



## Center for Rural Health

The University of North Dakota  
School of Medicine & Health Sciences

# The Economic Importance of St. Andrew's Health Center to Bottineau County, North Dakota



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*Connecting resources and knowledge to strengthen  
the health of people in rural communities.*

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## Introduction

St. Andrew's Health Center (SAHC) is a 25 bed Critical Access Hospital in rural North Dakota. Since its foundation in 1911, SAHC has been providing an expanding number of health services to the local residents. SAHC is sponsored by the Sisters of Mary of the Presentation and is committed to providing the best quality care available to all of its patients.

A comprehensive level of care is offered through SAHC's hospital and clinic. They provide a variety of services including radiology, surgical procedures, swing bed, laboratory, respite care, mental health services, physical therapy, cardiac rehabilitation, and stress testing. A 24-hour emergency room, acute care, and observation are available at the hospital. Speech and occupational therapy services are also contracted and a number of mobile services are available. In addition to this, a number of visiting specialists provide specific services and care.

The mission statement of SAHC reflects their belief in Christ centered quality care:

*St. Andrew's Health Center, in union with the Sisters of Mary of the Presentation, works for the glory of God by bringing the Word and Healing of the Jesus Christ to all, with a special concern for the poor and elderly. Through the shared ministry with the laity, St. Andrew's Health Center participates in the health care mission in the work of healing which is the work of God. Our individual inspiration is Jesus and His Gospel message. Permeated with the Charism of the Sisters of Mary of the Presentation, we minister to one another and to all who come to us for care*

## Objective

The purpose of this study is to illustrate the economic impact that St. Andrew's Health Center has on the economy of Bottineau County. The objective is to show how SAHC positively affects its local economy by quantifying its effects on employment levels and labor income. This report will also address the important role that SAHC has in offering services to the residents of Bottineau County.

## Health Care Overview

In rural America, the local hospital exists to meet the emergent and non-emergent needs of the community. That commitment is to the patients and their families by striving to provide the highest degree of health care for all needs. Rural Americans are guided by hometown values-

committed to quality services, continuity of care, assurance of qualified staff, and family involvement.

While the hospital is vital in that it provides medical services to all residents, it typically is also one of the largest employers in the county. Health care facilities are a source of external dollars, because most of their funding comes from sources outside the community such as the federal and state government. For many communities, the hospital is a source of millions of dollars in outside revenue. On the state level, the North Dakota Hospital Association states that, “community hospitals contribute an estimated \$1.8 billion dollars in direct impacts to North Dakota’s economy,” in 2008 alone.

In addition, hospitals are a significant employer, hiring both professional and nonprofessional staff in order to provide the care needed in the community. Those employees, in turn, buy goods and services from local businesses. Over 18,800 people were employed by community hospitals in 2008 as either part-time or full-time employees, according to the North Dakota Hospital Association. North Dakota has 38 rural hospitals: 36 Critical Access Hospitals and two Indian Health Services hospitals. The payroll and benefit dollars that these hospitals expend cycle through the local economy to generate additional dollars of income in other industries. Thus the healthcare system is a vital component of the county’s fiscal well-being, providing not only much needed medical services but also a significant contribution to the county’s economy. A strong case exists for the economic benefits that rural hospitals bring to the cities and counties where they exist.

## **Approach and Methods**

This report will first define the area of study and corresponding statistics. Next, an input-output analysis will be used to show the influence of the health sector on this area and its population. An input-output analysis models the interrelationship among all sectors – industry, households, government, health care, retail, faith, etc. – within an economy. It uses a multiplier effect to estimate the secondary impacts within an entire economy attributable to a change in a single sector. In other words, the multiplier effect refers to the way impacts from a primary source multiply to create secondary impacts throughout the rest of the economy.

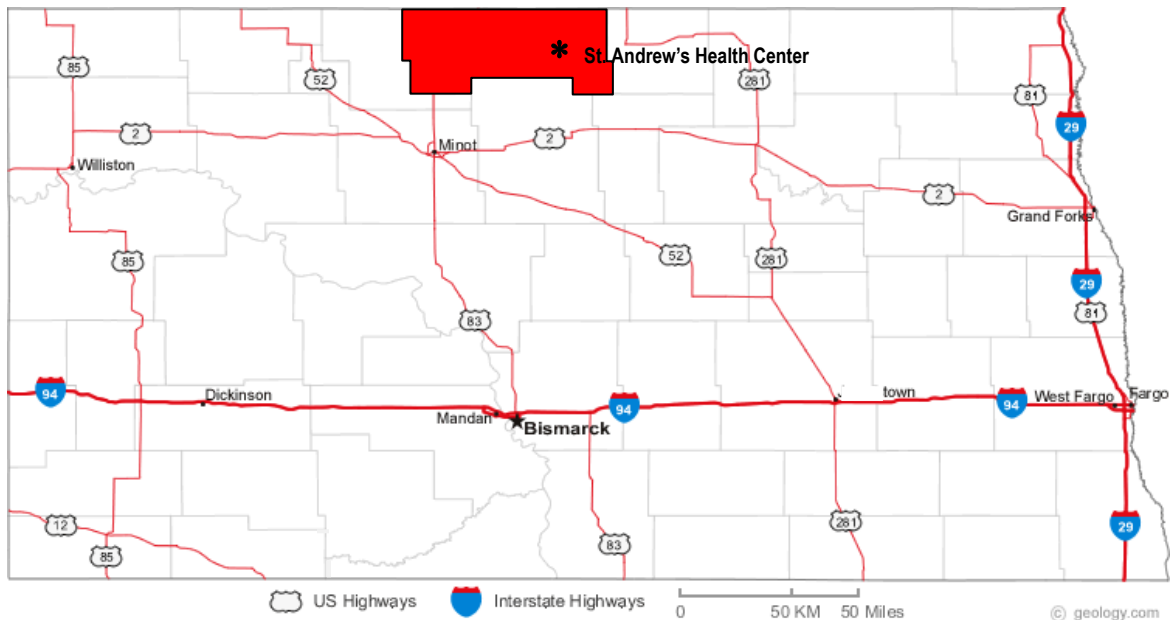
A type-II multiplier will be used in this report to derive secondary effects in two areas of St. Andrew’s Health Center: employment and labor income. The multipliers for employment and labor income have been calculated using the IMPLAN economic impact modeling software and data from The Minnesota IMPLAN Group, Inc. IMPLAN uses existing economic data in an input-output model. It uses a geographical database for model construction and impact analysis. IMPLAN was used to develop a countywide model of Bottineau County to derive the economic impact of SAHC’s services.

In addition to the economic multipliers, population data will be used to display the potential growth of demand for health care services in Bottineau County.

### Defining the Study Area

Bottineau County, North Dakota makes up the economy for this impact study. Neighboring Canada, the county is located in the central region of the state along the northern border. It is made up of 1,669 square land miles and houses approximately 4.3 people per square mile (U.S. Census Bureau). SAHC is located on the eastern side of the county, in the city of Bottineau. The city of Bottineau is located approximately 85 northeast of Minot, ND and had a population of 2,336 in the 2000 census. Figure 1 highlights the location of Bottineau County and SAHC.

**Figure 1 - Bottineau County, North Dakota**



### Study Area Statistics

According to 2009 fiscal year records, SAHC employed a total of 108 full-time and part-time workers and provided \$3,294,324 in income and benefits to these employees. A breakout of these statistics can be seen below in figure 2. These values are direct impacts that SAHC contributed to the Bottineau County economy throughout the year.

**Figure 2 - Direct Impact Data**

<b>Direct Impact Data</b>		
Direct Economic Impact of St. Andrew's Health Center on Bottineau County		
<b>St. Andrew's Health Center</b>	<b>Employment (Full Time &amp; Part Time)</b>	<b>Income (Wages &amp; Benefits)</b>
<b>Facility Employment</b>		
Hospital	94	
Clinic	14	
<b>Labor Income</b>		
Hospital		\$ 2,593,377
Clinic		\$ 700,947
<b>Total Direct Economic Impact</b>	<b>108</b>	<b>\$ 3,294,324</b>

SOURCE: Local data received from St. Andrew's Health Center - FYE 2009

In addition to directly providing the county with employment and labor income, SAHC also provides services for an aging population. According to 2009 population estimates by the U.S. Census Bureau, Bottineau County has a population of 6,352 people with 21.8% of these residents over the age of 65. This is a large percent of people who may have increased needs for health care services. The Population Bulletin from The North Dakota State Data Center shows that the median age for Bottineau County is 43.4 years (2000). This number is a 5.5 year increase over the previous census and a 15.4 year increase since 1950. This data shows us that *the population in Bottineau County has in increasing number of residents most likely to use SAHS's services*. If this trend continues, adults requiring care, especially those aged 65 years and older, will increase. SAHC can provide these residents a better quality of life, while at the same time retaining financial activity in the local economy. State level data also greatly supports this argument as the U.S. Census Bureau, Interim State Population Projections predict the state population of residents 65 and older to increase 61.3% between 2000 and 2030 (2005).

## Results

The economic impact of St. Andrew's Health Center is not limited to the direct effect of employment and income it provides for the county. This direct impact also generates a secondary impact. The secondary impact looks at the relationship of the facility and its employees with other sectors in the county; it is the sum of all labor income and jobs that are created outside of the health sector. When the facility, or its employees, does commerce with other businesses in the county, it is demanding services and creating income for employees from those other businesses. For example, a secondary impact from SAHC could include an

employee buying groceries at the local grocery store or the hospital purchasing cleaning supplies from a local retail store.

Using the IMPLAN data, as discussed above, employment and labor income multipliers were derived for health care services in Bottineau County. These multipliers were applied to SAHC's direct data. A breakout of the multipliers and their effects can be seen in figure 3.

**Figure 3 - Total Economic Impact**

<b>Total Economic Impact</b>				
Total Impact of St. Andrew's Health center on the Bottineau County Economy				
Area of Impact	Direct Impact	Multiplier	Secondary Impact	Total Impacts
<b>Employment</b>				
Hospital	94	1.31	29	123
Clinic	14	1.41	6	20
<b>Total Employment Impact</b>	108		34	<b>143</b>
<b>Labor Income</b>				
Hospital	\$ 2,593,377	1.29	\$ 760,840	\$ 3,354,217
Clinic	\$ 700,947	1.20	\$ 141,179	\$ 842,126
<b>Total Labor Income Impact</b>	\$ 3,294,324		\$ 902,019	<b>\$ 4,196,343</b>

SOURCE: Direct data received from St. Andrew's Health Center - FYE 2009  
Multipliers from Minnesota IMPLAN Group, Inc - 2007 data

The total economic impact on employment and labor income by SAHC is the sum of the direct impact that the facility provides and the secondary impact that the facility creates through demand. The 108 jobs that SAHC provides directly, creates another 34 jobs in the county outside of the health sector, making a *total economic impact of 143 jobs*. Likewise, the \$3,294,324 that SAHC provides its employees generates another \$902,019 of income in the county, providing *Bottineau County with a total impact of \$4,196,343 in labor income* for the year.

## **The Fiscal Status of North Dakota Hospitals**

St. Andrew's Health Center is a vital component of the county's fiscal well-being. In North Dakota, rural hospitals are an essential resource for their local communities; however, many are unfortunately in difficult financial situations. A recent assessment of the financial performance of 34 Critical Access Hospitals in North Dakota reflects that those hospitals are experiencing a mean operating margin of -3.1% (Blue Cross Blue Shield Reimbursement Workgroup, 2009). For some critical access hospitals in North Dakota this amounts to a loss of more than \$500,000 a year. Compare this -3.1% operating margin to a national study of Critical Access Hospital

Financial Indicators that shows the average total margin of Critical Access Hospitals nationally is +3.64% (Flex Monitoring Team, 2009). More importantly, the losses sustained by rural hospitals are not recent in origin and, for several facilities, have existed four or more years.

## **Conclusion**

St. Andrew's Health Center greatly affects the Bottineau County economy by generating 143 jobs and over \$4.19 million in labor income both inside and outside the health sector. In addition, the demand for medical services will grow as the senior population of Bottineau County continues to increase. SAHC positively impacts Bottineau County as it generates jobs and labor income, improves the quality of life for county residents, and keeps commerce active within the county.



## References

Blue Cross Blue Shield Reimbursement Workgroup. (2009). *Facility Statement of Operations Summary*. North Dakota.

Flex Monitoring Team. (2009). *CAH Financial Indicators Report: Summary of Indicator Medians by State*. Chapel Hill: University of North Carolina at Chapel Hill.

Minnesota IMPLAN Group, Inc. (2007). *IMPLAN North Dakota county data*.

North Dakota Hospital Association. (2008). *The Economic Pulse of North Dakota*. Bismarck, North Dakota.

North Dakota State Data Center. (June 2001). Median Age in North Dakota: 1950 to 2000. *The Population Bulletin*, 17(6).

U.S. Census Bureau. (n.d.) *State & County QuickFacts*. Retrieved June 8, 2010, from <http://quickfacts.census.gov/qfd/states/38/38009.html>

U.S. Census Bureau. (n.d.) Population Division, Interim State Population Projections. Retrieved May 20, 2010, from <http://www.census.gov/population/projections/35PyrmdND3.pdf>