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

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

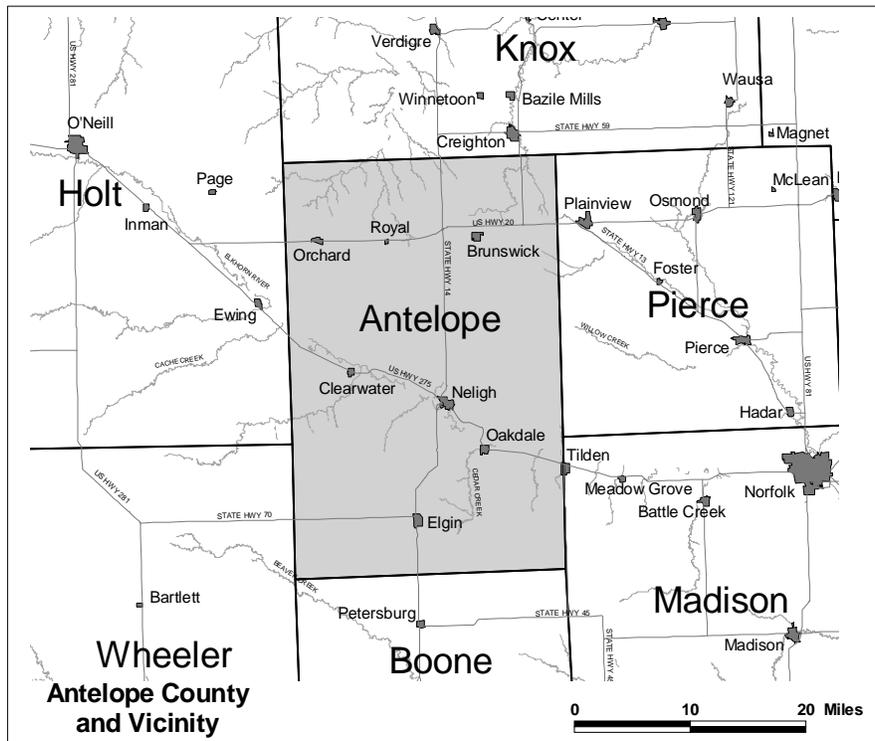
- ◆ One job created in the health care sector of Antelope County would lead to the creation of another 0.51 job in other sectors of the county's economy.
- ◆ One dollar of income earned in the health care sector of Antelope County would lead to another \$0.44 of income earned in other sectors of the county's economy.
- ◆ One dollar spent in the health care sector of Antelope 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 Antelope County is estimated at 652 jobs, which accounts for 13.71% of the county's total employment.
- ◆ The overall income earned due to health care (directly and indirectly) in Antelope County is estimated at \$14.39 million, which accounts for 20.42% of the county's total income.
- ◆ The overall spending due to health care (directly and indirectly) in Antelope County is estimated at \$29.89 million, which accounts for 7.40% of the county's total economic output.

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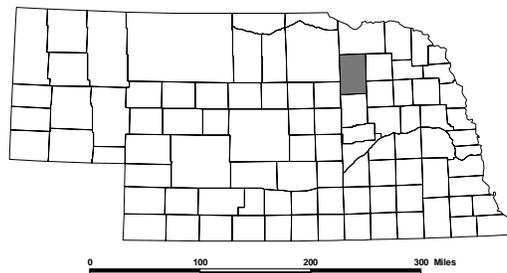
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## I. GEOGRAPHY

Antelope County is located near the northeast region of Nebraska. The county has a total of 857 square miles with a population density of 8.7 people per square mile (Nebraska: 22.3 per square mile). The county seat of Antelope County is Neligh, Nebraska.



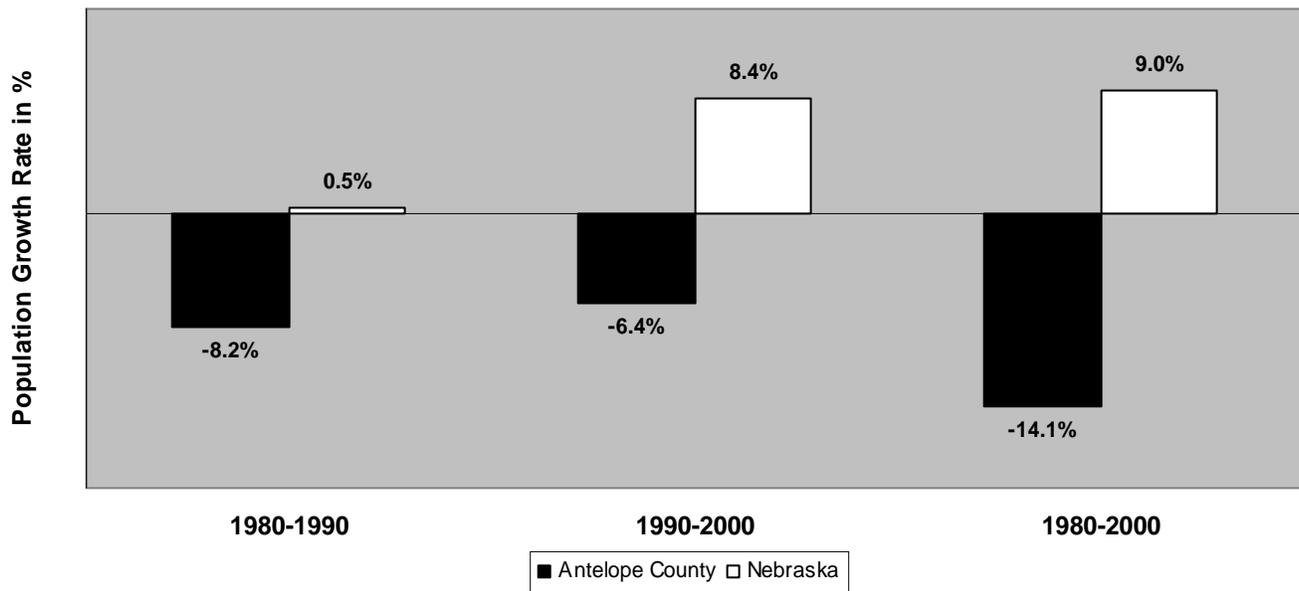
Antelope County, Nebraska



## II. POPULATION

The population for Antelope County was 7,452 in 2000. The county has experienced a negative population change of -14.1% (compared to +9.0% statewide) during 1980-2000 (Figure 1). Although the county's minority population has increased during the last decade, white (non-Hispanic) people still represented the great majority of county population in 2000 (98.8% vs. 89.6% statewide, Table 1). In addition, the county's population is older than the State's, with the elderly (aged 65+) representing 19.9% (compared to 13.6% statewide) of the population in 2000 (Table 2).

**Figure 1. Population Growth Rate,  
Antelope 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 Antelope County and Nebraska, 1990 and 2000**

	Antelope County 1990	Nebraska 1990	Antelope County 2000*	Nebraska 2000*
<b>White</b>	<b>99.6%</b> (7,930)	<b>93.8%</b> (1,480,558)	<b>98.8%</b> (7,364)	<b>89.6%</b> (1,533,261)
<b>Black</b>	<b>0.0%</b> (2)	<b>3.6%</b> (57,404)	<b>0.1%</b> (4)	<b>4%</b> (68,541)
<b>American Indian Eskimo and Aleut</b>	<b>0.3%</b> (20)	<b>0.8%</b> (12,410)	<b>0.3%</b> (23)	<b>0.8%</b> (14,896)
<b>Asian or Pacific Islander</b>	<b>0.1%</b> (9)	<b>0.8%</b> (12,422)	<b>0.1%</b> (4)	<b>1.3%</b> (22,767)
<b>Other Race</b>	<b>0.1%</b> (4)	<b>1%</b> (15,591)	<b>0.3%</b> (21)	<b>2.8%</b> (47,845)
<b>Hispanic</b>	<b>0.1%</b> (5)	<b>2.3%</b> (36,969)	<b>0.7%</b> (52)	<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 Antelope County and Nebraska, 1990 and 2000**

Age	Antelope County 1990	Nebraska 1990	Antelope County 2000	Nebraska 2000
0-4	8.2% (656)	7.6% (119,606)	6.0% (447)	6.8% (117,048)
5-24	27.6% (2,195)	29.5% (465,293)	27.7% (2,063)	29.7% (507,619)
25-64	44.7% (3,563)	48.8% (770,418)	46.4% (3,459)	49.9% (854,401)
65-84	16.8% (1,337)	12.3% (193,866)	16.6% (1,238)	11.6% (198,242)
85+	2.7% (214)	1.9% (29,202)	3.3% (245)	2.0% (33,953)
<b>TOTAL</b>	<b>100%</b> <b>(7,965)</b>	<b>100%</b> <b>(1,578,385)</b>	<b>100%</b> <b>(7,452)</b>	<b>100%</b> <b>(1,711,263)</b>

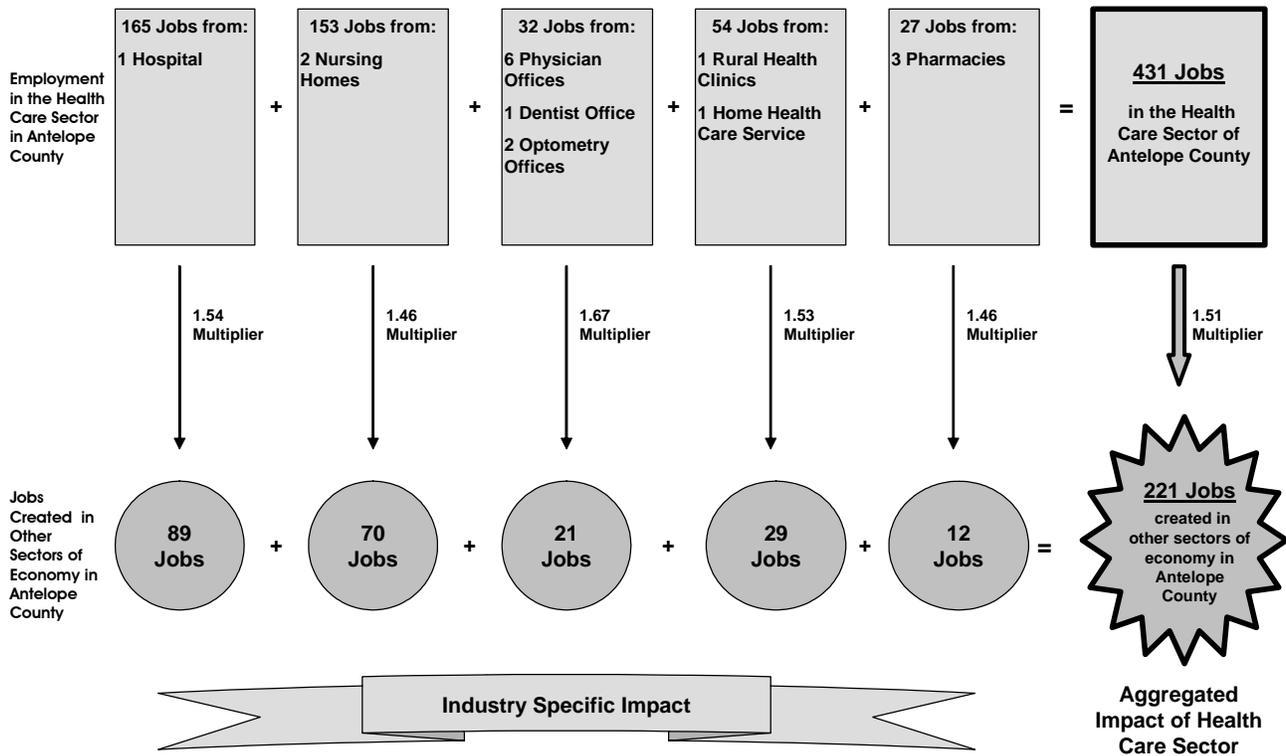
Sources: U.S. Bureau of the Census, Census 1990 and Census 2000, Summary Tape File 1. <http://factfinder.census.gov>.

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

Retail Trade is the largest employer within Antelope County, followed by Healthcare and Social Assistance, Wholesale Trade, Manufacturing, and Accommodation and food services. The Health Care sector of Antelope County includes one hospital, two nursing homes, six physician offices, one dentist offices, two optometry offices, one rural health clinic, one home health care service, and three pharmacies.

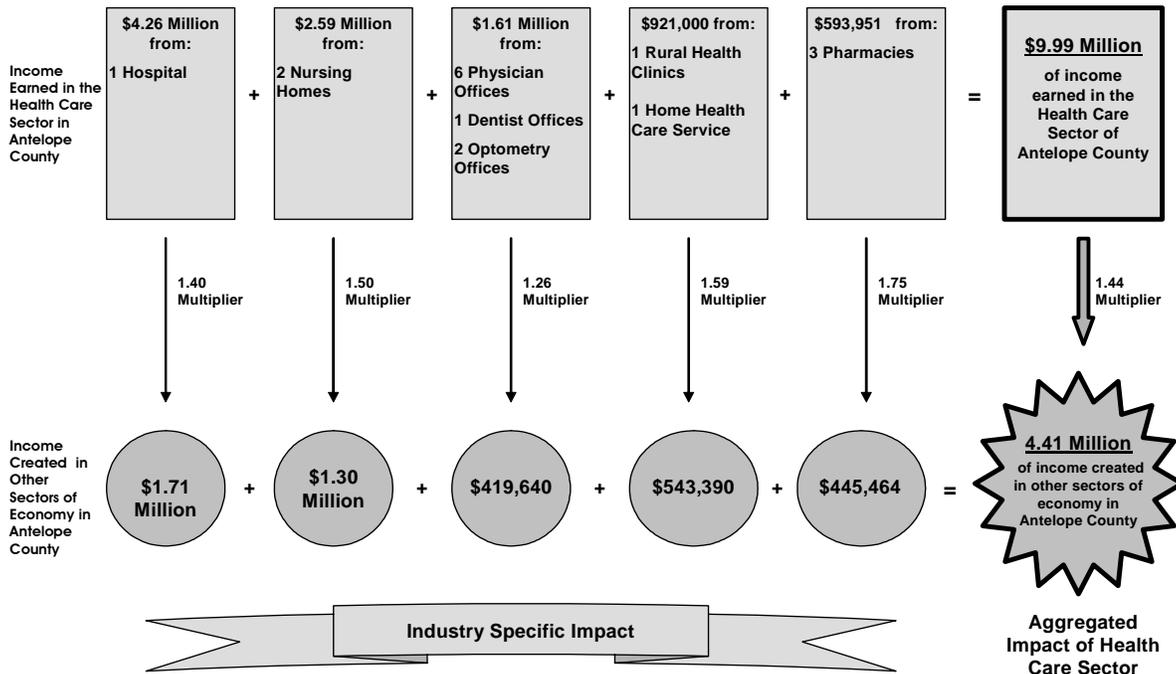
- ◆ The 431 jobs in the health care sector of Antelope County have created (through a 0.51 multiplier) another 221 jobs in other sectors of the county's economy (Figure 2). Therefore, the combined effect represents 13.71% of the county's total employment (i.e., 652 out of 4,754 jobs).
- ◆ The \$9.99 million of income earned in the health care sector of Antelope County has created (through a 0.44 multiplier) another \$4.41 million of income in other sectors of the county's economy (Figure 3). Therefore, the combined effect represents 20.42% of the county's total income (i.e., \$14.4 million out of \$70.51 million).
- ◆ The \$18.15 million spent in the health care sector of Antelope County has created (through a 0.68 multiplier) another \$12.27 million of spending in other sectors of the county's economy (Figure 4). Therefore, the combined effect represents 7.4% of the county's total economic output (i.e., \$30.42 million out of \$411.11 million).

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



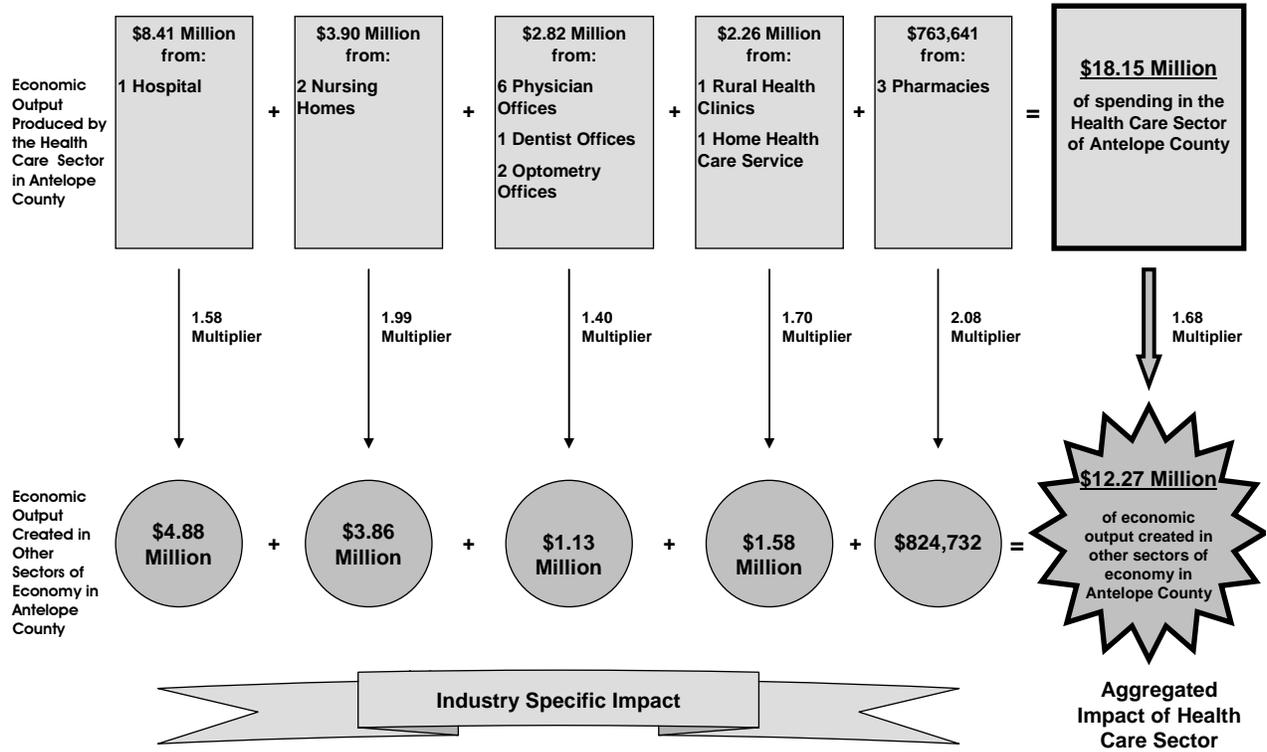
Sources: IMPLAN Data 2000. Minnesota IMPLAN Group, Inc. 2003. U.S. Census Bureau County Business Patterns, 2000. <http://www.census.gov/prod/www/abs/cbptotal.html>. Community Health System Assessment Survey, Nebraska Center for Rural Health Research, UNMC, July, 2002.

**Figure 3. The Economic Impact of the Health Care Sector on Income in Antelope 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, Nebraska Center for Rural Health Research, UNMC, July, 2002.

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

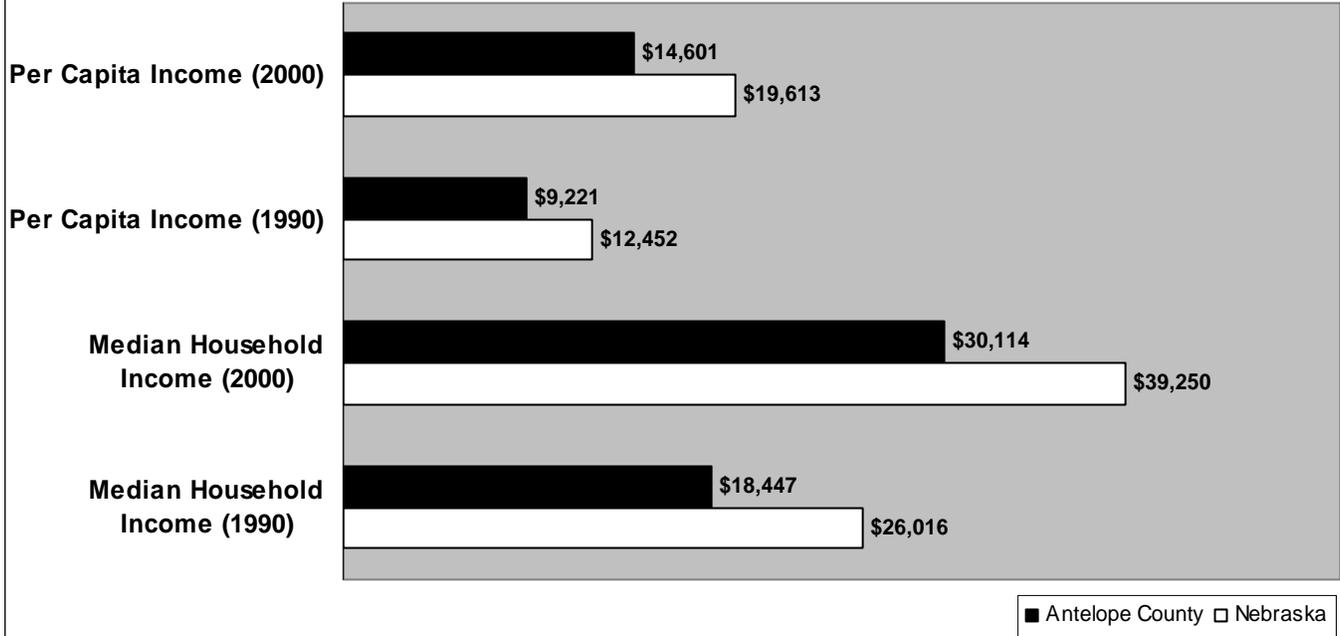


Sources: IMPLAN Data 2000. Minnesota IMPLAN Group, Inc. 2003. U.S. Census Bureau County Business Patterns, 2000. <http://www.census.gov/prod/www/abs/cbptotal.html>. Community Health System Assessment Survey, Nebraska Center for Rural Health Research, UNMC, July, 2002.

#### IV. SOCIO-ECONOMIC INDICATORS

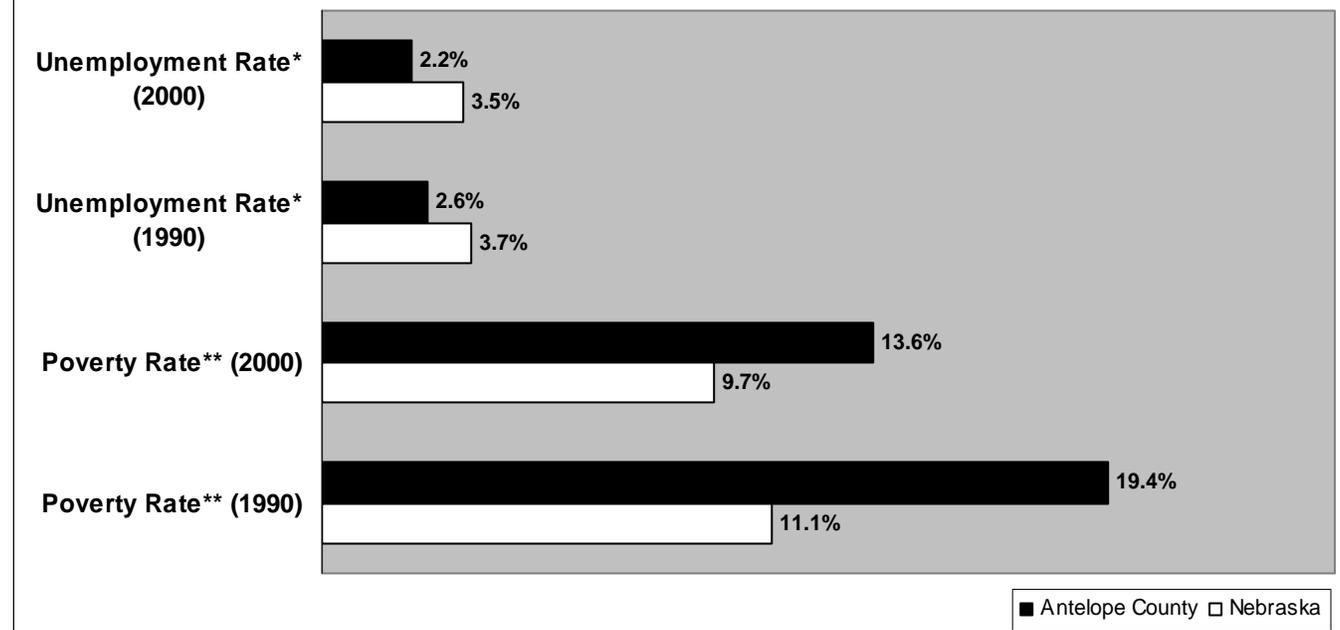
The median household income of the county has increased since 1990 by 63.2% to \$30,114 in 2000 (compared to \$39,250 statewide), and the per capita income of the county has increased since 1990 by 58.3% to \$14,601 in 2000 (compared to \$19,613 statewide) (Figure 5). Antelope County experienced a lower unemployment rate (2.2% vs. 3.5% statewide), while having a higher poverty rate (13.6% vs. 9.7% statewide) than the State in 2000 (Figure 6). Moreover, the county outperformed the State in three of the social indicators shown in Table 3, but had a higher percentage of residents aged 25 and older who did not graduate from high school.

**Figure 5. Income for Antelope 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 Antelope 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 Antelope County and Nebraska**

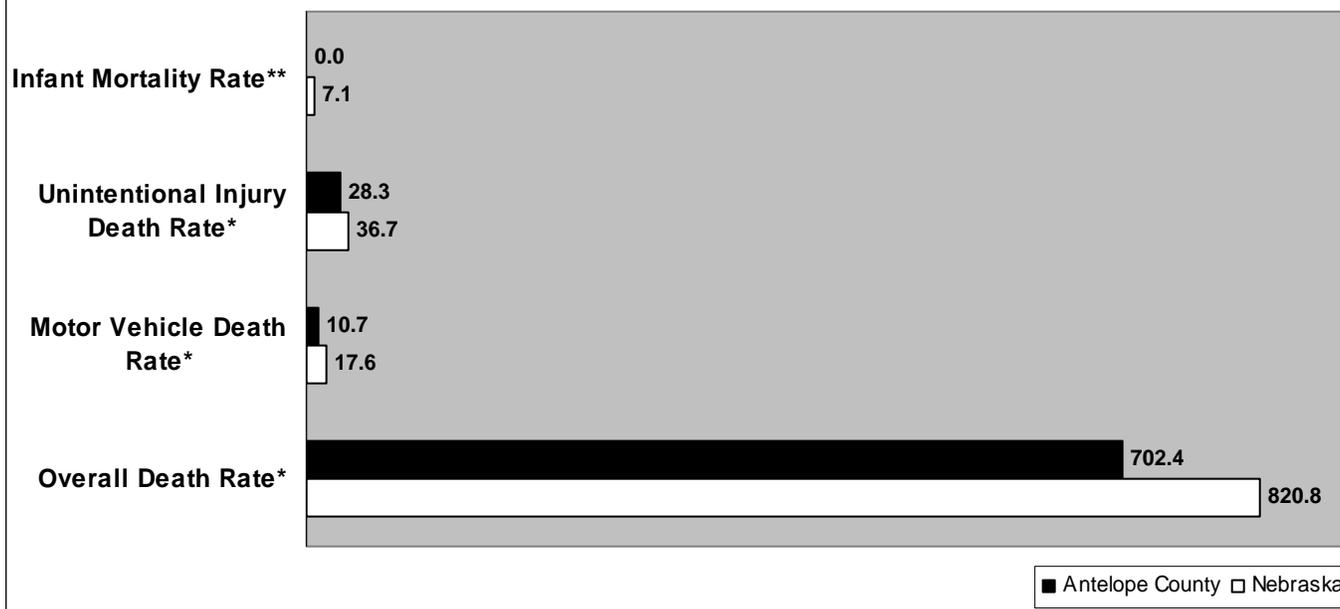
	Antelope County	Nebraska
Percent of residents aged 25 and older who did not graduate from high school (2000)	14.5%	13.4%
Percent of 7-12th graders who dropped out of school (2000-2001)	0.4%	2.5%
Percent of first births born to unmarried women, younger than 20, with less than a high school education (1997-2001)	9.4%	10.1%
Crime arrest rate per 1,000 population (1999)	9.5	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/Antelope/profiles.htm>

## V. HEALTH STATUS INDICATORS

Antelope County had a lower infant mortality rate, overall death rate, lower mortality rates for motor vehicle deaths, and unintentional injury deaths compared with the State between 1997-2001 (Figure 7). Antelope County out-performed the State in two of the four maternal and child health related indicators, but had a higher percentage of women who smoked while pregnant and fewer women who reported obtaining prenatal care (Figure 8). Among the top 5 leading causes of death of Antelope County residents, the county had a higher mortality rate than the State for unintentional injuries only (Figure 9). Among the top 5 leading causes of hospitalization of Antelope County's residents during 1999-2000, the county had a higher hospitalization rate than the State for all causes (Figure 10).

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

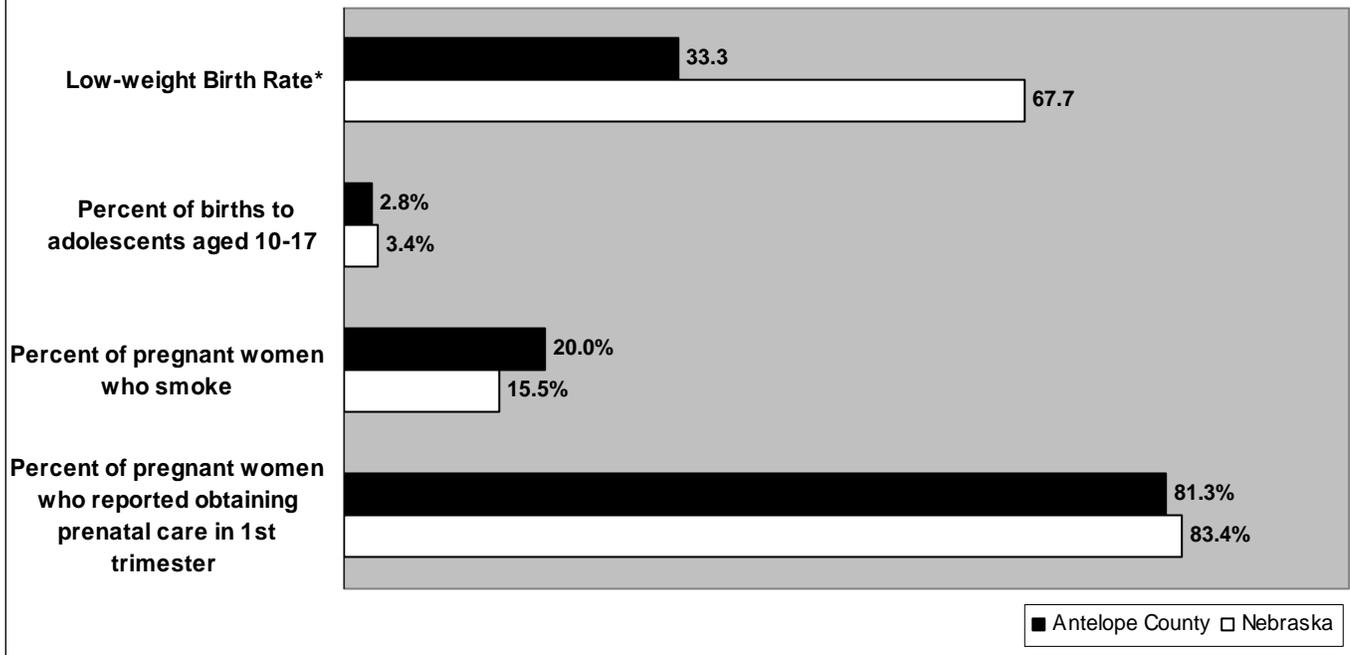


\* Number of deaths per 100,000 population (age adjusted).

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

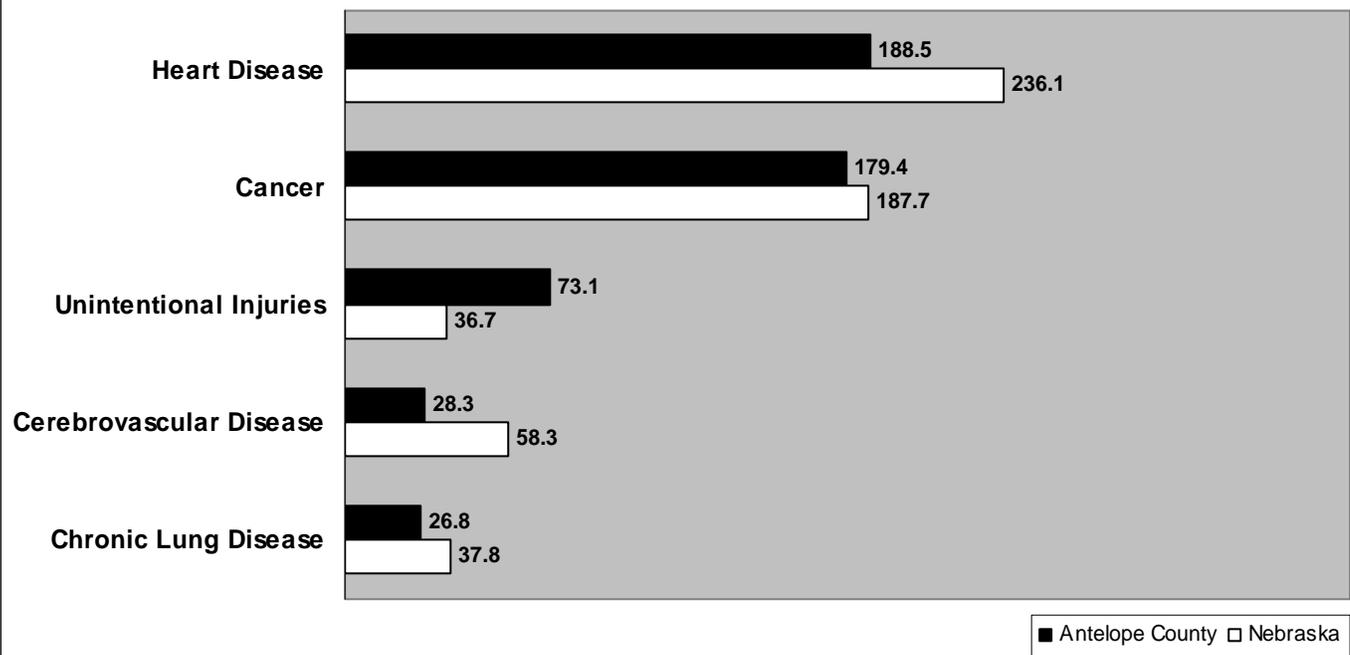
Source: Nebraska Health and Human Services County Profiles. <http://www.hhs.state.ne.us/profiles0802/Antelope/profiles.htm>

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



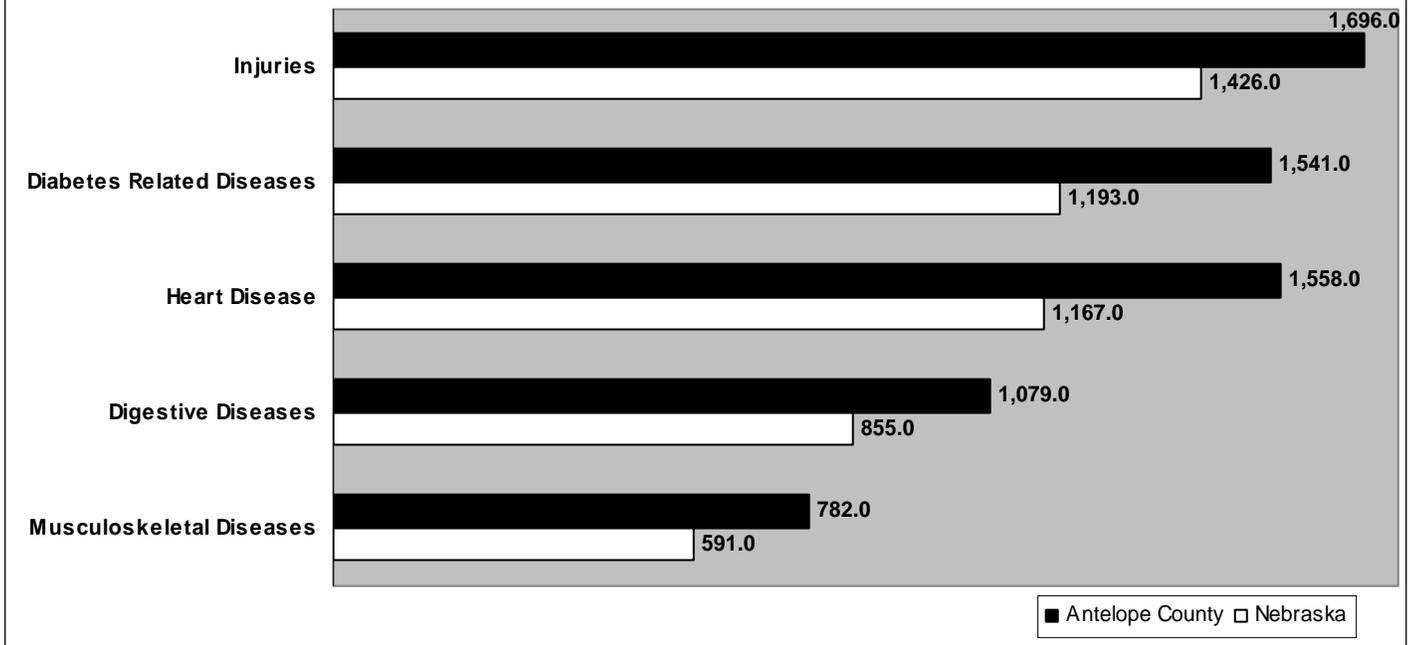
\* Number of babies born weighing less than 2500 grams (per 1,000 births).  
 Source: Nebraska Health and Human Services County Profiles. <http://www.hhs.state.ne.us/profile0802/Antelope/profile.htm>.

**Figure 9. Top 5 Leading Causes of Death for Antelope 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/Antelope/profile.htm>.

**Figure 10. Top 5 Leading Causes of Hospitalization\* for Antelope 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.

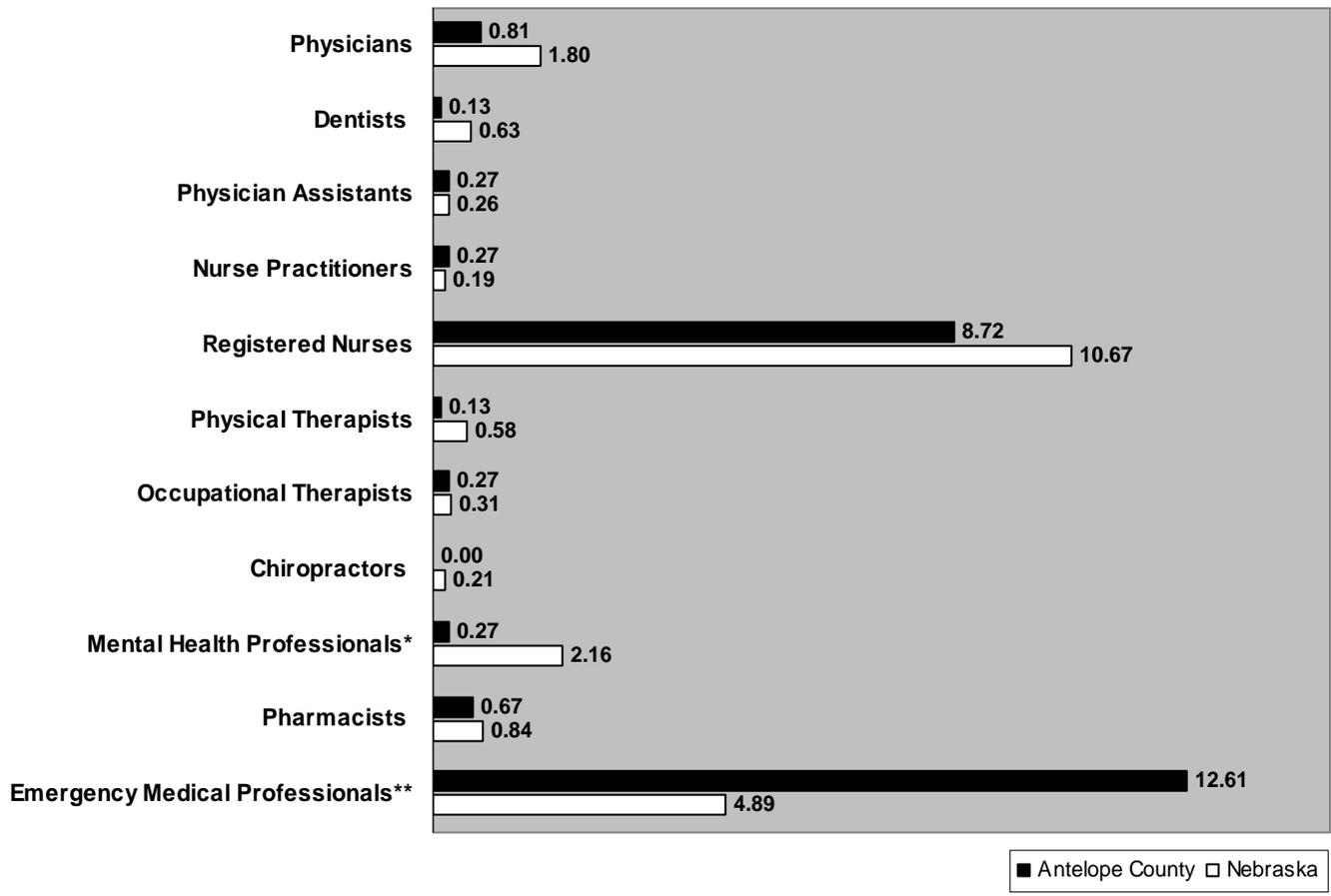
Source: Nebraska Health and Human Services County Profiles. <http://www.hhs.state.ne.us/profile0802/Antelope/profile.htm>.

## VI. HEALTH CARE PROFESSIONALS

Antelope County is federally designated as a mental health professional shortage area. Antelope County is federally designated as medically underserved area. The State government has designated Antelope County as a health professional shortage area in the specialties of: internal medicine, pediatrics, OB/GYN, psychiatry, and occupational therapy.

Antelope County has a higher professional-to-population ratio than the State for physician assistants, nurse practitioners, and EMS professionals, but a lower ratio for other health professionals, as shown in Figure 11.

**Figure 11. Number of Practicing Health Professionals Per 1,000 Population, Antelope 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.

\*\* Emergency Health Professionals include: Emergency Medical Technician (EMT) Paramedic, EMT-Intermediate, EMT-Basic, and First Responders.

Source: *The Nebraska Health Information Project: 2001 Databook*. (2001) Nebraska Center for Rural Health Research, University of Nebraska Medical Center

## VII. HOSPITAL AND LONG-TERM CARE BEDS

Table 4 shows that Antelope County’s hospital has a higher bed-to-population ratio than the State but a lower bed-to-population ratio for its long-term care industry. As a result, the need for long-term care for the population older than 65 years may not be well met within the county.

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

	Antelope County	Nebraska
Number of hospital beds per 1,000 population	6.2**	5.6*
Number of Long Term Care beds per 1,000 elderly population (65+)	53.9*	80.6*

\* Source: *The Nebraska Health Information Project: 2001 Databook*. (2001) 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 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 obtained 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 Julie Roemhildt, of Tilden Community Hospital, for helping us with collecting data from Antelope County. Finally, we would like to thank Michael Shambaugh-Miller and Brian Hesford, at the Nebraska Center for Rural Health Research, for his 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 Roslyn Fraser ([rfraser@unmc.edu](mailto:rfraser@unmc.edu)) at the Nebraska Center for Rural Health Research, University of Nebraska Medical Center, (402) 559-5260.

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