

The Economic Impact of the Local Healthcare System On the Carroll County Economy

Executive Summary

The healthcare industry is often one of the largest employers in a rural community and serves as a significant driver of economic development. The healthcare sector plays four major roles in rural economic development. First, because the local healthcare system serves local residents, healthcare expenditures stay local, and as a result, the dollars stay within the local economy. Second, healthcare systems attract external dollars into a community from outside a local area, largely through payments from private insurance companies, Medicare, and Medicaid. Third, the existence of a quality local health care system is important to retaining existing local businesses as well as attracting new industries into a community. Finally, a local healthcare system can support and promote a healthy and productive workforce within a community.

In many instances the economic importance of the healthcare sector is described as its economic impact on the local economy through the number of jobs, revenue and income created from the industry. **Table 1** summarizes the impact of the health care sector on Carroll County's local economy. The total impact includes the direct, indirect and induced impacts, incorporating the "multiplier effect." Overall, the healthcare sector generates approximately \$29,194,656 dollars in sales, \$15,311,747 dollars in labor income, and 364 jobs within Carroll County.

Table 1 Economic Impact of the Local Healthcare System on Carroll County

Multiplier Type	Direct Impact	Multiplier	Total Impact
Output (Sales)	\$23,904,730	1.22	\$29,194,656
Labor Income	\$13,506,460	1.13	\$15,311,747
Employment (jobs)	298	1.22	364

Source: IMPLAN: 2008

Prepared By: Community and Economic Development Initiative of Kentucky (CEDIK), 2012

Questions or concerns regarding this analysis should be directed to Dr. Alison Davis, Executive Director at CEDIK and Assistant Professor of Agricultural Economics at the University of Kentucky, College of Agriculture, e-mail: Alison.Davis@uky.edu.

I. Introduction

Over the last two decades, health care services have become a critical engine of growth in rural Kentucky. The health care is the second largest industry category in rural Kentucky trailing only local government. Very few rural communities have realized the full potential of local health care as an economic and community development tool. Rural communities have an extraordinary opportunity to improve their local economies and develop health care as a local business. Every health care service provided locally benefits the rural community twice. First, it improves people's health and second, it improves the health of the local economy.

This summary report documents the economic impact of Carroll County's health care system. The impact is measured by the number of jobs and income directly and indirectly associated with the local health care system. The report begins by describing the role of health care in rural economic development. The next part examines the current status of the local economy and the relative place of the health care industry. The third section demonstrates the direct and indirect economic impact of the health care system on the local economy. Finally provides a summary of the economic impact on Carroll County due to the local health care system.

II. The role of rural healthcare in economic development

The role of healthcare in economic development is based on financial and non-financial linkages with the rest of the local economy. **Financial linkages** are based on the link between the health care providers' expenditures and revenues and other local firms' expenditures and revenues. The health care sector and other industries often mutually support one another through purchases and sales. These financial linkages create a larger local economy.

The most important financial role for the local health care system is to "keep local health care dollars at home". There are many sources of local health care dollars including private insurance, consumer out-of-pocket payments, and Medicare and Medicaid transfer payments. If these expenditures leave the community, they represent a potential loss of income and jobs for the local residents. An outmigration of healthcare services is payment for services that are received outside of the local area. This bypass of local healthcare remains an important issue for many rural health care providers and rural communities.

If healthcare providers can attract patients from outside of their community, the healthcare industry can act as an export industry. The Identification of a community's supply-demand gap will assist a community in keeping health care dollars at home. A supply-demand gap occurs when a local economy does not supply (provide) the goods or services demanded (needed or wanted) by an individual or a community. Consequently, residents are then forced to "out-shop" and make purchases outside their own community.

Non-financial linkages are based on the healthcare sector's role in retaining local physicians, promoting a more productive workforce, and attracting new businesses and retaining existing ones. Although these may be measured through financial outcomes, generally the link is more indirect. Nevertheless, a strong health care system can promote economic development in a variety of non-financial ways. In today's economy, a productive workforce is critical to businesses, and is vital in the recruitment of new firms and retention of existing firms. The health status of local workers can be an important ingredient in productivity. Local health care providers can improve the health and

productivity of the local workforce by promoting preventive care, thus leading to long-term economic benefits.

III. The Carroll County Local Economy

An examination of the sources of personal income in the community can lead to a better understanding of the potential sources of revenue for local health care providers. In 2008, the average per capita income for Carroll County was \$31,795. This was \$721 less than the Kentucky average and roughly \$9,152 below the national average. **Table 2** indicates that 66.47 percent of the total personal income for Carroll County was generated through earnings (place of work), while 20.75 percent of the total personal income was from transfer payments, such as Social Security, Medicare and Medicaid. The remainder of total personal income is represented by Dividends, interest and rents.

Table 2 Carroll County Income and Earnings Overview (\$1,000s)

Source of Income, Earnings, Transfer Payments	County Total (\$)	County Percent (%)	State Percent (%)	National Percent (%)
Total Personal Income (2008)	341,610	-----	-----	-----
Earnings by Place of Residence	227,061	66.47	63.71	66.63
Transfer Payments	70,886	20.75	21.15	15.34
Total Earnings by place of work (2008)	363,535	-----	-----	-----
Wages and Salaries	280,623	77.19	71.52	53.48
Proprietor's Income	13,687	3.76	10.08	9.07
Other Labor Income	69,225	19.04	18.4	37.44
Transfer Payments (2008)	70,886	-----	-----	-----
Retirement and Disability	24,513	34.58	35.22	34.17
Medical Payments	16,874	42.91	41.38	43.95
Other transfer payments	15,959	22.51	23.4	21.88

Source: Bureau of Economic Analysis/REIS 2008

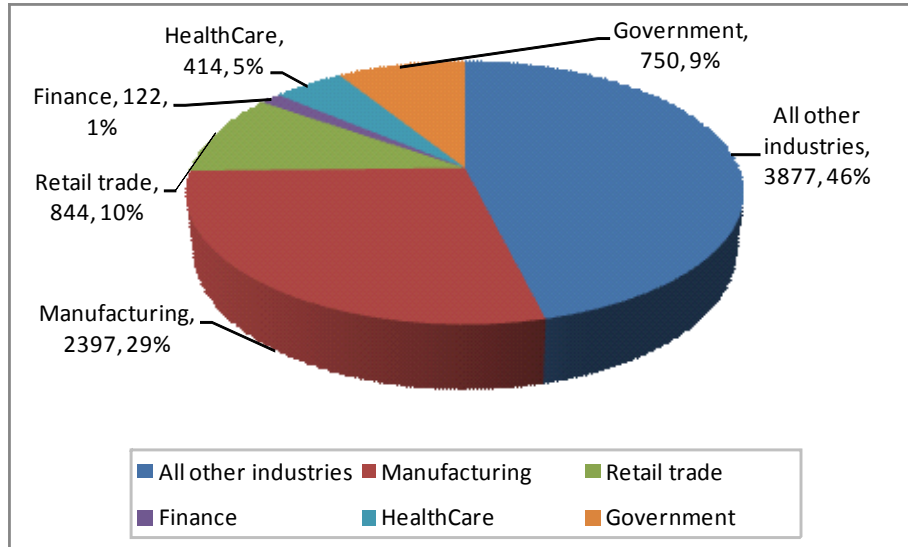
The Carroll County economy is comprised of a diverse group of industries including manufacturing, construction, retail trade, finance, transportation and services. **Table 3** and **Graph 1** provide an overview of personal income and employment, respectively, for those industries that are present in Carroll County. Because of the size of the community, BEA data is not disclosed for some industries. Data in **Table 3** shows a change of 72.0 percent for the Healthcare sector in Carroll County.

Table 3 Personal Income by Industry in Carroll County (\$1,000s)

Industry Category	2000 Income (\$)	2008 Income (\$)	Percent Change (%)
Private Industry	226,142	332,691	47.12
Agriculture	n/a	n/a	n/a
Mining	1,397	0	-100.0
Construction	9,312	18,030	94.0
Manufacturing	135,680	191,450	41.1
Transportation	25,178	11,853	-53.0
Wholesale	2,560	n/a	n/a
Retail	20,997	20,447	-2.62
Finance	0	3,402	0.0
Services	18,769	n/a	n/a
Health Care¹	9,133	15,699	72.0
Government	23,531	32,195	36.82
TOTAL	252,737	363,535	43.84

Source: Bureau of Economic Analysis/REIS 2008

Graph1 Employment by Industry in Carroll County



Source: Bureau of Economic Analysis/REIS 2008

Table 4 details Carroll County’s transfer payments by type for 2000 and 2008. Comparing **Table 3** to **Table 4**, it is evident that the growth in private industry was less than the growth in federal and state transfer payments to individuals. Private industry changed by 47.12 percent while total transfer

¹ The source of data for industry income and employment, for the Healthcare Sector is Economic Modeling Specialists Inc. (EMSI), FY 2008.

payments to the county changed by 67.8 percent. The change in transfer payments is primarily driven by Social Security, Medicare and Medicaid payments.

Table 4 Carroll County Transfer Payments (\$1,000s)

Transfer Payment	2000 (\$)	2008 (\$)	Percent Change (%)
Medical payments	16,874	30,414	80.24
Retirement benefits	16,373	24,513	49.72
Income (welfare) benefit	4,375	8,560	95.66
Unemployment insurance	1,125	2,176	24.02
Total transfer payments	42,245	70,886	67.8

Source: Bureau of Economic Analysis/REIS 2008

IV. Economic Impact Analysis

Healthcare employees and professionals are often a major source of economic impact in the local economy, particularly if a local hospital is present. The impacts of the local healthcare system expenditures as well as the healthcare employee expenditures are called multiplier effects. In essence, the multiplier represents the recycling of local dollars and income in the community. This recycling creates new job opportunities and higher wages for individuals. The leakage of dollars and income out of the community, via taxes or non-local spending, reduces the size of the multiplier and the potential size of the local economy.

Table 5 provides the multipliers for output, employment and labor income. Output (sales) multipliers represent the total change in local sales or revenue due to a \$1 change in healthcare sales. Employment multipliers are the total jobs generated from one new job in the healthcare sector. Labor income multipliers represent the total impact on labor income in the county from a \$1 increase in labor income from the healthcare sector. For example, an output multiplier of 1.22 suggests that for every dollar spent in direct sales by the health care sector, the indirect and induced effect to the local economy is an additional 0.22 dollars. The healthcare sector is directly responsible for generating approximately \$23,904,730 dollars in output, nearly \$13,506,460 dollars in income, and employs approximately 298 people (in 2008). Through direct, indirect, and induced effects, the total economic impact of the healthcare sector is nearly \$29,194,656 dollars in sales, \$15,311,747 dollars in labor income and 364 jobs in Carroll County.

Table 5 Economic Impact of the Local Healthcare System on Carroll County

Multiplier Type	Direct Impact	Multiplier	Total Impact
Output (Sales)	\$23,904,730	1.22	\$29,194,656
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