



Illinois Rural Health Workshop

The Health Care Industry in Coles County, Illinois

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Coles County Quick Facts

- Population (2000): 53,196 total, 96% white, 2% black, .8% Asian, .2% American Indian or Native Alaskan, .4% other, .9% two or more races.
 - 1990-99 population growth: 3%.
 - Average population per square mile: of 104.7 people. Residents primarily located in the two urbanized areas: Charleston (pop. 20,437) and Mattoon (pop. 18,115).
 - Illinois average population per square mile: 223.4.
 - Residents under the age of 18: 19.7%. Residents over the age of 65: 13.3%.
- Residents who own their homes: 61.9%. Illinois residents who own their homes: 67.3%.
- 1997 median household income: \$35,093. 1997 Illinois average household income: \$41,179.
- In 1995, Coles Residents living in poverty: 11%. 1995 Illinois average poverty rate: 11%.
- 1999 unemployment rate: 3.4%. 1991 Illinois seasonally adjusted unemployment rate: 4.3%.
- 1999 per capita personal income (PCPI): \$22,587. 1999 Illinois PCPI average: \$31,138.
- 1999 personal income: \$1,170,127,000.

Major Employers

Eastern Illinois University (1,839) University
R.R. Donnelley & Sons Co. (1,600) Printing/Publishing
Sarah Bush Lincoln Health Center (1,273) Hospital/Clinics
General Electric (600) Lighting Products
Trail mobile, Inc. (500) Truck Trailers
Blaw-Knox Construction Equipment (465) Asphalt Paving Equipment
Consolidated Communications, Inc. (400) Telecommunications
Lenders Bagel Bakery (370) Bagel Bakery
Ampad Corporation (357) School/Business Supplies
Lake Land College (263) Community College

Executive Summary

While our nation's economy appears to be slowing down, Coles County has its sights set on economic development. Playing a large role in this economic development (especially for smaller communities) is the provision of services. This paper is a discussion of the role health services currently and will play in this development.

As the people of Coles County move forward, their economy is set to attract new retail and production-based industries. Health care services play a key role in economic development because they attract businesses and help to maintain a high level of quality of life. Coles County currently boasts a strong health care service sector with a major hospital, clinics, college health centers, private providers, and a public health department that thoroughly provide comprehensive health care throughout the county. This sector has been a major selling point to companies and industries that have been making the decision to relocate to Coles. Furthermore, the health care sector is a major contributor to the Coles economy because health care providers are responsible for increasing employment, income, and tax revenue throughout the county.

A Portrait of Coles County

Coles County (population 53,196) is located in the central portion of Illinois, roughly 180 miles from Chicago and 130 miles from St. Louis. Coles County is not in the midst of a population explosion. From 1990 to 1999, the population of Coles grew at a rate of only 3%. This slow population growth and its central Illinois location can cause the county to be stereotyped as a sleepy rural area. Coles is a small community, but the people who live and work in this community are proud of their "urban" style amenities and metropolitan lifestyle. Coles boasts a municipal airport, over twelve banks, three movie theaters, two colleges, and over twenty-five restaurants. Furthermore, Coles is a county that is poised for economic development and is therefore dealing with the very real issues of economic growth and incubation.

How Does the Economy of Coles County Measure Up?

In order to fully grasp the present state of the economy of Coles County, it will be useful to examine and compare some economic indicators for Coles County, other rural counties within surrounding states¹, state total averages (all counties in the state), state rural averages (only rural counties in the

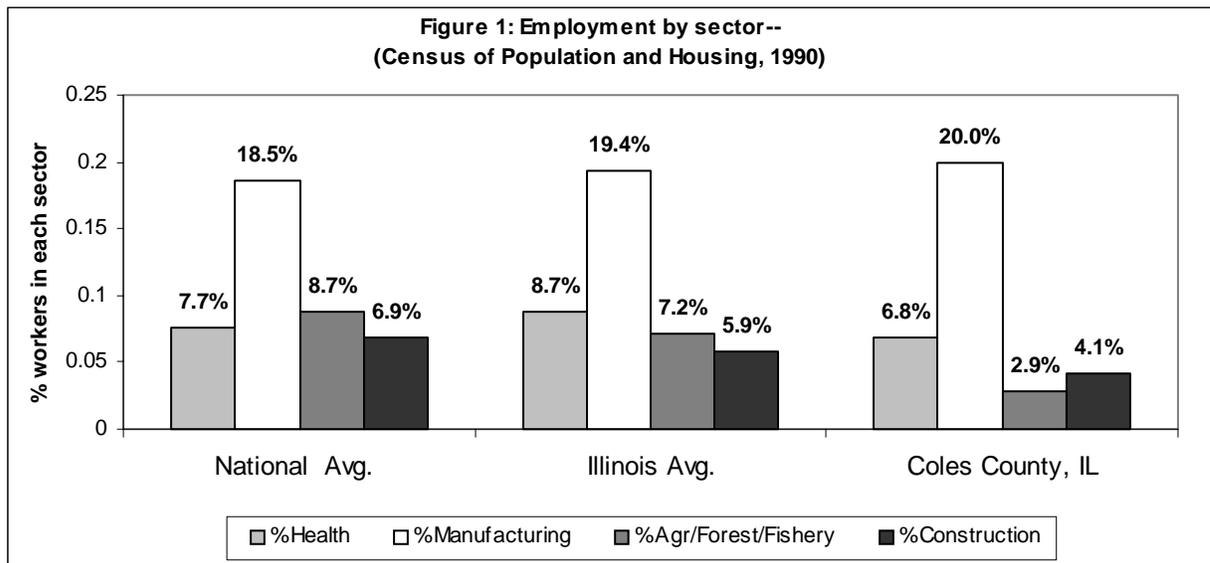


Table 1: % Working in County of Residence

National Avg.	72.3
National Rural Avg.	74.7
Illinois Avg.	67.8
Illinois Rural Avg.	68.8
Coles County, IL	89.1
Laurel County, KY	70.9
Henry County, IN	60.1
Johnson County, MO	78.2
Barry County, MI	41.9
Columbia County, WI	63.0
Clinton County, IA	80.8

*Census of Population and Housing, 1990

state), national averages (all counties in the nation), and national rural averages² (only rural counties in the nation).

Coles County is not an average rural community. Rather than being dominated by a large agricultural sector, Coles County is comprised of a large number of diverse industries. None of the top ten employers presented on the Quick Facts page are associated with typical rural/agricultural industries. Figures 1 and 2, which list the percentage of workers in health care, construction, manufacturing, and agriculture/forestry/fishery, help to solidify Coles' reputation as different from the average rural community because agriculture plays a reasonably small role. Figure 1 shows that Coles is well below the national and Illinois rural averages of percentage of workers within agriculture/farms/fisheries.

Figure 2 demonstrates that Coles is also well below the national and Illinois averages for the same agriculture/farms/fisheries variable. This is further proof of how far the Coles economy strays from the stereotypical rural economy that is generally dominated by agricultural related industries.

Another important dimension of a county's economic makeup relates to the commuting and work location choices of its residents. Table 1 displays the number of residents who work within their counties of residence. Coles has a comparatively high rate of 89.1% of residents who work and live within the county. This figure is far greater than any of the counties in surrounding states and it is substantially above state and national averages. Why is this figure so important?

Table 1 displays that the diverse industrial make-up of Coles also has the ability to meet local residents' demand for employment. If 89.1% of residents work within the county, the implication is that only 10.9% of residents commute to other counties or states to find work. This ability to keep residents within the community suggests that their spending will also stay within the community and not be lost to surrounding areas. While the strong and diverse industrial base of Coles appears to be a major asset of the community, an analysis of the economic wellbeing of the county must not stop here. It is helpful to examine several other indicators related to the economic well being of Coles County residents.

**Figure 2: Employment by sector--
(Census of Population and Housing, 1990)**

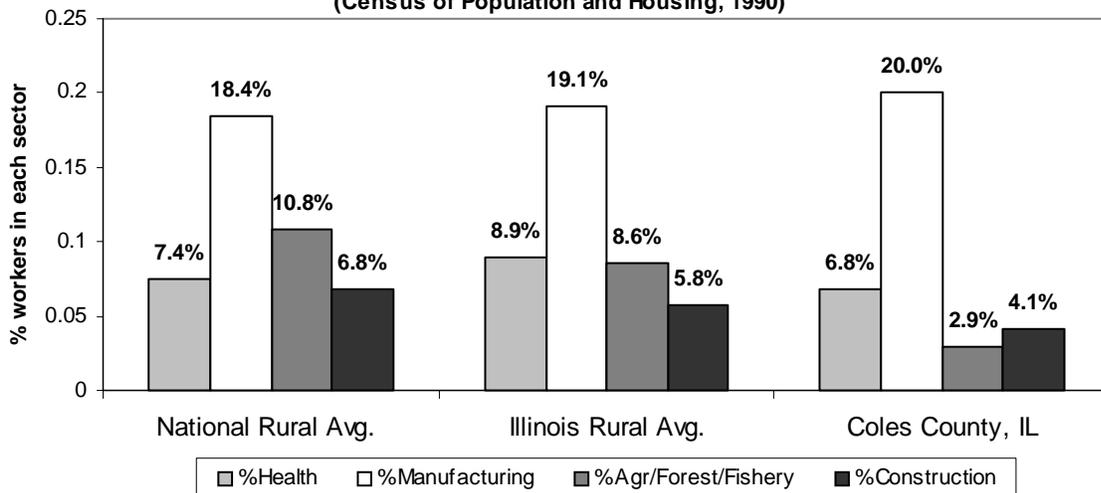
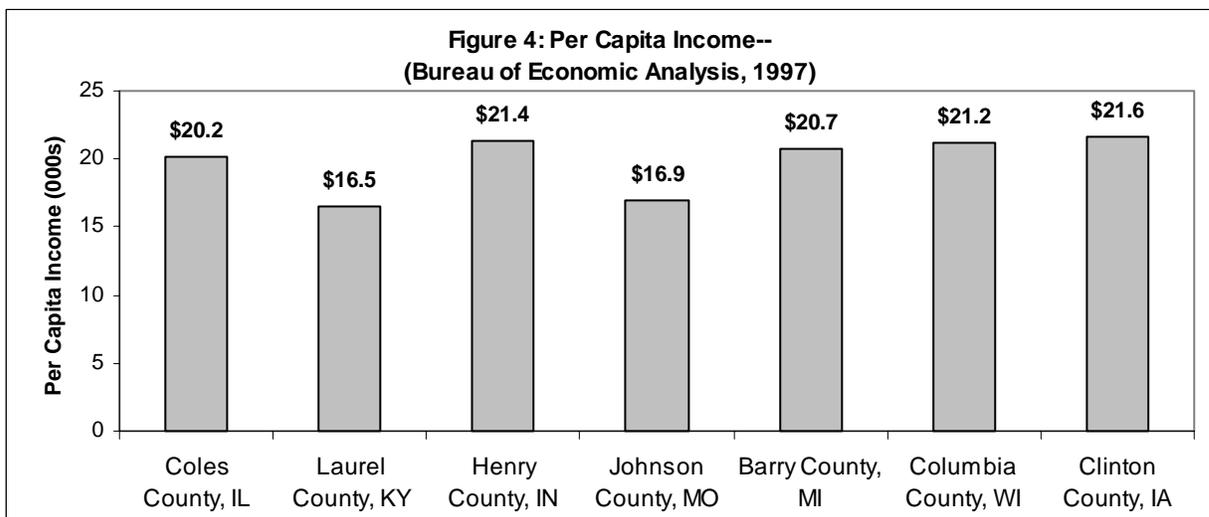
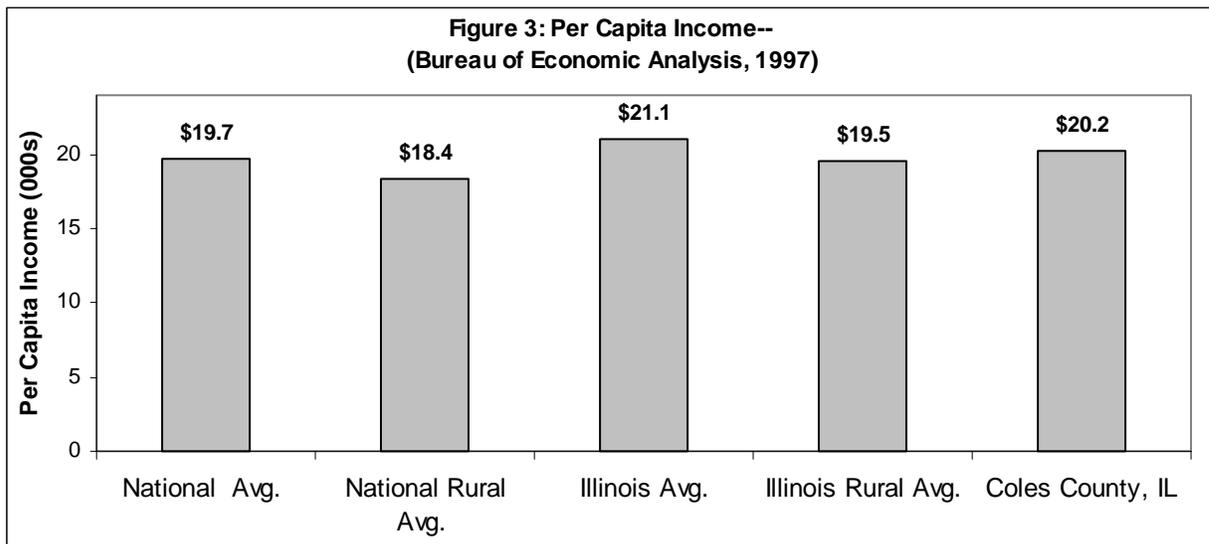


Figure 3 displays Coles County's per capita income versus the national average, the rural national average, the Illinois average, and the rural Illinois average. Coles County's per capita figure of \$20,218 exceeds the national average by 3%, the national rural average by 10%, and the Illinois rural average by 4%; however, Figure 4 displays that Coles County does not appear to be as strong of a performer when compared to other rural counties in surrounding states. Coles' per capita income is only the fourth highest out of the seven counties. Therefore, while Coles' per capita income is higher in comparison to state and national averages, it appears to be a "middle of the pack" performer when compared to other rural counties in surrounding states.

Another indicator of economic standing is percentage of persons in poverty. Figure 5 displays the percentage of persons in poverty³ for Coles, the nation, the rural nation, Illinois, and rural Illinois. While Coles shares a low rate of 11% with the average for the state of Illinois, it is below the percentages of 12%, 17%, and 15% for the respective measures of persons in poverty for rural Illinois, the rural nation, and the nation as a whole. Therefore, Coles' measure of the percentage of persons in poverty appears favorable when compared to state and national averages. However, when compared to counties in surrounding states (Figure 6), Coles is not an extremely strong performer. While Coles' figure is not drastically less than any of the other counties within the comparison,



son, Coles is again in the middle of the pack in terms of its performance.

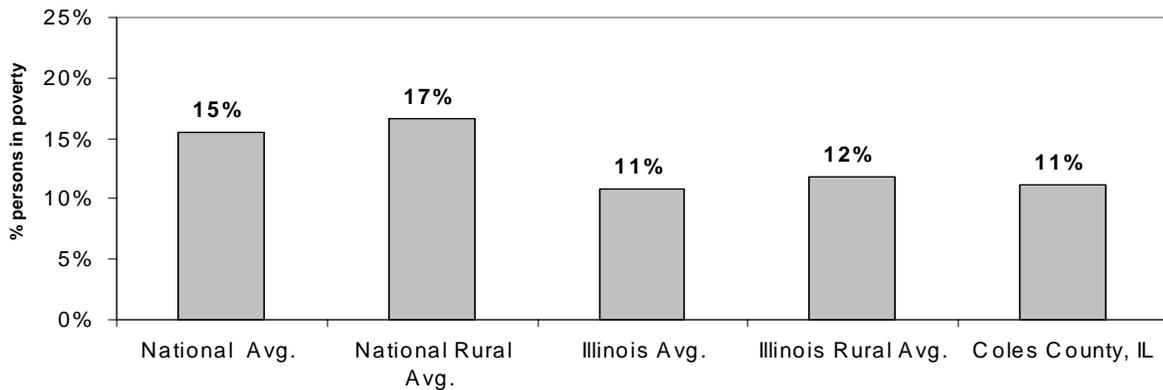
Hopefully, the analysis of these economic indicators help with the understanding of Coles' economy and how it compares to state and national averages, and to other rural counties. It appears evident from this data that Coles has a distinctive and strong industrial base that is fully capable of providing a foundation for sustainability. When compared to state and national averages this diverse economy appears to have resulted in encouraging measures in terms of poverty status and economic standing. However, Coles' measures of poverty status and economic standing are less encouraging when compared to other rural counties in surrounding states.

The Role of Health Services in a Rural Community

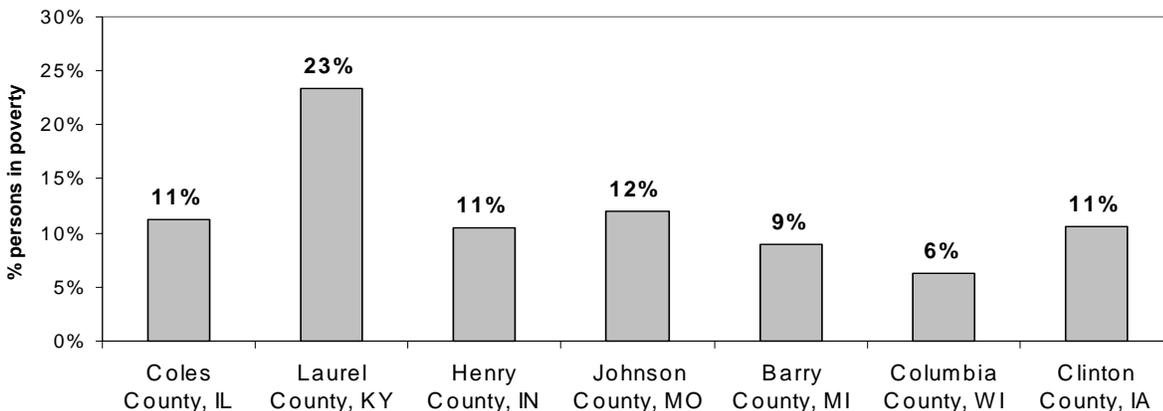
One of the key service industries in a community like Coles County is the health services industry. In a rural community, health services take on meanings that transcend the implications of urban health services. In cities, hospitals and health service providers are visible and seemingly readily available. While this idea is mitigated by the often-expensive costs of health services that can limit access to many people, there is still an aura of availability of health services in urban environments that is not as evident within rural communities.

Health care provision has been changing

**Figure 5: Percentage In Poverty--
(Bureau of Census, 1995)**



**Figure 6: Percentage In Poverty--
(Bureau of Census, 1995)**



rapidly over the past three decades. As Gerald Doeksen notes:

For example, in 1970, the average amount spent annually on each person for health care (per capita) was \$341 and the typical family spent \$175 per year on health care. By 1998, however, the annual per individual (per capita) expenditure for health care has risen to over \$4,000, and the typical family spent nearly \$1,400 for health insurance premiums, deductibles and co-pays (1999: p. 2).

As a whole, United States citizens are paying a great deal more for health care now than three decades ago. In 1970 health care expenditures made up 7% of our Gross Domestic Product (GDP). By 1998, however, expenditures had risen to 13.5% of the GDP (Doeksen: 1999).

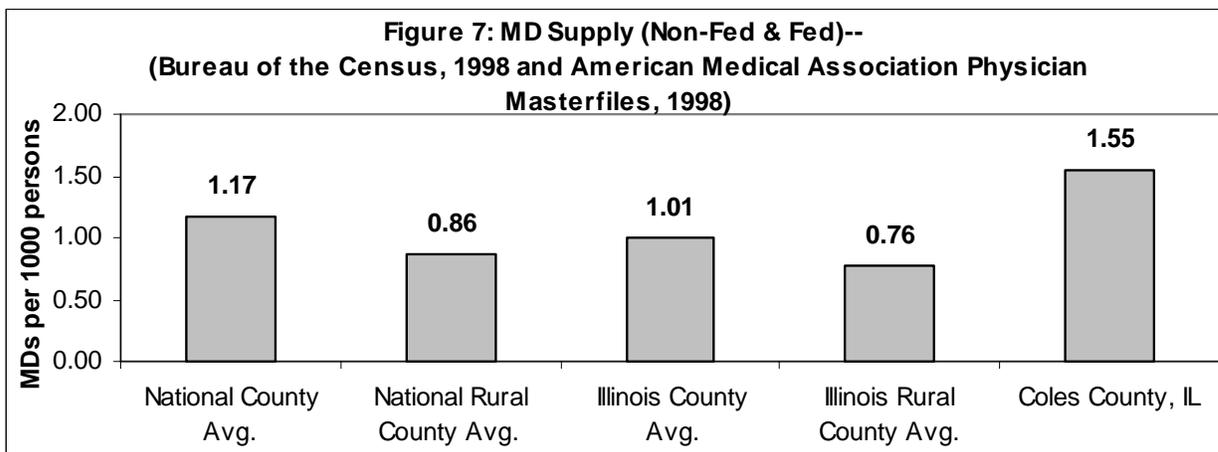
Because such expenditures have risen so steeply in recent times, steps have been made to slow the amount of money spent on health care. Such steps have included the closure of hospitals or reduction of services that are provided by them. Many hospitals have privatized, corporatized, and combined their efforts to provide all the necessary services in a condensed manner. In other words, there has been a trend towards consolidating the services typically provided by many health service providers into fewer locations. In urban locations this consolidation trend has not significantly reduced accessibility to health services because the same services are being provided even if at a reduced amount of locations. In rural areas the effects on access are more visible. Closure or consolidation of health services forces people in rural areas to travel further distances for their care. This can often indicate that people in rural areas

cannot afford the access they deserve to quality health care.

For people living in rural communities, close proximity to health care is crucial. As Doeksen notes, "In rural areas there are proportionately more elderly, more children living in poverty, unemployment is higher, and incomes are lower. Rural people report poorer health and more have chronic health conditions (1999: p. 3)." These ideas show the reasons why consolidation is happening and why it is a problem for rural communities. While the poorer people of rural communities may not be able to afford to keep health services close and accessible, these demographics necessitate adequate and close health care provision. Poor and elderly people who often reside in rural areas need to be close to hospitals and health care providers in order to have access to the care they need more than other demographic groups.

Furthermore, better health care means better quality of life. While improved quality of life is important on the obvious and practical level -- improved health care leads to the improved health of the residents within the county -- there is also an impressionistic element that needs attention. The improved quality of life that comes from improved health care is instrumental in attracting businesses and people to a community. As Gerald Doeksen notes:

Good health and education services are imperative to industrial and business leaders as they select a community for location. Employees and participating management may offer strong resistance if they are asked to move into a community with substandard or inconveniently located health



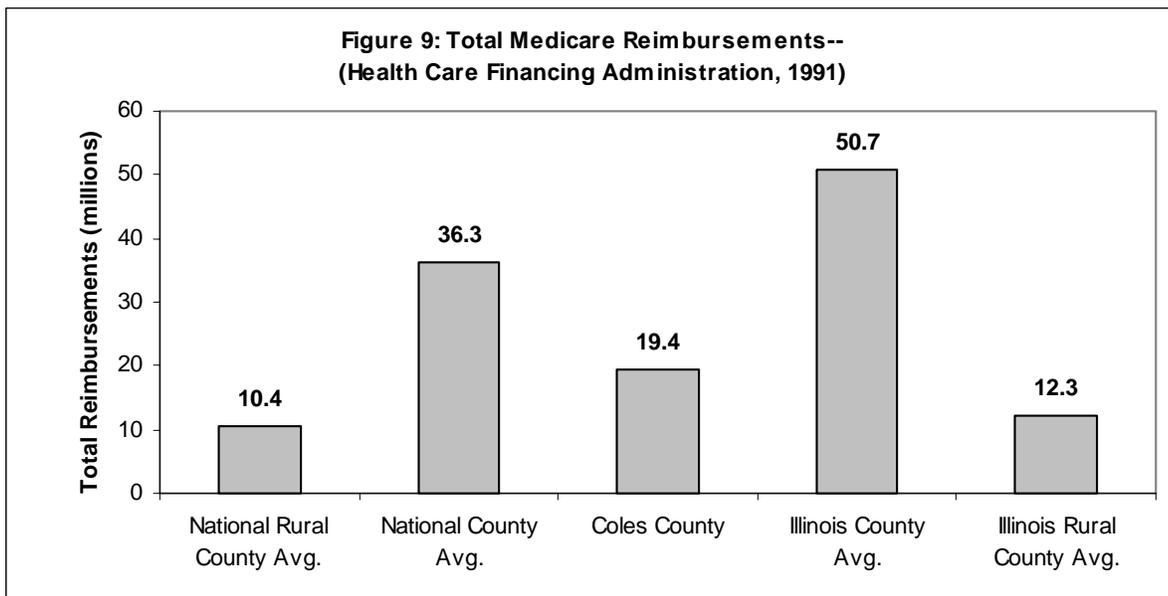
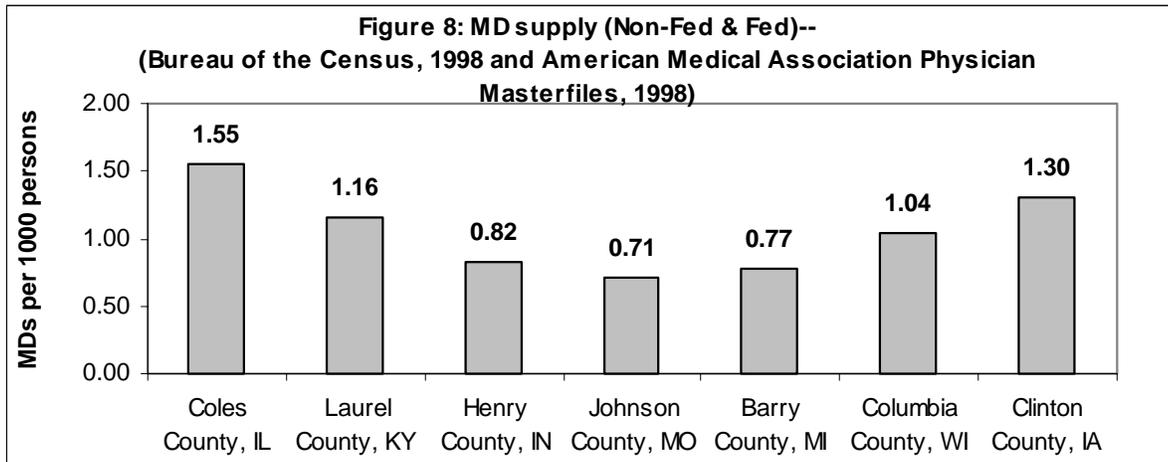
services. Secondly, when a business or industry makes a location decision, it wants to ensure that the local labor force will be productive, and a key factor in productivity is good health. (1999: p. 7).

This logic applies to the attraction of retirees because they have special needs. They may wish to retire to a small, secluded area that can provide them with freedom from the fast-paced urban world, but they may have specific health care needs presently or in the near future. The presence of quality health care can be an integral part of what attracts retirees to a community.

It is clear that the provision of quality health services is crucial in serving the community both thoroughly and with integrity. Health services are also crucial in attracting new residents and businesses and thus ensuring the future of the county.

How Does the Coles County Health Care System Measure Up?

In order to have a better understanding of the health care system of Coles County and its ability to deliver services, it is useful to look at some health indicators that allow for the comparison of Coles County to state and national averages, as well as to several rural counties in surrounding states⁴. One of the biggest issues in the area of rural health is the supply of Medical Doctors (MDs). The supply of physicians for urban areas far exceeds the supply of rural physicians and many experts believe this urban supply is excessive (Rosenblatt and Hart: 1999). Rosenblatt and Hart point out that while roughly 20% of the U.S. population lives in rural



areas, only 9% of the nation's physicians practice in rural communities (1999: p.38). However, Figure 7 compares Coles' supply of MDs to state and national averages and shows how secure Coles is in terms of MD supply. At a rate of 1.55 MDs per 1,000 persons, Coles County is above the state and national averages of MDs per 1,000 persons and is almost double both the state rural and the national rural ratios of MDs per 1,000 persons. Figure 8, which compares Coles to other rural counties in surrounding states, further displays its dominance with respect to MD supply. Coles' measure of 1.55 MDs per 1,000 persons is greater than any of the other six counties and is more than double that of two of the counties shown in the figure. Therefore, according to these two figures, it appears that the Coles County health care system is fully capable of meeting the demand for MD services. While Coles County appears to be adequate in terms of MD supply, it is also important to examine Medicare payments to see a primary example of why the health care industry is such a vital component of the economy.

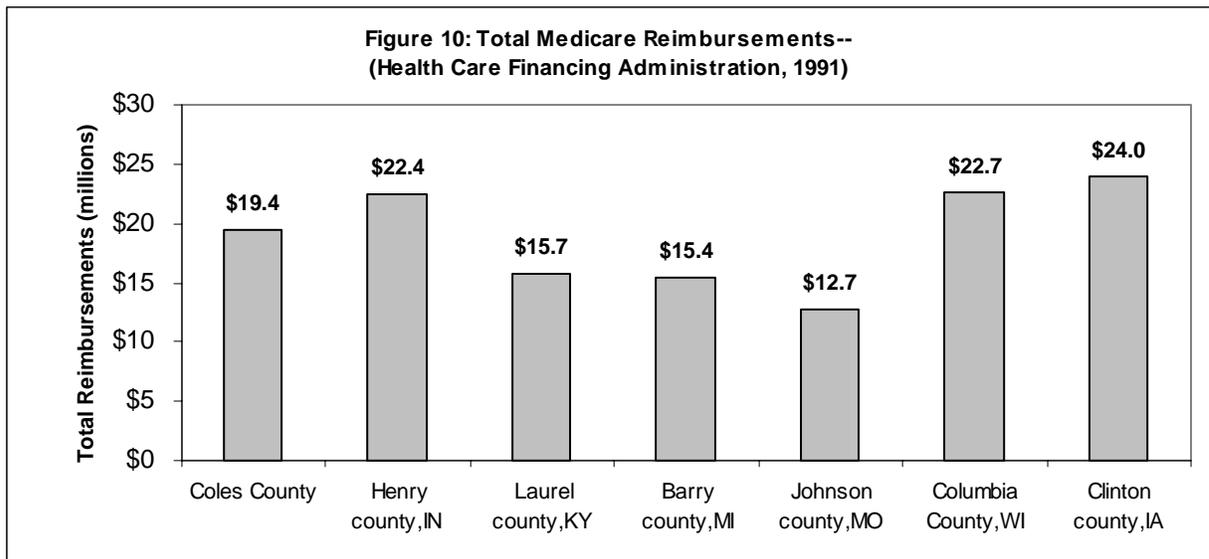
One of the primary goals of economic development is the establishment of export industries. These industries are extremely important because they have the effect of drawing dollars from outside the community. These exporting industries effectively capture demand from foreign regions. To some extent, Medicare payments to medical providers have a similar effect.

Medicare payments are reimbursements from the Federal Government to providers of health care services; therefore, these providers bring outside dollars into the local community. The hope is that these dollars will be spent within the community and the effects of these reimbursements will ripple throughout the economy as this money is reused to make purchases within the region. The effects upon Coles County are displayed in Figures 9 and 10.

Figure 9 compares Coles County's Medicare reimbursements to national and state averages and Figure 10 compares Coles County's Medicare reimbursements to rural counties in surrounding states. Coles County's total reimbursements equal \$19.4 million. This figure is staggering when considering that this money is brought in from outside of the community. Thus, health care providers are in effect generating in excess of \$19 million in export revenues.

Figures 9 and 10 demonstrate that while Coles' Medicare reimbursements are greater than the national and Illinois rural averages, it is a rather undistinguished performer when compared to rural counties in surrounding states. However, what is to be taken from these two graphs is the idea that Medicare reimbursements result in \$19.4 million in revenues for county providers. These revenues will be spent within the community in terms of salaries, wages, and various other forms of medical expenses that are necessary for the delivery of services.

It is hoped the above analysis of several leading health indicators will provide a better



understanding of the Coles County health care system and how it compares to other counties, as well as to state and national averages. This analysis appears to demonstrate that Coles County has an extremely formidable health care system. Along with an abundant supply of MDs, Coles also has in its possession a major hospital, clinics, a health department, and two university health facilities that are meeting the needs of Coles' residents. Not only is this system of care fully capable of meeting the needs of residents, it also acts as an export industry and funnels outside dollars into the community.

The Economic Impact of the Health Care Industry in Coles County

Reference has previously been made to Coles' recent drive towards economic development. Development of this kind can be a great benefit to a county like Coles as it attracts new businesses, new jobs, and often more people to the area. Such expansion, however, does not occur in a vacuum. Quality services must be provided and current services must be increased in order to accommodate and spearhead this growth. Quality health care is instrumental in attracting businesses to areas. As Jeanne Gustafson describes, "Health care is a hot topic for firms wishing to expand into Coles. Health care is a prominent player in the development efforts that we make. [Sarah Bush, Lincoln Health Care System] has a seat on the board of economic development for Coles County and is very instrumental in attracting new businesses to the area." In addition to this public relations role,

health care can play a deeper role in local economic development.

Interconnectedness in a Local Economy

In addition to contributing to an elevated level of quality of life, the health care system in Coles also plays an important role in the local economy. Rural health care provision carries with it a component that transcends the obvious social implications described above. This additional economic component is critical not only to understand the whole rural health care picture, but also to gain a complete understanding of the connection between a community and the health care industry.

A basic starting point for our analysis is the understanding that the local economy as a whole is made up of a number of interdependent providers of goods and services as well as households (households supply inputs as well as buy goods and services). These various aspects of the economy interact with one another and this interdependence will have the effect of multiplying the direct impact of any one specific industry. To understand this it is necessary to understand three different definitions that explain the various rounds of spending that occur within the economy: direct purchases, indirect purchases, and induced purchases. Direct purchases are those purchases that are made within the industry in question; indirect purchases are the amount of inputs purchased by other firms in order to produce output for the primary firm to use in its production of primary output; induced purchases are those purchases made by workers with the profits they make from salaries and wages.

Table 2: Coles County Health Care System Employment Multipliers (IMPLAN, 1997)

Sector Name	<i>Employment Information</i>		
	Employed	Type SAM Multiplier	Total Impact
Pharmacies	150	1.16	173
Doctors and Dentists	549	1.74	955
Nursing and Protective Care	987	1.25	1233
Hospitals	1,083	1.47	1593
Other Medical and Health Services	859	1.35	1159
TOTAL	3628		5113

It is by examining the various sectors of the economy that allows for a true understanding of the relationship between health care service provisions and the rural community. The following input/output analysis will attempt to paint a more in depth picture of this relationship.

Input/Output Analysis of the Coles County Health Care System

Using a computer program called IMPLAN, input/output analysis has been performed on the economic data for Coles County. The data has been analyzed in order to produce a picture of the effects that the health sector has in Coles County, Illinois.

As Table 2 illustrates, using the Type SAM employment multipliers calculated using IMPLAN, the amount of actual jobs created within the Coles County economy for every job within the health sector can be determined. For example, the Type SAM employment multiplier for the hospitals sector in Coles County is 1.47. What this means is that for every job created within the hospitals sector in Coles County, another .47 jobs are created outside of the

hospitals sector within the county. In other words, the direct impact of the hospitals sector in Coles County is the employment of 1,083 people. However, this employment also has the indirect and induced effects of creating 510 additional jobs within the county. Thus, the total effect of hospital employment in Coles County is (1.47 X 1,083 jobs) 1,593 jobs. If the components of the hospitals sector were to leave Coles County, it would mean the loss of the 1,083 jobs provided directly by this sector and the loss of 510 additional jobs produced by the indirect and induced effects of the hospitals sector's activities within Coles County.

Table 3 shows the income multipliers for the Coles County health care system produced by IMPLAN. The income multiplier for nursing and protective care in Coles County is 1.30. This indicates that for every dollar's worth of income generated in the nursing and protective care sector in Coles County, .30 dollars are generated in other businesses and industries due to indirect and induced effects. This means that the total impact on income throughout Coles County for the nursing and protective care sector is \$ 20,827,495 (1.30 X \$16,063,000).

Table 3: Coles County Health Care System Income Multipliers (IMPLAN, 1997)

Sector Name	Income Information		
	Income	Type SAM Multiplier	Total Impact
Pharmacies	\$ 2,373,000	1.28	\$ 3,046,225
Doctors and Dentists	\$ 24,795,000	1.32	\$ 32,756,749
Nursing and Protective Care	\$ 16,063,000	1.30	\$ 20,827,495
Hospitals	\$ 39,074,000	1.25	\$ 48,786,702
Other Medical and Health Services	\$ 15,459,000	1.39	\$ 21,477,034
TOTAL	\$ 97,764,000		\$126,894,205

Table 4: Cole County Health Care System Retail Information (IMPLAN, 1997)

Sector Name	Retail Information	
	Retail Sales	\$.01 Sales Tax Collection
Pharmacies	\$ 1,134,718	\$ 11,347
Doctors and Dentists	\$ 12,201,889	\$ 122,019
Nursing and Protective Care	\$ 7,758,242	\$ 77,582
Hospitals	\$ 18,173,047	\$ 181,730
Other Medical and Health Services	\$ 8,000,195	\$ 80,002
TOTAL	\$ 47,268,091	\$ 472,681

Table 4 illustrates the contribution that the health care system in Coles County makes to the local economy in terms of retail sales and tax collection. These retail sales figures are estimated by using a figure called the "local retail sales capture ratio." Taking the total retail sales subject to sales tax and dividing this by total personal income derives this figure. This figure essentially provides an estimate of how much of income will be spent on local retail sales. For instance, the figure in this Coles County study was \$.37; therefore, it is believed that \$.37 will be spent on local retail sales for every dollar of income made by a Coles resident. In order to obtain the figures in Table 4, the local retail sales capture ratio is multiplied by total income for each respective sector, which is found in Table 3. For example, Pharmacies generate a total of \$3,046,225 in income; therefore, the retail sales estimate is \$1,134,718 (.37 X \$3,046,225). The sum of the products of the retail sales capture ratio and the total income impact for each respective sector provides the total retail sales impact. Made evident by this illustration is the depth of financial weight that the health care system in Coles bears in the county. By attracting \$47 million in payments annually, the health care providers in Coles are clearly significant players in the local economy. While impressive, the sheer amount of sales within the county are further punctuated by the amount of tax revenue that they produce for the county.

The Impact of the Health Service Industry and the Future of Coles County

The people of Coles County enjoy a comprehensive health care system. With a major hospital, clinics, college health centers, private providers, and a public health department providing outreach and care, Coles County's health care system compares favorably to other rural counties of its size. This strong health care system is one of the aspects of Coles that makes it a pleasant place to live.

It is also this strong health care system that is part of what is attracting businesses and new industries to Coles County. The economic impact that health care has on a county like Coles is great.

As our analysis demonstrates, local health care providers have a significant impact on the economic make-up of the communities they serve. Because health care providers in Coles County employ many people within the community, they carry with them the ability to serve the community in an economic sense as well as a medical sense, helping to provide for the physical and financial future of the county's residents.

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Notes

¹ These counties were chosen based upon their population, economic composition, and rural designation.

² State and national figures were attained from the 2000 Area Resource File.

³ Dividing the number of persons in poverty by the population estimate derived this figure.

⁴ These counties were all chosen based upon population, economic composition, and rural designation