

# An Update on Activities of the National Center for Rural Health Works

By

**Gerald A. Doeksen**

**Regents Professor and Director**

**National Center for Rural Health Works**

**Presentation at SERA Meeting**

**Houston, TX**

**August 6, 2008**

**Measuring Impact  
and  
Documenting Need of  
Physician Practices**

# Objectives:

- I. To provide three tools useful in measuring physician needs and impacts on a Local Economy
  - 1) Estimate the number of primary care physicians a rural area can support
  - 1) Estimate the economic impact of a rural physician on local economy
  - 1) Project needs for specialists in a rural area
- II. Summary of tools available from the National Center for Rural Health Works

- I. To provide three tools useful in measuring physician needs and impacts on a Local Economy
  - 1) Estimate the number of primary care physicians a rural area can support

**Annual Primary Care Physician Office Visits  
Generated in the Example Medical Service Area**

Age	<u>Male</u>			<u>Female</u>			Total Visits
	2006 Population	Visit Rate	Male Visits	2006 Population	Visit Rate	Female Visits	
Under 15	882	2.8	2,470	833	2.5	2,083	4,553
15-24	782	1.3	1,017	751	2.2	1,652	2,669
25-44	1,270	1.8	2,286	1,203	3.1	3,729	6,015
45-64	1,089	3.3	3,594	1,135	4.5	5,108	8,702
65-74	310	6.2	1,922	357	6.7	2,392	4,314
75+	<u>207</u>	7.4	<u>1,532</u>	319	7.8	<u>2,488</u>	<u>4,020</u>
Totals	4,540		12,821	4,598		17,452	30,273
Local Primary Care Physician Office Visits (59.8%)							18,103

**Primary Care Physician (PCP) Office Visits and Physician Shortages  
for Different Local Usage by Residents in the Example Medical Service Area**

Usage Level	70%	75%	80%	<b>85%</b>	90%	95%	100%
PCP Visits	12,672	13,577	14,482	<b>15,388</b>	16,293	17,198	18,103
Number of PCPs Needed	2.6	2.8	3	<b>3.2</b>	3.3	3.5	3.7
Shortage of PCPs	0.6	0.8	1	1.2	1.3	1.5	1.7

Number of primary care physicians needed is based on 4,870 physician office visits per year.

Shortage of primary care physicians is based on two currently practicing Primary Care Physicians.

Currently conducting survey of 20  
rural physicians to gather cost  
and revenue data

# Costs:

## Capital

Building

Equipment

## Operating

Labor

Office Supplies

Medical Supplies

Other



## **Revenue:**

Number of visits by type

Revenue by visit by payor source

Estimate of revenue

Estimate of income

1. Three tools useful in measuring physician needs and impacts on a Local Economy

2) Estimate the economic impact of a rural physician on local economy

## Physician Office Impacts

---

Employment	4
Wages, Salaries and Benefits	\$287,000
Total Clinic Revenue	\$394,000

---

## Physician Impact on Local Hospital Inpatient & Outpatient Visits, Employment, and Wages, Salaries & Benefits

---

No. of Inpatient Visits	134
Inpatient Revenue	\$457,000
Outpatient Revenue	<u>\$295,000</u>
Total Hospital Revenue	\$752,000
Employment	13
Wages, Salaries, and Benefits	\$435,000

---

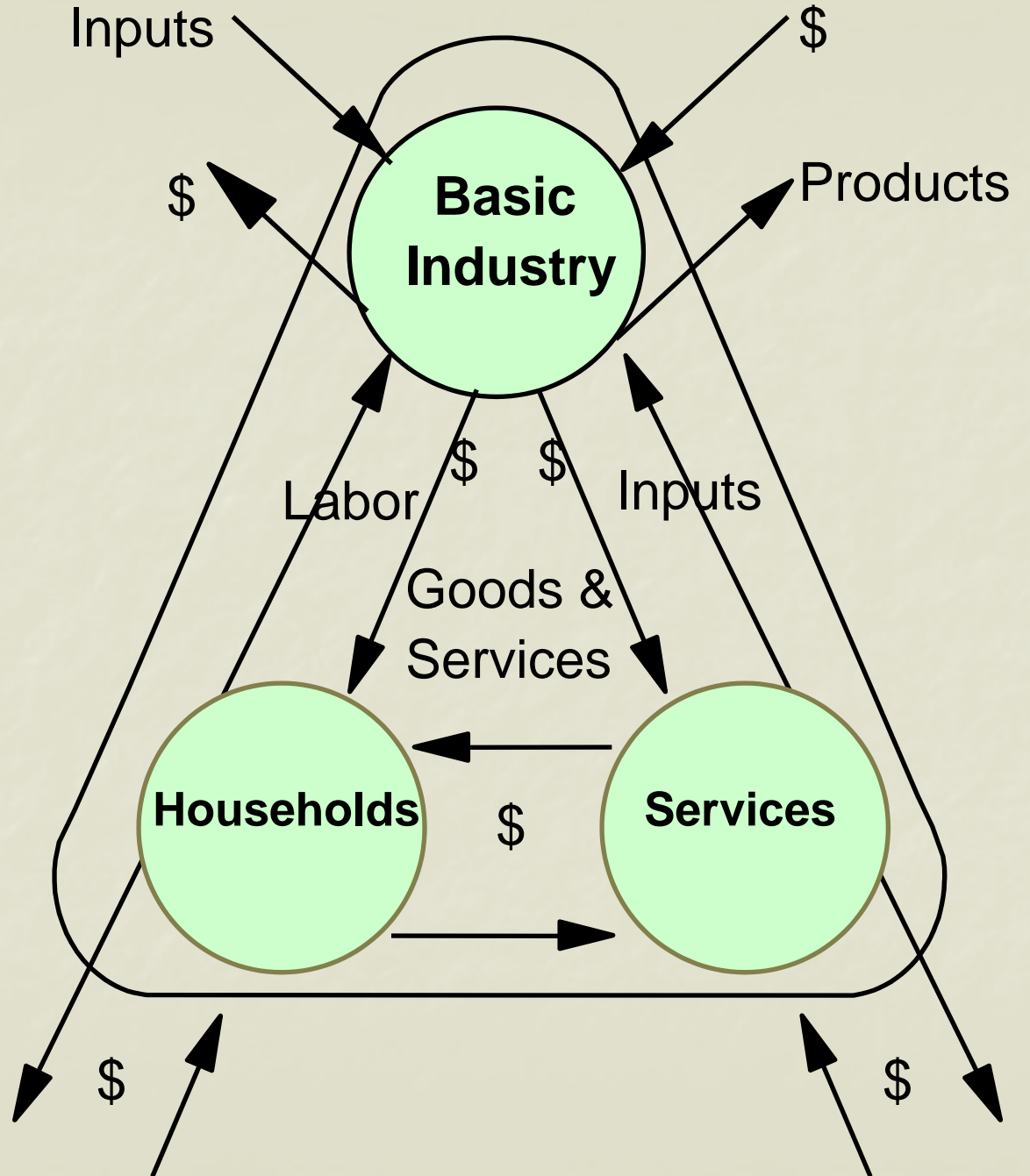
## Summary of Physician Impact from Clinic and Hospital Activities

---

	Employment	Wages, Salaries, and Benefits	Total Revenue
Clinic	4	\$287,000	\$394,000
Hospital	<u>13</u>	<u>\$435,000</u>	<u>\$752,000</u>
Total	17	\$722,000	\$1,146,000

---

# Estimate Secondary Impacts



## Total Physician Impact

	Employment	Employment Multiplier	Total Impact
Clinic	4	1.38	6
Hospital	<u>13</u>	1.38	<u>17</u>
<b>Total</b>	<b>17</b>		<b>23</b>

	Wages, Salaries, and Benefits	Wages, Salaries, & Benefits Multiplier	Total Impact
Clinic	\$287,000	1.16	\$333,000
Hospital	<u>\$435,000</u>	1.28	<u>\$556,000</u>
<b>Total</b>	<b>\$722,000</b>		<b>\$889,000</b>

	Revenue	Output Multiplier	Total Impact
Clinic	\$394,000	1.37	\$540,000
Hospital	<u>\$752,000</u>	1.32	<u>\$993,000</u>
<b>Total</b>	<b>\$1,146,000</b>		<b>\$1,533,000</b>

**IN SUMMARY**  
**ONE RURAL PHYSICIAN GENERATES:**

**23 JOBS**

**\$889,000 WAGES, SALARIES & BENEFITS**

**\$1,533,000 TOTAL REVENUE**

**THIS IS A HUGE IMPACT**



I. Three tools useful in measuring physician needs and impacts on a Local Economy

### 3) Project needs for specialists in a rural area:

- ***Estimate Medical Specialty Physician Service Needs***
- ***Estimate Surgical Specialty Physician Service Needs***
- ***Example Application***

# Need for Medical Specialty Physician Services

---

## Medical Specialty

## Population/Physician Ratio

---

Allergy	94,000
Cardiology	26,000
Gastroenterology	41,000
Hem/Oncology	47,000
Nephrology	65,000
Neurology	41,000
Pulmonary	59,000
Rheumatology	86,000

---

# Need for Surgical Specialty Physician Services

---

<b>Surgical Specialty</b>	<b>Population/Physician Ratio</b>
ENT	35,000
General	13,000
Ophthalmology	27,000
Orthopedic	17,000
Urology	34,000

---

**Example of  
Medical Specialty Physician Services  
based on Market Service Population of 9,138**

---

<b>Medical Specialty</b>	<b>Number of Specialists (FTEs)</b>
Allergy	.10
Cardiology	.36
Gastroenterology	.22
Hem/Oncology	.20
Nephrology	.14
Neurology	.22
Pulmonary	.16
Rheumatology	.11

---

**Example of  
Surgical Specialty Physician Services  
based on Market Service Population of 9,138**

---

<b>Surgical Specialty</b>	<b>Number of Specialists (FTEs)</b>
ENT	.08
General	.62
Ophthalmology	.35
Orthopedic	.48
Urology	.24

---

# Estimated Days Per Week

---

% FTE	Days/week
.10	1/2
.20	1
.30	1 1/2
.40	2
.50	2 1/2
.60	3

---

# Example Physician Specialty Clinic Schedule

---

Specialist	Days per Week
General Surgeon	3
Orthopedic Surgeon	2 1/2
Cardiologist	1 1/2
Ophthalmologist	1 1/2
Urologist	1

---

## II. Summary of tools available from National Center for Rural Health Works



## Available Budget Studies

---

Primary Care Physician

Obstetrics/Gynecology Physician

Pediatrician

Specialty Physicians

Emergency Medical Services (Basic and Advanced)

First Responder Systems

Adult Day Services

Kidney Dialysis

Assisted Living Facilities

Federally Qualified Health Centers (FQHCs) –

- Primary Care Physician
  - Dentist
-

# **Types of Studies Completed:**

- Impact of Health Sector on Local Economy
- Impact of Hospital on Local Economy
- Impact of CAH on Local Economy
- Impact of Constructing a New Hospital on Local Economy
- Impact of FQHC on Local Economy
- Impact of Pharmacy on Local Economy

## **Types of Studies Completed (Cont.):**

- Impact of Hospitals on State Economy
- Impact of Medicaid Program on State Economy
- Impact of a Medical School on State Economy
- Impact of a Rural Physician on a Rural Economy

# Gerald A. Doeksen

Regents Professor and Director  
National Center for Rural Health Works

gad@okstate.edu

405-744-6083

National Center for Rural Health Works

[www.ruralhealthworks.org](http://www.ruralhealthworks.org)

