



# Kansas Health Statistics Report

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## Breastfeeding Initiation-National Immunization Survey (NIS) Results

### Introduction

Breast milk is the optimal infant food. Observational studies have shown positive infant outcomes are associated with a reduction in the risk of acute otitis media, non-specific gastroenteritis, severe lower respiratory tract infections, atopic dermatitis, asthma (young children), obesity, type 1 and 2 diabetes, childhood leukemia, sudden infant death syndrome (SIDS), and necrotizing enterocolitis [1].

For maternal outcomes, a history of lactation was associated with a reduced risk of type 2 diabetes, and breast and ovarian cancer. Early cessation of breastfeeding or not breastfeeding was associated with an increased risk of maternal postpartum depression [1].

A recent article in the Morbidity and Mortality Weekly Report (MMWR) summarized National Immunization Survey (NIS) data on racial and ethnic differences in breastfeeding. The NIS is a federally funded survey that collects data on breastfeeding initiation along with duration by state. NIS is an ongoing, random-digit-dialed survey in 50 states and the District of Columbia that includes households with children aged 19-35 months at the time of interview. To allow for state level analysis stratified by racial/ethnic group, survey results were combined from the 2004-2008 surveys creating a cohort of children born during 2003-2006 [2].

This NIS report highlighted demographic characteristics nationally and select race/ethnicity differences by state. Nationally, only Asian or Pacific Islanders and Hispanics exceeded the HP2010 targets of 75 percent for initiation. Also, for breastfeeding six months or 12 months, only Asian or Pacific Islanders met the HP2010 targets of 50 percent and 25 percent respectively. Black non-Hispanic respondents had the lowest rates of initiation, and breastfeeding six months and 12 months. Other measures associated with breastfeeding (both initiation and duration) included college graduation and mother's age over 29 [2].

The analyses by state included select racial/ethnic groups where the number of respondents was greater or equal to 50 respondents per group. When comparing percentage initiation among Kansas' mothers to the national estimates, white non-Hispanic and black non-Hispanic mothers were slightly higher and Hispanic mothers were slightly lower (Table 1). These percentages were not significantly different.

When comparing Kansas' percentages with surrounding states, analysis using confidence intervals shows a significant difference in breastfeeding initiation among white non-Hispanic mothers between several states - Missouri's percentage (67.7%) is lower and Colorado's percentage (89.4%) is higher compared to Kansas. No statistical differences are indicated between black non-Hispanic and Hispanic mothers. This may be due to a lower number of respondents in these groups.

Table 1. NIS Survey: Initiation of Breastfeeding, Children Born during 2003-2006

Characteristic	National		Kansas	
	%	(95%CI)*	%	(95%CI)*
Total	73.4	72.4-74.4	--†	
Race/Ethnicity‡				
White non-Hispanic	74.3	73.7-74.9	76.9	73.7 - 80.1
Black non-Hispanic	54.4	52.6-56.2	63.9	48.4 - 79.4
Hispanic	80.4	79.5-81.3	76.2	69.9 - 82.5

\* Confidence interval

† State totals were not given in this article.

‡ Child's reported race or ethnicity.

### Methodology

In Kansas, breastfeeding initiation data can also be collected with Birth Certificate data. These data cannot be compared directly with the NIS Survey data. However, there should be similarities in the demographics associated with breastfeeding initiation.

In 2005, Kansas started collecting birth data with the 2003 revised birth certificate. This revision included the question, "Is infant being breast-fed at discharge?" For breastfeeding initiation, the NIS survey asks the question, "How long was [child] breastfed or fed breast milk?"

In this analysis, the variable "alive at the time of this report" was used to exclude infants that died right after birth since the NIS survey asked in retrospect if the randomly selected child was breastfed. Additionally, the NIS study used the following population groups for the analyses which correspond to the population groups used by Kansas including white non-Hispanic, black non-Hispanic and Hispanic any race. However, Kansas uses population groups for additional select races to avoid duplication [3]. The NIS survey used Asian or Pacific Islander and American Indian/Alaska Native without ethnicity classification.

Statistical tools used in this report include the Kendall Tau  $\beta$  trend test for significance in trend analyses (aggregate level) and confidence intervals calculated at the 95% confidence interval (this is a conservative estimation of significance). If confidence intervals don't overlap, the difference between the percentages is statistically significant [4]. However, a test statistic was used to test for significance between two percentages where the necessary data points were available and the number of events was over 100 [5].

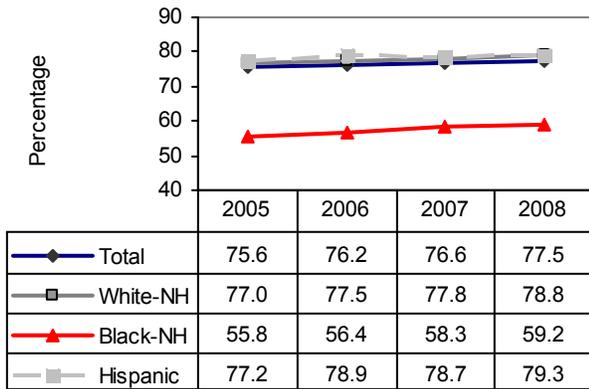
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## Results

In Kansas, 2005-2008 there is an increasing trend in initiation of breastfeeding measured at the aggregate level (Kendall's Tau b,  $p=.04$ ) for Kansas mothers. There was also an increasing trend for white non-Hispanic and Black non-Hispanic mothers. However, there was not an increasing trend among Hispanic mothers when considering these four years (Figure 1).

Figure 1. Trend in Percentage of Live Births Where Mothers' Breastfeeding Initiation Was Reported on the Birth Certificate by Selected Population Groups, Kansas, 2005-2008.



For Kansas, 2008, mothers initiated breastfeeding among 77.5 percent of live births - above the HP2010 target of 75 percent. Table 2 shows the break-down by population groups. Among specified population groups, Asian non-Hispanic mothers had the highest percentage (84.3%) of initiation, followed by Hispanic (79.3%) and white non-Hispanic (78.8%). The population group with the lowest percentage of initiation was black non-Hispanic mothers (59.2%).

Table 2. Percentage of Live Births by Population Group of Mother and Breastfeeding Initiation, Kansas, 2008

Population Group	N*	% LB	95% Confidence Intervals	
			Lower	Upper
Asian-NH	932	84.3	78.9	89.7
Black-NH	1673	59.2	56.4	62.1
Hispanic	5165	79.3	77.1	81.4
Multi-NH	338	65.4	58.4	72.3
Nat AM-NH	186	74.7	64.0	85.4
NHOPI-NH	31	73.8	50.1	104.8
Other-NH	181	91.9	78.5	105.3
Unknown-NH	23	85.2	54.0	127.8
White-NH	22726	78.8	77.8	79.9

Missing/unknown data were excluded in calculating percentages.

\* Number live births where the mother initiated breastfeeding.

In Kansas, in 2008, the percentage of live births where the mother initiated breastfeeding increased in older mothers, from 65.9 percent in mothers less than 20 to close to 84 percent in mothers age 30 and above (Table 3).

Table 3. Percentage of Live Births Where the Mother Initiated Breastfeeding by Age-group of the Mother, Kansas, 2008.

Age-Group	N*	% LB	95% Confidence Intervals	
			Lower	Upper
Less than 20	2825	65.9	63.4	68.3
20-24	7956	71.6	70.1	73.2
25-29	9941	80.5	79.0	82.1
30-34	7018	83.8	81.9	85.8
35 Plus	3512	83.7	80.9	86.5
Unknown Age	3	--†	--†	

Missing/unknown data were excluded in calculating percentages.

\* Number live births where the mother initiated breastfeeding

† Number is too small (<20) to calculate percentage.

In Kansas, in 2008 initiation of breastfeeding increased with higher levels of education (without the effects of mother's age under 26 years) from 68.2 percent among mothers with a 9-12 grade education (no diploma) to a professional or doctorate degree at 94.8 percent. Additionally, there appeared to be a group of mothers with an 8<sup>th</sup> grade education or less, that were not teens or young adults with a percentage slightly above 75 percent (Table 4).

Table 4. Percentage of Live Births Where the Mother Initiated Breastfeeding by Mother's Educational Level, Kansas, 2008

Education level†	N*	% LB	95% Confidence Intervals	
			Lower	Upper
8 <sup>th</sup> Grade or less	816	76.7	71.4	82.0
9-12 grade, no diploma	1188	68.2	64.3	72.1
HS Grad/GED Completed	2997	69.3	66.8	71.8
Some College, no diploma	3972	78.8	76.3	81.2
Associate Degree	1815	84.1	80.3	88.0
Bachelors Degree	6662	91.0	88.8	93.2
Master's Degree	2444	92.6	88.9	96.3
Prof or Doc Degree	513	94.8	86.6	103.0
Unknown	67	77.9	60.4	85.2

Missing/unknown data were excluded in calculating percentages.

† Where mother's age  $\geq 25$ .

\* Number live births where the mother initiated breastfeeding.

The Kansas Birth Certificate also collects data on Women, Infants and Children (WIC) nutritional program participation among pregnant women.

In Kansas, in 2008, in 68.0 percent of live births, mothers on WIC initiated breastfeeding compared to 83.3 percent of mothers not on WIC. WIC mothers represent Kansas households where the income level is below 185% of the Federal Poverty Guideline.

## Discussion

Analysis of Birth Certificate data showed results similar to the NIS study, including higher percentages of initiation for non-Hispanic Asian or Pacific Islander mothers, mothers with college degrees and mothers over 29 years of age. Also, Kansas data showed low percentages of initiation among black non-Hispanic mothers compared to other population groups. The good news is that initiation among black mothers has increased over the last four years in Kansas.

When analyzing breastfeeding data using the Birth Certificate data, the numbers are large enough to allow more drill-downs than with the NIS survey. With data from one year one can look at a variety of cross-tabs such as population group by level of education. In Kansas, black non-Hispanic mothers had a lower percentage of breastfeeding initiation than white non-Hispanics across all of the educational levels with adequate

numbers to calculate percentage. However, further data analysis with a test statistic shows that the initiation percentage at the bachelor and master degree levels was not statistically different between the two population groups (Table 5).

Table 5. Percentage of Live Births Where the Mother Initiated Breastfeeding by Selected Population Group and Educational Level\*, Kansas, 2008

Education level	White non-Hispanic		Black non-Hispanic	
	N*	% LB	N	% LB
8 <sup>th</sup> Grade or less	206	70.8	20	51.3
9-12 grade, no diploma	1646	57.5	281	47.5
HS Grad/GED Completed	4456	67.9	539	51.2
Some College, no diploma	5318	78.3	472	66.7
Associate Degree	2048	84.7	111	74.0
Bachelors Degree	6481	91.2	180	87.4
Master's Degree	2112	92.2	50	89.3
Prof or Doc Degree	418	94.4	13	--†
Unknown	41	71.9	7	--†

Missing/unknown data were excluded in calculating percentages.

\* Number live births where the mother initiated breastfeeding.

† Number is too small (<20) to calculate rate.

The literature suggests that breastfeeding initiation may be influenced by acculturation and length of residence in the United States [2], Kansas data supports this suggestion. Primary language spoken at home data is collected with the Birth certificate. For Kansas, in 2008, among live births where English was not the primary language, 87.1 percent of mothers initiated breastfeeding - well above the Kansas total, 77.5 percent.

Since breastfeeding is an important issue for public health, the Office of Health Assessment is planning to include a table in the Annual Summary showing breastfeeding initiation by county.

Carol Moyer

Office of Health Assessment

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## Trends in Fatal Poisoning Involving Opioid Analgesics, 1999-2009

In a recent NCHS Data Brief, Warner et al. [1] noted significant increases in the number of poisoning deaths due to opioid analgesics on the national level during the years 1999-2006. An examination of the Kansas Vital Records database shows that a similar increase has occurred in Kansas.

## Method & Definitions

First, all deaths for which the underlying cause of death was some form of poisoning were selected. The relevant ICD-10 codes for underlying cause of death are X40-X49, X60-X69, X85-X90, Y10-Y19, Y35.2, or \*U01(.6-.7). The individual codes in this group indicate intentionality and broad classes of chemical agents.

Second, in records for which the underlying cause of death was poisoning, the fields for secondary cause of death were searched for codes for opioid analgesics. The three codes involved are T40.2 (methadone), T40.3 (*other opioids*, such as oxycodone and hydrocodone), and T40.3 (*other synthetic narcotics*, such as fentanyl and propoxyphene). Opioid analgesic codes in records for which the underlying cause of death was not poisoning were excluded.

While there can be only one underlying cause of death, there can be up to twenty listed contributing causes of death. Some of the deaths included in this analysis had multiple drugs in their lists of contributing causes. Heroin, cocaine, and benzodiazepine are not included in the opioid analgesic class, but records with codes for these drugs were also selected for comparison purposes.

## Results

Over-all mortality for Kansas residents due to poisoning has risen sharply in the last eleven years: from 123 deaths (4.6 per 100,000 population) in 1999 to 323 deaths (11.6 per 100,000 population) in 2007. Poisoning mortality dropped slightly in 2008, but preliminary figures for 2009 indicate a return to at least the peak reached in 2007.

Opioid analgesics were a contributing factor in 22 (17.9%) of the poisoning deaths in 1999, rising to 113 (35.0%) of the poisoning deaths in 2007. Preliminary figures indicate that the opioid analgesics were involved in an even higher percentage of poisoning deaths in 2009. Since 2001, opioid analgesics have contributed to more deaths than heroin, cocaine, and benzodiazepine, combined. (Table 6).

Table 6. Deaths due to poisoning Kansas Residents, 1999-2009\*

Year	All Poisoning	Opioid Analgesics	Heroin	Cocaine	Benzodiazepine
1999	123	22	2	9	4
2000	159	24	1	21	10
2001	179	46	1	20	13
2002	205	80	0	21	15
2003	216	65	1	31	15
2004	219	85	1	26	16
2005	282	103	0	33	24
2006	284	116	1	45	30
2007	323	113	1	34	25
2008	302	108	10	20	13
2009	329	124	10	11	10

\* Counts for 2009 are provisional

Roughly two-thirds (66.1%) of Kansas residents to whose deaths opioid analgesics contributed in the 11 year period lived in counties in the urban peer group. About sixty percent (59.1%) were male, and over ninety percent (94.0%) were white. Slightly fewer than two-thirds (65.2%) were between 35 and 54 years of age. For the years 1999-2004, slightly more than two-thirds (68.0%) had either 12 years of elementary education or less than four years of college; while for the years 2005-2009 slightly fewer than two-thirds (63.6%) had either a high school degree/GED or some college but no degree. (The education questions on the death certificate changed in 2005, so direct comparisons of educational data between years before and after that date are not possible.)

Manner of death was usually Accident (72.5%), with the remainder being mostly Undetermined (13.1%) or Suicide

(12.9%). Nearly a quarter (23.0%) of poisonings involving opioid analgesics also included benzodiazepine, cocaine, or heroin, in descending order of frequency, as a contributing cause of death.

## Conclusions

Mortality data from the Kansas Vital Statistics database supports earlier work by Warner et al. that points out an increase in deaths involving opioid analgesics in the United States as a whole over the course of the last decade. Opioid analgesic poisoning in Kansas has been a major component of the rapid increase in over-all poisoning mortality in the state. The demographic analysis above indicates that Kansans for whom the cause of death includes opioid analgesic poisoning are likely to be middle-aged, white, urban men with little post-high school education.

While most of the Kansas deaths involving opioid analgesics have been accidental, the death certificate does not collect enough information to determine why the decedents were taking opioid analgesics. Cases where opioid analgesics were taken in conjunction with illegal drugs such as heroin or cocaine suggest recreational drug use, but for the majority of cases it is simply impossible to tell whether the drug involved was obtained legally or illegally, or (if obtained legally) whether it was used in accordance with a physician's instructions.

*David Oakley  
Office of Health Assessment*

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## Registered Nurse Shortages Predicted in the US and Kansas for 2010 and 2020

The Health Resources and Services Administration (HRSA) reports that by 2020, without aggressive intervention, the US nursing supply will fall 36 percent below requirements, a shortage of more than a million registered nurses (RN) nationwide [1]. In 2007 there were 116,000 hospital RN vacancies nationwide [2], while there were 19,400 vacant nursing positions in long-term care facilities [3]. It is predicted in Kansas that in 2010, 6,890 new RN positions will be needed to meet workforce demands [4]. HRSA projects a deficit of 1,000 Kansas RNs by 2010, and a deficit of 5,900 Kansas RNs by 2020 [1]. Although projections differ about how many Kansas RNs will be needed to address future needs, there is much concern expressed in regard to a steadily worsening RN shortage.

Ranking 2010 shortages by state shows that Kansas will rank 12<sup>th</sup> in the nation for shortage counts. In 2010, this shortage translates to 351 RNs per 100,000 population. However, ranking of 2020 shortages by state shows that Kansas will rank 18<sup>th</sup> in the nation for shortage counts. In 2020, HRSA's projections indicate that Kansas will have a shortage of 1,950 RNs per 100,000 population. Kansas ranks 10<sup>th</sup> in the nation for RN FTEs to population ratio in both 2010 and 2020 [1].

Both nationally and in Kansas, a growing population and changing demographics are impacting access to nursing care. Kansas population is projected to grow an estimated 12 percent between 2000 and 2020 (2.7 million in 2000 to 3.0 million in 2020), while Kansas population age 65 and over is expected to expand by 46 percent (356,000 in 2000 to 520,000 in 2020) [5]. The growing population, and especially the population cohort age 65 and over who are most likely to have the greatest medical needs, will place increasing demands on the health care system.

While the need for health care services is increasing, the RN

workforce continues to age. This trend is expected to continue [7]. In Kansas, an additional 4,450 RN replacement positions will be needed due to retirements by 2010 [4]. Nationally, as RNs retire, by the year 2020 the supply of working RNs is projected to fall below the requirements [7].

Nationally, the average age of the RN workforce is increasing. The average RN age increased from 42.3 to 45.2 to 46.8 in 1996, 2000, and 2004, respectively [6]. Special recruiting efforts will need to occur to assure sufficient replacement for RNs leaving the workforce.

In addition, there are bottlenecks to the production of new nurses. There are not enough faculty members to teach RN students and fewer nursing educational slots available than needed to seat the volume of nursing applicants [7]. Nationally, in July 2008, 49,948 qualified applicants were denied admission to nursing colleges and universities due to insufficient faculty and filled admission seats, among other reasons [6]. Additionally, scholarships, grants and loans are not plentiful i.e., in 2006, 3,607 applicants (85 percent) were refused by the Nurse Education Loan Repayment Program (NELRP) due to funding shortages [2]. In 2007 HRSA refused 6,393 applicants (96 percent) for the Nursing Scholarship Program due to lack of funding [2]. Fortunately, in an effort to address some of these issues, many states are providing funding for nurse education [6]. For example, in 2006 the Kansas legislature developed a \$30 million, 10-year program devoted to nursing education. Thus far, 833 new students have been admitted to educational programs, 65 full-time and 44 part-time Kansas faculty persons have been hired, and 66 Nurse Educator Service Scholarships have been awarded [8].

In light of the current and impending RN shortage, the purpose of this article is to review the estimated Full-time Equivalency (FTE) of RNs in Kansas. Since access to nursing services is critical to addressing the health needs of an expanding and changing population, it is important to understand how severe the Kansas nursing shortage is.

## Methodology

For use in this analysis, the most current health care professional credentialing data for RNs (December 2009) were obtained courtesy of the Kansas State Board of Nursing (BON) [9]. An FTE is operationally defined as a count of the number of RNs working in nursing full-time (1.0 FTE) or part-time (0.5 FTE) [1]. RN Full-time Equivalency (FTE) estimates were calculated based on percentages reported in Kansas Occupation Outlook Reports [10,11]. Since the overall RN employment rate of the total number licensed is 83 percent [10], RN unduplicated counts were multiplied by 0.83. Because 71.6 percent of licensed RNs work full-time, while 28.4 percent of RNs work part-time [11], 28.4 percent of RN counts were multiplied by 0.5. Mailing addresses were used as a proxy for county of practice location since actual practice location addresses were unavailable.

Age distributions were derived using the RN's stated date of birth contained in the BON credentialing data. Projections through 2027 prepared by the Kansas Division of the Budget based on population data from the U.S. Census of 2000 were used to prepare ratios by age category and population [12]. HRSA 2010 and 2020 population and nursing estimates and projections were used to develop ranking comparisons with other states [1].

## Results

According to the KDHE most current unduplicated county counts reports on the KDHE Kansas Information for Communities (KIC) website, the number of RNs with Kansas mailing addresses increased from 24,055 in 1995 to 30,134 in 2009 [9,13].

FTEs: Using the most current RN credentialing data, RN FTEs were calculated for the state. Given increasing trends in

Kansas RN unduplicated counts and FTEs, the Kansas RN FTE of 21,480.6 for 2009 appears comparable to the HRSA projection for 2010 of 22,100 Kansas RN FTEs [1]. A rough estimate of the number of RN FTEs can be calculated based on mailing addresses and the expected proportion of licensed RNs working in the field either part- or full-time. Work locations and work hours are not available. RN FTE distribution could more accurately be calculated were it possible to gather and make available practice locations and work hours for RNs. Many RNs work in a different county than the one in which they live. Although estimations can be made about how many FTEs there are in Kansas, it is not possible to know the location of service delivery due to lack of work hours and addresses.

Age: A critical element in assuring adequate RN service accessibility is ensuring adequate numbers of active RNs employed in the workforce. Enough new nurses must enter the workforce to offset those leaving, i.e. entering other occupations or retiring, etc. In Kansas, 40.93 percent of RN Full-time Equivalents (FTEs) are age 56 or older, thus nearing retirement age.

### Limitations

Although there is widespread interest in health care professional data collection, it is expensive and difficult to collect comprehensive information needed for accurate FTE calculation and projection. Stakeholders like the Kansas Association for the Medically Underserved, the Kansas Hospital Association, the Kansas Medical Society, the Kansas Nurse Association, the Kansas Association of Local Public Health Departments, community health centers, public health departments, critical care access hospitals, health care foundations, and others, need accurate estimates for program planning and management. Accurate data are critical for use in proposal development, for accessing federal and other grant support and for increasing state reimbursements.

Data are inconsistent between State and Federal reports. However, in many cases, accurate data are simply unavailable and less reliable estimates must be used. For example, although HRSA uses information like educational level, reported part-time or full-time work status, work location, among other items for FTE calculation, estimates were derived for purposes of the present analysis using mailing address as a proxy for work address. Given the differences in mailing and work address in metropolitan areas like Johnson and Wyandotte Counties, only gross FTE estimates can be made. One of the challenges is that RNs who work in Wyandotte county often live in Johnson county or a surrounding county and also receive their mail at home rather than in their work county. Thus, they are counted in their mailing county rather than in the county in which they work. This increases the error rate in FTE calculation and reporting. Accurate work location addresses are critical to improving FTE estimation accuracy. Additionally, no information is available about the actual number of hours worked in RN work locations. A much more accurate FTE calculation could be made were this data collected and made available.

Funding issues are of paramount importance in implementing any data collection effort of the magnitude necessary for calculation and workforce analysis of service distribution and FTE estimates. It is critical that comprehensive and accurate work data be collected for preparation of FTE estimates and for future strategic planning in addressing health care needs of the Kansas population.

### Discussion

"The future demand for nurses is expected to increase dramatically as the baby boomers reach their 60s and older," [14] and as the population ages. Demographic, economic and other societal trends may limit access to nursing care unless the numbers of nurses change proportionally to the increasing elderly population numbers, recruiting and retention issues are ad-

ressed, and adequate funding is directed toward strategic planning to meet nursing health care demands of present and future years [1].

It is important to note:

- The shortage of younger nurses to replace older retiring nurses in a rural state like Kansas holds critical implications for access to nursing care for the growing and changing population.
- Unless aggressive action is taken to increase the number of RNs in Kansas, as the gap widens between the number of nurses available to provide services to the increasingly larger population and the growing number of older people, adequate access to nursing care may be threatened.
- Continued attention must be focused on a variety of activities such as recruitment, nursing faculty expansion, increasing the number nursing student training slots, funding scholarship and educational internship opportunities, improving career retention and length of service rates, and
- Addressing RN work related satisfaction and burnout issues, to name a few.

Knowledge about Kansas RN service distribution based on accurate and comprehensive data will lend a fuller appreciation of issues surrounding the state's growing RN shortage and will assist program managers and policy makers in planning for the health care future of Kansans. In order to address present and increasing needs for RNs, it is imperative that strategic plans be developed to improve data collection for analysis and reporting and to expand the RN workforce in order to address the medical needs of the growing Kansas population, particularly those of the age group 65 and older.

*By Rachel Lindbloom, MA, LSCSW  
Office of Health Assessment*

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## Smaller Cities Lose Population in Kansas

City population estimates for 2009 released by the U.S. Census Bureau show a continuing trend of decreasing population in Kansas cities under 10,000 and almost double digit growth among cities with 10,000 or more residents. The Census Bureau released Vintage 2009 estimates in June 2010.

The Census data, available at <http://www.census.gov/popest/cities/>, lists population values for 628 incorporated communities. This analysis groups cities based on their Vintage 2009 population estimate, which was compared to the actual census numbers from 2000. During the decade, 498 Kansas cities (79.4%) have lost population (Table 7), while 129 increased in size. One city, Parkerfield, was not incorporated at the time of the 2000 Census.

Table 7. Population Change Characteristics Among City Size Groups, Kansas, 2009

City Size Group	Group Change	Group % Change	Number of Cities in Group	Number of Cities with Decreases	% of Cities with Decrease
≥100,000	81,026	9.5	5	1	20.0%
10,000 – 99,999	68,268	9.3	32	8	25.0%
1,000 – 9,999	2,677	0.6	159	112	70.4%
100 – 999	-7,234	-5.5	332	284	85.5%
< 100	-552	-7.9	99	93	94.0%

Source: US Census Bureau  
KDHE Bureau of Public Health Informatics Analysis

The city with the largest population increase during the decade was Olathe (29,000), followed by Wichita (27,902), and Overland Park (25,827). The largest percentage increase in population was in Willowbrook in Reno County (Table 8), 141.7 percent (36 residents increasing to 87). In fact, all 10 of the fastest growing cities are suburbs to Wichita, the Kansas City metro area, or Hutchinson.

Table 8. Ten Largest Population Increases Among Cities, Kansas, 2009

	July 1, 2009	2000 Census	Change	% Change
Willowbrook	87	36	51	141.7
Goddard	4,048	2,037	2,011	98.7
Basehor	4,392	2,238	2,154	96.2
Spring Hill	5,281	2,727	2,554	93.7
Gardner	17,852	9,396	8,456	90.0
Maize	3,346	1,868	1,478	79.1
Kechi	1,796	1,038	758	73.0
Tonganoxie	4,416	2,728	1,688	61.9
Andover	10,581	6,698	3,883	58.0
Louisburg	3,906	2,576	1,330	51.6

Source: US Census Bureau  
KDHE Bureau of Public Health Informatics Analysis

The largest decreases in population by count were Kansas City (-3,657), Emporia (-1,892), and Winfield (-1,058). The largest percentage decrease in population was in Mullinville at 36.2 percent (Table 9). Nine of the 10 cities with the largest percentage decrease are located west of U.S Highway 81.

Table 9. Ten Largest Population Decreases Among Cities, Kansas, 2009

	July 1, 2009	2000 Census	Change	% Change
Ness City	1,209	1,534	-325	-21.2
Sharon Springs	658	835	-177	-21.2
Scandia	343	436	-93	-21.3
McDonald	125	159	-34	-21.4
Burr Oak	206	265	-59	-22.3
Tampa	111	144	-33	-22.9
Greensburg	1,200	1,574	-374	-23.8
Randall	68	90	-22	-24.4
Haviland	424	612	-188	-30.7
Mullinville	178	279	-101	-36.2

Source: US Census Bureau  
KDHE Bureau of Public Health Informatics Analysis

The 10 largest cities in Kansas comprise 44.0 percent of the Kansas population. As a group, the 628 incorporated places in Kansas represent 82.0 percent of the state's 2009 estimated population of 2,818,747.

The Census Bureau's figures are post-censal estimates, which use updated housing unit estimates to distribute county population to subcounty areas based on housing unit change. County population estimates are produced with a component of change population method, which updates the latest census population using data on births, deaths, and domestic and international migration. Compilation of the 2010 Census forms will produce an actual count.

*Greg Crawford*  
Office of Health Assessment

## Kansas Injury Symposium Releases Draft Report

Injury is the fifth leading cause of death in Kansas, and is also among the leading causes of hospitalization. It is typical to consider some causes of death—cancer, heart disease, stroke—as mainly affecting Kansans in older age groups. However, everyone is affected by injury, regardless of age, sex, or race. In fact, injury is the leading cause of death among Kansans under 44 years of age. About 1,600 Kansans die each year as the result of injury; about 1,100 of these are unintentional injuries. But many injuries are preventable.

To address this problem, the Kansas Department of Health and Environment's Office of Injury Prevention and Disability Programs (OIDP) convened the Kansas Injury Prevention Symposium. The aim was to develop the 2010-2015 Unintentional Injury Prevention Program Plan. OIDP intends the Prevention Program Plan to be a resource for local injury-prevention organizations across Kansas as they plan their own efforts. The Symposium had two other objectives:

- Prioritize injury types.
- Help local organizations network and coordinate their efforts.

OIDP believed this new strategic plan must build on solid understandings of two things in order to succeed:

- Kansas injury data, which are available from multiple sources.
- Progress made since 2001's Injury in Kansas Strategic Plan: Phase I was released.

Therefore, the Injury Prevention Symposium is organized around two reports contained in briefing materials participants read before attending the Symposium: one on injury data, and one about progress made since 2001 on injury prevention strategic plan objectives.

The Symposium brought together 55 interested stakeholders from across the state to develop these Recommendations for Unintentional Injury Prevention in Kansas. Injury Prevention and Disability Program staff selected a consensus conference process to engage the stakeholders because granting agencies look for stakeholder buy-in when making funding decisions.

At the Symposium, participants met in small groups to discuss which of eight unintentional injury types should be prioritized for prevention efforts, in light of limited human and financial resources in Kansas. Participants then voted individually to prioritize the injury types, selecting these as their top priorities:

1. Falls
2. Motor Vehicle Collisions
3. Poisoning
4. Fire
5. Pedestrian-Motor Vehicle Fatalities
6. Drowning
7. Suffocation
8. Firearms

The small groups met again to prepare prevention strategy recommendations in the eight categories and then met in a large group to discuss and improve the recommendations. At the end of the Symposium, participants voted individually to prioritize the 16 recommendations. (Each small group wrote two recommendations: One in an assigned category, and one in a category each group chose.)

Participants ranked these three recommendations the highest:

1. Between July 1, 2011 to July 1, 2015, KDHE will develop a program for state /county/local agencies to reduce motor vehicle crashes by an initial goal of 10% of all Kansas drivers. This will decrease motor vehicle injuries and deaths on Kansas roadways through utilization of education programs and initiatives to address distracted driving. This can be accomplished by KDHE collaborating with all six trauma regions to request a designated amount of their annual grant funding go toward distracted driver education.
2. Between November 1, 2010 and June 1, 2014 KDHE will collaborate with partners such as the Kansas Health Policy Authority to coordinate a pilot database for prescription medications in Medicaid/Medicare in order to decrease falls related to use of prescription medications by 10%.
3. KDHE will collaborate with partners to develop a social awareness campaign through multiple media outlets targeting 15-24 year olds about the truth behind the risks of young adult drivers by 2015. Evidence shows that human brain development and decision-making processes are not fully developed until the age of 25. This in conjunction with lack of experience causes more collisions. This campaign will enlighten young adults through behavioral modification in a peer-to-peer type of process using a disarming approach to send a positive message that explains why young drivers are at disproportionate risk of motor vehicle collisions.

The draft report ([http://www.kdheks.gov/idp/download/Draft\\_Kansas\\_Injury\\_Prevention\\_Symposium\\_Report.pdf](http://www.kdheks.gov/idp/download/Draft_Kansas_Injury_Prevention_Symposium_Report.pdf)) details each step of the consensus conference to show how participants arrived at their recommendations, and then presents the recommendations themselves in more detail. The report is quite detailed because people who go on to implement these recommendations may not necessarily be the same as those who developed the recommendations. People who implement these recommendations need to know the thinking behind them in order to stay true to the Symposium participants' intentions.

*Office of Injury Prevention and Disability Programs*

## Look Deeper into Infant Mortality in Kansas

Why is the infant mortality problem in Kansas so bad, and why isn't it getting better?

Why have deaths in Kansas among babies less than one year of age increased by 16 percent since 2000, pushing our state's rank to number 40 among the 50 states, according to Kids Count, a report released in late July by the Annie E. Casey Foundation?

Why does the black infant mortality rate in Kansas remain at double the white rate? Why does a black baby born in Kansas today have less chance of surviving to its first birthday than a baby born in the refugee camps of the Palestinian territories in the Middle East?

And finally, why can't the good people living in the heartland of the richest nation on earth solve this problem and do better for our littlest, most vulnerable citizens?

These are tough questions, questions that weigh heavily on the minds of compassionate people from all walks of life who have mobilized in recent years to fight infant mortality all around our state.

Many of these dedicated people serve on the state's Blue Ribbon Panel on Infant Mortality. The panel was convened last year by the Secretary of the Kansas Department of Health and Environment, after discussion with the governor's office.

For panel members, these are the questions that keep them up at night.

In one sense, the answers to such questions are obvious. Infants are dying in Kansas because too many of their mothers today have been marginalized in lives of poverty.

Undervalued by the larger society, sometimes stigmatized by racism, and often unloved by their own families, many young women whose babies are dying have arrived at their pregnancies ill-prepared for the responsibilities of motherhood.

Lacking the social support that every young person needs, these women are more likely while pregnant to smoke tobacco, drink alcohol, use drugs, eat an inadequate diet, suffer from domestic violence, and miss out on obtaining needed prenatal care.

The result too often is a baby who is born too small, or is delivered too young, or has congenital defects that cannot be overcome.

So the social factors at the root of our state's infant mortality problem aren't really a mystery. What's difficult to figure out is how to fix the problem, when there are no easy answers.

How do we make it easier for every woman in our state to get the social support she needs to face the challenges of pregnancy successfully?

How do we strengthen her to find good foods to eat, to avoid tobacco, alcohol and other drugs – before, during and after pregnancy – and to escape from abusive living situations?

How do we remove the barriers for her to access early and regular prenatal care as a fundamental right of all mothers-to-be?

These are the really tough questions. They ask us to place a higher value on the health, safety and well-being of young women than we have been doing lately in our culture.

They ask us to look beyond ourselves and open our hearts to our neighbors in need.

Improving the lot of poor young women in our state will be expensive, though not as costly as ignoring the problem. Currently at KDHE we are applying for federal aid to establish a home visiting program in our neediest communities, where nurses and other professionals will offer support to women and young children at highest risk.

Such programs are a start. But our state's infant mortality problem won't go away until we all get serious about the social conditions behind it.

*Jason Eberhart-Phillips, MD  
Kansas State Health Officer*

## New KIC Link!!! County Health Rankings Report

A new link on Kansas Information for Communities (KIC) for the County Health Rankings Report could be an important and useful tool for planning, implementation and evaluation efforts. This report was generated from a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. The Kansas county health rankings can be accessed at <http://www.countyhealthrankings.org/kansas>. The other 49 state rankings are also available. According to Tom Kean, MPH and Executive Director of C-Change, the website link also "features examples of how counties have used these rankings of local data to encourage individuals, policy makers, community members etc. to improve the health of their county and includes a nine-minute video that features County Health Rankings researchers and Robert Wood Johnson Foundation President and CEO Risa Lavizzo-Mourey. The video introduces the County Health Rankings Report, explains how the report can be used to improve the health of your community, and highlights how one county used the report to inspire action and improve health in their community. The report provides comprehensive data and action steps on multiple factors that determine the health of a county."

Take a moment to review the health rankings link. It will be well worth your time.

*Office of Health Assessment*

## Correction Notice

This note is intended for users of the 2008 Annual Summary of Kansas Vital Statistics. Table 41, "Infant Deaths by County of Residence", contained a spreadsheet error. This resulted in the Total Infant Deaths 2004-2008, being different from the sum of the individual year counts. The online version of the annual summary has been updated to reflect the change. Here is the link <http://www.kdheks.gov/hci/AS2008.html>. We regret the error.

Office of Health Assessment

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Office of Health Assessment  
Bureau of Public Health Informatics  
Kansas Dept. of Health & Environment  
1000 SW Jackson, Suite 130  
Topeka, KS 66612-1354