

# Kansas Health Statistics Report

Kansas Department of Health and Environment – Center for Health and Environmental Statistics – No 19 – November 2003

## Drug and Alcohol Related Mortality in Kansas

Alcohol and drug abuse have an enormous impact on American society. The National Institute on Drug Abuse (NIDA) estimated the economic cost to society in 1992 at \$246 billion (1). NIDA reported more than 132,000 persons died as a consequence of alcohol and drug problems that year at an estimated cost of \$31.6 billion, representing the discounted value of lifetime earnings.

Drugs and alcohol contribute to the Kansas mortality experience in a variety of ways. Death certificates prepared by physicians and coroners provide insight into each death. The certificate allows for up to four lines of information about contributing causes and an additional section for other factors involved in the death.

Up to 20 multiple cause codes may be generated from the death certificate information. Under the mortality coding rules that make up the International Classification of Diseases 10<sup>th</sup> Revision, multiple cause codes are evaluated to identify the particular disease or injury that began the sequence of events that resulted in the death.

For purposes of this evaluation any death with a drug- or alcohol-related underlying cause code or multiple cause code, regardless of the manner of death was included (See Technical Notes). Tobacco, while considered a hazardous drug by many, was not part of the evaluation.

During 1999-2001, 1,553 Kansas resident deaths occurred in which alcohol or drugs were factors. This represented 2.1% of the 73,646 deaths during the three-year period (2).

Table 1. Drug/Alcohol Related Deaths by Year by Frequency and Rate

	1999	2000	2001
Frequency	480	495	578
Crude Rate (1)	18.1	18.4	21.4
Age Adjusted Rate	18.2	18.6	21.6
Confidence Interval	16.5 - 19.8	17.0 - 20.2	19.8 - 23.3

1 Rates per 100,000 Population

The number of drug- and alcohol-related deaths increased by 98 from 1999 to 2001 (Table 1). The age-adjusted mortality rate increased 18.7% during the period.

Table 2. Drug/Alcohol Related Deaths by Selected Characteristics

Substance Involved	N	%
Alcohol Only	913	58.8%
Drugs Only	576	37.1%
Both	64	4.1%
Underlying Cause	N	%
Mental Disorder	180	11.6%
Cirrhosis	228	14.7%
Accident, Suicide, Assault, Undeter. w/illegal drugs	344	22.2%
Drugs	9	0.6%
Other Alcohol	33	2.1%
All Other Causes	759	48.9%
Total	1553	100.0%

While alcohol or drugs were factors in 1,553 deaths during the three year period, almost half of the deaths were coded to unrelated underlying causes (Table 2). Of the drug- and alcohol-related deaths, the largest group of underlying causes comprised illegal drug and alcohol deaths from assault, accident, suicide, and undetermined nature. The fewest number of deaths was in the category for accidental therapeutic use of drugs.

Table 3. Drug/Alcohol Related Deaths by Manner by Sex

Manner	Male	Female	Total
Accident	331	116	447
Homicide	6	0	6
Natural	652	266	918
Not Determined	26	12	38
Pending	11	4	15
Suicide	77	52	129
Total	1103	450	1553

Over twice as many males as females were involved in drug- and alcohol-related deaths (Table 3). The manner of death most frequently cited was natural (42.0%) followed by accidental (21.3%).

Table 4. Drug/Alcohol Related Deaths by Age-group by Hispanic Origin

Age	Hispanic	Non-Hispanic	Unknown	Total
Under 5	0	1	3	4
5-14	0	1	1	2
15-24	6	76	4	86
25-34	11	111	7	129
35-44	14	306	23	343
45-54	15	341	15	371
55-64	7	218	17	242
65-74	1	185	11	197
75-84	3	118	9	130
85 & Over	1	48	0	49
Total	58	1405	90	1553

The age-group with the largest number of drug- and alcohol-related deaths was 45-54, closely followed by the age-group 35-44 (Table 4). The age group of 35-64 accounted for almost two-thirds of the deaths (61.6%). Only 3.7 percent of the deaths involved Hispanics.

Whites represented 90.6% of drug- and alcohol-related deaths. Blacks accounted for 7.5% of the deaths with the remaining 1.9% occurring to persons of other races (Table 5). Of the leading underlying causes of death, drugs, or alcohol were contributing factors in 112 ischemic heart disease deaths and 96 cancer deaths.

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Table 5. Drug/Alcohol Related Deaths by Leading Causes by Race (1)

Cause	White	Black	Other	Total
Tuberculosis	1	0	0	1
Syphilis	0	0	0	0
Cancer of Stomach	1	1	0	2
Cancers of Colon Rect	9	0	0	9
Cancer of Pancreas	4	0	0	4
Cancer of Lung	20	5	1	26
Cancer of Breast	5	0	1	6
Cancers of Uterus	4	0	0	4
Cancer of Prostate	4	1	0	5
Cancer of Urinary Tract	0	0	0	0
Non-Hodgkins Lymphoma	8	1	0	9
Leukemia	14	0	0	14
Other Cancer	27	2	0	29
Diabetes mellitus	14	1	0	15
Alzheimer's Disease	0	0	0	0
Hypertensive Heart Dis. w/, w/o Renal Disease	3	1	0	4
Ischemic Heart Diseases	112	10	2	124
Other Heart Disease	45	4	0	49
Prim. Hypertension/ Hypertensive Renal Dis.	5	2	0	7
Cerebrovascular Diseases	21	4	0	25
Atherosclerosis	3	0	0	3
Other Dis. of Circulatory	4	1	0	5
Influenza & Pneumonia	7	2	0	9
Chronic Lower Respiratory	39	3	1	43
Peptic Ulcer	4	0	0	4
Chronic Liver Diseases & Cirrhosis	212	13	5	230
Nephritis, Neph. Syndrome, Pregnancy, Childbirth & the Puerperium	4	2	0	6
Conditions Perinatal Period	0	0	0	0
Congenital Malformations	3	0	0	3
HIV & Sym., Signs,	3	1	0	4
All Other Diseases	266	30	4	300
Motor Vehicle Accidents	132	4	7	143
All Other Acc./Adv. Effects	282	28	4	314
Suicide	123	0	4	127
Homicide	4	1	0	5
All Other Ext. Causes	24	0	0	24
Total	1,407	117	29	1,553

1 HIV, normally a separate category is combined with abnormal findings to protect individual confidentiality

### Technical Notes

ICD10 codes for drug and alcohol related deaths included: F10-F16, F18-F19, mental health disorders related to drugs and alcohol; G31.2, degeneration of nervous system due to alcohol; G62.1, alcoholic polyneuropathy; I42.6, alcoholic cardiomyopathy; K29.2, alcoholic gastritis; K70-K71, alcohol related cirrhosis; R78.0, finding of alcohol in blood; X40-X45, accidental drug or alcohol poisoning; X60 -X65, Intentional alcohol or drug self poisoning; X85, assault by drugs; Y10-Y15, drug or alcohol poisonings of undetermined intent, Y40-Y59, adverse effects of therapeutic drugs; T88.6-T88.7, nature of injury codes for adverse drug effects; Y88.0, sequelae of adverse effects of therapeutic drugs.

### References

1 The Economic Costs of Alcohol and Drug Abuse in the United States – 1992, National Institute on Drug Abuse.

2. K Sommer, 2001 Kansas Annual Summary of Vital Statistics, Kansas Department of Health and Environment.

Greg Crawford  
Vital Statistics Data Analysis

## Fewer Kansas Teens Smoking

The Kansas Department of Health & Environment (KDHE) 2002 Kansas Youth Tobacco Survey (KYTS) results show that over a two-year period teen tobacco use and cigarette use has fallen. Among high school students any tobacco use fell by 13% while cigarette use fell by 19% (Figure 1). Among 6th – 8th graders any tobacco use declined by 12% and cigarette use declined by 8%.

KDHE conducted the survey, reviewed by the U.S. Centers for Disease Control and Prevention, in late 2002. Baseline data were collected in a 2000 survey.

The results indicate 4,400 fewer youth using tobacco than in 2000. KDHE staff believes tobacco control efforts at the local, state, and national levels, in combination with the increased price of cigarettes, to be the cause of the decline.

“We are excited to be able to report progress in reducing youth tobacco use, but in order to see continued success, a strong commitment to supporting comprehensive tobacco use prevention strategies must be maintained,” said KDHE Secretary Roderick L. Bremby. “Tobacco use remains the number one preventable cause of death in Kansas and national studies show that for every one person who dies of a smoking-attributable disease, there are 20 more people who are suffering from a serious illness from smoking.”

Key survey results include:

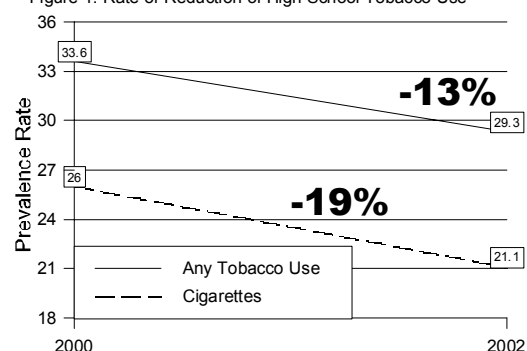
- a 29% reduction in the number of high school seniors who smoke cigarettes,
- a 12% decline in the number of 6th – 8th graders who have ever tried smoking cigarettes, and
- a 21% reduction in the number of 9th – 12th graders who smoke five or more cigarettes per day.

The survey enhances KDHE's capacity to design, implement, and evaluate tobacco prevention programs. The KYTS uses a two-stage probability sample design to select schools and students to be surveyed. Staff randomly selected 50 middle schools and 50 high schools in Kansas and approximately 70% of those schools participated.

The cornerstone of the state's youth tobacco prevention activities is the Kansas Tobacco Use Prevention Program, a statewide youth movement known as TASK, and their partners. Organized in 1998 as a part of the Tobacco Free Kansas Coalition, TASK promotes tobacco-free teens by uniting communities to create one strong voice against the promotion and use of tobacco products. TASK has evolved into an active entity heavily involved with the prevention of Kansas teen tobacco use. The 2002/2003 Kansas \$0.55 cigarette excise tax increase also contributed to the decline in tobacco use.

The Kansas Tobacco Use Prevention Program provides resources and technical assistance to community coalitions for development, enhancement, and evaluation of state and local initia-

Figure 1. Rate of Reduction of High School Tobacco Use



## Dental Hygienists in Short Supply

The Center for Health and Environmental Statistics has calculated Full-Time Equivalencies (FTEs) for Dental Hygienists for 2002. The calculation of FTEs was based on the number of reported work hours per hygienist. Population data used in the report is taken from the U.S Census Bureau July 1, 2002, population estimates. Adjusted population equals total population less population living in group quarters.

Highlights include:

For all of Kansas there is one FTE hygienist per 3,339 residents based on adjusted 2002 population.

In 16 counties the population/FTE ratio is smaller than the state ratio (Figure 2). These counties contain 53% of the state's population, 77% of the state's FTEs, and 16% of the state's total area. For these 16 counties the mean population/FTE ratio is 2,334, compared to a statewide ratio of 3,339.

In 57 counties the population/FTE ratio is larger than the state ratio. These counties contain 41% of the state's (adjusted) population, 23% of the state's FTEs, and 52% of the state's total area. For these 57 counties the mean population/FTE ratio is 5,883 compared to a statewide ratio of 3,339.

In the remaining 32 counties there are no hygienist FTEs. These counties contain 5% of the state's population (adjusted) and 31% of the state's area.

In counties where the population/FTE ratio is less than the state average, hygienists are relatively plentiful. In the 57 counties where the population/FTE ratio is greater than the state average, hygienists are relatively scarce. Thirty-two additional counties have no dental hygienists. These two groups (89 counties) comprise 84% of the state's area and 44% of the state's population.

According to a 1999 study funded by the United Methodist Health Ministry Fund (1), the majority of dentists practice in either metropolitan or densely settled rural areas of the state, and they are under-represented in frontier and rural areas. Roughly speaking, analysis of 2002 dental data shows that practice location areas are similar for dental hygienists and dentists. This finding points to significant access issues for Kansans who live in more sparsely populated counties in the state.

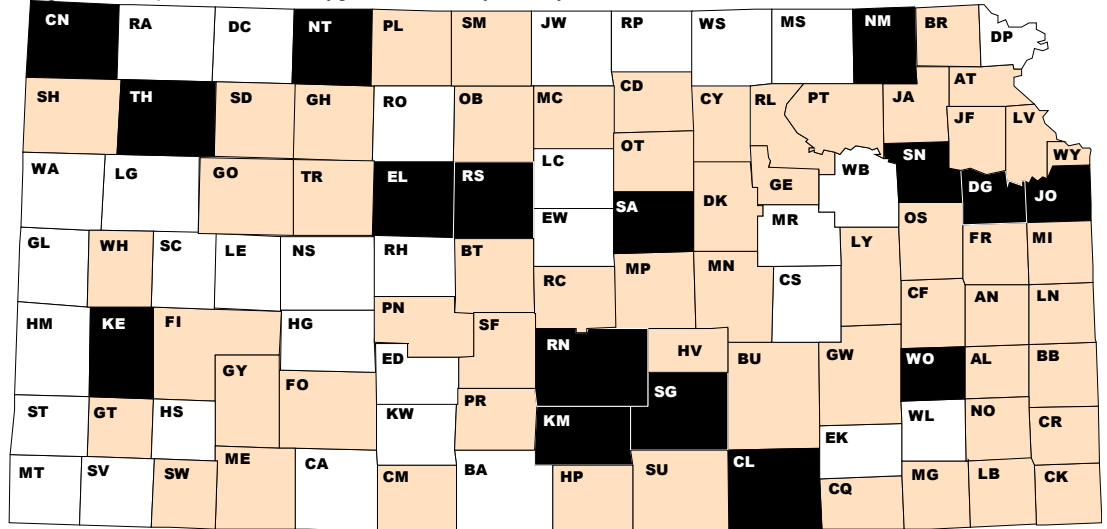
## References

- 1 Davis, R.; M. Fox, J. Johnston, B. Langner, R. McAdams, J. Moore, and T. Redmond, "Status and Prospects for Medicaid Beneficiaries' Access to Dental Services in Kansas", submitted

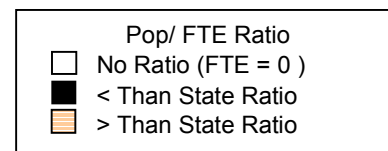
## Health Systems Inventories Released

The Center for Health and Environmental Statistics, on behalf of the Health Care Data Governing Board (HCDGB), has recently

Figure 2 Population /Dental Hygienist Ratios by County, 2002



Ratio = Adjusted Population per Dental Hygienist  
State Ratio: 3,339 Persons per Dental Hygienist



completed two publications in the "Health Systems Inventory" series. These publications review professional data for occupations credentialed by the Kansas Department of Health and Environment, Health Occupations Credentialing (HOC) Unit, and for doctors of optometry, licensed by the Kansas Board of Examiners in Optometry.

Information for occupations licensed by HOC (speech language pathologists, audiologists, dietitians, and adult care home administrators) includes analysis by age and gender, by education, employment status, primary function, county of practice, and by full time equivalency. For occupations certified by HOC (certified nurse aides, certified medication aides, and certified home health aides), the report includes analyses by age and gender and by county of residence.

The second report contains information about optometrists by age and gender, by type of license, practice site, and full time equivalencies.

Both reports, as well as additional reports in the series, are available for viewing at the HCDGB web site:

<http://www.accesskansas.org/hcdgb/khcdpubs.html>

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Health Care Data Analysis

## Article Review: Explaining Drug Spending Trends: Does Perception Match Reality?

A number of studies in recent years have shown that drug expenditures are rising more rapidly than other health care expenses. Dubois et. al., however, found when analyzing 1995 and 1998 Protocare Sciences and 1994 and 1997 MEDSTAT Market-Scan databases, that increased volume of pharmaceutical utilization

tion rather than rising prices was the greatest spending driver for asthma, hormone replacements therapy, antidiabetic, antihyperlipidemic, antidepressant, antihistamine, and gastrointestinal drug categories.

They attribute the volume increase to a combination of new scientific discoveries and improved medical practice. Because new knowledge has improved provider ability to diagnose and target patient treatment, the drug therapy mix, duration and targeted combination of therapies prescribed has changed. They also explain that when scientific discoveries are translated into routine patient care, evidence based medicine, practice guidelines, and performance measures have the potential to increase the number of diagnosed patients utilizing pharmaceutical products. The most striking change identified by Dubois et al. in the three study years was the increase in our measure of disease prevalence.

Dubois et al. found when disaggregating identified spending increases, in all cases but one, that the average transaction price rose, but the impact on the rise in drug spending was surpassed by that of growth in medication volume. For example,

- Price factors had little influence on the 80% increase in expenditures for the cholesterol-lowering drug class during the three year time period. There were modest

increases in prescriptions per person and days of therapy per prescription.

- Spending on hormone replacement therapy increased by more than 200% between 1995 and 1998. For asthma, a 95% increase was observed in medication expenditures. In 1995, just 24% of asthma patients were using inhaled corticosteroids; however by 1998, 40% of patients received at least one prescription for such medications. During the same period, emergency room visits fell by 42 visits per thousand asthma patients.

Dubois et al. related that rhetoric frequently focuses on the impact of pharmaceutical pricing and how advertising inappropriately increases volume. They found price to play a relatively minor role affecting spending patterns, but stated that although it is likely that advertising does influence volume growth, a more salient question may be whether or not growth is appropriate. In some cases, medication costs may be offset by reduction in hospital, laboratory, or physician services.

#### Reference

Robert W. Dubois, Anita J. Chawla, Cheryl A. Neslusan, Mark W. Smith, and Sally Wade. Health Affairs, March/April 2000; Volume 19, Number 2.  
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Health Care Data Analysis*

The Office of Health Care Information of the Kansas Department of Health and Environment's Center for Health and Environmental Statistics produces *Kansas Health Statistics Report* to inform the public about availability and uses of health data. Material in this publication may be reproduced without permission. Citation as to source, however, is appreciated. Send comments, questions, address changes and articles on health data intended for publication to: OHCI, 1000 SW Jackson, Suite 130 Topeka, KS, 66612-1354, [Kansas.Health.Statistics@kdhe.state.ks.us](mailto:Kansas.Health.Statistics@kdhe.state.ks.us), or 785-296-8627. Roderick L. Bremby, Secretary KDHE; Lorne A. Phillips, PhD, State Registrar and Director CHES; Elizabeth W. Saadi, PhD, Director, Office of Health Care Information; Greg Crawford, Editor.

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