



Nebraska
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Nebraska Rural Health Works Health Economic Profile for Otoe County, Nebraska

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Executive Summary on the Economic Impact of Health Care Sector

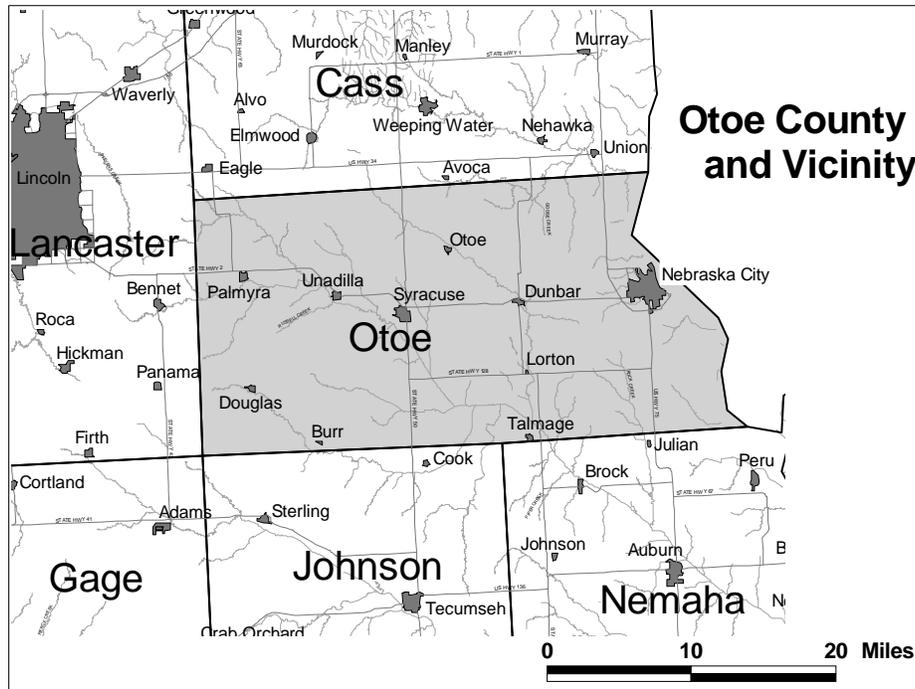
- ◆ One job created in the health care sector of Otoe County would lead to the creation of another 0.63 job in other sectors of the county's economy.
- ◆ One dollar of income earned in the health care sector of Otoe County would lead to another \$0.47 of income earned in other sectors of the county's economy.
- ◆ One dollar spent in the health care sector of Otoe County would lead to another \$0.81 spent in other sectors of the county's economy.
- ◆ The overall job creation due to health care (directly and indirectly) in Otoe County is estimated at 1,488 jobs, which accounts for 16.4% of the county's total employment.
- ◆ The overall income earned due to health care (directly and indirectly) in Otoe County is estimated at \$36.24 million, which accounts for 19.6% of the county's total income.
- ◆ The overall spending due to health care (directly and indirectly) in Otoe County is estimated at \$75.38 million, which accounts for 10.5% of the county's total economic output.

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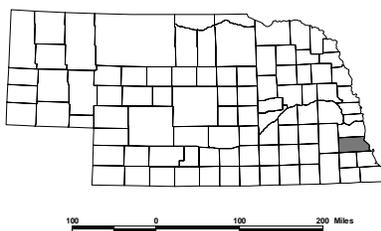
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I. GEOGRAPHY

Otoe County is located near the southeast corner of Nebraska. The county has a total of 616 square miles with a population density of 23.1 people per square mile (Nebraska: 22.3 per square mile). The county seat of Otoe County is Nebraska City, Nebraska.



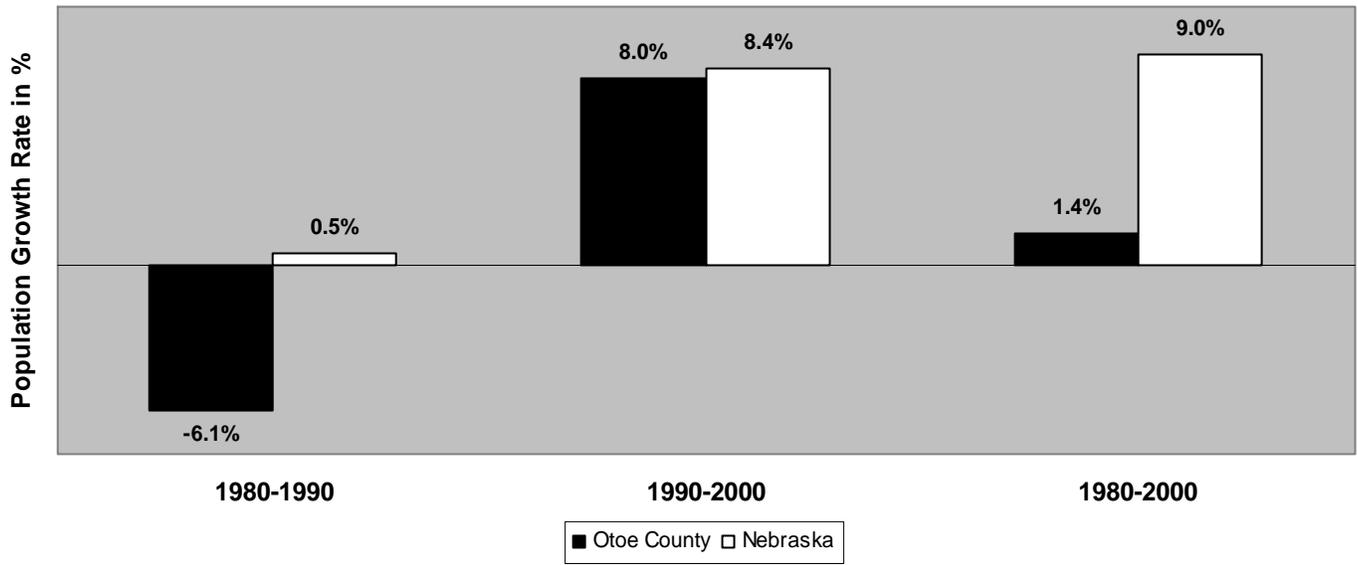
Otoe County, Nebraska



II. POPULATION

The population for Otoe County was 15,396 in 2000. The county experienced a positive population change of +1.4% (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 (97.4% vs. 89.6% statewide, Table 1). In addition, the county's population is older than the State's, with the elderly (aged 65+) representing 18.4% (compared to 13.6% statewide) of the population in 2000 (Table 2).

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

	Otoe County 1990	Nebraska 1990	Otoe County 2000	Nebraska 2000
White	99.2% (14,138)	93.8% (1,480,558)	97.4% (14,999)	89.6% (1,533,261)
Black	0.2% (25)	3.6% (57,404)	0.3% (44)	4% (68,541)
Asian or Pacific Islander	0.2% (31)	0.8% (12,410)	0.2% (34)	0.8% (14,896)
American Indian or Alaska Native	0.2% (25)	0.8% (12,422)	0.3% (43)	1.3% (22,767)
Other Race	0.2% (33)	1% (15,591)	1.1% (176)	2.8% (47,845)
Hispanic*	0.7% (106)	2.3% (36,969)	2.4% (377)	5.5% (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%.
 Source: 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 Otoe County and Nebraska, 1990 and 2000

	Otoe County 1990	Nebraska 1990	Otoe County 2000	Nebraska 2000
0-4	6.7% (951)	7.6% (119,606)	6.4% (986)	6.8% (117,048)
5-24	25.7% (3,669)	29.5% (465,293)	26.3% (4,050)	29.7% (507,619)
25-64	46.9% (6,679)	48.8% (770,418)	48.9% (7,535)	49.9% (854,401)
65-84	17.4% (2,476)	12.3% (193,866)	15.2% (2,336)	11.6% (198,242)
85+	3.3% (477)	1.9% (29,202)	3.2% (489)	2.0% (33,953)
TOTAL	100% (14,252)	100% (1,578,385)	100% (15,396)	100% (1,711,263)

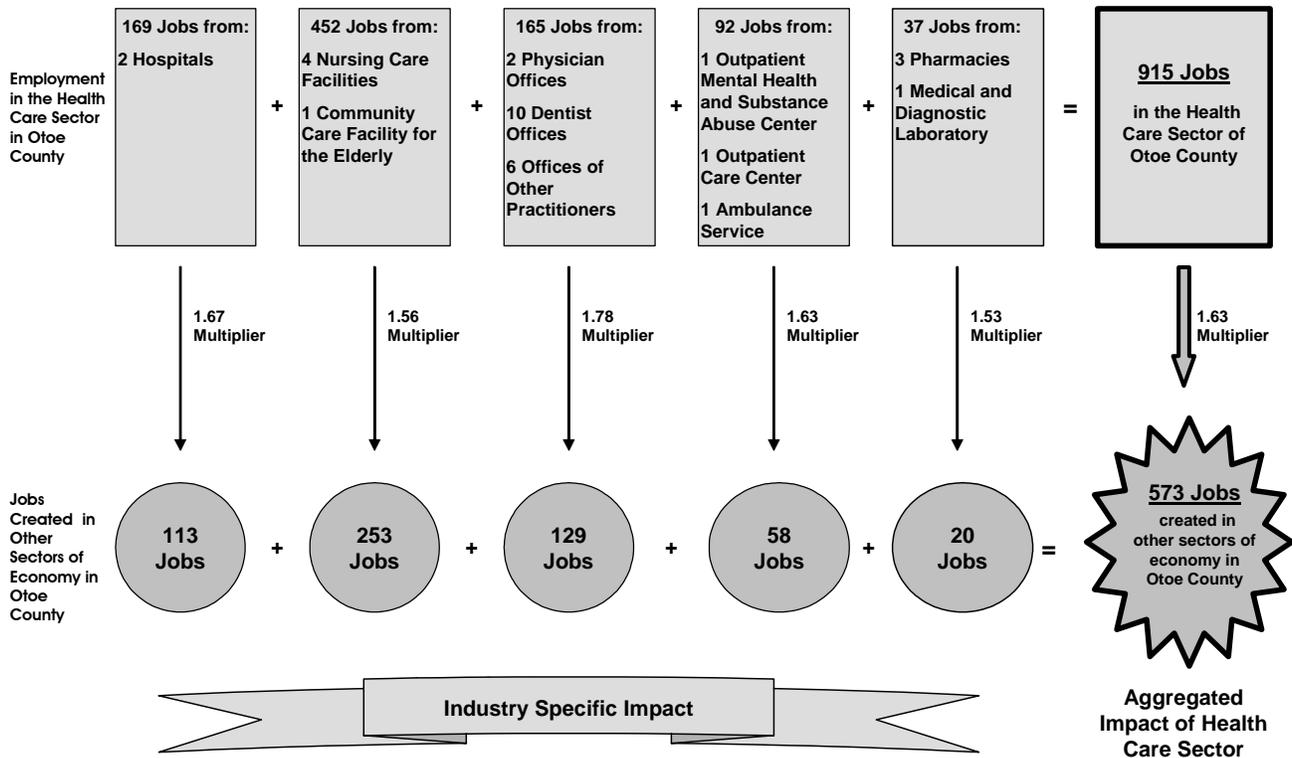
Source: U.S. Bureau of the Census, Census 1990 and Census 2000, Summary Tape File 1. <http://factfinder.census.gov>.

III. ECONOMIC IMPACT OF THE HEALTH CARE SECTOR

Manufacturing is the largest employer within Otoe County, followed by retail trade, health care and social assistance, accommodation and food services, and construction. The health care sector of Otoe County includes two hospitals, four nursing care facilities, one community care facility for the elderly, one outpatient mental health and substance abuse treatment center, two physician offices, 10 dentist offices, three chiropractic offices, three optometry offices, one ambulance service, one outpatient care center, one medical and diagnostic laboratory, and three pharmacies.

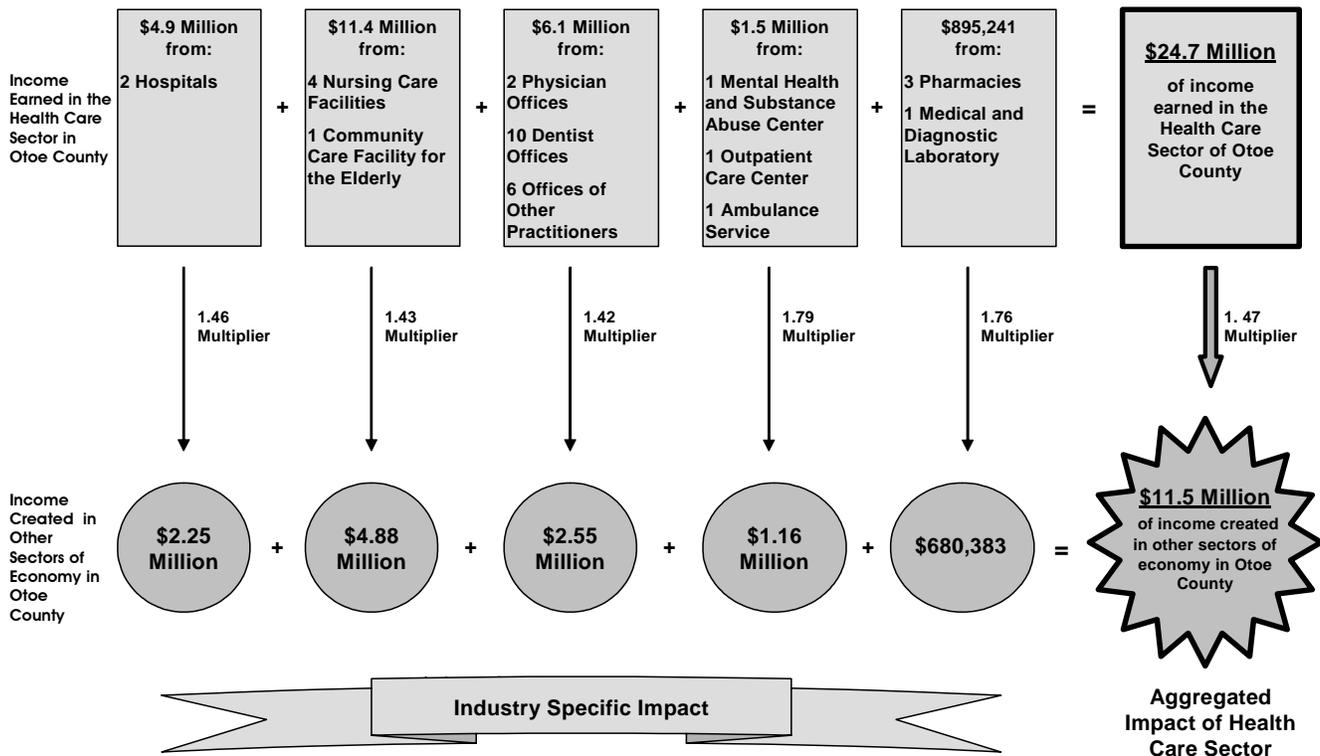
- ◆ The 915 jobs in the health care sector of Otoe County have created (through a 1.63 multiplier) another 573 jobs in other sectors of the county's economy (Figure 2). Therefore, the combined effect represents 16.4% of the county's total employment (i.e., 1,488 out of 9,080 jobs).
- ◆ The \$24.7 million of income earned in the health care sector of Otoe County has created (through a 1.47 multiplier) another \$11.5 million of income in other sectors of the county's economy (Figure 3). Therefore, the combined effect represents 19.6% of the county's total income (i.e., \$36.2 million out of \$185.2 million).
- ◆ The \$41.5 million spent in the health care sector of Otoe County has created (through a 1.81 multiplier) another \$33.9 million of spending in other sectors of the county's economy (Figure 4). Therefore, the combined effect represents 10.5% of the county's total economic output (i.e., \$75.4 million out of \$719.99 million).

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



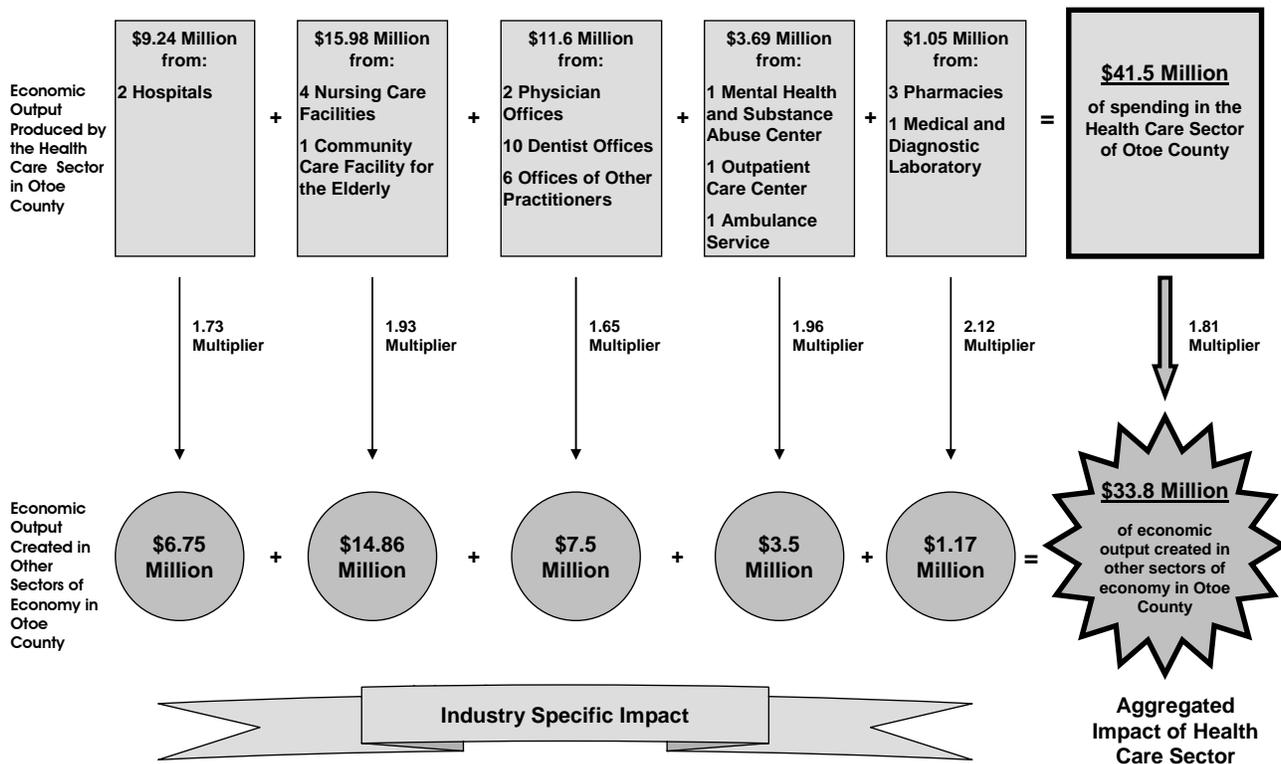
Sources: IMPLAN Data 2000. Minnesota IMPLAN Group, Inc. 2003. U.S. Census Bureau County Business Patterns, 2000. <http://www.census.gov/prod/www/abs/cbpttotal.html>. Community Health System Assessment Survey, Nebraska Center for Rural Health Research, UNMC, July, 2002.

Figure 3. The Economic Impact of the Health Care Sector on Income in Otoe 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/cbpttotal.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 Otoe County, Nebraska

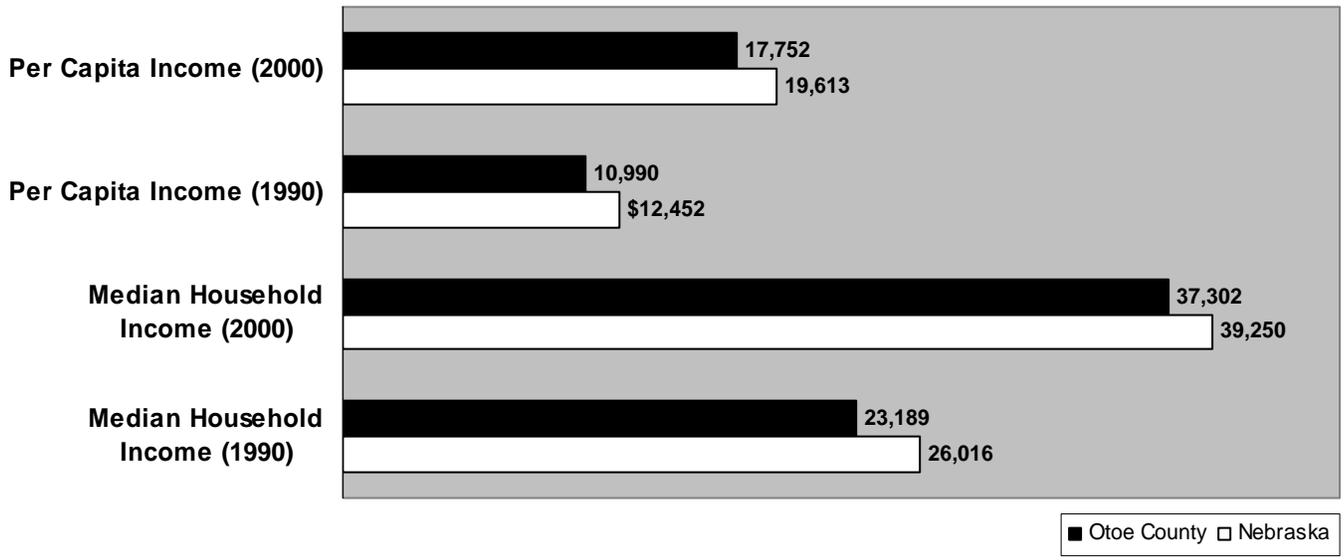


Sources: IMPLAN Data 2000. Minnesota IMPLAN Group, Inc. 2003. U.S. Census Bureau County Business Patterns, 2000. <http://www.census.gov/prod/www/abs/cbptotal.html>. Community Health System Assessment Survey, Nebraska Center for Rural Health Research, UNMC, July, 2002.

IV. SOCIO-ECONOMIC INDICATORS

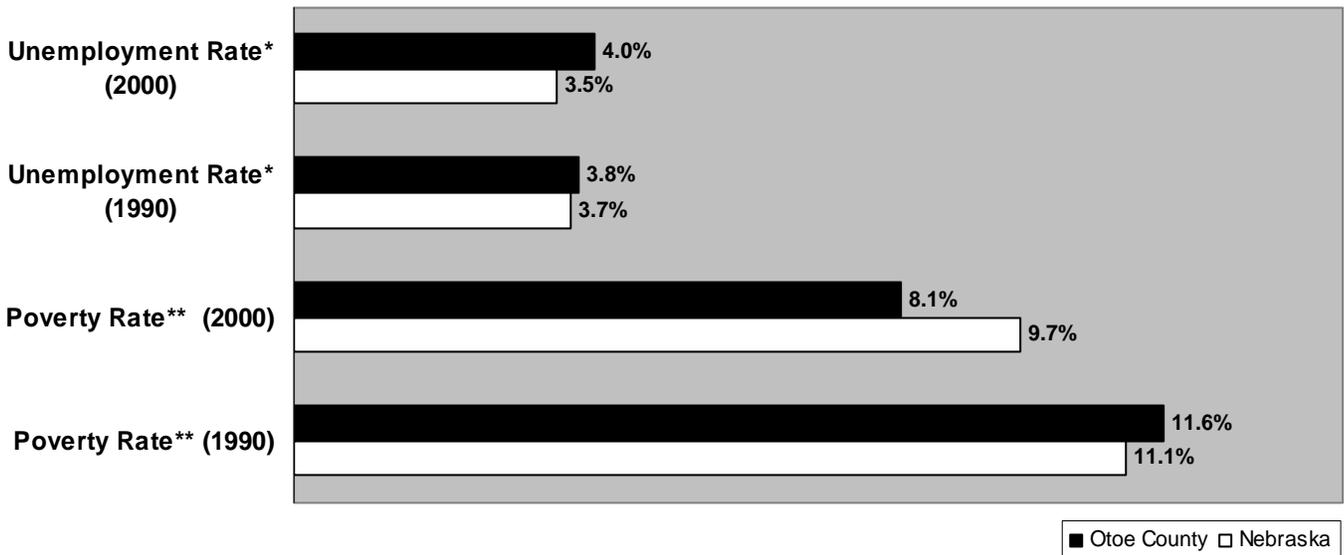
The median household income of the county has increased since 1990 by 60.9% to \$37,302 in 2000 (compared to \$39,250 statewide), and the per capita income of the county has increased since 1990 by 61.5% to \$17,752 in 2000 (compared to \$19,613 statewide) (Figure 5). Otoe County experienced a higher unemployment rate (4.0% vs. 3.5% statewide), while having a lower poverty rate (8.1% vs. 9.7% statewide) than the State in 2000 (Figure 6). Moreover, the county out-performed the State in two 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 and higher percentage of first births born to unmarried women, younger than 20, with less than a high school education.

Figure 5. Income for Otoe County and Nebraska, 1990 and 2000



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

Figure 6. Economic Indicators for Otoe 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.

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

Table 3. Selected Social Indicators for Otoe County and Nebraska

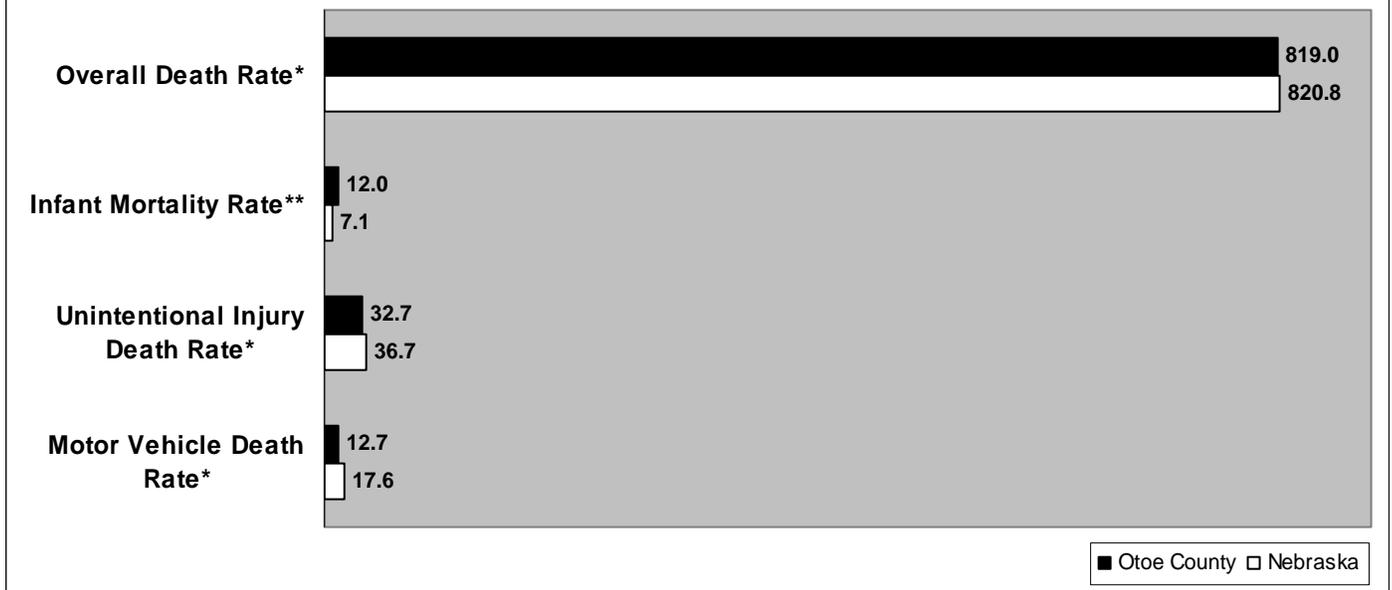
	Otoe County	Nebraska
Percent of residents aged 25 and older who did not graduate from high school (2000)	14.4%	13.4%
Percent of 7-12th graders who dropped out of school (2000-2001)	0.5%	2.5%
Percent of first births born to unmarried women, younger than 20, with less than a high school education (1997-2001)	12.0%	10.1%
Crime arrest rate per 1,000 population (1999)	31.0	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/Otoe/profiles.htm>

V. HEALTH STATUS INDICATORS

The residents of Otoe County had lower rates of motor vehicle deaths, deaths due to unintentional injuries, and a lower overall death rate when compared to the state (Figure 7). However, Otoe County had a higher infant mortality rate than the state between 1997 and 2001 (Figure 7). Otoe County had a higher rate of low-weight births and births to adolescents when compared to the state, as well as higher percentages of pregnant women who smoke. However, Otoe County had a higher percent of pregnant women who reported obtaining prenatal care during their first trimester when compared to the state, as shown in Figure 8. Among the top 5 leading causes of death of Otoe County residents, the county had a higher mortality rate than the state for cancer and cerebrovascular disease (Figure 9). Among the top 5 leading causes of hospitalization of Otoe County's residents between 1999 and 2000, the county had a higher hospitalization rate than the state for injuries and psychosis/mental health (Figure 10).

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

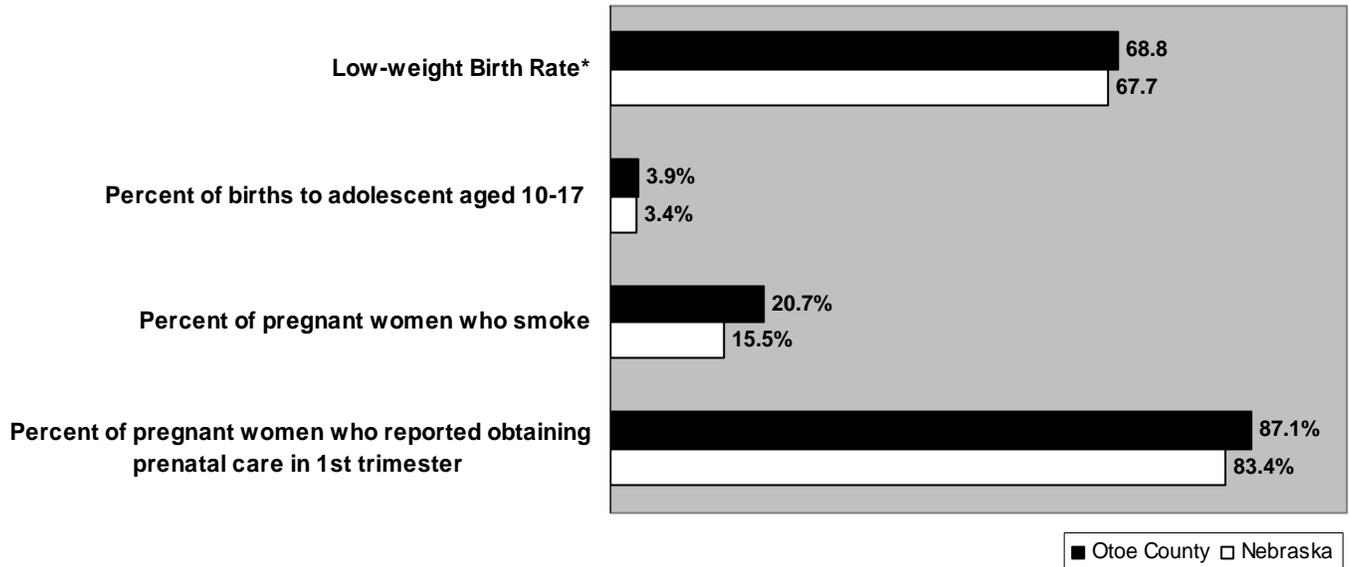


* Number of deaths per 100,000 population (age adjusted).

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

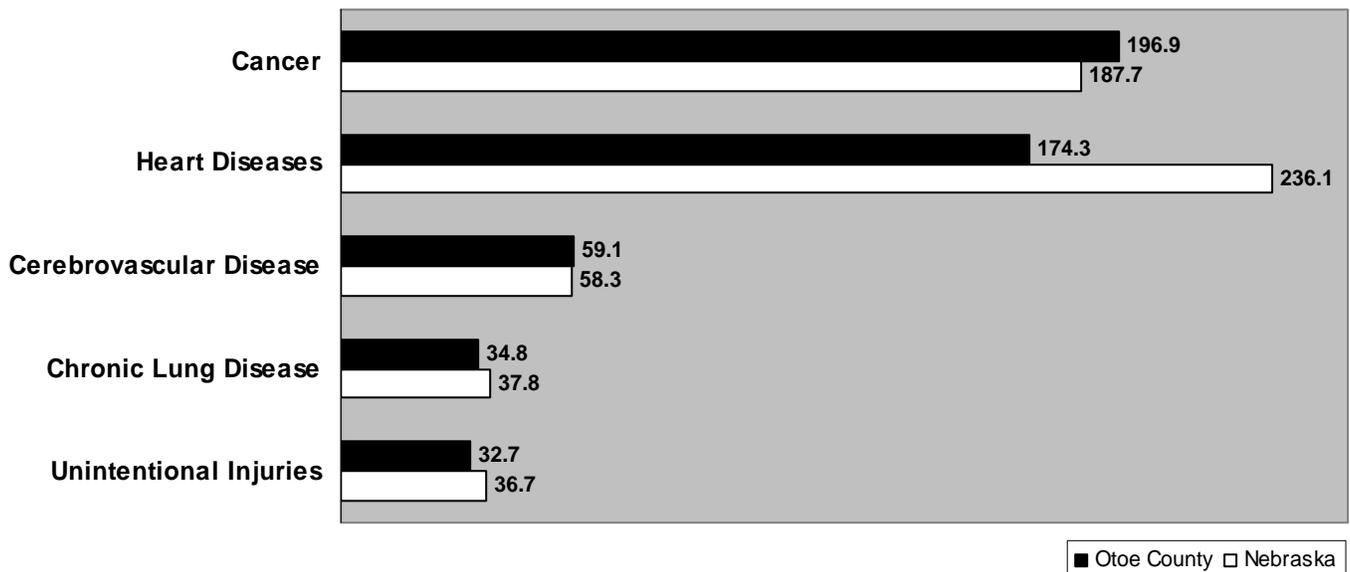
Source: Nebraska Health and Human Services County Profiles. <http://www.hhs.state.ne.us/profiles0802/Otoe/profiles.htm>

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



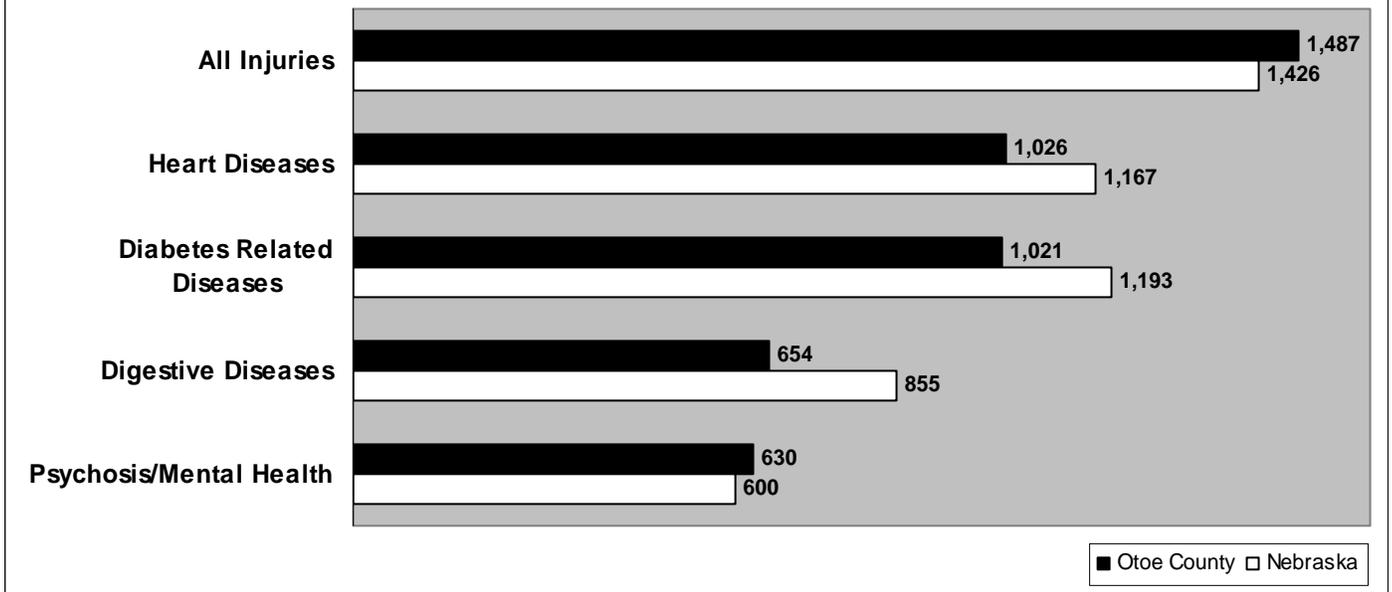
* Number of babies born weighing less than 2500 grams (per 1,000 births).
 Source: Nebraska Health and Human Services County Profiles. <http://www.hhs.state.ne.us/profile0802/Otoe/profile.htm>.

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

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



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

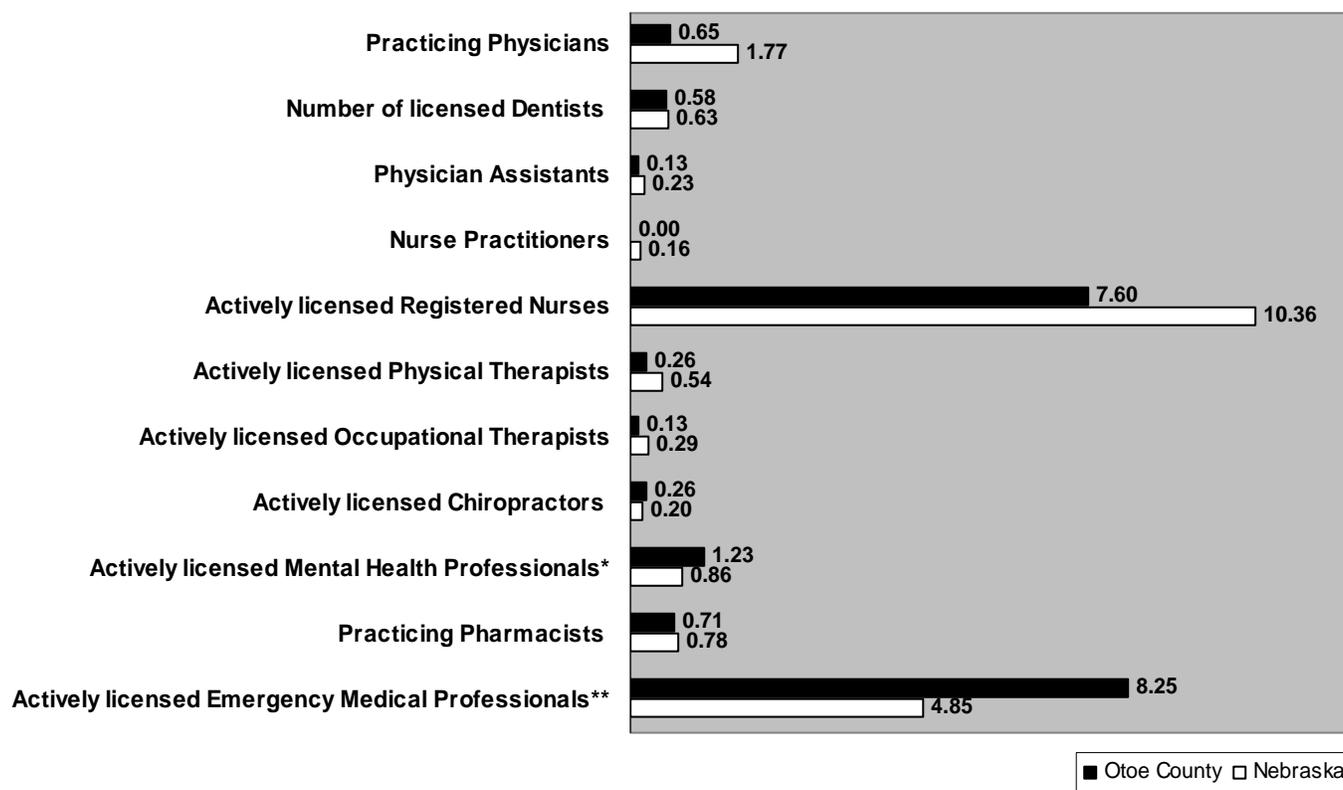
**Defined as the proportion of inpatient hospital discharges to a population within clearly specified geographic boundaries, age adjusted per 100,000 population. Source: Nebraska Health and Human Services County Profiles. <http://www.hhs.state.ne.us/profile0802/Otoe/profile.htm>.

VI. HEALTH CARE PROFESSIONALS

Otoe County is federally designated as a mental health professional shortage area. The State government has designated Otoe County as a health professional shortage area in the specialties of family medicine, general surgery, internal medicine, pediatrics, OB/GYN, psychiatry, occupational therapy and physical therapy.

Otoe County has a higher professional-to-population ratio than the state for actively licensed chiropractors, actively licensed mental health professionals, and actively licensed EMS professionals, but a lower ratio for other health professionals shown in Figure 11.

Figure 11. Number of Health Professionals Per 1,000 Population, Otoe County and Nebraska, 2001



* Mental Health Professionals include Psychiatrists, Licensed Psychologists, Licensed Master Social Workers, Certified Professional Counselors, Certified Mental Health Practitioner, and Marriage and Family Therapists.
 ** Actively Licensed Emergency Medical 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 Otoe County’s hospitals have a lower bed-to-population ratio than the state. However, Otoe County has a higher bed-to-population ratio for its long-term care industry. As a result, the need for hospital inpatient care (for the general public) may not be well met within the county.

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

	Otoe County	Nebraska
Number of hospital beds per 1,000 population	2.3**	5.6*
Number of Long Term Care beds per 1,000 elderly population (65+)	116.5*	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 like to thank Michael Shambaugh-Miller and Brian Hesford at the Nebraska Center for Rural Health Research for 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), or Roslyn Fraser (rfraser@unmc.edu) at the Nebraska Center for Rural Health Research, University of Nebraska Medical Center, (402) 559-5260.

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