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Research Study

The Economic Impact of a Rural Primary Care Physician

Fred C. Eilrich, Gerald A. Doeksen, and Cheryl F. St. Clair, National Center for Rural Health Works

Key Findings

- The total economic impact of a rural primary care physician can be greater than the employment and labor income created from the clinic.
- A rural primary care physician generates economic impacts at the local hospital from the inpatient admissions and outpatient referrals.
- A rural primary care physician practicing in a community with a local hospital creates an estimated 24.2 local jobs and over $1.3 million in income (wages, salaries and benefits) from the clinic and the hospital.

Background

A primary care physician in rural areas provides needed medical services. Visits to a primary care physician are a major part of our health care needs. An estimated 55.5 percent of all physician visits are made to primary care physicians or mid-level practitioners such as physician assistants or nurse practitioners **[1].** Availability of adequate primary care services is essential for a strong health care system, but these primary care visits also account for health expenditures in the form of revenues to the medical clinic. A large portion of the revenues create employment opportunities and wages, salaries and benefits for clinical staff, which in turn are returned to the local economy as the clinic and employees spend locally. Furthermore, the total economic impact of a primary care physician is greater than the impact at the clinic when the community has a local hospital. The physician contributes to the local hospital through inpatient admissions and outpatient referrals. Not only is the support vital for maintaining sufficient hospital utilization, but the revenue generated at the hospital creates even more jobs and income.

The employment opportunities and the resulting wages, salaries and benefits make the health care system an extremely important part of the local economy. Research from the National Center for Rural Health Works indicates that between 10 and 15 percent of the jobs in many rural communities are in the health care sector **[2]**. Hospitals often are the second largest employer in rural communities, trailing only local school systems.

Employee spending, along with clinic and hospital spending at local businesses, stimulates additional economic growth or secondary impacts in other parts of the economy. Much of this economic activity generates additional tax revenues that can be used by the local government to fund important community services.

Historically, a physician in an independently-owned clinic was the typical delivery method for rural primary care services. In recent years the independent practice model is moving toward an employment model. Fewer primary care physician graduates are starting their own practices and many practicing physicians are opting for employment.

The National Center for Rural Health Works is the National Center for Health Impact Training and the Center for Economic Impact Analysis of selected health policies. The Center provides training and assistance on economic impact, community health needs assessment, and health feasibility studies. For more information, contact Gerald Doeksen at 405-744-6083 or email: gad@okstate.edu.

The increase of hospital-owned clinics, community health centers and corporate-owned urgent care clinics has created new employment opportunities.

In 2012, the survey conducted by Merritt Hawkins for The Physicians Foundation was sent to over 80 percent of physicians in active patient care. The result was 49.1 percent of the primary care physician respondents were employed as opposed to operating their own clinic. The report also indicated only 13 percent of all physicians were currently in a solo practice according to the latest American Medical Association Physician Master File **[3].**

Merritt Hawkins, a national physician search firm compared these trends to their physician search assignments. In 2009, 45 percent of their physician search assignments featured hospital employment compared to 23 percent in 2005 **[4]**. Less than one percent of the 2,711 physician search assignments offered a solo practice in 2011/2012, a decrease from 22 percent in 2004 **[3].**

Some primary care physicians are taking jobs as "hospitalists," which means they are employed by the hospital and manage patient care to inpatients and do not operate their own clinic. Patient care is essentially passed to the hospitalist relieving the primary care physician from hospital rounds once the patient has been admitted. Hospitalist activities may also include being the attending physician at the emergency room as well as teaching and research related to hospital care. Survey data suggest that the vast majority of hospitalists (90 percent) specialize in internal medicine, although some specialize in pediatrics or family practice **[5]**. Employment as a hospitalist is a growing trend. Finarelli estimated that 12 percent of primary care physicians worked as hospitalists in 2010 **[6]**. This was an increase from about seven percent in 2005. Currently, the majority of employment opportunities for hospitalists are in urban hospitals but the trend is moving to rural.

Purpose of the Study

The objective of this study is to estimate the economic contributions to employment and labor income from the direct and secondary impacts of a rural primary care physician on the community and surrounding area including the local hospital. The assessment underestimates the total value as the impact is not included from other sectors such as pharmacy and nursing homes. The study includes impacts from:

- clinic employment and wages, salaries and benefits (labor income), and
- local hospital employment and wages, salaries and benefits (labor income).

Limitations

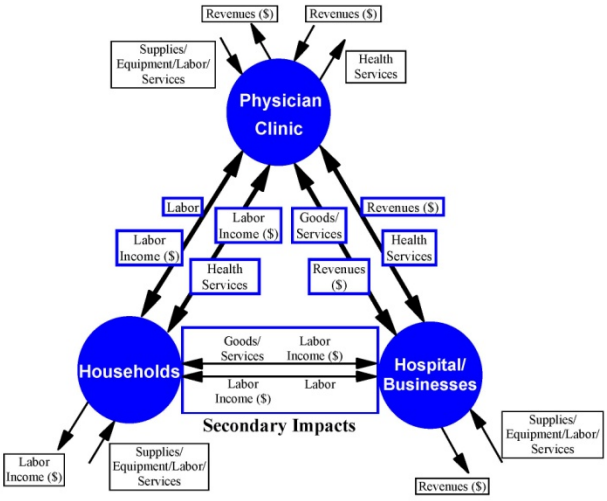
The lack of available data requires that some assumptions be made. For this study, a primary care physician includes physicians practicing in physician-owned clinics (solo or multi-physician) and employed physicians practicing at community health centers and corporate- or hospital-owned clinics. Interviews conducted with National Health Service Corps (NHSC) staff and employed physicians suggest that rural physician practices from all practice models have similar patient care and referral activities. A multi-physician clinic might reduce the staffing per physician as employees are shared in some instances. However, in some cases, the core staffing requirements will not change. It was assumed a minimum of three support staff per physician. This was supported by NHSC staff interviews.

Hospitals must have support from local primary care physicians to maintain sufficient utilization. The assumption is made that the lack of local primary care physician support would significantly impact the hospital's financial stability. In addition to the inpatient admissions, primary care physicians generate significant outpatient activities that also increase hospital net revenues. Hospitals allocate a significant portion of their revenues to employee compensation costs. Therefore, it was assumed that the direct impacts could be estimated by allocating the total hospital compensation equally to the

primary care physicians practicing in the hospital medical service area. The economic impact measured in this study results from a rural primary care physician that practices in a clinic and utilizes the local hospital for services.

Approach

The methodology will estimate the economic impact from the clinic and hospital. The direct impacts include the employees and labor income at the clinic and the proportionate share of the hospital employees and their labor income.



The secondary impacts are calculated with an input-output model and data from IMPLAN. **Figure 1** illustrates a community economic system for a physician clinic. The physician clinic generates jobs and labor income from its revenues. Additional jobs and labor income are created at the hospital through inpatient admissions and outpatient referrals. In turn, secondary impacts are created as the physician clinic and the hospital and the individuals working for the clinic/hospital purchase goods and services within the local economy.

Figure 1 illustrates that a change in any one segment of a community's economy will cause reverberations throughout the entire economic system of the community. A multiplier from an input-output model can measure the effect created by an increase or decrease in economic activity. The multiplier not only measures the economic activity from the physician and hospital employees but also includes the economic activity from additional business spending and household spending such as the restaurant workers, equipment vendors and others.

The model calculates employment (in terms of full- and part-time jobs) and labor income (in terms of wages, salaries and benefits) multipliers. The model generates multipliers that are region-specific due to differences in locally-available goods and services across different states, counties, or zip codes.

Direct Impacts of a Rural Primary Care Physician

Estimating the Direct Impacts of the Clinic

Data in **Table 1** present the direct impacts of the physician clinic in terms of employment and labor income. The staffing mix may vary significantly, particularly in a multi-physician clinic. For estimation purposes, the total clinic employment impact including the physician was estimated to be four jobs.

Table 1
2012 Estimated Employment and Labor Income of a Rural Primary Care Physician Clinic

Employment	4
Labor Income	$395,024

Source: Wage, Salaries and Benefit estimates from U.S. Department of Labor, Bureau of Labor Statistics, May 2012

From the U.S. Department of Labor, Bureau of Labor Statistics, wage and salary estimates for May 2012 were $184,630 for a family physician, $38,980 for a licensed practical nurse, $30,740 for a medical assistant and $27,810 for a receptionist/information clerk. Total direct income from the clinic was estimated to be $395,024 **[7]**. This includes 40 percent total benefit costs **[8]**.

Estimating the Direct Impacts at the Hospital

The direct impacts that a rural primary care physician has at the hospital are reflected in **Table**

2. Hospitals are an integral part of the local health care sector. As previously mentioned, the community hospital is a major provider of jobs and labor income in the local medical service area. Hospitals require inpatient admissions and outpatient referrals from physicians.

Hospital employment and income data for 30 rural hospitals located in 12 different states were utilized from previous economic impact studies completed by the National Center for Rural Health Works. These hospitals, many of which were Critical Access Hospitals, represented typical rural hospitals. Data from these studies, along with the total number of primary care providers in each hospital service area, were averaged to estimate the direct impacts of each physician to the hospital.

Table 2
2012 Employment and Labor Income at the Local Hospital Generated by a Rural Primary Care Physician

Employment	13.5
Labor Income	$704,444

Source: Local data from 30 rural hospital communities in 12 states, National Center for Rural Health Works

Due to differences in regulations among states, the patient activity for mid-level practitioners varies significantly. For this study, it was assumed that a mid-level practitioner was comparable to one-half of a primary care physician. From this data, the average labor income per hospital employee and the average number of hospital employees per physician were estimated for each hospital. The estimated employment generated at the hospital is 13.5 employees per physician.

With an estimated average hospital salary of $52,181, the hospital creates an estimated $704,444 labor income from a rural primary care physician's patient referral activity. These data are based on a full-capacity rural primary care physician practice, providing the maximum impact on the local hospital.

If a new physician comes to a community to practice, it may take three to five years before the physician practice is at full capacity and can generate a full impact on the community. Actual impacts on the hospital may be affected by their available capacity.

Total Impacts of a Rural Primary Care Physician

As stated earlier, the direct employment and labor income will further benefit the community by generating secondary jobs and labor income throughout the local economy. Data in **Table 3** present the total impacts of the physician clinic and the business that a typical primary care physician brings to a local hospital. The previous economic impact studies estimated hospital and physician clinic multipliers. For this analysis, average multipliers for the 30 rural hospitals were utilized

Table 3
2012 Total Employment and Labor Income Impact of a Rural Primary Care Physician at Physician Clinic and Hospital[1]

	Employment	Multiplier	Total
Clinic	4.0	1.33	5.3
Hospital	13.5	1.40	18.9
Total	**17.5**		**24.2**
	Income	**Multiplier**	**Total**
Clinic	$395,024	1.19	$470,079
Hospital	$704,444	1.25	$880,555
Total	**$1,099,468**		**$1,350,634**

[1] Income includes wages, salaries and benefits.
Source: IMPLAN database, Minnesota IMPLAN Group, Inc., Local data from 30 rural hospitals communities in 12 states

For example, the clinic employment multiplier of 1.33 estimates that if one job is created by the physician clinic, then an additional 0.33 jobs are created in other businesses due to the physician clinic and employee spending. Using the employment and labor income data from **Tables 1** and **2,** an estimate of total labor income and

employment created from the primary care physician practice and hospital can be made. Physician clinic employment from **Table 1** was four. The total employment impact from the clinic is 5.3 jobs. The same methodology used for the hospital yields 18.9 jobs for a total employment impact of 24.2 jobs. The direct labor income estimates from **Table 2** will create a total labor income impact of $1,350,634.

Summary

The importance of a local primary care physician and the medical contribution that he or she makes to the community could be revealed through improvements in residents' health and higher quality of life indicators. However, the economic contribution is not typically quantified. This report documents the economic importance of a rural physician. A rural primary care physician practicing in a community with a local hospital creates approximately 24.2 local jobs and over $1.3 million in labor income (wages, salaries and benefits). The estimate is low as this study measures only the impacts from the clinic and hospital and does not include impacts from pharmacy, nursing home, etc. The impact is created through clinic employment, inpatient admissions, outpatient referrals and the multiplier effect of these activities. Thus, the rural primary care physician's *economic* contributions are important to a community.

References

[1] U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center of Health Statistics. 2010. "National Ambulatory Medical Care Survey, 2010 Summary Tables." Available at http://www.cdc.gov/nchs/ahcd/web_tables.htm#2010.

[2] Doeksen, G.A., Cordes, S., and Shaffer, R. 1992. "Health Care's Contribution to Rural Economic Development." Funded by Federal Office of Rural Health Policy, DHHS, and Health Resources and Services Administration.

[3] The Physicians Foundation. 2012. "A Survey of Americans Physicians: Practice Patterns and Perspectives." Survey conducted by Merritt Hawkins.

[4] Merritt Hawkins. 2010. "2010 Physician Inpatient/Outpatient Revenue Survey."

[5] Medical Group Management Association and the Society of Hospital Medicine. 2012. "2012 State of Hospital Medicine Report." Available at: http://www.hospitalmedicine.org/AM/Template.cfm?Section=Practice_Resources&Template=/CM/HTMLDisplay.cfm&ContentID=29857.

[6] Finarelli, H. 2009. "The Hospital Executive Guide to Physician Staffing." Health Leaders Media. Available at: http://www.healthleadersmedia.com/supplemental/6693_browse.pdf.

[7] U.S. Department of Labor, Bureau of Labor Statistics. 2012. "2012 National Occupational Employment and Wage Estimates." Available at: http://www.bls.gov/oes/current/oes_nat.htm.

[8] U.S. Department of Labor, Bureau of Labor Statistics. 2013. 2013 News Release, USDL-13-1140. "Employer Costs for Employee Compensation." Available at: http://www.bls.gov/news.release/pdf/ecec.pdf.