

# The Economic Contribution of Southwest Health System, Inc. to Montezuma County, Colorado

Cortez, Colorado



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## Executive Summary

As the operating entity for Southwest Memorial Hospital, several clinics, and related health care programs, Southwest Health System, Inc. (SHS) is an important piece of Montezuma County's health and economic life. This report provides a detailed look at how SHS contributes to the economic life of Montezuma County.

To conduct the analysis, payroll and expenditure data were collected directly from SHS. This information was combined with both proprietary and public estimates of Montezuma County to create a highly customized economic model of the local economy. The latest year for which all data were available was 2010. The hospital sector has been tailored to accurately represent Southwest Memorial Hospital. The clinics and home health care program are included in other health care sectors that have been customized as well. The resulting 2010 model was used to analyze the entire economy and that portion attributable to SHS. Effects are expressed in terms of both employment (jobs) and earnings (millions of dollars).

Among major sectors in Montezuma County, the largest employers were local government, business and personal services, and wholesale/retail trade. The entire health care industry followed with nearly 1,200 jobs and a payroll of over \$44 million – nearly 10 percent of county employment and 11 percent of county earnings. In 2010, SHS employed 342 persons with a payroll of \$19.2 million. SHS employees received a wide range of compensation averaging \$56,000. This is well above the county-wide average of \$34,000. Accounting for both direct and secondary effects, SHS supported 3.6 percent (441 jobs) of county employment and 5.5 percent (\$22.4 million) of county earnings. This suggests that SHS has an employment multiplier of 1.29 and earnings multiplier of 1.16. That is, for every 10 jobs on the SHS payroll, an additional three jobs were generated in the county. And for every \$50,000 of payroll by SHS, another \$8,000 of income was received by workers in Montezuma County.

While all firms are important to Montezuma County, some industries drive more of the economy than others. Those industries are not necessarily the ones with the greatest total employment or payroll. Rather, industries that bring in the greatest amount of outside dollars are the fundamental economic engines of any region. Outside dollars can mean such things as tourism, service and product exports, Federal grants, Medicare and Medicaid payments, and returns on investments. Local spending of these monies is a base upon which all other local economic activity rests.

An analysis of Montezuma County for this report reveals that the county is well balanced, in that the leading employers are also the leading drivers. In 2010, government, business and personal services, and trade were the most important industries driving this economy. By bringing in outside dollars, these three major industries generated 59 percent of all employment throughout Montezuma County. Construction ranked fourth driving about 9 percent of all employment, followed by the health care industry, which drove eight percent of

all employment and earnings in Montezuma County. While the health care industry is a leading driver of the local economy, it drives less than some sectors because it primarily serves the local population that works and lives in the county. In 2010, 49 percent of all SHS payments for services were paid with outside dollars. Including direct and secondary effects, over 210 jobs and \$11.0 in earnings throughout Montezuma County were driven by SHS operations.

## Introduction

Southwest Health System, Inc (SHS) - a non-profit corporation - is an important piece of Montezuma County, Colorado in terms of both health and economic life. SHS operates Southwest Memorial Hospital in Cortez, Colorado and provides a variety of ancillary health care services throughout the county. The hospital is a 25-bed critical access facility that serves a local population of over 25,000 county-wide plus additional communities in neighboring counties. Looking to the future, SHS is considering development options to update the hospital and supporting facilities. In support of that vision, SHS desires to better understand the size and diversity it plays in the economic life of Montezuma County. This report provides information on employment, payroll, and other operational spending at SHS, and how these contribute to additional jobs and earnings throughout Montezuma County.

Unlike some analyses of this kind that rely upon general economic relationships, the analyses for this report were based on specific payroll and expenditure data collected directly from SHS. This detailed information was combined with both proprietary<sup>1</sup> and public<sup>2</sup> estimates of the Montezuma County economy to create a highly customized economic model of the local area. For example, the hospital sector of the model has been tailored to accurately represent Southwest Memorial Hospital. SHS data on clinics and its home health care program were included in other health care sectors that have been customized as well. Other sectors of the economy were based on detailed data provided by the Colorado Department of Local Affairs. The final model reflected SHS operations and county-wide economic conditions in 2010, the latest year for which all economic data were available. The model was used to analyze both the county as a whole and that portion attributable to SHS operations. A more detailed description of the modeling system and approach can be found in the appendix.

Economic effects are expressed in terms of both employment (jobs) and earnings (millions of dollars). Employment is a count of all filled positions – both full-time and part-time. It is not full-time equivalents, a measure often used for other purposes. The number of filled positions, or jobs, is the average for one year. Earnings – sometimes referred to as payroll – are the total compensation paid to employees over the same year. Earnings include wages and salaries, all benefits, and payroll taxes.

Economic effects can be classified as direct, indirect, and induced. Direct effects in this report are simply employment and payroll at SHS that result from the sale of health care services at its hospital, clinics, or home health care program. Indirect and induced effects are the result of subsequent spending by SHS or its employees.

Indirect effects are employment and payroll at businesses in Montezuma County triggered by SHS purchases of goods and services locally for its operations. These purchases start a local

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<sup>1</sup> The proprietary modeling system, including data, used was IMPLAN®. IMPLAN® is a product of MIG, Inc.

<sup>2</sup> Employment data were obtained from the Colorado Department of Local Affairs, State Demography Office. Confidential elements of the data were included in the modeling, but are not identifiable in this report.

chain-reaction. The local businesses that sell goods and services to SHS, in turn, spend a portion of their revenues locally for inputs to their own business operations. Employment and earnings generated at all the businesses in this local supply-chain are counted as indirect effects.

Induced effects are employment and payroll at businesses throughout Montezuma County when SHS employees spend a portion of their earnings locally for goods and services. Just as for indirect effects, the businesses that sell goods and services to SHS employees, in turn, spend a portion of their revenues locally for supplies into their own business operations. Employment and earnings generated at all the businesses in this second local supply-chain are counted as induced effects. In this report, indirect and induced effects are combined and called “secondary” effects. Together with direct or “primary” effects, the sum is called total effects.

## **SHS and the Montezuma County Economy in 2010**

### ***Major sectors of the economy***

Businesses in Montezuma County can be grouped into 162 distinct industries. Using standard definitions, these have been combined into ten major sectors for a more succinct picture of the economy. The sectors include agriculture, mining (including oil and gas), construction, manufacturing, transportation and utilities (including warehousing and shipping firms like UPS), trade (including both wholesale and retail), three service sectors, and government. The service sectors have been grouped to identify two highly visible components of the economy: health care – because it is the focus of this report – and visitor services. Visitor services include arts, recreation, lodging, and restaurants. Even though county residents are patrons of local restaurants and take advantage of local attractions, these businesses are the foundation for a tourism industry that is important to Montezuma County. The health care industry includes SHS operations and other health care providers, such as private physician offices, physical therapy practices, medical labs, and nursing homes. The remaining service firms are grouped in a sector called “all other services”. This group includes firms that provide both business and personal services, such as banking, insurance, accounting, internet providers, auto repair, and barbers. Government includes all Federal, state, and local government entities, including the Ute Mountain Ute tribal council and enterprises.

In 2010, there were just over 12,000 jobs in Montezuma County. Among the major sectors, the largest employers were government, all other services, and wholesale/retail trade. These sectors provided 60 percent of all jobs in the county. The entire health care industry followed with nearly 1,200 jobs or 10 percent of county employment. Health care was slightly larger than the visitor services industry (Table 1; Figures 1 and 2).

Earnings by major sector followed the same pattern among county leaders. Government, all other services, and wholesale/retail trade led in total payrolls, but together they accounted for only 31 percent of earnings county-wide. Health care, on the other hand, was fourth overall

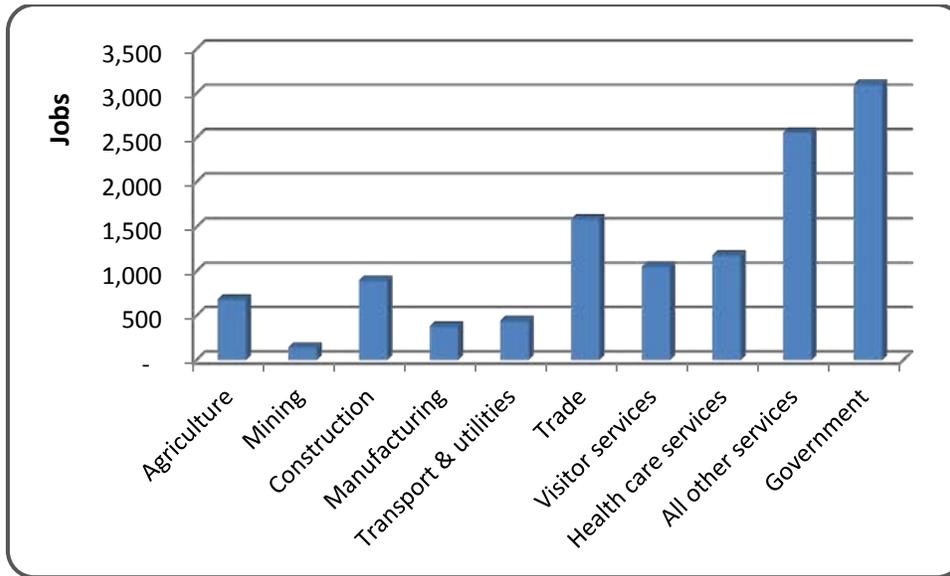
with earnings totaling \$44.1 million that accounted for 11 percent of all earnings in Montezuma County (Table 1; Figures 3 and 4). On average, earnings per job in the health care industry were among the best in Montezuma County. Earnings per job within the health care industry rank fourth at \$37,000, about 10 percent higher than the county-wide average of \$34,000. Only mining, transportation and utilities, and government had higher earnings per job than the health care industry (Table 1; Figure 5). While these are industry averages, the health care industry is characterized by a wide range of earning levels, ranging from physicians at one end to service workers at the other.

**Table 1. Employment, Earnings, and Earnings per Job within Major Industries in Montezuma County, 2010.**

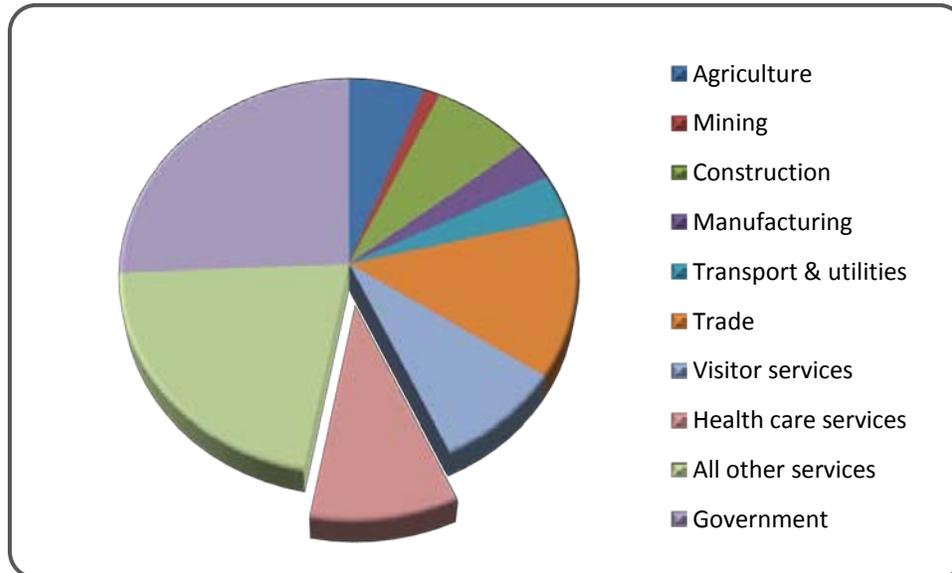
Major Industry	Employment	Earnings*	Earnings* per Job
	(jobs)	(\$ million)	(\$)
Agriculture	686	\$9.3	\$13,525
Mining	142	\$7.8	\$55,114
Construction	898	\$28.4	\$31,611
Manufacturing	380	\$13.4	\$35,266
Transport & utilities	445	\$20.6	\$46,343
Trade	1,590	\$46.6	\$29,292
Visitor services	1,058	\$16.9	\$15,935
<b>Health care services</b>	1,182	\$44.1	\$37,309
All other services	2,560	\$81.1	\$31,687
Government	3,104	\$141.0	\$45,435
<b>Total</b>	<b>12,043</b>	<b>\$409.1</b>	<b>\$33,973</b>

\* Earnings include wages, salaries, all benefits, and payroll taxes.

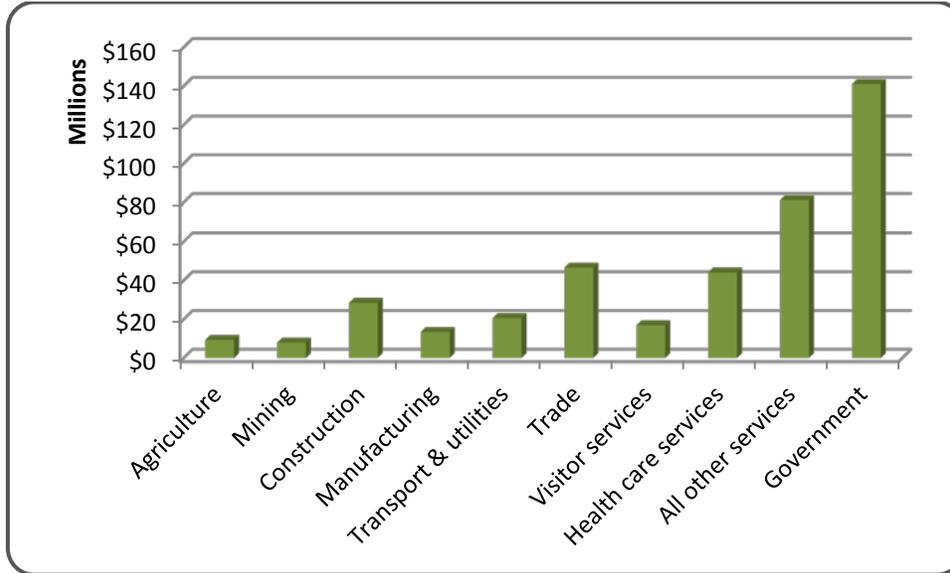
**Figure 1. Employment within Major Industries in Montezuma County, 2010.**



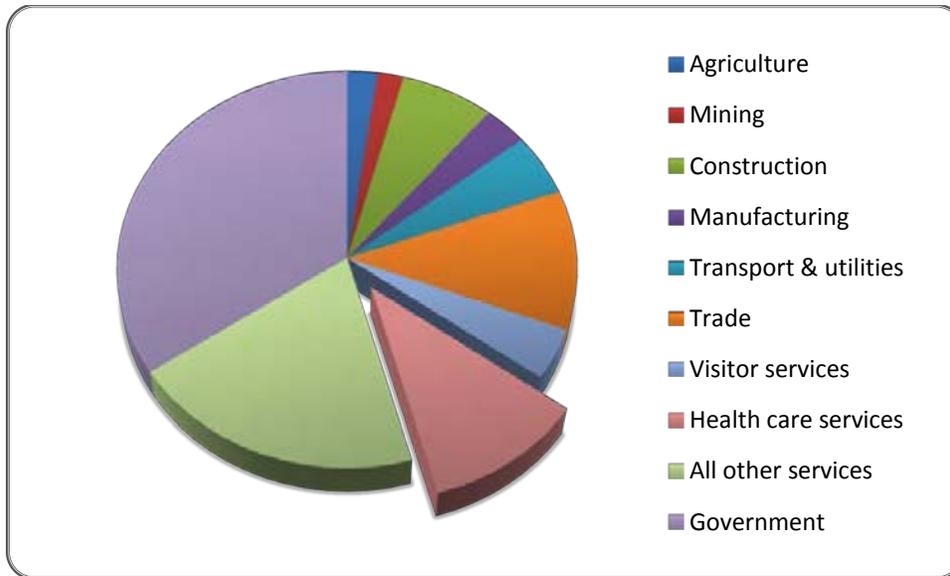
**Figure 2. Employment Shares within Major Industries in Montezuma County, 2010.**



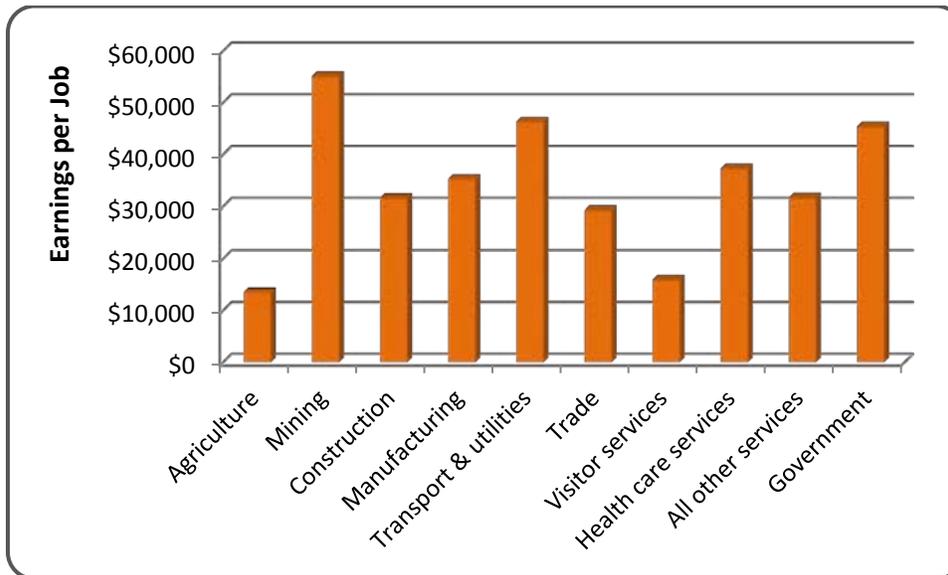
**Figure 3. Earnings within Major Industries in Montezuma County, 2010.**



**Figure 4. Earnings Shares within Major Industries in Montezuma County, 2010.**



**Figure 5. Earnings per Job within Major Industries in Montezuma County, 2010.**



### ***The health care industry and SHS***

The health care industry includes all organizations, profit and non-profit, that provide medical and related care. Included in the industry are all physicians, dentists, physical and occupational therapists, labs, emergency walk-in facilities, nursing and other residential care facilities, hospitals, and many other medical/health providers. For this analysis, providers have been classified into five detailed industries. All SHS services, including Southwest Memorial Hospital, are combined into a single sector. The balance of other health care providers in Montezuma County makes up the other four sectors, as shown in Table 2.

SHS is the largest single provider of health care services in the county, employing 342 with a payroll of \$19.2 million in 2010 (Table 2; Figures 6 through 9). This includes all full-time and part-time employees serving in the hospital, four clinics, and home health care program. Hospital volunteers, of which there are many, are not counted in these totals. Eighty-four percent of SHS employees serve in the hospital, 12 percent in the clinics, and 4 percent in home health care. Payroll was divided among these three parts of SHS in approximately the same proportions as employment. Earnings per job in SHS are the highest among all health care providers in the county, averaging \$56,000 per year in 2010 (Table 2; Figure 10).

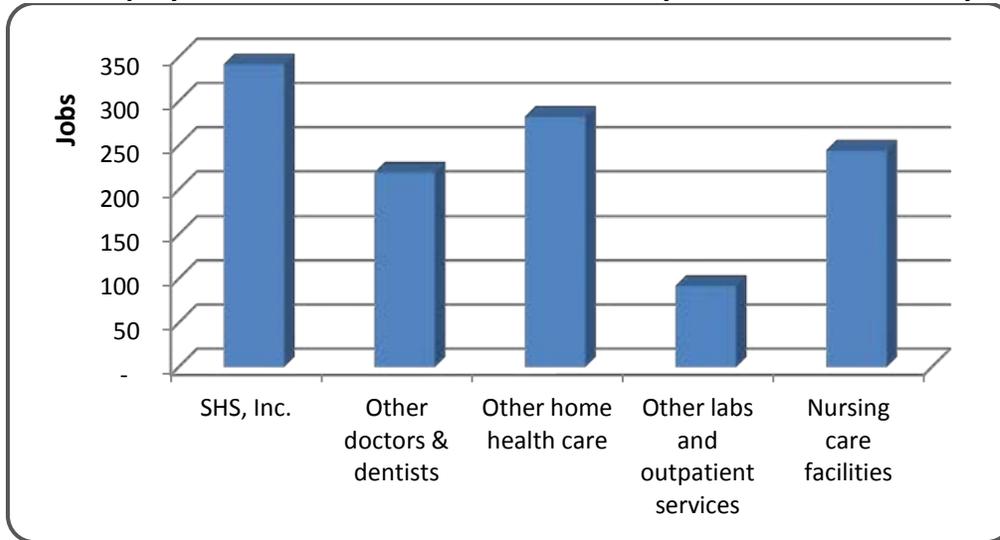
These were the direct effects of SHS resulting from sales of health care services in 2010 that totaled over \$37.3 million.

**Table 2. Employment, Earnings, and Earnings per Job within the Health Care Industry in Montezuma County, 2010.**

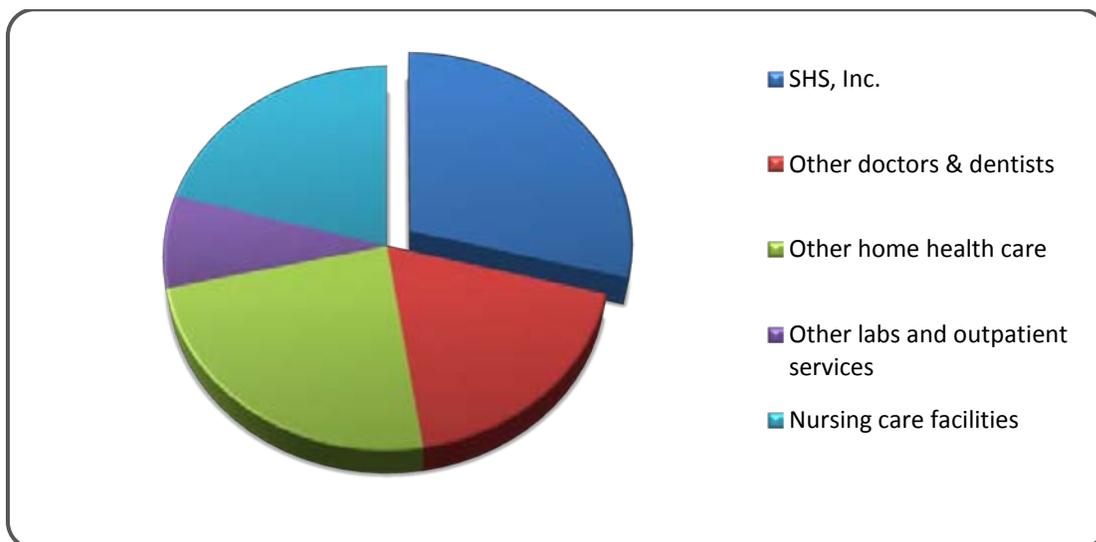
Detailed Industry	Employment (jobs)	Earnings* (\$ million)	Earnings* per Job (\$)
SHS	342	\$19.2	\$56,260
Other doctors & dentists	220	\$9.2	\$41,694
Other home health care	283	\$5.1	\$18,149
Other labs and outpatient services	92	\$3.0	\$32,644
Nursing care facilities	245	\$7.5	\$30,793
Total	1,182	\$44.1	\$37,309

\* Earnings include wages, salaries, all benefits, and payroll taxes.

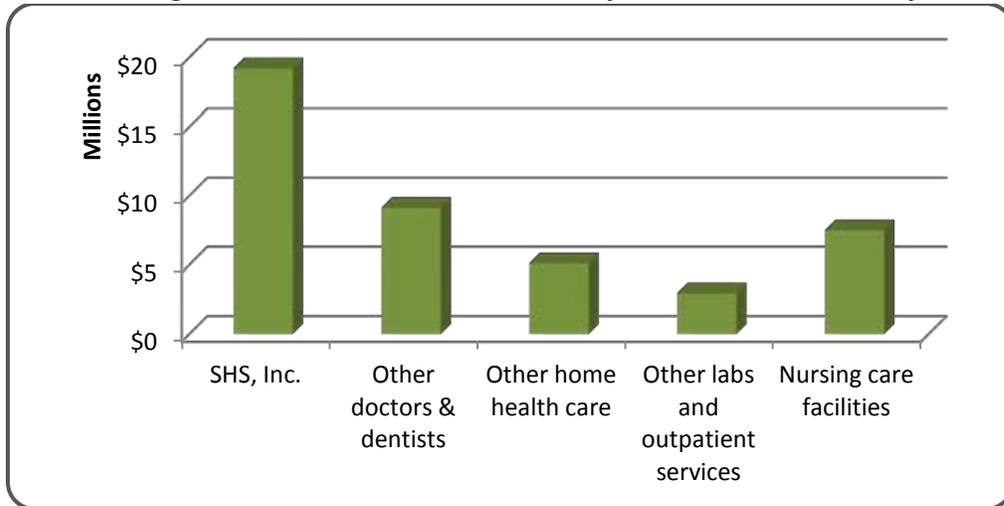
**Figure 6. Employment within the Health Care Industry in Montezuma County, 2010.**



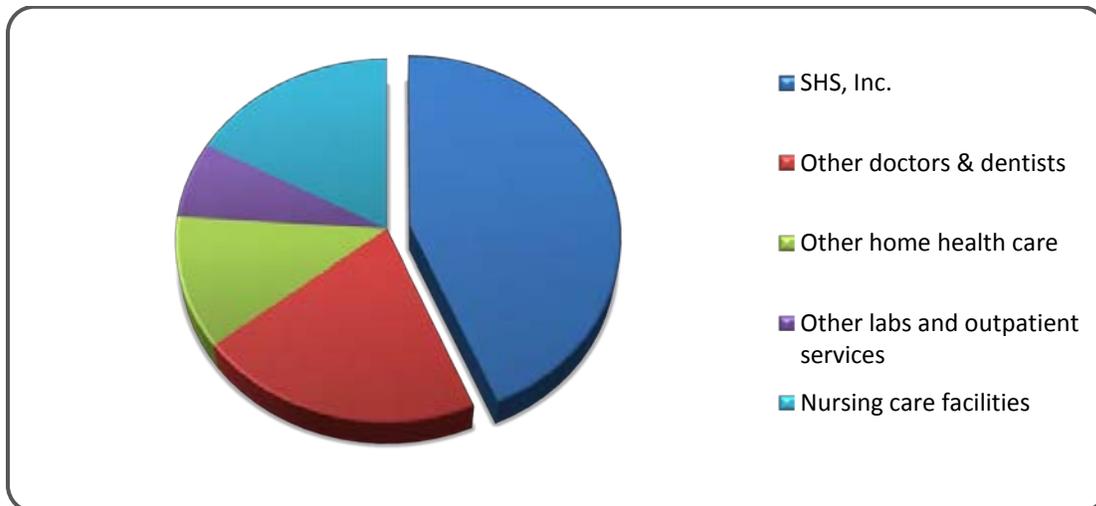
**Figure 7. Employment Shares within the Health Care Industry in Montezuma County, 2010.**



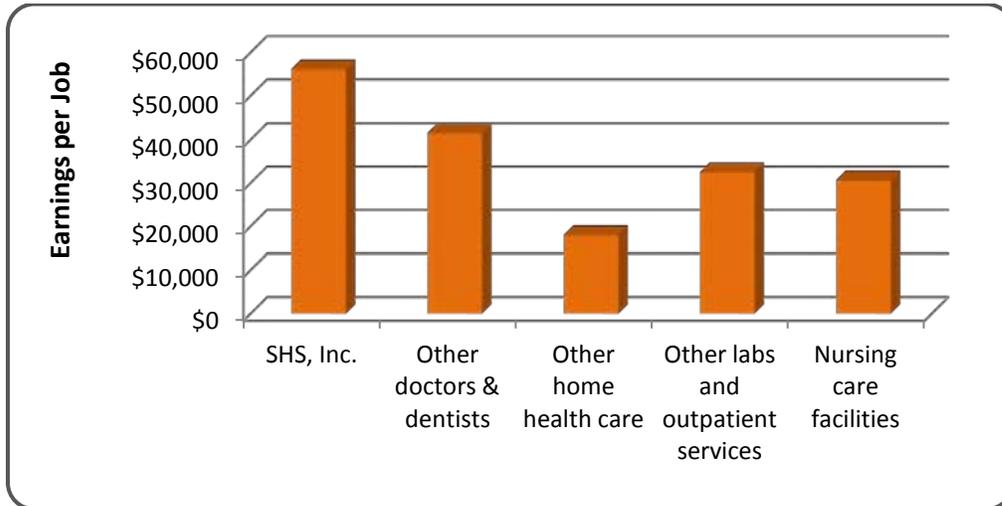
**Figure 8. Earnings within the Health Care Industry in Montezuma County, 2010.**



**Figure 9. Earnings Shares within the Health Care Industry in Montezuma County, 2010.**



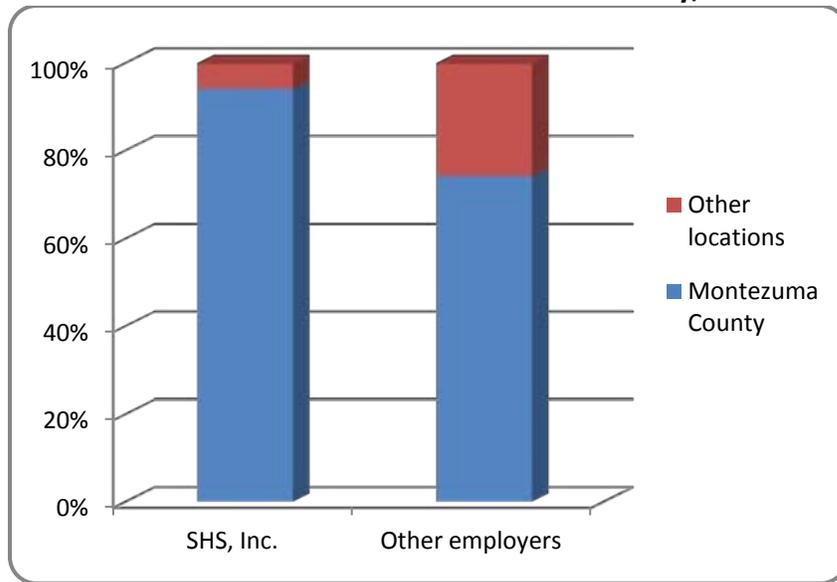
**Figure 10. Earnings per Job in the Health Care Industry in Montezuma County, 2010.**



### ***Labor flows from neighboring counties***

Employees who both work and reside in Montezuma County tend to spend a greater share of their earnings in the county, compared with those who commute from Durango or other locations. These employees provide critical support to local businesses that depend upon locals for their livelihood. Based on data from the U.S. Census Bureau, 75 percent of workers in Montezuma County also reside there, while 25 percent commute from neighboring counties and states. SHS employees, on the other hand, have a much higher residence rate and lower commuting rate. Ninety-four percent of SHS workers live in Montezuma County (Figure 11). Because SHS employees both work and live in the county, their impact on the local economy is generally greater than employees of other businesses.

**Figure 11. Residence of Workers in Montezuma County, 2010.**



Sources: SHS, Inc for 2010; LEHD data for 2009 from U.S. Census Bureau.

### ***Purchases from within Montezuma County***

As described in the introduction, secondary effects result from two spending streams that begin with SHS and its employees. The first spending stream starts with purchases made by SHS from local businesses. In 2010, SHS spending included such things as utilities, office supplies, ambulance repair, gasoline, rent, and advertising. The share of each dollar spent locally on goods and services depends in large measure on the opportunities available. Because rural counties have fewer spending opportunities, the impact of total business purchases is much smaller than those in more urban areas. This is especially true for industries like health care that require highly specialized equipment, tools, and supplies. Out of the \$16.7 million SHS spent in 2010 on operational expenditures, \$2.8 was received by local businesses. This means that about \$0.15 of every dollar spent on goods and services by SHS to operate the hospital, clinics, and home health care program was received by local businesses. This may appear small, but it is very typical of industries requiring specialized goods and services in a rural setting. As shown later, it is also important for sustaining business throughout Montezuma County.

The second spending stream is started by SHS employees and their households. This spending includes everything from retail purchases, like groceries and school supplies, to services, like barber shops and banking. It also includes goods that are produced locally, like dairy products or furniture. Just as for business spending discussed above, the share of each payroll dollar spent locally depends in large measure on the spending opportunities available to local residents. Because rural areas such as Montezuma County have fewer spending opportunities compared with larger cities and urban centers, fewer dollars are captured locally. It should also be noted that before employee households can spend their earnings, payroll taxes, income tax withholding, saving for retirement, and other items are deducted from their paycheck. Out of

the \$19.2 million SHS payroll in 2010, employees living in Montezuma County received \$15.6 million and spent about \$6.0 locally, or \$0.30 of every payroll dollar. Because most SHS employees reside locally, \$0.30 of local spending for every payroll dollar was a larger share than the average businesses in Montezuma County.

The purchases described in this section are just the first round of secondary effects in Montezuma County. Total effects are discussed next.

### ***Economic contribution of SHS to Montezuma County***

In 2010, SHS made a vital contribution to the Montezuma County economy in terms of both jobs and earnings. With direct employment of 342, local spending by SHS and its employees generated an additional 99 jobs. This additional employment was located mostly in other offices of health care providers, other firms offering business and personal services, and in retail stores. With 441 total jobs, SHS and its employees generated 3.7 percent of total county employment. From an earnings standpoint, SHS supported \$22.4 million or nearly 5.5 percent of total county earnings. Details by major sector are shown in Table 3 and Figure 12. Two reasons for the higher share of county earnings compared with employment were 1) SHS jobs that pay more than the county average and 2) nearly all jobs were filled by those living within the county.

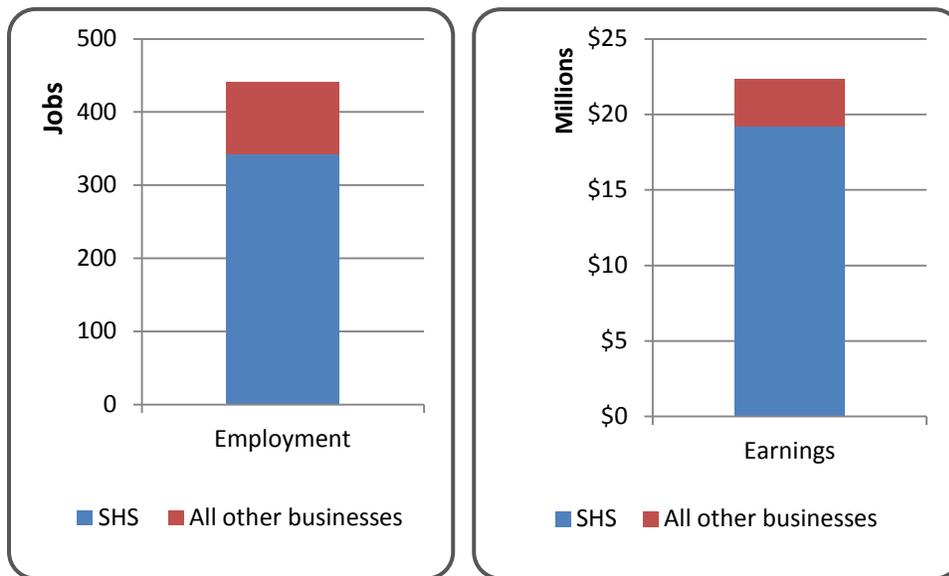
These results indicate that SHS has an employment multiplier of 1.29 and earnings multiplier of 1.16. That is, for every 10 jobs on the SHS payroll, an additional three jobs are generated in the county. And for every \$50,000 of payroll by SHS, another \$8,000 of income is received by workers in Montezuma County.

**Table 3. Economic Contribution of SHS, Inc in Montezuma County, 2010 (employment & earnings).**

Major Industry	Employment (jobs)		Earnings* (\$ million)	
	SHS (direct only)	Total (direct & secondary)	SHS (direct only)	Total (direct & secondary)
Agriculture	-	0	-	\$0.0
Mining	-	0	-	\$0.0
Construction	-	0	-	\$0.0
Manufacturing	-	0	-	\$0.0
Transport & utilities	-	2	-	\$0.1
Trade	-	24	-	\$0.7
Visitor services	-	14	-	\$0.2
<b>Health care services</b>	342	373	\$19.2	\$20.5
All other services	-	26	-	\$0.7
Government	-	2	-	\$0.1
<b>Total</b>	<b>342</b>	<b>441</b>	<b>\$19.2</b>	<b>\$22.4</b>

\* Earnings include wages, salaries, all benefits, and payroll taxes.

**Figure 12. Economic Contribution of SHS, Inc in Montezuma County, 2010 (employment & earnings).**



## Health Care as a Driver of the Montezuma County Economy

All businesses are important to Montezuma County, but some businesses drive more of the economy than others. Industries that drive the economy are not necessarily those that hire the most employees or have the largest payrolls. Rather, businesses that make sales to parties using outside dollars are the fundamental economic engines of any region. Outside dollars can mean such things as sales to tourists, service and product exports, Federal grants, Medicare and Medicaid payments, retirement pensions, and returns on investments. Local spending of these monies is a base upon which all other local economic activity rests. Every job in Montezuma County can be traced ultimately to outside dollars received by some business as payment for goods and services.

The contribution analysis just discussed for SHS was based on total sales of goods and services regardless of where patient dollars originated. Some portion of health care services was sold to residents who paid for it using income they earned locally. Co-pays under employer health insurance plans are an example of local dollars. This portion of health care services did not count as a driver. However, when patients used outside dollars – such as Medicare or Medicaid coverage – to pay for the services, that share was a driver to the local economy. The same distinction applies to other providers in the health care industry, and indeed to all other businesses in the county. This analysis identified the jobs and income throughout the county that ultimately depend upon outside dollars received by each major industry and by SHS.

Analysis of Montezuma County reveals that the economy was well balanced with regard to drivers. Unlike many areas of the county, the leading employers were also the leading drivers. All levels of government and all other services (business and personal) were the most important major industries driving this economy. By bringing in outside dollars, these two industry groups generated half of all employment throughout Montezuma County. Trade, construction, and health care each drove between eight and 11 percent of jobs county-wide. From the perspective of earnings, government and all other services generated 55 percent of earnings throughout the county. Trade, construction, and health care each drove about 9 percent of county-wide earnings (Table 4; Figures 13-16).<sup>3</sup>

While the health care industry was a leading driver of the local economy in 2010, it drove less than some sectors because it primarily served a local population that worked and lived in the county. Over eighty-five percent of patients at SHS facilities are Montezuma County residents, many of whom use their local earnings to pay for some of their health care. Payments received from Medicare, Medicaid, and the Colorado Indigent Care Program were the primary reasons that the health care industry was a major driver of the local economy in 2010.

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<sup>3</sup> A driver analysis of Montezuma County was prepared for 2007 in Southwest Colorado Economic Drivers (Region 9 Economic Development District of Southwest Colorado, Inc. 2010). That analysis was structured and presented to highlight other components of the Montezuma County economy. Because the purpose of that report and this one are different, driver results may be difficult to compare.

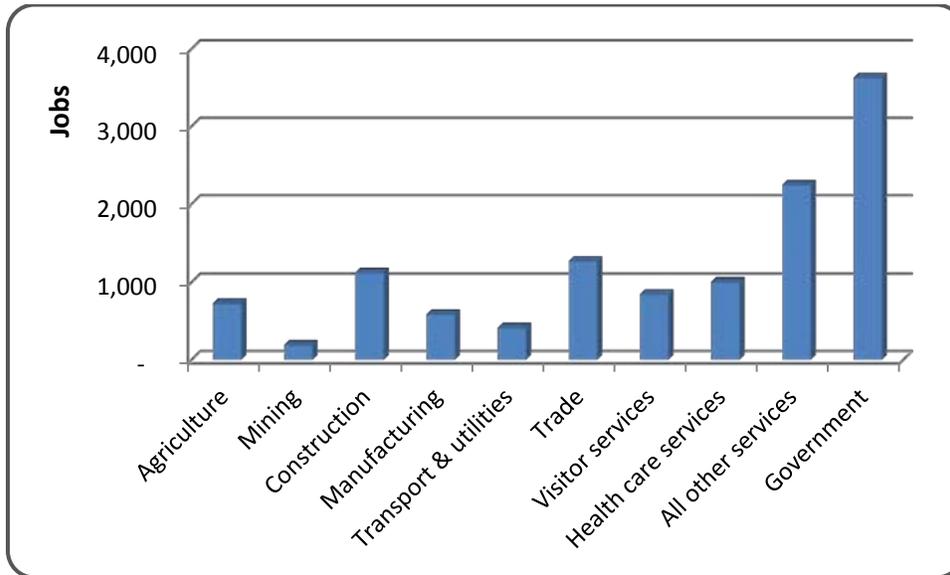
In 2010, 49 percent of all SHS payments for services were paid with outside dollars. Including direct and secondary effects, over 210 jobs and \$11.0 million in earnings throughout Montezuma County were driven by SHS operations.

**Table 4. Employment, Earnings, and Earnings per Job throughout Montezuma County Driven by Outside Dollars Received by Major Industry, 2010.**

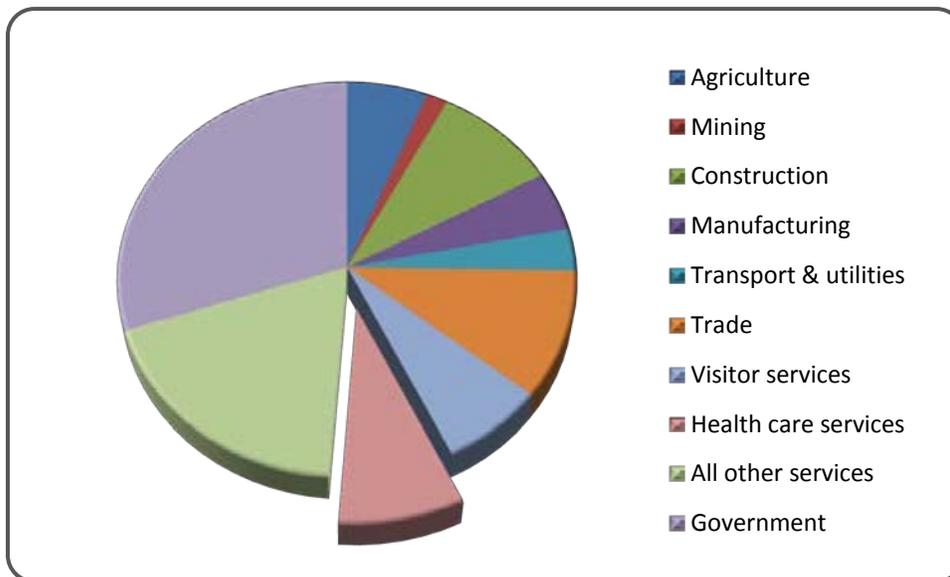
Major Industry/Driver	Countywide Employment	Countywide Earnings*	Earnings* per Job
	(jobs)	(\$ million)	(\$)
Agriculture	729	\$11.4	\$15,585
Mining	191	\$9.4	\$49,018
Construction	1,123	\$35.5	\$31,654
Manufacturing	585	\$19.5	\$33,418
Transport & utilities	415	\$17.9	\$43,271
Trade	1,272	\$37.6	\$29,575
Visitor services	847	\$15.4	\$18,129
<b>Health care services</b>	1,005	\$34.7	\$34,558
All other services	2,247	\$72.8	\$32,390
Government	3,629	\$154.9	\$42,680
<b>Total</b>	<b>12,043</b>	<b>\$409.1</b>	<b>\$33,973</b>

\* Earnings include wages, salaries, all benefits, and payroll taxes.

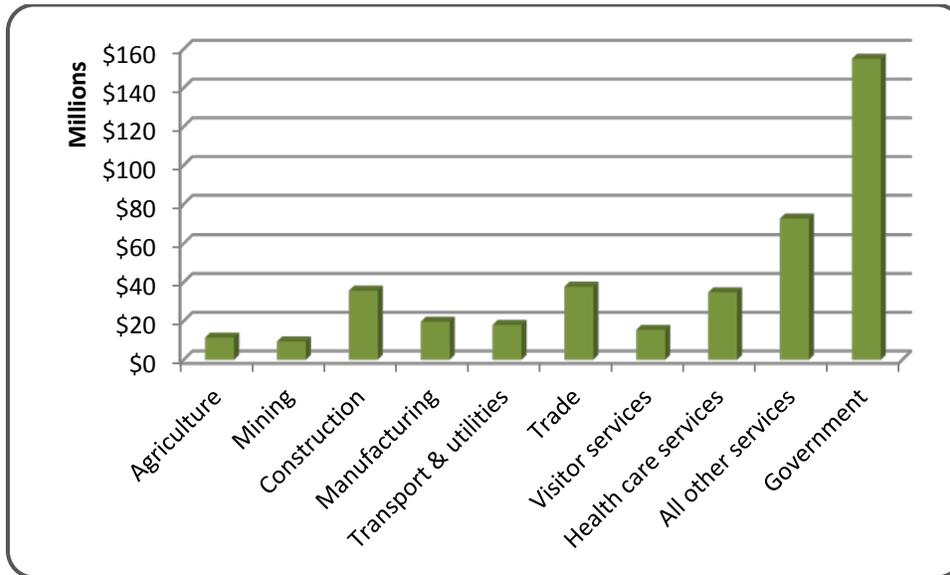
**Figure 13. Total Employment throughout Montezuma County Driven by Outside Dollars Received by Major Industry, 2010.**



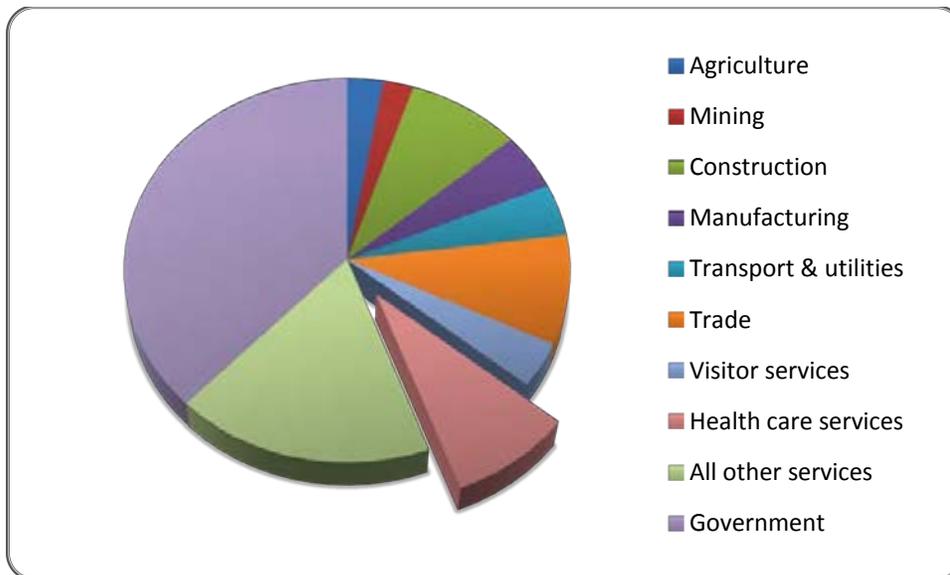
**Figure 14. Total Employment Shares throughout Montezuma County Driven by Outside Dollars Received by Major Industry, 2010.**



**Figure 15. Total Earnings throughout Montezuma County Driven by Outside Dollars Received by Major Industry, 2010.**



**Figure 16. Total Earnings Shares throughout Montezuma County Driven by Outside Dollars Received by Major Industry, 2010.**



## **Conclusion**

With Southwest Memorial Hospital, four clinics, and a home health care program, SHS is an important piece of the Montezuma County economy. In 2010, SHS employed nearly three percent of all workers in the county who received 4.7 percent of all earnings. Counting all secondary effects, SHS supported over 3.6 percent of all jobs and nearly 5.5 percent of all earnings. SHS employees received a wide range of compensation that averaged \$56,000. This was well above the county-wide average of \$34,000. Because nearly all SHS employees are locals, a better-than-average share of payroll stays within the county. As an economic driver, SHS draws a substantial share of outside dollars through Federal and State payments, such as Medicare and Medicaid, as well as patients who rely on investments and paychecks from outside the county. Because of these outside dollars, SHS drives nearly two percent of local employment and three percent of local earnings.

# Appendix

## *References*

Colorado Department of Local Affairs, State Demographers Office. 2012. Unpublished employment data. Denver, CO.

Region 9 Economic Development District of Southwest Colorado, Inc. 2010. Southwest Colorado Economic Drivers. Prepared by Lloyd Levy Consulting, LLC. Wheat Ridge, CO.

## *The modeling system*

The economy of any region is a complex web of interactions. Industries, households, and governments all engage one another to meet local demands for a vast array of goods and services. Computer modeling of local economies is an efficient and effective way to make sense of these complexities. The IMPLAN<sup>®</sup> modeling system was used to develop a current economic model of SHS and Montezuma County.

IMPLAN<sup>®</sup> is a leader in regional economic modeling systems across the U.S. The system was first developed by the USDA-Forest Service in cooperation with the Federal Emergency Management Agency and the Bureau of Land Management during the late 1970s. In 1987, data generation for IMPLAN<sup>®</sup> was provided by the University of Minnesota. In 1993, MIG, Inc was formed to privatize the development of IMPLAN data and software. Since that time, IMPLAN<sup>®</sup> has become a standard for economic modeling that is recognized by universities, government agencies, non-profit organizations, and private consultants across the U.S. Hundreds of publications have referenced IMPLAN, ranging from peer-reviewed academic journals to local economic development newsletters.

The IMPLAN<sup>®</sup> system includes both data and software. Datasets are prepared annually using the latest economic data that are publicly available. Unique datasets are available by county for the entire U.S., with data by zip codes available upon request. Data from a variety of Federal sources are reconciled to provide a consistent set of estimates that can be aggregated to state and national levels. Proprietary techniques are used to estimate data that cannot be disclosed because of Federal confidentiality requirements, allowing users to publish detailed study results. Proprietary estimates of trade flows for 440 commodities between all U.S. counties are key to the creation of credible, local models using the system.

While IMPLAN<sup>®</sup> data was used initially to provide a credible picture of Montezuma County, the model was further customized with state and local information. First, the model was calibrated to local employment data provided by the Colorado Department of Local Affairs, State

Demography Office. These are unpublished data that include confidential records which have been aggregated in this report to prevent disclosure. Secondly, financial and payroll data provided by SHS replaced more generic health care sectors with ones that exactly represented SHS operations in 2010. The resulting model is a reliable characterization of SHS specifically and Montezuma County as a whole.

### ***About the researcher***

Mr. Retzlaff is an economist with extensive experience in regional analysis. He served in the USDA-Forest Service for over 30 years, specializing in the rural parts of this country. Analysis subjects ranged widely from tourism and livestock operations to the wood products industry and astronomy research. He worked closely with state and local governments, including both elected officials and career professionals. Since 2008, Mr. Retzlaff has taught the IMPLAN modeling system to academics, consultants, economic development organizations, and non-profits across the county. He has also provided impact analyses for clients in the private sector as well as economic analysis and training for several Federal agencies.

B.S. Colorado State University (1973), M.S. Colorado State University (1976)