

# HEALTH CARE INFORMATION

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2003 SUMMARY

# Health Care Information

## 2003 Summary

*A summary of the major activities and accomplishments  
of the Health Care Information Division (HCI) of the  
Oklahoma State Department of Health*

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**Inpatient**

**Birth**

**Death**

**BRFSS**

**ITOP**

## **HEALTH CARE INFORMATION VALUES**

- We believe all Oklahomans should have access to reliable and timely health care information.
- We believe an involved and informed public can be an important factor in helping to reduce costs and improve health care quality. We pledge our assistance to Oklahomans seeking to increase their understanding of the health care system and their part in it.
- We support the medical community in its mission to ensure all Oklahomans receive quality care.
- We commit ourselves to the elimination of bias in data reporting and to the timeliness and accuracy of health care information.
- We commit ourselves to creating mutually beneficial partnerships with the medical, educational, governmental, and municipal communities on whom we must depend to deliver health care information to all Oklahomans.
- We work to create and disseminate health care information, to promote informed health care decisions by Oklahoma consumers and purchasers, and to enhance the quality of health care delivery.

# EXECUTIVE SUMMARY

## REPORT SUMMARY

This report summarizes the major activities and accomplishments of the Health Care Information Division (HCI) of the Oklahoma State Department of Health in compliance with a statutory requirement for annual reporting to the Oklahoma legislature, as well as highlights some of the key summaries from the datasets maintained by HCI. This Executive Summary provides a brief background and an overview of HCI's activities in 2003.

## BACKGROUND

HCI, short for Health Care Information, works to provide health information to Oklahomans about Oklahomans. We turn numbers into health care knowledge. We provide targeted reports to achieve our goal of providing accurate information timely, professionally, and in formats and media most useful. We want to help all Oklahoma health care buyers and health care decision makers become more savvy about their decisions.

The Oklahoma Health Care Information System Act (OS 63. Section 1-115 et seq) was enacted to create an information system for the State of Oklahoma. The Act calls for the development and operation of a method for collecting, processing, and disseminating health care data that would facilitate the ongoing analysis and evaluation of patterns and trends in the:

1. health status of Oklahomans;
2. utilization and costs of health care services; and
3. capability of various components of the health care industry to provide needed services.

HCI is responsible for the collection, maintenance, and analysis of several datasets including the Hospital Inpatient dataset, the Outpatient Surgery dataset, the Induced Termination of Pregnancy (ITOP) and the Behavioral Risk Factor Surveillance Survey (BRFSS). HCI is also responsible for the reporting of Vital Statistics, as well as the maintenance of statewide Emergency Medical Service (EMS) data.

Inpatient

Birth

Death

BRFSS

ITOP

Inpatient

Birth

Death

BRFSS

ITOP

### **INPATIENT HOSPITAL DISCHARGE DATA/OUTPATIENT SURGERY DATA**

This data comes from Oklahoma's health care providers as a response to an Oklahoma legislative mandate. HCI researchers use this data to uncover trends that have significant public policy and management implications for inpatient care. This dataset gives researchers an evidence base to understand patterns of hospitalization and outpatient surgeries by Oklahomans as a whole, or by specific groups, such as children and the elderly, and to assess outcomes as well as charges for services. HCI gathers data from hospitals using the UB92 or the HCFA 1500 patient discharge billing forms. These are administrative forms for submitting patient charges to third-party payers. The data gathered from Oklahoma facilities ranges from patient diagnoses to charges for various procedures.

A Public Use Data File (PUDF) containing patient-level information is available to study health care services and to make comparisons of services. Individual patient identities are removed from the PUDF, and penalties will be applied to anyone who may attempt to determine an individual's identity.

### **VITAL STATISTICS**

Vital statistics is considered to be the foundation of public health. Oklahoma began collecting information related to births and deaths in 1917. These records are used for a variety of purposes including the Social Security Administration for legal and administrative records, state agencies to plan and evaluate programs, as well as by researchers to look at population growth. Each state differs slightly in the information that is collected. Oklahoma typically revises its forms every 10 years, in order to keep up with changes in the population. For instance, in 1991, Hispanic identifiers were added to the birth and death certificate.

Annual reports are available that describe the trends in our state. These are very important as we try to reduce the occurrence of babies born prematurely or with low birth weights with effective prenatal care programs or promote healthy behaviors based on the estimate of various diseases in our state. If you would like information regarding births and/or deaths in OK, they are available at <http://www.health.state.ok.us/stats/vs>.

### **BEHAVIORAL RISK FACTOR SURVEILLANCE SURVEY (BRFSS)**

Important information is collected from Oklahomans across the state using a phone survey to ask questions about those activities that can impact our health – questions like “How often do you wear seat belts?” and “Have you ever received a pneumonia shot?”. These everyday behaviors can impact your ability to resist disease, injury and even premature death. It is especially important to collect data on behaviors, rather than on attitudes or knowledge, because then

states are able to more effectively plan, initiate, support, and evaluate health promotion and disease prevention programs.

This information is collected in every state and is used nationally, as well as locally. Oklahoma has been collecting this information in cooperation with the Centers for Disease Control and Prevention since 1988. If you would like to see the results of the survey or reports that have been developed, you can go to the website <http://www.cdc.gov/brfss/> or you can call us directly and we will be happy to help answer your questions.

### **INDUCED TERMINATIONS OF PREGNANCY (ITOP)**

The Department of Health is required by law to collect information related to abortions performed in the state, as well as to Oklahoma residents in other states. The physician performing the procedure is required to report all medical facts pertinent to the procedure. This information is considered confidential and no names are reported. Each year, statistics are prepared as to how many procedures are performed by various characteristics, such as age.

Legal induced abortion data are used to identify women at high risk for unintended pregnancy, monitor trends, and evaluate the effectiveness of family planning programs and programs to prevent unintended pregnancies.

Inpatient

Birth

Death

BRFSS

ITOP

## Inpatient Hospital Discharge Demographics

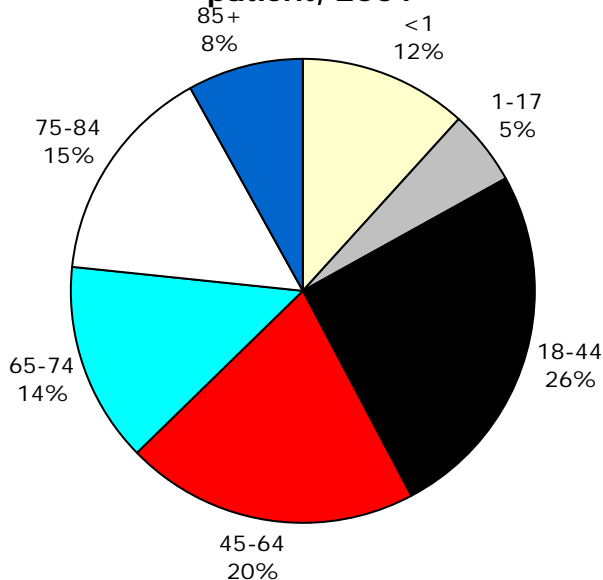
- There were 309,657 inpatient discharges reported in 2001.
- Only 69 inpatient facilities, 53 % of the facilities, reported information in the required submission format for 2001 calendar year.

### Discharges reported by age and sex, 2001

Age	Female		Male		Unknown		Total	
<1	17,119	9%	18,732	15%	3	15%	35,854	12%
1-17	8,558	5%	8,192	7%	1	5%	16,751	5%
18-44	58,323	31%	19,760	16%	3	15%	78,086	25%
45-64	34,245	18%	29,023	24%	2	10%	63,270	20%
65-74	23,638	13%	19,119	16%	2	10%	42,759	14%
75-84	28,221	15%	18,809	16%	2	10%	47,032	15%
85+	17,879	9%	7,354	6%	-	0%	25,233	8%
Unknown	392	0%	273	0%	7	35%	672	0%
<b>Total</b>	<b>188,375</b>	<b>100%</b>	<b>121,262</b>	<b>100%</b>	<b>20</b>	<b>100%</b>	<b>309,657</b>	<b>100%</b>

- Sixty-one percent of the inpatient discharges were female patients.
- Eighty-five percent of the discharges for children less than one year of age were newborn discharges.

**Discharges by age group of patient, 2001**



- Twenty-six percent of discharges were patients between the ages of 18 and 44. This is primarily due to childbirth related discharges.
- Twenty percent of the total discharges were patients between the ages of 45 and 64.
- Patients older than 65 accounted for 37 percent of the discharges.

## Inpatient Hospital Discharge

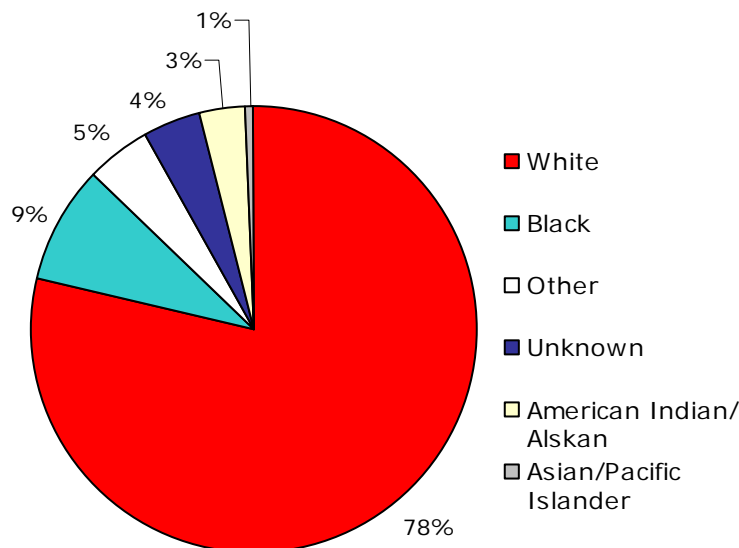
- Females accounted for the majority of the discharges, but males had a higher average length of stay (ALOS) of 5.2 days compared to 4.8 days for females.
- The average charge per hospital stay was \$12,711.
- Males had a higher average charge than females. The average charge for males was \$14,808 and the average charge for females was \$11,362.
- When discharges related to newborn deliveries were excluded, females had an ALOS of 5.2 days and an average charge of \$12,503.

### Discharges by gender , length of stay, and average charges, 2001

Gender	Discharges	Days	Total Charges	ALOS	Average Charges
Females	188,375	896,425	\$ 2,140,223,735	4.8	\$ 11,362
Males	121,262	633,293	\$ 1,795,630,645	5.2	\$ 14,808
Unknown	20	150	\$409,935	7.5	\$ 20,497
<b>Total</b>	<b>309,657</b>	<b>1,529,868</b>	<b>\$ 3,936,264,315</b>	<b>4.9</b>	<b>\$ 12,712</b>

- Seventy-eight percent (243,832) of the discharges reported their race as White.
- Four percent (12,433) of the discharges reported listed race as unknown.

**Inpatient Discharges by Race, 2001**



## Inpatient Hospital Discharge Discharge Status/Admission Source

- Approximately seventy-five percent of the patients were discharged to home following their inpatient stay.
- Approximately sixteen percent of the patients were transferred to another institution following the their discharge.

### Discharges by reported discharge status

Discharge Status	Discharges
To Home	234,418
Intermediate Care	15,982
Organized Home Health	14,867
Another Type of Institution	12,963
Skilled Nursing Facility	11,004
Expired	8,101
To Short Term Care	7,471
Against Medical Advice	1,950
Unknown	1,107
Admitted as an inpatient to this hospital (Medicare OP)	613
Under Care of IV Provider	584
Discharged/Transferred Within Institution To Medicare Approved Swing Bed	270
Hospice - Home	245
Hospice - Medical Facility	60
Still a Patient	13
Discharged/transferred/referred to this institution for outpatient services as specified by the discharge plan of care	6
Discharged/Transferred/referred to another institution for outpatient services as specified by the discharge plan of care	3

- Over half (57%) of the patients were admitted to the inpatient facility from a physician's referral.
- Thirty-four percent of the patients were admitted through the Emergency Department (ED).
- Patients transferred from another facility had the highest average charges per discharge.

### Discharges by reported admission source

Admission Source	Discharges	Percent	ALOS	Average Charges
Physician Referral	177,727	57%	4.65	\$ 11,576
Clinic Referral	7,050	2%	5.61	\$ 21,603
HMO Referral	1,507	0%	5.90	\$ 16,392
Transfer from Hospital	9,483	3%	12.29	\$ 28,086
Transfer from Skilled Nursing Facility	403	0%	16.71	\$ 25,897
Transfer from Another Health Care Facility	1,906	1%	10.77	\$ 13,259
Emergency Room	105,857	34%	4.63	\$ 13,026
Court / Law Enforcement	1,446	0%	6.69	\$ 4,120
Information not Available	4,278	1%	2.90	\$ 3,500
<b>Total</b>	<b>309,657</b>	<b>100%</b>	<b>4.94</b>	<b>\$ 12,712</b>

## Inpatient Hospital Discharge Emergency Department Admits

- Symptoms involving the respiratory system and other chest symptoms was the diagnosis associated with the highest number of inpatient discharges admitted through the ED.
- Acute myocardial infarction accounted for the highest total charges (\$102,333,459) and the highest average charges (\$27,435) for patients admitted through the ED.
- Four of the top 15 and three of the top five diagnoses for patients admitted through the ED were related to the heart.
- Pneumonia was the diagnosis with the second highest number of discharges of those admitted through the ED.

### Top 15 principal diagnoses associated with admits through the ER

ICD9	Diagnosis	Dis- charges	ALOS	Total Charges	Average Charges
786	Symptoms involving respiratory system and other chest symptoms	5,972	1.77	\$37,676,311	\$ 6,309
486	Pneumonia, organism unspecified	4,922	5.05	\$53,276,042	\$ 10,824
428	Heart failure	4,621	5.09	\$59,668,542	\$ 12,912
410	Acute myocardial infarction	3,730	5.25	\$102,333,459	\$ 27,435
414	Other forms of chronic ischemic heart disease	3,559	3.63	\$72,930,351	\$ 20,492
780	General symptoms	2,958	2.74	\$20,256,885	\$ 6,848
491	Chronic bronchitis	2,755	4.86	\$29,400,691	\$ 10,672
276	Disorders of fluid, electrolyte, and acid-base balance	2,664	3.74	\$19,348,593	\$ 7,263
427	Cardiac dysrhythmias	2,532	3.53	\$32,947,510	\$ 13,012
296	Affective psychoses	2,396	6.64	\$16,376,958	\$ 6,835
250	Diabetes mellitus	2,084	4.37	\$21,052,578	\$ 10,102
820	Fracture of neck of femur	2,007	5.71	\$37,001,480	\$ 18,436
599	Other disorders of urethra and urinary tract	1,773	4.40	\$13,849,061	\$ 7,811
493	Asthma	1,642	2.97	\$10,622,734	\$ 6,469
038	Septicemia	1,591	6.82	\$29,251,624	\$ 18,386

Inpatient

Birth

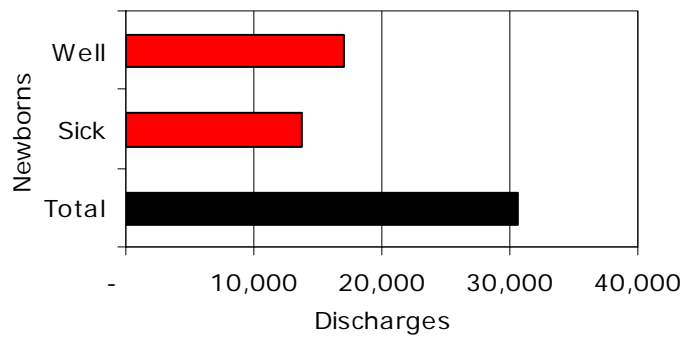
Death

BRFSS

ITOP

## Inpatient Hospital Discharge Newborn Discharges

### Newborn discharges



- Newborns accounted for 30,692 discharges.
- The average length of stay for a healthy newborn was 1.9 days with an average charge of \$1,018.

- The average length of stay for a sick newborn was 5.3 days with an average charge of \$11,812.
- Jaundice was diagnosed in 5,476 newborns.
- Of the top conditions based on frequency of discharges, hematological disorders accounted for the longest average length of stay (38.7 days) in newborns, as well as the highest average charges (\$131,878).

### Top 20 conditions associated with newborn discharges

ICD9	Diagnosis	Discharges	ALOS	Average Charges
774	Other perinatal jaundice	5476	7.56	\$18,148
770	Other respiratory conditions of fetus and newborn	3273	11.78	\$34,297
765	Disorders relating to short gestation and unspecified low birthweight	2777	15.00	\$41,328
766	Disorders relating to long gestation and high birthweight	1567	2.44	\$2,729
767	Birth trauma	1295	3.44	\$5,547
605	Redundant prepuce and phimosis	1158	2.90	\$2,933
769	Respiratory distress syndrome in newborn	1123	25.61	\$79,165
771	Infections specific to the perinatal period	1095	20.15	\$60,972
775	Endocrine and metabolic disturbances specific to the fetus and newborn	1042	16.49	\$54,557
779	Other and ill-defined conditions originating in the perinatal period	713	15.69	\$39,214
778	Conditions involving the integument and temperature regulation of fetus and newborn	650	5.68	\$14,110
773	Hemolytic disease of fetus or newborn, due to isoimmunization	581	6.98	\$19,866
038	Septicemia	561	21.79	\$76,264
764	Slow fetal growth and fetal malnutrition	527	8.18	\$16,710
776	Hematological disorders of fetus and newborn	488	38.66	\$131,878
763	Fetus or newborn affected by other complications of labor and delivery	471	17.42	\$46,921
747	Other congenital anomalies of circulatory system	451	29.31	\$110,897
785	Symptoms involving cardiovascular system	397	7.65	\$19,901
757	Congenital anomalies of the integument	367	2.53	\$2,496
772	Fetal and neonatal hemorrhage	364	17.18	\$63,317

## Inpatient Hospital Discharge Patients Aged 65 and Older

### Discharges for patients 65 years and older by ALOS and average charges

Gender	Discharges	ALOS	Average Charges
Female	69,738	6.51	\$14,183
Male	45,282	6.23	\$17,123
Unknown	4	2.50	\$27,611
<b>Total</b>	<b>115,024</b>	<b>6.40</b>	<b>\$15,341</b>

- Patients 65 years of age and older accounted for 115,024 (37%) discharges.

- Females accounted for 61% of the discharges for patients older than 64 years.

- The average charge per discharge for those older than 64 years was \$15,341.
- Care involving rehabilitation procedures accounted for the most frequent diagnosis among those older than 64 years of age.
- Four of the top six diagnoses (19,127 discharges) for patients 65 years and older were related to the heart.
- Pneumonia, bronchitis and other respiratory symptoms accounted for 11,067 discharges and three of the top ten diagnoses among patients over the age of 64.

### Top 10 diagnoses associated with discharges for patients 65 years and older

ICD9	Diagnosis	Discharges
V57	Care involving use of rehabilitation procedures	7,718
428	Heart failure	6,098
414	Other forms of chronic ischemic heart disease	5,770
486	Pneumonia, organism unspecified	5,255
410	Acute myocardial infarction	3,743
427	Cardiac dysrhythmias	3,516
491	Chronic bronchitis	3,152
820	Fracture of neck of femur	2,801
276	Disorders of fluid, electrolyte, and acid-base balance	2,714
786	Symptoms involving respiratory system and other chest symptoms	2,660

Inpatient

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## Inpatient Hospital Discharge Top Diagnoses and Procedures

### Top 15 Principal Diagnoses

ICD9	Diagnosis	Discharges
V30	Single live born	29,655
414	Other forms of chronic ischemic heart disease	10,709
V57	Care involving use of rehabilitation procedures	9,803
486	Pneumonia, organism unspecified	8,943
786	Symptoms involving respiratory system and other chest symptoms	8,649
428	Heart failure	8,053
296	Affective psychoses	7,142
410	Acute myocardial infarction	6,199
427	Cardiac dysrhythmias	5,063
276	Disorders of fluid, electrolyte, and acid-base balance	4,967
491	Chronic bronchitis	4,756
664	Trauma to perineum and vulva during delivery	4,665
780	General symptoms	4,653
722	Intervertebral disc disorders	3,935
715	Osteoarthritis and allied disorders	3,881
250	Diabetes mellitus	3,773

- Newborns accounted for almost 10% of all discharges.
- Four of the top 10 primary diagnoses were related to the heart.
- The top three principal procedures were all related to the heart.

### Top 15 Principal Procedures

ICD9	Procedure	Discharges
885	Angiocardiology using contrast material	27,030
372	Diagnostic procedures on heart and pericardium	15,691
360	Removal of coronary artery obstruction and insertion of stent	13,259
389	Puncture of vessel	12,364
735	Manually assisted delivery	10,941
990	Transfusion of blood and blood components	10,740
640	Circumcision	9,318
451	Diagnostic procedures on small intestine	8,618
756	Repair of other current obstetric laceration	8,108
741	Low cervical cesarean section	7,922
884	Arteriography using contrast material	7,471
992	Injection or infusion of other therapeutic or prophylactic substance	7,287
967	Other continuous mechanical ventilation	7,015
730	Artificial rupture of membranes	6,244
960	Nonoperative intubation of gastrointestinal and respiratory tracts	5,872

# Inpatient Hospital Discharge Top DRG's and Comorbidities

- A Diagnosis Related Group (DRG) is a classification of hospital patients according to diagnosis and intensity of care required. DRG's are used by insurance carrier to set reimbursement scales.
- The top DRG was newborn deliveries. There were 22,572 discharges with a newborn DRG.
- Vaginal delivery without complications was the second most frequent DRG reported.

## Top 10 Diagnosis Related Groups

ICD9	DRG	Discharges
391	Normal Newborn	22,572
373	Vaginal Delivery w/o Complicating Diagnoses	18,519
430	Psychoses	10,032
462	Rehabilitation	9,660
127	Heart Failure and Shock	7,621
089	Simple Pneumonia and Pleurisy age >17 w CC	6,868
143	Chest Pain	6,345
371	Cesarean Section w/o CC	6,313
088	Chronic Obstructive Pulmonary Disease	5,459
209	Major Joint & Limb Reattachment Proc of Lwr Extremity	5,439

- Comorbidity is the presence of coexisting diseases related to the initial diagnosis or the primary condition. Comorbidity can directly effect the length of stay, charges, and outcome.
- The most frequent comorbidity reported was hypertension.
- The second most frequent comorbidity reported was diabetes mellitus.

## Top Comorbidities Associated with Discharges

ICD9	Diagnosis	Discharges
401	Essential hypertension	80,588
250	Diabetes Mellitus	43,048
276	Disorders of fluid electrolyte & acid-base balance	39,490
414	Other forms of chronic ischemic heart disease	38,055
427	Cardiac Dysrhythmias	27,595
428	Heart failure	26,566
305	Nondependent abuse of drugs	26,533
285	Other and unspecified anemias	25,790
V45	Other postprocedural status	25,083
272	Disorders of lipid metabolism	22,827

Inpatient

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**Inpatient**

## Inpatient Hospital Discharge Length of Hospital Stay

### Top principal conditions with the longest stays\*

ICD9	Diagnosis	ALOS
V34	Other multiple birth (three or more), mates all liveborn	46.29
897	Traumatic amputation of leg(s) (complete) (partial)	27.36
V32	Twin birth, mate stillborn	26.57
765	Disorders relating to short gestation and unspecified low birthweight	25.79
314	Hyperkinetic syndrome of childhood	20.24
312	Disturbance of conduct, not elsewhere classified	19.83
769	Respiratory distress syndrome in newborn	19.00
707	Chronic ulcer of skin	18.93
421	Acute and subacute endocarditis	17.91
205	Myeloid leukemia	17.27
31	Diseases due to other mycobacteria	16.12
313	Disturbance of emotions specific to childhood and adolescence	15.48
194	Malignant neoplasm of other endocrine glands and related structures	14.76
V60	Housing, household, and economic circumstances	14.68
324	Intracranial and intraspinal abscess	14.50
40	Other bacterial diseases	14.29
518	Other diseases of lung	14.18
299	Psychoses with origin specific to childhood	14.11
201	Hodgkin's disease	13.49
806	Fracture of vertebral column with spinal cord injury	13.31
862	Injury to other and unspecified intrathoracic organs	13.27
204	Lymphoid leukemia	13.16
115	Histoplasmosis	13.00
510	Empyema	12.98

\*conditions listed had at least 10 discharges reported

**Birth**

**Death**

**BRFSS**

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## Inpatient Hospital Discharge Average Charges

### Top principal conditions with the highest average charges\*

ICD9	Diagnosis	Average Charges
V34	Other multiple birth (three or more), mates all liveborn	\$ 130,120
897	Traumatic amputation of leg(s) (complete) (partial)	\$ 116,703
765	Disorders relating to short gestation and unspecified low birthweight	\$ 91,253
769	Respiratory distress syndrome in newborn	\$ 80,117
205	Myeloid leukemia	\$ 80,005
V32	Twin birth, mate stillborn	\$ 79,768
737	Curvature of spine	\$ 74,723
394	Diseases of mitral valve	\$ 72,734
746	Other congenital anomalies of heart	\$ 71,808
279	Disorders involving the immune mechanism	\$ 69,979
806	Fracture of vertebral column with spinal cord injury	\$ 68,678
194	Malignant neoplasm of other endocrine glands and related structures	\$ 67,331
745	Bulbus cordis anomalies and anomalies of cardiac septal closure	\$ 62,579
421	Acute and subacute endocarditis	\$ 61,655
396	Diseases of mitral and aortic valves	\$ 61,015
424	Other diseases of endocardium	\$ 60,244
747	Other congenital anomalies of circulatory system	\$ 59,216
430	Subarachnoid hemorrhage	\$ 59,136
204	Lymphoid leukemia	\$ 57,227
201	Hodgkin's disease	\$ 56,118
040	Other bacterial diseases	\$ 53,828
150	Malignant neoplasm of esophagus	\$ 52,959
946	Burns of multiple specified sites	\$ 51,873
862	Injury to other and unspecified intrathoracic organs	\$ 50,867

\*contitions listed had at least 10 discharges reported

Inpatient

Birth

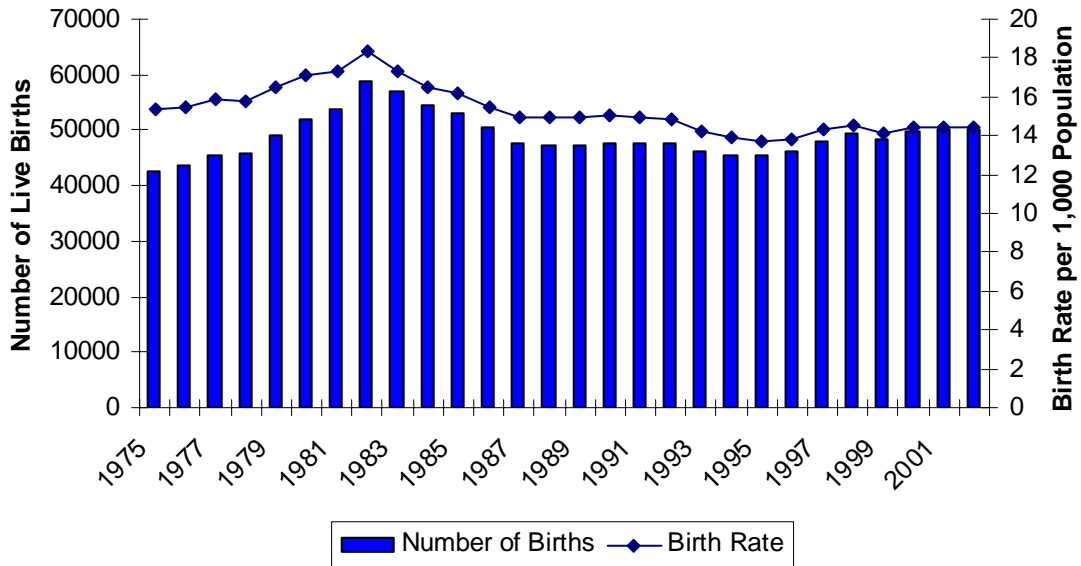
Death

BRFSS

ITOP

# Oklahoma Resident Births

Number of Births / Birth Rate



- The number of births in Oklahoma have increased from 43,430 in 1975 to 50,310 in 2002. The birth rate however has decreased from 15.4 births per 1,000 population in 1975 to 14.4 births per 1,000 in 2002 (crude birth rate).
- In 2002, there were 68.7 births per 1,000 women age 15-44 (fertility rate)

## 2002 BIRTHS By Age

	Number	Rate
10-14	113	0.9
15-17	2,216	29.8
18-19	5,086	96.9
20-24	17,038	131.6
25-29	13,324	120.1
30-34	8,487	75.1
35-39	3,301	27.8
40-44	707	5.3
45+	30	0.2

## 2002 Births by County

	Most	Fewest	
Oklahoma	11,464	Alfalfa	35
Tulsa	9,288	Cimarron	39
Cleveland	2,583	Harmon	39
Comanche	1,904	Ellis	40
Canadian	1,131	Roger Mills	44
Muskogee	978	Harper	45
Rogers	928	Grant	52
Pottawatomie	908	Dewey	62
Creek	866	Beaver	66
Garfield	824	Jefferson	67

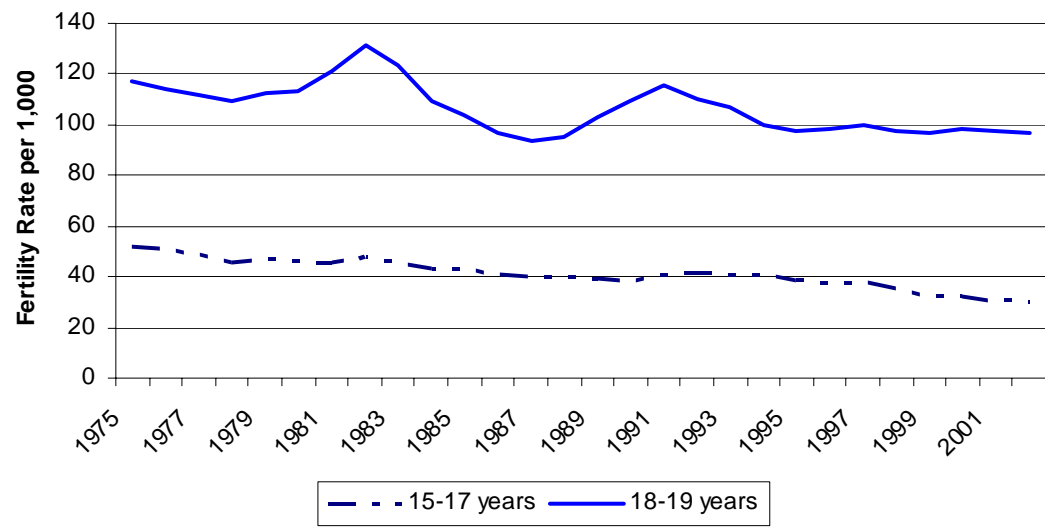
## 2002 births by Race/Ethnicity

	Number	Fertility Rate
White	39,245	68.2
Black	4,693	69.1
Am Indian	5,156	71.3
Other	1,114	64.5
Unknown	102	n/a
Hispanic <sup>1</sup>	5,251	115.2

<sup>1</sup> May be of any race

# Oklahoma Resident Teen Births

Teen Births



- The number of births to women less than 20 years of age has decreased from 10,061 in 1975 to 7,415 in 2002.
- Age specific birth rates of women ages 10 to 14 have also decreased from 1.5 per 1,000 in 1975 to 0.9 in 2002.

### 2002 Births by Age

	Number	Fertility Rate
10-14	113	0.9
15-17	2,216	29.8
18-19	5,086	96.9

### 2002 Teen Births By Race / Ethnicity

	Number	Fertility Rate
White	5,316	28.4
Black	948	35.6
Am Indian	1,069	35.2
Other	59	13.3
Unknown	23	n/a

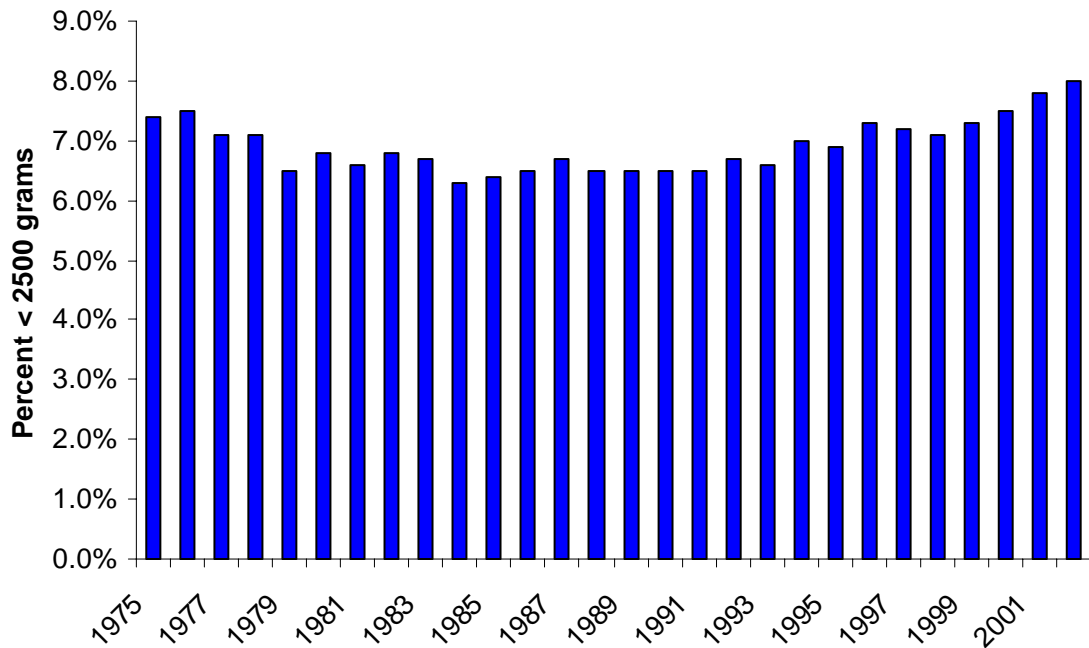
Hispanic<sup>1</sup> 935 54.4  
<sup>1</sup> May be of any race

### 2002 TEEN BIRTHS

	< 18 years	18-19 years
Low Birth Weight	9.6%	8.9%
1st Trimester Prenatal Care	59.8%	67.8%
10+ Prenatal Care	53.0%	59.0%
Unwed	86.9%	67.5%

# Low Birth Weight

Low Birth Weight



- In 2002, 8.0% of newborns babies (4,024) weighed less than 2500 grams (Low Birth Weight).
- Of those 652 were considered to be very low birth weight (less than 1,500 grams)

### 2002 LBW Births by Age

	Percent
10-14	9.7%
15-17	9.7%
18-19	8.9%
20-24	8.3%
25-29	7.0%
30-34	7.2%
35-39	9.9%
40-44	8.5%
45+	30.0%

### 2002 LBW Births

	Percent
Single Birth	6.4%
Multiple Birth	60.6%
< 37 Weeks Gestation	54.9%
40+ Weeks Gestation	0.9%
Any PNC	7.8%
No PNC	22.7%
Tobacco Use During Pregnancy	11.4%

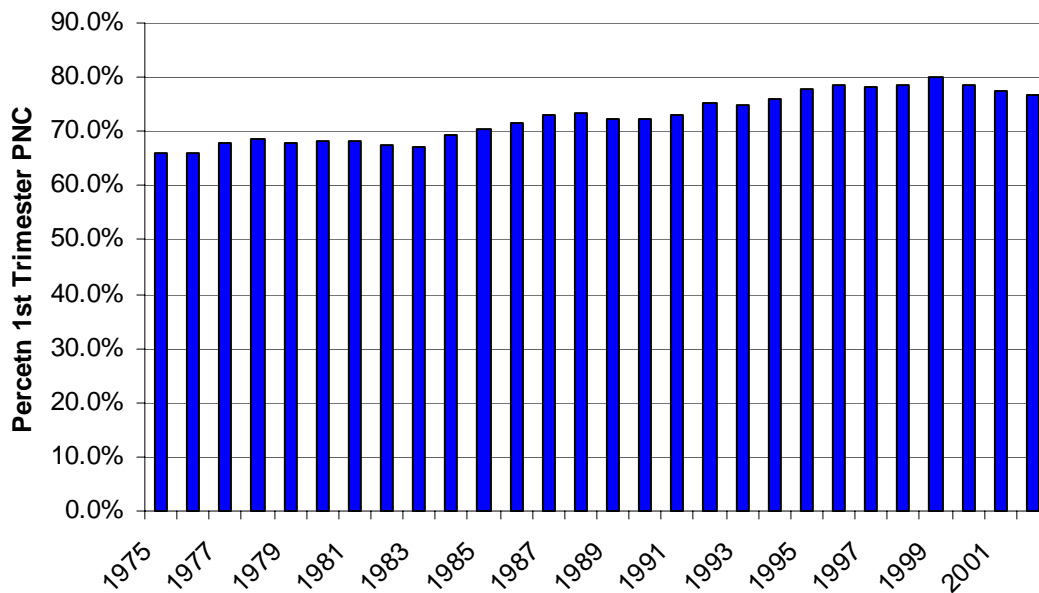
### 2002 LBW Births by Race/Ethnicity

	Percent
White	7.5%
Black	14.0%
Am Indian	6.6%
Other	8.1%
Unknown	9.9%
Hispanic <sup>1</sup>	7.0%

<sup>1</sup> May be of any race

# Prenatal Care

Prenatal Care



- In 2002, 3 of 4 mothers received Prenatal Care (PNC) during the first three months of pregnancy.
- More than 30% of teenage mothers failed to seek prenatal care during their first trimester.

**2002 Births  
1st Trimester PNC  
by Age**

	Percent
10-14	50.0%
15-17	60.3%
18-19	67.8%
20-24	73.0%
25-29	81.3%
30-34	84.3%
35-39	82.3%
40-44	78.8%

**2002 Births  
by Entry into PNC**

	Percent
1st Trimester	76.7%
2nd Trimester	17.8%
3rd Trimester	4.2%
No PNC	1.3%

**2002 Births  
1st Trimester PNC  
by Race / Ethnicity**

	Percent
White	78.5%
Black	68.8%
Am Indian	69.6%
Other	77.8%
Unknown	62.6%
Hispanic <sup>1</sup>	63.2%

<sup>1</sup> May be of any race

Inpatient

Birth

Death

BRFSS

ITOP

## Leading Causes of Death 2000-2002

### Ten leading causes of death by Race/Ethnicity

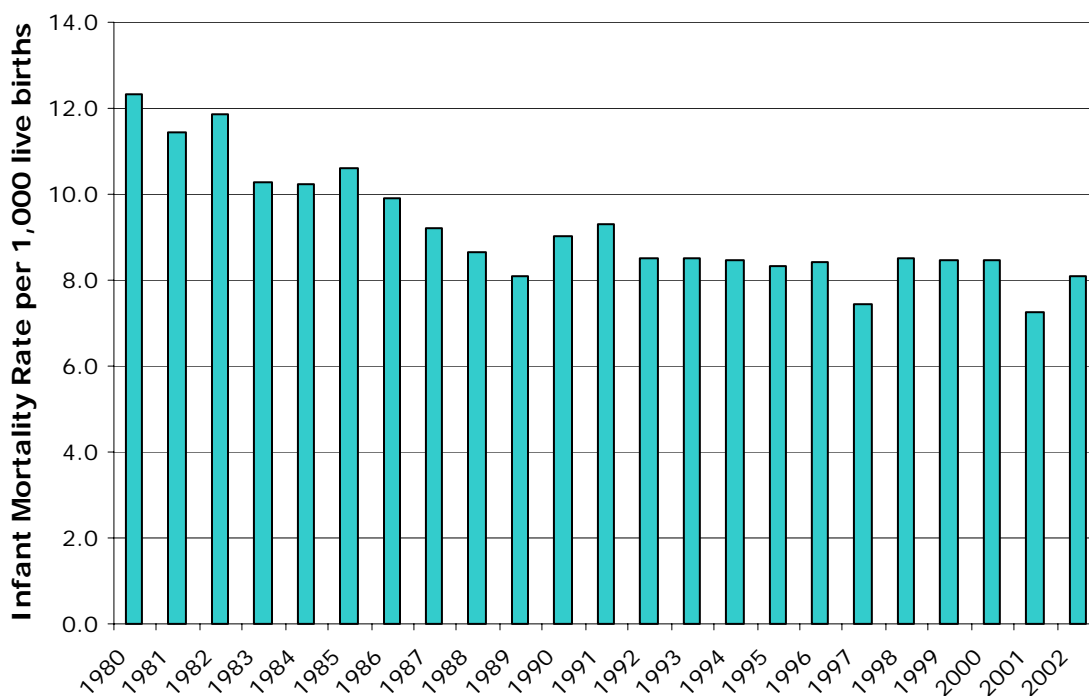
Age adjusted mortality rates per 100,000

	White	African American	Native American	Hispanic <sup>1</sup>
1	Diseases of the heart 297.9	Diseases of the heart 352.2	Diseases of the heart 211.1	Diseases of the heart 187.6
2	Cancer 200.9	Cancer 252.9	Cancer 156.9	Cancer 106.9
3	Stroke 64.5	Stroke 85.7	Accidents (unintentional injuries) 46.1	Accidents (unintentional injuries) 37.3
4	Chronic lower respiratory diseases 54.7	Diabetes mellitus 54.2	Diabetes mellitus 58.3	Stroke 46.2
5	Accidents (unintentional injuries) 44	Accidents (unintentional injuries) 39.7	Stroke 50.0	Diabetes mellitus 37.6
6	Influenza and pneumonia 24.5	Chronic lower respiratory diseases 35.8	Chronic lower respiratory diseases 29.5	Certain conditions originating in the perinatal period 4.2
7	Diabetes mellitus 24.4	Nephritis 27.2	Chronic liver disease and cirrhosis 21.6	Assault (homicide) 6.0
8	Alzheimer's disease 18.9	Assault (homicide) 16.5	Nephritis 18.8	Congenital malformations 3.2
9	Nephritis 13.2	Influenza and pneumonia 21.9	Influenza and pneumonia 19.3	Chronic lower respiratory diseases 22.2
10	Suicide 15.3	Septicemia 16.7	Suicide 10	Chronic liver disease and cirrhosis 12.2

<sup>1</sup> May be of any race

# Infant Deaths, Oklahoma 2002

## Infant Mortality



### 10 Leading Causes of Infant Death, Oklahoma 2002

Rank	Cause	Count
1	Congenital malformations	88
2	Disorders related to short gestation and low birth weight	54
3	Sudden infant death syndrome (SIDS)	34
4	Newborn affected by complications of placenta, cord and membranes	20
5	Diseases of the circulatory system	18
6	Septicemia	15
7	Newborn affected by maternal complications of pregnancy	15
8	Respiratory distress of newborn	9
9	Gastritis, duodenitis, and noninfective enteritis and colitis	7
10	Chronic respiratory disease originating in the perinatal period	6

Deaths	
Male	244
Female	162

Deaths	
White	274
African American	79
American Indian	43
Other	5
Hispanic <sup>1</sup>	45

<sup>1</sup> May be of any race

Inpatient

Birth

Death

BRFSS

ITOP

## 10 Leading Causes of Death

**Inpatient**  
**Birth**  
**Death**  
**BRFSS**  
**ITOP**

	<b>Under 1</b>	<b>1-4 years</b>	<b>5-14 years</b>	<b>15-24 years</b>	<b>25-34 years</b>
<b>1</b>	Congenital malformations	Accidents (unintentional injuries)	Accidents (unintentional injuries)	Accidents (unintentional injuries)	Accidents (unintentional injuries)
<b>2</b>	Disorders related to short gestation and low birth weight	Congenital defects	Cancer	Intentional self-harm (suicide)	Intentional self-harm (suicide)
<b>3</b>	Sudden infant death syndrome (SIDS)	Assault (homicide)	Intentional self-harm (suicide)	Assault (homicide)	Cancer
<b>4</b>	Newborn affected by complications of placenta, cord, and membranes		Chronic lower respiratory diseases	Cancer	Assault (homicide)
<b>5</b>	Diseases of the circulatory system		Congenital defects	Diseases of the heart	Diseases of the heart
<b>6</b>	Septicemia		Assault (homicide)	Stroke	Stroke
<b>7</b>	Newborn affected by maternal complications of pregnancy			Influenza and pneumonia	Diabetes
<b>8</b>	Respiratory distress of newborn			Diabetes	HIV
<b>9</b>	Gastritis, duodenitis, and noninfective enteritis and colitis			Congenital defects	In situ neoplasms and benign neoplasms
<b>10</b>	Chronic respiratory disease originating in the perinatal period				Septicemia

## By Age, Oklahoma 2002

35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85+ years	
Accidents (unintentional injuries)	Cancer	Cancer	Cancer	Diseases of the heart	Diseases of the heart	1
Diseases of the heart	Diseases of the heart	Diseases of the heart	Diseases of the heart	Cancer	Cancer	2
Cancer	Accidents (unintentional injuries)	Chronic lower respiratory diseases	Chronic lower respiratory diseases	Stroke	Stroke	3
Intentional self-harm (suicide)	Chronic liver disease and cirrhosis	Stroke	Stroke	Chronic lower respiratory diseases	Influenza and pneumonia	4
HIV	Intentional self-harm (suicide)	Diabetes	Diabetes	Diabetes	Alzheimer's disease	5
Chronic liver disease and cirrhosis	Diabetes	Accidents (unintentional injuries)	Accidents (unintentional injuries)	Influenza and pneumonia	Chronic lower respiratory diseases	6
Stroke	Stroke	Chronic liver disease and cirrhosis	Influenza and pneumonia	Alzheimer's disease	Diabetes	7
Diabetes	Chronic lower respiratory diseases	Intentional self-harm (suicide)	Septicemia	Nephritis	Atherosclerosis	8
Assault (homicide)	Viral hepatitis	Influenza and pneumonia	Chronic liver disease and cirrhosis	Accidents (unintentional injuries)	Nephritis	9
Influenza and pneumonia	HIV	Nephritis	Nephritis	Septicemia	Accidents (unintentional injuries)	10

Inpatient

Birth

Death

BRFSS

ITOP

Inpatient

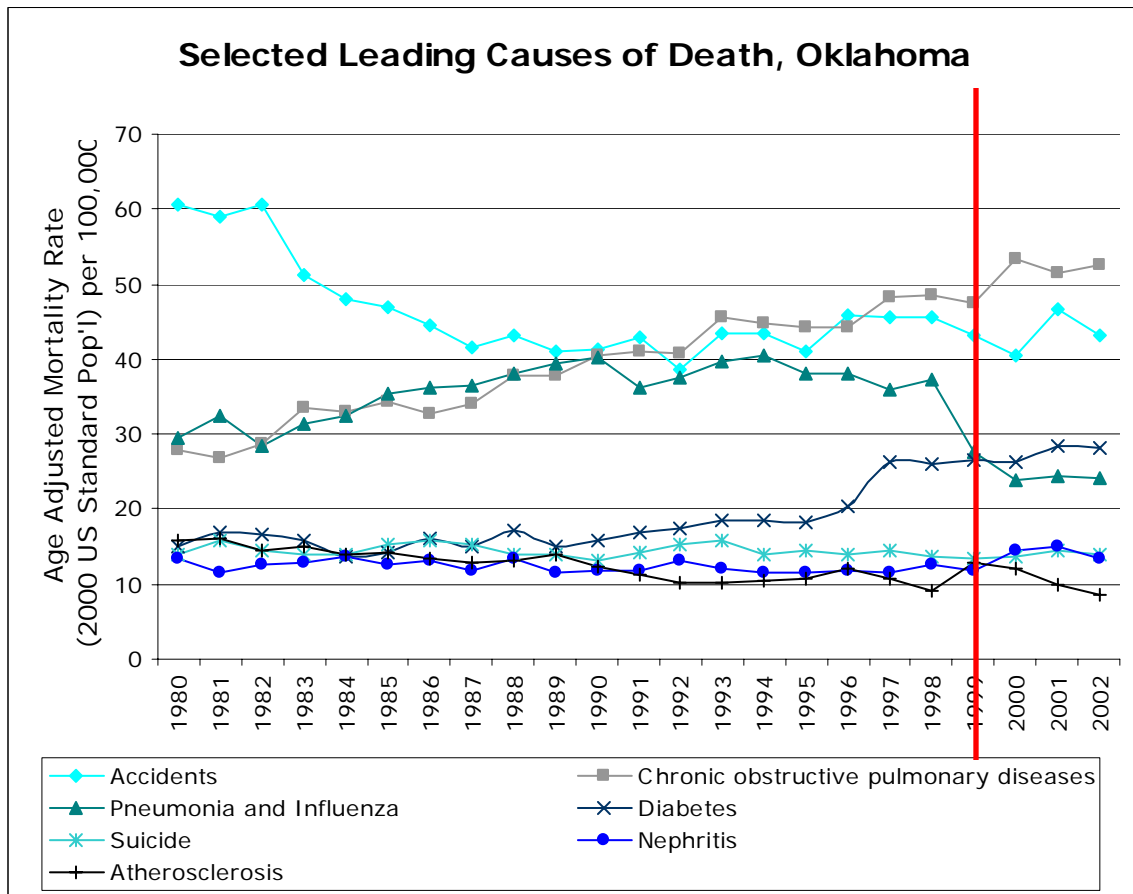
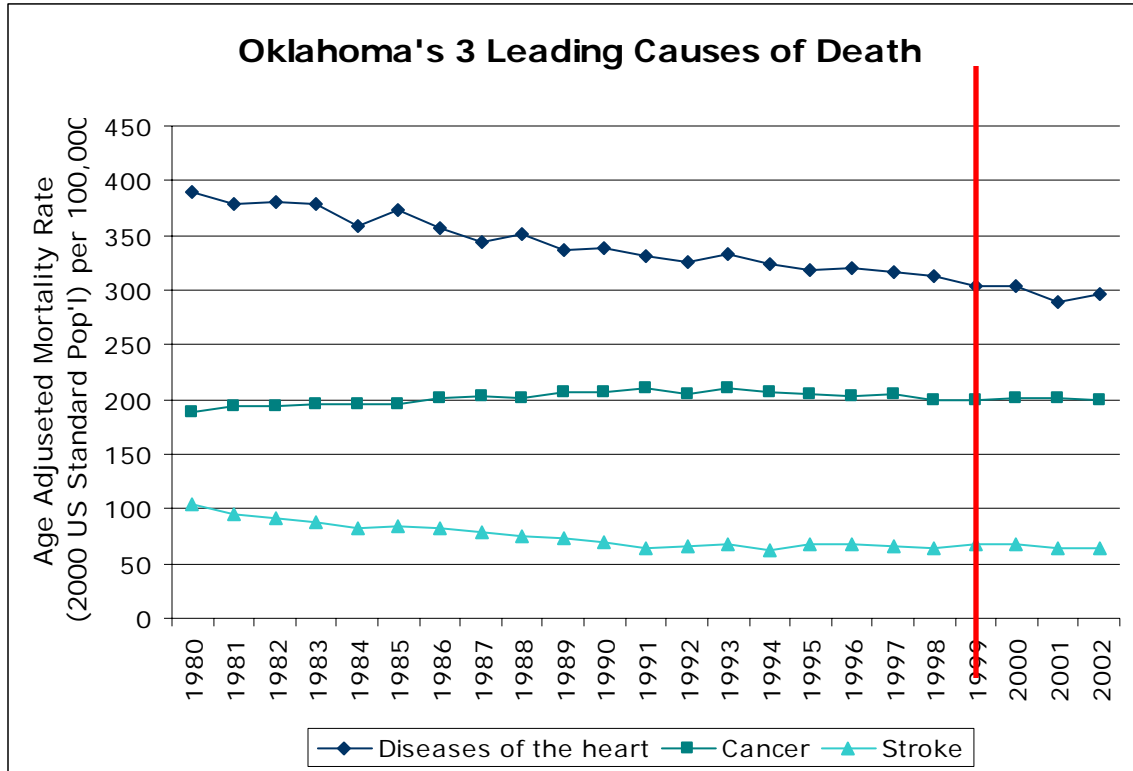
Birth

Death

BRFSS

ITOP

# Leading Causes of Deaths



In 1999 a new cause of death coding system was implemented resulting in disruptions in trends of mortality statistics.

# RACE MISCLASSIFICATION STUDY

Approximately 375,000 Oklahoma resident death records from 1990-2001 were linked to Indian Health Service (IHS) records in order to determine to what extent Native Americans were being coded as some race other than Native American. A 1996 IHS report estimated that 28% of Oklahoma deaths (1986-1988) were misclassified.

Accurate coding is essential in order to make accurate comparisons and evaluate trends related to the quality and delivery of health care services, the utilization and costs of health care services, as well as the capability of the various components of the health care industry to provide needed services.

## RESULTS

### 33% of Native American deaths were miscoded

- Consequence ➔ The number of deaths to Native Americans increased by 49%.
- Consequence ➔ Too few staff are dedicated to meet the needs, which result in longer lines and delayed appointments
- Consequence ➔ Too few health clinics or too far apart resulting in transportation issues
- Consequence ➔ Too few dollars are dedicated to prevention so fewer cases are prevented
- Consequence ➔ Too few dollars are dedicated to screening and early diagnosis, which delays case identification and outcomes are more severe
- Consequence ➔ Too few dollars dedicated to treatment and research so fewer treatment options exist
- Consequence ➔ Disparities are hidden so federal dollars are not available

### Native Americans can now demonstrate a health disparity related to 9 of the 10 leading causes of death.

*Age Adjusted Death Rates per 100,000*

Cause	Before	After	White
Heart Disease	223	342	314
Cancer	163	252	206
Stroke	52	82	69
Diabetes	65	80	24
Unintentional Injuries	47	68	43
Chronic lower respiratory disease	47	68	43
Influenza & Pneumonia	47	68	43
Chronic liver disease & cirrhosis	47	68	43
Nephritis, nephritic syndrome and nephrosis	47	68	43
Septicemia	47	68	43

- Consequence ➔ Federal dollars will become available
- Consequence ➔ More effective health care planning by public and private entities
- Consequence ➔ Better cost containment
- Consequence ➔ Improved health facility development
- Consequence ➔ Better access
- Consequence ➔ Higher quality of care
- Consequence ➔ More funds available for prevention, treatment and treatment research

Inpatient

Birth

Death

BRFSS

ITOP

Inpatient

Birth

Death

BRFSS

ITOP

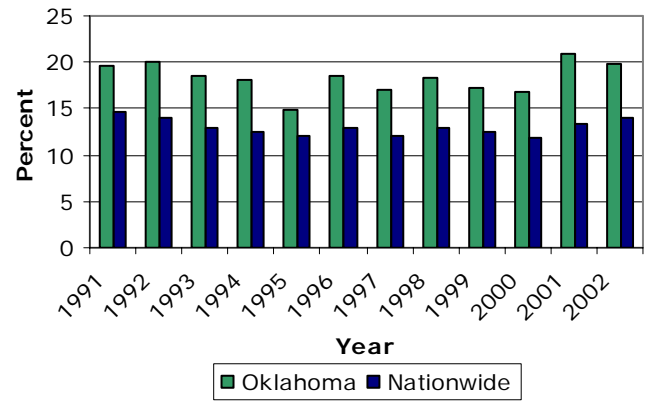
# BRFSS

## Behavioral Risk Factor Surveillance System

- BRFSS is a state-based telephone survey which is performed in all 50 states, the District of Columbia, and three territories.
- Begun in 1984 by the CDC, today it is the worlds largest telephone survey.
- The BRFSS measures health behaviors, which have been shown to be a major contributor to disease and premature death.
- The BRFSS plays a key role in targeting resources for the prevention and reduction of poor health behaviors and their related illnesses.
- The Oklahoma State Department of Health joined the Behavioral Risk Factor Surveillance System in March 1988. Oklahoma completed 982 surveys its first year.
- In 2002, Oklahoma completed over 500 surveys per month and 6,745 surveys for the entire year. This has enabled OSDH to provide statewide, regional and some county level estimates of health behaviors.

# BRFSS Health Insurance Coverage

**Percent of Adults in Oklahoma & the Nation reporting No Health Insurance Coverage**

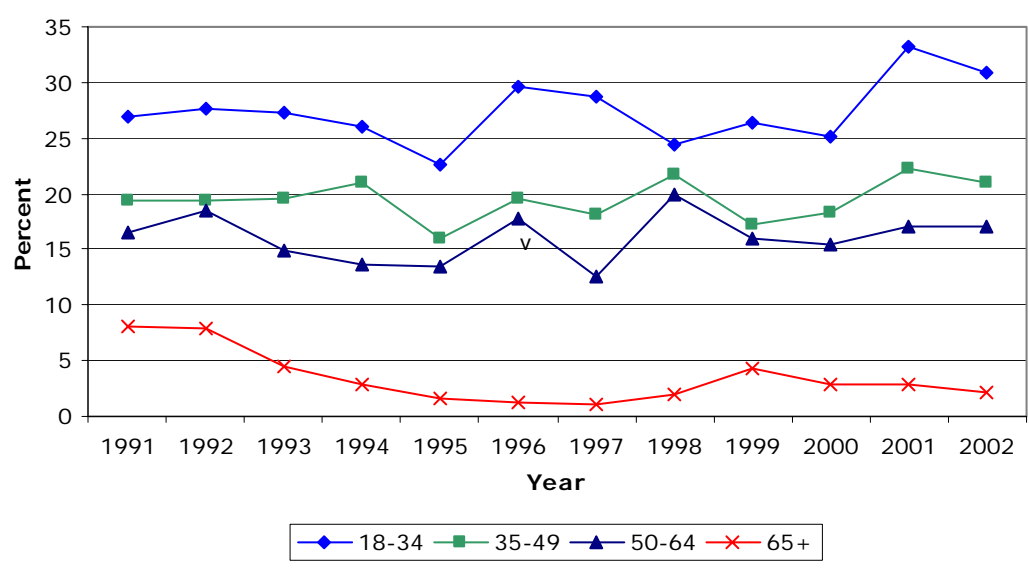


- Since 1991, the percent of adults in Oklahoma without health insurance has been higher than the nation as a whole.
- In 2002, Oklahoma ranked 46<sup>th</sup> in the Nation for the highest percent of uninsured adults.
- Those Oklahomans 18 to 34 years of age reported the highest percent of uninsured (33%) of any other age group.
- The percent of uninsured older Oklahomans has consistently been much lower than the percent of uninsured younger Oklahomans.

**Oklahoma 2002: Percent of Adults Reporting No Health Insurance Coverage**

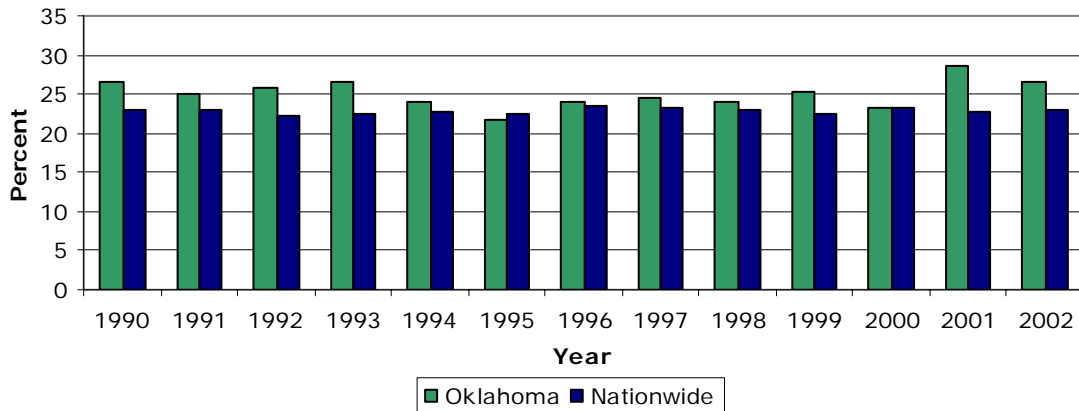
Region	Percent
Central	19.9%
Northeast	20.5%
Northwest	16.6%
Southeast	24.0%
Southwest	18.8%
Tulsa	18.2%

**Percent of Oklahoma Reporting No Health Insurance Coverage by Age of Respondent**



# BRFSS Smoking in Oklahoma

## Percent of Adults in Oklahoma & the Nation that Currently Smoke

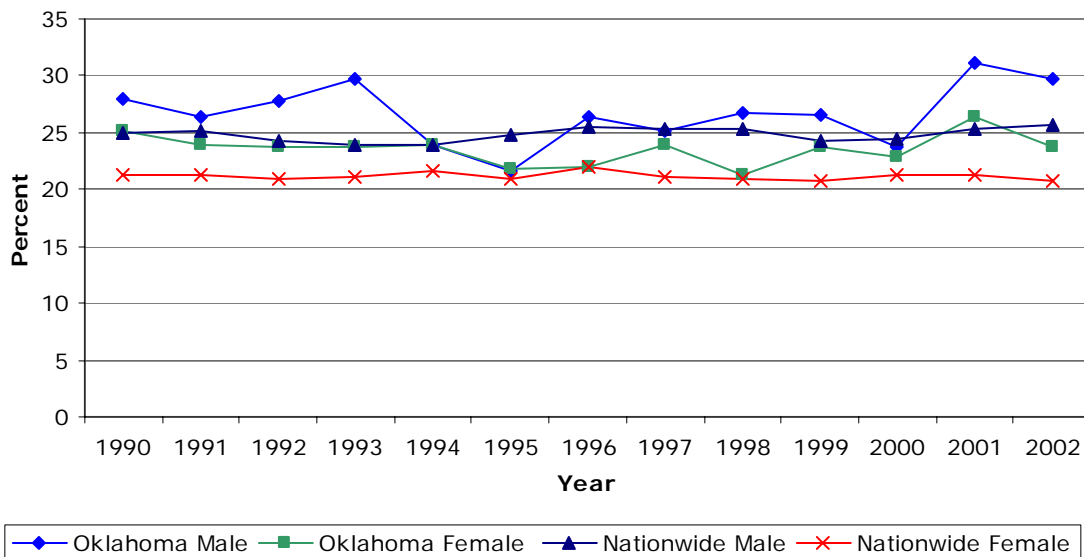


- In 2002 Oklahoma ranked 44<sup>th</sup> in the Nation for the percent of the population currently smoking (26.6% current smokers).
- In 2002, 29.7% of adult males and 23.7% of adult females in Oklahoma reported that they currently smoke.
- 23.0% of the Nation reports currently smoking.

### Oklahoma 2002: Percent of Adults Reporting they Currently Smoke

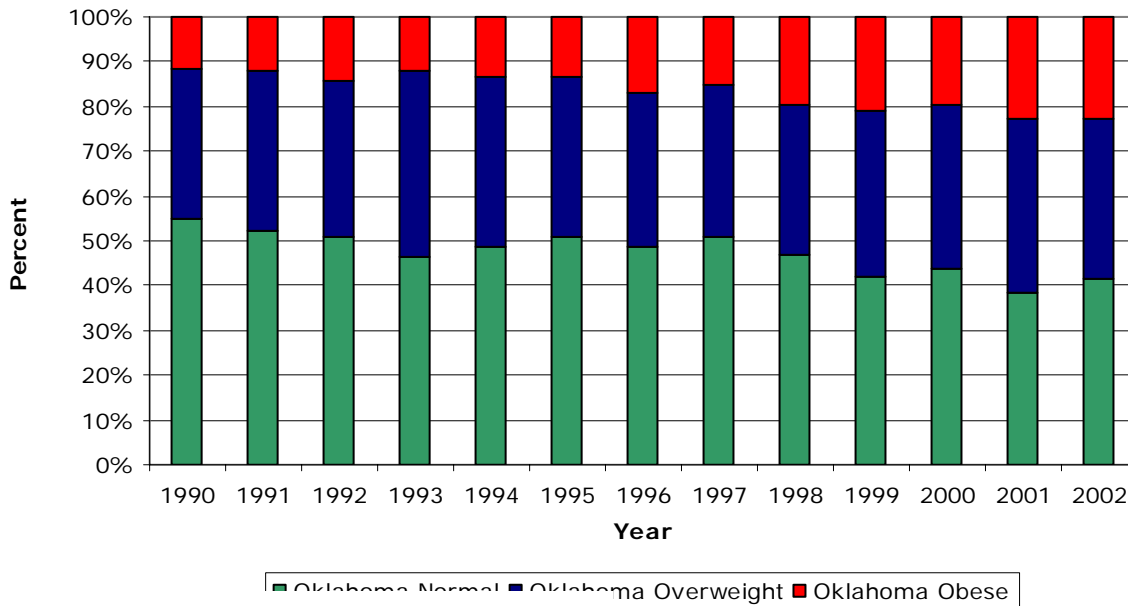
Region	Percent
Central	24.0%
Northeast	25.5%
Northwest	27.4%
Southeast	32.6%
Southwest	31.1%
Tulsa	23.9%

## Percent of Adults in Oklahoma and the Nation that Currently Smoke by Gender



# BRFSS Overweight / Obesity

Percent of Adults in Oklahoma by Weight Classifications



- Over the past twelve years Oklahomans have increasingly gained weight.
- In 1990, only 45% of adult Oklahomans were considered over weight / obese while in 2002, 58.7% of adult Oklahomans are considered overweight / obese.
- In 2002 58.8% of the adults in the Nation were considered overweight / obese.
- Oklahoma ranked 25<sup>th</sup> in the nation for the percent of its adult population which is considered to be overweight / obese.

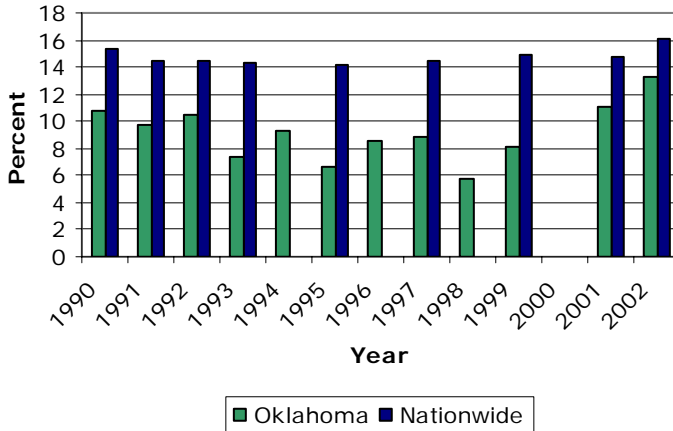
Oklahoma 2002: Percent of Adults by Weight Classification and Region

Region	Normal (BMI < 25)	Over-weight (BMI 25-29)	Obese (BMI 30+)
Central	44.0%	35.7%	20.3%
NE	41.8%	34.6%	23.6%
NW	37.2%	35.4%	27.4%
SE	39.3%	37.5%	23.2%
SW	36.4%	37.8%	25.8%
Tulsa	44.6%	35.1%	20.4%

- The percent of adult males in Oklahoma that are obese has increased from 9.6% in 1990 to 23.2% in 2002; the percent of obese adult women has also increased from 13.6% in 1990 to 22.6% in 2002.

## BRFSS Alcohol Use

**Percent of Adults in Oklahoma & the Nation that Reported Binge Drinking during the Past 30 Days**



- In 2002, only 13.3% of adults in Oklahoma reported drinking 5 or more drinks during one occasion in the past 30 days.
- Nationwide 16.1% reported binge drinking in the past 30 days.
- Since 1998, Oklahoma has shown an increase in binge drinking of over 100%.

- Oklahoma has repeatedly reported a lower percent of heavy drinkers than the Nation as a whole.

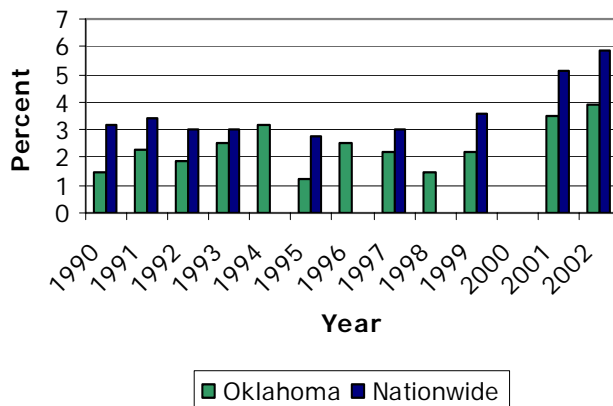
**Oklahoma 2002: Percent of Adults Reporting they Drank 5 or More Alcoholic Beverages on at Least One Occasion During the Past 30 Days**

Region	Percent
Central	15.6%
Northeast	13.0%
Northwest	16.0%
Southeast	11.8%
Southwest	11.0%
Tulsa	11.0%

- In 2002, 3.9% of adults in Oklahoma were considered heavy / chronic drinkers, as apposed to 5.9% Nationwide.

- In recent years, Oklahoma as well as the nation has shown an increase in heavy / chronic drinking. From 1990 to 2002 the percent of Oklahomans who are considered heavy drinkers has increased over 100%.

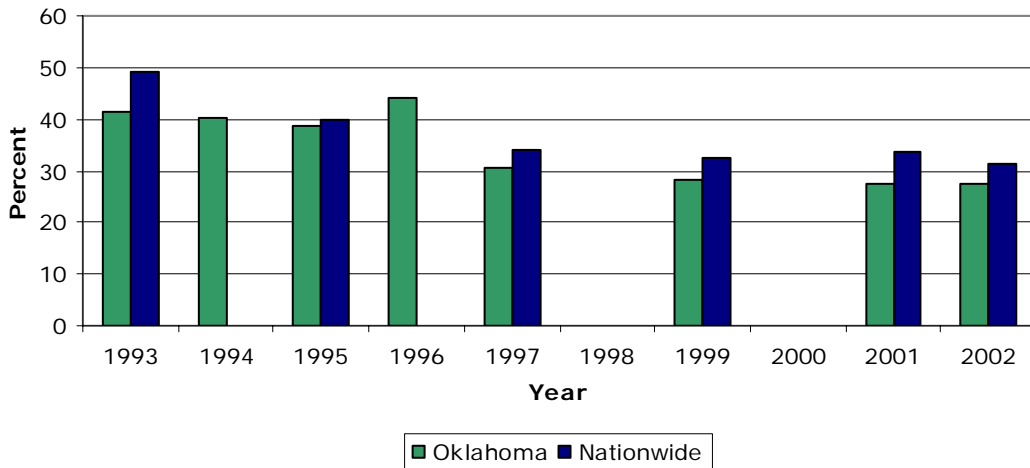
**Percent of Adults in Oklahoma & the Nation that are Considered Heavy Drinkers**



- Over the past thirteen years Oklahoma has continually reported a lower percent of binge drinking than the Nation as a whole.

## BRFSS Flu Shots, 65 and Older

Percent of Oklahoma & the Nation that have Not Received a Flu Shot in the Past 12 Months (Ages 65+)



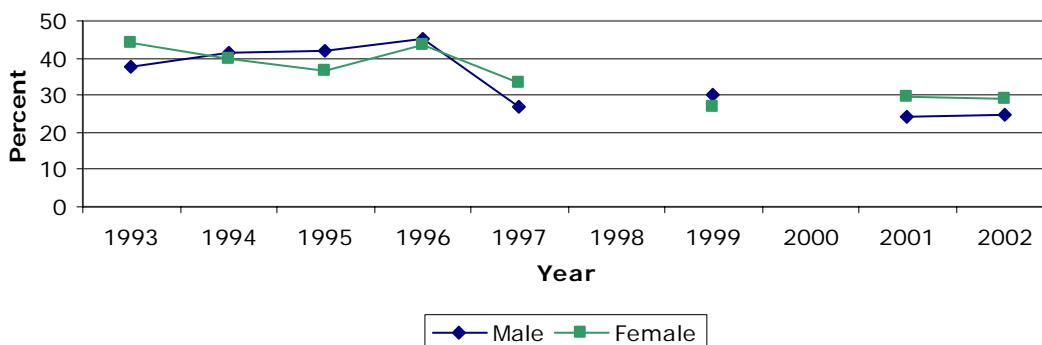
- The percent of those 65 and older that have not had a flu shot within the past 12 months has decreased more than 30% over the past 10 years.
- Oklahoma males reported receiving a flu shot more often than women in 2001 & 2002.

Oklahoma 2002: Percent of Adults Reporting they Received a Flu Shot in the Past 12 Months (age 65+)

Region	Percent
Central	27.0%
Northeast	28.5%
Northwest	30.6%
Southeast	24.9%
Southwest	27.8%
Tulsa	24.9%

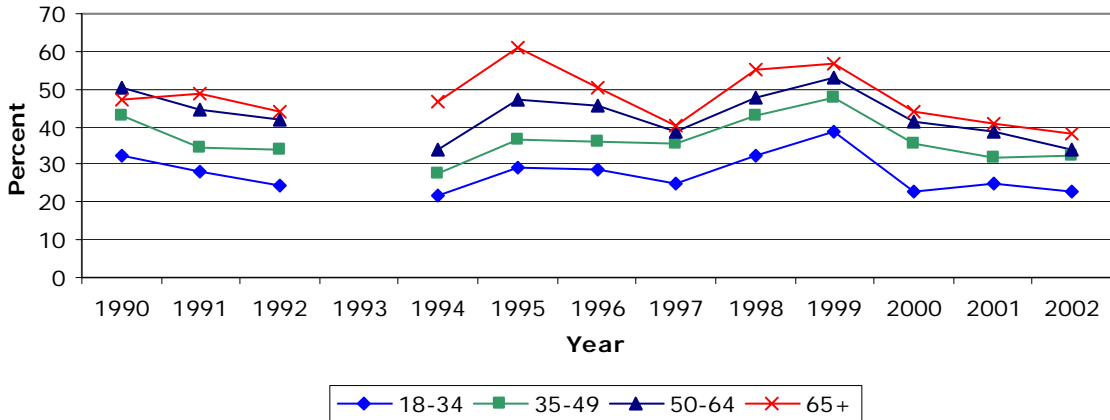
- As of 2002, the nation reported that 31.5% of people 65 and older have not had a flu shot in the past 12 months.
- Oklahomans reported only 27.3% not receiving a flu shot in the past 12 months.

Percent of Oklahoma reporting that they have Not Received a Flu Shot in the Past 12 Months (Age 65+), by Gender



# BRFSS Leisure Time Physical Activity

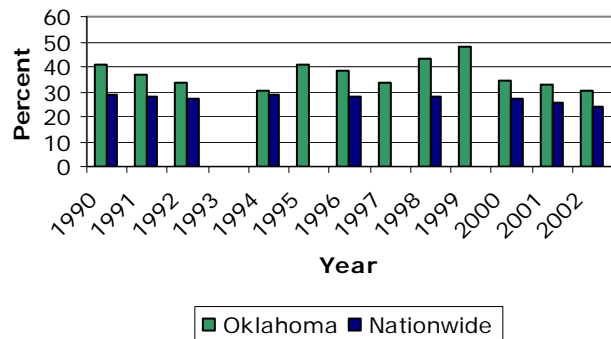
Percent of Oklahoma reporting No Leisure Time Physical Activity by Age of Respondent



- Adults in Oklahoma have consistently reported that they participate in less leisure time activity than the Nation as a whole.
- Oklahoma ranked 48<sup>th</sup> in the Nation for the least amount of adults participating in leisure time physical activity.
- Oklahomans that are 65 and older participate in the least amount of leisure time physical activity.

Oklahomans 18-34 have shown to participate in the most leisure time physical activity of any age group in the state, but their activity is still less than 43% of other states' activity level for all ages combined.

Percent of Oklahoma & the Nation that do Not Participate in any Leisure Time Physical Activity



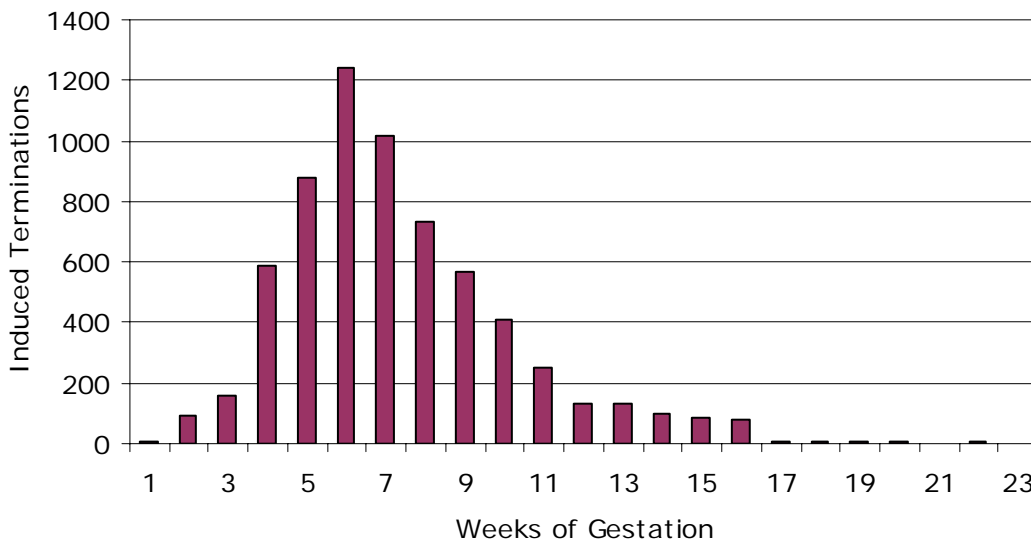
Oklahoma 2002: Percent of Adults Reporting they do Not Participate in Any Leisure Time Physical Activity

Region	Percent
Central	29.1%
Northeast	33.0%
Northwest	26.7%
Southeast	34.9%
Southwest	31.3%
Tulsa	27.1%

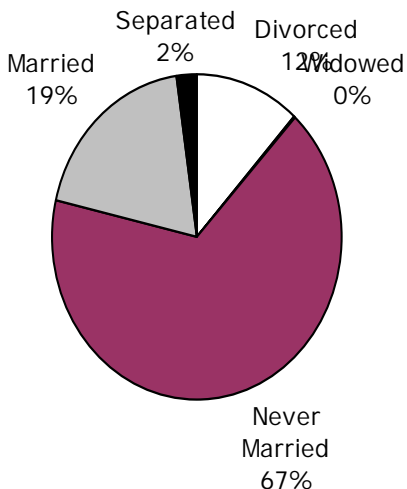
# INDUCED TERMINATION OF PREGNANCY (ITOP)

- A total of 6,500 induced abortions were reported in 2002.
- Most abortions were obtained by white women, unmarried women, and women less than 25 years of age.
- Fifty percent of the induced abortions were among women less than 25 years of age.
- Unmarried women accounted for seventy-nine percent of the abortions.
- Thirty-five percent of induced abortions were performed at or less than eight weeks gestation.

Number of abortions by gestational age - Oklahoma, 2002



Percent of abortions by marital status - Oklahoma, 2002



- Sixty-seven percent of abortions were to women who have never been married.
- Nineteen percent of abortions were to married women.
- Women who were separated or divorced accounted for two percent and twelve percent of abortions, respectively.

Inpatient

Birth

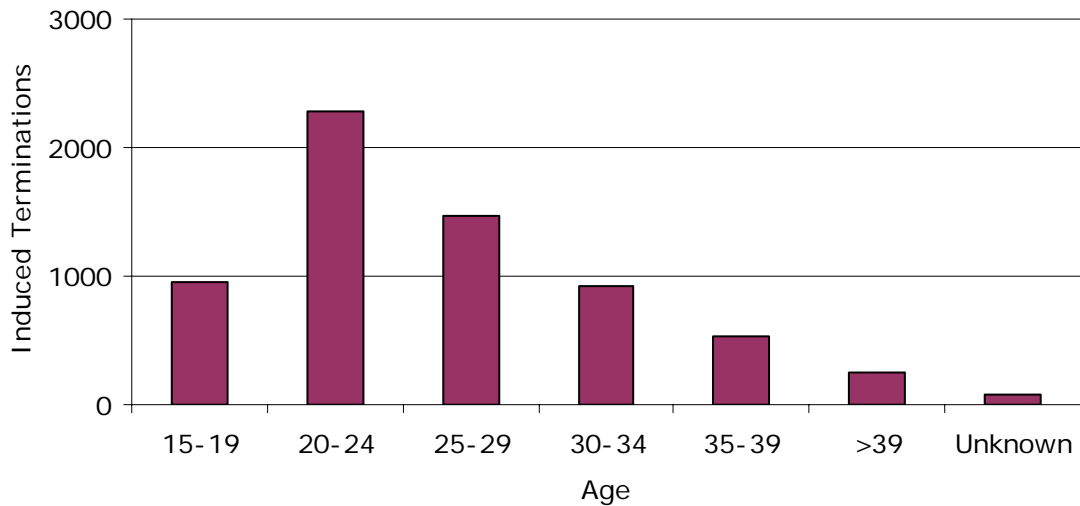
Death

BRFSS

ITOP

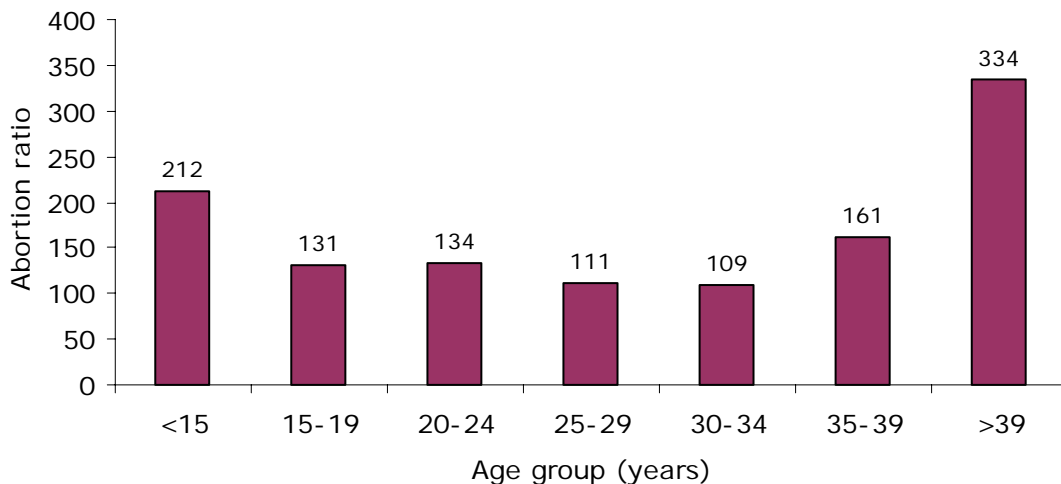
# INDUCED TERMINATION OF PREGNANCY (ITOP)

Number of abortions by age - Oklahoma, 2002



- Thirty-five percent of abortions (2280) were to women between the ages of 20 and 24.
- Seventy-three percent of all abortions were performed on women under the age of 30.
- Women 40 years of age or older had the highest abortion ratio of 334 abortions per 1,000 live births.
- Women between the ages of 30 and 34 had the lowest abortion ratio of 109 abortions per 1,000 live births followed closely by women ages 25-29 with an abortion ratio of 111.

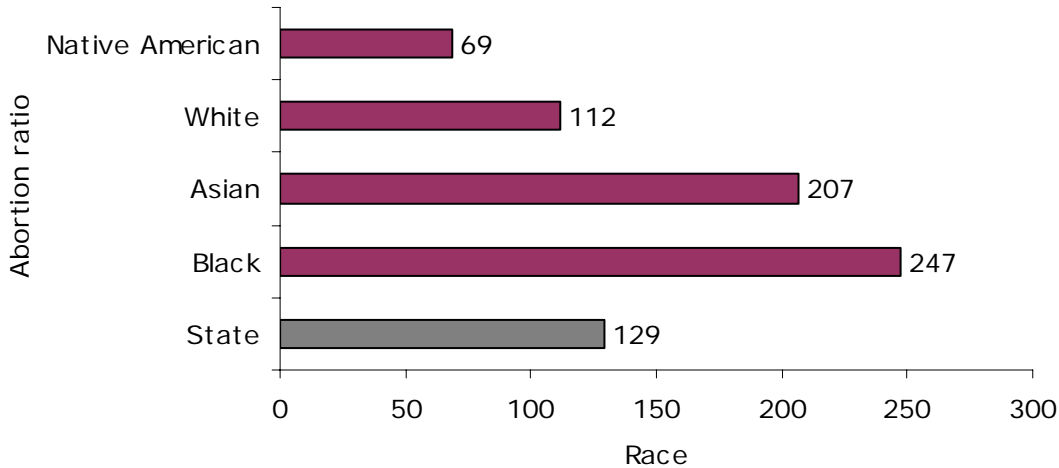
Abortion ratio\* by age group of women who obtained a legal abortion – Oklahoma, 2002



\*Abortion Ratio is the number of abortions per 1,000 live births.

# INDUCED TERMINATION OF PREGNANCY (ITOP)

Abortion ratio\* by race of women who obtained a legal abortion - Oklahoma, 2002



\*Abortion Ratio is the number of abortions per 1,000 live births.

- In Oklahoma, the abortion ratio was 129 legal induced abortions per 1,000 live births.
- In the US, the ratio was 246 legal induced abortions per 1,000 live births in 2000.
- Black women accounted for the highest abortion ratio of 247 abortions per 1,000 births, and accounted for 18 percent of abortions.

State of Residence*	Abortions
Oklahoma	6217
Arkansas	137
California	2
Colorado	1
Florida	1
Hawaii	1
Kansas	44
Kentucky	1
Louisiana	1
Missouri	63
Ohio	2
Pennsylvania	1
Texas	28
Mexico	1

\*one abortion reported to a resident of another country

- White women accounted for 68% of all abortions obtained in Oklahoma, however their abortion ratio was second to lowest at 112 per 1,000 live births.

- Native American women had the lowest abortion ratio at 69 abortions per 1,000 live births and only accounted for five percent of total abortions reported.

- Ninety-six percent of abortions reported in Oklahoma were for Oklahoma residents.

Inpatient

Birth

Death

BRFSS

ITOP

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