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# Need for General Surgeons in Kentucky's Communities

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## Abstract

### Objective

Examine the distribution of general surgeons and need for them throughout Kentucky and their characteristics in terms of practice location and practice type, e.g., community-based private practice, hospital based, and contracted.

### Methods

A review of policy and other research literature was conducted to determine trends in the availability of general surgeons for community hospitals and high need rural areas. Data for 2011 from the Kentucky Board of Medical Licensure was the main source for this study. Data showing the distribution of general surgeons were coded for location by county using the 2003 Rural-Urban Continuum Codes.

### Results

As a state Kentucky has an shortage of general surgeons in some rural counties when compared to national norms and a mal-distribution in which rural and smaller communities are the most underserved. International Medical Graduates (IMGs) fill the need gap much less in Kentucky compared to states such as New York, New Jersey, Illinois, Texas and Tennessee which have much greater proportions of IMGs as part of their physician workforce.

### Conclusions

The shortage of general surgeons has serious implications for the economic viability of many Kentucky community hospitals, as they have been crucial to revenue streams for these hospitals. While the trends toward contracted and hospital-based services offer some temporary relief, longer-term policies should be examined, including higher reimbursement rates and incentives for IMGs who are general surgeons to locate in underserved areas of Kentucky

## Background

A longitudinal study published in the *Archives of Surgery* on general surgeons from 1981 to 2005 shows a continual decline. There are 723 fewer general surgeons practicing today than were in 1981. The general surgeon to population ratio decreased steadily across the study period, from 7.68 per 100,000 in 1981 to 5.69 per 100,000 in 2005. The overall number of general surgeons has remained static since 1994, despite an increase in the population during this period. This coupled with the rise in surgical specialization and the decreased interest among medical students in general surgical careers has raised concern over a shortage.<sup>1</sup>

The 2008 *Archives of Surgery* study also found that in rural areas, including counties that are adjacent to urban counties and those that have cities with at least 10,000 to 50,000 residents, the ratio was 5.02 surgeons per 100,000 population, a decrease of 21% from 6.36 in 1981.

The numbers are worse, though, looking at less-populated counties not adjacent to an urban area and without a city of at least 10,000 people, a type of region highly dependent on general surgeons for emergency care.<sup>1</sup> Such counties had only 4.31 surgeons per 100,000 in 2005 and were down 16% from 5.15 in 1981.

Surgeons are not attracted to the rural lifestyle for a number of reasons. After typically getting trained in a more urban environment, nascent general surgeons have grown accustomed to medical technology that often isn't available in rural settings, says Jess Judy, senior vice president of provider relations at LifePoint Hospitals, a for-profit chain based in Brentwood, Tenn., with a high concentration of rural and sole community hospitals.<sup>2</sup>

Gerald Doeksen, director of the National Center for Rural Health Works, argues that some regions simply might not be big enough to support a surgeon. Doeksen says a community needs at least 15,000 to 20,000 residents to support a surgeon economically speaking. But in communities that size there are quality-of-life issues that make it harder to attract surgeons to live and work there.<sup>2</sup> Doeksen believes areas served by critical-access hospitals are too small to support a general surgeon.

## Results

**Table1: Kentucky Surgeons**

Category	Number	Percent
Colon & Rectal Surgery	18	2.0%
Hand Surgery	24	2.6%
Neurological Surgery	64	7.1%
Orthopaedic Surgery	267	29.5%
Pediatric Surgery	9	1.0%
Plastic Surgery	87	9.6%
General Surgery	319	35.2%
Thoracic Surgery	68	7.5%
Vascular Surgery	50	5.5%
Total	906	100.0%

**Table2: Kentucky General Surgeons**

Status	Population	Number	Ratio/100,000
Urban	2,523,770	193	7.6
Rural	1,815,597	126	6.9
Total	4,339,367	319	7.4

**Table 3: Kentucky General Surgeons**

Characteristic	Urban	Rural
Age	51	54
Hours worked	55	55
Hospital-based practice	4.1%	34.1%
Private Practice	82.9%	62.7%
Critical Access Hospital	0	28
Male	89.1	91.3%
Female	10.9	8.7%
IMGs	1.6%(3)	0

**Table 4: Location Kentucky Counties with a General Surgeon**

Status	Counties	Surgeons	Percent
metro area of 250,000 to 1 million population	7	101	31.7
metro area of fewer than 250,000 population	4	60	18.8
metro area with 1 million population or more	7	32	10.0
nonmetro completely rural or < 2,500 urban population, adj. to metro area	3	14	4.4
nonmetro completely rural or < 2,500 urban population, not adj. to metro area	5	14	4.4
nonmetro urban population of 2,500-19,999, adjacent to a metro area	15	25	7.8
nonmetro county urban population of 2,500-19,999, not adjacent to a metro area	21	61	19.1
nonmetro county urban population of 20,000 or more, adjacent to a metro area	3	3	0.9
nonmetro county urban population of 20,000 or more, not adjacent to a metro area	2	9	2.8
Total	67	319	100.0

**Table 5: Location Kentucky Counties without a General Surgeon**

Status	Counties	Percent
metro area of 250,000 to 1 million population	3	5.7
metro area of fewer than 250,000 population	5	9.4
metro area with 1 million population or more	9	17.0
nonmetro completely rural or < 2,500 urban population, adj. to metro area	10	18.9
nonmetro completely rural or < 2,500 urban population, not adj. to metro area	16	30.2
nonmetro urban population of 2,500-19,999, adjacent to a metro area	7	13.2
nonmetro urban population of 2,500-19,999, not adjacent to a metro area	3	5.7
Total	53	100.0

## Conclusions

- ✓ Kentucky's ratio of general surgeons to population is currently slightly more favorable than the national rate in both metropolitan and rural areas.
- ✓ The majority of general surgeons are concentrated in 18 counties in metropolitan areas (60.5%) where there are larger community hospitals and large medical centers.
- ✓ Consistent with the distribution throughout the State of other physicians, there is a sizable concentration of general surgeons (19.1%) in the 21 counties classified as "nonmetro urban population of 2,500-19,999, not adjacent to a metro area."
- ✓ Five nonmetro counties with an urban population of 20,000 or more, adjacent and not adjacent to a metropolitan area, have the lowest rates of general surgeons.
- ✓ The 8 counties classified as "nonmetro completely rural or < 2,500 urban population" have been relatively successful in attracting general surgeons.

## Discussion

General surgeons are important for the array of services provided by hospitals and their economic viability. It has been estimated that general surgeons add between \$1.05 and \$2.4 million to a hospital's revenue annually, which can be crucial to the competitiveness of community hospitals in an increasingly challenging operating environment.<sup>4</sup> It is important to continue to monitor trends in the distribution of Kentucky's general surgeon workforce and develop health workforce policies that support the continuance of an adequate supply of general surgeons for the State.

It is generally believed that small communities cannot attract general surgeons because of lifestyle considerations. It is said that the demand of being on-call and other demands are too great for a single surgeon and that it is better to try to recruit at least two surgeons so that they can provide backup coverage for each other. Also an alarming trend has been for younger medical students not to be interested in becoming general surgeons. Mentoring of medical students by general surgeons by community-based general surgeons is thought to have the potential to interest more medical students in choosing this vital medical specialization.<sup>3</sup> This and exposure of medical students through rural medical campus programs have the potential to nurture their interest.

Smaller population nonmetro counties in Kentucky have creatively and effectively relied on hospital-based practices as a means for attracting general surgeons, as contrasted with metropolitan counties. This is a testament to the innovativeness and strength of strategically located mid-sized community hospitals. Also 28 nonmetro counties with the location of a critical access hospital have general surgeons, which is contrary to the projections of some health workforce analysts.

It is desirable for all Kentuckians to have an effective distribution of general surgeons to assure needed care and affordable access. This is especially true for a State such as Kentucky that has 85 of its 120 counties classified as rural based on the Rural-Urban Continuum codes and in which travel to metropolitan centers is time consuming and costly.

## Acknowledgements

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## References

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