

Distribution of Physician Specialties in Minnesota



As the complexity of medical science has expanded, physician training has become more specialized. At least one year of post-medical school training is required for licensing in Minnesota, but most physicians complete three or four years of specialized graduate medical education (residencies or fellowships) after medical school.

Minnesota has more than 19,000 licensed physicians, according to the Board of Medical Practice. Of these, the Office of Rural Health and Primary Care estimates about 14,560 were practicing in Minnesota in early 2009. Minnesota has an above average percentage of physicians practicing in primary care specialties, but the distribution of these specialties varies widely across the state.

This report uses data from three sources to describe the specializations of Minnesota physicians.

- *The American Medical Association, every three years, asks physicians to report their practice specialty.*
- *The Board of Medical Practice collects information about an applicant's graduate medical education (residencies and fellowships) at the time of initial licensure.*
- *The Minnesota Office of Rural Health and Primary Care surveys physicians at license renewal and asks about work status, making it possible to analyze specializations of physicians actively practicing in Minnesota.*

Specialty Certification

Physicians qualify as specialists through training, and examination by certification boards. The American Board of Physician Specialties (ABPS) is the certifying body of the American Association of Physician Specialists. The ABPS oversees the administration, development and management of eight medical specialty boards of certification, which in turn certify physicians in 14 specialties and numerous subspecialties. The American Osteopathic Board certifies doctors of osteopathy.

Certification is voluntary, allowing board-certified physicians to present themselves to the public as specialists, or “diplomates” of their specialty. Although certification demonstrates proficiency, a licensed physician may legally practice in any specialty. The American Medical Association (AMA) collects data on physicians practicing in a field without certification from the corresponding board. Some physicians are not certified by any board. They may be “board-

eligible,” but still be in the process of applying for certification or have chosen not to seek certification. Employers or insurance payors commonly require certification.

Self-declared practice specialty data from the AMA Census of Physicians indicates that 76 percent of active U.S. physicians hold board certifications. About 7 percent of these hold a certification from a board in a field other than their primary practice specialty. The percentage of physicians who are board-certified varies among practice specialties. Ninety-two percent of cardiovascular disease (internal medicine) specialists are certified, but only 65 percent of physicians practicing in psychiatry and 68 percent of physicians practicing in general surgery hold board certifications.

	Total Physicians	Board-Certified
All Physicians	941,304	72.9%
Active and Classified Physicians	776,554	75.9%
Anesthesiology	41,699	73.2%
Cardiovascular Disease	22,641	91.9%
Diagnostic Radiology	24,894	79.5%
Emergency Medicine	30,841	73.7%
Family Medicine	84,167	81.8%
General Surgery	37,524	67.6%
Internal Medicine	158,019	74.6%
Obstetrics/Gynecology	42,594	76.4%
Orthopedic Surgery	24,485	76.4%
Pediatrics	74,350	78.6%
Psychiatry	41,592	64.9%

Source: American Medical Association, *Physician Characteristics and Distribution in the U.S.*, 2009 Edition.

Primary and non-primary care

Primary care physicians are commonly differentiated from specialists. Primary care usually is defined to include family medicine, general internal medicine, pediatrics and obstetrics and gynecology. Each of these primary care disciplines is, in fact, a specialty in its own right, requiring three to four years of post-medical school resident training. In this report, these disciplines are referred to as “primary care specialties.”

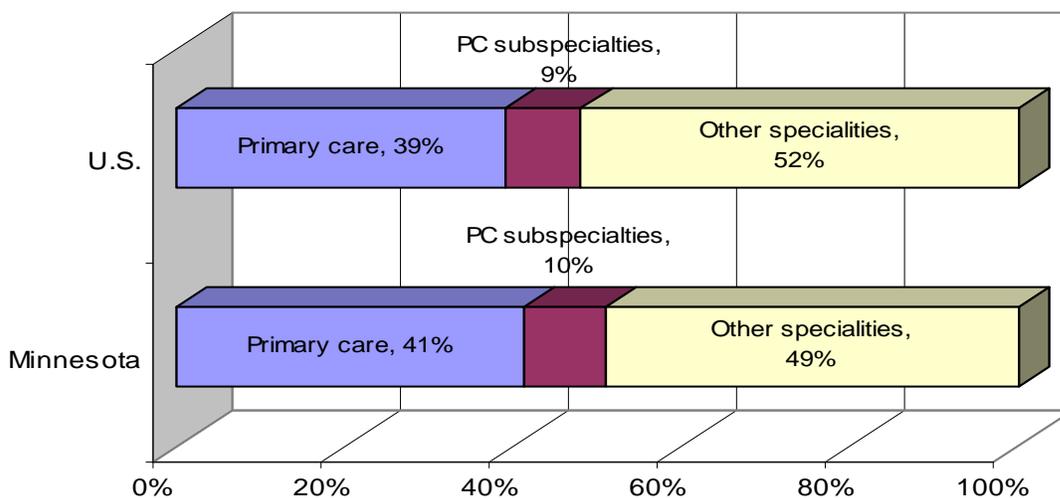
Prior to 1970, physicians could practice as general family doctors after only a one-year post-medical school internship. Subsequently, family practice has been treated like any other specialty, requiring a graduate medical education residency. The Academy of Family Practice replaced the Academy of General Practice. The earlier generation of general practitioners were grandfathered in

as family medicine specialists, causing a temporary jump in the numbers of family medicine specialists. Since 1995, the American Board of General Practice has certified general practitioners.

National Overview: Comparing Minnesota to Other States

Because of its national coverage, the AMA survey permits comparisons between Minnesota and other states. The AMA Census of Physicians asks physicians to indicate their practice specialty from a list of 194 board-certified specialties and subspecialties. A somewhat higher share of Minnesota physicians practice in primary care specialties and subspecialties, compared to the rest of the nation. Primary care subspecialties include fields such as geriatric medicine, maternal and fetal medicine, and pediatric hematology/oncology, as well as all internal medicine subspecialties.

Distribution of specialties, active physicians, 2007



Source: American Medical Association, *Physician Characteristics and Distribution in the US, 2009 Edition*.

Primary care specialists are a slightly higher share of all physicians in Minnesota than in Iowa or Wisconsin. In the less urban states of North and South Dakota, primary care accounts for a larger share of physicians than in Minnesota. Minnesota has a larger share of primary care subspecialties than its neighboring states.

Distribution of specialties, active physicians, 2007

	Iowa	Minnesota	North Dakota	South Dakota	Wisconsin
Primary care	40.3%	41.3%	45.2%	43.7%	40.6%
PC subspecialties	7.9%	9.7%	7.3%	7.2%	8.2%
Other specialties	51.8%	49.0%	47.5%	49.1%	51.2%

Minnesota Physician Workforce Data

The Office of Rural Health and Primary Care physician workforce survey data, combined with Board of Medical Practice data on specialty and practice site, makes possible analysis of actively practicing Minnesota physicians by specialty and geography.

Licensing data

The Minnesota Board of Medical Practice collects information about specialty certifications of licensed physicians. Physicians can report up to six specialties, but most report only one. As of January 2009, Board of Medical Practice data included specialty information for 15,360, or 80 percent of 19,211 licensees. Of these, 26 percent report a second specialty.

The data reflects medical training specialty certifications that licensee report to the Board. Unlike the AMA data, this data does not describe the type of practice in which a physician is engaged. When a physician reports more than one specialization, the physician's actual practice may or may not be the first specialty listed in the profile. However, for purposes of analysis, only the first listed specialty has been used.

The Office of Rural Health and Primary Care categorizes reported specialties into four groups based on specialty boards. Primary care includes family medicine, pediatrics, obstetrics and gynecology, and general internal medicine. All subspecialties that the Board of Internal Medicine recognizes are classified as internal medicine subspecialties. General surgery and all surgical subspecialties are grouped together. All other specialties and subspecialties are grouped in the "Other Specialties" category.

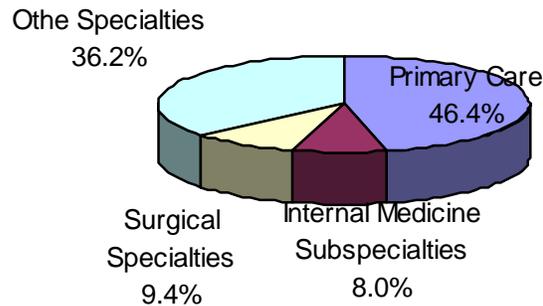
Of those physicians for whom the Board of Medical Practice records information, 46 percent report specialization in primary care. Using the same definition of primary care, the

AMA data place 41 percent of active Minnesota physicians in primary care specialties. The AMA data reflects self-reported practice specialty; the Board of Medical Practice data reflects fields of training.

Primary Care	46.4%
Internal Medicine Subspecialties	8.0%
Surgical Specialties	9.4%
Other Specialties	36.2%

Minnesota Physician Licensees by Type of Specialty, 2009

Source: Minnesota Board of Medical Practice



Office of Rural Health and Primary Care Workforce Survey

The Office of Rural Health and Primary Care Physician Workforce Survey asks about work status and practice site location, permitting a closer look at physicians actually working at least part time in Minnesota.

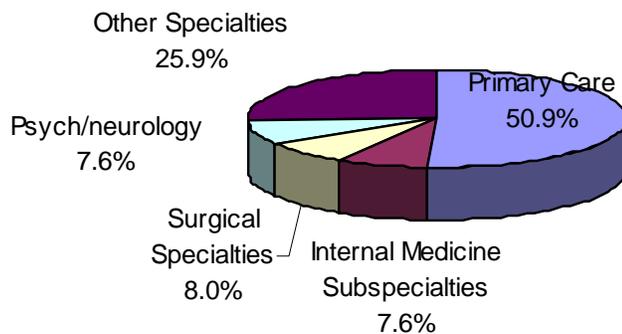
Among respondents working at least part time at a principal work site in Minnesota, 50.9 percent were primary care specialists. This higher percentage, compared to the 46.4 percent for all licensed physicians, may reflect a tendency for physicians with non-primary care specialties to work outside Minnesota. Alternatively, primary care physicians may be less likely to respond to the survey than non-primary care physicians.

The Office of Rural Health and Primary Care categorizes specialties somewhat differently than the AMA in order to better isolate physicians providing pediatric and psychiatric services.

Primary Care	50.9%
Pediatric Subspecialties	2.4%
Internal Medicine Subspecialties	7.6%
Psychiatry and Neurology	7.6%
Surgical Specialties	8.0%
Other Specialties	23.5%

Active Minnesota Physicians by Type of Specialty, 2009

Source: Minnesota Health Workforce Survey



Primary Care versus Non-Primary Care

Fifty years ago, most physicians were general practitioners. Today, most physicians (including family medicine physicians) are specialists, reflecting advances in medical science that require advanced training.

Physicians are commonly grouped into two main categories: primary care specialists and non-primary care specialists. Primary care usually includes family medicine, pediatrics, obstetrics-gynecology and general internal medicine. Geriatrics specialists are sometimes included in the same spirit as are pediatricians. All other specialties are assigned to non-primary care—including

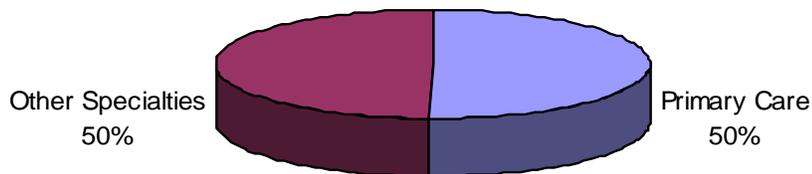
internal medicine subspecialties, surgical specialties and other “non-medical” specialties such as radiology, emergency medicine and psychiatry.

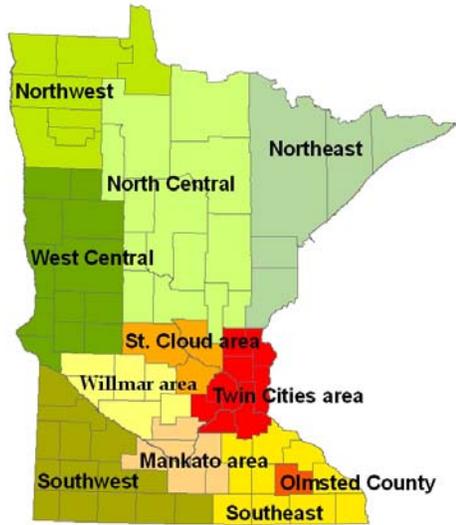
Most data about physician specialties is based on training and certifications, but most definitions of primary care refer to the nature of a physician’s practice. The Institute of Medicine (1996) defined primary care as:

The provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.

A physician providing primary care is typically the first point of consultation for a patient; primary care is ongoing, rather than episodic. This is in contrast to secondary health care, which is consultative, shorter term, and disease oriented for the purpose of assisting the primary care practitioner. Tertiary care is for patients with unusual illness requiring highly specialized services. Physicians with so-called non-primary care specialization may be engaged in practices that resemble primary care, especially when caring for older patients with chronic conditions such as diabetes or heart failure.

**Primary and Non-Primary Care Physicians
MINNESOTA, 2009**





About half of active physicians in Twin Cities area counties are trained in primary care disciplines.

Primary care accounts for larger shares of the physician workforce in other parts of the state, except for Olmsted County (home of the Mayo Clinic), where only 28 percent of physicians report a primary care specialty.

The percentage of physicians in primary care is highest in the most agricultural, least urbanized parts of the state: the Southwest, Northwest and North Central regions.

	Percent in Primary Care
Statewide	50.9%
Twin Cities Area	50.3%
St. Cloud Area	62.9%
Olmsted County	28.0%
Southeastern Minnesota	67.4%
Mankato Area	54.5%
Willmar Area	76.0%
Southwestern Minnesota	83.2%
West Central Minnesota	71.9%
Northwestern Minnesota	83.3%
North Central Minnesota	73.4%
Northeastern Minnesota	61.1%

Most physicians in northeastern Minnesota are concentrated in Duluth, where primary care accounts for 55.7 percent of active physicians. Excluding Duluth, 82 percent of physicians in northeastern Minnesota are trained in primary care disciplines.

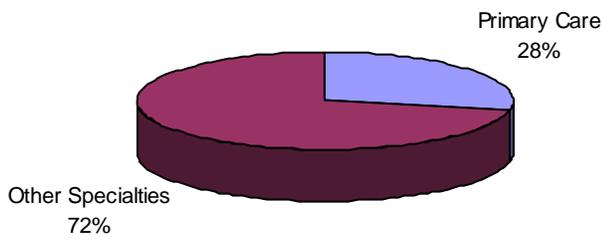
The Twin Cities area, with about 56 percent of the state’s population, accounts for 60 percent of active primary care physicians.

Non-primary care physicians are concentrated in more urban areas, where major medical centers are located. Olmsted County, with less than 3 percent of the state’s population has 39 percent of

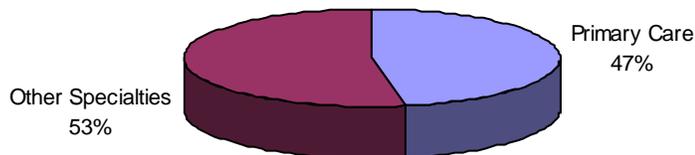
the state's internal medicine subspecialists, 14 percent of the state's psychiatrists, 36 percent of the neurologists, 15 percent of surgeons and 20 percent of other specialists.

The Twin Cities area has 80 percent of the state's pediatric specialists and 65 percent of the state's psychiatrists.

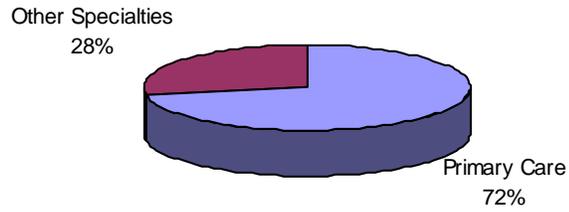
**Primary and Non-Primary Care Physicians
OLMSTED COUNTY, 2009**



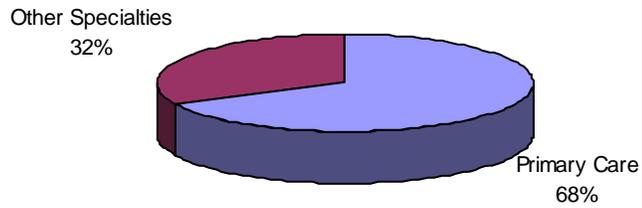
**Primary and Non-Primary Care Physicians
21 METROPOLITAN AREA COUNTIES, 2009**



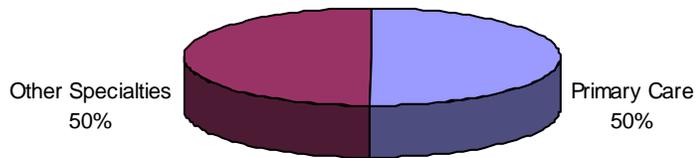
**Primary Care and Non-Primary Care Physicians
46 RURAL AREA COUNTIES, 2009**



**Primary Care and Non-Primary Care Physicians
5 TWIN CITIES SUBURBAN COUNTIES, 2009**



**Primary Care and Non-Primary Care Physicians
74 Counties outside Twin Cities-St. Cloud Area, 2009**



Subspecialties

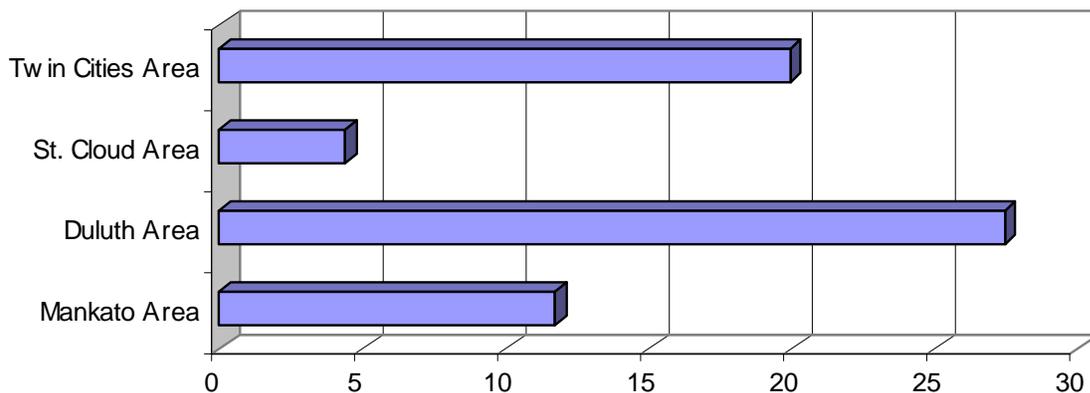
	Percent of all Minnesota Licensed Physicians N = 15,360	Percent of Survey Respondents Active in Minnesota N = 6,054	Estimated Active in Minnesota
PRIMARY CARE	44.5%	50.9%	7,410
Family Medicine	20.0%	24.9%	3,628
Internal Medicine	15.6%	15.3%	2,230
Obstetrics/Gynecology	3.9%	3.9%	568
General Pediatrics	5.0%	6.8%	984
PRIMARY CARE- RELATED	1.2%	1.3%	185
PEDIATRIC SPECIALTIES	2.2%	2.4%	345
MEDICAL SPECIALTIES	9.7%	7.6%	1,109
SURGERY	10.0%	8.0%	1,164
Orthopedic Surgery	3.8%	3.1%	452
Other Surgery	6.2%	4.9%	712
OTHER SPECIALTIES	32.5%	29.8%	1,314
Anesthesiology	3.9%	3.5%	515
Dermatology	1.5%	1.6%	238
Emergency Medicine	3.2%	3.6%	520
Genetics	.2%	.3%	41
Neurology	.4%	2.5%	370
Nuclear Medicine	.1%	*	7
Ophthalmology	2.3%	2.3%	332
Otolaryngology	1.3%	1.0*	147
Pathology	3.3%	2.5%	370
Physical Medicine	1.0%	1.2%	180
Preventive Medicine	.5%	.6%	87
Psychiatry	6.1%	5.1%	741
Radiology	7.6%	4.7%	686
Urology	1.1%	.8%	113

Internal Medicine Subspecialties

Internal medicine subspecialists are concentrated almost entirely in the Twin Cities area, Olmsted County and the Duluth area, which together account for 95 percent of all internal medicine subspecialist in Minnesota.

Internal Medicine Subspecialists per 100,000 Population	
Twin Cities Area	19.9
St. Cloud Area	4.4
Duluth Area	27.4
Olmsted County	334.0
Mankato	11.7
All other regions less than 2.0 per 100,000	

**Internal Medicine Subspecialists per 100,000 Population,
2009**

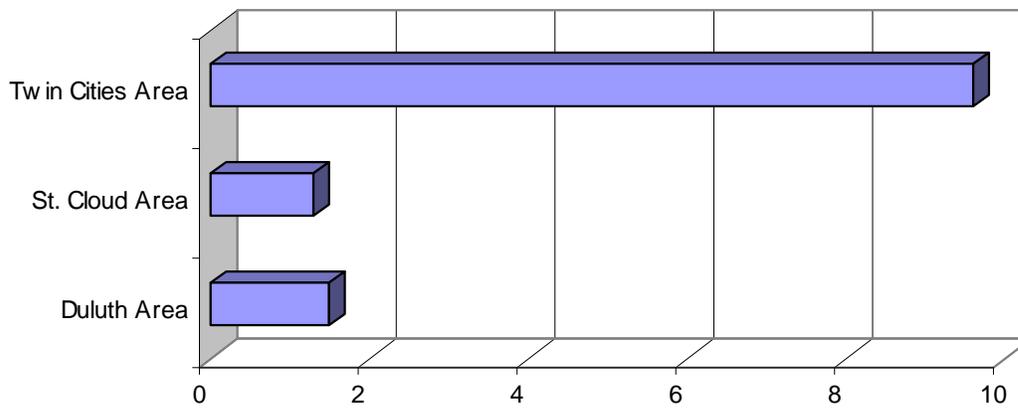


Pediatric Subspecialists

The Twin Cities area and Olmsted County account for 98 percent of pediatric subspecialists.

Pediatrics Subspecialists per 100,000 Population	
Twin Cities Area	9.6
Olmsted County	48.8
Duluth Area	1.5
St. Cloud Area	1.3
All other regions less than 1 per 100,000	

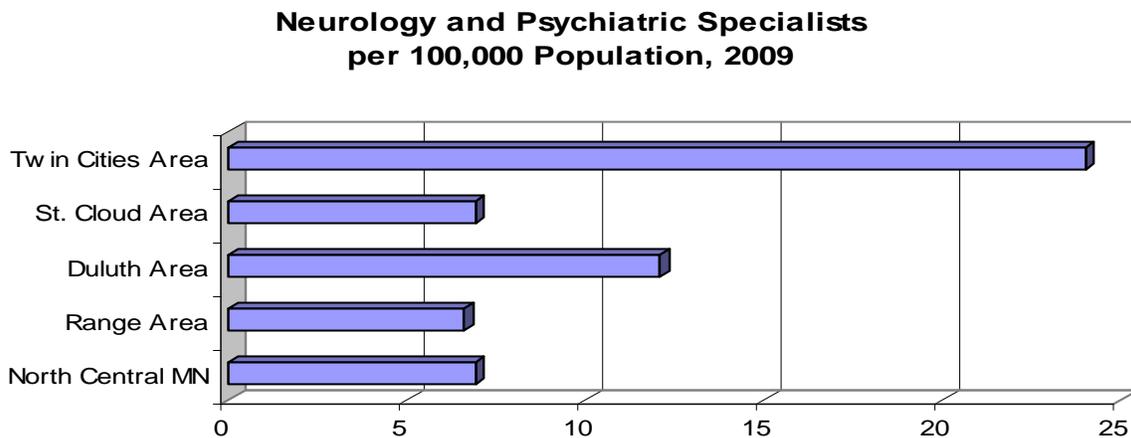
Pediatric Specialists per 100,000 Population, 2009



Neurology and Psychiatry

The Twin Cities area accounts for 65 percent of psychiatrists and 58 percent of neurologists. Olmsted County accounts for 14 percent of psychiatrists and 36 percent of neurologists. The two areas combined account for 84 percent of all psychiatrists and neurologists.

Psychiatrists and Neurologists per 100,000 Population	
Twin Cities Area	24.0
Olmsted County	185.8
Balance of Southeastern Minnesota	8.3
Duluth Area	12.1
Range Area	6.6
St Cloud Area	6.9
North Central Minnesota	6.9
All other areas less than 5.0 per 100,000 population	



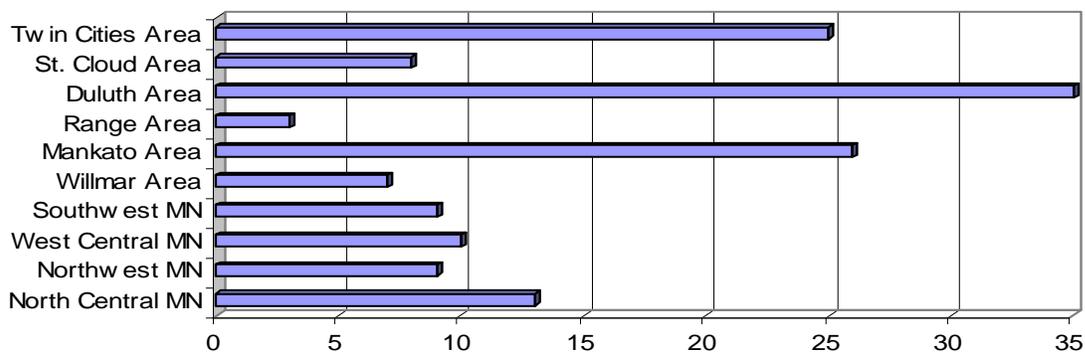
Surgical Specialists

The geographic distribution of surgical specialists is similar to physicians as a whole. The Twin Cities area accounts for 61.8 percent, and Olmsted County another 15.1 percent.

As with other categories of specialists, Olmsted County has an unusually large number of surgeons—137.0 per 100,000 population. The Duluth and Mankato areas compare favorably with the Twin Cities area.

Surgical Specialists per 100,000 Population	
Southeast Minnesota	44
Olmsted	137
Balance of SE Minnesota	10
Twin Cities Area	25
Mankato Area	26
Northeastern Minnesota	21
Duluth	35
Range	3
Balance of NE Minnesota	0
Willmar Area	7
St. Cloud Area	8
North Central Minnesota	13
Northwestern Minnesota	9
West Central Minnesota	10
Southwestern Minnesota	9

Surgical Specialists per 100,000 Population, 2009



Other Specialists

Other kinds of specialists—those not in primary care, medical specialties, neurology-psychiatry or surgery—account for nearly one-fourth of active Minnesota physicians. The Twin Cities and Rochester (Olmsted County) areas account for 83 percent of these specialists.

Other Specialists per 100,000 Population	
Southeast Minnesota	158
Olmsted	544
Balance of SE Minnesota	21
Twin Cities Area	74
Mankato Area	51
Northeastern Minnesota	47
Duluth	72
Range	20
Balance of NE Minnesota	5
Willmar Area	7
St. Cloud Area	42
North Central Minnesota	13
Northwestern Minnesota	11
West Central Minnesota	17
Southwestern Minnesota	9

