Kansas Health Statistics Report

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2005 Annual Summary Released

The *2005 Annual Summary of Kansas Vital Statistics* is the latest edition of a report released by KDHE that serves as the baseline document used to assess the health of Kansans. It is used by health program managers, researchers and epidemiologists for targeted studies and more specialized evaluations by the public, policy makers, and by federal, state, and local governments.

Table 1 Selected Vital Event Rates & Ratios, Kansas, 2004-2005

Vital Event	2004	2005
Live Births		
Number	39,553	39,701
Rate[1]	14.5	14.5
Out-of-Wedlock Births		
Number	12,897	13,492
Ratio[2]	32.6	34.0
Stillbirths (S.B.)		
Number	186	194
Rate[3]	4.7	4.9
Hebdomadal Deaths (Under 7 days)		
Number	144	153
Rate[4]	3.6	3.9
Perinatal Period III Deaths (S.B. & Hebdomadal)		
Number	330	347
Rate[3]	8.3	8.7
Neonatal Deaths		
Number	176	196
Rate[4]	4.4	4.9
Infant Deaths		
Number	284	297
Rate[4]	7.2	7.5
Maternal Deaths		
Number	2	6
Rate[5]	0.5	1.5
Deaths		
Number	23,720	24,632
Rate[1]	8.7	9.0
Marriages		
Number	19,174	18,745
Rate[1]	7.0	6.8
Marriage Dissolutions		
Number	8,759	8,476
Rate[1]	3.2	3.1
Abortions		
Total Reported	11,446	10,543
Kansas Residents.	5,971	5,629
Out of State Residents	5,475	4,914

1 Rate per 1,000 population
2 Ratio per 100 live births
3 Rate per 1,000 live births + stillbirths
4 Rate per 1,000 live births
5 Rate per 10,000 live births
Residence data presented for births and deaths. Occurrence data presented for marriages, and marriage dissolutions.

The tables and charts contained in this report represent a portion of the insight that can be gained from the data reported on births, stillbirths, deaths, marriages, marriage dissolutions (divorce and annulment), and abortions recorded. Analysis of trend data, county data, and a comparison of Kansas to the nation are included in this report. Some of the highlights from the report include:

- Emma and Aiden topped the list of most popular baby names for Kansas resident births.
- Out-of-wedlock births (primarily to 15-24-year-old mothers) followed national trends, increasing to a record high.
- Although teen pregnancy rates increased slightly in 2005, rates have generally declined for the past decade. Among major population groups, Hispanic teens exhibited the highest pregnancy rate (53.0 per 1,000 female age-group population).
- Almost half of the abortions performed in Kansas occurred to non-Kansans. Slightly over half of the Kansans seeking abortions were 15-24 years old.
- The black infant death rate (17.3 per 1,000 live births) continued to be over two times higher than the rate for whites (6.3 per 1,000 live births).
- Cancer and heart disease accounted for almost half of the deaths in 2005. However, unintentional injuries remained the leading cause of death for Kansans 1-44 years old.
- Kansans are continuing to delay marriage. The percent of brides under age 20 decreased from 12 percent in 1996 to 8 percent in 2005; for grooms the decrease was from 4.6 to 3.2 percent.
- Most marriages ending in divorce or annulment are of relatively short duration. Over one-third were granted after duration of less than five years and close to two-thirds after less than 10 years.
- Between 2001 and 2005, 79 of Kansas' 105 counties experienced a loss in population.

The 2005 *Annual Summary* is available in a PDF format at http://www.kdheks.gov/ches/index.html.

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New Certificates Mean Changes

The *2005 Annual Summary of Vital Statistics* report presents the first results from Kansas' implementation of the new birth and death certificates developed nationally in 2003. While the biggest changes focused on recording more accurately the race, ancestry and Hispanic origin of individuals, a number of other data elements changed. In a series of articles, in this and future issues of *Kansas Health Statistics Report*, the impact of these changes will be detailed.

One of the changes in 2005 was to add new categories for the place of death. The old categories

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were retained but categories for deaths occurring in a hospice or assisted living facility were added.

Table 2. Place of Death by Year, Kansas Residents, 2004-2005

Place	2004		2005	
	N	%	N	%
Hospital Inpatient	8,392	35.4	8,294	33.7
ER/Outpatient	1,398	5.9	1,416	5.7
Hosp./DOA	121	0.5	108	0.4
Nursing Home	6,716	28.3	7,082	28.8
Residence	5,214	22.0	5,461	22.2
Hospice	n.a.	n.a.	1,105	4.5
Assisted Living	n.a.	n.a.	284	1.2
Other	1,879	7.9	819	3.3
Not Stated	0	0.0	63	0.2
Total	23,720	100.0	24,632	100.0

n.a. Not available

Source: Kansas Vital Statistics

In 2005, deaths increased by 3.8 percent from the year before. The number of deaths occurring in hospitals (the first three categories) declined by 93 or 0.9 percent (Table 2). Deaths in nursing homes and residences were up. For the first time its possible to report on the number of persons who died in hospice and assisted living facilities. The values for assisted living and hospice may have been previously reported as "other."

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2005 Kansas Vital Statistics at a Glance

Need a quick summary of vital statistics in Kansas? The Center for Health and Environmental Statistics publishes just such a product. Called "Kansas Vital Statistics at a Glance," the folded, wallet-sized card offers a quick summary on key vital statistics information.

Table 3 is an excerpt of just one of the fact filled components of Kansas Vital Statistics at a Glance. The card is available at http://www.kdheks.gov/hci/as/vsglance.pdf or by calling (785) 296-8627. All vital statistics data can be accessed at the KDHE web site at http://www.kdheks.gov/ches.

Table 3. Every Day There Were An Average Of:	
Kansas Residents:	N
Live births	109
Births to teenagers	11
Low birth weight births	8
Out-of-Wedlock Births	37
Deaths	67
Heart disease deaths	16
Cancer deaths	15
Cerebrovascular deaths	4
Chronic lower respiratory Disease deaths	4
Unintentional injury deaths	3
Infant deaths	1
Stillbirths	1
Kansas Occurrences:	
Marriages	51
Divorces	23
Abortions	29

Public Opinions on Kansas Seat Belt Laws

Motor vehicle crashes are the leading cause of injury deaths among children and young adults in the United States.[1] Each year motor vehicle crashes claim the lives of approximately 41,000 Americans.[2] Motor vehicle crashes also result in approximately 500,000 hospitalizations and four million emergency visits yearly in the United States.[2]

Besides the direct burden of motor vehicle crashes, presented in terms of deaths and injuries, motor vehicle crashes also present an enormous economic burden to society: about $150 billion yearly, including $52.1 billion in property damage, $42.4 billion in lost productivity, and $17 billion in medical expenses.[2]

Although many factors contribute to motor vehicle crashes, the use of a safety belt is identified as the single most effective means of reducing fatal and nonfatal injuries.[3]

According to the *Task Force on Community Preventive Services,* lap and shoulder belts were shown to be 45 percent effective at reducing fatalities in passenger cars and 50 to 83 percent effective at reducing serious injuries to the head, chest, and extremities.[3]

To effectively reduce the burden of motor vehicle crashes through policy development, it is imperative that public health practitioners and policy makers understand the opinion of the general public in their various communities. This report aims to describe the opinions of adult Kansans regarding seat belt laws.

Methods

Between August and December 2005, the KDHE Office of Health Promotion conducted an opinion survey of adult Kansans 18 and older. This survey employs Kansas Behavioral Risk Factors Surveillance System's trained interviewers and survey methodologies. A total of 3,663 randomly selected adult Kansans were administered questions asking:

- How do you feel about laws that require drivers and front seat passengers to wear seat belts? Do you favor these laws a lot, do you favor them some or do you favor these laws not at all?
- Do you think that seat belt laws should also apply to back seat adult passengers?
- In your opinion, should police be allowed to stop a vehicle if they observe a seat belt violation when no other traffic laws are being broken?

Results

When asked about the laws that require drivers and front seat passengers to wear seat belts, three out of four adult Kansans favored such laws (75.3%). Another 15.5 percent of adult Kansans favored such laws to some extent, while only 8.4 percent reported not in favor of such laws at all.

Favoring these laws were: a higher percentage of females compared to males, 83 vs. 67 percent; those with higher education level (more than high school education) compared to those with lower education level (high school or less) 81 vs. 72 percent; those with higher household income ($75, 000 or more) compared to those with lower household income (less than $35,000) 82 vs. 72 percent; urban dwellers compared to rural dwellers, 79 vs. 68 percent); Hispanics compared to non-Hispanics, 87 vs. 75 percent; and older adults (65 years and older) compared to younger adults (18-64 Years), 81 vs. 74 percent.

Respondents were asked if they favor laws that require back seat adult passengers to wear seat belts. This question was asked among those who responded in favor of laws that require drivers and front seat passengers to wear seat belts. Thus, when asked about laws that require back seat adult passengers to wear seat belts, about four in five (80%) adult Kansans who favor laws that requires drivers and front seat passengers to wear seat belts also think that such laws should apply to back seat passengers. Another 14.6 percent of this group did not think that such laws should be applied, while 5.7 percent did not know or were not sure if such laws should be applied

Favoring these laws were: a: higher percentage of Hispanics compared to non-Hispanics, 93 vs. 79 percent; those with higher percentage of household income ($75,000 or more) compared to those with lower household income (less than $35,000), 84 vs. 80 percent; and a higher percentage of non-smokers compared to current smokers, 81 vs. 69 percent.

When asked about laws that allow a police officer to stop a vehicle if they observe a seat belt violation when no other traffic laws are broken (primary enforcement), slightly more than half of the respondents (52.5%) reported that they think police officers should be allowed to enforce such laws. Another 42.2 percent responded that police officers should not be allowed to enforce such laws, while approximately 5.3 percent reported either "don't know" or "not sure."

Females, Hispanics, those with higher level of education (more than high school education), urban dwellers, and those with higher income level ($75,000 or more) indicated stronger support in favor of these laws: 55 percent or higher.

Respondents of all ages, whites, African Americans, non-Hispanics, those with household income level of $35,000 - $74,999, and those with or without children living with them also indicated strong support in favor of these laws: 50 to 54 percent.

Favoring these laws were: a higher percentage of females compared to males, 58 vs. 47 percent; a higher percentage of Hispanics compared to non-Hispanics, 68 vs. 51 percent; a higher percentage of adults with higher level of education compared to adults with lower level of education, 58 vs. 49 percent; a higher percentage of adults with higher level of household income ($75,000 or more) compared to adults with lower household income (less than $35,000), 60 vs. 49 percent; and more non-smokers compared to current smokers.

Conclusion

This survey shows that Kansans have an overwhelming support for seat belt laws that; (a) require drivers and front seat passengers to wear seat belts and, (b) requires back seat adult passengers to wear seat belts. On laws regarding primary enforcement of seat belts, adult Kansans had a divided opinion with approximately 52 percent of Kansans in favor of this law.

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Kansas Progress on Selected Healthy People 2010 Objectives for Preventive Care Services in Adults with Diabetes

An estimated 141,000 adults have been diagnosed with diabetes in Kansas.[1] Diabetes is one of the leading causes of blindness, end stage renal disease requiring dialysis, lower extremity amputations and cardiovascular disease.[2] Utilization of the recommended preventive care services can prevent or delay the onset of these complications and can lead to improved quality of life in persons with diabetes.[3] One of the goals stated in Healthy People 2010 (HP2010) for persons with diabetes is to improve the quality of life by increasing the rate of preventive care services.[4]

Three out of 17 HP2010 objectives for diabetes and two out of 31 objectives for immunization are directed toward preventive care service for persons with diabetes. These five objectives include annual hemoglobin A1c (HbA1c) tests, annual dilated eye examinations, annual foot examinations, and influenza and pneumococcal vaccinations.[4, 5] The description of each of the five objectives with their HP2010 targets is described in Table 5.

Table 5. Percent of target change achieved and progress towards Healthy People 2010 targets for selected objectives for preventive care services among adults with diabetes in Kansas

Diabetes preventive care service objective in HP2010	HP2010 target	Baseline prevalence (2000)	Most recent prevalence (2005)	Percent of targeted change achieved	Progress towards HP2010 target
5-12. Increase the proportion of adults with diabetes who have a glycosylated hemoglobin (HbA1c) measurement at least two times per year	65%	50.3%	77.0%	182%	Exceeded the target
5-13. Increase the proportion of adults with diabetes who have an annual dilated eye examination	76%	58.3%	72.5%	80%	Moved toward target
5-14. Increase the proportion of adults with diabetes who have an annual foot examination	91%	59.1%	78.2%	60%	Moved toward target
Increase the proportion of non-institutionalized adults aged 65 or older who are vaccinated :					
14-29: a. Annually against influenza disease	90%	73.2%	68.6%	-27%	Moved away from target
14-29: b. Ever against pneumococcal disease	90%	74.1%	78.7%	29%	Moved toward target
To increase the proportion of non-institutionalized adults aged 18-64 who are vaccinated:					
14-29: c. Annually against influenza disease	60%	37.6%	45.8%	37%	Moved toward target
14-29: d. Ever against pneumococcal disease	60%	28.8%	37.3%	27%	Moved toward target

Source: KDHE Behavior Risk Factor Surveillance Survey

The purpose of this report is to describe the progress of these five preventive care service objectives towards their respective HP2010 targets among adults with diabetes in Kansas. The report highlights the objectives that met or exceeded the HP2010 target; moved forward towards the target; and those that moved away from the target.

Methods

Data collected in 2000 and 2005 from the Kansas Behavioral Risk Factor Surveillance System (BRFSS) [6] were analyzed to evaluate the progress of five preventive care services (annual hemoglobin A1c tests, annual dilated eye examinations, annual foot examinations, and influenza and pneumococcal vaccinations) toward their respective HP2010 targets among adults with diabetes. The year 2000 was defined as the baseline year and the year 2005 was defined as the most recent data year. Age-adjusted prevalence of adults with diabetes who reported receipt of each of the five preventive care service was calculated for both baseline and most recent data year. All rates were age-adjusted to 2000 U.S. standard population. The percent of HP2010 target change for each objective was calculated by using the following formula. [4]

$$\text{Percent of targeted change achieved} = \left(\frac{\text{Most recent value} - \text{baseline value}}{\text{Year 2010 target} - \text{baseline value}} \right) \times 100$$

Results

Kansas has exceeded the HP2010 target for HbA1c test, HP Objective 5-12, by 82 percent in adults with diabetes (Table 5, Figure 1). As compared to the baseline estimate for 2000, estimates for three diabetes preventive care service objectives and

sub-objectives among adults with diabetes in Kansas moved towards their target.

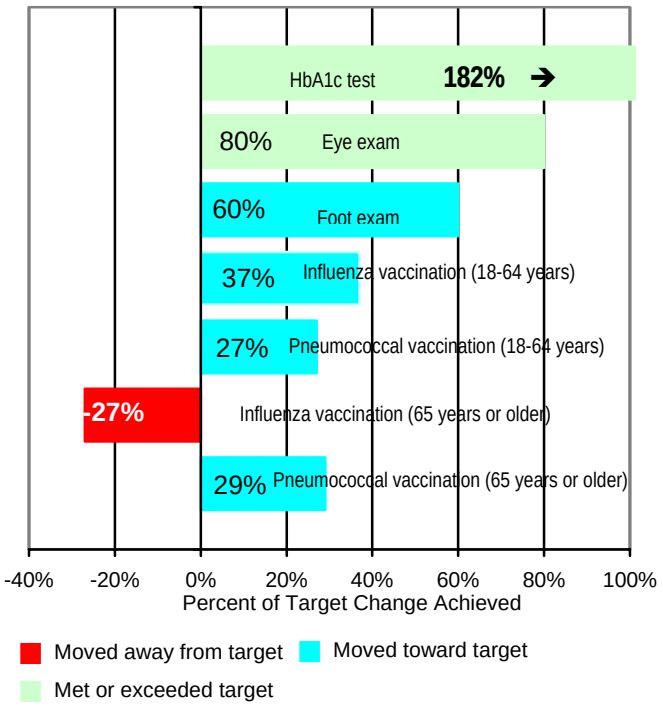
These include annual dilated eye examination (5-13), annual foot examination (5-14), ever received a pneumococcal vaccination in aged 65 or older (14-29b) and annual influenza, and ever received a pneumococcal vaccination in ages 18-64 (14-29c, d).

As compared to the baseline estimate for 2000, the estimate for annual influenza vaccination in ages 65 or older (14-29a) has moved away from its HP2010 target in adults with diabetes in Kansas.

Conclusion

The results indicate that Kansas has met or exceeded the HP 2010 target for annual HbA1c test among adults with diabetes. Considerable progress is seen towards meeting HP2010 targets among adults with diabetes for annual eye exam, annual foot exam, influenza and pneumococcal vaccination in adults ages 18-64, and pneumococcal vaccination for adults age 65 or older. Further continuation of the efforts for utilization of these preventive care services will help in achieving their respective HP2010 targets. The estimate for influenza vaccination in adults age 65 or older is seen to be moving away from the HP2010 target. More effective strategies are needed to reverse this estimate in the direction for achieving the HP2010 target for this indicator

Figure 1. Progress of Selected Healthy People 2010 Objectives for Preventive Care Services in Adults with Diabetes in Kansas



As the number of persons with diagnosis of diabetes continues to increase in adult Kansans, efforts related to increase in preventive care services should be continued to prevent or delay the onset of complications in adults with diabetes.

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Kansas Tuberculosis Cases Increase

World TB Day, March 24, 2007, was marked with word that new TB or tuberculosis cases had climbed in the state during 2006. While TB rates in Kansas and the United States are very low, TB is still a significant health threat to most of the world's population. Although there was a slight increase in cases in 2006, TB rates in Kansas are still below the national rate.

KDHE's Bureau of Disease Control and Prevention statistics show 82 new TB cases reported statewide in 2006. This is up from 60 in 2005, but within the range of 60 to 89 cases that have been reported annually during the past five years.

Sedgwick County reported the most new cases in 2006, with 25. Wyandotte County reported 10 new cases, and Johnson and Shawnee each reported eight. No other county reported more than four cases in 2006.

Five of the new cases statewide also had HIV, although HIV does not cause TB. Nine cases were reported among people age 65 and older, and one case was reported in a person under age 20. Twenty-four cases were among persons of any race who claimed Hispanic origin.

TB cases seen in Kansas today are often more complex than in the past, but the state has excellent health care providers who collaborate with the agency to control TB.

Increased drug resistance in some TB cases, along with the tendency of TB to be present in people who also have other chronic illnesses such as HIV, has made treating and curing TB more complicated.

TB is an infectious disease that is spread through the air when a person with active TB disease coughs or sneezes. Although it usually attacks the lungs, TB can also affect the brain, kidneys, intestines, eyes, bones and joints. Symptoms include a bad cough lasting longer than two weeks, shortness of breath, chest pains, fever, fatigue, and weight loss. TB can lie dormant indefinitely before symptoms become apparent. Only about 10 percent of people infected with TB will develop the disease. TB can be treated and cured with prescribed antibiotics.

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2006 Abortion Report Issued

The preliminary number of abortions reported to KDHE in 2006 was 11,221, increasing by 678 or 6.4 percent in 2006 (Table 4). Reported abortions include Kansas occurrence induced terminations to any woman and out-of-state abortion to Kansas resident women.

Out-of-state women obtained 5,385 or 48.0 percent of the abortions reported in 2006. The number of out-of-state residents obtaining abortions in Kansas rose by almost 10 percent (9.6). The increase for Kansas resident women obtaining abortions (in Kansas or out-of-state) was less than four percent (3.7). Only 48 Kansas women obtained abortions in other states.

Among abortions reported, the age group with the largest increase numerically was women ages 35-39 with 117 more abortions. The number of women ages 40-44 obtaining abortions decreased in 2006 by 24 or 8.6 percent.

Table 4. Abortions by Selected Characteristics
Kansas, 2005 & 2006

Category	2005		2006	
	N	%	N	%
Total Reported			11,221	100.0
In-state residents			5,836	52.0
Out-of-state residents			5,385	48.0
Age Group				
Under 15 years	56	0.5	67	0.6
15-19 years	1,793	17.0	1,888	16.8
20-24 years	3,645	34.6	3,774	33.6
25-29 years	2,470	23.4	2,706	24.1
30-34 years	1,428	13.6	1,543	13.8
35-39 years	846	8.0	963	8.6
40-44 years	280	2.7	256	2.3
45 years and over	24	0.2	24	0.2
Not Stated	0	n.a.	0	n.a.
Race				
White	7,033	67.0	7,640	68.2
Black	2,341	22.3	2,403	21.5
Other	904	8.6	955	8.5
Multi-Race	221	2.1	198	1.8
Not Stated*	43	n.a.	25	n.a.
Hispanic Origin**				
Hispanic	1,058	10.3	1,181	10.6
Non-Hispanic	9,220	89.7	9,954	89.4
Not Stated*	264	n.a.	86	n.a.
Marital Status				
Married	1,921	18.3	1,947	17.4
Unmarried	8,592	81.7	9,253	82.6
Not Stated *	29	n.a	21	n.a.
Weeks Gestation				
Less than 9 weeks	6,580	62.5	7,078	63.2
9-12 weeks	2,403	22.8	2,533	22.6
13-16 weeks	762	7.2	820	7.3
17-21 weeks	372	3.6	393	3.5
22 weeks & over	414	3.9	380	3.4
Not Stated *	11	n.a	17	n.a

n.a. Not applicable
* Patient refused to provide information or information not collected by other states.
** Hispanic origin may be of any race

Among abortion recipients, white women comprised the largest share of the increase – 606 of the 678 (89.4%) additional abortions in 2006. Overall, white women obtained 68.2 percent of the abortions reported, followed by Black women with 21.5 percent. The number of women of Hispanic origin increased in 2006 by 123 or 11.6 percent. Persons of Hispanic origin, who can be of any race, accounted for 10.6 percent of the abortions reported in 2006.

Unmarried women accounted for almost all (97.3%) of the increase from 2005 to 2006. Overall they represented 82.6 percent of the abortions reported.

Almost three out of four of the additional abortions that occurred in 2006 occurred to women at less than nine weeks of gestation. Thirty-four, or 8.2 percent, fewer abortions at 22 weeks gestation or greater occurred during 2006.

Suction curettage, Mifepristone (medical procedure 1), and dilation and extraction were the most frequently reported procedures. Double-digit percentage decreases were noted in the use of sharp curettage, Methotrexate (medical procedure 2) digoxin/induction, and intra-uterine prostaglandin instillation procedures in 2006. The greatest decrease was in the use of Methotrexate: 47 less, or 97.9 percent fewer than in 2005. Only one procedure in 2006 involved Methotrexate. Increases in the use of Mifepristone and dilation and evacuation were reported in 2006: 28.5 percent and 10.6 percent respectively.

Among out-of-state residents, Missouri, Oklahoma, Texas, and New York women most frequently obtained abortions in Kansas in 2006. Missouri residents received 88.4 percent of the out-state residents abortions that occurred in Kansas in 2006. The Missouri total increased by 485 or by 11.3 percent from 2005. The number of Nebraska residents obtaining abortions more than doubled from 13 in 2005 to 30 in 2006. Abortions to women from Texas and Oklahoma decreased from the previous year.

Final numbers of Kansas resident abortions are expected to increase, but only slightly. This is due to other states not processing their abortion data as quickly as Kansas. Final data will be reported in the *2006 Annual Summary of Kansas Vital Statistics.*

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Nursing School Survey Assesses Cancer Education

The Kansas Cancer Partnership, Professional Education Workgroup, conducted a 2005 Nursing School Survey regarding cancer prevention and treatment topics taught in Kansas schools. Twenty of 40 schools responded to the survey. Those schools represented seven LPN, Associates Degree, and BSN programs; four Master's programs; and one PhD program.

Programs were asked about whether the courses taught concerning various cancer topics were required, elective, or not being taught at all. All 20 had some form of teaching on cancer and early detection. Eighty-five percent of respondents said their school teaches the subject in a required course. Three out of 20 taught this subject during an elective course. Seventeen participants said they teach cancer prevention as a part of required courses. Three out of 20 did not respond to this question.

Eighty percent of the schools contributing to the survey offer pathophysiology, treatment, and palliative care as a component of a required course. Four of the 20 schools completing the survey did not respond to this question. Survivorship care was more evenly distributed. Half of schools responding teach the topic during required courses while one addresses survivorship during elective courses. Twenty-five percent of schools said that they did not address survivorship at all and four schools did not respond. End of life care is taught in 17 of the 20 schools during required courses. Three schools did not respond to this question. Clinical trials education was nearly evenly distributed between required courses (40%) and not being taught at all (45%).

As a reference source, the American Cancer Society is used most by schools with 85 percent indicating this preference. The next most frequently used resource (11 of 20 programs) was the Centers for Disease Control and Prevention Guidelines and Healthy People 2010. Statement of the Scope and Standards of Oncology Nursing Practice (2004) and other sources were used by six of the schools for cancer sources. Only three schools reported using the Susan G. Komen Breast Cancer Foundation, the U.S. Preventive Services Task Force Report, and the Lance Armstrong Foundation for more information. The least used information sources were Cancer Information Services (two of 20) and no schools used Cancer Control Planet.

Survey Limitations

Survey results have several limitations. Only 20 of 40 schools responded to the survey. The response rate is less than optimal for accurate, unbiased results. Non-responses to certain questions may also skew results Survey organizers were unable to obtain faculty numbers or review comments and questions.

Summary and Future Initiatives

After studying the survey results, the workgroup identified several curriculum areas needing additional information. To support professional health education, the Professional Education workgroup sent results to all 40 Kansas nursing schools. Schools

also were sent an informational resource packet to help nursing educators use available sources of information and address curriculum needs.

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Preventable Hospitalizations in Kansas

Hospitalization is the most serious and expensive portion of health care treatment. Avoiding unnecessary hospital visits is a priority strategy for health care cost containment. The Agency for Healthcare Research and Quality (AHRQ) indicates there are "*health conditions for which good outpatient care can potentially prevent the need for hospitalization, or for which early intervention can prevent complications or more severe disease.*"[1]

The Healthcare Cost and Utilization Project (HCUP) was developed by AHRQ to guide evaluations of hospital discharge data with specific emphasis placed on selected health conditions. These conditions represent hospitalizations that might have been prevented if proper primary care and patient compliance had been achieved. This is a summary of a report that summarizes data from Kansas hospital discharges from 2000-2005 for "preventable" hospitalizations.

Ambulatory Care Sensitive Conditions (ACSCs) are conditions for which hospitalization can usually be prevented when they are effectively managed in outpatient settings. High rates of hospitalization for ACSCs could indicate poor access to outpatient health care. Examining rates of hospitalization can help to identify populations or areas where access to medical care is inadequate or where the systems for providing care are not working.

If they are managed according to established guidelines, the majority of hospitalizations for ACSCs are preventable. Effective management includes control of exposure to factors that trigger exacerbations of disease, adequate pharmacological management, continual monitoring of disease status, and patient education. ACSCs are conditions for which good outpatient care can potentially prevent the need for hospitalizations or for which early intervention can prevent complications or more severe disease. {Statistically tested tools are available to assess preventable hospitalizations. To evaluate ACSCs, Prevention Quality Indicators (PQIs) are a recommended method for analysis.[2] The PQIs consist of the following 14 ambulatory care sensitive conditions, determined from ICD-9 CM coding specifications, which are measured as rates of admission to the hospital:

- Diabetes, Short Term Complications, per 100,000 population >= age 18
- Perforated Appendix, per 1,000 appendicitis discharges
- Diabetes, Long Term Complications, per 100,000 population >= age 18
- Chronic Obstructive Pulmonary Disease, per 100,000 population >= age 18
- Hypertension, per 100,000 population >= age 18
- Congestive Heart Failure, per 100,000 population >= age 18
- Low Birth Weight, per 1,000 neonates
- Dehydration, per 100,000 population
- Bacterial Pneumonia, per 100,000 population
- Urinary Tract Infection, per 100,000 population
- Angina Without Procedure, per 100,000 population >= age 18
- Uncontrolled Diabetes, Without Complications, per 100,000 population >= age 18
- Adult Asthma, per 100,000 population >= age 18
- Lower Extremity Amputation/ Diabetes Patients, per 100,000 population >= age 18

Kansas Issues

In many health indicators evaluated for Kansas, state averages typically fall below the national average. Most of the rates for preventable conditions are below the national average (for 2000 through 2003). However, there are some conditions where Kansas' rates for preventable hospitalizations require consideration.

- *Diabetes:* Discharge rates for short-term complications in Kansas' diabetics increased 16.8 percent during 2000-2005 (Figure 2).
- *Heart-related conditions:* From 2000-2005, discharge rates for hypertension increased in Kansas 12.8 percent.
- *Infectious conditions and perforated appendix:* Kansas discharge rates for bacterial pneumonia and perforated appendix were higher than the national average through 2000 and 2003. Bacterial pneumonia discharge rates increased 12.8 percent in Kansas from 2000-2005.
- *Urinary Tract Infections:* While more information is needed, discharge rates on urinary tract infections have increased in Kansas almost 36 percent from 2000 to 2005 (Figure 3).
- *Respiratory conditions:* Hospitalizations for adult asthma increased 38.9 percent in Kansas from 2000-2005.

Figure 2. Diabetes, Short-term Complications

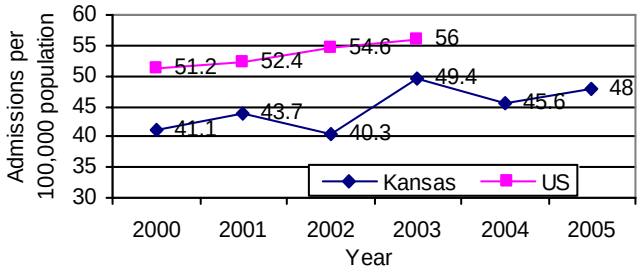
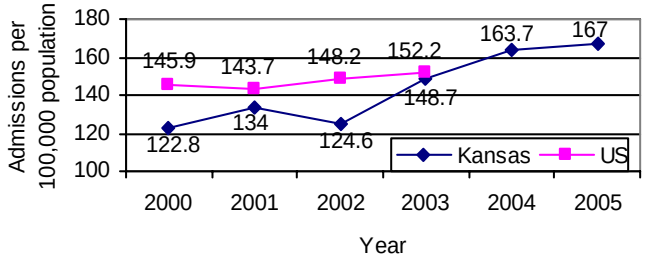


Figure 3. Urinary Tract Infections



Prevention quality indicators are just "pointers" to assist program managers and health care providers in identifying key issues in ambulatory health care delivery. Further information can be acquired from the entire document, available at http://www.kdheks.gov/ches/index.html.

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Obesity Task Force Proposed

The Kansas Department of Health and Environment is supporting an obesity task force proposed by Kansas House Representatives Barbara Ballard and Bob Bethel, among others. House Bill 2423, introduced in the 2007 Legislature, proposed creation of the panel, seeking to address a problem that is becoming all too common.

Overweight and obesity is the second leading cause of preventable death in Kansas and the nation. Obesity significantly raises the risk of death from: hypertension, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, respiratory problems, and certain types of cancers.

Kansas Behavioral Risk Factor Surveillance System (BRFSS) 2005 data indicated that more than 60 percent of adults 18 years and older in Kansas were overweight or obese. This translates to an estimated nearly 1.2 million adults in our state. These estimates include the nearly one in four Kansas adults whose body weight qualifies as obese (body mass index > 30 kg/m^2). Obesity prevalence has increased by 83 percent since 1992.

An even more striking trend is observed in children and adolescents, where nationally the rates of obesity have doubled and tripled respectively during the past two decades and continues to increase.

The impact of obesity on health is especially alarming with respect to diabetes. It is estimated that if current trends continue, one in three children born today will develop diabetes in their lifetime. Kansas is not immune to the obesity epidemic. Surveys of students in grades 6-12 indicate that one-fourth are overweight or at risk of overweight (YRBS 2005, YTS 2002-3). These rates of overweight among Kansas youth are consistent with those of the nation.

In terms of disease, obesity alone costs the state more than $657 million in medical costs each year, second only to tobacco use which adds another $927 million to medical costs paid by Kansans. Looking at costs borne directly by state government, Kansas spends over $143 million per year in Medicaid expenditures for obesity related care.

HB 2423 proposes to establish a task force to develop a comprehensive state plan for implementation of Kansas services and programs to increase prevention and management of childhood obesity. The bill's approach is consistent with how KDHE addresses chronic disease and will enable the agency to capitalize upon current resources to meet the bill's expectation.

The proposed Obesity Task Force is consistent with the work of the Governor's Council on Fitness, which could provide the infrastructure for implementing the proposed task force agenda. TASK is a statewide Kansas youth empowerment program, initially funded by the American Legacy Program in 2000. The 103 actively operating TASK groups have sponsored teen rallies, teen summits, and distributed promotional materials. These groups offer a potential infrastructure to change the social norms related to obesity, physical activity, and nutrition.

Science leaves little doubt that prevention of obesity plays a crucial role in assuring our success in improving the overall health of Kansans.

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State Health Officer and Health Director

2006 Population Estimates Released

Kansas county population estimates for 2006 have been released by the U.S. Census Bureau. Shown in Table 6 are county estimates as of July 1, 2006. Kansas increased slightly (0.7 percent) in population from 2,744,887 residents in 2005 to 2,764,075 in 2006. Access the table and additional Kansas estimates at: http://www.census.gov/popest/estimates.php.

Table 6 Kansas County Population Estimates for July 1, 2006

County	Total	County	Total
Total	2,764,075		
Allen	13,677	Linn	9,962
Anderson	8,051	Logan	2,675
Atchison	16,745	Lyon	35,369
Barber	4,974	Marion	12,760
Barton	27,511	Marshall	10,349
Bourbon	14,950	McPherson	29,380
Brown	10,236	Meade	4,561
Butler	63,147	Miami	30,900
Chase	3,070	Mitchell	6,299
Chautauqua	3,953	Montgomery	34,692
Cherokee	21,451	Morris	6,046
Cheyenne	2,911	Morton	3,138
Clark	2,206	Nemaha	10,374
Clay	8,625	Neosho	16,298
Cloud	9,594	Ness	2,946
Coffey	8,701	Norton	5,584
Comanche	1,884	Osage	16,958
Cowley	34,931	Osborne	3,978
Crawford	38,059	Ottawa	6,168
Decatur	3,120	Pawnee	6,515
Dickinson	19,322	Phillips	5,444
Doniphan	7,865	Pottawatomie	19,220
Douglas	112,123	Pratt	9,436
Edwards	3,138	Rawlins	2,643
Elk	3,077	Reno	63,706
Ellis	26,926	Republic	5,033
Ellsworth	6,332	Rice	10,295
Finney	39,097	Riley	62,527
Ford	33,783	Rooks	5,290
Franklin	26,513	Rush	3,317
Geary	24,174	Russell	6,740
Gove	2,721	Saline	54,170
Graham	2,677	Scott	4,643
Grant	7,552	Sedgwick	470,895
Gray	5,852	Seward	23,404
Greeley	1,331	Shawnee	172,693
Greenwood	7,067	Sheridan	2,600
Hamilton	2,594	Sherman	5,981
Harper	5,952	Smith	4,024
Harvey	33,643	Stafford	4,435
Haskell	4,171	Stanton	2,232
Hodgeman	2,071	Stevens	5,287
Jackson	13,500	Sumner	24,441
Jefferson	18,848	Thomas	7,468
Jewell	3,324	Trego	2,993
Johnson	516,731	Wabaunsee	6,895
Kearny	4,469	Wallace	1,557
Kingman	7,975	Washington	5,944
Kiowa	2,969	Wichita	2,288
Labette	22,203	Wilson	9.889
Lane	1,797	Woodson	3,507
Leavenworth	73,628	Wyandotte	155,509
Lincoln	3,396		

Source: Population Division, US Census Bureau, March 22, 2007

Barrett's Esophagus and Adenocarcinoma

Oesophageal Adenocarcinoma (OA), associated with Barrett's esophagus, [1, 2] is one of the more deadly forms of gastrointestinal cancer with a mortality rate exceeding 90 percent.[3] It is currently the most rapidly rising form of cancer diagnosed in the United States,[5, 3, 1] with a fivefold increase since 1970[3]. The reason for the increase of OA is not known.[6] Approximately 3.3 million adults are affected by Barrett's esophagus (BE),[5] which if left

untreated can lead to OA[5]. Fortunately, only a minority of affected individuals with BE actually develop OA.[7, 8, 9]

The purpose of this article is to compare national and Kansas demographic trends and to provide information about BE and OA risk factors, treatment and implications. Kansas hospital discharge data are used to compare rates for Kansas BE (ICD-9CM 530.85) and Esophageal OA (ICD-9CM 151.0). Since a modified ICD-9CM code to detect BE was introduced in late 2003, data will be reviewed for 2004 and 2005 for and hospital discharge data.

Esophageal Cancer

In 2007 in the United States, it is estimated that the number of newly diagnosed esophageal cancer cases will total 15,560, while the number of deaths due to esophageal cancer will reach 13,940.[10] There are several kinds of esophageal cancer..

- Squamous cell carcinoma which is cancer that forms in flat thin squamous cells that line the esophagus.[1, 11] Approximately 60 percent of squamous cell carcinomas develop in the middle third of the esophagus, 30 percent occur in the lower third, and 10 percent occur in the upper third,[1] but squamous cell carcinoma can occur anywhere along the esophagus.[9, 11, 12]
- OA, associated with BE, most frequently occurs in the lower third of the esophagus.[1.9, 11] This cancer is formed in the glandular cells of the lower esophagus.[9, 11]
- Other forms of esophageal cancer include sarcoma, lymphoma, small cell carcinoma and spindle cell carcinoma. Cancer that begins in the breast or lung can metastasize through the bloodstream or lymph system to the esophagus.[13]

Patients with BE have an estimated 30 to 50 times greater risk than others of developing OA.[14] Even so, most people with BE still do not develop cancer of the esophagus.[9]

Not surprisingly, identified risk factors for BE and OA are similar. An estimated one percent of the BE patients develop esophageal cancer,[1] and approximately 50 percent are OA.[6] Demographic risk factors associated with BE and OA include:

Age

BE mean age of development is estimated at 40, but the mean age at diagnosis is 63.[6] In Kansas, those age 65 and over are more often hospitalized for BE than the younger population; 6.9/100,000 vs. 1.3/100,000, respectively (Table 7).

OA has the greatest risk for development for older individuals. In Kansas, those age 65 and over are more often hospitalized for OA than the younger population; 12.2/100,000 vs. 1.2/100,000, respectively (Table 7).

Table 7: Hospitalizations for 2004 and 2005* with a Primary Diagnosis of BE or OA

Category	BE	OA
Age		
0-64	1.3	1.2
65 and Over	6.9	12.2
Gender		
Male	2.5	4.2
Female	1.5	1.1
Race/Ethnicity §		
White (Non-hispanic)	1.8	2.3
Black (Non-hispanic)	0.3	0.3
Hispanic	1.6	0.7

* Rate per 100,000 population
§ Hispanic can be of any race

Gender

BE is more often identified among males. [7, 15] In Kansas, the data show that males were more often hospitalized for BE than women (2.5/100,000 vs. 1.5/100,000 (Table 7). OA is more often found among males than females. The male/female ratio for BE is 2:1, while for OA it is 4:1.[13] In Kansas, the data reflect that males are more often hospitalized for OA (4.2/100,000 vs. 1.1/100,000, respectively (Table 7).

Race/Ethnicity

Overall, BE is equally common in white and Hispanic populations, but is uncommon in black and Asian populations.[15, 6] In Kansas, the data show that whites and persons of Hispanic origin are the most often hospitalized for BE (1.8/100,000 and 1.6/100,000, respectively (Table 7). OA is more frequently found among whites and Hispanics than others. OA is three times higher in whites than blacks.[13] Nationally, the ratio of whites to blacks with BE is 10:1, while for OA it is 20:1[13]. In Kansas, the data show that whites have the highest rates of hospitalization for OA, 2.5/100,000 (Table 7).

Table 8: Hospitalizations by Gender and Race for 2004 and 2005 with a Primary Diagnosis of BE or OA

Category	BE Rate*	OA Rate*
Male		
White (non-Hispanic)	2.4	4.1
Black (non-Hispanic)	#	#
Hispanic	2.5	#
Female		
White (non-Hispanic)	1.5	1.1
Black (non-Hispanic)	#	#
Hispanic	#	#

* Rate per 100,000 population

Gender and Race/Ethnicity

Among white males in the U.S., incidence of OA in white men has increased by 21 percent per year, a rate greater than that of any other cancer in white men.[6] Incidence rates in white men were 0.7/100,000 between 1974 and 1976, but in 2001 they had increased to 3.7/100,000.[21] In Kansas, OA was also more often found among white males (4.1/100,000), while the reported rate for blacks and Hispanics was too small to be reliable (Table 8). In Kansas for 2004-2005, BE was more often found among white (2.4/100,000) and Hispanic males (2.5/100,000), while the reported rate for blacks was too small to be reliable.

Some other risk factors associated with the diagnosis of BE and/or OA include:

- *Lifestyle* - OA[13, 21] and BE patients are more likely to be alcohol consumers[1, 16] and/or smokers.[1, 15, 17] OA is more likely when an individual weighs 20 to 30 pounds above ideal weight.[12] There is increasing evidence of an association between increasing Body Mass Index and OA.[6] The rising incidence of OA parallels that of overweight and obesity over a similar time period (1976-1991), especially among white males.[13]
- *Symptoms* - BE is the primary risk factor of OA.[13, 15] BE patients are more likely to have gastric esophageal reflux disease, (GERD), , a syndrome that includes heartburn, regurgitation, and, less commonly, difficulty swallowing.[15] The duration and severity of heartburn is important.[7] BE is much more common in patients with reflux symptoms; and the longer the symptoms of GERD have been present, the more likely is the patient to be diagnosed with BE[6]. Patients have a fivefold increased risk of an OA diagnosis when esophagitis has been previously identified.[18]
- *Family Background* - Familial BE can be confirmed in 7.3 percent of persons presenting with OA of the gastroesophageal junction.[19] BE would be of much less concern were it not for the well-recognized association with esophageal OA.[6] BE is caused by injury to the esophagus resulting from chronic GERD.[5, 6, 13] BE is present in eight to 10 percent of patients with GERD.[6] About 13 percent of Caucasian men over the age of 50 with chronic GERD develop BE. [5] GERD and its sequaelae, BE is one of the principal risk factors in the development of OA, with a 30-fold increased risk in Barrett's patients compared with the general population.[3]

There are no early detection tests used in the United States to screen the general population for esophageal cancer. How-

ever, people who are at high risk for esophageal cancer, such as those with Barrett's esophagus, are followed closely to ensure that any further abnormal changes are found early.

Treatment

The key to addressing OA is early detection and treatment. According to the American Cancer Society, survival rates differ significantly by stage for OA (from the National Cancer Data Base; based on 11,143 patients diagnosed in 1998). The five-year survival rate (the percentage of patients who are alive five years after diagnosis, omitting those who die of other causes) is listed in Table 9.

OA is very often asymptomatic and diagnosed only at an advanced stage, thus many people do not survive the disease. [22] However, if found early, the prognosis is relatively good.

Table 9. 5-Year Relative Survival Rate for Individuals Diagnosed with OA

Stage	5-Year Relative Survival Rate
0	52%
I	41%
II	26%
III	13%
IV	3%

BE diagnosis requires both endoscopy and biopsy procedures. During endoscopy of the lower esophagus, if any abnormal pink lining is seen as replacing the normal whitish lining of the esophagus at the gastroesophageal junction, and 2) the tissue sampling taken during Biopsy shows the presence of intestinal type goblet cells (named for their shape), a diagnosis of BE is made.[2] These procedures detect about 80 percent of the BE cases.[16] Endoscopy on a regular basis indefinitely is needed in order to monitor and address the development of precancerous lesions.[5]

The first priority in treating BE is to arrest damage of the esophageal lining. This usually means eliminating acid reflux. Most patients are advised to limit foods and beverages that worsen reflux, including chocolate, coffee and tea, peppermint, alcohol, fatty foods, orange and/or tomato juice, and carbonated beverages. They are advised to modify behaviors that can worsen reflux such as eating meals prior to going to bed, lying down after eating meals, eating very large meals, and lying prone.[15] Avoiding the use of tobacco and/or alcohol, consuming fruits and vegetables, staying active, maintaining a healthy body weight, using medications like H2 blockers and proton pump inhibitors to address acid reflux conditions, and undergoing endoscope screening when frequent reflux symptoms occur may help to reduce the tendency toward BE and OA.

Proton pump inhibitors are often prescribed to reduce stomach acid production and diminish reflux into the esophagus. In cases where endoscopic procedures detect high levels of precancerous cells, ablation therapy (removal of the target tissue) is often used to prevent development of OA. The results of ablation therapy indicate that ablation succeeds in more than half the cases, but that recurrence rates vary.[6, 21] Patients with severe reflux may benefit from surgical procedures designed to reduce reflux. Continued surveillance is recommended.[20]

Summary and Conclusion

The prevalence of BE is difficult to determine since many cases are undiagnosed and there are often years between occurrence and diagnosis. Studies suggest that up to 90 percent of BE cases are undiagnosed.[13] Current strategies for improved survival in patients with esophageal OA focus on early and curable stage cancer detection. This process can be improved either by screening more patients for BE or with continued endoscopic surveillance of patients diagnosed with BE. However, cost effectiveness is a concern.

Treatment options include aggressive acid suppression, anti reflux surgery, chemoprevention, and ablation therapy, among others, but there is still no real agreement on the best treatment strategy.[6] Findings from the Kansas hospital discharge data is consistent with general findings reported elsewhere that older white males are more often diagnosed with BE and OA. If the numbers of patients diagnosed with BE and OA parallel national trends in upcoming years, this may hold important policy implications, given the continued growth in the aging Kansas population. Research and new treatment strategies show promise in improving low survival rates for BE/OA, but given the national OA growth rate in recent years, it has been stated that this illness is epidemic in proportion[13].

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Heat Related Deaths Studied

Although heat-related deaths are readily preventable, exposure to extreme temperature causes deaths even in years with no heat wave.[1] The National Weather Service defines a heat wave as greater than or equal to three consecutive days of temperatures greater than or equal to 90 F.

A study of heat related deaths by the Centers for Disease Control and Prevention found that of all possible deaths that could be heat related from 1999-2003, heat-related deaths increased by 54 percent.[2] The report suggests the number of heat related deaths has been underestimated.

While 2006 was not the worst year on record for heat-related deaths to Kansas residents, 18 persons died from heat-related causes. Heat-related deaths in Kansas in 2006 were the highest the state has recorded since 134 deaths occurred in 1980.

All of the deaths occurred between July 12 and August 9, 2006. For example, in Topeka during this 29-day period, the average high temperature was 96.5. Twelve days were 100 or higher. The hottest days were July 19 and August 9, with 106.[3]

An assessment of the 18 deaths provided the following information:

- Fourteen of the individuals were male, four female;
- The median age was 69, while decedents ranged from 1 to 89 years old;
- Fourteen of the deaths were directly the result of extreme heat, with extreme heat a contributing factor in three ischemic heart disease deaths and one fall that resulted in a death; Three of the decedents had Alzheimer's, dementia or mental illness;
- Four persons had chronic disease risk factors such as smoking, diabetes or obesity;
- Two had been working in high heat;
- One involved an infant left in a car; and
- Three deaths involved prolonged exposure to temperatures greater than 100.

The deaths in 2006 continue to underscore the increased risk for heat related illness and death among infants, the elderly, and persons with impaired mobility or chronic illnesses. While the number of heat-related illnesses from 1981 to 2005 annually ranged from zero to nine, the potential for a greater number of deaths, as evidenced in 1980 and 2006, exists.

Information on how to avoid heat-related illnesses is at: http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp.

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