

2012 Community Health Profile

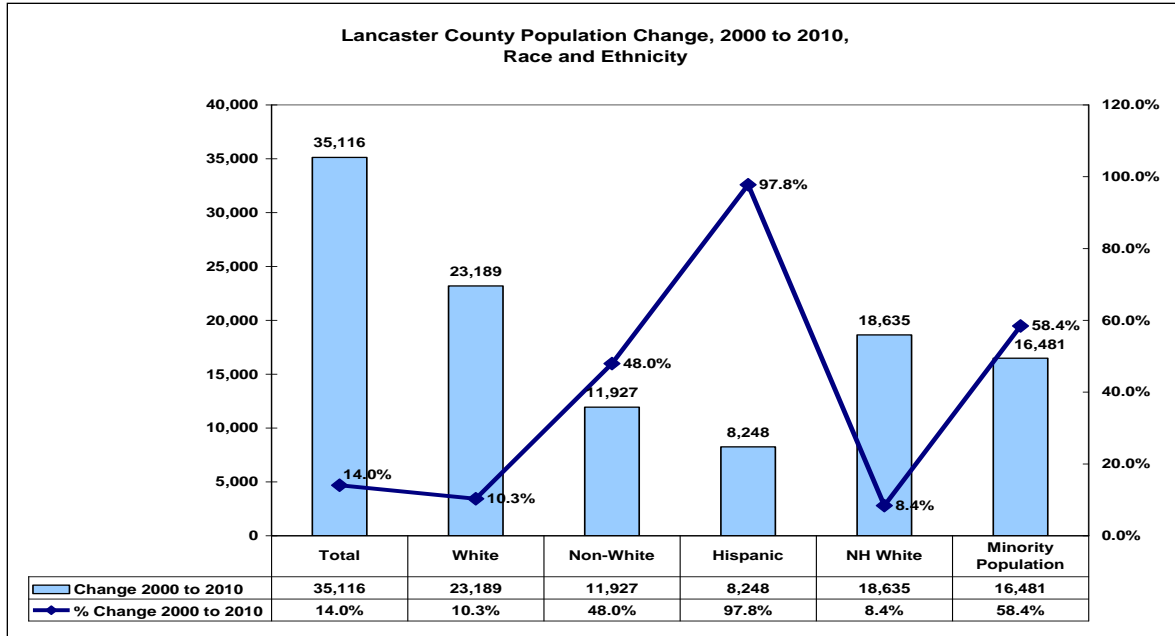
Lancaster County, Nebraska

I. Population Overview

Lancaster County covers an area of 839 square miles in southeastern Nebraska. The City of Lincoln, the county seat, is also the capital city of Nebraska as well as the second largest city in Nebraska. The Census Bureau reported that the county's 2010 population was 285,407, an increase of over 35,000 from 2000 when the population was 250,291. Over the decade the City of Lincoln grew by 14.5 percent, from 225,581 in 2000 to 258,379 in 2010. The county's 2010 population density was 340 persons per square mile.

With four post-secondary educational institutions, the community has lower than average home ownership rates (2010 Census: Lincoln 59.4%, NE 68.6%, USA 66.6%), but higher than average educational attainment (2010 Census: High School/BA - Lincoln 92.7%/35.1%, NE 90%/27.7%, USA 85%/27.9%). The community boasts over 40 active neighborhood associations, and features a strong Mayor form of municipal governance with an active City Council. Starting in the 1980s, the community welcomed resettlement of refugees from across the world. The community initiated numerous social support services, and has embraced its newfound diversity, but some challenges remain in meeting the health needs of new Americans and minorities.

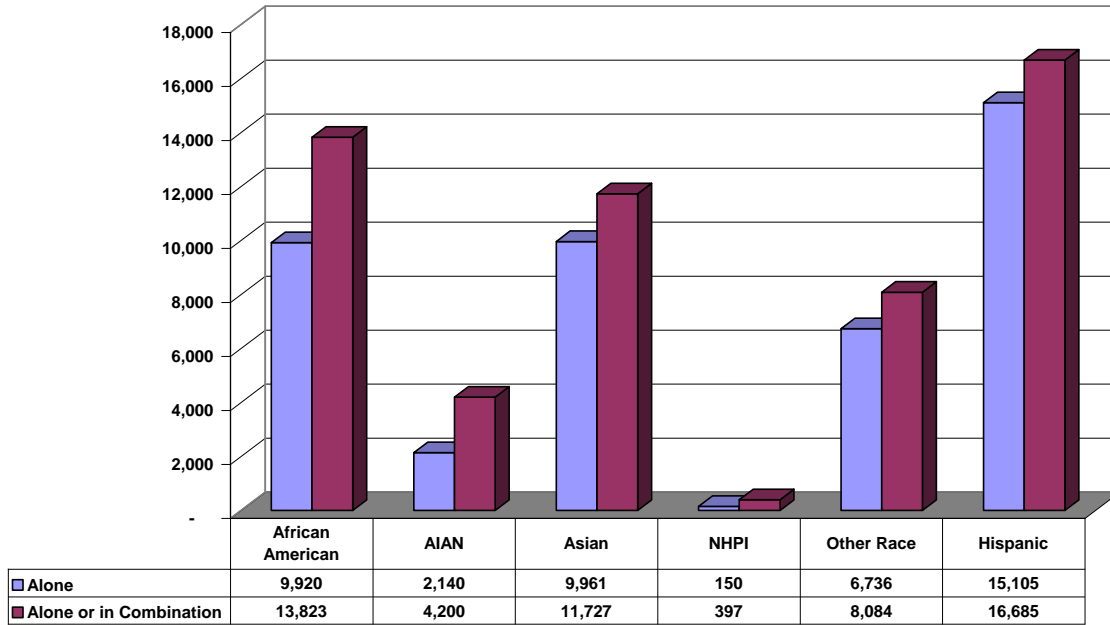
Lancaster County's demographic changes since 2000 reflect the increased diversity as shown in the chart below. Over the decade the minority population increased by 16,481, or by 58.4 percent. In 2010, the minority population represents 15.7 percent of the total population, an increase in representation from 11.3 percent of the total 2000 population. Non-Hispanic whites, the majority population, experienced the largest absolute growth in population (18,635). However, the increase represents only an 8.4 percent increase over the decade. By contrast, persons of Hispanic origin (who may be of any race) nearly doubled (a 98.7 % increase) from 8,437 in 2000 to 16,685 in 2010. The following table shows the population change from 2000 – 2010 in Lancaster County based on Race and Ethnicity.



The table below shows how Lancaster County residents identified themselves by race in 2010. The last column is for persons identifying themselves as Hispanics or Latinos/Latinas who may be of any race and therefore their numbers are included in the other categories. Note also the increase in the size of the minority populations when those people who claim several race categories are added. The numbers are shown in the following table for all races while the chart below shows the impact amongst the non-white population groups.

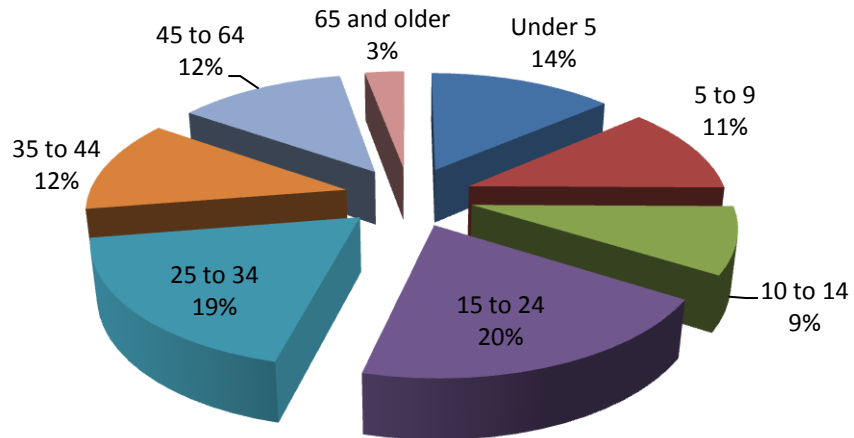
<i>Self Identified Race Classification from 2010 Census</i>	<i>White</i>	<i>Black or African American</i>	<i>American Indian and Alaska Native</i>	<i>Asian</i>	<i>Native Hawaiian and Other Pacific Islander</i>	<i>Some Other Race</i>	<i>Persons of Hispanic Origin (any race)</i>
Alone	248,615	9,920	2,140	9,961	150	6,736	15,105
Alone or in combination	255,700	13,823	4,200	13,823	397	8,084	16,685

**Racial Minorities and Persons of Hispanic Origin (any race)
One Race Alone or in Combination
Lancaster County, 2010**

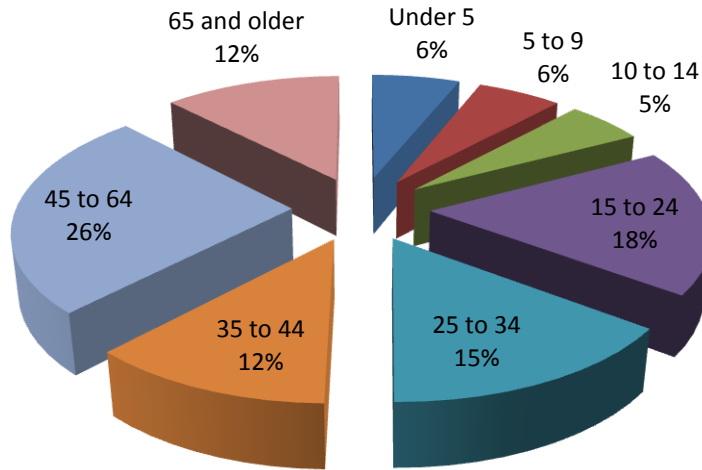


Another difference in these two population groups is the age distribution. The Hispanic population is relatively young with 34 percent of the total under 15 years of age and only 15 percent of the population 45 or older. In contrast, the White Non-Hispanic population is relatively much older with only 17 percent of the population under 15 years of age whereas 38 percent of this group is 45 or older.

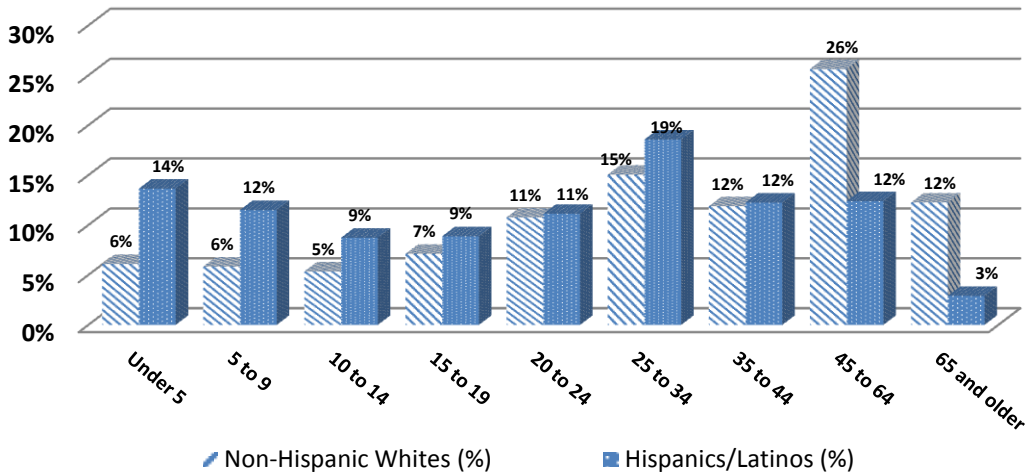
**Persons of Hispanic Origin, by Age Group
Lancaster County, 2010**



White Non-Hispanic Population, by Age Group, Lancaster County, 2010



Percent of Population by Age Group Non-Hispanic Whites vs. Hispanics Lancaster County, 2010



The following table reflects the general population data by age and gender from the 2010 Census and changes from 2000.

Subject	2000 Census	2010 Census	Population Change 2000 to 2010	Population % Change 2000 to 2010
Total Population	250,291	285,407	35,116	14.0
Male	125,029	143,048	17,981	14.4
Female	125,262	142,359	17,097	13.6
Under 5	16,680	20,171	3,491	20.9
18 and Over	191,463	219,506	28,043	14.6
Male	95,028	109,396	14,368	15.1
Female	96,435	110,110	13,675	14.2
21 and Over	174,639	201,383	25,744	15.3
62 and Over	30,548	38,796	18,248	27.0
65 and Over	26,080	31,101	5,021	19.3
Male	10,572	13,358	2,786	26.4
Female	15,508	17,743	2,235	14.4

The increase in population over the decade was 14 percent, and the various population sub-groups generally increased at a similar rate. The notable exceptions are the 20.9 percent growth in the population under 5, and the 27.0 percent growth in the 62 and over. The increase in the under-five age group is due to the higher birth rates among minorities and the corresponding increase in the non-white population overall. As for the cohort 62 and older, the highest percentage increase was in the males over 65. The elderly population (65 and older) in

Lancaster County was 10.9 percent of the total population in 2010, up from 10.4 percent in 2000. By comparison, the elderly population in Nebraska was 13.5 percent of the state's total population in 2010, and nationally the elderly were 13 percent of the total.

II. Socio-Economic Characteristics of Households and Families

While some 2010 data are now available for this section and others below, data and estimates from the American Community Survey (ACS) are also referenced when the comparable 2010 Census are not available or when the ACS may provide more recent data. Any use of annual and multi-year (e.g., 2006 to 2010) ACS data will be noted as there are some times when the most recent data are more revealing. Also, the Census Bureau has recently created an online source of health insurance and poverty information known as SAIPE (Small Area Income and Poverty Estimates) that provides single-year estimates from ACS survey information combined with administrative records, population estimates for a given year and Census data.

Households and Families: In 2006-2010 ACS there were an estimated 111,993 households in Lancaster County. Married-couple families made up 59.7 percent of the households in Lancaster County. This figure includes both married-couple families (49 percent) and other families (13 percent). Nonfamily households made up 38 percent of all households in Lancaster County. Most of the nonfamily households were people living alone, but some were composed of people living in households in which no one was related to the householder. The average household size was 2.4 people while the average family size was 2.9 persons.

Nativity and Language: Six percent of the people living in Lancaster County in 2005-2009 were foreign born. Ninety-four percent of the population was native, including 68 percent who were born in Nebraska. Among people at least five years old living in Lancaster County in 2005-2009, 10 percent spoke a language other than English at home. Of the 10 percent speaking a language other than English at home, 42 percent spoke Spanish and 58 percent spoke some other language; 41 percent reported that they did not speak English "very well."

Education: In 2005-2009, 93 percent of people 25 years and over had at least graduated from high school and 35 percent had a bachelor's degree or higher. Seven percent were dropouts; they were not enrolled in school and had not graduated from high school. The total school enrollment in Lancaster County was 87,000 in 2005-2009. Nursery school and kindergarten enrollment was 7,900 and elementary or high school enrollment was 39,000 children. College or graduate school enrollment was 40,000.

Employment: Of the population 16 and over, 73.8 percent were in the labor force. Almost seventy-four percent (73.6 percent) of the population were in the civilian labor force, with 70.0

percent employed and 3.6 percent unemployed on average over the five years. The latest unemployment figure for Lancaster County in September, 2011, was 3.6 percent (not seasonally adjusted), which compares favorably with the Nebraska's unemployment figure of 3.9% and the national unemployment rate of 8.8 percent. The September, 2011, rate of unemployment for Lincoln was 3.5 percent, which was one of the lowest rates in the country.

Income: The median income of households from 2005 to 2009 in Lancaster County was \$50,217. Eighty-six percent of the households received earnings and 13 percent received retirement income other than Social Security. Twenty-one percent of the households received Social Security. The average income from Social Security was \$15,874. (These income sources are not mutually exclusive; that is, some households received income from more than one source.)

Poverty: In 2005-2009, 13 percent of people were in poverty. Fourteen percent of related children under 18 were below the poverty level, compared with 7 percent of people 65 years old and over. Eight percent of all families and 29 percent of families with a female householder and no husband present had incomes below the poverty level.

Housing Costs: The median monthly housing costs for mortgaged owners was \$1,327, nonmortgaged owners \$452, and renters \$658. Twenty-six percent of owners with mortgages, 11 percent of owners without mortgages, and 47 percent of renters in Lancaster County spent 30 percent or more of household income on housing.

III. Health Status Indicators for Lancaster County Adults

There are a number of health status indicators, including both measures of morbidity and mortality. Unfortunately, morbidity measures (incidence or prevalence rates of disease or medical condition) are less available at the population level and vital statistics (birth and death) data provide only limited information about health status.

Morbidity Information

The sources of information about illnesses, diseases and health conditions include survey results, especially those from the Behavioral Risk Factor Surveillance System (BRFSS); disease registries; hospital discharge data and reportable disease information from physicians and laboratories. Unfortunately, each source has limitations (e.g., self-reported information, incidence rather than prevalence information) and local data are not always available about certain conditions.

Self-Reported Health Status

One measure of health status is how individuals rate their own health. The BRFSS survey asks “Would you say in general your health is Excellent, Very Good, Good, Fair or Poor?” The respondents who answer “excellent,” “very good” or “good” generally have their responses added together; and replies of “fair” or “poor” are also combined.

In 2010, 9.9 percent of Lancaster County adults (22,000) indicated that their health was either fair or poor. Twelve percent of Nebraskans indicated that their health was less than good (fair or poor). Nationwide, 14.9 percent of respondents self-reported their health as fair or poor. (Local data are somewhat volatile year to year, but the average response generally falls in a range from 10 percent to 15 percent with more years at the bottom of the range.)

Diagnosed Health Conditions

In addition to self-reported health status information, the BRFSS survey asks adult respondents about whether or not they have been diagnosed with or have experienced certain health conditions. The following table reflects the 2010 (or 2009 if it is the latest available since the questions are not asked every year) BRFSS data. The column for the affected population is calculated on the basis of our local BRFSS results and the 2010 Census data, rounded to the nearest hundred. The estimated number of adults with these health conditions ranges from 3,800 elderly who have had all their teeth extracted to 64,000 people who know they have been diagnosed with high cholesterol. Persons may have one or more of the conditions (i.e., individuals with asthma are a subset of those who have ever had asthma; persons limited in activities may have arthritis, diabetes, a cardiovascular issue and/or a mental health issue, a heart attack victim may have been diagnosed with diabetes, high cholesterol and/or high blood pressure).

Disease/Condition	2010 LLCHD BRFSS (%)	2010 Nebraska BRFSS (%)	2010 National BRFSS (%)	Estimated Population Affected
Asthma (current)	8.3	7.8	9.1	18,300
Asthma (ever told)	12.0	12.2	13.8	26,400
Arthritis	2009—21.2	2009—25.9	2009—26.0	46,600
Angina or coronary heart disease	2.7	4.0	4.1	5,900
Heart Attack	2.8	3.9	4.2	6,200
Stroke*	1.7 to 3.1	2.4	2.7	3,700 to 5,200
Diabetes	8.1	7.7	8.7	17,800
High Cholesterol	2009—29.0	2009—37.4	2009—37.5	64,000
High Blood Pressure	2009—24.0	2009—27.1	2009—28.7	53,000
Limited in activities due to physical, mental or emotional problems	22.3	18.9	21.1	49,100
Adults needing special equipment (e.g., cane, wheelchair, special bed or telephone)	10.5	6.6	7.5	23,100
Elderly with all teeth extracted	12.3	15.2	16.9	3,800

*2010 BRFSS result was 3.1 percent opposed to 1.7 percent in 2009 and NDHHS 2009-2010 result of 1.6 percent.

- Asthma: The BRFSS asks if respondents have been diagnosed as currently having asthma and they also ask if individuals have ever been told they have asthma. In 2010, 8.3 percent of Lancaster County residents indicated that they have been diagnosed currently with asthma, and 12.3 percent have a history of asthma. The local rate of

persons currently diagnosed with asthma is generally above the comparable Nebraska rate, but below the national rate.

- Arthritis: Arthritis is the leading cause of disability in the U.S. In 2009, 21.2 percent of local respondents indicated that they have arthritis, which translates into an estimated 46,600 adults who suffer from the condition. While over one fifth of Lancaster County respondents indicated they have arthritis, the local rate is below both the Nebraska (25.9) and national (26.0) rates.
- Angina or coronary heart disease: In 2010, the BRFSS survey asked Lancaster County residents if they had been diagnosed with angina or coronary heart disease and 2.7 percent of respondents said they had the condition. That number represents an estimated 5,900 people.
- Heart Attack (myocardial infarction): The 2010 BRFSS also asked about whether individuals had experienced either a heart attack or stroke and 2.8 percent of respondents (or an estimated 6,200) indicated that they had had a heart attack. For comparison, 3.9 percent of Nebraskans and 4.2 percent of national respondents and experienced a heart attack.
- Stroke (cerebrovascular disease): Stroke is the fourth leading cause of death in the county as it is in Nebraska and the nation. Stroke victims often have at least some temporary disability and stroke is one of the major causes of long-term disability. In 2010, 3.1 percent of local residents, or an estimated 6,800 individuals, indicated that they had suffered a stroke. The percent of local respondents who reported having a stroke (3.1 percent) is above that for the state (2.4 percent) and nation (2.7 percent), but the local rates have been volatile year to year and in the 2009 BRFSS the percentage of respondents reporting having had a stroke was 1.7 percent. The two-year average (2009 to 2010) is 2.4 percent, which is comparable to both Nebraska and national data.
- Diabetes: In 2010, the BRFSS results for Lancaster County indicate that 8.1 percent of adults had been diagnosed with diabetes, which was above the 7.7 percent of Nebraskans who said they had been diagnosed with diabetes. This is the first year that our local diabetes rate is above the state rate so we will see if the future comparisons reflect this or if this was an abnormal experience. (These rates do not include women who have gestational diabetes or those who have been told that they have pre-diabetes or borderline diabetes.)
- Cholesterol Awareness: High cholesterol is a contributing factor leading to heart disease, and there has been an increase in attention to monitoring cholesterol. In 2009 the BRFSS survey showed that 29 percent of local respondents indicated they have been diagnosed with high cholesterol, a rate that is lower than the overall state and national rates (37.4 percent and 37.5 percent respectively). The majority of those diagnosed with

high cholesterol have probably been told to exercise any many might have been prescribed a cholesterol-lowering drug to help prevent cardiovascular disease.

- **Blood Pressure Awareness:** Some 24.0 percent of Lancaster County respondents in 2009 indicated that they had been diagnosed with high blood pressure, which if uncontrolled can lead to kidney failure, heart disease and other health issues. While slightly lower than the Nebraska and national rates (27.1 and 28.7 percent, respectively) the fact that about one quarter of the adult population has high blood pressure means that over 50,000 residents have to address this condition.
- **Limited in Activities:** In 2010 22.3 percent, or an estimated 49,100 people, indicated that they were limited in performing daily activities due to physical, mental and emotional problems.
- **Persons needing special equipment:** An estimated 23,100 adults indicated that they needed special equipment (e.g., cane, wheelchair, special telephone). These are two areas where the 2010 local survey results were higher than state (18.9) and national (21.1) results.
- **Elderly with all of their teeth extracted:** The percent of persons 65 and older who have had all of their teeth extracted (12.3 percent) is lower than the Nebraska (15.2 percent) and national (16.9 percent) rates, but still translates into approximately 3,800 residents with the need for dentures.

Morbidity Associated with Other Diseases/Conditions

Cancer Incidence: While we don't have a good estimate for the prevalence of Lancaster County residents who are living with cancer or those who are cancer survivors, new cases of cancer (incidence) are reported to the Nebraska Cancer Registry each year. Cancer registry data include information on children as well as adults. The following table shows cancer incidence over the five-year period from 2004 to 2008 for all cancer sites as well as ten selected cancer sites. (Cancer data are only available through 2008, but there's little change year to year in cases or rates by site.) As the data indicate, there are almost 1,200 new cases of cancer per year. The most common cancers are female breast, prostate, lung and bronchus and colon and rectum cancer, with these four sites combined representing just over 52 percent of all new cancer cases.

Cancer Incidence by Site	Lancaster County Number	Lancaster County Cancer Rate per 100,000	Nebraska Number	Nebraska Cancer Rate per 100,000
All Sites	5,886	484.8	44,995	481.3
Lung & Bronchus	765	64.3	6,074	64.8
Female Breast	896	136.8	6,172	125.3
Colon & Rectum	621	52.2	5,265	55.3
Prostate	779	143.9	6,628	157.4
Urinary Bladder	235	19.9	2,020	21.1
Non-Hodgkin Lymphoma	264	22.0	1,929	20.6
Leukemia	175	14.3	1,353	14.4
Kidney & Renal Pelvis	183	15.0	1,481	15.9
Melanoma	276	21.9	1,624	17.9
Uterine Corpus & Unspecified	194	29.0	1,317	26.4

When comparing cancer rates, the Lancaster County rates are not significantly higher or lower than state rates, except for melanoma (21.9 per 100,000) where the Lancaster County rate is statistically significantly higher than the Nebraska rate over this period of time (it is highlighted in bold font in the table). The latest cancer data for Nebraska and some county data can be searched online at the Cancer Control Planet site.

IV. Communicable Diseases

The section presents a summary of selected communicable diseases reported over the last four years. The diseases that are included in the following table are vaccine-preventable and sexually transmitted diseases. The remaining selected communicable diseases include foodborne or waterborne diseases; vector-borne (from an animal or insect); as well as TB and other diseases that are rare but can have a significant effect on health status.

Reportable Disease (selected)	2008	2009	2010	2011
Vaccine-preventable				
Hepatitis A	9	7	0	1
Hepatitis B (Acute and Chronic)	56	50	43	26
Influenza	12	188	8	55
Mumps	0	2	4	0
Pertussis	24	19	32	2
Sexually-Transmitted				
AIDS	19	8	11	3
HIV	16	17	20	3
Chlamydia	996	1108	1033	1235
Gonorrhea	353	283	238	251
Herpes Simplex (genital)	197	204	178	202
Syphilis (Primary)	0	0	1	2
Syphilis (Other)	2	10	7	8

Vaccine Preventable Diseases

The case numbers for these diseases are not very large overall. In the case of influenza, the numbers are for confirmed cases and do not reflect the true dimensions of the pandemic H1N1 2009 flu outbreak of 2009-2010 or even for regular seasonal flu as providers usually don't report clinically diagnosed cases once influenza is circulating in the community. Also, notably absent from the list are measles (English measles) and rubella (German measles) since there have been no local cases in recent years. Any case of measles would be a sentinel event as measles cases have been virtually eliminated in the Americas due to vaccination. Most children receive a series of MMR (measles, mumps and rubella) shots that provides immunity.

Of the six diseases listed, increases in pertussis (whooping cough) and mumps have been seen in the last several years. The increases are largely due to either waning immunity against pertussis among teens and adults who can infect other adults or children who have not been

vaccinated or those who have not completed the required number of doses. The case numbers (ranging from 19 to 37 confirmed cases) probably understate the number of local cases as some individuals may be asymptomatic or never got diagnosed for their persistent cough. Whooping cough cases pose a problem for infants six months and younger who cannot be vaccinated. Mumps cases are few thanks to vaccination with the recent increases due to people who never got vaccinated.

Vaccines for hepatitis A and B are now common for the younger population, but older adults are susceptible to these diseases. Hepatitis A affects the liver and is spread via a fecal-oral route. Small local outbreaks have occurred sporadically in recent years. Having no reported cases of hepatitis A in 2010 was unusual as there usually are a few cases every year. Hepatitis A is generally a self-limiting disease with few long-term repercussions, but it can result in epidemics if food is contaminated by a food handler with the disease, or if a food product such as lettuce is contaminated from the water supply or some other source. Hepatitis B is known to have infected up to a quarter of the world's population, but it is not as common (endemic) in North America. Unlike hepatitis A, hepatitis B is not spread by touch or contact, but is generally transmitted by the exchange of blood or other bodily fluids. Infants can contract hepatitis B from their mothers during childbirth and they need to receive the vaccine within the first 12 hours after birth and undergo a series of vaccinations. Acute cases of hepatitis B are self-limited, but persons with a chronic case of hepatitis B have a high risk of developing cirrhosis or liver cancer. Except for 2009 (7 cases) the number of acute cases of hepatitis B has been fairly stable, in the range of two to four cases a year.

Sexually Transmitted Infections

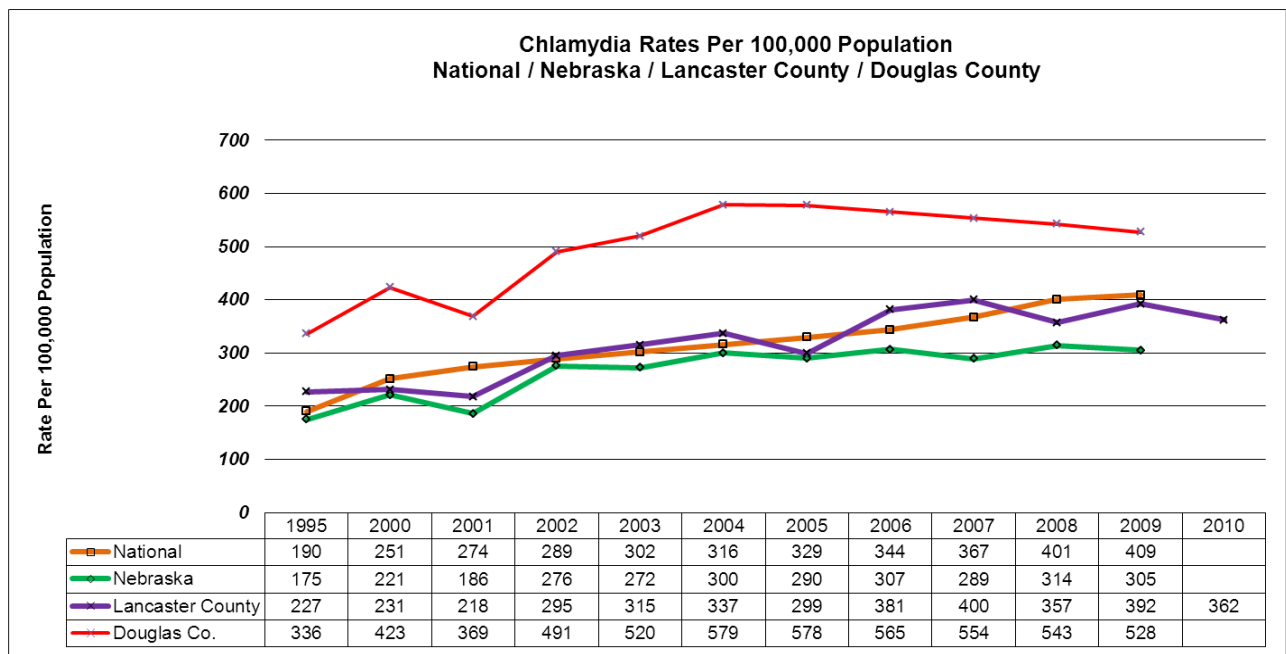
Sexually transmitted diseases are likely to be underreported even though providers are required to report about patients with the disease. The reported data on sexually transmitted infections as shown in the table identifies chlamydia and gonorrhea as the most common sexually transmitted infections (sexually transmitted diseases) in Lancaster County followed by genital herpes. In contrast, there's only been one case of primary syphilis in the past four years.

Chlamydia and Gonorrhea

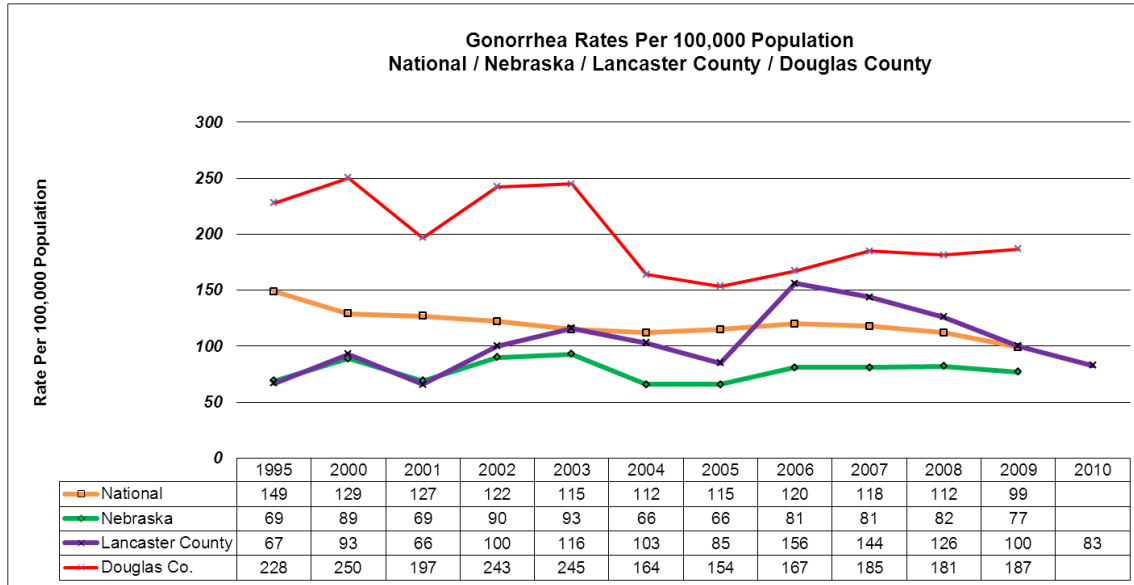
Chlamydia affects both men and women and occurs in all age groups, but it is most prevalent in young women. Many people do not show symptoms, but once chlamydia is detected it is easily treated. However, if left untreated, chlamydia can lead to more serious health problems. In Lancaster County, chlamydia cases have been fairly stable in the 1,000 to 1,100 range for the past several years. The long-term trend of chlamydia rates has been upward as shown in the

following graph. Lancaster County rates, while in line with national rates (sometimes a little above or below) have been consistently above the Nebraska rate.

Lincoln and Omaha are more urban than the rest of the state and both have a younger population. Lancaster and Douglas Counties are where the state’s largest colleges and universities are located. When Lancaster County’s chlamydia rate is compared to the Douglas County rate as shown in the following graph, our local rate is generally in the range of 60 to 80 percent of the Douglas County rate. While the rates have stabilized or dropped slightly the rates remain high and continue to need attention.



Gonorrhea is the second most common sexually transmitted disease in the county. As is the case with chlamydia, both men and women may not experience any symptoms or, if experienced, the symptoms may be mild. When present, symptoms include a painful or burning sensation during urination and both men and women may detect a discharge. In women, symptoms may be mild and the cases may not be quickly diagnosed as symptoms are similar to other conditions, such as bladder infections. Women may pass the disease to babies during childbirth. Gonorrhea is treatable with antibiotics, but if untreated can lead to infertility in both men and women.



The data in the above table shows a decline in gonorrhea cases over the last four years. The following graph shows a much more volatile long-term pattern locally, a fairly stable pattern in Nebraska and a slow decline nationally. When Lancaster and Douglas County rates are compared, Douglas County has higher rates of gonorrhea and the Douglas County rates are not showing a recent decline even though the rates there have stabilized at a lower level than occurred from 1995 to 2003.

HIV and AIDS

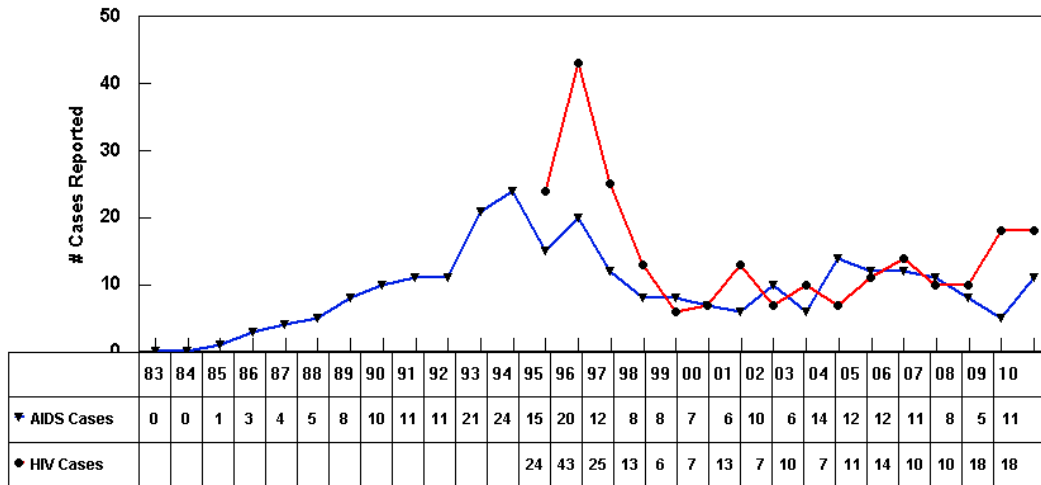
While relatively few in number, cases of Human Immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) cases are a special concern due to the life-threatening nature of AIDS. AIDS is a terminal disease, but anti-retroviral drugs have made it possible for persons with AIDS to live much longer with the disease. HIV is a virus (retrovirus) that causes AIDS. Infection with HIV occurs by the transfer of bodily fluids. The four major routes of transmission are unsafe sex, contaminated needles, breast milk and transmission from an infected mother to her baby at birth.

Most untreated people infected with HIV eventually develop AIDS. Those individuals mostly die from opportunistic infections or malignancies associated with the progressive failure of the immune system. HIV progresses to AIDS at a variable rate affected by viral, host, and environmental factors; most will progress to AIDS within ten years of HIV infection.

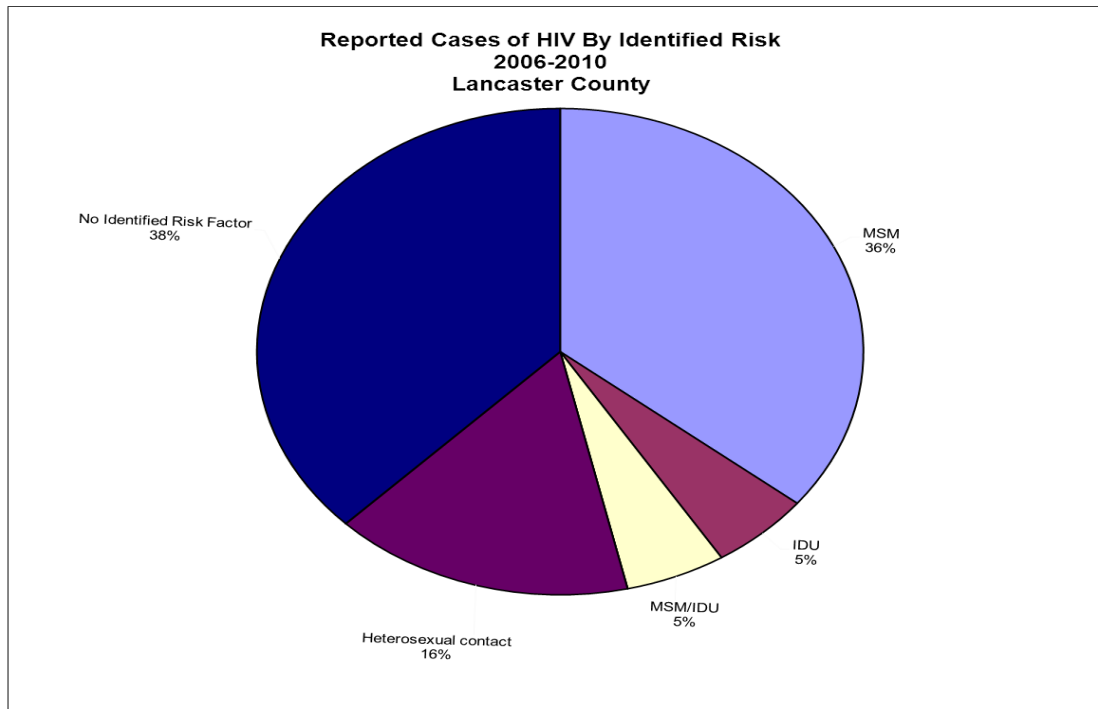
The following chart shows the history of AIDS and HIV cases in Lancaster County. The first local AIDS case occurred in 1983. HIV did not begin to be reported until 1995, and the spike on the

graph in 1995 to 1997 reflects the backlog of HIV cases. In the last two years, HIV cases increased to 18 per year, which is a significant increase over the previous decade. AIDS cases peaked in 1994 (24) and over the last decade exceeded 12 only once, in 2004, when there were 14 cases.

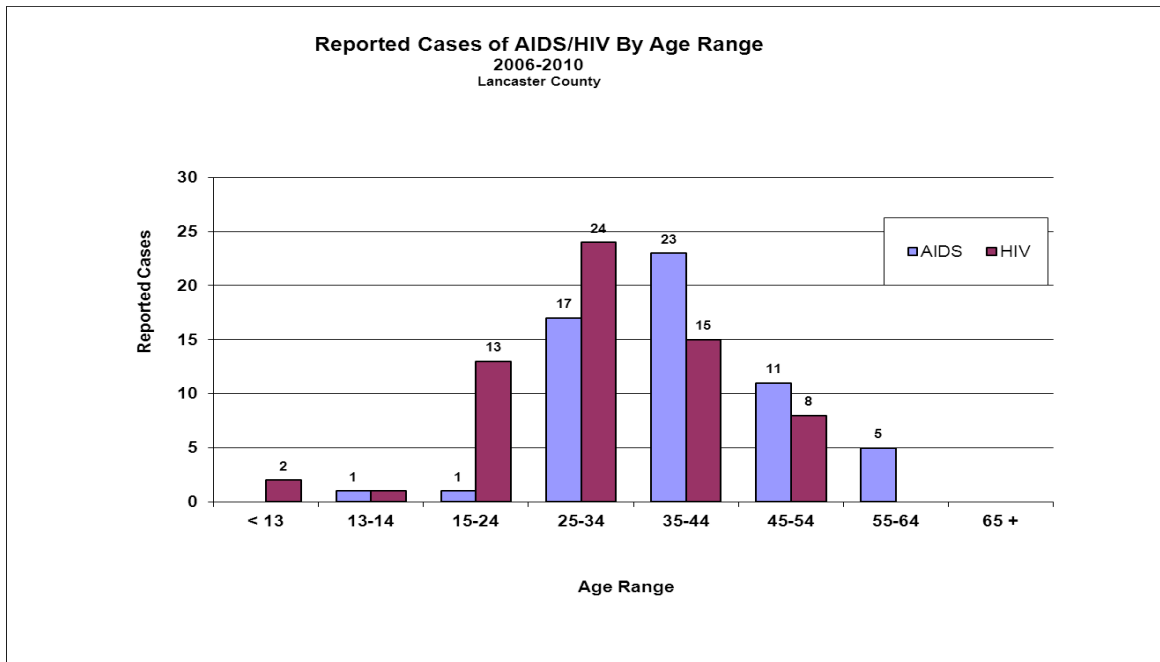
HIV and AIDS Cases By Year Reported
Lancaster County NE



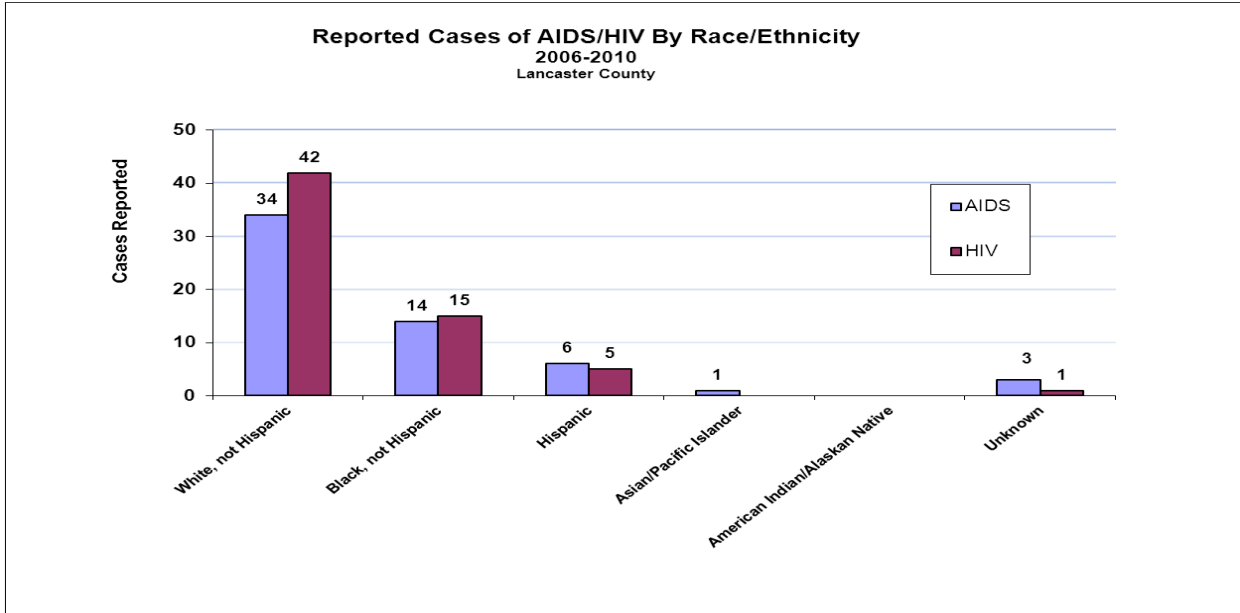
* HIV Reporting in NE began July 1995



The next three graphs are for the most recent five-year period, 2006 to 2010. By age most AIDS cases (23) were in the 35 to 44 age group, followed by those (17) diagnosed with AIDS in the 25 to 34 age group. HIV, as a precursor to AIDS begins to appear in the youngest age groups, increases in numbers among the 15 to 24 year olds, peaks in the 25 to 34 age group and falls within the 45 to 54 cohort.



As for the racial breakdown persons with HIV/AIDS the following chart shows that non-Hispanic whites represent the majority of cases, followed by African Americans and Hispanics. Blacks and Hispanics with HIV/AIDS are disproportionately represented when compared to the county's Census breakdown by racial and ethnic minorities.



As for the identified risk of persons diagnosed with HIV/AIDS over the last five years, 36 percent of persons were males having sex with males (homosexual contact), 16 % contracted the disease through heterosexual contact, 5 % were injectable drug users, and 5 % were males having sex with males and injectable drug users; 38 % listed no identifiable risk factor.

V. Enteric and Other Communicable Diseases

Enteric Diseases

As a group the enteric diseases listed are generally contracted through food or water, improper cooking or by poor practices by food preparers or servers. Since most people suffer only short-term discomfort and may not seek medical treatment, it is likely that many cases of enteric diseases are not reported. These diseases are generally spread through the fecal-oral route, by ingesting contaminated food or drinking contaminated water. Eliminating cross contamination of food during preparation, proper hand washing and cooking or storing food at the proper temperature goes a long way in preventing many of the diseases. Healthy individuals generally recover from the diseases, but persons with compromised immune systems, such as the elderly or AIDS patients, may experience severe illness or possibly, death.

Reportable Disease (selected)	2008	2009	2010	2011
Enterics (selected)				
Campylobacteriosis	51	47	71	71
Cryptosporidiosis	6	11	17	7
E-coli (Shiga toxin producing)	13	1	5	12
Giardiasis	34	22	41	35
Salmonellosis	28	79	31	31
Shigellosis	3	13	3	4
Other diseases (selected)				
Hepatitis C (Acute/Chronic)	284	187	181	192
Haemophilus influenzae (invasive)	11	4	6	6
Meningitis, Aseptic	19	25	14	26
Rabies in animals	4	13	6	4
Streptococcal Disease (invasive)	30	48	38	34
Tuberculosis	2	7	5	3
West Nile virus	5	1	3	1

Campylobacteriosis is an infectious disease caused by bacteria of the genus *Campylobacter*. One species, *Campylobacter jejuni*, is responsible for most human illness, but other species are responsible for illness in animals. *Campylobacter* is one of the most common causes of diarrheal illness in the U.S. While outbreaks are possible most cases are associated with single or isolated cases. Eating raw or undercooked chicken or cross-contamination of chicken juice and produce are the usual source of the disease. As the table indicates, in most years there are approximately 50 cases; in 2010 the number increased to 70, but mostly isolated cases as there were no large outbreaks in 2010.

Cryptosporidiosis and Giardiasis are parasitic diseases caused by protozoan parasites that generally live in water. The case numbers for these two diseases are relatively few and the cases per year are somewhat volatile, as they are associated with outdoor activities.

Salmonellosis is an infection with *Salmonella* bacteria. There are a number of different species of *Salmonella* and the source may be cattle, chicken or pork, eggs, egg products, milk, reptiles such as turtles, pet rodents or tainted fruits and vegetables. As can be seen Salmonellosis cases (28 to 79, but generally in range from the mid-thirties to mid-forties) are slightly lower or in the same range as Campylobacteriosis cases (47 to 70). The increased number of cases (79) in 2009 was due to an outbreak of a food-borne illness attributed to raw alfalfa sprouts (sprouts are a frequent source of food-borne illness and outbreaks).

In recent years, as shown in the table, the number of local cases of Shigellosis has been few, with 13 being the highest number of cases. Shigellosis is an infection caused by the bacteria *Shigella*. The usual mode of transmission is directly person-to-person hand-to-mouth, in the setting of poor hygiene among children. *Shigella* can be transmitted through food, including salads (potato, tuna, shrimp, macaroni, and chicken), raw vegetables, milk and dairy products, and meat. Contamination of these foods is usually through the fecal-oral route. Fecally-contaminated water and unsanitary handling by food handlers are the most common causes of contamination. Infants, the elderly, and the infirm are susceptible to the severest symptoms of disease, but all humans are susceptible to some degree.

The table shows that the number of people confirmed to have contracted Shiga-toxin producing *E. Coli* has ranged from one case in 2009 to 13 cases in 2008. The most common sources for Shiga toxin are the bacteria *Escherichia coli* (STEC), which includes serotypes O157:H7 and O104:H4 [the cause of the recent outbreak in Europe]. *E. coli* O157:H7 cases are found occasionally, but as can be seen in the table there have been no large outbreaks, rather more sporadic cases from time to time. *E. coli* can be killed by cooking meat to the proper temperature and most of the local cases have been due to undercooked meat. *E. coli* can also be present on produce due to contaminated fields or water supply.

[In reviewing the data for enteric disease, please note that one of the common diseases known for outbreaks, norovirus, is not included. Norovirus is not a reportable disease except in certain circumstances (aboard cruise ships, a community outbreak at a school, nursing home, childcare center). The Health Department routinely gets involved in any outbreak associated with a regulated facility, but oftentimes, especially with norovirus cases, there are no laboratory-confirmed cases. Persons infected with the virus usually recover fully within days and, if there's a food establishment, childcare center, school, hospital or nursing home involved the usual outcome is that control measures are put in place (e.g., disinfection of the rooms and equipment, isolating sick staff or attendees).]

Hepatitis C is an infectious disease of the liver caused by the hepatitis C virus (HCV). It is spread by blood-to-blood contact. There is no vaccine for hepatitis C. Hepatitis C can progress from an acute infection to become a chronic infection (i.e., a condition lasting longer than six months). Persons with chronic hepatitis C may experience scarring of the liver or liver cancer. Over the four-year period the number of cases has dropped, but remains in the range of 170 cases per year.

Naturally-acquired disease caused by *H. influenzae* seems to occur in humans only. In infants and young children, *H. influenzae* type b (Hib) causes bacteremia, pneumonia, and acute bacterial meningitis. Due to routine use of the Hib conjugate vaccine in the U.S. since 1990, the incidence of invasive Hib disease has decreased to 1.3/100,000 in children. Locally, due to incomplete vaccination of the population there have been a few cases confirmed each year, with the highest number of cases (11) in 2008.

Invasive streptococcal disease can be severe and sometimes result in life-threatening illness. There have been between 30 and 50 cases found in Lancaster County each of the past four years. Invasive streptococcal diseases occurs when "group A streptococcal (GAS)" bacteria get into parts of the body where bacteria usually are not found, such as the blood, muscle, or the lungs; causing infection. Two of the most severe, but least common, forms of invasive GAS disease are necrotizing fasciitis and Streptococcal Toxic Shock Syndrome. Necrotizing fasciitis (occasionally described by the media as "the flesh-eating bacteria") destroys muscles, fat, and skin tissue. Streptococcal toxic shock syndrome (STSS), causes blood pressure to drop rapidly and organs (e.g., kidney, liver, lungs) to fail.

Tuberculosis (TB or MTB) is a common and in many cases a lethal infectious disease caused by various strains of mycobacteria. Tuberculosis usually attacks the lungs but can also affect other parts of the body. It is spread through the air when people who have an active infection cough, sneeze, or otherwise transmit their saliva through the air. Most infections in humans result in an asymptomatic, latent infection, and about one in ten latent infections eventually progresses to active disease, which, if left untreated, kills more than 50 percent of its victims. The table shows the active cases of TB confirmed in Lancaster County, where five to seven cases are treated each year. Persons with TB are often immigrants to the U.S., but whose TB was latent

when they migrated. Family members are the most at risk to contract the disease so spikes in numbers are often due to spread within a family.

West Nile virus (WNV) is spread by mosquitoes and infection caused by the virus can result in a potentially serious illness. This is especially true for persons 50 or older. Fortunately, most local cases have been West Nile fever rather than the more serious cases of West Nile Encephalitis or West Nile Meningitis. Experts believe WNV is established as a seasonal epidemic in North America that flares up in the summer and continues into the fall. Locally, after peaking at 129 in 2003, we usually experience a few cases each year, with 5 persons having been diagnosed in 2010.

VI. Unintentional Injuries

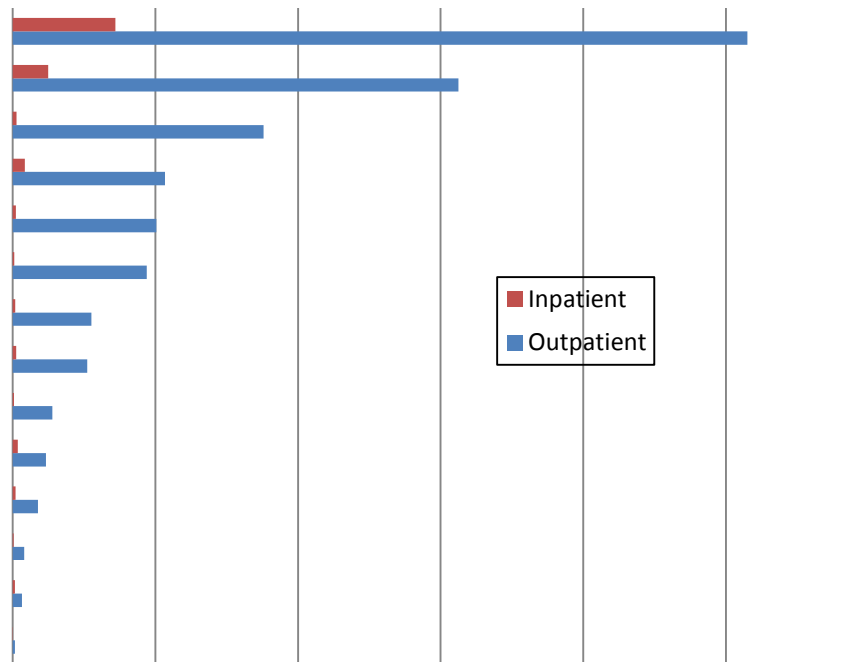
Unintentional injuries, especially falls, are a significant source of morbidity in the county and they are the sixth leading cause of death overall. Unintentional injuries are in fact the leading cause of deaths for individuals ages 1 to 44. Injuries also may result in either short- or long-term disabilities. All injuries are classified by e-code and Nebraska hospitals are required to submit the data to the Nebraska Department of Health and Human Services (NDHHS). The Nebraska Hospital Association collects the injury data from hospitals and then transfers the information to the NDHHS. Since injury data are mandated these data are likely to be as complete as possible. Data from the hospital discharge database for 2009 and the first six months of 2010 show that there were 29,952 outpatient visits to hospital emergency rooms and 2,488 inpatient admissions to hospitals due to unintentional injuries.

The following table shows the distribution of injury-related hospital visits, whether hospital outpatient (ER) visits or inpatient admissions, by age. It should be noted that the age groups differ, with five-year spreads for children and young adults (20-24), but ten-year spreads for persons 25 and older.

Total Injuries	Age Group:												
	< 1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Outpatient Visits	432	3,390	2,309	2,481	2,603	1,842	3,407	2,887	3,208	2,658	1,763	1,709	1,263
Inpatient Admissions	11	33	25	37	71	61	103	137	234	273	356	558	589

As shown in the first graph below, falls are the reason for most outpatient and inpatient visits by a wide margin. While “all other” is the second leading reasons for outpatient visits, for a specific cause the next leading reason for outpatient visits is “struck by or against”, followed by motor vehicle accidents, overexertion, being cut or pierced, burns or fire-related injuries, natural or environmental causes, cycling accidents and poisoning. Motor vehicle accidents are the second specific cause of inpatient admissions.

Outpatient Visits and Inpatient Hospital Admissions By Injury Type



Due to the large number of fall-related outpatient visits and hospital admissions the second chart below shows falls by the age of the person falling, and distinguishes between outpatient visits and inpatient admissions. As can be seen, children 1 to 4 years old are frequently seen in the emergency room for falls and that age group has the highest number of falls. However, as a crude measure (inpatient admissions divided by outpatient visits) a very small percent (0.7 percent) of falls in the 1 to 4 age group results in a hospital admission. The ratio of inpatient admissions to outpatient visits for falls generally rises with the age of the victim, approaching ten percent (9.1 percent) for those 45 to 54 and rising to almost 60 percent (57.8 %) for persons 85 and older who fall.

VII. Mortality: Leading Causes of Death

When reviewing the leading causes of death (mortality) data for Lancaster County for 2010 the five leading causes represent just over 57 percent (1,054) of the county’s resident deaths (1,847). The ten leading causes and their relative importance are shown in the following pie chart in addition to an all other category. The ten leading causes of death in 2010 were: cancer was number one (421 deaths); heart disease was second (343), chronic lung disease (108) and cerebrovascular disease or stroke (108) were tied for third; Alzheimer’s disease (74) was fifth,

unintentional injuries or accidental deaths (73) were the sixth leading cause; diabetes mellitus (38) was the seventh leading cause, nephritis and nephrosis (33) was eighth; renal disease (25) was ninth; and pneumonia (24) was the tenth leading cause; all other causes of death totaled 600.

Except for unintentional injuries, the leading causes of death generally increase with age. The average age at death in Lancaster County was 75.0 in 2010, slightly below the average age at death for Nebraska, which was 75.4 years of age. By age group, 62 percent of deaths in the county were in the 75 and older population, and fully 35.8 percent of deaths occurred among those 85 and older. For 2010, deaths in the younger cohorts (persons under 45 and 45 to 64) locally topped the state rate in percentage terms, which is not true in most years. The graph below compares Nebraska and Lancaster County deaths by age group. The chart that follows gives a breakdown of leading causes of deaths in 2010 for various age groups. The NDHHS has a child death review team that examines the information about any child death. The latest report covers the years 2007-2008.

Leading Causes of Death By Age Lancaster County, Nebraska, 2010

Age Category											
Rank	Under 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
1	Birth Defects 7*	Birth Defects	Accidental Deaths	Accidental Deaths 9* (17.3)**	Accidental Deaths 5* (11.4)**	Heart Disease 11* (32.1)**	Cancer 25* (67.6)**	Cancer 80* (255.9)**	Cancer 93* (581.9)**	Cancer 122* (1182.5)**	Heart Disease 154* (3206.3)**
2	Accidental Deaths			Cancer	Suicide	Accidental Deaths 7* (20.4)**	Heart Disease 19* (51.4)**	Heart Disease 44* (140.8)**	Heart Disease 36* (226)**	Heart Disease 79* (765.7)**	Cancer 90* (1873.8)**
3				Birth Defects	Cancer	Cancer 6* (17.5)**	Accidental Deaths 10* (27.1)**	Chronic Lung Disease 12* (38.4)**	Chronic Lung Disease 25* (156.4)**	Chronic Lung Disease 39* (378)**	Cerebrovascular Diseases 53* (1103.5)**
4				Suicide		Chronic Liver Disease	Suicide 7* (18.9)**	Accidental Deaths 5* (16)**	Cerebrovascular Diseases 17* (106.4)**	Cerebrovascular Diseases 29* (281.1)**	Alzheimers Disease 45* (936.9)**
5						Suicide	Chronic Lung Disease 6* (16.2)**	Cerebrovascular Diseases	Diabetes Mellitus 8* (50.1)**	Alzheimers Disease 27* (261.7)**	Chronic Lung Disease 26* (541.3)**
6						Cerebrovascular Diseases	Chronic Liver Disease	Septicemia	Chronic Liver Disease 7* (43.8)**	Accidental Deaths 13* (126)**	Accidental Deaths 16* (333.1)**

* Number of Deaths ** Age Specific Rate per 100,000 Population

Lincoln-Lancaster County Health Department

Selected Mortality Causes

As the data from the following table show, the age-adjusted death rates per 100,000 people are generally lower in Lancaster County in comparison the state. The exceptions are cancer in total, unintentional injuries (and the largest component of these deaths, namely deaths from motor vehicle accidents) and chronic lung disease. In this section the focus will be on certain causes of death of particular interest due to their numbers, their potential to be prevented; their recent trend or some other salient characteristics.

2009 Age-Adjusted Death Rate per 100,000	Lancaster County	Nebraska
Deaths due to Cancer	170.2	167.7
Deaths due to Lung Cancer	28.7	45.0
Deaths due to Prostate Cancer	19.7	23.9
Deaths due to Breast Cancer	17.2	19.6
Deaths due to Heart Disease	130.5	154.0
Deaths due to Coronary Heart Disease	62.1	84.5
Deaths due to Unintentional Injuries	49.3	35.7
Deaths due to Motor Vehicle Crashes	18.8	13.9
Deaths due to Chronic Lung Disease	48.6	43.6
Deaths due to Cerebrovascular Disease	32.3	40.3
Deaths due to Diabetes	21.4	22.0
Deaths due to Suicide	6.9	9.4
Deaths due to Homicide	1.4	2.7

Cancer (Malignant Neoplasm)

Cancer has been the leading cause of death in Lancaster County since 1999. In 2010, cancers were the cause of death for 421 persons, and over the five-year period (2006 to 2010) there were 2,050 cancer deaths. Earlier in the report, the incidence of cancer was discussed. The

following table displays cancer deaths by site over the period 2004 to 2008 (the most recent data from the Nebraska Cancer Registry).

Looking at cancer mortality statistics by site, over a long time frame, the following table shows the mortality rate for all cancer sites as well as ten selected cancer sites over the five-year period, 2004 to 2008. Lung cancer (573) was the leading cause of cancer deaths by wide margin over the second leading cause, colorectal cancer (199). The third and fourth causes of cancer deaths were gender specific: female breast cancer (150 deaths over five years) and prostate cancer (111 deaths over the five years). Leukemia and non-Hodgkin lymphoma deaths were next in order, with 94 and 90 deaths respectively.

2004 to 2008 Deaths Cancer Site	Lancaster County Deaths	Lancaster Co. Age-Adjusted Death Rate per 100,000	Nebraska Cancer Deaths	NE Cancer Age-adjusted Death Rate per 100,000
All Sites	2,072	172.0	16,902	175.7
Lung & Bronchus	573	48.4	4,510	47.8
Female Breast	150	21.8	1,181	22.0
Colon & Rectum	199	16.4	1,854	18.8
Prostate	111	25.7	955	24.9
Urinary Bladder	45	3.7	397	4.0
Non-Hodgkin Lymphoma	90	7.6	707	7.2
Leukemia	94	7.7	705	7.3
Kidney & Renal Pelvis	44	3.7	428	3.7
Melanoma	43	3.5	283	3.0
Uterine Corpus & Unspecified	35	5.1	273	5.0

When comparing death rates by site, the Lancaster County rates are not statistically significant from state rates. Both Nebraska and Lancaster County rates are similar to the national rates.

Heart Disease

Locally, heart disease is the second leading cause of death for both men and women. Prior to 1999, heart disease had been the leading cause of death in the county. Statewide, in 2009 for the first time, heart disease became the second leading cause of death overall. In 2010 cancer was once again the leading cause of death; however, heart disease remains as the leading cause of death for women in the Nebraska. Nationwide, heart disease continues to be the leading cause of death for both men and women (at least through 2008).

By age group, as shown above the table for 2010, in Lancaster County, heart disease is the leading cause of death only for those persons aged 85 and older. In Nebraska, as shown in the table below for 2004 to 2007, heart disease is indicated as being the leading cause of death for persons 65 and older, and overall. However, as noted above, in 2010 Nebraska's leading cause of death was cancer and if the data were stratified for the elderly, heart disease would have been the leading cause of death for only those 85 and older.

Injury-related Deaths

Injury-related deaths include deaths from unintentional injuries, suicides (intentional self-harm) and homicides. During 2010, in Lancaster County there were 73 unintentional injury deaths; 19 suicides and 1 homicide, or a total of 93 injury-related deaths.

Unintentional injuries (accidents) alone are the sixth leading cause of death overall. Unintentional injuries ranks second when ranking deaths by Years of Potential Life Lost (YPLL) before 75, falling only behind cancer. Of the 73 deaths in 2010 from unintentional injuries, 24 were related to falls, 21 were related to motor vehicle accidents, 1 death each from drowning and 27 from all other causes including poisoning. The chart below, from a recent state report on injury deaths, highlights the deaths for injury-related causes for a four-year period statewide, which doesn't deviate significantly from the Lancaster County mortality data by cause even though the rankings are not the same.

Table 2: Five leading causes of death by age, Nebraska, 2004-2007 total deaths

Rank	Age Groups										All Ages
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Congenital Anomalies N=152	Unintentional Injury N=34	Unintentional Injury N=34	Unintentional Injury N=39	Unintentional Injury N=401	Unintentional Injury N=232	Unintentional Injury N=269	Malignant Neoplasms N=963	Malignant Neoplasms N=2,174	Heart Disease N=12,261	Heart Disease N=14,343
2	SIDS N=83	Homicide N=11	Malignant Neoplasms N=12	Malignant Neoplasms N=17	Suicide N=131	Suicide N=92	Heart Disease N=258	Heart Disease N=677	Heart Disease N=1,052	Malignant Neoplasms N=9,987	Malignant Neoplasms N=13,534
3	Short Gestation N=62	Malignant Neoplasms N=11	Homicide N=5	Suicide N=15	Homicide N=55	Malignant Neoplasms N=74	Malignant Neoplasms N=250	Unintentional Injury N=341	Chronic Low. Respiratory Disease N=263	Cerebro-vascular N=3,421	Cerebro-vascular N=3,807
4	Maternal Pregnancy Comp. N=55	Congenital Anomalies N=9	Congenital Anomalies N=4	Heart Disease N=5	Malignant Neoplasms N=44	Heart Disease N=56	Suicide N=148	Suicide N=159	Diabetes Mellitus N=215	Chronic Low. Respiratory Disease N=3,181	Chronic Low. Respiratory Disease N=3,561
5	Placenta Cord Membranes N=39	Cerebro-vascular N=4	Chronic Low. Respiratory Disease N=1	Congenital Anomalies N=3	Heart Disease N=19	Homicide N=44	Liver Disease N=52	Liver Disease N=137	Unintentional Injury N=206	Alzheimer's Disease N=1,923	Unintentional Injury N=2,804

Source: WISQARS™, Office of Statistics and Programming, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention

Infant Deaths

The death of a child younger than one year of age is a key measure of the status of maternal and child health in a community. The infant mortality rate (the number of infant deaths per 1000 live births) is often used to compare communities, states and nations. By cause, as was indicated in the above table for leading causes of death, the principal cause of death for children under one is birth defects.

As is shown in the following chart, the trend in the infant mortality rate for Lancaster County has clearly been positive (a drop in the infant mortality rate) over the last 25 years, from 1984 to 2010, as the infant mortality rate has fallen from the 10+ rate in the eighties to the recent low of 4.8 in 2009 before rising to 5.5 in 2010. Given the relatively small number of births (on the order of 4,200 per year), the infant mortality rate can be rather volatile year-to-year based on just a few more deaths any year. Still, despite the 6.7 rate in 2007, over the last five years, the average infant mortality rate has been 5.6 infant deaths per 1000 live births. The 2009 rate (4.8) actually meets the **Healthy People 2010** objective of 5.0, but the 2010 infant death data did not stay below 5.0.

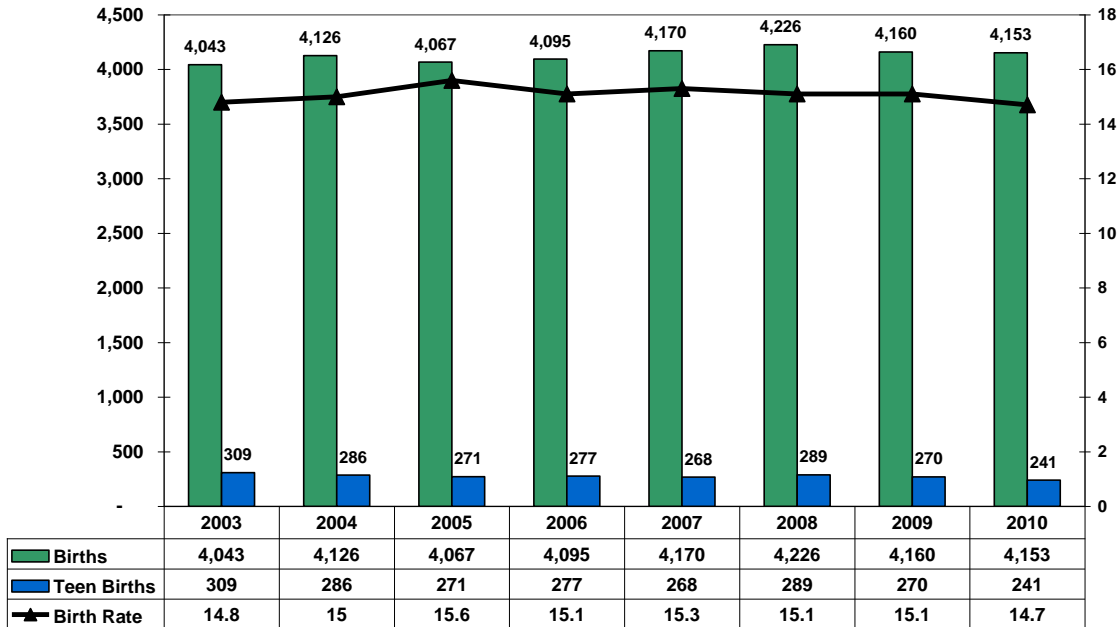
By comparison, Nebraska's 2010 infant mortality rate was 5.2 infant deaths per 1000 live births and the national infant mortality rate was 6.4 for 2009 based on preliminary data. While there has been an improvement in the overall infant mortality rate as will discussed later on, not all is well for certain minorities.

VIII. Maternal & Child Health

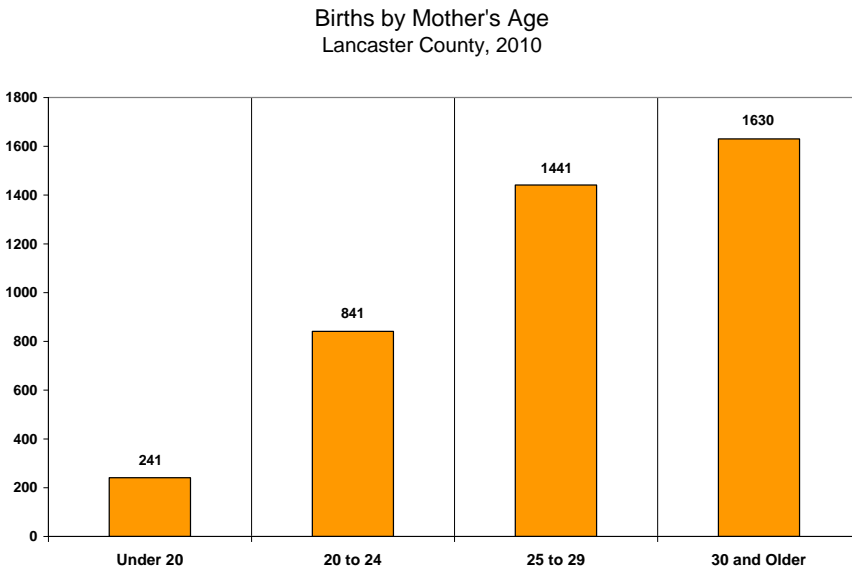
Vital Records: Birth Data

As was evident in reviewing the leading causes of death, vital statistics data are fairly rich with details related to deaths, but the data from birth certificates are even more informative. Birth certificates contain information related to the pregnancy, birth outcomes and characteristics of the mother and father. In 2005, Nebraska became one of the 31 states to modify its birth and death certificates to comply with the recommended national standards. Perhaps the most significant change in the birth certificate was the way of determining when the expectant mother began prenatal care. Prior to 2005, the information was self reported by the mother. After the change, the information comes from the medical records completed by the providers. In 2010, there were 4,153 births to residents of Lancaster County and the birth rate was 14.7 births per 1000 population. As shown in the following graph for 2003 through 2010, the number of resident births for Lancaster County has been between 4,043 and 4,226 births per year. Over that period of time the crude birth rate has fluctuated between 14.7 and 15.6 births per 1000 population.

**Lancaster County Births and Teen Births 2003 to 2010
with the Overall Birth Rate per 1000 Population**



The number of births over this period reached a peak in 2008. Also, over this period the number of births to teens (those mothers under 20) dropped from 309 in 2003 to 241 in 2010. Even though the table below reveals that most births were to mothers over 30, followed by those 25 to 29; most mothers are in their twenties as 2,281 births were to women in their twenties.

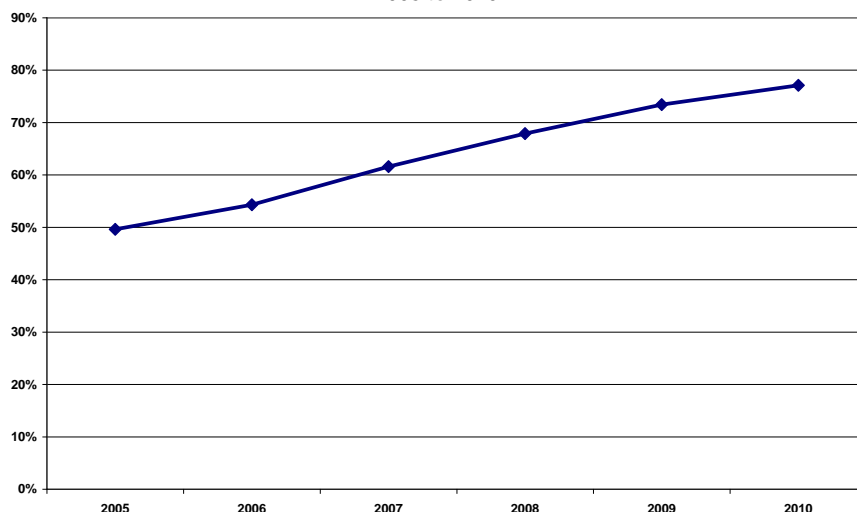


Overall Birth Statistics and Trends

Looking at the birth data overall:

- In 2010, 74.3 percent of mothers were seen for prenatal care during the first trimester of their pregnancy.
- In 2010, 77.1 percent of expectant mothers had ten or more prenatal care visits. Ten visits are considered the standard. The chart below shows the improvement in this indicator since 2005.

**10+ Prenatal Visits, Lancaster County
2005 to 2010**

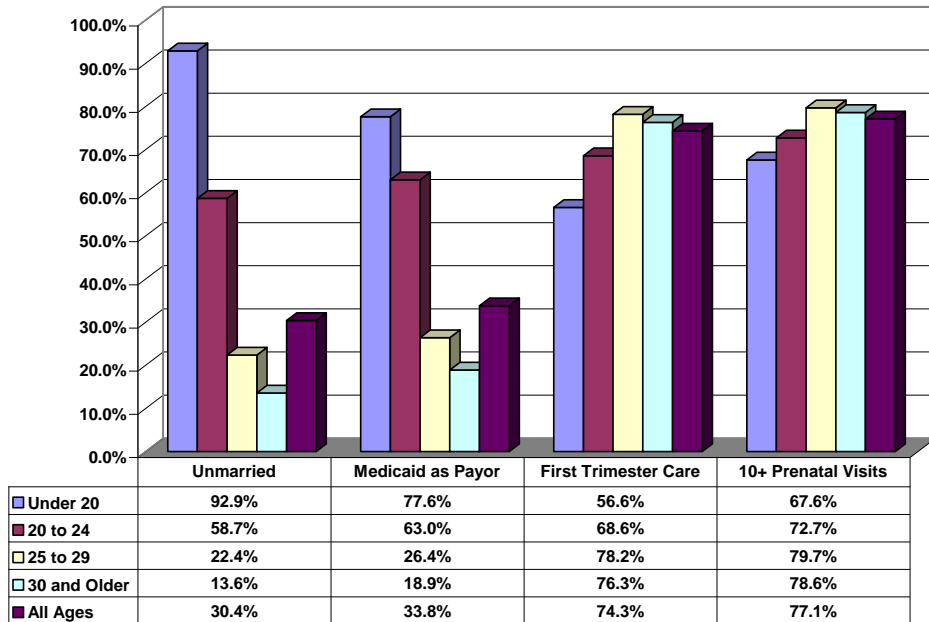


- In 2009, the percentage of Lancaster County births determined to have received inadequate prenatal care calculated by using the Kotelchuk Index was 14.2 percent. The Kotelchuk Index measures adequacy of prenatal care (adequate, inadequate, and indeterminate) by using a combination of the following factors: number of prenatal visits, gestation, and trimester prenatal care began.
- In 2010, 7.5 percent of babies were considered low birth weight (LBW) babies, meaning that their birth weight was below 2500 grams (approximately 5 pounds, 9 ounces). This was an increase from 7.2 percent LBW babies, which was the rate for 2008 and 2009.
- The long-term trend in the percent of mothers who are unmarried continues; even though the rate was below the 32.1 percent in 2009, 30.4 percent of mothers in 2010 were unmarried when they gave birth.
- Medicaid was the primary payer for 33.8 percent of Lancaster County births in 2010, which was below the 2009 rate of 36.2 percent.

Information by Mother’s Age

While the overall rates presented above are generally as good as or better than comparable state and national measures or outcomes, when the data are analyzed by age group, there are some notable differences, especially for those mothers under 20 (teens). The chart below presents the information on marital status of mothers, what percentage of births were paid for by the Medicaid program, and two measures of prenatal care, namely how many mothers began prenatal care during the first trimester of their pregnancy and how many prenatal visits she made before giving birth.

Selected Birth Characteristics, Lancaster County Births, 2010 By Mother's Age



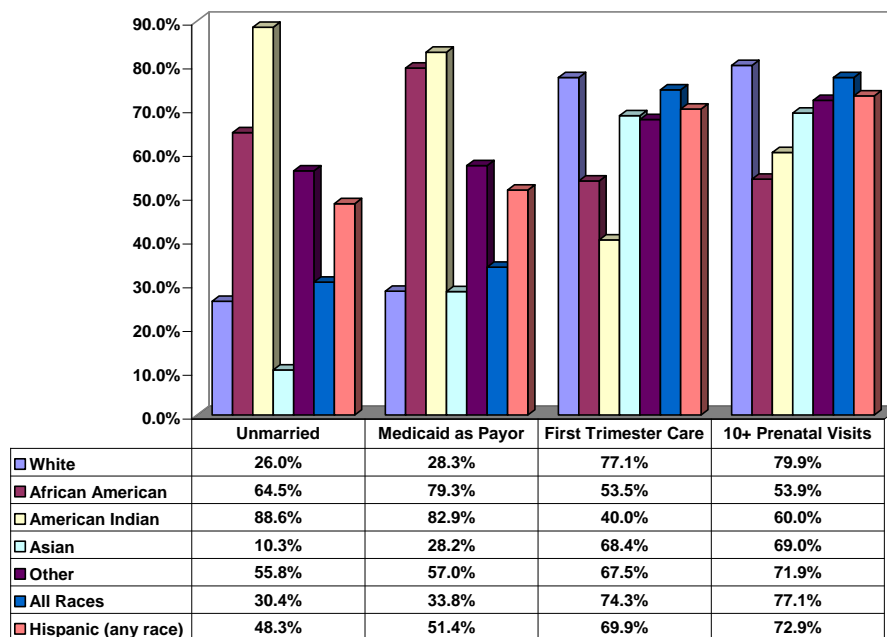
While the trend in unmarried mothers has been steadily increasing over time throughout Nebraska and the nation, the cohort with the highest percentage of unmarried mothers is those under 20. In 2010, 92.9 percent of moms in this age group were unmarried at the time of delivery. Also, for this under-20 cohort, 77.6 percent of the mothers listed Medicaid as the primary payer for medical and hospital costs. These young moms started prenatal care at a later time (only 56.6 percent began care in the first trimester of their pregnancy) and correspondingly only 67.6 % had made ten or more prenatal visits before their delivery. Adequate prenatal care increases the chances for a favorable birth outcome so it is not surprising that the rate of low-birth-weight babies for these mothers is higher than older moms.

The above table also reveals that there is an indirect relationship between the mother's age and her marital status at birth as well as reliance on Medicaid. The relationship between age and higher rates of prenatal care in the first trimester of pregnancy and the percentage of moms with 10 or more prenatal visits is more direct. However, age is less of a factor for these measures and there's no improvement in rates for mothers in the oldest group over those aged 25 to 29.

Information by Mother's Race/Ethnicity

When the birth data are looked at by the mother's race or Hispanic ethnicity for the four measures reviewed by age group, there are some patterns that emerge. However, there are two cautions to keep in mind when reviewing the data: one is that the population has become more diverse over time and, as the census data revealed, more persons are of mixed race; secondly, the percentage of teen births (which, as seen above has its own impact) varies by race/ethnicity.

**Selected Birth Characteristics, Lancaster County Births, 2010
By Mother's Race/Ethnicity**



Reviewing the mother's characteristics by race/ethnicity reveals:

- The overall percentage of mothers who are unmarried at the time their baby was born is 30.4 percent, but the range is from 10.3 percent Asian mothers who were unmarried to 88.6 percent of unwed American Indian moms. Unmarried white mothers (26 percent) are below the overall rate, while mothers of Hispanic origin (48.3 percent), mothers of "other" races (55.8%), and African American mothers (64.5 percent) are above the overall rate of 30.4 percent for unmarried mothers.
- Since Medicaid eligibility is for low-income parents of children and single moms are likely to be low-income, the percentages of mothers who had Medicaid as the primary payer for the birth is in close agreement to the unwed mother's percentages. Overall,

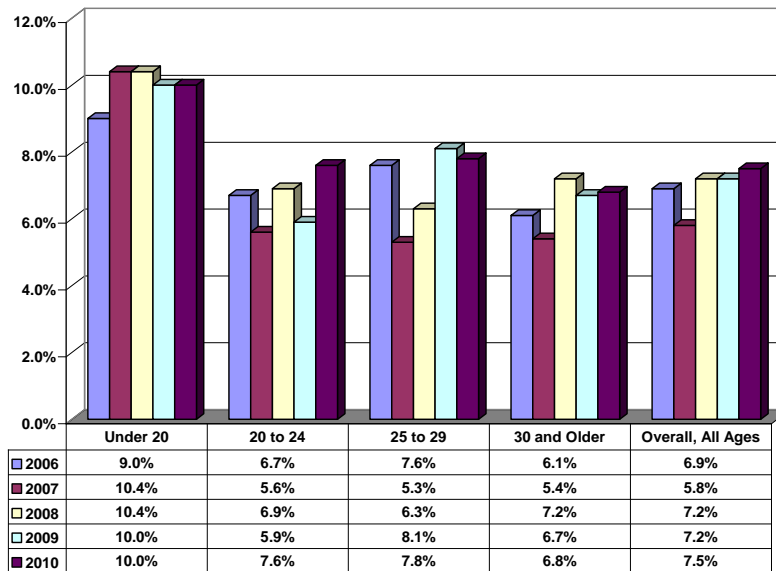
Medicaid paid for 33.8 percent of all Lancaster County births in 2010. Medicaid as payer is much higher for Asian mothers (28.2 %) than the percent of Asian mothers who were unmarried (10.3 %); the next greatest discrepancy in rates was for African American mothers (64.5 percent unwed, 79.3 percent paid by Medicaid).

- Reviewing the data for whether the expectant mother began prenatal care during the first trimester the overall rate was 74.3 percent, with the range from 40.0 percent by American Indian mothers to 77.1 percent for white mothers. The next lowest rate for prenatal care during the first trimester was for African American mothers (53.5%). There was very little difference in the prenatal care initiation rate for mothers in the remaining racial/ethnic categories—all began care at about a 70 percent.
- The percentage of mothers who had 10 plus prenatal care visits fairly closely coincides with the percentage of mothers who began prenatal care during the first trimester. The exception is American Indian mothers, where there was an improvement in the percent of mothers who had 10+ prenatal visits (60 percent) even though only 40 percent of Native American mothers began prenatal care during the first trimester of their pregnancy. African American mothers had the lowest percentage of moms (53.9 percent) who had ten or more prenatal visits before delivering their babies.

Low Birth Weight Babies

Babies that begin life as low birth weight (LBW) babies or as very low weight (VLBW) babies start life at a disadvantage health wise. LBW babies are infants weighing less than 2500 grams or 5 pounds, 9 ounces; VLBW babies are infants weighing less than 1500 grams or 3 pounds, 5 ounces. LBW and VLBW babies are at higher risk for poorer health outcomes or even death than babies of normal birth weight. Fortunately, in 2009 the infant mortality rate was the lowest it has been, however those babies born at low or very low birth weights are more at risk for becoming an infant deaths, and inadequate prenatal care (either its initiation or the number of visits) is a contributing factor. The following two tables show the LBW data for 2006 through 2010, by age of mother and by mom's race or Hispanic origin.

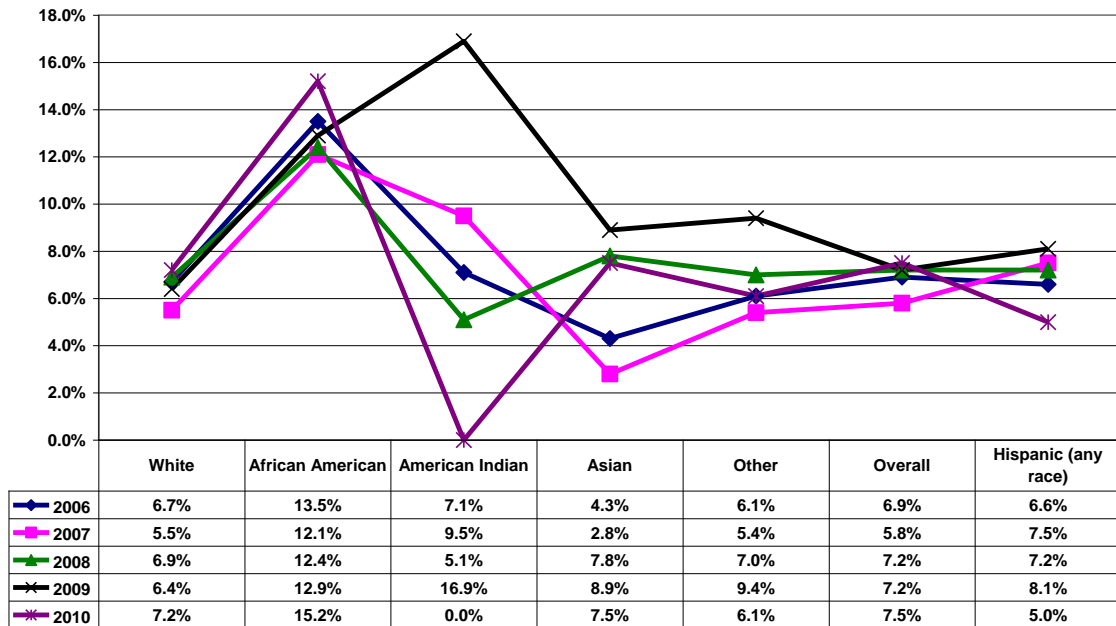
**Percent of Low Birth Weight Babies By Age of Mothers
Lancaster County, 2006 to 2010**



One consequence of mom’s age and the less than adequate prenatal care discussed above is that young moms have the highest rate of low-birth-weight babies. Ten percent of babies born to mothers under 20 have weighed less than 2500 grams since 2007. While the rates for babies born to mothers in the other cohorts fluctuate some from year to year, the rate for mothers under 20 (teen moms) is consistently higher by 3 percent in absolute terms.

The data for low birth weight babies by mother’s race or Hispanic origin also show that there’s a consistently higher percent of births born to African American mothers. The range of LBW babies born to African American women from 2006 to 2010 was between 12.1 percent (2007) and 15.2 percent (2010). By contrast, the highest rate for white moms was 7.2% (2010); for Asian moms, 8.9 % (2009); for mothers of “other” race, 9.4 %; and for Hispanic mothers, 8.1 percent (2009). While the percent of American Indians LBW births reached 16.3 percent in 2009, the rate of LBW babies has been highly variable for Native Americans over time and there were no LBW babies among the 35 Native American babies born in 2010.

**Percent of LBW Babies Born to Mothers, Lancaster County
By Mother's Race, 2006 to 2010**



IX. Behaviors Affecting Health Status

The available evidence suggests that lifestyle factors (e.g., smoking, inactivity, alcohol use, diet, weight category) influence the incidence of many of the chronic health conditions (e.g., diabetes, heart disease, cancer) discussed in the health status section. Positive factors such as regular screening for cancers that can be found and prevented at an early stage are another factor as is access to necessary primary care. Of course, access to care is influenced by having an adequate level of health insurance. Data from the annual Behavioral Risk Factor Surveillance Survey (BRFSS) of adults (18+) and the biennial Youth Risk Behavior Surveillance Survey (YRBS) are presented in this section.

Lifestyle Factors--Adults

The following table displays the latest local, Nebraska and national adult BRFSS data about the major lifestyle factors that influence health status.

Indicator (2010 BRFSS except when noted)	Lancaster County (%)	Nebraska (%)	National (%)
Overweight and Obesity			
Overweight (BMI=25.0 to 29.9)	33.5	37.4	36.3
Obese (BMI=30+)	20.7	27.5	27.6
Fruit/ Vegetable Consumption (2009 BRFSS)			
Consumed fruits or vegetables 5+ times a day	17.7	20.9	23.4
Physical Activity (PA) (2009 BRFSS)			
Moderate or vigorous PA in a usual week	57.0	48.9	49.0
Vigorous PA 20+ min/day, 3+ days per week	34.7	29.7	29.2
Alcohol Consumption/ Tobacco Use			
Heavy Drinker	3.4	5.5	5.1
Engaged in binge drinking in the past 30 days	20.0	19.4	15.1
Current smoker (at least some days of the month)	15.5	17.2	17.3

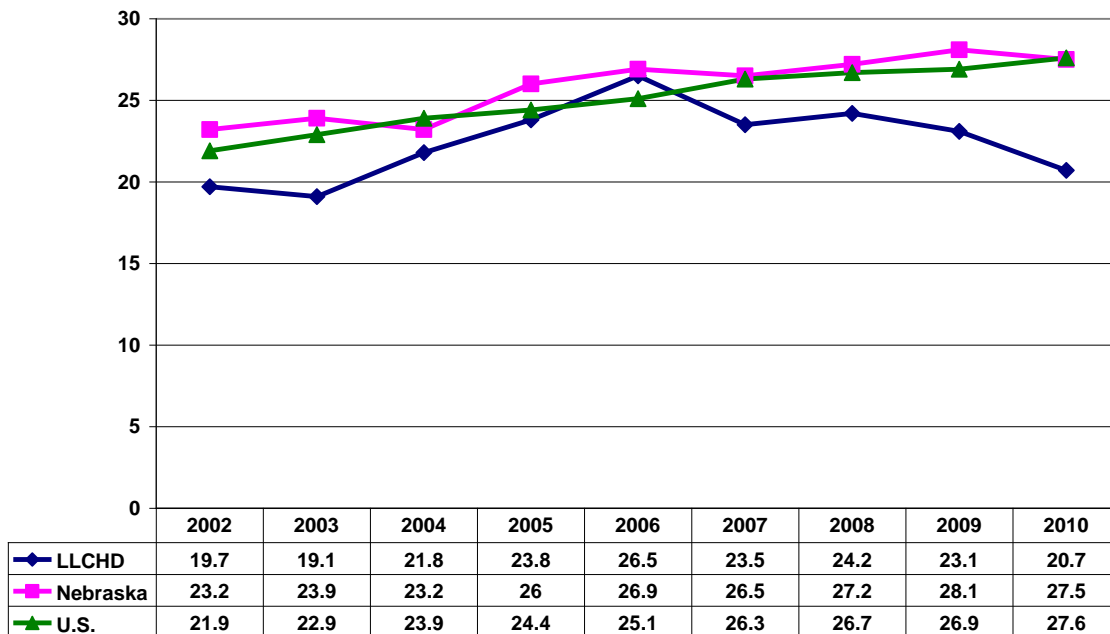
Overweight and Obesity

Given the relationship between having a BMI (Body Mass Index) above normal weight (25+) and its influence on chronic diseases such as diabetes, heart disease, and several cancers, let's look at the BRFSS data on weight categories. In addition to the data in the above table the following chart presents trend local, Nebraska and national BRFSS data on obesity from 2002 to 2010.

Before looking at the data, it is important to realize that these two designations, overweight and obesity, are calculated measures based on self-reported height and weight. (We will present some national survey information based on measured height and weight data in a later section.) Also, the "overweight" category does not include those who are obese as one might logically conclude strictly based on the term. A chart of the data for the overweight category (BMI=25 to 29.9) is shown below.

When reviewing the 2010 results in the table, it is striking that the BRFSS survey results for Lancaster County showed a relatively low percent of local residents in the overweight (33.5 percent) and obese (20.7 percent) categories when compared to state and national rates. However, the table represents only a point in time measure and even though our annual local BRFSS sample is relatively large (1200 to 1500 a year) the results are somewhat volatile year to year. The trend data as displayed in the charts indicates that local rates of obesity and overweight, while generally lower than the nation and state, are not as far below as the single-year 2010 result showed.

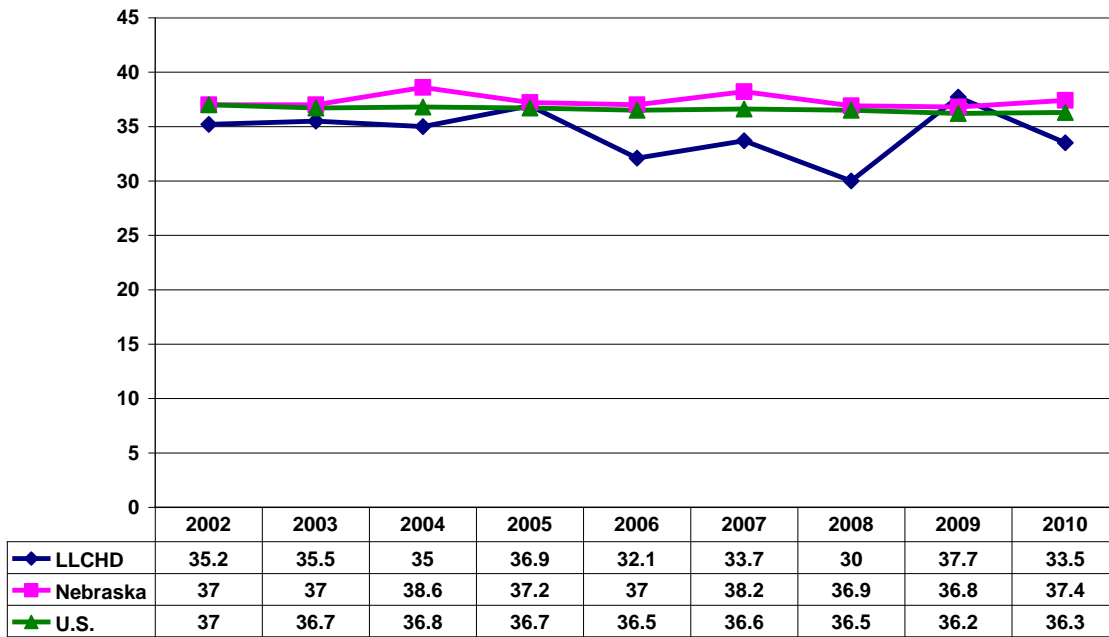
**Obesity Data from the BRFSS, 2002 to 2010
(Obesity = Body Mass Index (BMI) greater than 30)**



As shown in the obesity chart, there has been a general upward trend in the obesity numbers even over the nine years. Over a couple of decades the increase is more striking. In general, the Nebraska obesity rates each year are slightly above the national rates, and Lancaster County rates are generally (2 to 3 percentage points below in earlier years and in the past five years, 3 to 4 percent points) below both the national and Nebraska rates. Of course the general statement about local rates ignores the 2006 (up) and 2010 (down) results which appear to be out of line with the normal trend.

A look at the chart of overweight data reveals a rather stable rate for both Nebraska and the nation, ranging between 36.2 and 38.6 over the 2002 to 2010 period. Local rates are more volatile, but there is little change in the end points over the period (35.2% in 2002 and 33.5% in 2010).

**LLCHD, NE and U.S. Overweight Data, 2002 to 2010
(Overweight based on BMI in the range of 25 to 29.9)**



Consumption of Fruits and Vegetables

The table reveals that in 2009 Lancaster County residents (17.7 percent) consume fruits and/or vegetables five or more times per day at a lower rate than Nebraskans (20.9 percent) and U.S. respondents (23.4 percent). The rate was lower than the 2007-2008 results (26.3 percent) and 2009-2010 rates (20.8 percent) reported by the state for LLCHD.

Physical Activity

A sedentary lifestyle contributes to the onset of or worsening of several chronic conditions. There are many studies that show that being physically active can improve a person's health. While even a little exercise can be beneficial, the recommended amount of exercise is 30 minutes of moderate exercise (walking, biking) five days a week or 20 minutes of vigorous exercise (sweat inducing activities) three days a week. In 2009, 57 percent of local respondents to the BRFSS survey indicated that they either engaged in moderate exercises 30+ minutes a day, five or more days a week; or they were doing vigorous exercise 20+ minutes a day, three or more days a week. In contrast, 48.9 percent of Nebraskans and 49.0 percent of the U.S. population indicated that they were as physically active. As for vigorous physical activity alone (20+ minutes a day, three or more days a week), 34.7 percent of local respondents indicated they met the criteria, while 29.7 percent of Nebraskans and 29.2 of the national respondents said they met the standard.

Alcohol Consumption

While some studies indicate that a glass of wine might be good for individuals, there is some question about the beneficial effects of alcohol. On the other hand, there is little doubt about the harmful effects of abusing alcohol. The BRFSS survey asks respondents about their drinking habits. Heavy drinkers are men who have two or more drinks a day or women who have one or more drinks a day every day of the month. In 2010, only 3.4 percent of respondents drank enough alcohol to be classified as heavy (chronic) drinkers. In comparison, 5.5 percent of Nebraskans and 5.1 of U.S. residents drank enough each day over the past month to be considered to be heavy drinkers. While the rate of heavy drinking is lower in Lancaster County than elsewhere, when it comes to binge drinking (men drinking more than five drinks on occasion or women consuming more than four drinks on occasion) the local rate, 20 percent, is higher than the state rate (19.4) and the national rate (15.1 percent). Nebraska's rate is among the highest in the country in 2010. While the local rate remains high there has been a marked reduction in the rate from the period 2004 to 2007 when the binge drinking rate ranged between 26 and 31.9 percent and the Lincoln metropolitan area was shown to be among the communities with the highest rates of binge drinking in the country.

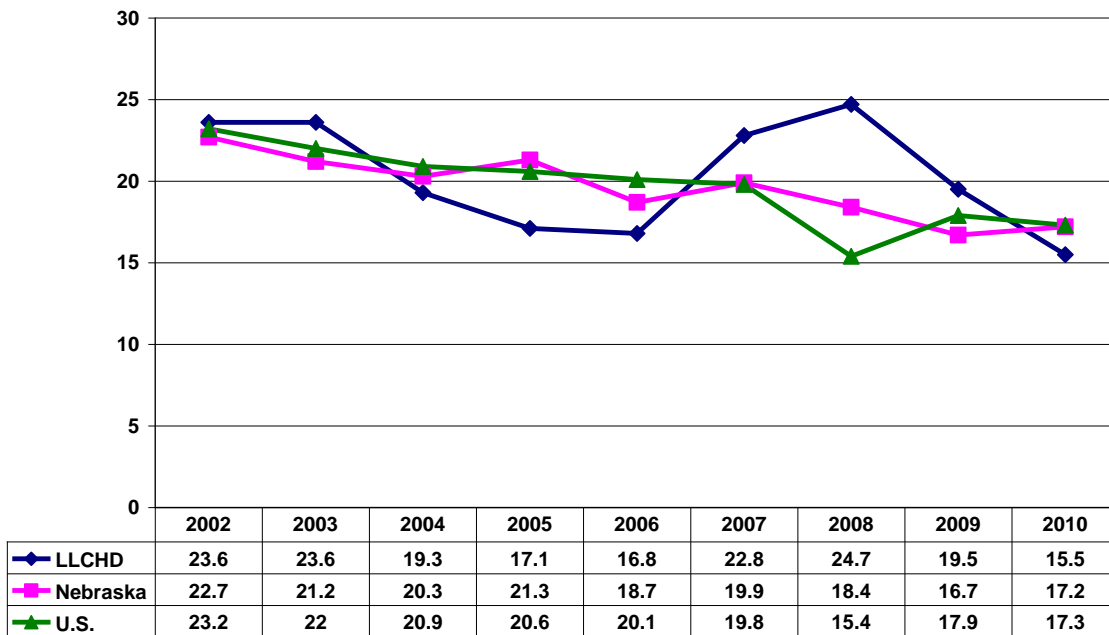
Tobacco Use

Smoking and being exposed to second-hand smoke have been proven as a cause of lung cancer and chronic lung diseases, which are among the leading causes of deaths in the county. In

addition, smoking can contribute to other cancers, and smoking exacerbates the ill health associated with asthma, diabetes, heart disease among other chronic health conditions. When health experts and medical providers are asked about preventive measures that individuals can take, quitting smoking is usually at the top of the list. In 2010, the local BRFSS results indicate that 15.5 percent of respondents are current smokers. That is a significant reduction from the 2009 rate (19.5 percent). While any single number (there is a confidence interval) and any year's results cannot be relied on as fact, data from the BRFSS reports from the Nebraska Department of Health and Human Services for Lancaster County (LLCHD) show a smaller, but substantial decline from 19.9 percent (2007-2008) to 16.9 percent (2009-2010) when they combined the results from two survey years.

Lancaster County's smoking rate in 2010 was lower than the Nebraska and national rates of 17.2 and 17.3 percent respectively. As the table below shows, over the nine-year period 2002 to 2010, there has been a noticeable decline in smoking rates in the county as well as in Nebraska and the nation although the latter two rate declines have been smoother year to year.

**BRFSS Smoking Rates, 2002 to 2010
Lancaster County, Nebraska and U.S.**



X. Access to Health Care/Health Care Utilization

Other factors beyond lifestyle make a difference in an individual’s health status and the collective health status of the community. Access to primary care and specialty providers, education and income are all important factors influencing personal and population health. Health insurance coverage is an indicator that is closely followed because individuals with good access to medical care have the ability to get needed primary and preventive care such as testing and screening, immunizations as well as advice about diet and lifestyle changes.

Health Care Coverage

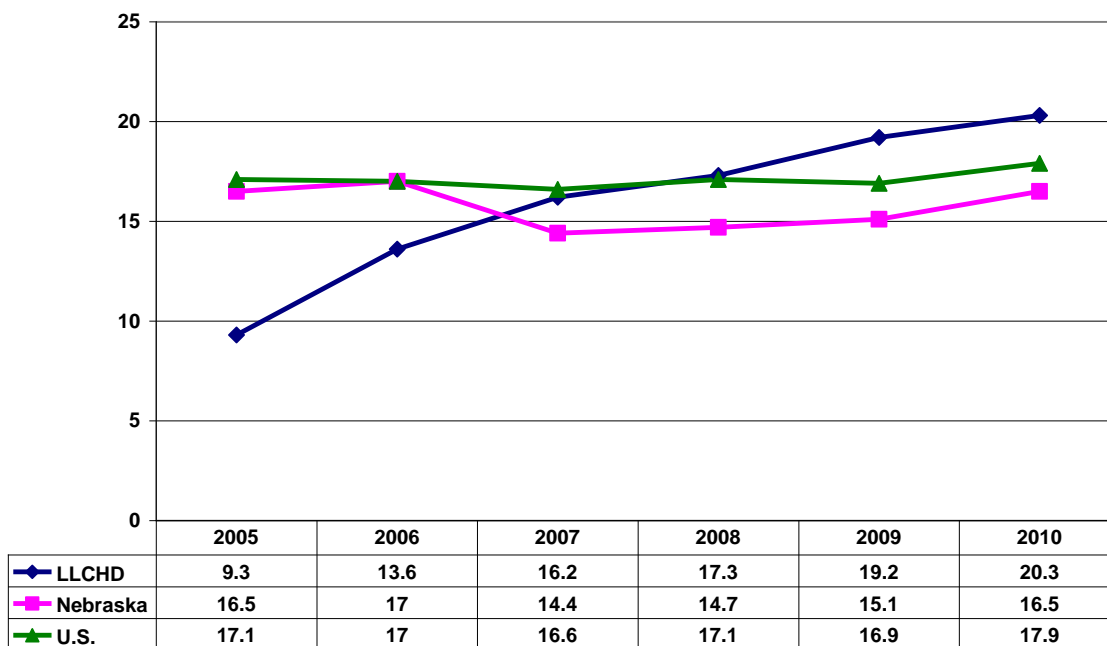
The BRFSS question asks respondents about whether they have any health coverage (“Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or any government plans such as Medicare?”) There is no differentiation or enumeration of persons with private insurance or those with military benefits, Medicaid or Medicare or other types of government plan. One caution is that some people, perhaps those with Medicaid or Tri-Care eligibility may not respond to the question with “yes,” because these programs aren’t specifically identified, but there should be no bias year to year.

In 2010, as shown in the table below, 16.8 percent of Lancaster County respondents overall indicated that they did not have any health care coverage. That is well above the Nebraska rate of 13.7 percent without health care coverage, and also higher than the U.S. rate of 15 percent.

Indicator (2010 BRFSS except when noted)	Lancaster County (%)	Nebraska (%)	National (%)
Health Care Access			
No health care coverage	16.8	13.7	15.0
No health care coverage, 18 to 64	20.3	16.5	17.9
Couldn’t see a doctor in the past year due to cost	11.7		
Visited a doctor for a routine checkup < year	55.3		
Cancer Screening			
Had a colonoscopy in the past 2 years, 50+	66.1	61.8	64.2

Had PSA test within the past 2 years, males 40+	45.6	51.5	53.5
Had a mammogram in past 2 years, females 50+	74.7	72.5	77.8
Had a Pap test in past 3 years, females 18+	72.6	80.2	80.9
Immunization			
Had flu shot in the past year, adults 65+	72.3	71.2	67.4
Ever had pneumonia vaccination, adults 65+	75.1	70.9	68.6
Oral Health			
Visited the dentist within the past year	69.9	69.5	69.9
Could not visit dentist in the last year due to cost	26.0		

The Percent of the 18 to 64 Population with No Health Care Coverage
Lancaster County, Nebraska and the U.S., 2005 to 2010



The more informative measure is what percent of the population ages 18 to 64 have coverage as almost 100 percent of persons over 65 either have Medicare or Railroad Retirement medical benefits. In 2010, 20.3 percent of Lancaster County respondents between the ages of 17 and 65 indicated that they did not have health care coverage. That is one-fifth of the population 18 to

64, or approximately 38,000 people based on the 2010 census. In comparison, 16.5 percent of Nebraskans and 17.9 percent of the U.S. population aged 18 to 64 indicated they did not have health care coverage. The local rate is much higher than we have seen in recent years and somewhat surprising given the locally high level of employment and Lincoln’s industrial makeup that includes a lot of government employees and large employers. Remember, this could be biased upward due the under reporting of health coverage, and all surveys have a confidence interval above and below the mean figure given. Still, with over 1,300 respondents, we would expect that the range would be within 1.5 above and below the survey value (in this case 20.3). While it is possible that the 2010 rate of uninsurance from the BRFSS survey is an aberration (and there is some reason to expect that the 2011 survey results would results will be below 20 percent) there is pretty good reason to believe that the Lancaster County rate of uninsured is at least 16 percent (which translates into 30,400 residents). For instance, the NDHHS has published the 2009-2010 data for Lancaster County residents included in the statewide BRFSS survey results. Based on the two-year combined results the state indicates 16.2 percent of Lancaster County residents were uninsured as shown below. Please note that the survey size for Lancaster County residents in the state BRFSS was 530 in 2009 and 545 in 2010, which makes the confidence interval wide. The upper confidence for the combined results is 20.1, close to the local 2010 BRFSS rate of 20.3 percent uninsured in the 18 to 64 age group.

Summary Table for Lincoln/Lancaster Health Department 2009-2010

Indicators	Overall						Men						Women					
	LHD			State			LHD			State			LHD			State		
	%	L %	U %	%	L %	U %	%	L %	U %	%	L %	U %	%	L %	U %	%	L %	U %
Health Care Access																		
No health care coverage, 18-64 years old	16.2	12.3	20.1	15.8	14.6	17.1	16.3	10.9	21.8	16.6	14.7	18.4	16.0	10.3	21.6	15.1	13.4	16.8
Could not see a doctor in past year due to cost	12.8	9.7	16.0	10.9	10.0	11.7	11.3	7.2	15.4	9.2	8.0	10.4	14.4	9.7	19.1	12.5	11.2	13.7
Visited a doctor for a routine checkup in past year	54.8	50.9	58.7	58.0	56.8	59.3	46.1	40.4	51.8	51.3	49.4	53.2	63.5	58.2	68.8	64.5	63.0	66.1

Medical and Dental Care Visits/Affordability

As is also shown in the table, 11.7 percent of local respondents in 2010 indicated that they could not afford to see a doctor in the last year. In answer to another question, 55.3 percent of the adult population said they saw a doctor within the past year for a routine physical. When compared to dental care, 26 percent of Lancaster County residents indicated that they could not afford to visit a dentist during the past year. Nevertheless, 69.9 percent of respondents indicated that they had seen a dentist during the past year.

Preventive Screening/Immunizations

Another measure of access to care is how many people get recommended screening for various cancers and what percentage of the elderly get immunized against influenza (flu) and pneumonia. The above table reveals that, except for prostate screening, a majority of adults within certain age groups have had recommended screens: 66.1 percent of those 50 and older had a colonoscopy within the last two years, 45.6 of males 40 and older had a PSA test within the past two years, 74.7 percent of women 50 and older had a mammogram within the past two years, and 72.6 percent of females 18 and older had a Pap test within the past three years. In comparison to state and national rates, local rates for these preventive screens are comparable to the U.S. for colonoscopies and mammograms while being slightly above Nebraska rates. The local rates for PSA testing and Pap tests are measurably below both the Nebraska and national rates for those tests.

Since the coverage of both of the flu and pneumonia vaccinations are only asked for the population 65 and older and that population has Medicare coverage, access to care is not a problem, but even so only three-fourths of the 65+ population got the recommended flu shot (72.3 percent in 2010) or the pneumonia shot (75.1 percent). Still, local rates are higher than Nebraska and national rates for these vaccinations.

XI. Risky Behaviors by Youths

Youth Data About Risky Behaviors

The Health Department has been conducting the Youth Risk Behavior Surveillance Survey (YRBSS or YRBS) every odd year (biennially) since 1991. The YRBS survey is a paper-based survey that is generally conducted during the spring of odd years (e.g., 2005, 2007, etc.). (Local results from 1997 through 2009 for selected YRBS indicators are available as a fact sheet (<http://lincoln.ne.gov/city/health/data/epi/yrbs2009/yrbs2009.pdf>). Our 2011 local data come from the fall of 2010 as the state tried to reduce the administrative burden on school administrators by combining a number of surveys at that time.

Data from the two most recent surveys are included in the following table. Unfortunately, due to low participation rates both statewide and locally in 2007, when long-term trend data are presented it should be kept in mind that the sample for 2007 was just over 400, making it impossible to provide reliable data by grade level. While Nebraska YRBS participation rates were not high enough for the results to be weighted and included in 2007 and 2009, the participation rate of schools and classes in the 2011 YR was high enough for Nebraska data to

be included in the 2011 national results. The 2011 Nebraska and national YRBSS data were published in June 2012.

The Lancaster County YRBS results for 2009 and 2011 (administered in 2010) are shown below for several of teens’ risky behaviors that may lead to disability and mortality from unintentional injuries and violence, teen births, obesity and inactivity and the potential initiation of lifetime addictive habits (alcohol and tobacco use). In most cases, when grade level results are reviewed, seniors (12th graders) have the highest rates and freshmen (9th graders) have the lowest rates, but there are exceptions.

YRBS Indicator	2009 (%)	2011 (%)
Alcohol consumption		
Had at least one drink of alcohol in their entire life	66.3	54.6
Had at least one drink of alcohol in the past 30 days	35.0	28.0
Tobacco Use		
Smoked cigarettes in the past 30 days	17.6	16.4
Smoked on school property within the past 30 days	6.1	6.4
Illegal Drug Use		
Used marijuana in the past 30 days	18.0	15.9
Used cocaine in the past 30 days	1.4	2.8
Sexual Activity		
Ever had sexual activity	37.0	31.9
Fighting/Violence		
Engaged in a physical fight in the past year	23.8	25.7
Driving/Passenger Behavior		
Never or rarely wear a seat belt when riding in a car	8.2	8.6
Rode in a vehicle in last 30 days driven by someone who had		

been drinking	31.6	23.7
Drove a vehicle in the past 30 when they had been drinking	14.4	10.1
Physical Activity		
Engaged in vigorous physical activity in the past 7 days	85.0	75.6

Before discussing each individual behavior, in general the 2011 rates are better than the rates for most behaviors in 2009, except for fighting and cocaine use and smoking on school property.

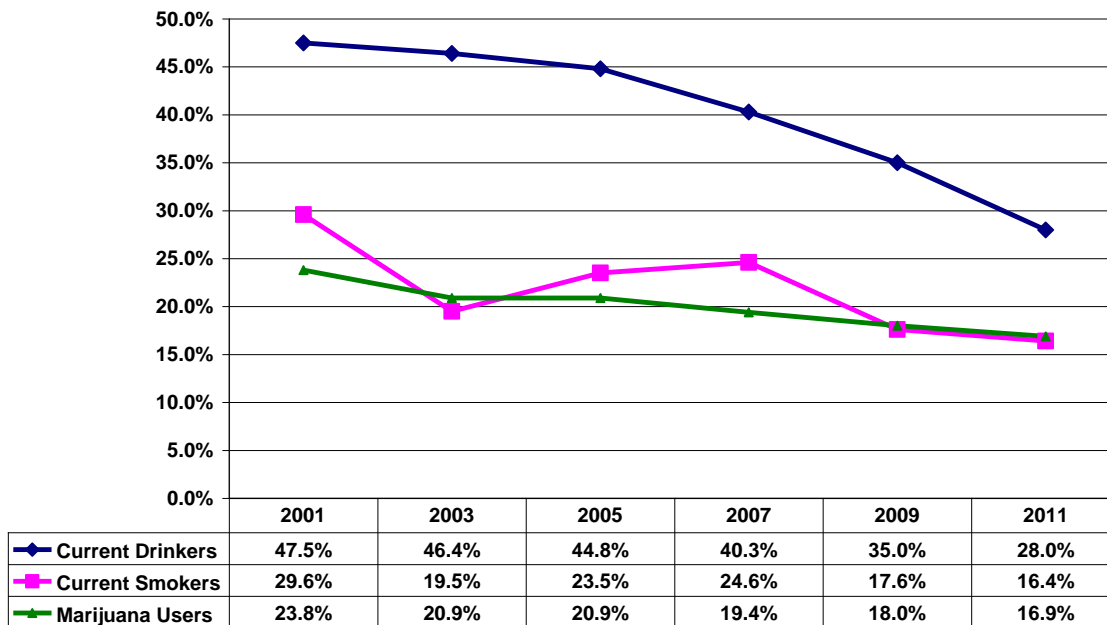
Alcohol, Tobacco and Drug Use

As indicated in the table, the 2011 YRBS results are slightly better than 2009 data for alcohol consumption, tobacco use and marijuana. Access to alcohol by students is clearly indicated and underage drinking is high. In 2009 66.3 percent of students indicated that they had consumed alcohol in their lifetime and 35 percent had been drinking within the 30-day period before the survey. Those percentages fell for 2011, 54.6 percent of students had ever consumed alcohol, and 28 percent of students indicated that they had been drinking within the past 30 days. While the rates remain relatively high, there has been improvement over time as the long term trend is clearly down as shown below in the chart showing current drinkers and smokers.

The percent of students who indicated that they had smoked cigarettes within the previous 30 days dropped from 17.6 percent in 2009 to 16.4 percent in 2009. The long-term trend for this indicator is also favorable as shown with the trend in current drinkers. As for the slight increase in the percent of students that have smoked on school property (6.4 percent in 2011 versus 6.1 in 2009) the percentage is relatively small and probably confined to the most rebellious of youth. The long-term trend for this category is favorable, due to the reduction in smoking rates overall, probably also due to better enforcement of anti-smoking policies on school campuses.

In addition to the illegal use of legal substances, students are users of illegal drugs such as marijuana, cocaine, methamphetamine and abuse of prescription drugs. Marijuana and cocaine use are reflected in the above table. Students' use of marijuana dropped from 2009, 18 percent, to 15.9 percent in 2011. This is reflective of the ongoing slight downward trend, but the percent of students using marijuana remains the highest of illegal drugs and the charts for smoking and marijuana are not far apart. The jump in students' use of cocaine from 1.4 percent to 2.8 percent is disturbing and it is counter to the general drop in drinking, smoking and marijuana use.

Lancaster YRBS Results 2001 to 2011
Current Drinkers, Current Smokers and Marijuana Users



Teen Sexual Activity

There was a decline in the percent of teens who indicated that they had ever had sexual intercourse, from 37 percent in 2009 to 31.9 percent in 2011. As might be expected the older teens are more likely to indicate that they were sexually experienced with almost 50 percent of 12th graders having some sexual history in most years, while 9th graders with sexual experience are usually in the 15 to 20 percent range in most years of the YRBS surveys. While the data are somewhat volatile there has been a noticeable decline from 2001 and 2003 to 2011 and teen births have also dropped over this period.

Physical Fighting

As one measure of violence, almost a quarter of high school students every year indicate that they have been involved in a physical fight. The range is between 23.8 and 30.4 percent over the period 2001 to 2011. The rise from 23.8 percent in 2009 to 25.7 percent in 2011 reflects a slight change, but certainly stays within the normal range. Of note, contrary to the norm for most risky behaviors, ninth and tenth graders are at least as likely, and in many years, more likely to have been in a physical fight than juniors and seniors.

Passenger/Driving Behavior

Accidents (unintentional injuries) are the leading cause of death among teens and motor vehicle crashes are most important cause of mortality for those 15 to 24. When risky behaviors are combined with inexperienced drivers the results can be tragic. Not wearing seatbelts, riding with a driver who has been drinking, and drinking and driving are three behaviors that contribute to morbidity and mortality from motor vehicle crashes. From 2009 to 2011, the percent of teens who indicated that they had ridden with a driver who had been drinking dropped from 31.6 to 23.7 percent. Also, from 2009 to 2011 the percent of teens who admitted drinking and driving dropped, from 14.1 to 10.4 percent. One negative outcome was an increase in the percent of teens who indicated that they do not or rarely buckle their seat belt, up from 8.2 in 2009 to 8.6 percent in 2011. While the percent of teens never or rarely buckling their seatbelts has fallen from 16 percent in 2001 to 8.6 percent in 2011, the rate may have hit a resistance level, but let's hope it drops to five percent.

Physical Activity

This is a category where a higher percentage of ninth graders report engaging in vigorous physical activity than those in higher grades. While there was a drop from a rate of 85 percent in 2009 to 75.6 percent in 2011, the latter rate is in the range that has been present since 2005. Still, with concerns about students playing video games, watching television and otherwise becoming more sedentary the drop is a concern.

Comparison to National Rates

The following table compares 2011 local results for a selected set of indicators to the Nebraska and national YRBSS rates.

YRBS Indicator—2011 Results	LLCHD	NE	U.S.
Alcohol consumption			
Had at least one drink of alcohol in their entire life	54.6	60.6	70.8
Had at least one drink of alcohol in the past 30 days	28.0	26.6	38.7
Tobacco Use			
Smoked cigarettes in the past 30 days	16.4	15.0	18.1
Smoked on school property within the past 30 days	6.4	3.8	4.9

Illegal Drug Use			
Used marijuana in the past 30 days	15.9	12.7	23.1
Used cocaine in the past 30 days	2.8	1.6	3.0
Sexual Activity			
Ever had sexual activity	31.9	37.1	47.4
Fighting/Violence			
Engaged in a physical fight in the past year	25.7	26.7	32.8
Bullied on school property in the past year		22.9	20.1
Seriously considered attempting suicide		14.2	15.8
Driving/Passenger Behavior			
Never or rarely wear a seat belt when riding in a car	8.6	15.7	7.7
Rode in a vehicle in last 30 days driven by someone who had been drinking	23.7	23.9	24.1
Drove a vehicle in the past 30 when they had been drinking	10.4	7.2	8.2
Physical Activity			
Engaged in vigorous physical activity in the past 7 days	75.6	72.0	71.3

In 2009, despite our concern that the local rates of risky behaviors are troubling, when compared to national rates, except for local teens who are more likely to drive after drinking (14.4 percent locally versus 9.7 percent nationally) and smoke on school property (6.1 percent versus 5.1 percent), local rates were similar (riding with someone who has been drinking; 31.6 to 28.3 percent) or better than the national rate. When the 2011 national data become available, as well as 2011 Nebraska YRBS, we'll need to ascertain whether the comparisons hold for the newer data.

XII. Health Disparities

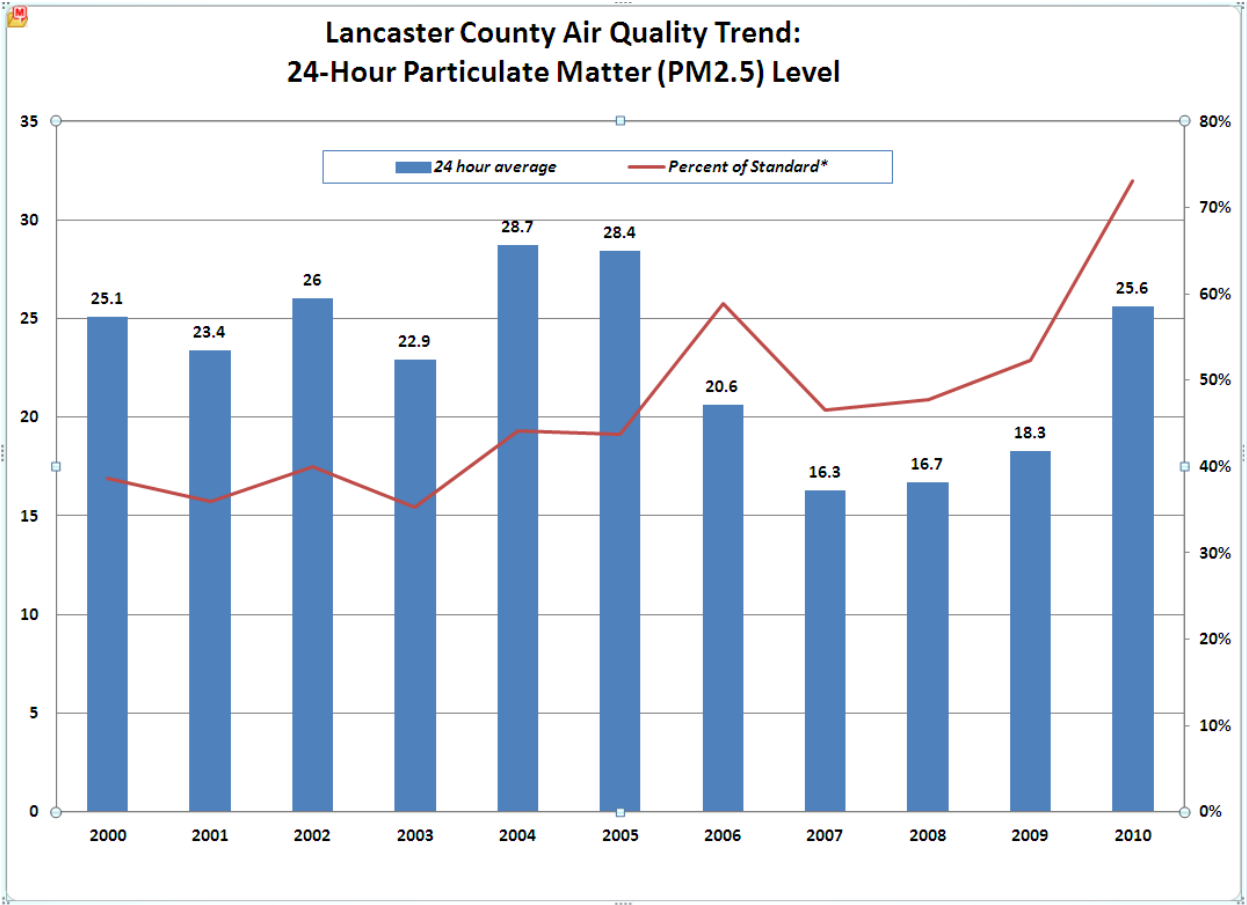
Health disparities are often looked at as differences in health status between the white population and racial/ethnic minorities. However, race and ethnicity, gender, age, disability, social and economic status and geographic location all contribute to an individual's ability to achieve good health.

Information from the 2008 Cancer Report

“Race/Ethnicity: During the past decade (1999-2008), African-Americans in Nebraska were significantly more likely to be diagnosed with and die from cancers of the lung, prostate, and liver than were whites. They were also significantly more likely to die from female breast and colorectal cancers than were whites even though they were not more likely to be diagnosed with either type.”

XIII. Environmental Quality

The physical environment can affect the health of a community. Water and air quality, the built environment and housing standards are all factors that influence the community's health.



XIV. Comparing Lancaster County with Other Counties

Community Health Status Indicators (CHSI) and County Health Rankings

In assessing the health of a community, local data are usually contrasted with state and national data where possible. Furthermore, there has always been an interest in comparing cities and areas with one another and chambers of commerce, academic researchers as well as editors have undertaken the task of gathering data and comparing and contrasting areas or communities with one another. For overall health measures there's also local interest as the goal of local officials is that Lincoln is the healthiest community in the country. Of course, selecting comparison communities, assigning the appropriate weight to each health statistic and combining measures into a composite score are not easy tasks, and updating the rankings over time adds to the burden of gathering the statistics in the first place. Despite these difficult challenges the U.S. Department of Health and Human Services (DHHS) and the University of Wisconsin have taken on the task and made great progress in recent years and the discussion that follows and the data from the two efforts will be included in our local health assessment.

Given the interest in comparing communities with one another and ranking them on overall health, DHHS and the Robert Wood Johnson Foundation (RWJ or RWJF) have combined efforts to compare all counties in the nation and make the data available to the general public. There are 3,141 counties in the U.S. so that presents a number of challenges as counties vary significantly in population size and demographics as well as in health resources. However, as health statistics have been more easily accessed or made available from federal sources it has been possible to compare counties with each other across the nation or at least within a given state. As was stated above there have been two recent efforts, one by the DHHS and the other by the University of Wisconsin. A major funder for both efforts is the RWJF with data, policy and administrative support from the National Center for Health Statistics (NCHS), NACCHO, NALBO, and the Public Health Foundation among others.

The first of the efforts was undertaken by DHHS and is known as the Community Health Status Indicators (CHSI) report (<http://www.communityhealth.hhs.gov/homepage.aspx?j=1>). The latest version of the CHSI is 2009 with the initial version having been done in 2008. The second effort is known as the County Health Rankings (<http://www.countyhealthrankings.org/>), which was an effort by the University of Wisconsin from funding provide by the RWJF. The University of Wisconsin had been providing a composite ranking of counties within Wisconsin for a number of years and the expansion to all counties in the nation resulted in a 2010 release of County Health Rankings, which were updated in 2011.

So how do these programs rank (relative ranking, not ordinal ranking) the health of Lancaster County's residents in comparison to residents in other counties in Nebraska and throughout the nation? Are there differences in the rankings and if so what does that mean? Is one ranking program better than the other? How reliable is any ranking system?

The above questions are all important to answer, because given the support for these programs it is likely that county health rankings will continue to be assessed in the future and the systems will evolve over time. Both of these efforts are a general improvement over past attempts to rank communities, but it should be understood that any ranking system is somewhat artificial and subjective despite the best efforts to standardize data (e.g., utilize age adjustments and rates), eliminate the volatility created by small numbers by combining years and utilizing moving averages, and selecting measures and weighting any single measure's impact on the overall score.

Relative Ranking Concepts

- 1) Selecting the counties for comparison. Even before selecting the health measures, it is imperative that the comparison counties be determined by some method. While the County Health Rankings were originally intended to provide a ranking for counties within a given state (i.e., Lancaster County is compared to all the other Nebraska counties with data) it is also possible to compare Lancaster county health information with other counties across the nation. This is possible since almost all of the measures of health in each state are common with almost all state data across the country.
- 2) From the beginning, the CHSI methodology was to establish "peer counties" from across the nation for every county based on criteria. CHSI established 88 strata, of which Lancaster County and the others in Stratum 11 have 43 peer counties. As the description below indicates, two criteria (frontier status and population size) probably determined the majority of the counties in Stratum 11. It should be noted that within the CHSI peer counties, Lancaster County's population (278,728) is the second highest population and the average population within the stratum is over 100,000 lower (174,694). Only 12 of the 43 peer counties in the group have a population of 200,000 or more. The CHSI methodology does allow a selection of counties within the stratum to choose a smaller, and hopefully, better comparison group.

3)

CHSI's Peer County Selection Process [Extracted and paraphrased from the CHSI website]

A distinctive aspect of the Community Health Status Indicators (CHSI) report is the ability to compare a county with its peers, those counties similar in population composition and selected demographics. There are a total of 88 strata. For Lancaster County there are 43 peer counties in stratum number 11. Data from the Behavioral Risk Factor Surveillance System were also aggregated over time, 2000-2006, for all counties. *Years of data aggregated based on county population size applied to birth, death (not life expectancy), and infectious disease indicators for Lancaster County and peers:*

County Population Size	# of Years Aggregated	Inclusive Years for Birth and Deaths	Inclusive Years for Infectious Diseases	Peer County Stratum
>=100,000	3	2003-05	2005-07	11

CHSI Peer County Data Details

Comparison of a county to its peers is thought to take into account some of the factors that make a difference in a community's health. For natality and mortality indicators, comparisons also can be made to the United States rate and the Healthy People target.

Strata, or peer groups, were developed with input from an advisory committee composed of Federal, State, and local public health professionals and members of academia for CHSI 2000. The project goal was to develop strata of 20-50 counties each, providing several peers for each county. ***The relatively large number in each stratum allows counties to choose a few peers that they believe to be most like them [emphasis added].*** In CHSI 2009, stratum size averages 36 and ranges from 15 to 62 counties. Peer group assignments did not change from 2008 to 2009.

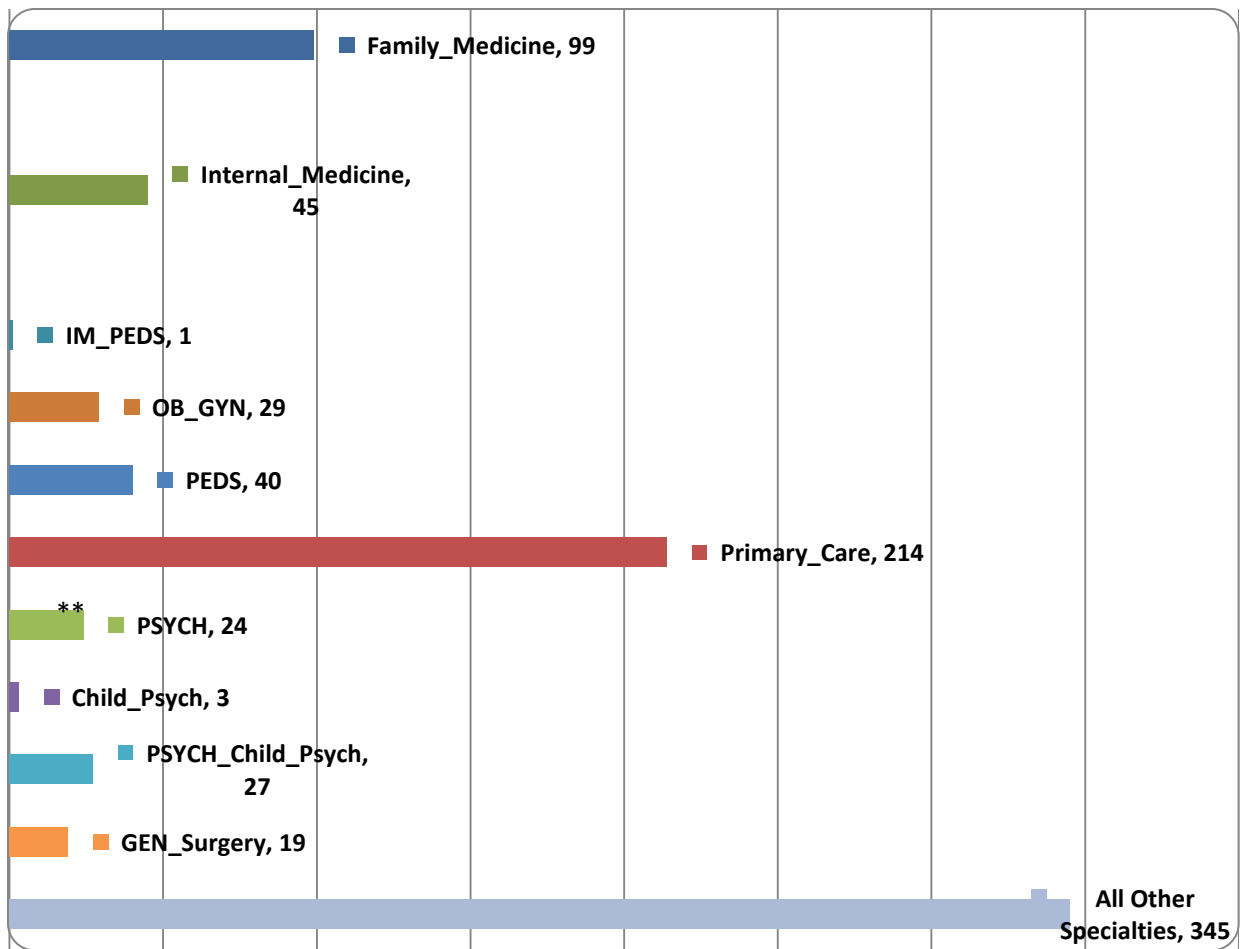
Using an ordered, staged approach, counties were first grouped according to frontier status. Population size was used next based on CPS estimates for 2008. Then, as the number of counties in each category allowed, further groupings were made based on the remaining variables until the optimum stratum size was reached. ***Therefore, while all strata were classified according to the first two variables, only some were defined by factors of poverty, age, and population density [emphasis added].***

- 4) Once the peer counties were selected and it was determined that three-year aggregations were to be utilized, the CHSI compares Lancaster county to peers on a host of health measures, especially vital statistics, (birth information, average age at death, leading causes of death), environmental exposures , risk behaviors, and infectious disease. There are several different tables or charts comparing Lancaster County to both peer counties and the U.S. rates and for the most part, Lancaster County compares favorably. The following areas are identified as areas where Lancaster County compares unfavorably with its CHSI peer counties and there are no unfavorable comparisons with the nation:Black non-Hispanic Infant Mortality
- Hispanic Infant Mortality
 - Post-neonatal Infant Mortality
 - Colon Cancer
 - Stroke
 - Suicide
- 5) While the CHSI indicators include selected data by race and ethnicity and they provide confidence intervals and other data quality measures, due to the number of indicators even within a given peer group there are problems with the currency or timeliness of the data and the effect of year to year fluctuations whenever you address sub-populations and events with small numbers. Even a three-aggregation of small-number events or for minority population health outcomes is not likely to offset the year-to-year variations that occur.
- 6) Especially troubling is that the CHSI reports have not been updated since 2009, and even in 2009 the most recent vitals data was for 2003-2005, the BRFSS data was for 2000-2006 and communicable disease data were for 2005-2007. So, as much as I appreciate the CHSI program, continuing to use the data from that report would not be preferred over data from the County Health Rankings or an independent update of data from vitals, BRFSS and other data sources for a subset of the “peer counties.”
- 7) Turning to the County Health Rankings, there is some connection with the CHSI process despite the fact that CHSI only compares county health measures in a relative sense (Lancaster county’s data compared to the range of peer values for that measure, local values when compared to the U.S. rate) whereas the County Health Rankings list all counties from top to bottom within a state. (In 2010, Lancaster County was 15th in Health Outcomes and 3rd in Health Factors among the 75 Nebraska counties for which there were data. In 2011, Lancaster County was 16th in Health Outcomes and 4th in Health Factors among the 75 Nebraska Counties ranked.) However, since the measures are virtually the same in every state, it is possible to compare counties across the nation. Therefore, without trying to select within the stratum, I have included the data

for 26 of the measures for all of the 43 CHSI peer counties (attached as a printout and I can make the spreadsheet available). While there are not as many health outcome measures as CHSI uses, the advantage is that the data are more recent. The oldest data are for 2006 (environmental indicators) and vital statistics (2005-2007) and most of the other data are for 2007, 2008 or 2009. Perhaps, more importantly the data is aggregated for more years and that minimizes the volatility of those health measures that swing dramatically from year to year.

XV. Resources/Assets

Lancaster County has a number of community assets that contribute to the health of the residents. Most health care providers in the county are located in Lincoln, and distributed across the community. Physician numbers are one measure of human resources. As of July 2011, in Lancaster County, the number of physicians is shown in the chart below. As indicated there were 214 out of the 632 total physicians that were licensed in a primary care specialty (e.g., family and internal medicine, obstetrics, and pediatrics). In addition, a total of 73 physicians are listed as practicing psychology, child psychology or general surgery; specialists who generally provide a level of primary care. The remaining 345 licensed doctors are licensed in a sub-specialty licensure category.



Lancaster County Physician by Speciality 2011

** Sum of all the primary specialties (family medicine, internal medicine, et. al) listed above.

Source: UNMC, Health Professions Tracking Service, July 2011.

Lincoln has a wide range of personal health care providers, mental health providers, physician clinics and other health facilities and medical and dental providers that not only address the needs of the local population, but also residents from throughout southeast Nebraska, northern Kansas and from across the state. The Lincoln-Lancaster County Health Department as well as state agencies provided population health services. Some of the prominent providers, but not all, are listed below:

Primary Care Services

People’s Health Center, Lincoln’s Community Health Center, is a federally qualified health center (FQHC), serving the community’s medically-underserved population. As a FQHC, People’s Health Center offers their services to all persons according to their ability to pay. The Center provides vital primary care services, dental care and behavioral health services to residents with limited financial resources. Community Health Centers serve as a “medical home” to their patients. The definition of a medical home is the coordination of care from care plans to appointments with specialists. The patient receives consistent care from birth through old age. The medical home serves as a guide to community support services from education to transportation.

Lincoln Medical Education Partnership (LMEP) opened more than 30 years ago to train family medicine physicians in response to a growing need for primary care providers. Now in its fourth decade, LMEP has evolved into a multi-dimensional organization offering a variety of healthcare programs and services. The Partnership is supported by both local hospital systems and as residency program with the University Of Nebraska College Of Medicine, the Lincoln Family Medicine Program, has positioned itself over the past 33 years as a premier trainer of family medicine physicians. The Lincoln Medical Education Partnership provides a full range of healthcare education and services to people of all ages and backgrounds.

Among other health resources for Lancaster County residents, the Lincoln Veterans Administration Medical Center provides both primary care and behavioral health services on an out-patient basis. Clinic with a Heart and People’s City Mission both provide primary care services for the homeless, low-income residents and the uninsured in their free clinics. Both clinics rely on volunteer physicians and medical staff and have limited hours of operation, especially the Clinic with a Heart, which generally provides services on certain Thursday nights. For students at the University of Nebraska-Lincoln, the University Health Center is also a provider of primary care services. In addition, for primary care after normal physician hours and on weekends, several urgent care clinics have opened in Lincoln over the last decade. Primary among them are three Linc Care offices and the Urgent Care Clinic of Lincoln.

Ancillary Primary Care Services

The Lancaster County Medical Society (LCMS) helps individuals find a physician who is accepting new patients. LCMS also assists patients find free or low-cost prescription drugs through the Medication Assistance program and participates in the Health Hub. LCMS specialty members work with the Health Hub to provide specialty care when needed. Health Hub is an innovative “holistic” program for connecting uninsured patients with health care and other assistance.

Health Hub Advocates are available to help uninsured patients find community resources to help meet healthcare needs. While the program is housed at the Center for People in Need it is funded by the Community Health Endowment and Catholic Health Initiative and partners with most of primary care providers in the community.

Population Health

Lincoln-Lancaster County Health Department is the largest local public health department in Nebraska, providing a wide range of public health services including a limited amount of primary care services. The Health Department offers direct services such as specialized clinic services, immunizations, dental care, WIC, and home visitation. The department addresses the needs of low-income families in general, but also refugees and the community's increasingly diverse minority population.

Among other responsibilities, the Environmental Public Health (EPH) division monitors air and water quality, regulates and issues permits, enforces city ordinances, responds to hazmat spills and other public health emergencies, inspects food establishments and promotes a safe and livable community. The Communicable Disease program works with EPH to investigate any food- and waterborne diseases and outbreaks of disease at facilities such as child care centers; program staff members also investigate and monitor all reportable and infectious diseases in the community such as influenza, sexually transmitted infections, tuberculosis. Health Promotion and Outreach actively promotes healthy lifestyles and addresses the many negative (e.g., smoking, physical inactivity) and positive behaviors (e.g., preventive screening). Factors influencing chronic health problems in the community (e.g., diabetes, cancer, heart disease) are a special focus of the program and the many partner coalitions (e.g., Safe Kids, Crusade against Cancer, Action Now Diabetes Coalition, Lincoln in Motion, Partnership for a Healthy Lincoln, Teach a Kid to Fish) that provide health education and prevention efforts.

Hospital Services

Bryan Medical Center is a non-profit, locally owned healthcare organization with two acute-care facilities (an East campus with 374 beds; and the West campus with 290 licensed beds) and several outpatient clinics. Hospital care services include the areas of cardiology, orthopedics, trauma, neuroscience, mental health, women's health and oncology. Bryan Medical Center is part of the Bryan Health System, one of the largest non-profit, locally owned health care organizations in the region with more than 4,000 staff that provides sophisticated mobile

diagnostic treatment and services to citizens throughout the region. Mental health issues account for the single largest number of admissions at Bryan Medical Center.

St. Elizabeth Regional Medical Center is a non-profit, faith-based care provider and one of about 70 U.S. healthcare facilities affiliated with Catholic Health Initiatives (CHI). Saint Elizabeth (260 licensed beds) has particular experience in the treatment areas of newborn and pediatric care, women's health, emergency medicine, orthopedics, neuroscience, oncology, rehabilitation and burn and wound care. Obstetric services and newborn care top the list of admissions to St. Elizabeth.

Nebraska Heart Institute is also known as Nebraska Heart or the Nebraska Heart Hospital. Nebraska Heart Institute is now a non-profit hospital affiliated with St. Elizabeth Hospital and Catholic Health Initiatives. As a result of the merger, cardiac cases that may have been performed at St. Elizabeth are now directed to Nebraska Heart. Nebraska Heart (63 beds) has a large staff of experienced cardiac-care professionals, including 19 cardiologists, 5 surgeons, 3 anesthesiologists, and more than 500 support staff.

Madonna Rehabilitation Hospital is one of the nation's foremost facilities for medical rehabilitation and research. Madonna Rehabilitation Hospital (79 beds) is more than a local resource as patients are referred from throughout the state and U.S. Madonna specializes in traumatic brain injury, spinal cord injury and pediatric rehabilitation. The professional staff includes a team of highly specialized physiatrists, therapists, rehabilitation nurses and clinicians. They work with the most advanced technology and equipment to help each person achieve the highest level of independence.

Lincoln Surgical Hospital, a for-profit facility licensed for 21 beds, provides state of the art surgical suites and a skilled, professionally staffed alternative for many of the city's best surgeons. Lincoln Surgical Hospital offers surgical service on an outpatient or an inpatient basis.

The Lincoln Regional Center is a 250 bed, Joint Commission-accredited state psychiatric hospital operated by the Nebraska Department of Health and Human Services. The Lincoln Regional Center serves people who need very specialized psychiatric services and provides services to people who, because of mental illness, require a highly structured treatment setting.

With Omaha less than sixty miles to the northeast, county residents needing specialized care such as advanced pediatric services, trauma care and transplants can avail themselves of medical services provided by physicians and staff at the University of Nebraska Medical Center, Creighton University Medical Center and Children's Hospital and Medical Center.