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# Nebraska Rural Health Works Health Economic Profile for Pierce County, Nebraska

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## Executive Summary on the Economic Impact of Health Care Sector

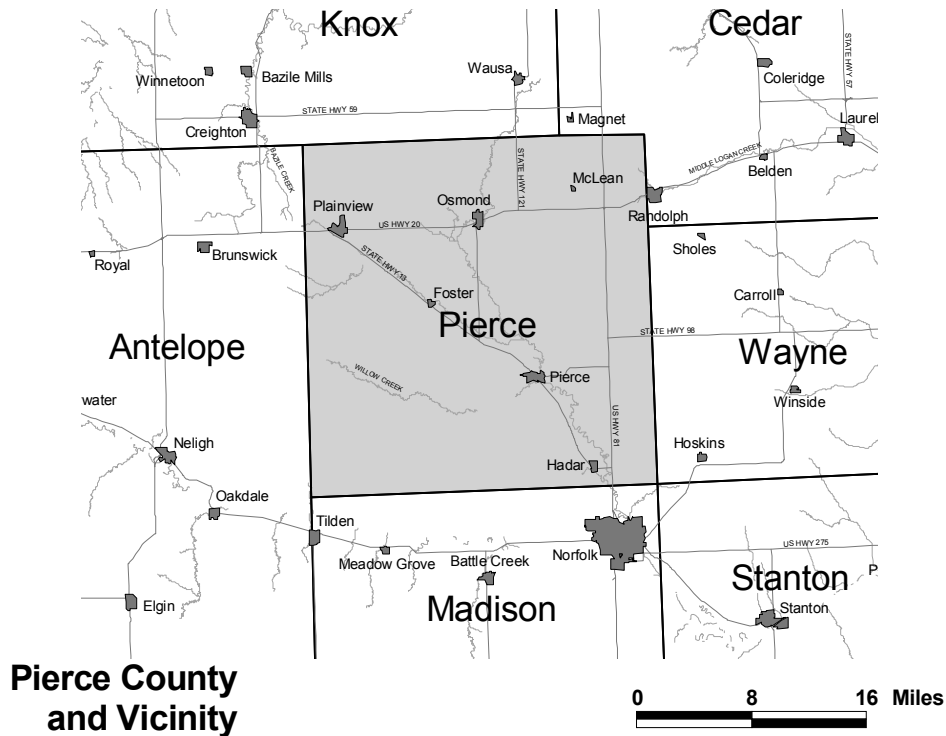
- ◆ One job created in the health care sector of Pierce County would lead to the creation of another 0.46 job in other sectors of the County's economy.
- ◆ One dollar of income earned in the health care sector of Pierce County would lead to another \$0.40 of income earned in other sectors of the County's economy.
- ◆ One dollar spent in the health care sector of Pierce County would lead to another \$0.67 spent in other sectors of the County's economy.
- ◆ The overall job creation due to health care (directly and indirectly) in Pierce County is estimated at 755 jobs, which accounts for 18.9% of the County's total employment.
- ◆ The overall income earned due to health care (directly and indirectly) in Pierce County is estimated at \$17.05 million, which accounts for 18.8% of the County's total labor income.
- ◆ The overall spending due to health care (directly and indirectly) in Pierce County is estimated at \$32.90 million, which accounts for 10.3% of the County's total economic output.

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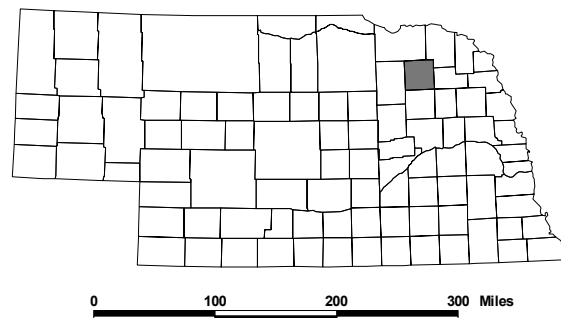
Report Number  
PR04-08

## I. GEOGRAPHY

Pierce County is located in the northeast region of Nebraska. The County has a total of 574 square miles with a population density of 13.7 people per square mile (Nebraska: 22.3 per square mile). The County seat of Pierce County is Pierce, Nebraska.



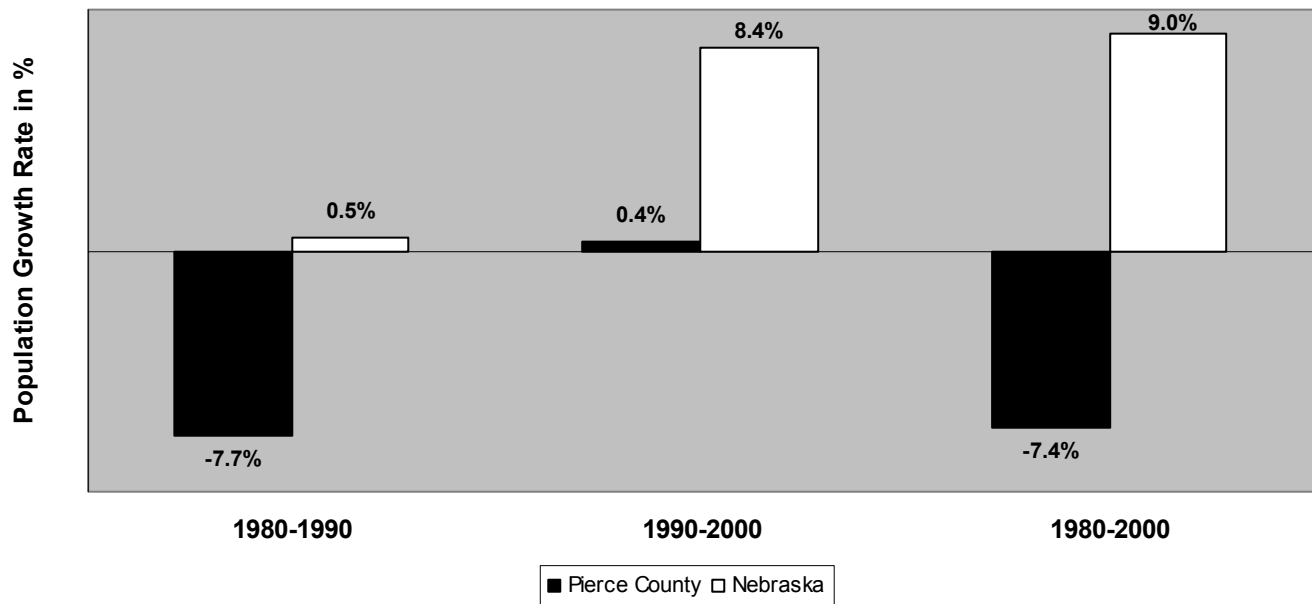
Pierce County, Nebraska



## II. POPULATION

The population for Pierce County was 7,857 in 2000. The County has experienced a negative population growth of -7.4% (compared to +9.0% statewide) during 1980-2000 (Figure 1). White (non-Hispanic) people still represented the great majority of County population in 2000 (98.7%, Table 1). In addition, the County's population is slightly older than the State's, with the elderly (aged 65+) representing 17.2% (compared to 13.6% statewide) of the population in 2000 (Table 2).

**Figure 1. Population Growth Rate, Pierce County and Nebraska, 1980-2000**



Sources: U.S. Bureau of the Census. Census 1990 and Census 2000, Summary Tape File 1. <http://factfinder.census.gov>.  
 Nebraska Department of Health and Human Services Vital Statistics. Population by County, 1960-2001. <http://www.hhs.state.ne.us/ced/tbl2.htm>.

**Table 1. Population by Race for Pierce County and Nebraska, 1990 and 2000**

	Pierce County 1990	Nebraska 1990	Pierce County 2000	Nebraska 2000
<b>White</b>	<b>99.4%</b> (7,782)	<b>93.8%</b> (1,480,558)	<b>98.7%</b> (7,751)	<b>89.6%</b> (1,533,261)
<b>Black</b>	<b>&lt;0.1%</b> (0)	<b>3.6%</b> (57,404)	<b>0.1%</b> (6)	<b>4.0%</b> (68,541)
<b>Asian or Pacific Islander</b>	<b>0.3%</b> (25)	<b>0.8%</b> (12,422)	<b>0.4%</b> (28)	<b>1.3%</b> (22,767)
<b>American Indian or Alaska Native</b>	<b>0.1%</b> (9)	<b>0.8%</b> (12,410)	<b>0.2%</b> (18)	<b>0.8%</b> (14,896)
<b>Other Race</b>	<b>0.1%</b> (11)	<b>1.0%</b> (15,591)	<b>0.2%</b> (18)	<b>2.8%</b> (47,845)
<b>Hispanic*</b>	<b>0.2%</b> (14)	<b>2.3%</b> (36,969)	<b>0.7%</b> (56)	<b>5.5%</b> (94,425)

\* Hispanic individuals were allowed to identify race alone or in combination with one or more other races, therefore totals will be more than 100%.  
 Sources: U.S. Bureau of the Census, 1990 and 2000 Census of Population and Housing, Summary Tape File 1. <http://factfinder.census.gov>.

**Table 2. Population by Age for Pierce County and Nebraska, 1990 and 2000**

Age	Pierce County 1990	Nebraska 1990	Pierce County 2000	Nebraska 2000
<b>0-4</b>	<b>7.9%</b> (619)	<b>7.6%</b> (119,606)	<b>6.0%</b> (470)	<b>6.8%</b> (117,048)
<b>5-24</b>	<b>27.6%</b> (2,159)	<b>29.5%</b> (465,293)	<b>30.0%</b> (2,354)	<b>29.7%</b> (507,619)
<b>25-64</b>	<b>45.3%</b> (3,547)	<b>48.8%</b> (770,418)	<b>46.9%</b> (3,683)	<b>49.9%</b> (854,401)
<b>65-84</b>	<b>16.6%</b> (1,296)	<b>12.3%</b> (193,866)	<b>14.2%</b> (1,113)	<b>11.6%</b> (198,242)
<b>85+</b>	<b>2.6%</b> (206)	<b>1.9%</b> (29,202)	<b>3.0%</b> (237)	<b>2.0%</b> (33,953)
<b>TOTAL</b>	<b>100.0%</b> <b>(7,827)</b>	<b>100%</b> <b>(1,578,385)</b>	<b>100.0%</b> <b>(7,857)</b>	<b>100%</b> <b>(1,711,263)</b>

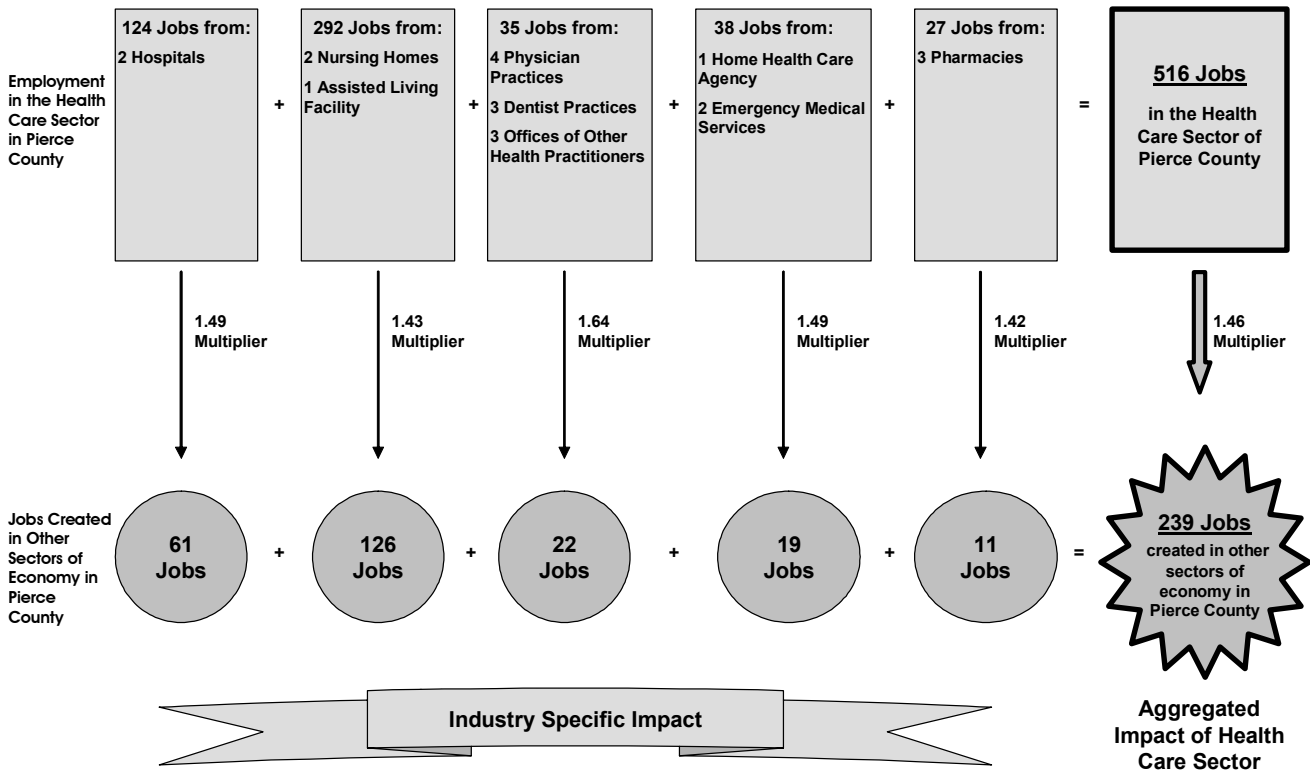
Sources: U.S. Bureau of the Census, Census 1990 and Census 2000, Summary Tape File 1. <http://factfinder.census.gov>.

### III. ECONOMIC IMPACT OF THE HEALTH CARE SECTOR

The Agricultural Industry is the largest employer within Pierce County, followed by Services (excluding Health Care), Retail Trade, State and Local Government, and Health Care. The Health Care sector of Pierce County includes two hospitals, two nursing homes, one assisted living facility, four physician practices, three dentist practices, two optometry practices, one chiropractor practice, two emergency medical services, one home health care agency, and three pharmacies.

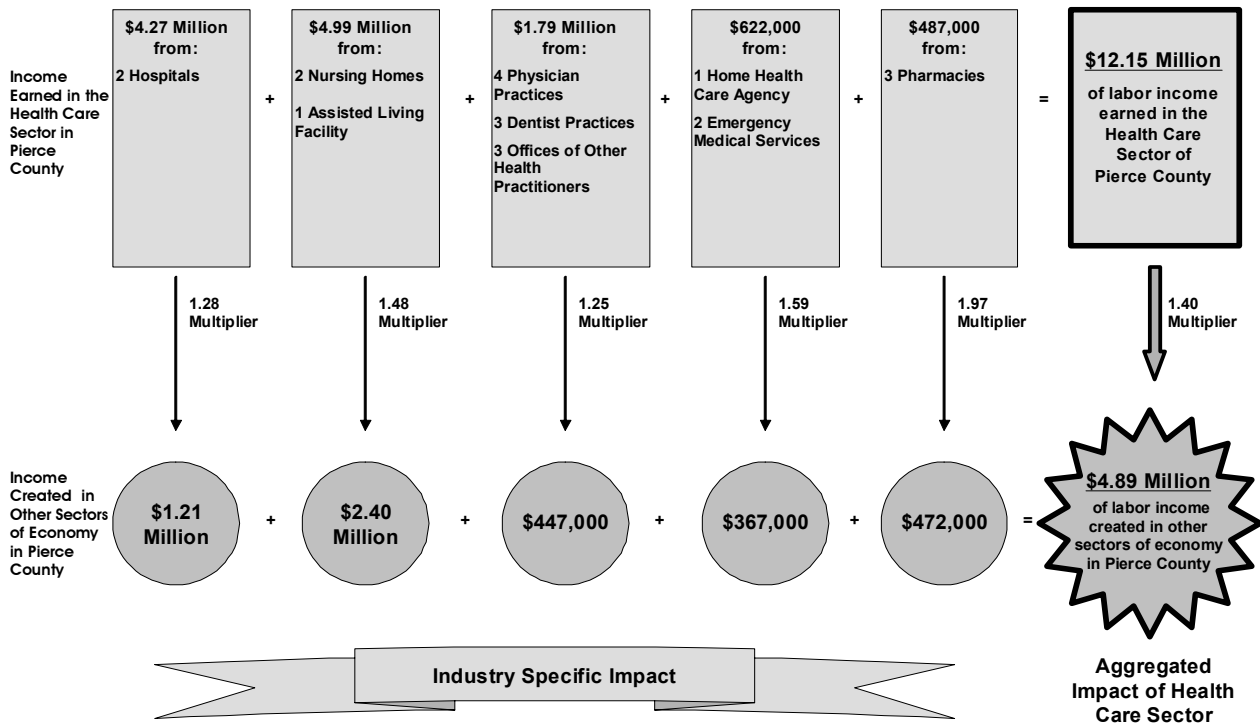
- ◆ The 516 jobs in the health care sector of Pierce County have created (through a 1.46 multiplier) another 239 jobs in other sectors of the County's economy (Figure 2). Therefore, the combined effect represents 18.9% of the County's total employment (i.e. 755 out of 3,991 jobs).
- ◆ The \$12.15 million of income earned in the health care sector of Pierce County has created (through a 1.40 multiplier) another \$4.89 million of income in other sectors of the County's economy (Figure 3). Therefore, the combined effect represents 18.8% of the County's total income (i.e. \$17.05 million out of \$90.57 million).
- ◆ The \$19.73 million spent in the health care sector of Pierce County has created (through a 1.67 multiplier) another \$13.18 million of spending in other sectors of the County's economy (Figure 4). Therefore, the combined effect represents 10.3% of the County's total economic output (i.e. \$32.90 million out of \$319.39 million).

**Figure 2. The Economic Impact of the Health Care Sector on Employment in Pierce County, Nebraska**



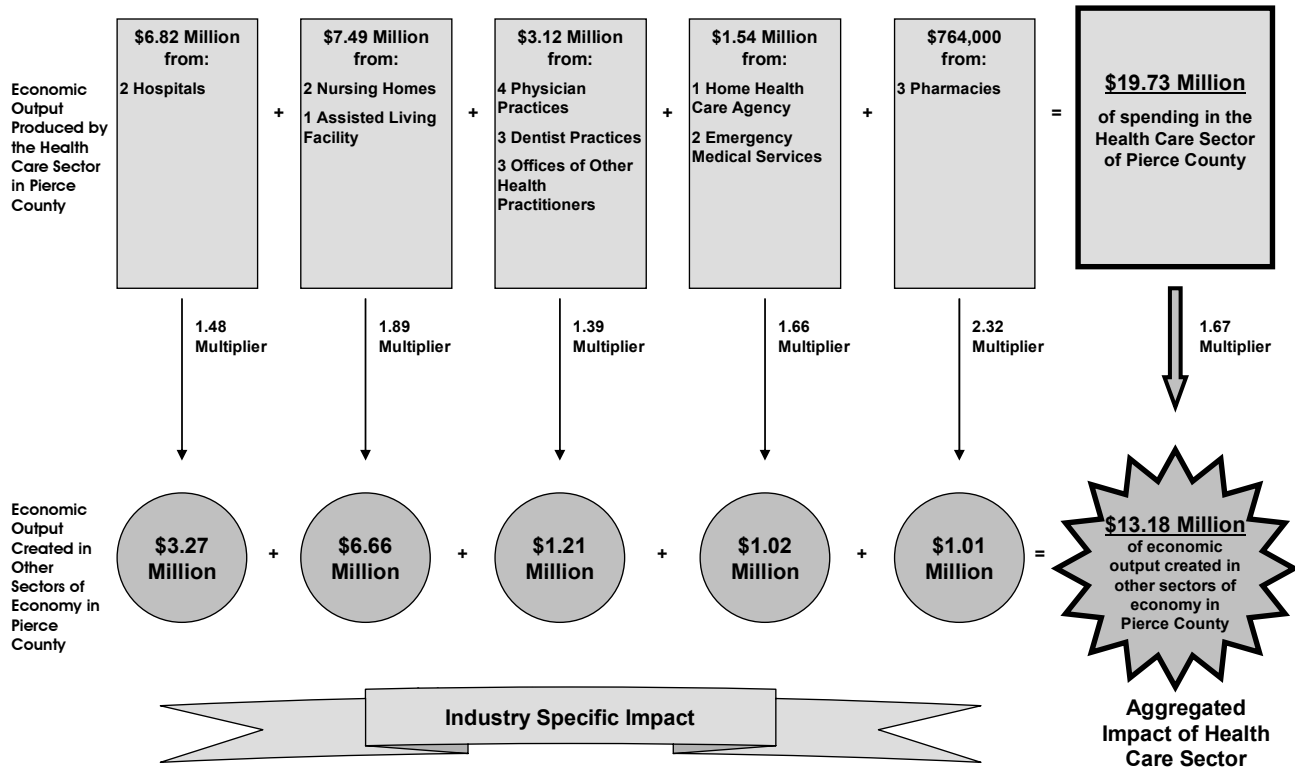
Sources: IMPLAN Data 2000. Minnesota IMPLAN Group, Inc. 2003. U.S. Census Bureau County Business Patterns, 2000. <http://www.census.gov/prod/www/abs/cbptotal.html>. Community Health System Assessment Survey (2003), Nebraska Center for Rural Health Research, UNMC.

**Figure 3. The Economic Impact of the Health Care Sector on Labor Income in Pierce County, Nebraska**



Sources: IMPLAN Data 2000. Minnesota IMPLAN Group, Inc. 2003. U.S. Census Bureau County Business Patterns, 2000. <http://www.census.gov/prod/www/abs/cbptotal.html>. Community Health System Assessment Survey (2003), Nebraska Center for Rural Health Research, UNMC.

**Figure 4. The Impact of the Health Care Sector on Economic Output in Pierce County, Nebraska**

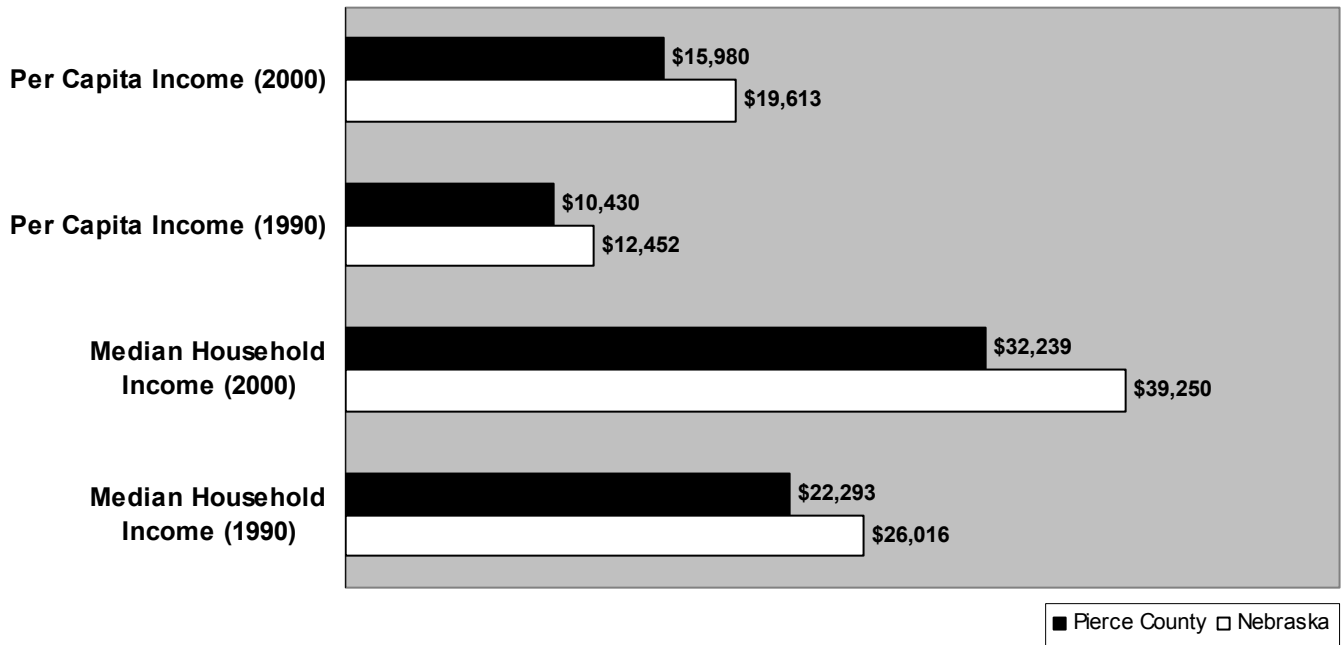


Sources: IMPLAN Data 2000. Minnesota IMPLAN Group, Inc. 2003. U.S. Census Bureau County Business Patterns, 2000. <http://www.census.gov/prod/www/abs/cbptotal.html>. Community Health System Assessment Survey (2003), Nebraska Center for Rural Health Research, UNMC.

#### IV. SOCIO-ECONOMIC INDICATORS

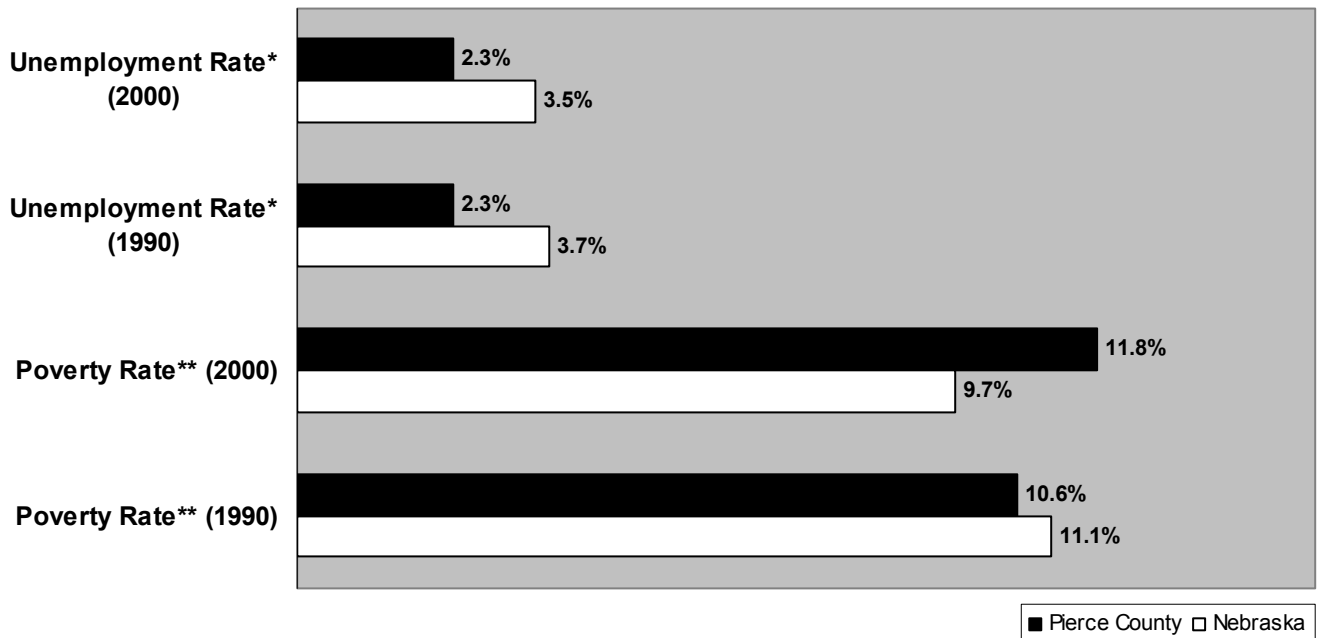
The per capita income of the County has increased since 1990 by 53.2% to \$15,980 in 2000 (compared to \$19,613 statewide), and the median household income of the County has increased since 1990 by 44.6% to \$32,239 in 2000 (compared to \$39,250 statewide) (Figure 5). Pierce County experienced a lower unemployment rate 2.3% vs. 3.5% statewide), and a higher poverty rate (11.8% vs. 9.7% statewide) than the State in 2000 (Figure 6). Moreover, the County out-performed the State in all of the social indicators shown in Table 3, except for the percentage of residents aged 25 and older who did not graduate from high school.

**Figure 5. Income for Pierce County and Nebraska, 1990 and 2000**



Sources: U.S. Census Bureau, Census 1990 and Census 2000, Summary File 3. <http://factfinder.census.gov>.

**Figure 6. Economic Indicators for Pierce County and Nebraska, 1990 and 2000**



\* Percent of residents aged 16 and older in the labor force that are unemployed.

\*\* Percent of total population living below 100% of the Federal poverty threshold.

Sources: U.S. Census Bureau, Census 1990 and Census 2000, Summary File 3. <http://factfinder.census.gov>.

**Table 3. Selected Social Indicators for Pierce County and Nebraska**

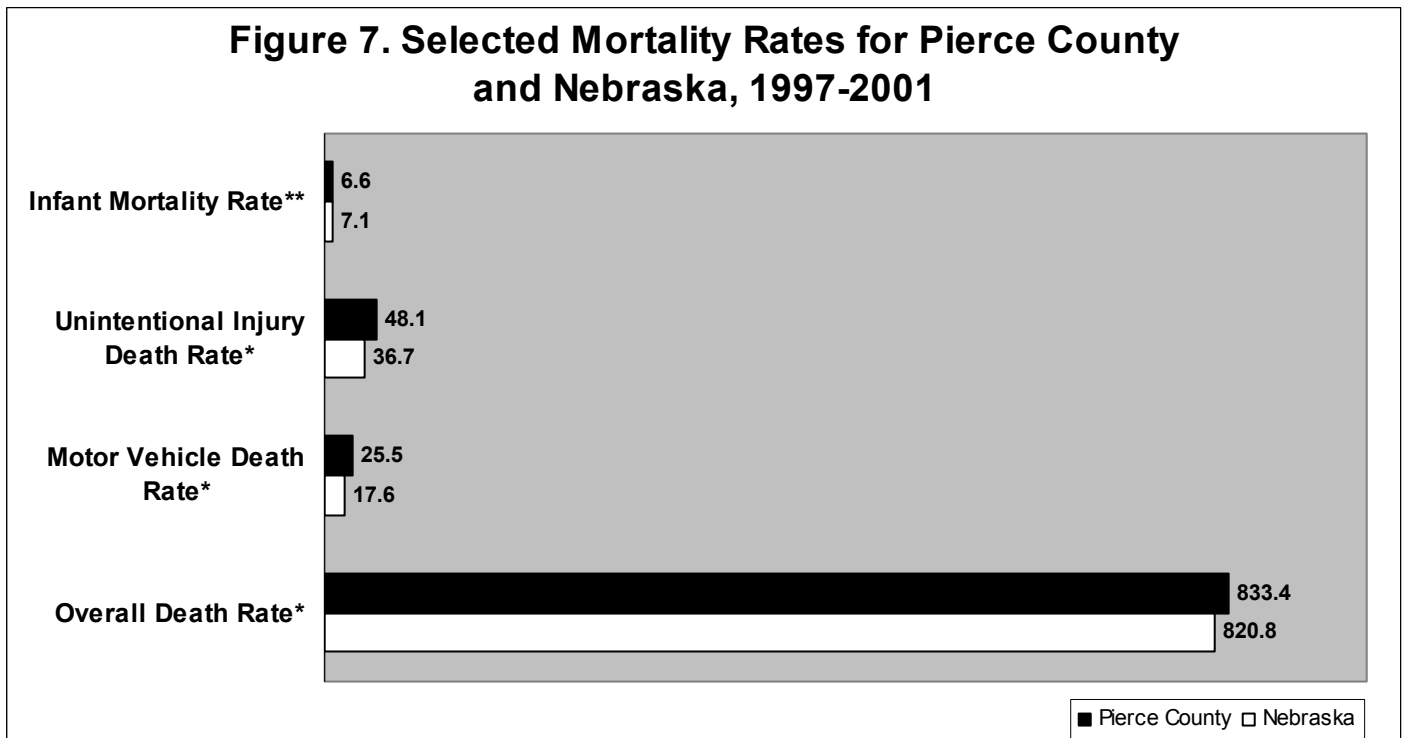
	Pierce County	Nebraska
Percent of residents aged 25 and older who did not graduate from high school (2000)	15.4%	13.4%
Percent of 7-12th graders who dropped out of school (2000-2001)	0.7%	2.5%
Percent of first births born to unmarried women, younger than 20, with less than a high school education (1997-2001)	8.1%	10.1%
Crime arrest rate per 1,000 population (1999)	15.4	59.2

Sources: U.S. Census Bureau, Census 2000. <http://factfinder.census.gov>. Nebraska Health and Human Services County Profiles. <http://www.hhs.state.ne.us/profiles0802/Pierce/profiles.htm>

## V. HEALTH STATUS INDICATORS

The residents of Pierce County had a higher overall death rate, motor vehicle death rate, and unintentional injury death rate compared to the State between 1997-2001 (Figure 7). Pierce County out-performed the State in three of the maternal and child health related indicators, shown in Figure 8, but had a higher percentage of pregnant women who smoke. Among the top 5 leading causes of death of Pierce County residents during 1997-2001, the County had a higher mortality rate than the State for heart disease, cerebrovascular disease, and unintentional injuries (Figure 9). Among the top 5 leading causes of hospitalization of Pierce County's residents between 1999-2000, the County had a higher hospitalization rate than the State for heart disease, digestive diseases, and genitourinary diseases (Figure 10).

**Figure 7. Selected Mortality Rates for Pierce County and Nebraska, 1997-2001**

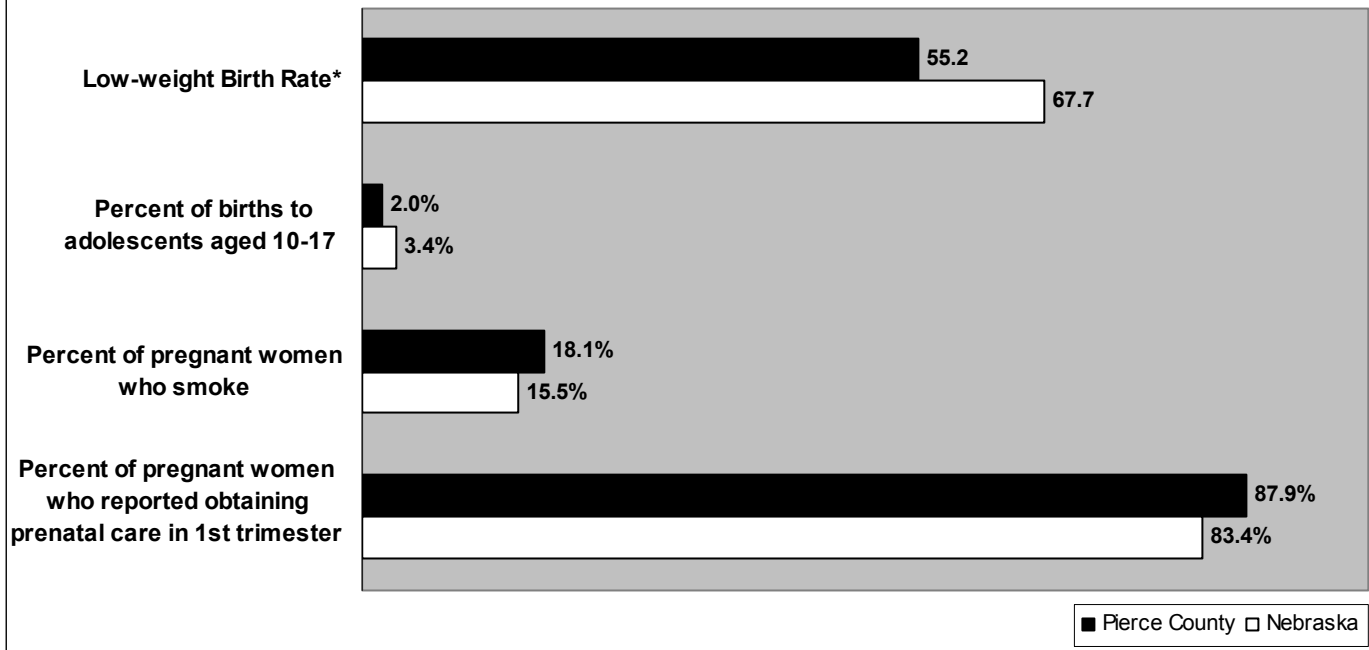


\* Number of deaths per 100,000 population (age adjusted).

\*\* Number of deaths per 1,000 live births.

Source: Nebraska Health and Human Services County Profiles. <http://www.hhs.state.ne.us/profiles0802/Pierce/profiles.htm>.

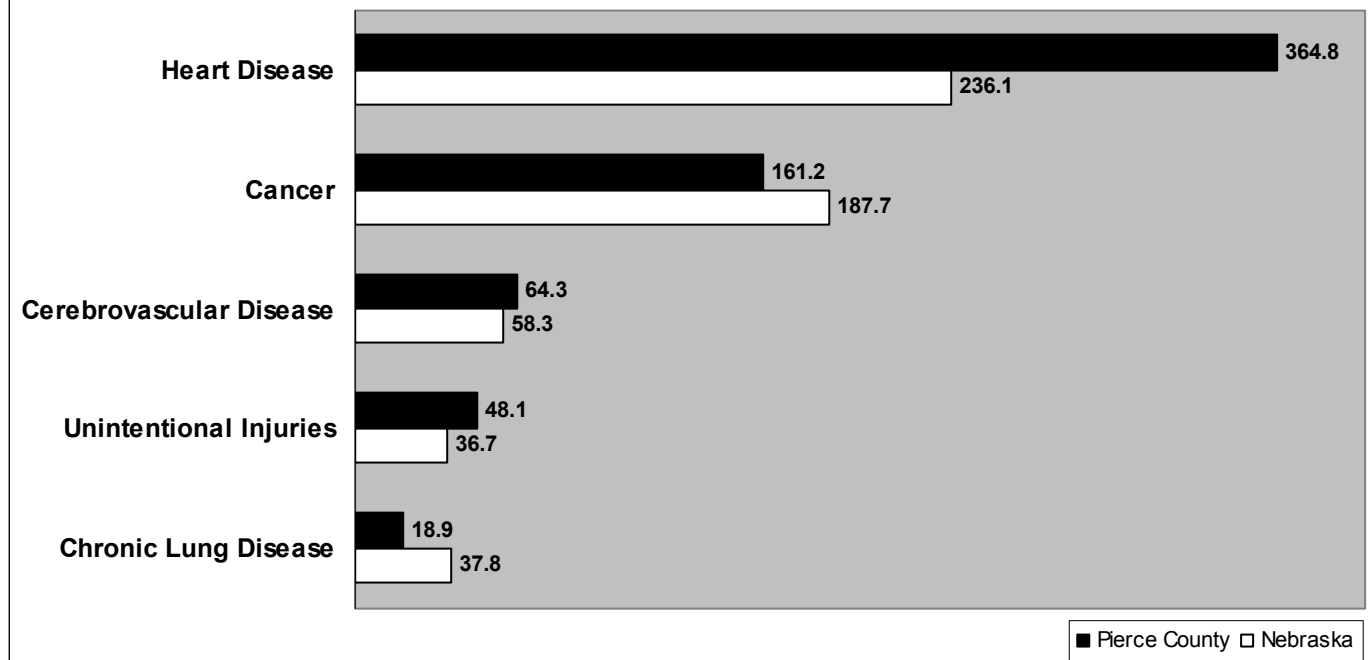
**Figure 8. Selected Maternal and Child Health Indicators, Pierce County and Nebraska, 1997-2001**



\* Number of babies born weighing less than 2500 grams (per 1,000 births).

Source: Nebraska Health and Human Services County Profiles. <http://www.hhs.state.ne.us/profile0802/Pierce/profile.htm>.

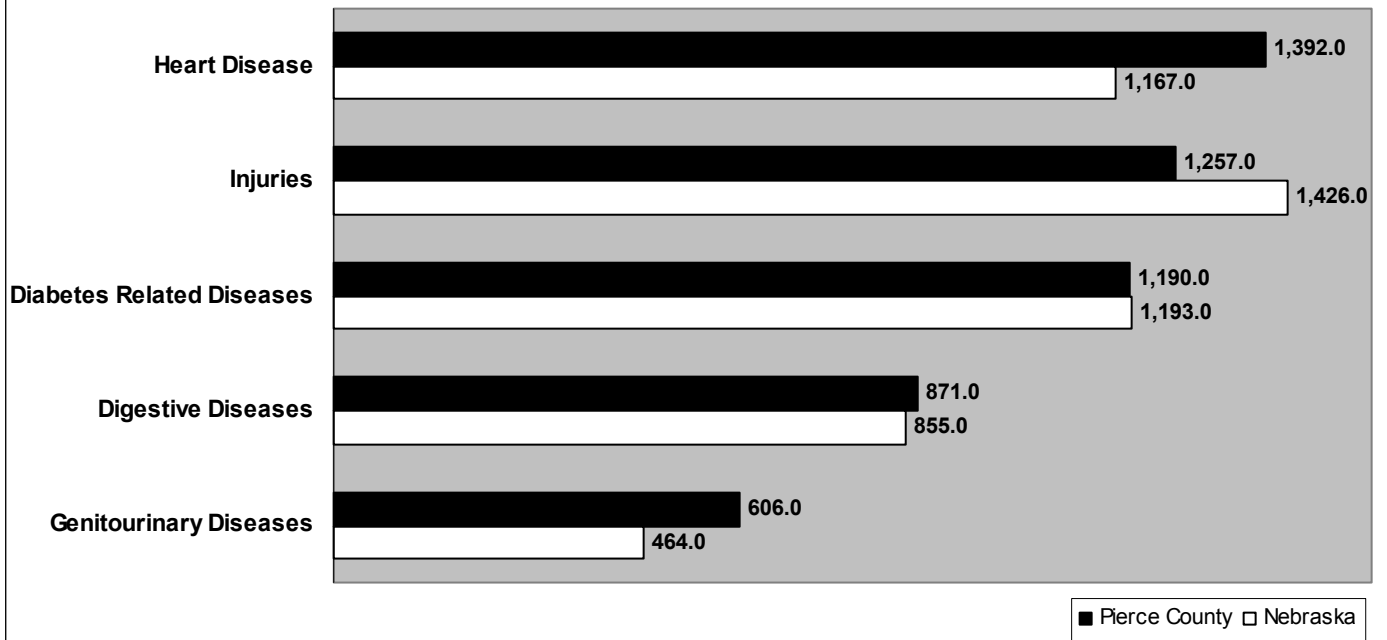
**Figure 9. Top 5 Leading Causes of Death for Pierce County and the Corresponding Mortality Rates\* for the County and Nebraska, 1997-2001**



\* Number of deaths per 100,000 population (age adjusted).

Source: Nebraska Health and Human Services County Profiles. <http://www.hhs.state.ne.us/profile0802/Pierce/profile.htm>.

**Figure 10. Top 5 Leading Causes of Hospitalization\* for Pierce County and the Corresponding Hospitalization Rates\*\* for the County and Nebraska, 1999-2000**



\* Hospitalizations for pregnancy and childbirth were excluded from this analysis.

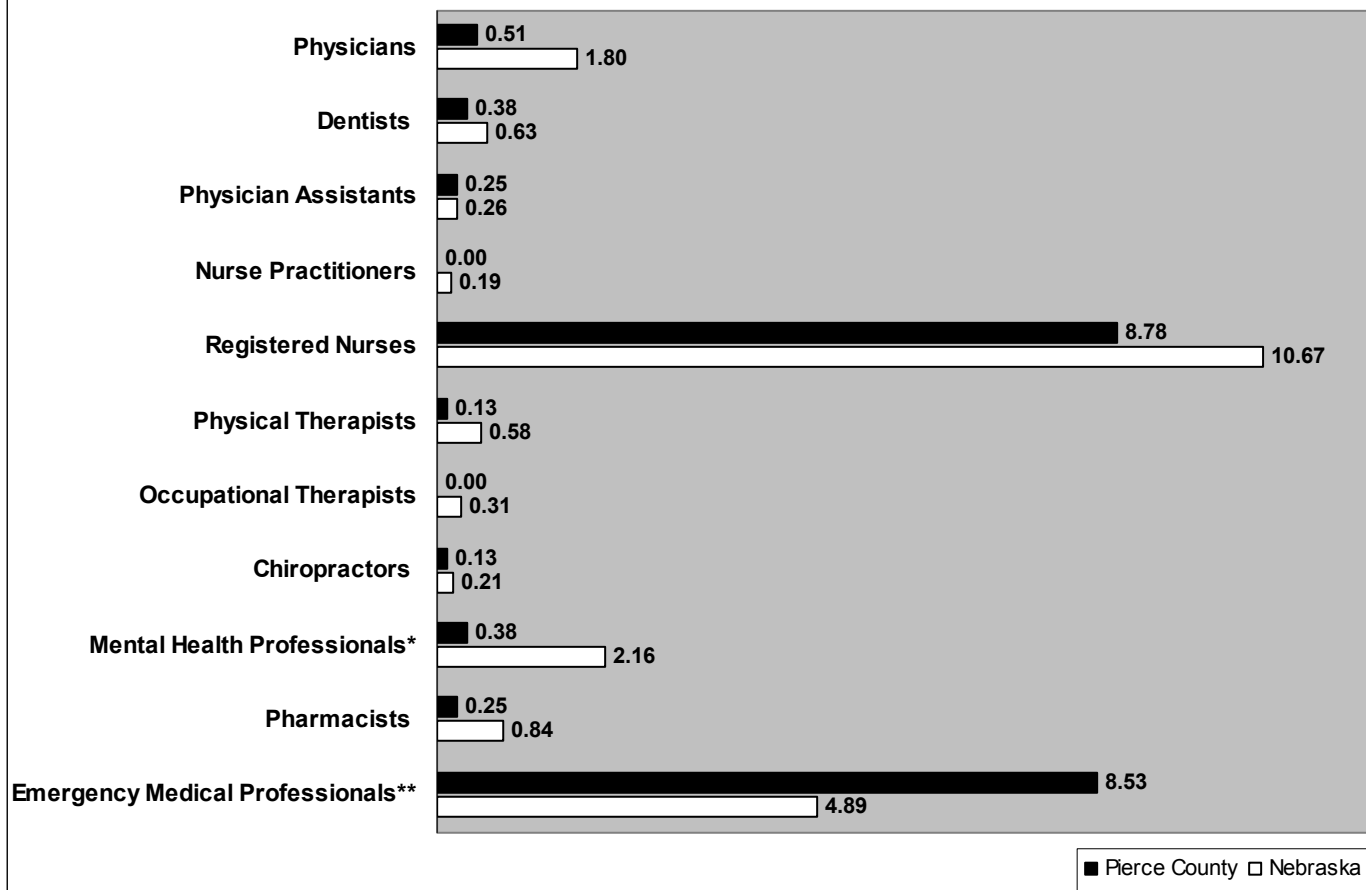
\*\*Defined as the proportion of inpatient hospital discharges to a population within clearly specified geographic boundaries, age adjusted per 100,000 population. Source: Nebraska Health and Human Services County Profiles. <http://www.hhs.state.ne.us/profile0802/Pierce/profile.htm>.

## VI. HEALTH CARE PROFESSIONALS

In 2003, Pierce County was federally designated as a mental health professional shortage area. During that same year, parts of Pierce City were federally designated as a medically underserved area. The State government designated Pierce County as a health professional shortage area in the specialties of: family medicine, general surgery, internal medicine, pediatrics, obstetrics/gynecology, psychiatry, dentistry/oral surgery, pharmacy, occupational therapy and physical therapy.

Pierce County had a higher professional-to-population ratio than the State for emergency medical professionals in 2003, but a lower ratio for all other health professionals shown in Figure 11.

**Figure 11. Number of Practicing Health Professionals Per 1,000 Population, Pierce County and Nebraska, 2003**



\* Mental Health Professionals include: Psychiatrists, Licensed Psychologists, Master Social Workers, Certified Professional Counselors, Licensed Mental Health Practitioners, and Marriage and Family Therapists.

\*\* Actively Licensed Emergency Medical Professionals include: Emergency Medical Technician (EMT) Paramedics, EMT-Intermediate, EMT-Basic, and First Responders.

Source: *The Nebraska Health Information Project: 2003 Databook*. (2003) Nebraska Center for Rural Health Research, University of Nebraska Medical Center.

## VII. HOSPITAL AND LONG-TERM CARE BEDS

Table 4. shows that Pierce County’s hospital and long-term care industry have an overall higher bed-to-population ratio than the State. As a result, those facilities should be able to meet the County’s need for hospital inpatient care (for the general public) and long-term care for the elderly.

**Table 4. Selected Health Care Facility Beds-to-Population Ratios for Pierce County and Nebraska**

	Pierce County	Nebraska
Number of hospital beds per 1,000 population	5.7**	5.1*
Number of Long Term Care beds per 1,000 elderly population (65+)	88.0*	76.3*

\* Source: *The Nebraska Health Information Project: 2003 Databook*. (2003) Nebraska Center for Rural Health Research, University of Nebraska Medical Center.

\*\* Source: Hospital Roster (4/11/2003), Nebraska Department of Health and Human Services.

## Data Notes

The economic impact results presented in this report were obtained from a compilation of secondary data derived from the IMPLAN database, the U.S. Census Bureau's, *County Business Patterns 2000*, and primary data from a Community Health Systems Assessment Survey. The IMPLAN software analyzes county level facility data using an economic input-output model. However, certain information required for reporting health sector impact (e.g., total payroll for employees in a county owned nursing home) cannot be derived from the IMPLAN database. When this happened, we used the information from the U.S. Census Bureau's, *County Business Patterns 2000*, and the Community Health System Assessment Survey that we conducted to calculate estimates and used them to report county specific health sector data.

## Acknowledgments

We would like to thank Dennis Berens, at the Nebraska Office of Rural Health, for his enthusiastic support to the Nebraska Rural Health Works Project. We would also like to thank Celine Mlady, of Osmond General Hospital, for helping us collect data about Pierce County. Finally, we would like to thank Michael Shambaugh-Miller, Ph.D. and Brian Hesford, at the Nebraska Center for Rural Health Research, for their help with making the maps, and to the members of this project's advisory committee for their insightful comments on this report.

## About the Nebraska Rural Health Works Project

The Nebraska Rural Health Works Project is a partnership made possible with the financial support of the Nebraska Office of Rural Health, the Nebraska Hospital Association, and through additional personnel and resources provided by the University of Nebraska Medical Center. The brief reports are designed to inform opinion leaders (from general business, health care, and government) in rural communities about the contribution health care makes to the local economy, both directly and indirectly. We used the IMPLAN software, which uses an economic input-output model, to predict changes in overall economic activity as a result of change in the health care sector. In addition to the analysis of the economic impact of the health sector on a specific community, other information such as: demographics, socio-economic and health status indicators, health care professionals and facility bed capacity are reported for a community. The Nebraska Rural Health Works website is: <http://www.unmc.edu/rural/NeRHW>.

If you would like additional information regarding Nebraska's health care financing, health professionals, health status and health care delivery systems, visit the Nebraska Health Information Project website: <http://www.unmc.edu/nebraska>.

Community Health Economic Profiles will be prepared upon request. Those communities interested in this project can request a profile by contacting the Project Director, Li-Wu Chen, Ph.D. ([liwuchen@unmc.edu](mailto:liwuchen@unmc.edu)), or Donadea Rasmussen ([drasmuss@unmc.edu](mailto:drasmuss@unmc.edu)) at the Nebraska Center for Rural Health Research, University of Nebraska Medical Center, (402) 559-5260.

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