



Urology: Supply, Demand and Recruiting Trends

A resource provided by Merritt Hawkins, the nation's leading physician search and consulting firm and a company of AMN Healthcare (NYSE: AMN), the largest healthcare workforce solutions company in the United States.

UROLOGY: SUPPLY, DEMAND AND RECRUITING TRENDS

INTRODUCTION

Merritt Hawkins, the nation's leading physician and advanced practitioner search and consulting firm, produces a series of surveys, white papers, speaking presentations and other resources intended to provide insight into various healthcare staffing and recruiting trends.

Topics for which Merritt Hawkins has provided data and analyses include physician compensation, physician practice metrics, physician practice plans and preferences, rural physician recruiting recommendations, physician retention strategies, physician visa requirements, and the economic impact of physicians, among a variety of others.

This white paper examines supply, demand and recruiting trends pertaining to urology.

DEVELOPMENT OF UROLOGY

The word "urology" is derived from the Greek ouron "urine" and logia "study of."

In ancient times, physicians used the general state of health of the entire body to judge a patient's condition, and did not attach much importance to uroscopy (the examination of urine). However, several ancient Greek writers described in a generally accurate manner afflictions of the urinary tract, laying particular importance on the color of the urine and on urinary sediment (European Museum of Urology. *History.uroweb.org/history-of-urology/*).

In the 16th and early 17th centuries the first attempts were made to replace uroscopy by chemical and physical methods. In the 18th century widespread interest in the chemistry of urine led to the discovery of both normal and pathological urine-constituents. Hermann Boerhaave (1688-1738), a Dutch botanist, chemist and physician was the first to isolate the chemical urea from urine, and he also invented a method to determine the specific gravity of urine.

It was not until the 19th century that the urinary tract could be inspected by technical means. The first attempts to make the urethra visible to the human eye go back to the Frankfurt physician Philipp Bozzini. Eventually, the invention of the cystoscope by Maximilian Nitze paved the way to modern urology.

CURRENT ROLE OF UROLOGY

Today, urology (also known as genitourinary surgery) is the branch of medicine focusing on surgical and medical diseases of the male and female urinary tract system and the male reproductive organs. Organs under the domain of urology include the kidneys, adrenal glands, ureters, urinary bladder, and the urethra, as well as the male reproductive organs, including the testes, epididymis, vas deferens, seminal vesicles, prostate and the penis.

According to Wikipedia:

The urinary and reproductive tracts are closely linked, and disorders of one often affect the other. Thus a major spectrum of the conditions managed in urology exists under the domain of genitourinary disorders, and combines the management of medical (i.e., non-surgical) conditions, such as urinary-tract infections and benign prostatic hyperplasia, with the management of surgical conditions such as bladder or prostate cancer, kidney stones, congenital abnormalities, traumatic injury, and stress incontinence.

Current urological techniques include minimally invasive robotic and laparoscopic surgery, laser-assisted surgeries, and other scope-guided procedures. Urologists receive training in open and minimally invasive surgical techniques, employing real-time ultrasound guidance, fiber-optic endoscopic equipment, and various lasers in the treatment of multiple benign and malignant conditions. Urology is closely related to (and urologists often collaborate with the practitioners of) oncology, nephrology, gynecology, andrology, pediatric surgery, colorectal surgery, gastroenterology and endocrinology.

EDUCATION AND TRAINING

The path to becoming a urologist is a long and challenging one. A four-year college degree is required as well as the completion of four years of medical school. Medical school requires the completion of such classes as medical ethics, embryology, genetics, neuroscience and biochemistry. In the third and fourth year, students apply their classroom knowledge through clinical rotations.

Mandatory clinical rotations include internal medicine and psychiatry, and students also can choose elective rotations. Since urology is not usually one of the required rotations, students can choose it as an elective during their fourth year of medical school in order to get a better understanding of the field.

After graduating from medical school, students must complete a residency.

For more than 35 years, the American Urological Association (AUA) in conjunction with the Society of Academic Urologists has overseen the Urology Residency Match Program (a.k.a. Urology Match) for residency positions. Urology therefore is

not part of the conventional national resident match. Annually, the Urology Residency Match consists of approximately 450 highly competitive applicants that apply for nearly 325 positions, of which virtually all are filled. The AUA has also expanded its services to fellowship matches, including pediatrics, urologic oncology, andrology, endourology and male reconstruction.

Urology is one of the most competitive and highly sought surgical specialties for physicians, with new urologists comprising less than 2% of United States residency graduates each year.

Urology residencies are a minimum of five years in length. Depending on the program, the time may be split by completing a two-year general surgery residency and three years focusing on urology training. For those who are interested in a subspecialty of urology, a one to three-year post-residency fellowship is also required. Once all educational and training requirements have been completed, physicians are eligible to take the exam to become board certified in urology.

UROLOGIC SUBSPECIALTIES

Upon successful completion of a residency program, many urologists choose to undergo further advanced training in a subspecialty area of expertise through a fellowship lasting an additional 12 to 36 months. Urology subspecialties may include:

- Urologic surgery
- Urologic oncology and urologic oncological surgery
- Endourology and endourologic surgery
- Urogynecology and urogynecologic surgery
- Reconstructive urologic surgery (a form of reconstructive surgery)
- Transplant urology (the field of transplant medicine and surgery concerned with transplantation of organs such as the kidneys, bladder tissue, ureters, and, recently, penises)
- Pediatric urology and pediatric urologic surgery (including adolescent urology, the treatment of premature or delayed puberty, and the treatment of congenital urological syndromes, malformations, and deformations)
- Robotic & laparoscopic surgery
- Female pelvic medicine and reconstructive surgery
- Male infertility/microsurgery/andrology
- Voiding dysfunction

SCOPE OF PRACTICE

Urologists work in medical centers, clinics and private practice. Some urologists also conduct research on new treatments, procedures and medications for various urological conditions.

According to the 2019 American Association of Urology (AUA) Urology Census Report, practicing urologists see a median of 70 patients per week, or 3,640 patients per year. Approximately 53% of practicing urologists in the United States work in private practice (down from 60% in 2017), while 46% percent practice in institutional settings such as hospitals or academic medical centers (up from 40% in 2017), the AUA report indicates.

Urologists combine office-based consultations and patient management with surgery. Kidney stone patients comprise many of the patients of some urologists, and many urologists carve out a subspecialty interest.

A typical week for a general urologist is somewhere between two and four days in the office and then one and two OR days. Sometimes they will have a day consisting of office in the morning and then a two- to three-hour procedure in the afternoon.

When in the office, they may see a mix of new and returning patients and perform some office-based procedures, such as endoscopic checks of the bladder, vasectomies, or biopsies of the prostate under ultrasound.

According to Medscape's 2020 Urology Compensation Report, male urologists spend an average of 43 hours per week seeing patients and 15 hours a week on administrative/paperwork duties. Female urologists spend 38.9 hours a week seeing patients and 15 hours a week on paperwork/administrative duties.

Call duties in urology typically are relatively light. Most of the issues can be dealt with by emergency room physicians or with basic techniques known to other types of providers. When urologists do get called, the issue often can be dealt with over the phone, in contrast to other surgical specialties where physicians must perform operations in the middle of the night. Urology is a highly sought-after specialty in part because it offers a relatively controllable lifestyle.

A patient may be referred to a urologist for treatment of a range of conditions, including:

Urinary tract infections (UTIs): These often arise when bacteria migrate from the digestive tract to the urethra. Symptoms include abnormal urination, pain, incontinence, nausea, vomiting, fevers, and chills.

Incontinence: A malfunction in the urinary system can lead to involuntary loss of bladder control.

Male infertility: This can result from damage to the male reproductive tract and a variety of sperm disorders.

Kidney disease: Damage to the kidneys can lead to swelling in the hands and ankles, high blood pressure, and other symptoms.

Renal transplantation: A person may require kidney transplants following kidney failure.

Urologic oncology: Treatment of cancers that relate to the urological or male reproductive system, such as bladder cancer and prostate cancer.

Bladder prolapse: When the tissues and muscles of the pelvic floor are no longer able to support the organs in the pelvis, the organs can drop from their usual position.

Cancers: Of the bladder, kidneys, prostate gland, testicles, and any other cancer that affects the urinary system or, in men, the reproductive system.

Enlarged prostate: Benign prostatic hyperplasia (BPH) affects around 1 in 3 men over the age of 50 years. An overgrowth of cells in the prostate gland causes the urethra to constrict, leading to problems with urination.

Erectile dysfunction: The penis is unable to attain sufficient rigidity to fully participate in sexual intercourse.

Peyronie's disease: A fibrous layer of scar tissue develops beneath the skin of the penis.

Interstitial cystitis or painful bladder syndrome: A chronic inflammatory bladder condition can produce discomfort ranging from mild to severe.

Kidney and ureteral stones: Small, hard deposits made from mineral and acid salts form in the kidneys but can pass through into the ureters.

Prostatitis: Infection or inflammation of the prostate can cause painful urination or ejaculation.

Undescended testes, or cryptorchidism: Normally, the testicles form inside the abdomen of a fetus and descend into the scrotum before birth. If one or both does not descend, sperm production can be impaired, and there is a risk of complications.

Urethral stricture: Scarring of the urethra can narrow or block the path of urine flowing from the bladder.

Pediatric urology: This includes the treatment of urological problems in children that are too complex for non-specialized pediatricians.

UROLOGY SUPPLY AND DEMAND TRENDS

Urology is one of a variety of specialties for which there is a rising demand in the U.S. and a limited supply (for more information on this topic, see Merritt Hawkins' white paper *Physician Supply Considerations: The Emerging Shortage of Specialists*).

In its June, 2020 report, the Association of American Medical Colleges (AAMC) projected a shortage of up to 139,000 physicians nationally by 2033. This will include a shortage of up to 55,000 primary care physicians, but an even larger shortage of up to 85,000 specialists (*The Complexities of Physician Supply and Demand: Projections From 2018 to 2033. Association of American Medical Colleges. June, 2020*).

In general, these shortages will be driven by demographic trends; in particular, the aging of the patient population and the aging of the physician workforce. A recent American Urologic Association (AUA) survey reported that 52% of practicing urologists are 55 years of age or older, while nearly 30% are 65 or older.

This suggests that perhaps half of the urologic workforce will retire from active practice within the next decade. Compounding the "graying" of urologists is a maldistribution of urologists. The same AUA survey verified that 72% of United States counties have either one or no urologist (*The State of the Urology Workforce and Practice in the U.S. American Urological Association. 2017*).

According to the Healthcare Resource and Services Administration's (HRSA) 2016 *Regional Projections of Supply and Demand for Surgical Subspecialty Practitioners*, there will be a deficit of 3,630 urologists by 2025.

The chart below indicates the current composition of urologists in full-time, active patient care roles:

UROLOGY SPECIALTY DEMOGRAPHICS		
Total	11,119	
In full-time, active patient care	9,094	
Board Certified	7,902	87% of those in active patient care
International medical graduates	1,079	12%
Administrative/teaching	118	1%
Last year residents	303	3%
Female	784	9%
Male	8,310	91%
45 or older	6,976	77%
55 or older	8,410	52%

Source: American Medical Association Physician Master File

As these numbers indicate, comparatively few urologists are international medical graduates (IMGs) – 12% compared to approximately 25% of all physicians. In addition, comparatively few are female – 9% compared to approximately 35% of all physicians. Most notably, urologists are among the oldest specialists on average (see chart below).

SPECIALTIES	PERCENT OF PHYSICIANS 55 OR OLDER
Pulmonology	73%
Psychiatry	60%
Cardiology (Non-Inv.)	54%
Orthopedic Surgery	52%
Urology	52%

SPECIALTIES	PERCENT OF PHYSICIANS 55 OR OLDER
Ophthalmology	48%
General Surgery	48%
Gastroenterology	45%
Anesthesiology	44%

Source: American Medical Association Physician Master File

Practice patterns change as urologists age. The AUA reports that urologists who continue to practice beyond age 65 see fewer patients than their under 65-year-old colleagues. Specifically, using 100 patient visits per week as a gauge of high office volume, only 8.2% of urologists over 65 see that threshold compared to 24.3% and 22.2% of urologists in the 55 to 64 and 45 to 54 age groups, respectively (*When Are Doctors Too Old to Practice? Wall Street Journal. July 25, 2017. L. Lagnado*). The aging of the urologist workforce therefore represents a loss of FTEs even before older urologists retire because they see fewer patients as they age.

DEMOGRAPHIC DESTINY

A large portion of urologic practice revolves around providing care for older patients. Following is an excerpt from a February 14, 2018 article published by Harvard Medical School that puts this challenge into perspective:

Concurrent with the aging of practicing urologists will be the aging of the American population. In 2010, 13% of the population was aged 65 or older, by 2030 this will increase to 19%. Complicating the challenges of caring for an aging population is the fact that the elderly require more urologic care. According to CDC data, in 2010, 51% of all urologic visits were in patients over the age of 65. CDC data further show that in the 45- to 64-year-old group, there is an average of 8 urologic visits per 100 patient years. This increases to 22 visits per 100 patient years in the 65- to 74-year-old group and to 30 visits per 100 patient years in the 75-year-old and above group. (Addressing the Urology Shortage. Kevin Laughlin, M.D. Harvard Medical School. February 14, 2018.)

Over 10,000 Baby Boomers turn 65 in the U.S. every day, a fact that is driving demand for urologists and many other types of specialists steadily upward. Meanwhile, the supply of new urologists remains limited, with just over 300 completing their training and joining the workforce each year. As referenced in the AUA study cited above, this is not enough to supply urologists to many areas of the country in the ratios in which they are needed (see chart below).

SUGGESTED RATIO OF UROLOGISTS REQUIRED PER 100,000 PEOPLE	
Richard Cooper, M.D./University of Pennsylvania	3.4
Solucient	2.9
Hicks & Glenn	2.9
Graduate Medical Education National Advisory Committee (GMENAC)	3.2

The likelihood that additional urologists will be trained, and the number of new entrants increased, is limited due to the 1997 cap Congress placed on funding for physician graduate medical education. The cap was lifted in 2020 as a provision of the Covid-19 relief bill, but funding was only added for 1,000 additional residencies across all specialties. Many of these will likely be reserved for primary care and very few for urology.

EFFECT OF FEMALE AND YOUNGER UROLOGISTS

Urology has traditionally been a specialty dominated by male physicians. While it continues to be a male-dominated field, there are signs of change. Today, some urology training programs have more female than male residents. It is forecasted that the number of female urologists will increase from 7% in 2015 to 18.6% in 2035 (*Addressing the Urology Shortage*. Kevin Laughlin, M.D. Harvard Medical School. February 14, 2018). Among current urologists 45 or younger, 22% are female.

While this will bring more diversity to the urology workforce, it may have the effect of reducing overall FTEs. In the *2018 Survey of America's Physicians* conducted by Merritt Hawkins on behalf of The Physicians Foundation, female physicians reported seeing 12% fewer patients than male physicians.

Recent urology graduates have undergone their training during the era when residency schedules have been restricted to 80 work hours per week. Many of them have expressed a greater interest in work-life balance. Although it may be attributable to multiple factors, the 2017 AUA Census reports that urologists under the age of 45 see fewer patients per week than any other age group, including urologists over 65 (*The State of the Urology Workforce and Practice in the U.S. American Urological Association. 2017*). This trend may also reduce total FTEs in the specialty.

A PERSISTING MALDISTRIBUTION OF UROLOGISTS

The AUA report cited above indicates that 72% of U.S. counties have one or no urologist. In some cases, this is understandable, as physician-to-population ratios indicate one urologist requires a base of about 30,000 patients and some smaller communities simply do not have the population to support a urologist. However, many other smaller communities could support a urologist but may be unable to find one.

Compounding the problem is the fact that younger urologists and female urologists are less likely to settle in rural areas. Approximately 7% of urologists under age 45 practice outside metropolitan areas compared to 9–14% of urologists in other age groups, according to the AUA. Because women urologists are also less likely to practice in rural areas, the urologist maldistribution is likely to become more intense in future years.

USE OF PAs AND NPs BY UROLOGISTS

Given these shortages, it is likely that more urology services will be provided by advanced practice professionals (APPs) such as physician assistants (PAs) and nurse practitioners (NPs).

APPs can see both new and return patients and can be trained to perform straightforward office-based procedures. They can also assist by managing inpatients and seeing consults.

The percentage of urologists who work in their primary practice with at least one advanced practice provider, including physician assistants or nurse practitioners, significantly increased from 62.7% in 2015 to 71.4% in 2019, according to the AUA.

THE EFFECT OF COVID-19 AND TELEHEALTH

For much of 2020, the Covid-19 pandemic suppressed utilization of non-virus-related treatments and procedures. This will likely create a backlog of work for urologists and many other types of specialists as the Covid-19 crisis is resolved.

The pandemic has greatly increased utilization of telemedicine across a variety of specialties and is likely to do so in urology. While less than 12% of practicing urologists were using telemedicine prior to the pandemic, according to the AUA, that number may be higher now, particularly as a means of conducting office visits.

Evolving technology also has the potential to increase urologist productivity and thereby expand FTEs. New, minimally invasive

therapies for benign prostatic hyperplasia, including Rezum, which employs water vapor therapy to induce prostatic tissue necrosis, as well as Urolift, which utilizes stainless steel brackets to widen the prostatic urethra, are showing promise as alternatives to traditional transurethral resection of the prostate.

MERRITT HAWKINS RECRUITING ENGAGEMENTS

Urology currently ranks 14th on Merritt Hawkins' list of most requested physician search engagements. However, it may be more revealing to note where urology ranks in terms of "absolute demand." In calculating "absolute demand" for physicians in various specialties, Merritt Hawkins considers number of search engagements for the specialty relative to the number of physicians in that specialty (i.e., job openings versus physicians available to fill them). In terms of absolute demand, urology ranks fourth among Merritt Hawkins' search engagements (see below):

MERRITT HAWKINS TOP SEARCH ENGAGEMENTS BY "ABSOLUTE DEMAND"
1. Hematology/Oncology
2. Radiology
3. Psychiatry
4. Urology
5. Cardiology
6. Family Medicine
7. Gastroenterology

Source: Merritt Hawkins 2020 Review of Physician and Advanced Practitioner Recruiting Incentives.

Given the supply and demand dynamics outlined above, we expect urology to be a high demand specialty, and a challenging specialty to fill, for the foreseeable future.

COMPENSATION IN UROLOGY

In its annual *Review of Physician and Advanced Practitioner Recruiting Incentives*, Merritt Hawkins tracks the starting salaries, signing bonuses and other incentives offered by our clients when recruiting physicians in various specialties. Below are low, average and high starting salaries for urologists as cited in the 2020 Review:

LOW	MEDIUM	HIGH
\$300,000	\$477,000	\$625,000

Various sources track compensation/average income for urologists and other physicians. Data from some of these sources are

cited below:

SOURCE	AVERAGE
Sullivan Cotter	\$497,595
Merritt Hawkins	\$477,000
Medical Group Management Association	\$475,377
American Medical Group Association	\$469,755
Integrated Health Strategies	\$465,202
ECG Management	\$449,605
Medscape	\$417,000

It should be noted that Merritt Hawkins' data differs from other sources cited above in that we report starting salaries offered to urologists, rather than total pre-tax annual compensation. In general, Merritt Hawkins averages are usually lower than those of other sources, though our urology numbers are higher, underscoring the current strong demand for these physicians.

PRODUCTION INCENTIVES

The majority of urologist contracts Merritt Hawkins sees feature an incentive/production bonus allowing the physician to earn above the base salary offer. The *2020 Medscape Physician Compensation Report* indicates the average incentive bonus earned by urologists is \$64,000. As a measure of urologist productivity, Statista indicates average work RVUs for urologists is 7,669, based on 2016 data.

UROLOGY RECRUITING RECOMMENDATIONS

As demand for urologists increases, so will the difficulty of recruiting these specialists. Hospitals, medical groups and other healthcare facilities that are seeking urologists should prepare to commit the required effort, flexibility, responsiveness and resources required to be successful in today's challenging market.

As when recruiting other types of physicians, when recruiting urologists it is important to structure the offer to be as appealing as possible to the widest number of potential candidates. Hospitals, medical groups and other facilities cannot control where they are located, or the lifestyle, educational and other amenities offered in their areas. However, they can control the quality of the practice being offered.

What urology candidates find appealing in a practice will vary, but there are some common denominators, including:

- Accessibility to a robot
- 4-4.5 day work week
- Call being no more than 1:4, if possible
- PA and NP support
- 2 days of dedicated OR time
- Ancillaries such as lithotripsy

- Efficient OR patient scheduling, admission and discharge
- Physician-friendly electronic health records (EHR)
- Covid-19 safety protocols/PPE availability
- Minimum possible paperwork duties, maximum patient consultation/OR time
- Ability to pursue a subspecialty
- Schedule flexibility
- Competitive compensation
- Fair, understandable productivity structure

Where compensation is concerned, it is important to come to the market with a competitive opportunity rather than coming in low and hoping to negotiate from there. Most urologist candidates are scheduling multiple interviews and virtually all of them are receiving extremely competitive offers. They often are not of the mindset that they need to engage in back and forth negotiations, because in many cases they already have offers that meet the majority of their requirements. What is considered competitive in urology compensation is a moving

target and cannot necessarily be determined based on data that is one or two years old.

Compensation offers in urology will vary from position to position and from region to region. A competitive offer for a new resident coming out of training in 2021 or 2022 can range anywhere from \$400,000 to \$525,000. For urologists with a track record of experience, offers may vary from \$500,000 to \$650,000.

It is important to be flexible and creative with the compensation package/incentives, including, when appropriate, such elements as:

- Residency stipends
- Student loan repayment
- Sign-on bonus, retention bonus

- Accelerated partnership track

Flexibility also is required when it comes to considering candidate parameters. Be open to international medical graduates and candidates of all ages if they display the competence, training and patient rapport you are seeking. As was referenced above, the majority of urologists are 55 or older, but the appropriate candidate may not be one of a particular age, he or she may simply be a physician with the requisite skills who wants to practice in your community.

CONCLUSION

As with all difficult searches, it is important in urology searches to be flexible, creative, and committed to quick turnarounds,

accommodating the schedules of candidates, responding with information as needed, and making an offer as soon as an appropriate candidate is found. Know the market, know what is needed to be successful, and execute the search with the maximum amount of commitment and efficiency as possible.

ABOUT MERRITT HAWKINS

Established in 1987, Merritt Hawkins is the leading physician search and consulting firm in the United States and is a company of

AMN Healthcare (NYSE: AMN), the largest healthcare workforce solutions organization in the nation. Merritt Hawkins' provides physician and advanced practitioner recruiting services to hospitals, medical groups, community health centers, telehealth providers and many other types of entities nationwide.

The thought leader in our industry, Merritt Hawkins produces a series of surveys, white papers, books, and speaking presentations internally and also produces research and thought leadership for third parties. Organizations for which Merritt Hawkins has completed research and analysis projects include **The Physicians Foundation, the Indian Health Service, Trinity University, the American Academy of Physician Assistants, the Association of Academic Surgical Administrators, The Maryland Medical Society, and the North Texas Regional Extension Center.**

This is one in a series of Merritt Hawkins' white papers examining a variety of topics directly or indirectly affecting the recruitment and retention of physicians and advanced practice professionals, including physician assistants (PAs) and nurse practitioner (NPs).

Additional Merritt Hawkins' white papers include:

- Physician Supply Considerations: The Emerging Shortage of Medical Specialists

- Physician Emotional Intelligence: Going Beyond “A-Type” Personalities
- Ten Keys to Enhancing Physician/Hospital Relations: A Guide for Hospital Leaders
- Rural Physician Recruiting Challenges and Solutions
- Psychiatry: “The Silent Shortage”
- NPs and PAs: Supply, Distribution, and Scope of Practice Considerations
- Supply, Demand and Recruiting Trends in Family Medicine
- Supply, Demand and Recruiting Trends in Internal Medicine
- The Economic Impact of Physicians
- International Physicians and Immigration Requirements: An FAQ
- The Growing Use and Recruitment of Hospitalists
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