

MINUTES OF THE HOUSE HEALTH AND HUMAN SERVICES COMMITTEE

The meeting was called to order by Chairman Brenda Landwehr at 1:30 p.m. on February 5, 2009, in Room 784 of the Docking State Office Building.

All members were present except Representatives Schultz, Mast, and Slattery.

Committee staff present:

Norm Furse, Office of the Revisor of Statutes
Melissa Calderwood, Kansas Legislative Research Department
Reed Holwegner, Kansas Legislative Research Department
Janet Grace, Committee Assistant

Conferees appearing before the committee:

Dr. John Leatherman, Kansas State University
Angela Kreps, Kansas Bioscience Authority
Jeff Southard, Vasogenx

Others attending:

See attached list.

Dr. John Leatherman, Kansas State University (Attachment 1)
Angela Kreps, Kansas Bioscience Authority
Jeff Southard, Vasogenx (Attachment 2)

Chairman Landwehr called the meeting to order.

Representative Finney made a motion to approve the minutes. Representative Neighbor seconded. The motion carried.

Chad Austin, Kansas Hospital Association, introduced Dr. John Leatherman from Kansas State University. Dr. Leatherman provided the committee with an overview of the report "The Importance of the Health Care Sector to the Kansas Economy" (Attachment 1). This program mimics the one at Oklahoma State University. Rural communities struggle to maintain affordable, quality health care systems. The health care sector can have a large impact on the local economy. People find it more difficult to get health care coverage. Their insurance premiums are increasing and rural health care providers are reimbursed at rates less than their urban counterparts for doing the same work. Rapid increases in health care costs have driven these changes. Health care facilities such as hospitals and nursing homes provide jobs and income to people in the community. As these employees spend their income in the community, a ripple spreads throughout the economy, creating additional jobs and income in other economic sectors. The health care sector is one of the few sectors that continue to grow during a down economy. A strong health care system can help attract and maintain business and industry growth, attract and retain retirees, and also create jobs in the local area. The economic contribution of the health care sector accounts for 10.5% employment in Kansas which equates to \$121,958,000 in total income. To date, the Rural Health Works Community Engagement process has been offered in seven counties: Trego, Osborne, Cloud, Oakley-Tri-County, Stafford, Republic, and Sherman. Two additional programs are currently underway, Rice and Neodesha counties. The county determines the level of participation in this program. The more committed the county is to the program, the more successful the program. The Health Services sector plays a large role in the state's economy. Health Services represents one of the largest employers in the state and also serves as one of the largest contributors to income. It also has an indirect impact on the local economy, creating additional jobs and income in other sectors.

Dr. Leatherman addressed the issue of how the insured and uninsured have an economic impact on the community. There are multiple types of issues that cause the economic drag. It is better for health and economic growth overall if the community members were insured as opposed to uninsured.

Angela Kreps from the Kansas Bioscience Authority (KBA, no attachments) provided the bioscience industry overview and its impact on healthcare in our state and the world. Ms. Kreps discussed information on a national drug accelerator. An initiative between KBA has launched with a private industry country. They represent clinical and non-clinical research as well as drug substance competitor, manufacturing, and

CONTINUATION SHEET

Minutes of the House Health And Human Services Committee at 1:30 p.m. on February 5, 2009, in Room 784 of the Docking State Office Building.

regulatory areas. The pharmaceutical expertise in our state is the highest in the world. Clinical trials have more than doubled in the past few years. Our region is in the top five per capita for clinical research. This sector is growing faster than anything else in Kansas and the United States. KBA's work pertains to education and working to partner industry and academia.

Jeff Southard, founder of Vasogenx, discussed how his company is an example of the collaboration and partnership with academia and industry. (Attachment 2) Mr. Southard provided statistics on heart failure health care costs. Their goal with a controlled released product for heart failure is to:

- Reduce the hospital readmission rate by half
- Reduce annual hospital costs by \$6 billion
- Provide a longer and healthier quality of life

Kansas City is one of the few places in the country that allows a pharmaceutical companies to develop new products through the accelerator program.

The committee will become electronic starting Monday, February 9, 2009. We will begin hearing bills every day next week and the following Monday.

The next meeting is scheduled for February 9, 2009.

The meeting was adjourned at 2:15 p.m.

HOUSE HEALTH & HUMAN SERVICES COMMITTEE

DATE: 2-5-09

NAME	REPRESENTING
Chad Austin	KHA
Michelle Butler	Capitol Strategics
Chris Gigstad	Federico Consulting
JANE FAUBUSON	KS GROUP OF RURAL HEALTH
Efrie Swanson	KHPA
KEITH D PANGBORN	REARNEY & ASSOC.
Gary Robbins	Kansas Opt Assn
Bruce Witt	VCHS
John Peterson	Capitol Strategics
Suzanne Cleveland	KHI
Linda Sheppard	KID
Susan Zaleski	JTG
Maree Carpenter	KHP
Connie Huelser	KAMC
Desche Hahn	Neth Law Firm
Matt Casey	GBA
Dan Morin	KS Medical Society

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KANSAS RURAL
HEALTH WORKS



The Importance of the Health Care Sector to the Kansas Economy

Draft Report

Kansas Rural Health Options Project
February 2009

John Leatherman, *Professor and Director*
Office of Local Government
Department of Agricultural Economics
Kansas State University



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Administration

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office of
Local Government
K-State Research and Extension

and 
KSTATE
Kansas State University
Research and Extension

HEALTH AND HUMAN SERVICES
DATE: 02/05/09
ATTACHMENT: 1

The Economics of Rural Health Care

The organization and delivery of health care services have undergone rapid evolution in recent years. For many Americans, the cost of services and access to care are important issues. This certainly is true in many rural areas where communities have struggled to maintain affordable, quality health care systems. As economic forces and technical advances continue to change health care, it is more important than ever for rural community leaders and health care providers to work together to ensure affordable, sustainable health care systems.

In an effort to provide useful information resources to rural community and health care leaders, the Kansas Rural Health Options Project (KRHOP) has teamed with the Office of Local Government, a unit of the Department of Agricultural Economics and K-State Research and Extension, to develop this report as a component of the *Kansas Rural Health Works* program. KRHOP is a partnership of the Office of Local and Rural Health at the Kansas Department of Health and Environment, the Kansas Hospital Association, the Kansas Board of Emergency Medical Services and the Kansas Medical Society. KRHOP is dedicated to assuring quality health care delivery in rural Kansas through the promotion of collaborative systems of care. *Kansas Rural Health Works* is supported by a federal grant to KRHOP (No. H54RH00009-10-01) from the Health Resources and Services Administration, Office of Rural Health Policy.

The purpose of this report is to provide information resources that may be used to communicate to community leaders and concerned citizens the relative importance of health care to the local economy.

Much of this information draws on the national Rural Health Works program sponsored by the Office of Rural Health Policy, an initiative led by Cooperative Extension Service specialists at Oklahoma State University. Many persons knowledgeable about the Kansas health care system also contributed to this report, including specialists at the Kansas Hospital Association, the Office of Local and Rural Health, and hospital administrators from across the state who cooperated in the development of these resources.

The Office of Local Government welcomes any questions, comments or suggestions about this report or any of their other services. Contact your county Extension office or:

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The Economic Contribution of the Health Care Sector in Kansas

Introduction

The rapidly changing delivery of health services in rural counties has the potential to greatly impact the availability of health care services in the future. These changes include:

- Insufficient Medicare and Medicaid payments to hospitals and providers may force a reduction in the provision of health care services.
- A decreasing number of primary care physicians could lead to a decrease in access to health care services.
- Although Kansas rural health networks are already fairly strong, creation of provider networks may substantially change the delivery of, and access to, local health care services.
- Use of telemedicine could increase access to primary, consultative and specialty health care services at the county level.
- Development of critical access hospitals could help health care services remain in rural counties. Kansas currently has over 80 critical access hospitals.

As a result, the health care sector can have a large impact on the local economy. All of these changes make it imperative that decision makers become proactive in maintaining high quality local health care services.

Health care facilities such as hospitals and nursing homes provide jobs and income to people in the community. As these employees spend their income in the community, a ripple spreads throughout the economy, creating additional jobs and income in other economic sectors. To help understand this important connection between the health sector and the local economy, this report will:

- Discuss the role of the health sector in rural development.
- Measure the employment and income impact of the health sector on the Kansas economy.

This report will not provide any assessment of health care policies and will not make any recommendations.

Health Care Changes and Their Effects on Rural Communities

The changes occurring in the health care sector have had a substantial impact on many rural communities. People have found it more difficult to get health care coverage, insurance premiums have increased, and rural health care providers have been reimbursed at rates less than their urban counterparts for doing the same work. Concurrently, changes in urban health systems have impacted rural health care delivery with the result that some rural communities have lost their ability to make decisions about their local health care.

Rapid increases in health care costs have driven these changes. In 1990, a person spent an average of \$2,074 (2006\$) on health care expenditures. By 2006, health care expenditures rose to \$3,267 per person. Additionally, the average person spent \$1,311 (2006\$) for insurance premiums and \$763 on out-of-pocket expenses such as deductibles and co-payments in 1990. In 2006, those figures rose to \$2,411 for insurance premiums and \$855 for out-of-pocket expenses. Table 1 shows the trend of increasing health care expenses from 1960 through 2006. Because of the increases in the demand for and the cost of health care, the major purchasers of health care services – employers and government (through Medicare, Medicaid and other programs) – must search for ways to slow the rapid growth in health care expenditures.

Year	Per Capita Consumer Spending (2006\$)	Per Capita Insurance Premiums (2006\$)	Per Capita Out-of-Pocket Costs (2006\$)
1960	\$556	\$174	\$382
1970	\$834	\$320	\$514
1980	\$1,216	\$659	\$557
1990	\$2,074	\$1,311	\$763
2000	\$2,626	\$1,844	\$782
2001	\$2,750	\$1,963	\$787
2002	\$2,938	\$2,125	\$813
2003	\$3,089	\$2,250	\$839
2004	\$3,169	\$2,324	\$845
2005	\$3,227	\$2,372	\$855
2006	\$3,267	\$2,411	\$855

Centers for Medicare & Medicaid Services; data are inflation adjusted to 2006 dollars.

Typically, rural community residents pay little attention to their local health care system until it is needed. Consequently, many rural people have little idea of the overall importance of the health care sector to their community's economy, such as the number of jobs it currently provides and its potential to provide more jobs. To ensure that health care services remain available locally, rural communities need to understand these economic relationships. First, rural communities need to learn about their own local health care needs and take stock of their local health care system. While the emphasis at

the national level is on controlling costs and eliminating duplication and overcapacity in the system (de-licensing unused hospital beds, for example), the issues are very different in rural communities.

One of the issues that underlie differences between health care systems in rural and urban areas is demographics. In rural areas, there are proportionately more elderly, more children living in poverty, higher unemployment and lower incomes. Rural people report poorer health and have more chronic health conditions. They are more likely to be uninsured and have fewer health services available in the town where they live. Finally, people in rural communities are more likely to derive part of their income from the health care industry (either directly or indirectly).

Another issue that underlies the differences between urban and rural health care is the structure of the systems. In general, there are fewer providers and hospitals in rural areas, and they operate on very thin profit margins. In fact, many rural hospitals operate at a loss, with too few patients to cover daily costs. Also, until recently, most rural health care systems had been locally operated and controlled.

Pressures outside of the health care system also come into play in rural communities, creating stresses not applicable to urban systems. For example, cyclical commodity prices can cause a periodic farm financial crisis, undermining the financial viability of family farms and businesses, such as farm implement manufacturers and dealers. Businesses located in rural areas tend to be small, often do not provide health insurance, and are highly vulnerable to changing economic conditions. Although these stresses can lead to mental and physical health problems, many people do not seek help for their health problems. Some will say they have little time to seek out health care services, especially if they are working two jobs to make ends meet. For others, the strong sense of pride and self-reliance inherent among rural people may preclude many from seeking care, especially if they cannot afford it.

What is the ultimate impact of these changes and stresses on rural communities? Will it be a net gain or net loss, or will it all balance out in the end?

On the positive side, urban-based specialists may set up periodic office hours in rural clinics, health centers and hospitals; an urgent care center may open; and air medivac helicopters and other emergency medical services may be strategically located in a rural community. These services, while provided by many urban health systems, are convenient for rural residents, and otherwise would not be available to rural communities.

On the negative side, ties with financially strong urban health care providers can be detrimental to rural providers if the rural providers lose decision-making ability. Rural providers may also find themselves aligned with an organization that does not share their mission and values, or the rural provider may be unable to meet the expectations of the larger provider.

Anecdotal evidence suggests that the downsides can be significant and potentially devastating for a rural community. In some instances, urban or other outside interests have purchased rural clinics and hospitals and then closed them because they did not provide sufficient profit. Employers have signed contracts with insurance plans that push patients to the city for their health care, bypassing local, more convenient services. Emergency medical service providers have changed their service areas or closed their doors. When urban health organizations encourage insured rural residents to spend their health care dollars in the city rather than to purchase equivalent services locally, it can have a significant negative economic impact and result in a loss of health dollars within the local community. In addition, out of town trips to obtain health care naturally offer opportunities to spend dollars out of town that may have been spent locally. These out-migrated dollars are missed opportunities and can significantly impact the local economic base.

Rural communities need to overcome inertia and take stock of local health care. Rural providers should be challenged to organize, whether through formal or informal mechanisms, so that they can compete with urban systems. In general, regional strategies will probably work better than local ones. Providers must be willing to take risks and coordinate services.

Well-positioned rural health systems can meet these challenges. Fragmentation is a big problem in health systems, but smaller, independent rural systems have more opportunity to create linkages. The scarce resources available to rural health services have engendered innovation and efficiencies as a matter of survival. Strong local leadership helps sustain these systems. Many rural health organizations are committed to fiscal accountability, expressed as quality health care at low cost. It should not be too difficult to remind rural residents of the long-term commitment these rural providers have made in the communities they serve. In time, rural providers need to offer sustainable health care services that best meet community needs.

Success in meeting these challenges can be measured in terms of increased local services, more spending on locally-available health care, local control of health resources, negotiation of good reimbursement rates for providers, and high levels of community satisfaction with local health care.

If rural health providers do not act, they will face the prospect of losing jobs; rural communities could lose health care services; and everybody may lose local control of their health care.

Health Services and Rural Development

Though the connections between health care services and rural development are often overlooked, at least three primary areas of commonality exist. A strong health care system can help attract and maintain business and industry growth, attract and retain retirees, and also create jobs in the local area.

Health Services and Community Industry

Studies have found that quality of life factors play a dramatic role in business and industry location decisions. Health care services represent some of the most significant quality of life factors for at least three reasons. First, 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 inconvenient 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 productivity factor is good health. Thus, investments in health care services can be expected to yield dividends in the form of increased labor productivity. The third factor that business and industry consider in location decisions is cost of health care services. A 1990 site selection survey concluded that corporations looked carefully at health care costs, and sites that provided health care services at a low cost sometimes received priority. In fact, 17 percent of the respondents indicated that their companies used health care costs as a tie-breaking factor between comparable sites (Lyne, 1990).

Health Services and Retirees

A strong and convenient health care system is important to retirees, a special group of residents whose spending and purchasing can provide a significant source of income for the local economy. Many rural areas have environments (for example, moderate climate and outdoor activities) that enable them to attract and retain retirees. Retirees represent a substantial amount of spending, including the purchasing power associated with pensions, investments, Social Security, Medicare and other transfer payments. Additionally, middle and upper income retirees often have substantial net worth. Although the data are limited, several studies suggest health services may be a critical variable that influences the location decision of retirees. For example, one study found that four items were the best predictors of retirement locations: safety, recreational facilities, dwelling units, and health care. Another study found that nearly 60 percent of potential retirees said health services were in the "must have" category when considering a retirement community. Only protective services were mentioned more often than health services as a "must have" service.

Health Services and Job Growth

Job creation represents an important goal for most rural economic development programs. National employment in health care services increased 56 percent from 1990 to 2007. In rural areas, employment in health-related services often accounts for 10 to 15 percent of total employment. This reflects the fact that the hospital is often the second largest employer in a rural community (local government including schools typically being the largest employer).

Another important factor is the growth of the health sector. Health services, as a share of gross domestic product (GDP), has increased over time. In 1990, Americans spent \$1,017 billion on health care (2006\$), which accounted for 12 percent of the GDP. As illustrated in Figure 1, 2006 health care costs represented 16 percent of the national GDP, or \$2,106 billion. If current trends continue, projections indicate that Americans will spend 19.6 percent of GDP on health care by 2016. Capturing a share of this economic growth can only help a rural community.

Understanding Today's Health Care Impacts and Tomorrow's Health Care Needs

A strong health care system represents an important part of a community's vitality and sustainability. Thus, a good understanding of the community's health care system can help leaders and citizens fully appreciate the role and contributions of the health care system in maintaining community economic viability. In addition, a community should also examine the future health care needs of its residents in order to position itself so that it can respond to those needs. This report is designed to provide the kind of information that a community can use to understand its health care system and some possible indicators of current and future health care needs of its residents. The report begins with an examination of demographic, economic and health indicators and culminates with an illustration of the full economic impact of the health care sector in the county's economy.

The Economic Contribution of the Health Care Sector

An Overview of the Kansas Economy, Highlighting Health Care

Table 1 presents employment, income and sales data for Kansas for 2007. Health care income and sales data were estimated using state average data. Data for all other economic sectors come from various government statistics and published data sources.

The table aggregates the economic sectors into broad categories, and the employment numbers indicate “average” jobs in each sector, including full- and part-time employment. Labor income represents local wages and proprietary income. Total income is the broadest measure of income generated within the local economy, and includes labor income plus dividend, interest, rents, corporate profits, etc.

Table 2. Direct Employment, Income and Sales by Economic Sector and Health Services Relative Shares Compared to the State and U.S., 2007 (\$millions)

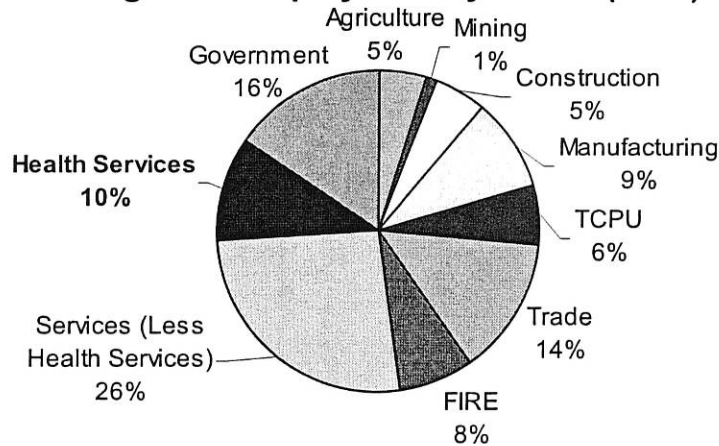
Sector	Employment	Labor Income	Total Income	Total Sales
Agriculture	85,974	\$929	\$3,555	\$12,444
Mining	21,015	\$1,524	\$3,573	\$7,351
Construction	101,176	\$4,200	\$5,045	\$13,091
Manufacturing	173,681	\$12,818	\$19,391	\$75,958
Transportation, Communication, Public Utilities	109,721	\$7,039	\$15,562	\$30,254
Trade	258,665	\$8,738	\$14,202	\$21,297
Finance, Insurance and Real Estate	141,098	\$5,266	\$16,080	\$29,211
Services	682,411	\$22,285	\$27,093	\$48,962
Health Services	195,200	\$8,185	\$9,651	\$16,221
Health and Personal Care Stores	10,912	\$304	\$432	\$664
Veterinary Services	3,708	\$108	\$118	\$265
Home Health Care Services	39,702	\$2,655	\$2,981	\$4,421
Offices of Health Practitioners	7,150	\$200	\$225	\$322
Other Ambulatory Health Care Services	15,740	\$760	\$1,251	\$2,029
Hospitals	66,437	\$3,378	\$3,586	\$6,859
Nursing and Residential Care Facilities	51,551	\$782	\$1,058	\$1,661
Government	290,741	\$14,556	\$17,457	\$18,703
Totals	1,864,484	\$77,355	\$121,958	\$257,272
Health Services as Percent of Total				
State	10.5%	10.6%	7.9%	6.3%
Nation	8.8%	9.1%	6.8%	5.9%

Minnesota IMPLAN Group; due to rounding error, numbers may not sum to match total.

Health services are separated from the service and retail trade sectors but not double counted in the totals. The numbers for each sector include not only the professionals in the sector (the doctors, dentists, etc.) but also support staff (assistants, clerks, receptionists, etc.) employed by the business. In the health sector, the Health and Personal Care stores category includes pharmacies, while the Doctors and Dentists category includes chiropractors, optometrists, and other health care practitioners. Other Ambulatory Health Care Services includes services such as medical and diagnostic labs and outpatient care centers.

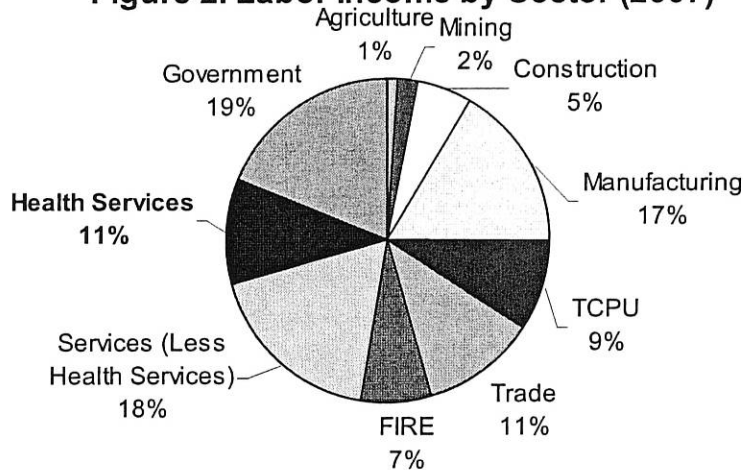
Health Services for the state of Kansas employs 10.5 percent of all job holders, while 8.8 percent of all job holders in the United States work in Health Services. Health Services in the state has a number 4 ranking in terms of employment (Figure 1). Health Services is number 4 among payers of wages to employees (Figure 2) and number 7 in terms of total income (Figure 3).

Figure 1. Employment by Sector (2007)



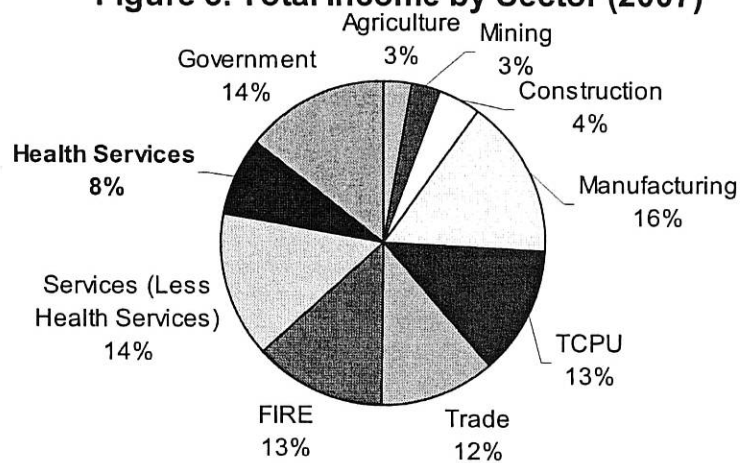
Minnesota IMPLAN Group.

Figure 2. Labor Income by Sector (2007)



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Figure 3. Total Income by Sector (2007)



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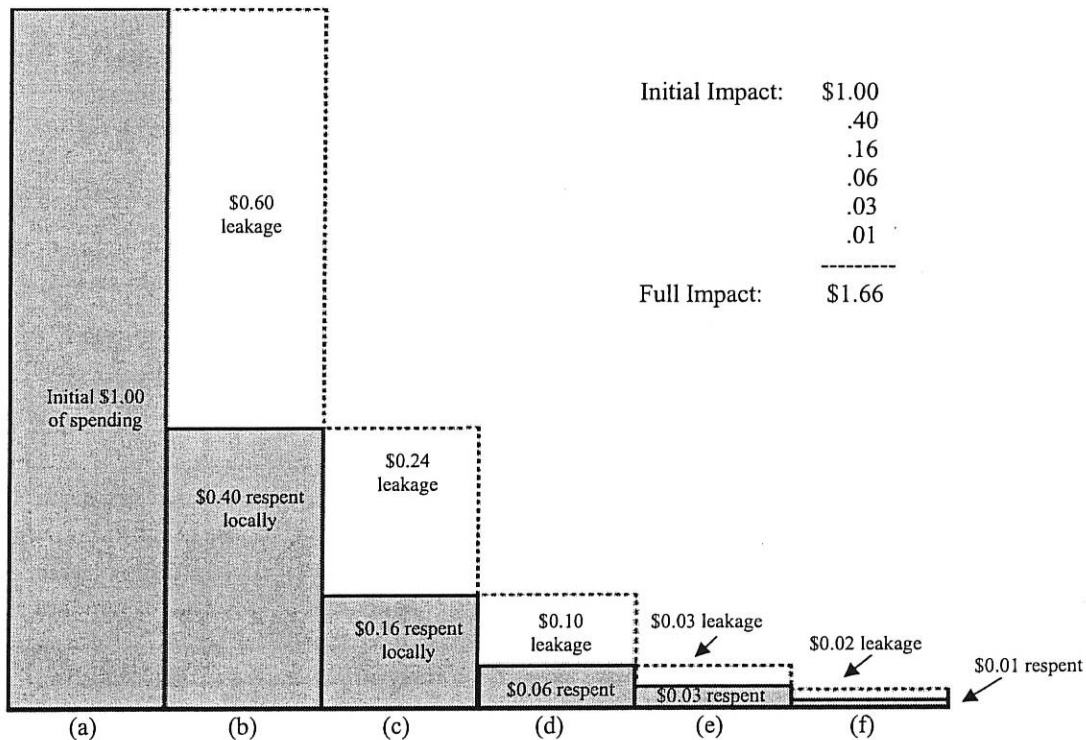
Health Sector Impact and Economic Multipliers

The previous section detailed the direct contributions of the Health Services sector within the Kansas economy, but the full impact of the sector goes beyond the number of people employed and the wages they receive. The employment and income levels in the health sector have a significant impact on employment and income throughout other industries in the market area. This secondary impact or “ripple effect” comes from local businesses buying and selling to each other and from area workers spending their income for household goods and services; the ripple effect spreads the economic impact of the health sector throughout the community’s economy.

As dollars are spent locally, they are, in turn, re-spent for other goods and services. Some of these goods are produced locally while others are imported (the portion of the dollar spent on imports leaves the community as leakage). This spending and re-spending occurs over multiple rounds until it is finally exhausted.

Graphically, we can illustrate the round-by-round relationships modeled as shown in Figure 9. The direct effect of spending is shown in the far left-hand side of the figure (the first bar (a)). For simplification, the direct effects of a \$1.00 change in the level of spending plus the indirect effects spillover into other sectors and create an additional 66 cents of activity. In this example, the multiplier is 1.66. A variety of multipliers can be calculated using these analysis techniques

Figure 4. Multipliers and the round-by-round impacts



Tables 3 and 4 illustrate the ripple effect in the state. As an example, Table 3 shows that the hospital sector employs 66,437 people and has an employment multiplier of 2.08. This means that for each job created in the hospital sector, another 1.08 jobs are created in other businesses and industries in the state's economy. The direct impact of the 66,437 hospital employees results in an indirect impact of 71,752 jobs ($66,437 \times 1.08 = 71,752$) throughout all businesses and industries in Kansas. Thus, the hospital sector employment had a total impact on state employment of 138,327 jobs ($66,473 \times 2.08 = 138,327$, allowing for rounding).

Table 3. Health Sector Impact on Employment, 2007

Health Sectors	Direct Employment	Economic Multiplier	Total Impact
Health and Personal Care Stores	10,912	1.85	20,178
Veterinary Services	3,708	1.93	7,167
Home Health Care Services	39,702	1.99	79,203
Offices of Health Practitioners	7,150	1.77	12,670
Other Ambulatory Health Care Services	15,740	2.15	33,839
Hospitals	66,437	2.08	138,327
Nursing and Residential Care Facilities	51,551	1.74	89,890
Total	195,200		381,273

Note: Most data obtained from secondary sources.

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Similarly, multiplier analysis can estimate the total impact of the estimated \$3,586,000,000 direct income for hospital employees shown in Table 4. The hospital sector had an income multiplier of 2.20, which indicates that for every one dollar of income generated in the hospital sector, another \$1.20 is generated in other businesses and industries in the state's economy. Thus, the hospital sector had an estimated total impact on income throughout all businesses and industries of \$7,888,000,000 ($\$3,586,000,000 \times 2.20 = \$7,888,000,000$, allowing for rounding).

Table 4. Health Sector Impact on Income, 2007 (\$millions)

Health Sectors	Direct Income	Economic Multiplier	Total Impact
Health and Personal Care Stores	\$432	2.26	\$973
Veterinary Services	\$118	2.72	\$322
Home Health Care Services	\$2,981	1.77	\$5,276
Offices of Health Practitioners	\$225	2.40	\$539
Other Ambulatory Health Care Services	\$1,251	1.85	\$2,312
Hospitals	\$3,586	2.20	\$7,888
Nursing and Residential Care Facilities	\$1,058	3.08	\$3,260
Total	\$9,651		\$20,570

Note: Most data obtained from secondary sources.

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In this manner, the total employment and income impacts of all the health services sectors can be estimated. In Table 3, the total employment impact of the health services sector results in an estimated 381,273 jobs in the local economy. In Table 4, the total income impact of health services results in an estimated \$20,570,000,000 for the economy.

Rural Health Works Community Engagement

The purpose of the Kansas Rural Health Works program is to provide a process by which community residents can evaluate their health system. The process leads to increased use and expansion of health services and helps to ensure the continued existence of local health services. Rural Health Works engages community residents in local health care decision making by showing them the importance of the health care sector to their local economy. Further, it generates several information reports useful in understanding local health care needs.

The Rural Health Works toolbox includes:

- Local economic impact analysis
- Community data and information compilation
- Local health care services inventory
- Local health services survey and analysis
- Materials and templates for local media campaigns
- Materials and instruction for local health care strategic planning

The Economic Impact Report is designed to provide information about the health sector's economic potential through identifying trends and changes. This report measures the employment, income, retail sales, and sales tax impact on the health sector. By analyzing the results, communities are able to see how employment and income levels from the health care sector impact households and other local sectors.

The Health Service Directory is designed to make available to the public a compilation of all local healthcare resources and facilities. This report provides a listing of the current health care delivery system in order to identify the services or lack of services in the community. Through this report, community members are able to recognize and utilize the health resources available to them locally.

The Community Survey creates a picture of the local health care needs and wants. It also shows the utilization of the current health facilities. Through the interview of community members, generally by phone, health care providers are able to recognize their strengths and weaknesses. They are then able to focus on how to improve the health sector to meet the needs of the community.

The Data and Information Factsheets contain a variety of information related to economic data, health and behavioral data, education data, crime data and traffic data. The

community steering committee chooses key issues based on the potential impact the issues have on the local health economy and specific healthcare needs. The fact sheets represent the relationship between the health care sector and other sectors.

Community Participation and Outcomes

To date, the Rural Health Works Community Engagement process has been offered in seven counties: Trego County (2008), Osborne County (2008), Cloud County (2007), Oakley – Tri-county (2006), Stafford County (2006), Republic County (2005), and Sherman County (2005). Two additional programs are currently underway, Rice County (2009) and Neodesha (2009).

Each community determines for itself what type of activities, if any, to pursue in the quest to enhance the local health care system. At times there is a single overriding issue. Other times, the emphasis will be on multiple distributed activities.

In Stafford County, community residents rallied around the need reorganize the local hospital in St. John as a county-owned hospital in an effort to enhance and stabilize its financial condition. They used information from the Rural Health Works program to undertake a public information/education campaign. In the subsequent referendum, the voters approved the reorganization by a wide margin.

A similar initiative in Cloud County was not successful. They too engaged in a public campaign seeking voter approval of a bond issue to upgrade the local hospital facilities and equipment. There, voters rejected the issue.

In Osborne County, the local steering committee chose to undertake multiple initiatives. They decided to pursue a community grant to support First Responder recruitment and training, initiate youth and adult drug and alcohol education programs, initiate a feasibility analysis for an assisted living facility, and undertake a local public education program to ensure county residents knew how to access available health and wellness information. While the community engagement program was underway and these discussions were occurring, the county held a referendum to determine whether to continue levying a dedicated sales tax to support the hospital. The vote passed easily.

Finally, in Trego County, one issue emerged over all others: youth suicide prevention. Within the past several years there had been multiple instances of adolescents committing suicide to the point of it becoming epidemic in such a small community. The steering committee decided to connect with mental health service providers in Hays and to engage the local high school in efforts to create a local support group and strengthen prevention and education programs.

Summary and Conclusions

The Health Services sector plays a large role in the state's economy. Health Services represents one of the largest employers in the state and also serves as one of the largest contributors to income. Additionally, the health sector has indirect impacts on the local economy, creating additional jobs and income in other sectors. All of this demonstrates the importance of the health care sector to the state and local economy.

While the estimates of economic impact are themselves substantial, they are only a partial accounting of the benefits to the county. Health care industries in rural counties help to preserve the population base, invigorating the communities and school systems. Similarly, many hospitals and nursing care facilities have active community outreach programs that enhance community services and the quality of life for residents.

A vigorous and sustainable health care system is essential not only for the health and welfare of community residents, but to enhance economic opportunity as well. Health-related sectors are among the fastest growing in economy. Given demographic trends, this growth is likely to continue. The attraction and retention of new business and retirees also depends on access to adequate health care services.

While industry trends related to health care are positive overall, many rural communities have significant challenges. The economics of health care are rapidly changing. As health care costs escalate and government funding becomes tighter, rural markets may become less attractive to many providers. This will lead to the continued restructuring of rural health care services in many areas.


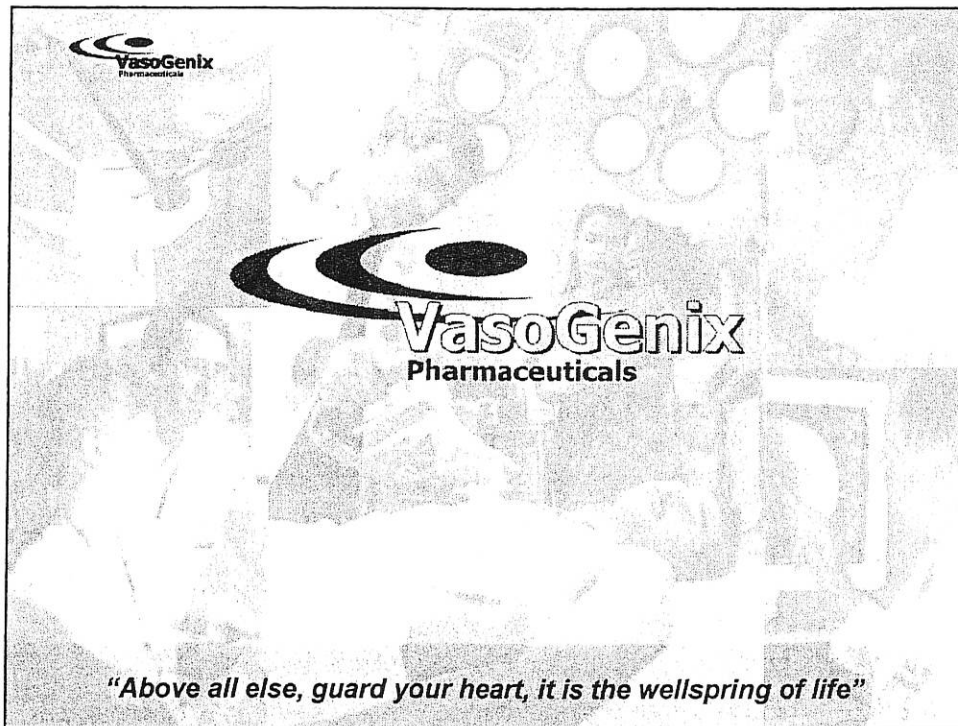
If a community wants to maintain the benefits associated with accessible and affordable health care, it must actively work to meet these challenges. The challenges cannot be met by those directly responsible for health care administration alone. They require a community-wide response involving government, business and civic leaders, and they frequently incorporate outside assistance from professional resources providers, such as the Kansas Hospital Association, the Office of Local and Rural Health, the Kansas Department of Health and Environment, and others.

In meeting current and future challenges, health care and community leaders can engage in an ongoing process of strategic health planning. This is continuous effort to maintain and enhance the community's health care situation. The strategic health planning process helps local communities identify their health care needs; examine the social, economic, and political realities affecting the local delivery of health care; determine what is wanted and what realistically can be achieved to meet their identified health care needs; and develop and mobilize an action plan based on their analysis and planning.

Strategic health planning involves cooperation among people and organizations to pursue common goals. The process is designed to answer three questions:

- (1) Where is the community now?
- (2) Where does the community want to go?
- (3) How will the community get there?

For the strategic health planning process to be most effective, it must be based in the community and driven by the community. Local residents and their leaders must participate; a current knowledge of the health care industry is not necessary. This process is about local people solving local problems. The local hospital and health care providers should have input into the decision-making and should support and trust the outcomes, but, the community must provide the energy and commitment.



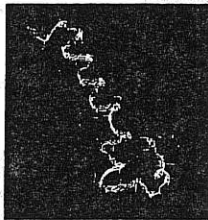
2

Significance of Heart Failure

- #1 Patient Diagnosis Over Age 65
- #1 Cause of Death Over Age 65
- #1 Hospital Expense at \$15 Billion
- Over 1 Million Hospitalizations Annually
- Multiple drug cocktail required for treatment
 - Moderately effective, side effects, Pt. compliance

80% Over Age 65 Will Die of Heart Failure

Calcitonin Gene Related Peptide (Human CGRP)



Calcitonin
Gene Related
Peptide

- Significant Body of Research
- Clinical Profile
 - Improves Cardiac Function
 - Maintains Kidney Blood Flow
 - Cardioprotective
 - Reduces Cardiac Muscle Inflammation
- Established Human Safety Profile
- CGRP Analogs are Equivalent

Goals of Our Therapy

- Reduce Hospital Readmission Rate by Half
- Reduce Annual Hospital Costs by \$6 Billion
- Eliminate 400,000 Readmissions
 - Save \$16,000 per Hospital Visit
- Provide Longer and Healthier Quality of Life



Product #1: In-Hospital

- Provides Combined Benefits of Current Standard of Care Cocktail
- IV Administration
- Stabilization of Symptoms
- Reduce Hospitalization Time

Product #2: Post-Hospital

- Biodegradable Controlled Release Therapy
- Easy to Administer
- Requires Only Periodic Administration
- First 7-days post hospitalization & Out Patient Therapy

"Paradigm-shifting therapeutic advance" –NIH reviewer



Revenue Projection

(\$ million)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
In-Hospital Drug	\$58	\$127	\$210	\$308	\$423	\$558
CRD – Initial Visit Patients	43	94	156	228	314	415
CRD – Repeat Visit Patients	85	186	301	435	589	766
CRD – VasoGenix Recurring Patients	-	64	156	268	399	551
Total Treatment Revenue	186	471	823	1,239	1,725	2,290
License	10%	10%	10%	10%	10%	10%
Total Royalty	\$19	\$47	\$82	\$124	\$173	\$229



7

Management

Dr. G. Lee Southard
President & Chief Executive Officer

- Atrix Laboratories, Inc.
 - Founder, President, CEO & CSO 1987-1998
 - Company Sold to QLT Inc. for \$855 million
- Vipont Pharmaceuticals, Inc.
 - Co-founder, VP R&D 1981-1986
 - Company Sold to Colgate-Palmolive for \$94 million
- Big Pharma Executive Experience
 - Eli Lilly
 - Johnson & Johnson

Jeff Southard
Co-Founder & Vice President Drug Development

- 6 New Drugs to Market, 3 New Medical Devices
- 5 Patents Issued, 3 Patents Pending
- 13 Publications and Presentations

16 FDA Approved Drug and Device Products



8

Using Specialists Partners in Development

- Research Collaborations
 - University of Kansas Medical Center
Tulane University School of Medicine
 - CGRP Protects Heart Cells from Death During Heart Attack and Heart Failure Conditions (American Heart Association 2005)
 - Cleveland Clinic Lerner Research Institute
 - CGRP Receptors in Heart Failure Patients Are Upregulated 38% (American Heart Association 2007)



Using Specialists Partners in Development

- Development Team
 - Beckloff Associates
 - Xenometrics
 - Acceleration, LLC
 - Fleishman-Hillard
 - Kidney Institute of Kansas University Medical Center (KUMC)
 - Mid America Cardiology Associates at KUMC
- Later- Clinical trial companies, packaging, marketing, clinical laboratories, R&D facilities, etc.
- All KS and KC Metro companies
- All world class R&D reputations

Financing to Date

- Raised \$4.9 Million
 - Friends & Family \$750,000 (15%)
 - KTEC/KBA/Precede \$975,000 (20%)
 - Angel Investors \$3,175,000 (65%)
 - Out of State \$2,831,000 (89% angel / 58% total)
 - In State \$344,000 (11% angel / 7% total)
- KS Angel Tax Credit is key to greater investment
- Seed funding is essential for launch, company structure, IP, build the team, prototyping, ★ due diligence, and follow-on investment ★

Financing and Jobs

- Recently awarded \$400,000 by KBA + matching funds
 - Our business model- >75% locally outsourced
 - 100% of KBA's investment stays in KS
 - Include matching funds = 150% ROI investment
- 2008 Investment in VasoGenix
 - 3 New Jobs
- 2009 Investment in VasoGenix
 - ~12 Jobs Saved
 - More money raised...more jobs saved



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