



Nebraska Rural Health Works Richardson County, Nebraska: A Secondary Report on the Simulation Analysis with Hospital Closure

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Executive Summary on the Economic Impact of Hospital Closure

- ◆ The total economic impact, direct and indirect, of the closure of one hospital resulted in a loss of 50 jobs, a loss of \$980,000 in income, and a loss of \$2.2 million in economic output.
- ◆ After the closure of one hospital, the overall job creation due to health care (directly and indirectly) in Richardson County is estimated at 802 jobs, which accounts for 16.1% of the County's total employment.
- ◆ After the closure of one hospital, the overall income earned due to health care (directly and indirectly) in Richardson County is estimated at \$18.5 million, which accounts for 23.35% of the County's total income.
- ◆ After the closure of one hospital, the overall spending due to health care (directly and indirectly) in Richardson County is estimated at \$40.5 million, which accounts for 11.46% of the County's total economic output.

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Nebraska Center for Rural Health Research
in partnership with
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and
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I. INTRODUCTION

Richardson County has experienced the loss of one of its two hospitals.* Because the previously published Health Economic Profile for Richardson County (September 2004) was based on 2000 IMPLAN data that did not reflect this hospital closure, we conducted a secondary analysis to examine the economic impact of the healthcare sector in Richardson County after the hospital closure occurred. This report presents the results of this simulation analysis.

Over the past 5 years, the hospital in Humboldt, NE closed and re-opened several times (see Table 1). Because the hospital was closed most of the time, it was necessary to assess the economic situation during closure with a simulation analysis. During the year 2000, the year from which our data came, the hospital in Humboldt was closed for about 1/3 of the time and remained open for the other 2/3 of the period, indicating that both our primary and secondary analyses are meaningful. The actual economic impact of the healthcare sector in Richardson County is likely to fall somewhere between our two analyses.

Table 1. Operating Status of Humboldt Health Care in Humboldt, NE

Date	Status
Fall 1999 to July 2000	closed
August 2000 to April 2001	open
May 2001 to July 2001	closed
August 2001 to May 2002	open
June 2002 to present	closed

II. METHOD

Due to data availability, we used 2000 IMPLAN data but adjusted it by assuming that the only change was the closure of a hospital; all other factors were held constant. Thus, new entries of employment, income, and output that reflect the closure of one hospital in Richardson County were used in the economic impact analysis.

The Nebraska Hospital Association provided the revised employment and income numbers based on more recent data from the remaining hospital, thereby accounting for the absorption of some jobs from the closed hospital by the remaining hospital. To adjust output data, we used the per-employee output figure as generated by IMPLAN and multiplied it by the new number of employees.

* Humboldt Health Care, Inc. in Humboldt, NE closed. The remaining hospital in Richardson County is Community Medical Center in Falls City, NE.

III. RESULTS

(1) Economic Impact of the Health Care Sector After the Closure of One Hospital

Health care and social assistance is the largest employer within Richardson County, followed by Manufacturing, Retail trade, Accommodation and food services, and Wholesale trade. The Health Care sector of Richardson County includes one hospital, two nursing homes, one physician practice, four dentist practices, one optometry practice, one chiropractic practice, one inpatient substance abuse treatment center, one emergency medical service, three home health care services, and four pharmacies.

- ◆ The 482 jobs in the health care sector of Richardson County have created (through a 1.66 multiplier) another 320 jobs in other sectors of the County's economy (Figure 1). Therefore, the combined effect represents 16.1% of the County's total employment (i.e., 802 out of 4,979 jobs).
- ◆ The \$11.73 million of income earned in the health care sector of Richardson County has created (through a 1.58 multiplier) another \$6.78 million of income in other sectors of the County's economy (Figure 2). Therefore, the combined effect represents 23.35% of the County's total income (i.e., \$18.5 million out of \$79.25 million).
- ◆ The \$21.7 million spent in the health care sector of Richardson County has created (through a 1.86 multiplier) another \$18.77 million of spending in other sectors of the County's economy (Figure 3). Therefore, the combined effect represents 11.46% of the County's total economic output (i.e., \$40.5 million out of \$353.42 million).

Figure 1. The Economic Impact of the Health Care Sector on Employment in Richardson County, Nebraska

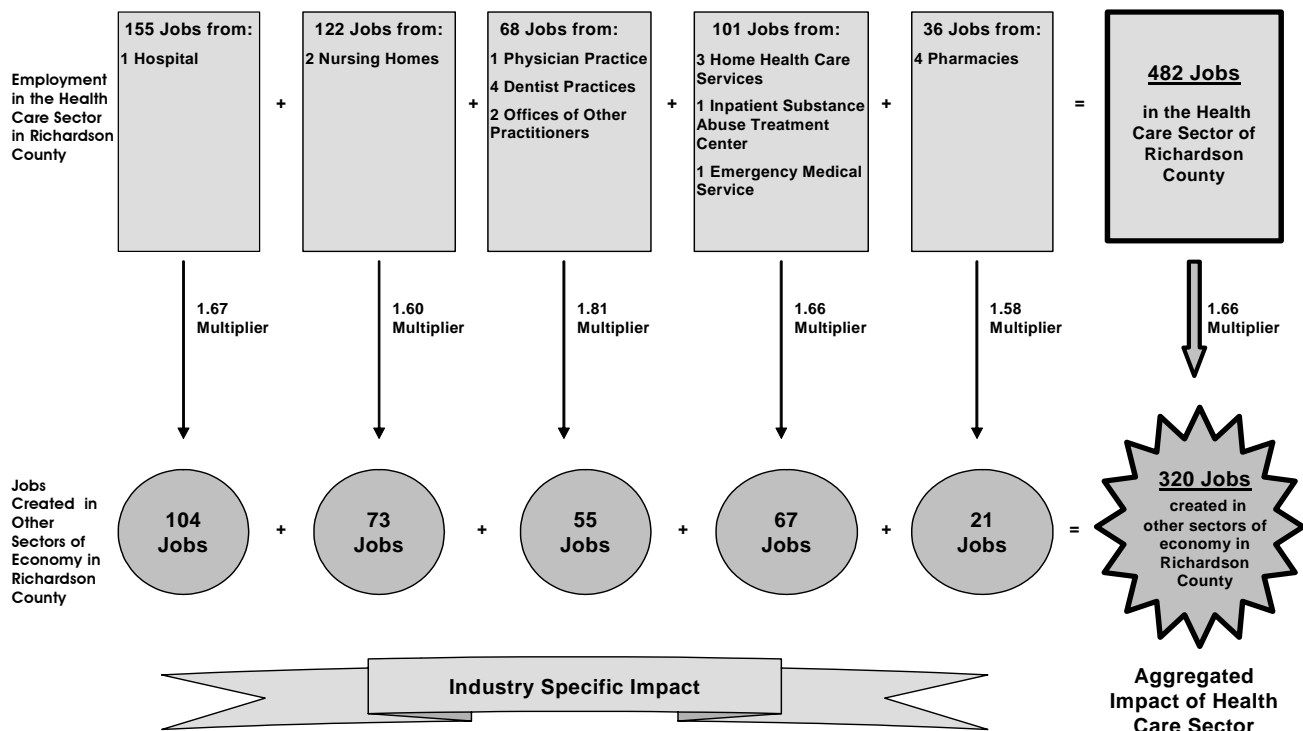
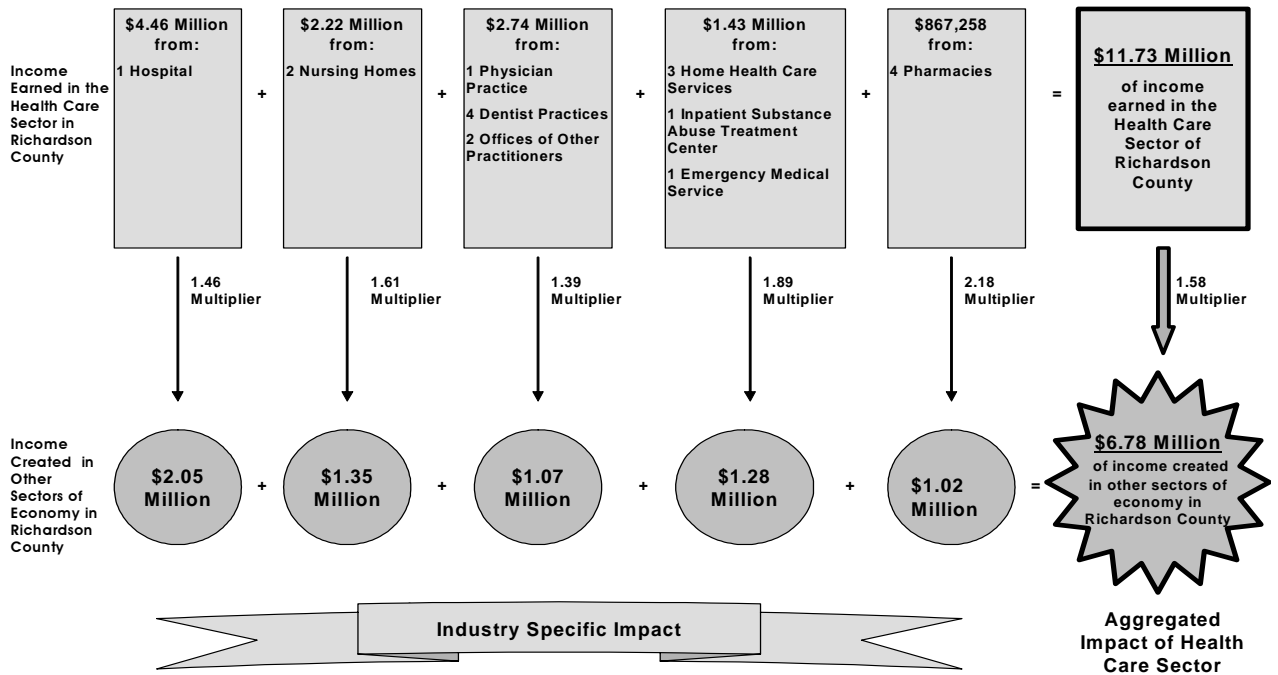
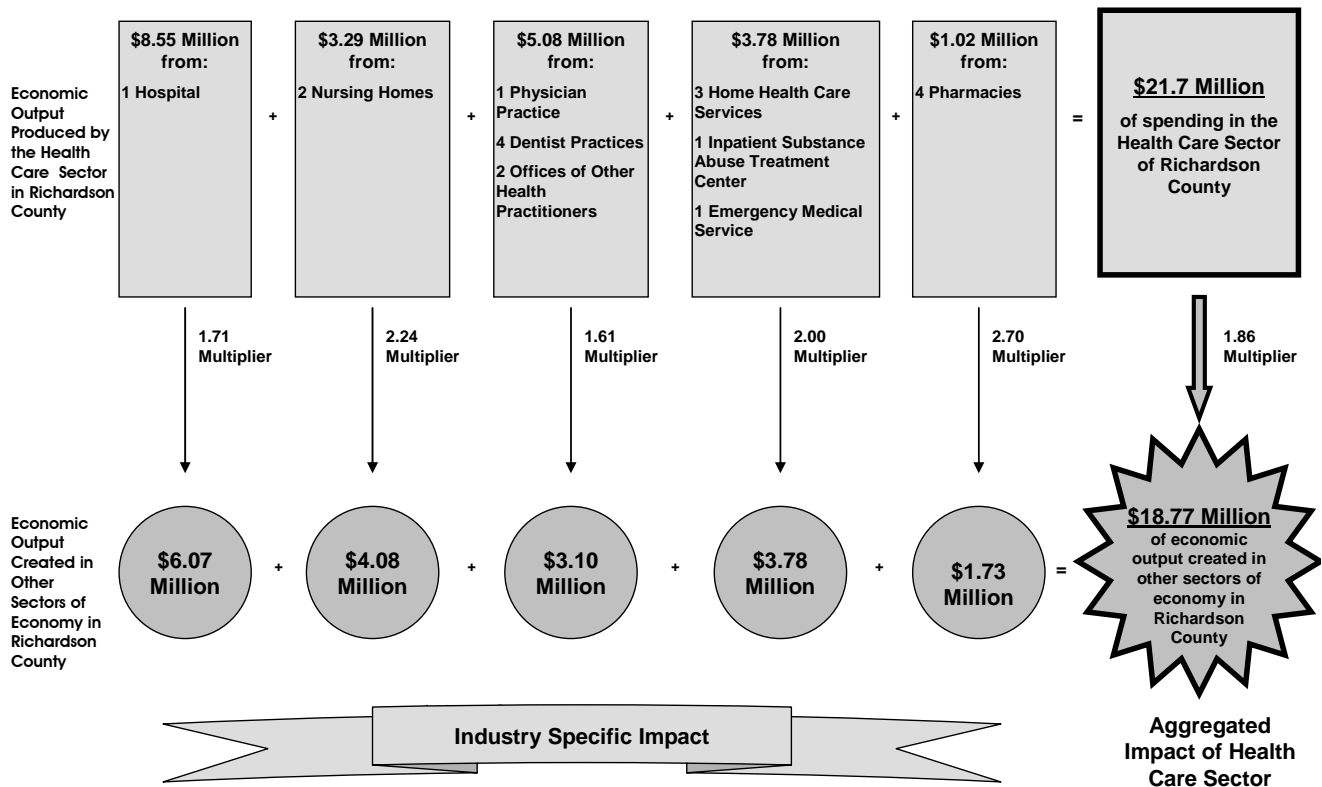


Figure 2. The Economic Impact of the Health Care Sector on Income in Richardson County, Nebraska



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 Impact of the Health Care Sector on Economic Output in Richardson 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.

(2) A Comparison of the Results Before and After Hospital Closure[†]

The sector-wide and industry-specific multipliers for employment, income, and output remained about the same after hospital closure. However, the magnitudes of the direct and indirect economic impact of the health care sector decreased because of the closure. The health care sector shows a loss of jobs, income, and output, but the impact of the closure is tempered by the transfer of some jobs, income, and output to the remaining hospital after the closure, which is reflected in our analysis.

- ◆ Before the hospital closure, 512 jobs in the healthcare sector created (through a 1.66 multiplier) another 340 jobs in other sectors of the County's economy. After the closure, the remaining 482 jobs in the health care sector of Richardson County have created (through a 1.67 multiplier) another 320 jobs in other sectors of the County's economy. The impact, direct and indirect, of the hospital closure results in a loss of 50 jobs.
- ◆ Before the hospital closure, \$12.39 million of income earned in the health care sector of Richardson County created (through a 1.57 multiplier) another \$7.08 million of income in other sectors of the County's economy. After the closure, the \$11.73 million of income earned through the remaining 482 jobs in the health care sector of Richardson County has created (through a 1.58 multiplier) another \$6.78 million of income in other sectors of the County's economy. The impact, direct and indirect, of the hospital closure results in a loss of \$980,000 in income.
- ◆ Before the hospital closure, \$23.0 million spent in the health care sector of Richardson County created (through a 1.86 multiplier) another \$19.67 million of spending in other sectors of the County's economy. After the closure, the \$21.7 million spent by the downsized health care sector of Richardson County has created (through a 1.86 multiplier) another \$18.77 million of spending in other sectors of the County's economy. The impact, direct and indirect, of the hospital closure results in a loss of \$2.2 million in output.

[†] For detailed results on the economic impact of the health care sector in Richardson County before the hospital closure, please refer to the primary report, PR04-14a.

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

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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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