Mapping the Supply of Surgeons in the United States, 2009
Mission Statement

The mission of the ACS Health Policy Research Institute is to improve our understanding of surgical patient care from a policy perspective in order to educate the public, federal and state governments, health care consumers, and the policy community to enable advocacy for superior, efficient, and compassionate surgical patient care. The goal of the Institute is to create a data driven, knowledge based program for examining issues related to surgical services, the surgical workforce, and public policies affecting surgery.

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Introduction

One of the recognized strengths of the U.S. health care system is the high quality of its clinical practitioners. In fact, access to well trained surgeons is a hallmark of health care in the United States. That came about because of the steady expansion of medical schools and graduate training programs from the 1950s to the 1970s. However, after 1980 growth in physician training slowed, few new medical schools were built, and federal funding for the graduate medical education system that supported surgical training was capped. Repercussions from those cut backs in the pipeline to surgical practice are now beginning to be felt as the population continues to grow, life expectancy increases, and the number of new surgeons coming into practice remains relatively constant.

Estimates of the gap between the number of surgeons needed to meet population demand for care and the current (2010) supply suggest an undersupply of between 10% and 30%. General surgeons are in short supply, especially in small communities, with perhaps as many as 1,300 needed to fill current gaps. The number of general surgeons in practice is predicted to decline between 7% and 10% by 2025 due to subspecialization and retirement, according to projections from the Bureau of Health Professions, HRSA. This situation is developing at a time when policy makers are trying to expand insurance coverage for Americans, which may cause greater demand for surgical care.

This collection of state-level maps is intended to provide a snapshot of where surgeons are practicing relative to the population in 2009. The distribution of surgeons described in this document is likely to change due to provider migration and shifts in area population. Places with greater resources and better living situations attract practitioners with relative ease; while areas with fewer amenities and struggling economies may be challenged to retain surgeons or attract new ones.

This publication presents county-by-county maps for each state of the surgeon-to-population ratio for general surgeons and all surgical specialties combined. We are highlighting places where the supply appears to meet estimates of “adequacy” but there is no clear consensus on what a ratio of surgeons to population should be in any given place. Our goal is to show the geographic distribution of surgeons relative to populations in order to help practitioners, policy makers and patients anticipate the distribution of the future and identify places with limited access to surgical services.
Data and Definitions

The primary data source for these maps is the 2009 American Medical Association (AMA) Physician Masterfile. Population data are drawn from the 2009 Pop-Facts database for Census Tracts by Nielsen Claritas Inc. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty identified in the table below for total surgeons; General Surgeons include physicians with a primary specialty of GS (General Surgery). Primary specialty is self-designated based upon a listing of more than 200 specialty categories on the annual survey; physician location is based upon self-reported primary practice address.

### Surgical Subspecialties include the following AMA Masterfile Specialty Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Specialty</th>
<th>Code</th>
<th>Specialty</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS</td>
<td>Abdominal Surgery</td>
<td>OMO</td>
<td>Musculoskeletal Medicine</td>
</tr>
<tr>
<td>CCS</td>
<td>Surgical Critical Care</td>
<td>OP</td>
<td>Pediatric Orthopedics</td>
</tr>
<tr>
<td>CDS</td>
<td>Cardiovascular Surgery</td>
<td>OPH</td>
<td>Ophthalmology</td>
</tr>
<tr>
<td>CFS</td>
<td>Craniofacial Surgery</td>
<td>ORS</td>
<td>Orthopedic Surgery</td>
</tr>
<tr>
<td>CRS</td>
<td>Colorectal Surgery</td>
<td>OSM</td>
<td>Sports Medicine</td>
</tr>
<tr>
<td>CS</td>
<td>Cosmetic Surgery</td>
<td>OSS</td>
<td>Orthopedic Spine Surgery</td>
</tr>
<tr>
<td>CTS</td>
<td>Cardiothoracic Surgery</td>
<td>OT</td>
<td>Otology</td>
</tr>
<tr>
<td>DS</td>
<td>Dermatologic Surgery</td>
<td>OTO</td>
<td>Otolaryngology</td>
</tr>
<tr>
<td>ESN</td>
<td>Endovascular Surgical Neuroradiology</td>
<td>OTR</td>
<td>Orthopedic Trauma</td>
</tr>
<tr>
<td>FPS</td>
<td>Facial Plastic Surgery</td>
<td>PCS</td>
<td>Pediatric Cardiothoracic Surgery</td>
</tr>
<tr>
<td>GO</td>
<td>Gynecology Oncology</td>
<td>PDO</td>
<td>Pediatric Otolaryngology</td>
</tr>
<tr>
<td>GS</td>
<td>General Surgery</td>
<td>PDS</td>
<td>Pediatric Surgery</td>
</tr>
<tr>
<td>GYN</td>
<td>Gynecology</td>
<td>PO</td>
<td>Pediatric Ophthalmology</td>
</tr>
<tr>
<td>HNS</td>
<td>Head and Neck Surgery</td>
<td>PRD</td>
<td>Procedural Dermatology</td>
</tr>
<tr>
<td>HS</td>
<td>Hand Surgery</td>
<td>PRO</td>
<td>Proctology</td>
</tr>
<tr>
<td>HSO</td>
<td>Hand Surgery Orthopedics</td>
<td>PS</td>
<td>Plastic Surgery</td>
</tr>
<tr>
<td>HSP</td>
<td>Hand Surgery (Plastics)</td>
<td>PSH</td>
<td>Plastic Surgery within the Head &amp; Neck</td>
</tr>
<tr>
<td>HSS</td>
<td>Hand Surgery (Surgery)</td>
<td>PSI</td>
<td>Plastic Surgery Integrated</td>
</tr>
<tr>
<td>NO</td>
<td>Otology/Neurology</td>
<td>SO</td>
<td>Surgical Oncology</td>
</tr>
<tr>
<td>NS</td>
<td>Neurological Surgery</td>
<td>TRS</td>
<td>Trauma Surgery</td>
</tr>
<tr>
<td>NSP</td>
<td>Pediatric Neurological Surgery</td>
<td>TS</td>
<td>Thoracic Surgery</td>
</tr>
<tr>
<td>OAR</td>
<td>Adult Reconstructive Orthopedics</td>
<td>TSI</td>
<td>Thoracic Surgery Integrated</td>
</tr>
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<td>OBG</td>
<td>Obstetrics</td>
<td>TTS</td>
<td>Transplant Surgery</td>
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<td>OBS</td>
<td>Obstetrics</td>
<td>U</td>
<td>Urology</td>
</tr>
<tr>
<td>OCC</td>
<td>Critical Care Medicine (OB-GYN)</td>
<td>UP</td>
<td>Pediatric Urology</td>
</tr>
<tr>
<td>OFA</td>
<td>Foot &amp; Ankle Surgery</td>
<td>VS</td>
<td>Vascular Surgery</td>
</tr>
<tr>
<td>OMF</td>
<td>Oral and Maxillofacial Surgery</td>
<td>VSI</td>
<td>Vascular Surgery Integrated</td>
</tr>
<tr>
<td>OPA</td>
<td>Pain Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPT</td>
<td>Physical Therapy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Technical notes regarding the maps

The shading in the maps indicates the “density” of surgeons per 100,000 population, with darker shading indicating more surgeons and lighter shading less. Where there is no color, there are no actively practicing surgeons in the county, parish or borough. The categories of the shading are designed to reflect two threshold levels commonly referenced in assessing the adequacy of surgical services. In 1980, the Graduate Medical Education National Advisory Committee (GMENAC) report to the Secretary of the Department of Health and Human Services recommended no fewer than 4.7 surgeons per 100,000 persons\(^1\). A 2004 Solucient, Inc. report proposed an alternative minimum surgeon to population ratio of 6.0 per 100,000 persons\(^2\).

The distribution of surgeons is classified into 6 categories for both all and general surgeons. The intervals for the classifications are summarized in the table below.

<table>
<thead>
<tr>
<th>Range</th>
<th># of Counties</th>
<th>% of Counties</th>
<th>Range</th>
<th># of Counties</th>
<th>% of Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Surgeons</td>
<td></td>
<td></td>
<td>General Surgeons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40.0 or More</td>
<td>574</td>
<td>18.5%</td>
<td>25.0 or More</td>
<td>50</td>
<td>0.3%</td>
</tr>
<tr>
<td>20.0 to 39.9</td>
<td>715</td>
<td>30.5%</td>
<td>10.0 to 24.9</td>
<td>599</td>
<td>7.1%</td>
</tr>
<tr>
<td>6.0 to 19.9</td>
<td>675</td>
<td>14.2%</td>
<td>6.0 to 9.9</td>
<td>648</td>
<td>34.3%</td>
</tr>
<tr>
<td>4.7 to 5.9</td>
<td>77</td>
<td>2.5%</td>
<td>4.7 to 5.9</td>
<td>263</td>
<td>8.5%</td>
</tr>
<tr>
<td>0.01 to 4.6</td>
<td>108</td>
<td>3.5%</td>
<td>0.01 to 4.6</td>
<td>364</td>
<td>11.7%</td>
</tr>
<tr>
<td>No Surgeons</td>
<td>958</td>
<td>30.8%</td>
<td>No Surgeons</td>
<td>1183</td>
<td>38.1%</td>
</tr>
</tbody>
</table>

The graph below indicates the distribution of counties in each category for the entire United States. The black curve is the cumulative number of counties and the location of the line on the vertical axis is the equal to the proportion of counties with ratios of surgeon per 100,000 on the horizontal scale. The portion of the curve associated with the lightest yellow bar represents places with surgeon to population ratios up to 4.6 per 100,000. The darkest bar represents counties with surgeon to population ratios equal to or greater than 40 per 100,000 (the largest ratio value was 513, an outlier county; the scale was “censored” at 100). The vertical distance of the curve associated with the darkest bar covers indicates that approximately 18% of counties had a ratio equal to or greater than 40 surgeons per 100,000.
Maps are presented at the county level for the whole United States, nine Census Bureau Divisions and each of the 50 states. The following table lists the states associated with each Census division.

**Census Divisions and States**

<table>
<thead>
<tr>
<th>Division 1: New England</th>
<th>Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division 2: Middle Atlantic</td>
<td>New Jersey, New York, Pennsylvania</td>
</tr>
<tr>
<td>Division 3: East North Central</td>
<td>Indiana, Illinois, Michigan, Ohio, Wisconsin</td>
</tr>
<tr>
<td>Division 4: West North Central</td>
<td>Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota</td>
</tr>
<tr>
<td>Division 5: South Atlantic</td>
<td>Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia</td>
</tr>
<tr>
<td>Division 6: East South Central</td>
<td>Alabama, Kentucky, Mississippi, Tennessee</td>
</tr>
<tr>
<td>Division 7: West South Central</td>
<td>Arkansas, Louisiana, Oklahoma, Texas</td>
</tr>
<tr>
<td>Division 8: Mountain</td>
<td>Arizona, Colorado, Idaho, New Mexico, Montana, Utah, Nevada, Wyoming</td>
</tr>
<tr>
<td>Division 9: Pacific</td>
<td>Alaska, California, Hawaii, Oregon, Washington</td>
</tr>
</tbody>
</table>

**Acknowledgements**

The maps in this collection have been generated by a team of analysts at the American College of Surgeons Health Policy Research Institute (ACS HPRI), including Katie Gaul, Stephanie Poley, Jennifer Groves and Elizabeth Walker, under the guidance of Thomas Ricketts. The maps are a first step in the creation of an online Atlas of Surgery Policy being developed by the ACS HPRI. The authors would like to thank Ted Hobgood and Amelia Maïga for production assistance, Jessica Carpenter and Dr. George Sheldon for their thoughtful review of the text and maps, and the American College of Surgeons for printing support.

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National and Census Division Maps
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
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Total Surgeons per 100,000 Population
Middle Atlantic Division, 2009

Total Surgeons per 100,000 Population
- 40.0 or More
- 20.0 - 39.9
- 6.0 - 19.9
- 4.7 - 5.9
- 0.1 - 4.6
- No Surgeons
General Surgeons per 100,000 Population
Middle Atlantic Division, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

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Total Surgeons per 100,000 Population
South Atlantic Division, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
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General Surgeons per 100,000 Population
South Atlantic Division, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery. Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
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General Surgeons per 100,000 Population
West South Central Division, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.
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Total Surgeons per 100,000 Population
Mountain Division, 2009

Total Surgeons per 100,000 Population

- 40.0 or More
- 20.0 - 39.9
- 6.0 - 19.9
- 4.7 - 5.9
- 0.1 - 4.6
- No Surgeons

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
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State Maps
Total Surgeons per 100,000 Population
Alabama, 2009

<table>
<thead>
<tr>
<th>Total Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>40.0 or More</td>
<td>(10) (574)</td>
</tr>
<tr>
<td>20.0 - 39.9</td>
<td>(16) (715)</td>
</tr>
<tr>
<td>6.0 - 19.9</td>
<td>(14) (675)</td>
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<td>(3) (77)</td>
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<td>0.1 - 4.6</td>
<td>(7) (108)</td>
</tr>
<tr>
<td>No Surgeons</td>
<td>(17) (958)</td>
</tr>
</tbody>
</table>

Total Number of Surgeons:
AL: 1,956
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

### General Surgeons per 100,000 Population

**Alabama, 2009**

<table>
<thead>
<tr>
<th>General Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
</tr>
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<tbody>
<tr>
<td>25.0 or More</td>
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<td>10.0 - 24.9</td>
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<td>4.7 - 5.9</td>
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<td>0.1 - 4.6</td>
<td>(12) (364)</td>
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<tr>
<td>No General Surgeons</td>
<td>(22) (1183)</td>
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</table>

**Total Number of General Surgeons:**

<table>
<thead>
<tr>
<th></th>
<th>AL: 425</th>
<th>US: 29,095</th>
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<tbody>
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<td>(263)</td>
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<td>0.1 - 4.6</td>
<td>(12)</td>
<td>(364)</td>
</tr>
<tr>
<td>No General Surgeons</td>
<td>(22)</td>
<td>(1183)</td>
</tr>
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</table>
Total Surgeons per 100,000 Population
Alaska, 2009

**Number of Counties**

- **Total Surgeons per 100,000 Population**
  - 40.0 or More: AK (3), US (574)
  - 6.0 - 19.9: AK (3), US (675)
  - 4.7 - 5.9: AK (0), US (77)
  - 0.1 - 4.6: AK (0), US (108)
  - No Surgeons: AK (16), US (958)

**Total Number of Surgeons:**

- AK: 290
- US: 136,515

**Note:** GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

**Sources:** AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.

**Produced By:** ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Alaska, 2009

General Surgeons per 100,000 Population

Number of Counties

<table>
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<th>General Surgeons per 100,000 Population</th>
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<tr>
<td>0.1 - 4.6</td>
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</table>

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Arizona, 2009

Total Surgeons per 100,000 Population

<table>
<thead>
<tr>
<th>Total Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
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<tbody>
<tr>
<td>40.0 or More</td>
<td>(2) (574)</td>
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<tr>
<td>20.0 - 39.9</td>
<td>(5) (715)</td>
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<tr>
<td>6.0 - 19.9</td>
<td>(6) (675)</td>
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<tr>
<td>4.7 - 5.9</td>
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<tr>
<td>0.1 - 4.6</td>
<td>(0) (108)</td>
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<tr>
<td>No Surgeons</td>
<td>(2) (958)</td>
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</table>

Total Number of Surgeons:
AZ: 2,379
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Arizona, 2009

General Surgeons per 100,000 Population | Number of Counties
---|---
25.0 or More | (0) (50)
10.0 - 24.9 | (2) (599)
6.0 - 9.9 | (4) (648)
4.7 - 5.9 | (2) (263)
0.1 - 4.6 | (5) (364)
No General Surgeons | (2) (1183)

Total Number of General Surgeons:
AZ: 486
US: 29,095

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Arkansas, 2009

Total Surgeons per 100,000 Population

Number of Counties

<table>
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<tr>
<th>Total Surgeons per 100,000 Population</th>
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<td>(108)</td>
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<tr>
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<td>(958)</td>
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</table>

Total Number of Surgeons:

AR: 977
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
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 Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
California, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Colorado, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Total Surgeons per 100,000 Population

<table>
<thead>
<tr>
<th>Total Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
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</thead>
<tbody>
<tr>
<td>40.0 or More</td>
<td>(16)</td>
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<tr>
<td>20.0 - 39.9</td>
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<td>6.0 - 19.9</td>
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<tr>
<td>0.1 - 4.6</td>
<td>(1)</td>
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<tr>
<td>No Surgeons</td>
<td>(28)</td>
</tr>
</tbody>
</table>

Total Number of Surgeons:

CO: 2,206
US: 136,515
General Surgeons per 100,000 Population
Colorado, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Connecticut, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000. Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery. Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Connecticut, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Delaware, 2009

Total Surgeons per 100,000 Population

<table>
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<th>Number of Counties</th>
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<tbody>
<tr>
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<td>(574)</td>
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<tr>
<td>20.0 - 39.9</td>
<td>(2)</td>
<td>(715)</td>
</tr>
<tr>
<td>6.0 - 19.9</td>
<td>(0)</td>
<td>(675)</td>
</tr>
<tr>
<td>4.7 - 5.9</td>
<td>(0)</td>
<td>(77)</td>
</tr>
<tr>
<td>0.1 - 4.6</td>
<td>(0)</td>
<td>(108)</td>
</tr>
<tr>
<td>No Surgeons</td>
<td>(0)</td>
<td>(958)</td>
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</table>

Total Number of Surgeons:
DE: 398
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery. Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
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Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Florida, 2009

Total Surgeons per 100,000 Population  Number of Counties  FL  US
40.0 or More (21) (574)
20.0 - 39.9 (17) (715)
6.0 - 19.9 (13) (675)
4.7 - 5.9 (1) (77)
0.1 - 4.6 (4) (108)
No Surgeons (11) (958)

Total Number of Surgeons:
FL: 8,355
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Florida, 2009

<table>
<thead>
<tr>
<th>General Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>No General Surgeons</td>
<td>(18) (1183)</td>
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<tr>
<td>0.1 - 4.6</td>
<td>(8) (364)</td>
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<tr>
<td>4.7 - 5.9</td>
<td>(10) (263)</td>
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<td>6.0 - 9.9</td>
<td>(23) (648)</td>
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<td>10.0 - 24.9</td>
<td>(7) (599)</td>
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<td>25.0 or More</td>
<td>(1) (50)</td>
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Total Number of General Surgeons:
FL: 1,621
US: 29,095

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Georgia, 2009

Total Surgeons per 100,000 Population

<table>
<thead>
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<th>Number of Counties</th>
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<td>108</td>
</tr>
<tr>
<td>No Surgeons</td>
<td>56</td>
<td>958</td>
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Total Number of Surgeons:
GA: 3,928
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
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Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

**General Surgeons per 100,000 Population**

**Georgia, 2009**

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<tr>
<th>General Surgeons per 100,000 Population</th>
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<td>US: (50)</td>
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<td>10.0 - 24.9</td>
<td>GA: (26)</td>
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<tr>
<td></td>
<td>US: (599)</td>
</tr>
<tr>
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<td>GA: (28)</td>
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<td>US: (263)</td>
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<tr>
<td>0.1 - 4.6</td>
<td>GA: (18)</td>
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<td>US: (364)</td>
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**Total Number of General Surgeons:**

<table>
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<tr>
<th></th>
<th>GA:</th>
<th>US:</th>
</tr>
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</table>
| Total    | 821     | 29,095

**General Surgeons per 100,000 Population**

**Number of Counties**

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<th>GA</th>
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<td>(364)</td>
</tr>
<tr>
<td>No General Surgeons</td>
<td>(75)</td>
<td>(1183)</td>
</tr>
</tbody>
</table>
Total Surgeons per 100,000 Population
Hawaii, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Hawaii, 2009

General Surgeons per 100,000 Population
Number of Counties

<table>
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<th>General Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
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<td>10.0 - 24.9</td>
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<tr>
<td>6.0 - 9.9</td>
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<tr>
<td>4.7 - 5.9</td>
<td>(0)</td>
</tr>
<tr>
<td>0.1 - 4.6</td>
<td>(0)</td>
</tr>
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</tbody>
</table>

Total Number of General Surgeons:
HI: 128
US: 29,095

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Idaho, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

<table>
<thead>
<tr>
<th>General Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
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</thead>
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<tr>
<td>ID</td>
<td>US</td>
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<tr>
<td>25.0 or More</td>
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<tr>
<td>10.0 - 24.9</td>
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<td>(0) (364)</td>
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<td>No General Surgeons</td>
<td>(22) (1183)</td>
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</table>

General Surgeons per 100,000 Population

Idaho, 2009

Total Number of General Surgeons:  
ID: 125  
US: 29,095
Total Surgeons per 100,000 Population
Illinois, 2009

Total Surgeons per 100,000 Population | Number of Counties | IL | US
--- | --- | --- | ---
40.0 or More | (17) | (574)
20.0 - 39.9 | (23) | (715)
6.0 - 19.9 | (29) | (675)
4.7 - 5.9 | (2) | (77)
0.1 - 4.6 | (3) | (108)
No Surgeons | (28) | (958)

Total Number of Surgeons:

IL: 5,544
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Illinois, 2009

<table>
<thead>
<tr>
<th>General Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
<th>IL</th>
<th>US</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>10.0 - 24.9</td>
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<tr>
<td>6.0 - 9.9</td>
<td>(26)</td>
<td>(648)</td>
<td></td>
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<tr>
<td>4.7 - 5.9</td>
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<tr>
<td>No General Surgeons</td>
<td>(36)</td>
<td>(1183)</td>
<td></td>
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</table>

Total Number of General Surgeons:
IL: 1,166
US: 29,095

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Indiana, 2009

<table>
<thead>
<tr>
<th>Total Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>40.0 or More</td>
<td>IN: (15) US: (574)</td>
</tr>
<tr>
<td>20.0 - 39.9</td>
<td>IN: (22) US: (715)</td>
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<tr>
<td>6.0 - 19.9</td>
<td>IN: (32) US: (675)</td>
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<tr>
<td>4.7 - 5.9</td>
<td>IN: (2) US: (77)</td>
</tr>
<tr>
<td>0.1 - 4.6</td>
<td>IN: (4) US: (108)</td>
</tr>
<tr>
<td>No Surgeons</td>
<td>IN: (17) US: (958)</td>
</tr>
</tbody>
</table>

Total Number of Surgeons:
IN: 2,488
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Indiana, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Iowa, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Iowa, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Kansas, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Kansas, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Kentucky, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population

Kentucky, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Louisiana, 2009

Total Surgeons per 100,000 Population

- 40.0 or More: (12) LA, (574) US
- 20.0 - 39.9: (11) LA, (715) US
- 6.0 - 19.9: (19) LA, (675) US
- 4.7 - 5.9: (3) LA, (77) US
- 0.1 - 4.6: (5) LA, (108) US
- No Surgeons: (14) LA, (958) US

Total Number of Surgeons:
LA: 2,180
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Maine, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Maryland and Washington, DC, 2009

TOTAL SURGEONS PER 100,000 POPULATION

<table>
<thead>
<tr>
<th>Total Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
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<tr>
<td>0.1 - 4.6</td>
<td>(0)</td>
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<tr>
<td>No Surgeons</td>
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</tr>
</tbody>
</table>

Total Number of Surgeons:
- MD: 3,222
- DC: 710
- US: 136,515

* Includes DC

Note: GMENNAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

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Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

General Surgeons per 100,000 Population
Maryland and Washington, DC, 2009

Total Number of General Surgeons:
MD: 664
DC: 179
US: 29,095

* Includes DC
Total Surgeons per 100,000 Population
Massachusetts, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Total Surgeons:
MA: 3,848
US: 136,515
General Surgeons per 100,000 Population
Massachusetts, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

General Surgeons per 100,000 Population

<table>
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<tr>
<th>Number of Counties</th>
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<td>0.1 - 4.6</td>
<td>(0)</td>
<td>(364)</td>
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<tr>
<td>No General Surgeons</td>
<td>(0)</td>
<td>(1183)</td>
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</tbody>
</table>

Total Number of General Surgeons:

MA: 897
US: 29,095
Total Surgeons per 100,000 Population
Michigan, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucent (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Michigan, 2009

General Surgeons per 100,000 Population

<table>
<thead>
<tr>
<th>General Surgeons per 100,000 Population</th>
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<td>10.0 - 24.9</td>
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<td>4.7 - 5.9</td>
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<td>(16) (364)</td>
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Total Number of General Surgeons:

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<th></th>
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Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.
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Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
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Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Mississippi, 2009

<table>
<thead>
<tr>
<th>General Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
</tr>
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<tr>
<td>25.0 or More</td>
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<tr>
<td>10.0 - 24.9</td>
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<td>(9) (648)</td>
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<td>(8) (263)</td>
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<td>0.1 - 4.6</td>
<td>(13) (364)</td>
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<tr>
<td>No General Surgeons</td>
<td>(38) (1183)</td>
</tr>
</tbody>
</table>

Total Number of General Surgeons:
MS: 213
US: 29,095

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
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Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
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Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Total Number of Surgeons:
- Missouri: 2,549
- US: 136,515

Total Surgeons per 100,000 Population:
- Missouri: 25.0 or More: 40.0 or More (3 counties), 20.0 - 39.9 (19 counties), 6.0 - 19.9 (23 counties), 4.7 - 5.9 (34 counties), 0.1 - 4.6 (13 counties), No Surgeons (61 counties)
- US: 25.0 or More (3 counties), 10.0 - 24.9 (599 counties), 6.0 - 9.9 (648 counties), 4.7 - 5.9 (263 counties), 0.1 - 4.6 (364 counties), No Surgeons (1183 counties)

General Surgeons per 100,000 Population:
- Missouri: 530
- US: 29,095
Total Surgeons per 100,000 Population
Montana, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Montana, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
**Total Surgeons per 100,000 Population**

*Nebraska, 2009*

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**Note:**
GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

**Sources:**
AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.

**Produced By:** ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Nebraska, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Nevada, 2009

<table>
<thead>
<tr>
<th>Total Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
</tr>
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<tbody>
<tr>
<td>40.0 or More</td>
<td>(2) (574)</td>
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<tr>
<td>20.0 - 39.9</td>
<td>(4) (715)</td>
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<td>0.1 - 4.6</td>
<td>(1) (108)</td>
</tr>
<tr>
<td>No Surgeons</td>
<td>(8) (958)</td>
</tr>
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</table>

Total Number of Surgeons:
NV: 885
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
New Mexico, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
New York, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
New York, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
New Hampshire, 2009

<table>
<thead>
<tr>
<th>Total Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
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<tr>
<td>0.1 - 4.6</td>
<td>(0)</td>
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<tr>
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Total Number of Surgeons:
NH: 691
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
New Hampshire, 2009

General Surgeons per 100,000 Population

<table>
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<td>(364)</td>
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<tr>
<td>No General Surgeons</td>
<td>(0)</td>
<td>(1183)</td>
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</table>

Total Number of General Surgeons:
- NH: 163
- US: 29,095

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
New Jersey, 2009

Total Surgeons per 100,000 Population  
Number of Counties  

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<tr>
<th>Total Surgeons per 100,000 Population</th>
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<th>US</th>
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<td>20.0 - 39.9</td>
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<td>(108)</td>
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<tr>
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</table>

Total Number of Surgeons:

NJ: 4,450
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
New Jersey, 2009

General Surgeons per 100,000 Population
Number of Counties

<table>
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<th>General Surgeons per 100,000 Population</th>
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<td>(364)</td>
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<td>(1183)</td>
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</table>

Total Number of General Surgeons:

NJ: 903
US: 29,095

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
North Carolina, 2009

General Surgeons per 100,000 Population

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<tr>
<th></th>
<th>NC</th>
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<td>25.0 or More</td>
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<tr>
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<td>(20)</td>
<td>(1183)</td>
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Total Number of General Surgeons:
NC: 877
US: 29,095

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
North Dakota, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
North Dakota, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

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GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources:
AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Ohio, 2009

General Surgeons per 100,000 Population

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<th>Category</th>
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<tr>
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<td>(22) (599)</td>
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<td>6.0 - 9.9</td>
<td>(16) (648)</td>
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<tr>
<td>4.7 - 5.9</td>
<td>(16) (263)</td>
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<tr>
<td>0.1 - 4.6</td>
<td>(24) (364)</td>
</tr>
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<td>(10) (1183)</td>
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Total Number of General Surgeons:

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<th>Category</th>
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<td>4.7 - 5.9</td>
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<td>(1183)</td>
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<tr>
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<td>(364)</td>
<td></td>
</tr>
<tr>
<td>No General Surgeons</td>
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</tr>
</tbody>
</table>

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000. Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery. Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Oklahoma, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucent (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
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Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

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Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Oregon, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Pennsylvania, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Pennsylvania, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Rhode Island, 2009

<table>
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<tr>
<th>General Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
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<td>No General Surgeons</td>
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Total Number of General Surgeons:
- RI: 124
- US: 29,095

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.
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Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
GMENAC (1980) minimum surgeon to population ratio recommendation 4.7 - 4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

General Surgeons per 100,000 Population
South Carolina, 2009

<table>
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<th>General Surgeons per 100,000 Population</th>
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<td>(10) SC (364) US</td>
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<td>No General Surgeons</td>
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Total Number of General Surgeons:
SC: 398
US: 29,095

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Total Surgeons per 100,000 Population
South Dakota, 2009

**Note**: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

**Sources**: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.

**Produced By**: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

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Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
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Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.

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Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Texas, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Texas, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

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Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Virginia, 2009

Total Surgeons per 100,000 Population

<table>
<thead>
<tr>
<th>Number of Counties</th>
<th>VA</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>40.0 or More</td>
<td>(25)</td>
<td>(574)</td>
</tr>
<tr>
<td>20.0 - 39.9</td>
<td>(23)</td>
<td>(715)</td>
</tr>
<tr>
<td>6.0 - 19.9</td>
<td>(17)</td>
<td>(675)</td>
</tr>
<tr>
<td>4.7 - 5.9</td>
<td>(2)</td>
<td>(77)</td>
</tr>
<tr>
<td>0.1 - 4.6</td>
<td>(4)</td>
<td>(108)</td>
</tr>
<tr>
<td>No Surgeons</td>
<td>(31)</td>
<td>(958)</td>
</tr>
</tbody>
</table>

Total Number of Surgeons:
VA: 3,470
US: 136,515

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Virginia, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Washington, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
General Surgeons per 100,000 Population
Washington, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
West Virginia, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Soluciend (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
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Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
**Total Surgeons per 100,000 Population**

**Wisconsin, 2009**

<table>
<thead>
<tr>
<th>Total Surgeons per 100,000 Population</th>
<th>Number of Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>40.0 or More</td>
<td>(14)</td>
</tr>
<tr>
<td>20.0 - 39.9</td>
<td>(21)</td>
</tr>
<tr>
<td>6.0 - 19.9</td>
<td>(20)</td>
</tr>
<tr>
<td>4.7 - 5.9</td>
<td>(4)</td>
</tr>
<tr>
<td>0.1 - 4.6</td>
<td>(1)</td>
</tr>
<tr>
<td>No Surgeons</td>
<td>(12)</td>
</tr>
</tbody>
</table>

**Total Number of Surgeons:**

- WI: 2,414
- US: 136,515

**Note:** GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000.
Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

**Sources:** AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.

**Produced By:** ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.

Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.

Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
Total Surgeons per 100,000 Population
Wyoming, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as surgery.
Produced By: ACS HPRI, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Total Number of Surgeons:
WY: 227
US: 136,515
General Surgeons per 100,000 Population
Wyoming, 2009

Note: GMENAC (1980) minimum surgeon to population ratio recommendation 4.7-4.9 per 100,000. Solucient (2004) minimum surgeon to population ratio recommendation 6 per 100,000.
Sources: AMA Physician Masterfile, 2009; Pop-Facts database for Census Tracts, Nielsen Claritas Inc., Ithaca, NY, 2009. Data include non-federal, non-resident, clinically active physicians less than 70 years old reporting a primary specialty classified by the ACS HPRI as general surgery.
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Notes

Basemaps were created using MapInfo software, Version 8.0.  
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Final maps were created using ArcGIS software, Version 9.3.  
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Map colors were derived through ArcGIS color palettes and from Cindy Brewer’s website: http://colorbrewer2.org.