

The Economic Impact of the Rural Residency Program at the Medical Center of Southeastern Oklahoma on the Economy of Bryan County, Oklahoma

The National Center for Rural Health Works is presenting the economic impact of an Oklahoma rural residency program. Graduate medical education (GME) programs have a tremendous medical and economic impact on the community in which they are located. These programs not only employ a number of people and have a large payroll, but they also provide the community with additional health care services.

The overall objective of this study is to measure the economic impact of the rural residency program at the Medical Center of Southeastern Oklahoma on the economy of Bryan County, Oklahoma.

National health expenditures¹ are projected to double from 2006 to 2017 from \$2.1 trillion to \$4.3 trillion. This would infer a reciprocal increase in the number of physicians needed to provide necessary health care services. As the need for physicians continues to rise, additional graduate medical education (residency training) programs will be necessary to provide an adequate physician supply.

Employment and payroll are the important direct economic activities generated in Bryan County from the rural residency program. The rural residency program includes two general practitioner medical educators and a GME coordinator and 12 resident physicians. Total employment of the rural residency program is 15 full- and part-time employees, with an estimated payroll including benefits of \$803,500.

Multipliers are a way to measure the effects of changes in economic activity. An employment multiplier is defined as:
“... the ratio between direct employment, or that

change in final demand and the direct, indirect, and induced employment.”

Employment and income multipliers have been calculated by use of the IMPLAN model.² The employment multiplier of 1.62 indicates that for each job created by the rural residency program, a 0.62 job is created throughout the county due to business (indirect) and household (induced) spending. Applying the employment multiplier resulted in nine secondary

employees and total employment impact of 24 employees.

The income multiplier is 1.31 and resulted in secondary income of \$249,085 and total income impact of \$1,052,585.

The secondary income is the income generated in other industry sectors in the economy of Bryan County due to the rural residency program spending and the rural residency program employees’ spending. The rural residency program generated \$376,777 in direct and secondary retail sales in Bryan County, resulting in a 1% sales tax impact of \$3,768. The bottom line is that health services not only

contribute greatly to the medical health of the community, but also to the economic health of the community.

To present the impact of a residency program only from an economic perspective would shortchange some of the benefits that many communities have realized by integrating the residents and their medical education support staff into their communities. Thomas Gentile³ provides an excellent discussion of the intrinsic values of a residency program on community teaching hospitals and the rural community:

Impact of Rural Residency Program at Medical Center of Southeastern Oklahoma in Durant, Oklahoma		
Direct Economic Activities	FT and PT Employment	Income incl. Benefits
Residency Program	<u>15</u>	<u>\$803,500</u>
Employment Impact	Multiplier	Impact
Direct Employment		15
Multiplier	1.62	
Secondary Impact		9
Total Impact		<u>24</u>
Income Impact	Multiplier	Impact
Direct Income Impact		\$803,500
Multiplier	1.31	
Secondary Impact		<u>\$249,085</u>
Total Impact		<u>\$1,052,585</u>
Retail Sales Impact	Retail Sales	1% Co. Sales Tax Impact
Retail Sales Impact	<u>\$376,777</u>	<u>\$3,768</u>
SOURCE: Direct employment & income from rural residency program at the Medical Center of Southeastern Oklahoma, 2008; Minnesota IMPLAN Group, Inc.		

1. Medical education improves the quality of care to patients because there is constant monitoring of the patient's medical care by the resident physicians, as well as by the attending physician staff.
2. The quality of the medical staff is enhanced in a teaching hospital by medical education programs through improved physician recruitment and retention due to the enhanced hospital image and teaching hospital climate.
3. The opportunity for patient care research in a teaching hospital is made possible by the presence of full-time residents and fellows who participate in research both from a personal interest and to fulfill academic requirements.
4. Full-time resident physicians provide the community and the hospital with a more fiscally plausible means to serve the medical needs of the poor and underserved in the medical services area through the staffing of ambulatory care centers (clinics).
5. Residents develop a degree of loyalty to the hospital and also develop referral patterns and contacts with physicians on the hospital staff during their years of training, resulting in a larger proportion of graduating residents locating their practice within the service area of the rural residency hospital and resulting in community teaching hospitals receiving a larger percent of their admissions from medical staff who have graduated from their training programs.

These benefits are intrinsically valuable to the hospital and physicians; however, the integration of a rural residency program into a local community will also positively impact other health care providers.

The economic impact of the rural residency program on the economy of Bryan County is extremely important to Bryan County, but also is important to the Medical Center of Southeastern Oklahoma, the other health care providers in Bryan County, and to the larger surrounding region that benefits from the physicians trained in the rural residency program. In order to continue to provide quality primary care physicians for Bryan County and the surrounding region in the future,

it is crucial that the Medical Center of Southeastern Oklahoma continue to support a quality rural residency program.

References

1. U.S. Department of Health and Human Services, Centers for Medicare & Medicaid Services, National Health Expenditures 1970-2006 and National Health Expenditure Projections 2007-2017 (<http://www.cms.hhs.gov/NationalHealthExpendData> [March 2008]).
2. 2006 multipliers, Minnesota IMPLAN Group, Inc. (www.implan.com [November 2008]).
3. Gentile, Thomas. "Value of Graduate Medical Education at a Community Teaching Hospital." May 1999 (Proper citation is pending).

Other Data Sources Utilized

- U.S. Census Bureau, Census population, and estimated population (www.census.gov [November 2008]).
- Oklahoma Department of Commerce, population projections (www.okcommerce.gov [October 2008]).
- U.S. Department of Commerce, Bureau of Economic Analysis (www.bea.gov [October 2008]).
- U.S. Census Bureau, County Business Patterns, health services and total county employment and payroll for 1998-2006 (www.census.gov [October 2008]).
- U.S. Department of Labor, Bureau of Labor Statistics, unemployment data (www.bls.gov [October 2008]).
- Alward, G., Sivertz, E., Olson, D., Wagnor, J., Serf, D., and Lindall, S. Micro IMPLAN Software Manual. Stillwater, MN, University of Minnesota Press. 1989.
- Doeksen, Gerald A., Johnson, Tom, and Willoughby, Chuck. Measuring the Economic Importance of the Health Sector on a Local Economy: A Brief Literature Review and Procedures to Measure Local Impacts. Southern Rural Development Center. SRDC Pub. No. 202. 1997.
- Miernyk, W.H. The Element of Input-Output Analysis. New York, NY; Random House. 1965.
- Minnesota IMPLAN Group, Inc. User's Guide, Analysis Guide, Data Guide: IMPLAN Professional Version 2.0 Social Accounting & Impact Analysis Software, 2nd Edition. June 2000.
- Siverts, Eric, Charles Palmer, Ken Walters, and Greg Alward. IMPLAN USER'S GUIDE. U.S. Department of Agriculture, Forest Service, Systems Application Unit, Land Management Planning, Fort Collins, Colorado. 1983.

Study prepared by National Center for Rural Health Works, Oklahoma State University, Education and Research Center for Rural Health Policy, Edward Via College of Osteopathic Medicine, and Oklahoma Center for Rural Health, OSU Health Sciences Center, College of Osteopathic Medicine, November 2008. Contact Cheryl St. Clair at 405-744-6083 or cheryl@okstate.edu for more information on the Oklahoma study and Ann Peton at 573-301-9654 or apeton@vcom.vt.edu for more information on the Virginia study. Both studies will be posted on the RHW website at www.ruralhealthworks.org.