2A.1 *Pregnant Women, Mothers and Infants*,** MCH will be working with the Oklahoma Health Care Authority to revise reimbursement rates. This will also include child and adolescent health care services.

As described in the **Annual Report, 2.4 Direct Services, 2.4A.2 *Children***, the need for child health services has continued to decline across the state. As advance practice nurse positions become vacant, MCH is working with county health departments and their communities to identify alternative positions such as health educators, community planners or epidemiologists to assist with enabling, population-based and infrastructure activities.

Child and Adolescent Health Division, Women's Health Division and OSDH Nursing Service plan to train a second class of Pediatric Nurse Practitioners in the late spring or early summer of 2001 to provide an update on comprehensive adolescent health services to include reproductive health. Training the Pediatric Nurse Practitioners will expand the capacity for MCH to provide additional comprehensive adolescent care, including reproductive health care, for uninsured and underinsured adolescents.

The Children First Program will continue to provide services to children, up to 2 years of age, born to the first time mothers in the program. Limited direct health care services such as measurements of height, weight and/or head circumference, nutrition assessments and developmental screenings were provided per program guidelines, physician order, mother or family member's request and/or nursing assessment.

Childhood blood lead testing for children 0 to 6 years of age will be provided through county health departments, community clinics, private providers and Medicaid providers. Children who are found to have high levels will be followed through the Childhood Lead Poisoning Prevention Program to assure that appropriate treatment and education is received.

Dental services will be provided to children through the 10 county health departments currently providing services. Services will include sealants, fillings, cleanings, topical fluoride, x-rays, extractions, fillings, crowns, oral hygiene instruction and prescriptions for infections.

Child Guidance will provide services through county health departments to children and their families. Services will be provided by psychologists, child development specialists, speech language pathologists, audiologists and social workers. Individual, family and group services will provide screening, testing and intervention for behavioral, communication, developmental and hearing concerns. Services will be short term in nature and intended to improve parent-child interaction and parental knowledge of developmental and behavior management/discipline techniques. MCH will be working with the Oklahoma Health Care Authority over the next year to revise reimbursement rates for child guidance services.

Immunization Division will continue to provide vaccine for childhood immunizations through county health departments, physicians, community clinics, rural health clinics and federal qualified health centers (also see **4.2A Direct Services, 4.2A.1** ***Pregnant Women, Mothers and Infants.***

MCH will continue to work closely with the Oklahoma Health Care Authority around immunization coverage in the state. A contract is in place again this year for the months of July and August for county health departments in rural areas of the state to assist in providing school and child care immunizations for children. This collaborative effort assists in facilitating children receiving needed immunizations for school and child care entry. MCH will continue to encourage parents of children to access their primary care provider for these services. County health departments will provide gap-filling services.

4.2A.3 ***Children with Special Health Care Needs***

MCH and CSHCN will continue to collaborate through a Negotiated Service Plan (NSP). Negotiation of the services to be provided in the NSP is currently occurring.

The Early Intervention Program (SoonerStart) will continue to provide nursing, nutrition, social work, speech language, audiology, psychological, child development, occupational therapy and physical therapy services to children 0 to 3 years of age with a developmental delay. Parents will be encouraged to include their child's primary health care provider in the development of the child's Individualized Family Service Plan (IFSP).

4.2B Enabling Services

4.2B.1 ***Pregnant Women, Mothers and Infants***

Outreach services will be supported by through Title V, Title X, Centers for Disease Control and Prevention (CDC), Medicaid and state funds. MCH, Local Health Service and the Oklahoma Health Care Authority will continue to work together through a contractual agreement. MCH and Local Health Service will provide community-based outreach and education as well as assistance to individuals and families in completing the Medicaid application process. The Oklahoma Health Care Authority will reimburse a fee for each application completed and approved for Medicaid.

MCH will continue to work with its service providers at the community level around the need for Hispanic interpreter services and translation of program education and resource materials. Contracts will be put in place for interpreter services and translation of program materials. MCH will also continue to work with providers to identify volunteers to provide interpreter and translation services and hire support and professional staff with these language skills.

Transportation services to assist individuals and families to keep scheduled health care appointments will continue through contractual agreements in Oklahoma County, Tulsa County and targeted rural areas of the state.

MCH and CSHCN will continue to provide support, technical assistance and funding to the Oklahoma Areawide Services Information System (OASIS). OASIS is the state MCH toll-free telephone information and referral service. OASIS will continue to work with MCH and CSHCN community-based providers to assure resource and referral information is updated annually for telephone and web use.

The Regional Maternal and Child Health (RMCH) Coordinators will continue their focus of development and enhancement of health care delivery systems for the MCH/CSHCN populations. The RMCH Coordinators will participate in state level work groups and community-based task forces. They will assist in outreach efforts, community assessments, planning and implementation of activities/strategies targeted toward impacting Title V national and state performance and outcome measures.

The Children First Program will continue to provide statewide community-based nurse home visitation services to women expecting to deliver and/or parent their first child. Women will be enrolled as early in pregnancy as possible prior to the 28 weeks gestation. Nurses will follow well-developed program protocols that focus on the following domains: personal health of mother and child; environmental health; life course development of the mother; maternal role; family and friend support; and, health and human services. Women and their families will be assisted in identifying and accessing needed community resources facilitating self-sufficiency.

The Office of Child Abuse Prevention will continue to provide family resource and support services through home visitation and center-based activities. Home visitation services will be based on the Healthy Families America model. This model stresses the importance of collaboration at all levels of programming and the need to utilize existing community resources when possible. Program goals are to: systematically assess the strengths and needs of a family and refer as needed; enhance family functioning by building trusting relationships, teach problem solving skills and improve the family's support system; promote positive parent-child interaction; and, promote healthy childhood growth and development. Services will be initiated prenatally or at the time of an infant's birth up to 3 months of age and will continue with length and intensity based on the needs of the family.

The Office of Child Abuse Prevention will be working with the Native American population to provide family resource and support services. Through an invitation-to-bid (ITB) process, approximately $220,000 federal dollars will be awarded to provide these services for the next 2 years. Funding will come from a Community Based Family Resource and Support (CBFRS) Grant received from the Department of Health and Human Services, Administration for Children, Youth and Families, Children's Bureau, Office of Child Abuse and Neglect.

The Child Guidance Division will continue to provide family resource and support services as described in **4.2A Direct Services, 4.2A.2 *Children*.** In addition, outreach, support and referral services will be provided to pregnant women and their families seen through public health maternity clinics. Risk assessments will be completed during

the initial visit by a psychologist or social worker. Appropriate education, short-term intervention or referral to appropriate community resource(s) will be provided.

The Adult Lead Epidemiology and Surveillance Program will continue to work with lead poisoned adults, their health care providers and communities on outreach, education and follow-up to assure that sources of lead exposure are identified and affected adults and their families receive treatment and preventive services.

4.2B.2 *Children*

Outreach and transportation services will be available to assure children can access needed health care (see **4.2B Enabling Services, 4.2B1 *Pregnant Women, Mothers and Infants***).

MCH Programs will focus on implementing strategies to meet the needs of an increasing Hispanic population (see **4.2 Enabling Services, 4.2B1 *Pregnant Women, Mothers and Infants***).

The Regional Maternal and Child Health (RMCH) Coordinators will facilitate enabling services for children as described in **4.2 Enabling Services, 4.2B1 *Pregnant Women, Mothers and Infants***.

The Children First Program will provide services to children up to 2 years of age. Nurses will focus on parent-child relationships through modeling in their interactions with the child, providing anticipatory guidance related to the child's developmental state and initiating/teaching the mother and family members interactive activities to enhance parent-child relationships and child development. Referrals will be made to other community resources such as parent groups, Office of Child Abuse Prevention center-based activities, child guidance services, early intervention (SoonerStart) and child care.

The Office of Child Abuse Prevention will continue to provide family resource and support services to children and their families. Services will be provided through home visitation and center-based activities that will target strengthening parent-child relationships and child development. Referrals will be made to community resources such as child guidance services, early intervention (SoonerStart) and child care.

The Healthy Child Care Oklahoma Project will continue to provide resources to and collaborate with the Center for Early Childhood Professional Development, the Child Care Resource and Referral Agencies, Department of Human Services' Division of Child Care, Head Start and Tribal Child Care. Health and safety training will be done through the Healthy Child Care Oklahoma Project's participation in early childhood conferences throughout the state and through collaboration with the Emergency Medical Services for Children to train child care providers in "*Emergency First Care For Children*" curriculum.

The Healthy Child Care Oklahoma Project will provide the National Training Institute's child care consultant training and resources to county health department child care health consultants, Head Start child care health consultants, tribal child care health consultants and other interested professionals.

The School Health Program will provide technical assistance and consultation to schools, families and other youth serving agencies. MCH staff will continue to participate in activities of the Oklahoma Commission on Children and Youth (OCCY) Strengthening Partnerships Between Schools and Communities Committee. This state level forum will continue to address school health topics such as head lice, immunizations, mental health in the schools, Medicaid reimbursement, rural access to care and asthma control.

The "*Good Health Gets An "A" School Health Calendar*" will be updated and distributed. This calendar will identify health and safety observances with national and local resources listed. A school health newsletter will be developed and distributed twice this next year in a collaborative effort with the Oklahoma State Department of Education.

4.2B.3 *Children with Special Health Care Needs*

The Caring for Infants and Toddlers with Disabilities (CFIT) Program, University Affiliated Program of Oklahoma will continue to train physicians and other medical professionals through community-based presentations. The program, designed to increase physician participation in the early intervention system through replication of a proven model of continuing medical education, will address two important needs: the need of families of children with disabilities to ensure the involvement of their physicians in community early intervention systems; and, the need of physicians to acquire new information and skills in order to be full participants on community-based early intervention teams.

4.2C <u>Population-Based Services</u>

4.2C.1 *Pregnant Women, Mothers and Infants*

The Child and Adolescent Health Division will continue to coordinate Sudden Infant Death Syndrome (SIDS) activities. Education will be provided to individuals and communities on the "*Back To Sleep*" Campaign and the importance of individual and community involvement in spreading the message of prevention of SIDS. Educational information will be provided through statewide and local press releases, materials distributed through mailings, workshops to build awareness and conference exhibits. Local county health department staff (nurses, social workers and psychologists) will continue to be trained as needed to provide follow-up and referral services. A toll free hotline will continue to be available through the Oklahoma SIDS Alliance Chapter, a family support organization for families who experience SIDS deaths.

Women’s Health Division, Office of Child Abuse Prevention, Chronic Disease Service and Injury Prevention Service are collaborating on a Center for Disease Control and Prevention (CDC) grant. The Intimate Partner Violence Surveillance (IPV) Program is a five (5) year grant that will determine the incidence and prevalence of deaths and injuries from intimate partner violence. As part of the grant, the Child Abuse Training and Coordination

Program out of the Office of Child Abuse Prevention and the Women's Health Division will provide training to emergency room personnel in a six county area utilizing the curriculum "*Standardized Documentation for Domestic Violence Injuries*" developed by the Physicians for a Violence Free Society. Each hospital will receive training on use of the screening tool developed out of this grant, strategies for initiating screening for domestic violence and referral sources.

The Women's Health Division, Office of Child Abuse Prevention and Injury Prevention Service will continue to work together to implement a statewide assessment for domestic violence in county health department clinics. Screening questions and a protocol for use of the questions have been developed and will be piloted in MCH clinics. Identification of the pilot sites is to be completed this summer. It is anticipated that this activity will be disseminated statewide over the next year.

The Women's Health Division will provide training and education materials to communities on domestic violence. Information will include domestic violence recognition, prevention of relationship violence and resources for referral.

The Children First Program will continue to train new nurses who come into the Program on domestic violence. Nurses are equipped with information to teach the woman about the cycle of violence, safety plans and community resources and shelters.

The Prevention and Relationship Enhancement Program (PREP) will be implemented in pilot sites in FY 2001with plans to expand these services in FY 2001. Child Guidance Division will take the lead in developing this initiative with an implementation and dissemination plan for these services to be completed by the end of July 2000. Psychologists and social workers will be trained in PREP. PREP is designed to teach partners skills and ground rules for handling conflict and promoting intimacy in six 2-hour sessions. Child Guidance staff will serve as community resources for couple premarital and marriage education.

The Perinatal Hepatitis B Program will use data from the Pregnancy Risk Assessment Monitoring System to identify the number of women who are screened for the Hepatitis B virus. This data will be analyzed with results to be used for program development and to educate providers and hospitals.

The Adult Lead Epidemiology and Surveillance Program will continue to work with communities and health care providers across the state on education and follow-up of adults in conjunction with conducting surveillance by monitoring all blood lead levels greater than or equal to10ug/dL reported by health care providers.

4.2C.2 *Children*

The Child and Adolescent Health Division will continue to be the lead for MCH Programs in working with the Children's Safety Network. Children's Safety Network provided technical assistance to MCH and Injury Prevention

Service this past year assisting the two Services in identifying child safety concerns that could be addressed through collaboration of the Services. A specific activity identified to implement in the coming year will be the development of county specific fact sheets that can be used by MCH Programs to work with county health departments on the specific unintentional childhood injuries that are occurring in a particular county and activities to implement for prevention.

4.2C.3 *Children with Special Health Care Needs*

As described in **4.1C Population-Based Services, 4.1C.1 *Pregnant Women, Mothers and Infants*, SPM# 5**: *The rate of neural tube defects among live births in Oklahoma*, the Oklahoma Birth Defects Registry will be providing educational information on the Early Intervention Program (SoonerStart) and the CSHCN Program to parents of children identified with special health care needs.

The Women's Health Division will provide training at the Summer Adolescent Health Institute to professional adults who work with developmentally and physically disabled youth. The "*Loving Carefully*" curriculum (a family life skills curriculum for the developmentally and physically disabled) will be used for the training.

4.2D Infrastructure

4.2D.1 *Pregnant women, Mothers and Infants*

MCH will continue to work closely with other Services in Personal Health Services and also with Local Health Service as further development of a management information system continues. This system has a core demographics module that will eventually link with individual program modules that are to be developed. It is anticipated that once complete, this system will provide data for state level programs to accomplish policy development and program planning and also provide county health departments with needed information for community-based planning and program development. Family Planning has been the initial program developed and linked to the core demographics module. Pilots have been completed and plans are to move the system statewide in the next several months. The Oklahoma State Immunization Information System (OSIIS) Registry, Children First Program, Office of Child Abuse Prevention and Child and Adolescent Health are scheduled to be added during the next year.

MCH will continue to provide technical assistance and serve as a resource for the Tulsa Healthy Start and Oklahoma City Healthy Start Projects as they continue to provide services to impact infant mortality and enhance the health of children and their families.

4.2D.2 *Children*

The State Systems Development Initiative (SSDI) will provide MCH with the opportunity to strengthen its capacity to assess high-risk health conditions and behaviors of children. The goals of SSDI will be to: implement the Youth Risk Behavior Survey (YRBS) and First and Fifth Grade Health Surveys on a core statewide basis; develop and implement a YRBS appropriate for middle school-aged children in grades 6-8; accurately measure selected performance measures relating to the populations of Children with Special Health Care Needs; and, build a reliable and consistent framework whereby birth certificate, Medicaid eligible and paid claims, WIC eligible, hospital

discharge, PRAMS, TOTS and birth defects registry files are annually linked and supported by the Oklahoma Health Care Authority, Department of Human Services and Oklahoma State Department of Health.

MCH has completed "*Oklahoma State Department of Health Standards for School Health*", a tool for schools to use in improving students' health. The tool is a document containing standards and guidelines for schools to use in developing and implementing school health programs. The "*Oklahoma State Department of Health Standards for School Health*" has been approved and signed by Oklahoma State Superintendent of Education, Sandy Garrett, and by the Acting Director of the Department of Health, Jerry Regier. MCH will be distributing this document to schools and county health departments in the next month. Child and Adolescent Health staff and county health department staff will serve as resources to schools as they use this tool to develop their programs.

Child Guidance staff across the state will continue to participate in local community groups to improve local collaboration and coordination among service providers. These will include the Oklahoma Commission on Children and Youth (OCCY) Community Partnership Boards, Child Abuse Prevention District Task Forces and local Turning Point partnerships. The goal of participation will be to assure that the behavioral health, developmental, parenting, speech, language and hearing concerns of a community are addressed through representation of staff within those specialty areas. Child Guidance staff will also continue to work closely with schools, local Department of Human Services staff, youth services agencies, child care providers and many other professionals to assure a continuum of care is available to address the concerns related to service provision.

The Childhood Lead Poisoning Prevention Program will use surveillance data from Geographical Imaging System software to plot the locations of children with elevated blood lead levels, designate high and low risk zip code areas and target education and services. Additionally, the Childhood Lead Poisoning Prevention Program staff will continue to provide technical assistance/consultation and facilitate community-based initiatives for the Ottawa County Lead Project. This Project will continue to focus on the institutionalization of lead poisoning prevention education and the monitoring of blood lead levels within the Tar Creek Super Fund Site.

The Child and Adolescent Health Division will begin to identify local, state and federal resources for development of services to prevent child and adolescent drug and alcohol use and violence. The Child and Adolescent Health Division will also coordinate with the Area Prevention Resource Centers across the state to look at systems in place and needed systems changes.

4.2D.3 *Children with Special Health Care Needs*

SSDI will enhance the development of data systems that will impact more accurate information being available on the CSHCN population (see **4.2 Infrastructure, 4.2D.2 *Children***). A screening tool will be added to the First and Fifth Grade Health Surveys to determine the percent of CSHCN in the state who have a "medical/health home" and the percent of CSHCN in the state CSHCN Program with a source of insurance for primary and specialty care.

MCH has received a Maternal and Child Health Bureau (MCHB) State Genetics Planning Grant. This 2 year grant will allow MCH to: plan and implement a genetics needs assessment, assess current child health information systems and data integration efforts and develop a plan for enhancement of these systems and efforts, implement data integration efforts identified in the plan and develop a state genetics plan to develop new services and improve existing systems.

4.3 Public Input

Public input was received from 109 individuals representing diverse socio-economic, racial and cultural backgrounds through 4 regional public hearings held during the months of March and April 2000. A facilitation tool of 50 questions was developed based on MCH national and state performance measures. This tool was used by the Regional Maternal and Child Health Coordinators to facilitate discussion and obtain information on Title V MCH and CSHCN services. Information obtained was compiled and put into a written report which was used by MCH and CSHCN in their planning and development of the FFY 2001 Title V Block Grant application.

4.4 Technical Assistance

The Oklahoma Title V Program continues to move toward an integrated data system at both the state and local level for establishing priorities, promoting outcomes and quality of care analysis, program evaluation and cost analysis. Technical assistance on design of management information systems specifically related to security and confidentiality remains a critical need. In the past year, Personal Health Services, of which MCH is a part, and Local Health Services have worked closely to begin the design and implementation of a management information system that has a core demographics module which will eventually link with individual program modules. The vision is that once this system is completed that direct health care, enabling and population-based services delivered by county health departments and contractors will be better documented with data available for analysis for program management and development of needed policy and procedures. Family Planning has been the program focused on this past year. This next year, the Oklahoma State Immunization Information System (OSIIS) Registry, Children First Program, Office of Child Abuse Prevention and Child and Adolescent Health are scheduled to be added.

MCH recently completed an organizational change process that occurred over a 2 year span. Now, the agency as a whole is undergoing organizational restructuring due to changes in agency leadership. As requested last year, MCH would benefit from technical assistance in the areas of organization change, negotiation and inter-agency collaboration.

Genetics is a growing area of focus in MCH. As identified in the Annual Report, the formation of the Oklahoma Genetics Advisory Council in late 1999 has facilitated MCH looking at national and state issues. MCH recently received a MCHB State genetics planning grant. This grant will allow MCH to have a state level coordinator for the next 2 years to focus on the development of a statewide genetics plan that also will involve integration of data systems. MCH is, as previously stated, requesting technical assistance related to design of management information systems and, in addition, is requesting technical assistance related to states with successful models of statewide genetics services sharing their experiences to include lessons learned.

V. Supporting Documents

5.1 Glossary

Adequate prenatal care – Prenatal care where the observed to expected prenatal visits is greater than or equal to 80%(the Kotelchuck index).

Administration of Title V Funds - The amount of funds the State uses for the management of the Title V allocation. It is limited by statute to 10 percent of the Federal Title V allotment.

Assessment - (see "Needs Assessment")

Capacity - Program capacity includes delivery systems, workforce, policies, and support systems (e.g., training, research, technical assistance, and information systems) and other infrastructure needed to maintain service delivery and policy making activities. Program capacity results measure the strength of the human and material resources necessary to meet public health obligations. As program capacity sets the stage for other activities, program capacity results are closely related to the results for process, health outcome, and risk factors. Program capacity results should answer the question, "What does the State need to achieve the results we want?"

Capacity Objectives - Objectives that describe an improvement in the ability of the program to deliver services or affect the delivery of services.

Care Coordination Services for CSHCN - Those services that promote the effective and efficient organization and utilization of resources to assure access to necessary comprehensive services for children with special health care needs and their families. *[Title V Sec. 501(b)(3)*]

Carryover (as used in Forms 2 and 3) - The unobligated balance from the previous year' s MCH Block Grant Federal Allocation.

Case Management Services - For pregnant women - those services that assure access to quality prenatal, delivery and postpartum care. For infants up to age one - those services that assure access to quality preventive and primary care services. *[Title V Sec. 501(b)(4)]*

Children -A child from 1st birthday through the 21st year, who is not otherwise included in any other class of individuals.

Children With Special Health Care Needs (CSHCN) - ***(For budgetary purposes)*** Infants or children from birth through the 21st year with special health care needs who the State has elected to provide with services funded through Title V. CSHCN are children who have health problems requiring more than routine and basic care including children with or at risk of disabilities, chronic illnesses and conditions and health-related education and behavioral problems. ***(For planning and systems development)*** Those children who have or are at increased risk for chronic physical, developmental, behavioral, or emotional conditions and who also require health and related services of a type or amount beyond that required by children generally.

Children With Special Health Care Needs (CSHCN) - Constructs of a Service System

1. State Program Collaboration with Other State Agencies and Private Organizations

States establish and maintain ongoing interagency collaborative processes for the assessment of needs with respect to the development of community-based systems of services for CSHCN. State programs collaborate with other agencies and organizations in the formulation of coordinated policies, standards, data collection and analysis, financing of services, and program monitoring to assure comprehensive, coordinated services for CSHCN and their families.

2. State Support for Communities

State programs emphasize the development of community-based programs by establishing and maintaining a process for facilitating community systems building through mechanisms such as technical assistance and consultation, education and training, common data protocols, and financial resources for communities engaged in systems development, to assure that the unique needs of CSHCN are met.

3. Coordination of Health Components of Community-Based Systems

A mechanism exists in communities across the State for coordination of health services with one another. This includes coordination among providers of primary care, habilitative and rehabilitative services, other specialty medical treatment services, mental health services, and home health care.

4. Coordination of Health Services with Other Services at the Community Level

A mechanism exists in communities across the State for coordination and service integration among programs serving CSHCN, including early intervention and special education, social services, and family support services.

Classes of Individuals - Authorized persons to be served with Title V funds. See individual definitions under "Pregnant Women," "Infants," "Children with Special Health Care Needs," "Children," and "Others."

Community - A group of individuals living as a smaller social unit within the confines of a larger one due to common geographic boundaries, cultural identity, a common work environment, common interests, etc.

Community-based Care - Services provided within the context of a defined community.

Community-based Service System - An organized network of services that are grounded in a plan developed by a community and that is based upon needs assessments.

Coordination (see Care Coordination Services)

Culturally Sensitive - The recognition and understanding that different cultures may have different concepts and practices with regard to health care; the respect of those differences and the development of approaches to health care with those differences in mind.

Culturally Competent - The ability to provide services to clients that honor different cultural beliefs, interpersonal styles, attitudes and behaviors and the use of multicultural staff in the policy development, administration and provision of those services.

Deliveries - Women who received a medical care procedure associated with the delivery or expulsion of a live birth or fetal death (gestation of 20 weeks or greater).

Direct Health Services - Those services generally delivered one-on-one between a health professional and a patient in an office, clinic or emergency room which may include primary care physicians, registered dietitians, public health or visiting nurses, nurses certified for obstetric and pediatric primary care, medical social workers, nutritionists, dentists, sub-specialty physicians who serve children with special health care needs, audiologists, occupational therapists, physical therapists, speech and language therapists, specialty registered dietitians. Basic services include what most consider ordinary medical care: inpatient and outpatient medical services, allied health services, drugs, laboratory testing, x-ray services, dental care, and pharmaceutical products and services. State Title V programs support - by directly operating programs or by funding local providers - services such as prenatal care, child health including immunizations and treatment or referrals, school health and family planning. For CSHCN, these services include specialty and subspecialty care for those with HIV/AIDS, hemophilia, birth defects, chronic illness, and other conditions requiring sophisticated technology, access to highly trained specialists, or an array of services not generally available in most communities.

Enabling Services - Services that allow or provide for access to and the derivation of benefits from, the array of basic health care services and include such things as transportation, translation services, outreach, respite care, health education, family support services, purchase of health insurance, case management, coordination with Medicaid, WIC and educations. These services are especially required for the low income, disadvantaged, geographically or culturally isolated, and those with special and complicated health needs. For many of these individuals, the enabling services are essential - for without them access is not possible. Enabling services most commonly provided by agencies for CSHCN include transportation, care coordination, translation services, home visiting, and family outreach. Family support activities include parent support groups, family training workshops, advocacy, nutrition and social work.

EPSDT – Early and Periodic Screening, Diagnosis and Treatment – a program for medical assistance recipients under the age of 21, including those who are parents. The program has a Medical protocol and Periodicity Schedule for well-child screening that provides for regular health check-ups, vision/hearing/dental screenings, immunizations and treatment for health problems.

Family-centered Care - A system or philosophy of care that incorporates the family as an integral component of the health care system.

Federal (Allocation) (as it applies specifically to the Application Face Sheet [SF 424] and Forms 2 and 3) -The monies provided to the States under the Federal Title V Block Grant in any given year.

Government Performance and Results Act (GPRA) - Federal legislation enacted in 1993 that requires Federal agencies to develop strategic plans, prepare annual plans setting performance goals, and report annually on actual performance.

Health Care System - The entirety of the agencies, services, and providers involved or potentially involved in the health care of community members and the interactions among those agencies, services and providers.

Infants - Children under one year of age not included in any other class of individuals.

Infrastructure Building Services - The services that are the base of the MCH pyramid of health services and form its foundation are activities directed at improving and maintaining the health status of all women and children by providing support for development and maintenance of comprehensive health services systems including development and maintenance of health services standards/guidelines, training, data and planning systems. Examples include needs assessment, evaluation, planning, policy development, coordination, quality assurance, standards development, monitoring, training, applied research, information systems and systems of care. In the development of systems of care it should be assured that the systems are family centered, community based and culturally competent.

Jurisdictions – As used in the Maternal and Child Health block grant program: the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, the Republic of the Marshall Islands, the Federated States of Miconesia and the Republic of Palau.

Kotelchuck Index – An indicator of the adequacy of prenatal care. See *Adequate Prenatal Care*.

Local Funding (as used in Forms 2 and 3)-Those monies deriving from local jurisdictions within the State that are used for MCH program activities.

Low Income - An individual or family with an income determined to be below the income official poverty line defined by the Office of Management and Budget and revised annually in accordance with section 673(2) of the Omnibus Budget Reconciliation Act of 1981. *[Title V, Sec. 501 (b)(2)]*

MCH Pyramid of Health Services - (see "Types of Services")

Measures - (see "Performance Measures")

Needs Assessment - A study undertaken to determine the service requirements within a jurisdiction. For maternal and child health purposes, the study is aimed at determining:

1) What is essential in terms of the provision of health services;
2) What is available, and
3) What is missing.

Objectives - The yardsticks by which an agency can measure its efforts to accomplish a goal. (See also "Performance Objectives")

Other Federal Funds (Forms 2 and 3) - Federal funds other than the Title V Block Grant that are under the control of the person responsible for administration of the Title V program. These may include, but are not limited to: WIC, EMSC, Healthy Start, SPRANS, AIDS monies, CISS funds, MCH targeted funds from CDC and MCH Education funds.

Others (as in Forms 4, 7, and 10) - Women of childbearing age, over age 21, and any others defined by the State and not otherwise included in any of the other listed classes of individuals.

Outcome Objectives - Objectives that describe the eventual result sought, the target date, the target population, and the desired level of achievement for the result. Outcome objectives are related to health outcome and are usually expressed in terms of morbidity and mortality.

Outcome Measure - The ultimate focus and desired result of any set of public health program activities and interventions is an improved health outcome. Morbidity and mortality statistics are indicators of achievement of health outcome. Health outcomes results are usually longer term and tied to the ultimate program goal. Outcome measures should answer the question, "Why does the State do our program?"

Performance Indicator - The statistical or quantitative value that expresses the result of a performance objective.

Performance Measure - A narrative statement that describes a specific maternal and child health need, or requirement, that, when successfully addressed, will lead to, or will assist in leading to, a specific health outcome within a community or jurisdiction and generally within a specified time frame. (Example: "The rate of women in [State] who receive early prenatal care in 19__." This performance measure will assist in leading to [the health outcome measure of] reducing the rate of infant mortality in the State).

Performance Measurement - The collection of data on, recording of, or tabulation of results or achievements, usually for comparing with a benchmark.

Performance Objectives - A statement of intention with which actual achievement and results can be measured and compared. Performance objective statements clearly describe what is to be achieved, when it is to be achieved, the extent of the achievement, and target populations.

Population Based Services - Preventive interventions and personal health services, developed and available for the entire MCH population of the State rather than for individuals in a one-on-one situation. Disease prevention, health promotion, and statewide outreach are major components. Common among these services are newborn screening, lead screening, immunization, Sudden Infant Death Syndrome counseling, oral health, injury prevention, nutrition and outreach/public education. These services are generally available whether the mother or child receives care in the private or public system, in a rural clinic or an HMO, and whether insured or not.

PRAMS – Pregnancy Risk Assessment Monitoring System – a surveillance project of the Centers for Disease Control and Prevention (CDC) and State health departments to collect State-specific, population-based data on maternal attitudes and experiences prior to, during, and immediately following pregnancy.

Pregnant Woman - A female from the time that she conceives to 60 days after birth, delivery, or expulsion of fetus.

Preventive Services - Activities aimed at reducing the incidence of health problems or disease prevalence in the community, or the personal risk factors for such diseases or conditions.

Primary Care - The provision of comprehensive personal health services that include health maintenance and preventive services, initial assessment of health problems, treatment of uncomplicated and diagnosed chronic health problems, and the overall management of an individual's or family's health care services.

Process - Process results are indicators of activities, methods, and interventions that support the achievement of outcomes (e.g., improved health status or reduction in risk factors). A focus on process results can lead to an understanding of how practices and procedures can be improved to reach successful outcomes. Process results are a mechanism for review and accountability, and as such, tend to be shorter term than results focused on health outcomes or risk factors. The utility of process results often depends on the strength of the relationship between the process and the outcome. Process results should answer the question, "Why should this process be undertaken and measured (i.e., what is its relationship to achievement of a health outcome or risk factor result)?"

Process Objectives - The objectives for activities and interventions that drive the achievement of higher-level objectives.

Program Income (as used in the Application Face Sheet [SF 424] and Forms 2 and 3) - Funds collected by State MCH agencies from sources generated by the State's MCH program to include insurance payments, MEDICAID reimbursements, HMO payments, etc.

Risk Factor Objectives - Objectives that describe an improvement in risk factors (usually behavioral or physiological) that cause morbidity and mortality.

Risk Factors - Public health activities and programs that focus on reduction of scientifically established direct causes of, and contributors to, morbidity and mortality (i.e., risk factors) are essential steps toward achieving health outcomes. Changes in behavior or physiological conditions are the indicators of achievement of risk factor results. Results focused on risk factors tend to be intermediate term. Risk factor results should answer the question, "Why should the State address this risk factor (i.e., what health outcome will this result support)?"

State - As used in this guidance, includes the 50 States and the 9 jurisdictions of the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, the Republic of the Marshall Islands, the Federated States of Micronesia and the Republic of Belau.

State Funds (as used in Forms 2 and 3) - The State's required matching funds (including overmatch) in any given year.

Systems Development - Activities involving the creation or enhancement of organizational infrastructures at the community level for the delivery of health services and other needed ancillary services to individuals in the community by improving the service capacity of health care service providers.

Technical Assistance (TA) - The process of providing recipients with expert assistance of specific health related or administrative services that include; systems review planning, policy options analysis, coordination coalition building/training, data system development, needs assessment, performance indicators, health care reform wrap around services, CSHCN program development/evaluation, public health managed care quality standards development, public and private interagency integration, and identification of core public health issues.

Title XIX, number of infants entitled to - The unduplicated count of infants who were eligible for the State's Title XIX (MEDICAID) program at any time during the reporting period.

Title XIX, number of pregnant women entitled to - The number of pregnant women who delivered during the reporting period who were eligible for the State's Title XIX (MEDICAID) program

Title V, number of deliveries to pregnant women served under - Unduplicated number of deliveries to pregnant women who were provided prenatal, delivery, or post-partum services through the Title V program during the reporting period.

Title V, number of infants enrolled under - The unduplicated count of infants provided a direct service by the State's Title V program during the reporting period.

Total MCH Funding - All the MCH funds administered by a State MCH program which is made up of the sum of the ***Federal*** Title V Block Grant allocation, the ***Applicant's*** funds (carryover from the previous year's MCH Block Grant allocation - the unobligated balance), the ***State*** funds (the total matching funds for the Title V allocation - match and overmatch), ***Local*** funds (total of MCH dedicated funds from local jurisdictions within the State), ***Other*** Federal funds (monies other than the Title V Block Grant that are under the control of the person responsible for administration of the Title V program), and ***Program Income*** (those collected by State MCH agencies from insurance payments, MEDICAID, HMO's, etc.).

Types of Services - The major kinds or levels of health care services covered under Title V activities. See individual definitions under "Infrastructure Building," "Population Based Services," "Enabling Services," and "Direct Medical Services."

YRBS – Youth Risk Behavior Survey – A national school-based survey conducted annually by CDC and State health departments to assess the prevalence of health risk behaviors among high school students.

5.2 Assurances and Certifications

ASSURANCES -- NON-CONSTRUCTION PROGRAMS

Note: Certain of these assurances may not be applicable to your project or program. If you have any questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States, and if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will establish safeguards to prohibit employees from using their position for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. Sects. 4728-2763) relating to prescribed standards for merit systems for programs funded under one of the nineteen statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

6. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to (a) Title VI of the Civil Rights Act of 1964 (P.L. 88 Sect. 352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. Sects. 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. Sect. 794), which prohibits discrimination on the basis of handicaps; (d) The Age Discrimination Act of 1975, as amended (42 U.S.C. Sects 6101 6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office of Treatment Act of 1972 (P.L. 92-255), as amended, relating to non-discrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to non-discrimination on the basis of alcohol abuse or alcoholism; (g) Sects. 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. Sect. 3601 et seq.), as amended, relating to non-discrimination in the sale, rental, or financing of housing; (i) any other non-discrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other non-discrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

8. Will comply with the provisions of the Hatch Act (5 U.S.C. Sects 1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. Sects. 276a to 276a-7), the Copeland Act (40 U.S.C. Sect 276c and 18 U.S.C. Sect. 874), the Contract Work Hours and Safety Standards Act (40 U.S.C. Sects. 327-333), regarding labor standards for federally assisted construction subagreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in flood plains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. Sects. 1451 et seq.); (f) conformity of Federal actions to State (Clear Air) Implementation Plans under Section 176(c) of the Clear Air Act of 1955, as amended (42 U.S.C. 7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. Sects 1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers systems

13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. Sect. 470), EO 11593 (identification and preservation of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. Sects. 469a-1 et seq.)

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. Sect. 2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by the award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. Sects. 4801 et seq.) which prohibits the use of lead based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act of 1984.

18. Will comply will all applicable requirements of all other Federal laws, executive orders, regulations and policies governing this program.

CERTIFICATIONS

1. CERTIFICATION REGARDING DEBARMENT AND SUSPENSION

By signing and submitting this proposal, the applicant, defined as the primary participant in accordance with 45 CFR Part 76, certifies to the best of its knowledge and belief that it and its principals:

(a) are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal Department or agency;
(b) have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission or fraud or criminal judgment in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
(c) are not presently indicted or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission or any of the offenses enumerated in paragraph (b) of the certification; and
(d) have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

Should the applicant not be able to provide this certification, an explanation as to why should be placed after the assurances page in the application package.

The applicant agrees by submitting this proposal that it will include, without modification, the clause, titled "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion -- Lower Tier Covered Transactions" in all lower tier covered transactions (i.e. transactions with sub-grantees and/or contractors) in all solicitations for lower tier covered transactions in accordance with 45 CFR Part 76.

2. CERTIFICATION REGARDING DRUG-FREE WORKPLACE REQUIREMENTS

The undersigned (authorized official signing for applicant organization) certifies that the applicant will, or will continue to, provide a drug-free workplace in accordance with 45 CFR Part 76 by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;
(b) Establishing an ongoing drug-free awareness program to inform employees about-
    (1) The dangers of drug abuse in the workplace;
    (2) The grantee's policy of maintaining a drug-free workplace,
    (3) Any available drug counseling, rehabilitation, and employee assistance programs; and
    (4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a) above;
(d) Notifying the employee in the statement required by paragraph (a) above, that, as a condition of employment under the grant, the employee will-
    (1) Abide by the terms of the statement; and
    (2) Notify the employer in writing of his or her conviction for violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;
(e) Notify the agency in writing within ten calendar days after receiving notice under paragraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer or other designee on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected grant;
(f) Taking one of the following actions, within 30 calendar days of receiving notice under paragraph (d)(2), with respect to any employee who is so convicted-

(1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended, or
(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e), and (f).

For purposes of paragraph (e) regarding agency notification of criminal drug convictions, the DHHS has designated the following central point for receipt of such notices:

Division of Grants Policy and Oversight
Office of Management and Acquisition
Department of Health and Human Services
Room 517-D
200 Independence Avenue, S.W.
Washington, D.C. 20201

3. CERTIFICATION REGARDING LOBBYING

Title 31, United States Code, Section 1352, entitled "Limitation on use of appropriated funds to influence certain Federal contracting and financial transactions," generally prohibits recipients of Federal grants and cooperative agreements from using Federal (appropriated) funds for lobbying the Executive or Legislative Branches of the Federal Government in connection with a SPECIFIC grant or cooperative agreement. Section 1352 also requires that each person who requests or receives a Federal grant or cooperative agreement must disclose lobbying undertaken with non-Federal (non-appropriated) funds. The requirements apply to grants and cooperative agreements EXCEEDING $100,000 in total costs (45 CFR Part 93).

The undersigned (authorized official signing for the applicant organization) certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
(2) If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. (If needed, Standard Form-LLL, "Disclosure of Lobbying Activities," its instructions, and continuation sheet are included at the end of this application form.)
(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

4. CERTIFICATION REGARDING PROGRAM FRAUD CIVIL REMEDIES ACT (PFCRA)

The undersigned (authorized official signing for the applicant organization) certifies that the statements herein are true, complete, and accurate to the best of his or her knowledge, and that he or she is aware that any false, fictitious, or fraudulent statements or claims may subject him or her to criminal, civil, or administrative penalties. The undersigned agrees that the applicant organization will comply with the Public Health Service terms and conditions of award if a grant is awarded as a result of this application.

5. CERTIFICATION REGARDING ENVIRONMENTAL TOBACCO SMOKE

Public Law 103-227, also know as the Pro-Children Act of 1994 (Act), requires that smoking not be permitted in any portion of any indoor facility owned or leased or contracted for by an entity and used routinely or regularly for the provision of health, day care, early childhood development services, education or library services to children under the age of 18 if the services are funded by Federal programs either directly or through State or local governments by Federal grant, contract, loan, or loan guarantee. The law also applies to children's services that are provided in indoor facilities that are constructed, operated, or maintained with such Federal funds. The law does not apply to children's services provided in private residences; portions of facilities used for inpatient drug or alcohol treatment; service providers whose sole source of applicable Federal funds is Medicare or Medicaid; or facilities where WIC coupons are redeemed. Failure to comply with the provisions of the law may result in the imposition of a monetary penalty of up to $1,000 for each violation and/or the imposition of an administrative compliance order on the responsible entity.

By signing this certification, the undersigned certifies that the applicant organization will comply with the requirements of the Act and will not allow smoking within any portion of any indoor facility used for the provision of services for children as defined by the Act.

The applicant organization agrees that it will require that the language of this certification be included in any subawards which contain provisions for children's services and that all subrecipients shall certify accordingly.

The Public Health Service strongly encourages all grant recipients to provide a smoke free workplace and promote the non-use of tobacco products. This is consistent with the PHS mission to protect and advance the physical and mental health of American people.

5.3 OTHER SUPPORTING DOCUMENTS

MEMORANDUM OF AGREEMENT

This Agreement, made and entered into this ____ day of _____, 2000, is between the Department of Health, hereinafter referred to as OSDH, and the Department of Human Services, hereinafter referred to as DHS. This Agreement is made by virtue of the authority vested in Title 74, O.S. 1991, section 581. The term of this Agreement shall be for the Federal Fiscal Year 2001, beginning October 1, 2000 and ending September 30, 2001.

Purpose of this Agreement is as follows: Whereas, the State of Oklahoma has designated the OSDH and the DHS as the agencies responsible for the Maternal and Child Health (MCH) Block Grant, Title V of the Social Security Act, as authorized under the federal Omnibus Reconciliation Act of 1989, and the DHS has been designated by the State of Oklahoma as the state agency pursuant to Title 10, O.S. Supp. 1995, Section 175.5 to administer the Children with Special Health Care Needs (CSHCN) program, which is a portion of the federal MCH Block Grant, the DHS and OSDH will jointly seek to provide services to the CSHCN population of the State of Oklahoma. The allocation percentages of program funds pursuant to 42 U.S.C., Section 705 (a)(3)(B) shall result in the distribution of 30 percent of the MCH Block Grant for CSHCN program services. The allocation of administrative funds pursuant to 42 U.S.C. Section 704 (d) shall result in the distribution of an amount not to exceed 3 and 1/3 percent of the MCH Block Grant for administrative costs incurred in the administration of the CSHCN program.

The Terms of this Agreement are as follows:

The DHS agrees to:

1. Develop and carry out a program for Children with Special Health Care Needs in accordance with all applicable Federal and State requirements that govern the MCH Block Grant including any program reporting requirements that apply to the Grant.

2. Coordinate with the OSDH and be responsible for the development of the CSHCN portion of the annual block grant application and report. The annual application and report shall follow the guidelines as issued by the federal Department of Health and Human Services, Maternal and Child Health Bureau.

3. Expend funds covered under this Agreement in accordance with the approved annual block grant application and budget which is considered a part of this Agreement. DHS shall insure compliance with the state matching and maintenance of effort requirements applicable to the DHS share of block grant funds received in accordance with this agreement.

4. Negotiate a written service plan with OSDH for mutually agreed upon CSHCN program services provided by OSDH.

The OSDH agrees to:

1. Coordinate with the DHS in the development of the CSHCN portion of the annual block grant application and report. The annual application and report shall follow the guidelines as issued by the federal Department of Health and Human Services, Maternal and Child Health Bureau.

2. Make CSHCN funds directly available to DHS for program activities and administrative costs with payments to be made monthly or quarterly based on the request from DHS to OSDH. It is understood that the amount of this Agreement is based on appropriation information provided by the Department of Health and Human Services and is contingent upon the actual Block Grant Fund Award. The DHS will send to the OSDH, sufficient information for a Request for Draw against LOC#7508 V 790. Upon receipt of funds from the electronic transfer process, the amount allocated to the DHS will be deposited on an official depository fund to Fund 340, Agency 830, Source Code 55101 by the OSDH and the deposit will be submitted to the Office of State Treasurer. The OSDH will send a copy of the official depositor form to the DHS, Chief Financial Officer for Finance.

Audit Clause: The DHS shall comply with all audit requirements as may be required for the Block Grant. DHS shall be fiscally accountable for any audit exceptions that occur or disallowances imposed by the Federal Granting Authority with regard to program and administrative costs related to those CSHCN activities that are carried out or contracted for by DHS. DHS agrees to maintain records and supporting documentation, including an acceptable form of personnel time and effort for validation of costs billed to the OSDH, as specified in the OMB Circulars A-102, A-87, A-133, as applicable. DHS agrees to allow the State Auditor's Office, the OSDH, or their authorized representative access to the records, books, documents accounting procedures, practices or any items of the services provided relevant to this contract for purpose of audit, examinations, etc.

Equipment and Other Purchases: DHS is approved to purchase items of equipment under the provisions of the Title V MCH management procedures. All inventory, maintenance and repair of items shall be the responsibility of DHS.

Cancellation of Clause: This Agreement shall be in force until expiration date, or until thirty (30) days after notice has been given by the OSDH or DHS of its desire to terminate the Agreement. Notification of cancellation shall be by Certified Mail to the business address of record.

Assignment and Delegation Clause: The responsibilities of DHS within this Agreement are unique and may not be subcontracted either formally or informally without the prior written approval by of OSDH.

Access to Records: DHS agrees to maintain all supporting documentation and required records including an acceptable form of personnel time and effort for validation of costs for five years in accordance with generally accepted audit standards (GAAP/GAS).

Statement of Responsibility and Liability: Each party intends that each shall be responsible for its own intentional and negligent acts or omissions to act.

APPROVED:

Representing the Oklahoma State Department of Health as legal signatory

_____

Jerry Regier
Acting Director, Department of Health
And Secretary of Health and
Human Services

Date: _____

Representing the Department of Human Services as legal signatory

Howard H. Hendrick
Director

Date: 7-13-00