



CHOICES

The Careers in Medicine newsletter

Association of
American Medical Colleges

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From the Director

In this issue, we feature a small specialty: nuclear medicine. It's one of those specialties that receives little attention in the medical school curriculum. But for some of you, unsung specialties like preventive medicine, geriatrics, pain medicine, medical genetics, and yes—nuclear medicine, may be just the right niche. Exploring these lesser known and less popular options can help you find the specialty that's right for you.

How? Start by visiting the CiM Specialty Pages, which are highlighted in this newsletter's Toolbox article. Also, conduct informational interviews and participate in preceptorships in specialties you're considering. The information you gather through these and similar activities can help you identify your likes and dislikes, network with

physicians, and even solve difficult dilemmas such as choosing between two or more specialty options. And of course your clinical rotations offer valuable experiences and insightful information.

Career exploration is a lifelong endeavor that can help you succeed in today's rapidly changing work environment. But it takes time, so allow for experimenting and testing your ideas now and throughout your career. Open yourself to unexpected changes that may result, such as a specialty option you hadn't previously considered. Visit the Exploring Options section of the CiM Web site for even more ideas about considering your future career.

George V. Richard, Ph.D.
Director, Careers in Medicine

For consideration: A career in rural practice

The word "rural" in conjunction with "practice," "medicine," or "physician" may send up red flags or cause you to mentally plug your ears. But rural practice is not what you think—at least, not all of it. We'll set the rural record straight with insight from a seasoned rural physician and passionate medical student. And we hope you'll find rural care a career worth considering.

Rural Practice 101

As a general practitioner and main care provider for a rural community—generally defined as any location not clearly identified as urban or suburban, you'd affect the community in large and small ways. You'd see patients with

emergent and chronic needs and set the tone for healthcare for the entire community. "Rural medicine is a wonderful combination of individual patient care and public health," says Gena Cooper, a second-year medical student at the University of Wisconsin School of Medicine and Public Health and a member of the National Rural Health Association's Rural Medical Educators Executive Committee. "It's an excellent setting for individuals interested in caring for complex patients and influencing health outcomes upstream at the point of prevention."

Rural practice is actually similar to urban practice in many ways; for example, treating the same conditions and diseases such as diabetes, heart disease, and hypertension. In fact, the same factors that separate rural



practice from urban practice (i.e. population, environmental surroundings) may also render rural locations unique among each other, says Dr. Randall Longenecker, clinical professor of family medicine and assistant dean for rural medical education at The Ohio State University. And rural practitioners face many of the challenges their urban counterparts face: increased workload, declining reimbursement, and access to specialized care for patient needs, Cooper says.

But there are significant differences between urban and rural practice:

Broad scope of practice compared to urban counterparts. Dr. Longenecker performs obstetric ultrasounds and home visits and cares for centenarians. “I enjoy the diversity of medical cases and constantly switching gears,” he says. “Of course, the intellectual challenges this diversity brings can also be tiring, and some days, I’d appreciate being a little less challenged.”

Closer relationships. There are “fewer people, but more connections” in rural medicine, says Dr. Longenecker. “Continuous relationships,” which occur when the physician has provided care across a family’s generations, are common. Rural physicians often deliver babies to parents whom the physician also delivered.

Another type of relationship occurs because rural practitioners encounter patients and colleagues outside of practice more often than urban physicians. Dr. Longenecker calls these relationships, when a physician knows a patient in several roles, “dual or multiple relationships.” For example, a patient might be the soccer coach for the physician’s child or a member of the physician’s church. These multiple relationships can be beneficial and harmful and must be negotiated with care and integrity.

Besides developing closer relationships with patients, rural care physicians also benefit professionally from this overlap of work and personal life. In this more integrated lifestyle, general practice physicians and specialists develop more collegial relationships and are less likely to dispute who has what privileges to perform procedures on shared patients, Dr. Longenecker says.



Limited or spotty resources. The population, culture, environmental surroundings, and other characteristics of an individual rural location can affect access to physicians, funding for medical care, and style and content of practice. It’s unlikely that physicians from all specialties will be represented and that all diagnostic tests or treatment options will be available in any given rural area. “What happens then is the family physician gets stretched,” says Dr. Longenecker. “Activities and responsibilities evolve as resources change, and so does the physician’s role.” The bottom line: Rural physicians must adapt to the area’s needs and resources.

When I went to medical school at the University of Pennsylvania, I had to find my own mentor who was experienced in rural practice. But in a roundabout way, that was excellent preparation because you must create your own path in rural practice. I like to think of it as “self-initiated learning” rather than “self-directed learning.”
—Dr. Randall Longenecker

Daily life

Typically, a rural physician spends most of his or her time caring for patients. But as

program director of a rural residency, Dr. Longenecker works 70 or more hours a week, spending 30 hours seeing patients.

Dr. Longenecker says work-life balance is difficult, but he’s not sure whether it’s more difficult than in an urban practice. In rural practice, work-life balance is more an exercise in integration than segregation, he says. For example, although Dr. Longenecker is on call for obstetrics most of the time, physicians in his practice only deliver about six babies per month. So many nights, he’s on call while completely free to do as he likes as long as he remains within 15 minutes of the hospital with his beeper nearby. Dr. Longenecker says, “People who have difficulty integrating competing segments of their life like this might find rural practice challenging.”

Work-life balance in rural practice requires some boundary-setting. “Early on, I set a boundary that I’d always be home by 6 p.m. for dinner with my family,” he says. He also carves out Sundays, even if he’s on call, as a day of rest for family and church. “If I don’t carve out a day of rest, I don’t get one,” Dr. Longenecker says. Mondays are his official day off, and he often uses this day to visit the university’s main campus, create a three-day weekend for family activities, or participate in other unique opportunities.

Recruiting

Is rural practice sounding like a good option? Other students are starting to think so. “We’ve seen the number of students applying to our program, who want to train in a place where they have greater diversity of experience, rise these past few years,” says Dr. Longenecker, who created The Ohio State University’s integrated rural training track from scratch. But rural areas still hurt for physicians. Why?

Dr. Longenecker says students who grew up in a rural community often fall into one of two categories: those who want out, anxious to see the larger world, and those, for the love of rural life, determined to return. Students in the first group may enter medical education with an inferiority complex feeling, as many rural people do, that urban folks have the edge. He says these students don’t want anyone to know they’re from a rural area and view an urban, professional education as their ticket out.

In addition, these students are likely to attend college, medical school, and residency—much of their formative early adult life—in areas more urban than rural. After 11 or more years of training, they have become accustomed to a culture that values specialized knowledge and have likely acquired an identity that no longer fits their rural upbringing.

The second type of student simply needs encouragement and role models to persist in their desire to return as a physician to the rural community in which they were raised or one similar. That’s where rural training tracks and rural interest groups in medical school and residency play an important role, says Dr. Longenecker.

But students from rural communities comprise a small fraction of the medical student population—most come from urban backgrounds. Without direct exposure to rural life, these medical students easily acquire misconceptions such as

Rural practice is impossible. “Students say, ‘I admire what you do, but I could never do it,’” says Dr. Longenecker. “What they don’t realize is I was them 30 years ago. I didn’t

think I would do all that I do now, but I can do it now because of the 30 years I’ve spent in a rural place—continually learning, constantly being stretched.”

Rural docs can’t know enough. That’s a paradox, says Dr. Longenecker. “In medical school, I was told I was too smart and, in the same breath, not smart enough to be a rural family physician.” No rural family physician can ever know all that they need to, but seasoned rural doctors acquire an incredible vault of knowledge from years of experience treating various cases, he says.

Rural docs make less money. “We are paid less per service, but tend to work about three to five hours more per week and also perform more highly-compensated procedures,” says Dr. Longenecker. While salaries differ little among rural and urban practitioners of similar education and experience overall, rural primary care physicians earn slightly higher salaries than those in urban settings.¹ Rural practitioners’ salaries also stretch further because it costs them less to live, according to the Center for Studying Health System Change.

Dr. Longenecker says rural general practitioners may even live at a higher standard of living than urban general practitioners. “My house cost \$60,000, and my urban counterparts can’t get a comparable house for six times that much,” says Dr. Longenecker. “They always wonder how I own the latest technology and travel often to conferences when they can’t afford it.”

Rural docs don’t have a life. “Although I work 70 hours a week, my life is so integrated into what I do, I have a very full life,” Dr. Longenecker says. “I have wonderful relationships and a flexible schedule that helps me incorporate my interests while living in a beautiful place.”

Rural docs have less prestige. “It’s true, my work receives less attention from our large academic medical center, especially because of their primary focus on cancer research and other specialized services. I’m just one hair on the hide of a large

elephant,” Dr. Longenecker says. “But I’m well respected within my surrounding community—perhaps more so than a cardiothoracic surgeon in an urban setting where there are many other specialists.”

Rural docs don’t see rare cases; rural practice is boring. Dr. Longenecker says weird, rare cases commonly occur in rural practice—and he sees them first. In an urban location, specialists snatch those cases up, so urban general practitioners miss the variety and the opportunity to follow those cases through, he says.

Rural practice is the same as isolated practice. While your colleague may not be down the hall, the means for both professional support and consultation is becoming better developed within regional medical communities, Cooper says. There’s a strong collation of rural practitioners of all specialties across the U.S. that strive to deliver high quality care to rural residents.

And while it would be nice to have more colleagues in the building on a daily basis, the autonomy and relative lack of bureaucracy is nice, says Dr. Longenecker. “If I get an idea today, I can implement it tomorrow. Then I can evaluate it and give it up the next day if it doesn’t succeed.”

I tell students, “The playing time is great, but the bench is thin.” I don’t have the luxury of having three or four other people to step in. —Dr. Randall Longenecker

Rural doctors are inferior. In fact, rural physicians may have the opportunity to be more accomplished because they aren’t as constrained by the bureaucratic inertia experienced in a large place, Dr. Longenecker says.

For example, one of Dr. Longenecker’s colleagues began his career as a general practitioner. He later gained further internal medicine training and eventually completed a cardiology fellowship while continuing to practice. “Consequently, he created the local

intensive care unit and cardiology department at our hospital, and they're outstanding," he says. Another partner in the practice used his sabbatical to train as a bioethics physician. He started the hospital's bioethics committee—one of the first such committees in Ohio.

No hospitals in rural areas.

Dr. Longenecker's town has a hospital that employs two hospitalists who care for patients of several of the family physicians who practice only in the office.

If your fears and beliefs about rural medicine haven't been remedied, here are several more reasons for contemplating such a career. Perhaps the most compelling reason: Rural practice isn't going away. There'll always be people who choose to live in remote and rural areas. In fact, Dr. Longenecker says recent studies show more people are living in rural areas than in the previous decade. The continuation of this trend will produce an even greater demand for physicians to practice in rural communities. He says 77 percent of graduates from his program now practice in communities more rural than his and the rest practice in a community that's urban underserved. "And all our graduates make more money than I do," he says. "They're definitely in demand."

This demand provides recruits to rural practice more options and bargaining

power, especially regarding hours and work schedule. There are established flexible positions, including part time, or you can negotiate your own schedule depending on the location. One example is a rural community in Colorado with two physicians who share one full-time position working for two months at a time. A faculty member and current partner of Dr. Longenecker's is another example. He worked at a private practice in Texas where he'd practice in Texas for 10 days and live in Kansas for the next 10.

"A student who has trained in an urban location and then comes to practice in a rural area will bring that urban influence with them—and when necessary, rural communities have adapted," Dr. Longenecker says. "So a rural community needing a physician will negotiate with a prospective candidate by accommodating them with technology, schedule flexibility, or other concessions."

Although there are some exceptions, providing rural care doesn't necessarily limit your specialty options. "Due to the demand for most specialties in rural settings, I'll be able to work in almost any field that I choose," Cooper says. "The flexibility in career choice from family medicine to orthopedic surgery to radiology is very appealing to me at this stage in medical school."

Financial assistance is another area where rural practitioners can benefit. Rural practice physicians can receive tax credits as well as federal loan repayment through the National Health Service Corp and through state offices of rural health. Some rural communities will also sponsor medical students. For example, a potential resident in Dr. Longenecker's program is committed to returning to her hometown in rural Ohio to practice. Her hometown's hospital has helped fund her medical education.

While the technology in a rural practice is unlikely to surpass what's available in an urban practice, it does happen. Technology in rural practice is catching up. Cooper is impressed with the increasing access to technology in testing, imaging, and care management that rural practitioners are using to provide comprehensive care for their diverse set of complex patients.

And Dr. Longenecker predicts the technology will continue to progress. "I think the challenges of implementing technology in rural locations are not so much technical, as they are people-related—as are most problems in medicine," he says. "So implementing something like telemedicine will take additional time. But I think that with increasing connectivity, even in the most remote, rural places in the U.S., such technology will become more common," he says.

Preparing for rural practice

Ready to try rural medicine? Hold your horses. First, Dr. Longenecker recommends rural physicians have the capacity to become adaptable and resilient. "You don't need these qualities to start practicing in a rural area, but they are required to persist," he says. "Actually, the process of practicing builds those qualities in you." He also lists creativity, curiosity, and self-confidence as important traits to possess when entering the field, but he says those also grow over time.

If you're uncertain that you fit the bill, start gathering information. See if your medical school has a rural medicine leader on staff. This person may be a dean or a faculty member interested in rural medicine. These individuals are often the best resources for



information and related opportunities within your medical school, Cooper says. She also recommends joining the National Rural Health Association's student constituency group. "It's an excellent group to join if you're interested in connecting with medical students from across the United States that share your passion for rural health care," she says. For more information, visit www.ruralhealthweb.org.

To gain relevant experience, participate in the rural training opportunities in medical school and residency. Even some urban residencies offer training in rural places. One unique rural training program is the Wisconsin Academy for Rural Medicine at the University of Wisconsin School of Medicine and Public Health. Undergraduate students are recruited directly into this 4-year medical school program that provides rural experiences throughout their medical education to develop the skills and participate in a rural setting.² For medical students about to graduate, there are residency programs with rural training tracks, such as The Ohio State

University's Rural Family Medicine Program, where residents spend two or three years in a rural location. Find programs with rural training tracks by searching the American Medical Association's FREIDA Online database.

So consider a rural rotation or residency—you might love it. Seven of Dr. Longenecker's thirteen graduates to date grew up in a major city, U.S. or foreign, and four of those physicians now practice in a rural area. "Once people—even students who think they don't have it in them—experience practicing in a rural community, they often fall in love with it. But you have to spend more than a few months in a rural place to appreciate it—you have to live there for awhile," Dr. Longenecker says. "Even though our two residents from Los Angeles didn't like Ohio winters, one now practices in rural North Carolina and the other, in rural Texas."

If you participate in a rural rotation or residency and don't find it a good fit, at the very least you'll have experienced a

diverse training opportunity, says Dr. Longenecker. "Actually, residents who train in a rural location can practice anywhere because they've had a greater diversity of experience—they're often trained in a wider variety and greater number of procedures. It's a paradox urban dwellers don't understand because they've never lived there and experienced it first-hand."

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Ask the Advisor

We know you have questions, so we went to the experts for answers. This column features experienced faculty advisors and student affairs professionals answering questions about choosing a specialty, applying for residency, and any other career-related concerns you may have. In this issue, we consider strategies for getting clinical experience early in medical school and ranking programs in the Match.

Dear Advisor,
I'm a first-year student and my school does not provide any clinical experiences until the third year. How can I get some exposure to the specialties I'm interested in before starting clerkships?

Congratulations to you for asking this question now. It's helpful to start exploring specialties early in medical school for several reasons:

There are more than 120 specialties and subspecialties! You should learn at least some information about a variety of options so you can make a sound decision. Visit the Specialty Pages on the Careers in Medicine Web site for information.

Also, specialties like physical medicine and rehabilitation and anesthesiology often receive no dedicated time in the third year. If you're interested in these fields, it's important to get exposure to them now.

And many students forget the long-term goal of medical school while they're studying for exams. Although it may seem far off, the Match will approach rapidly. Exploring your options now will help you narrow your choices and make deciding easier when the time comes.

One outlet for exploring specialties is working with physicians who've lectured to your class. Contact these doctors who practice in fields you're considering and ask to shadow them. If you don't want to

miss class, shadow in hospital-based specialties such as emergency medicine or surgery—these opportunities are available 24/7. Experience in these hospital-based specialties will also introduce you to related fields such as radiology, anesthesiology, and pathology. Since first-year medical students have limited or no clinical skills, as a shadow, you'd only observe the physician and patients' encounters. But don't underestimate your contribution to patient care during your shadowing experience. Patients often tell me medical students listen well, offer support, and help them understand what the doctors are planning.



A second way to gain more exposure to the specialties you're considering is by speaking with your advisor. It's likely your advisor knows faculty members and practitioners who enjoy working with medical students and who might serve as a specialty-specific mentor for you. Your advisor may even contact the potential mentor for you and set the relationship in motion.

Finally, many schools host events such as career nights or specialty panels, which are great opportunities to learn about specialties and meet doctors who practice in those specialties. Spend a few minutes expressing your interest to these residents and physicians. Ask if you can shadow them the next time they're on call. They might even have a research project or summer experience you could participate in. Clerkship directors and residency program directors at your hospital may also coordinate such experiences for you.

Start exploring your options now. You'll gain valuable clinical experience that will assist you in your studies as well as help you narrow your career choices. You may even help a patient or two! Good luck!

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Dear Advisor,
My interviews have gone well, and I have several programs that I'm interested in. But only one of my top programs has said they plan on ranking me highly. I'm inclined to rank that program first, even though it's not my top choice, to ensure I match. What is the best strategy for listing your top programs for the Match?

The Match can be a complex process for medical students and residency programs. So it's easy to feel stressed and overanalyze every aspect in the hopes of a successful match. However, the best approach is to follow the logic and recommendations of the National Resident Matching Program (NRMP). Residency applicants should always rank programs in order of their preference, regardless of the likelihood of matching in a particular program because the match algorithm always favors the applicants' rank order list (ROL) over a residency program's ROL.

Heed this advice: Avoid interpreting communication from a residency program when creating your ROL.

To illustrate this point, let's assume that every residency in obstetrics and gynecology has 5 first-year positions. When the match algorithm runs, the computer will look at the first choice of every participating applicant's ROL. If Stephanie ranked the Best Ever Residency Program first and happens to be in the top five spots of the program's ROL, then Stephanie matches at the Best Ever Residency Program. If Stephanie is No. 7 on the Best Ever Residency Program's ROL, then she'll still match at that program as long as two students higher on the program's list have ranked and have been ranked higher by another residency program. If two students higher on the program's list have not been ranked higher by a residency program that they prefer, then Stephanie does not match at the Best Ever Residency Program and the match algorithm looks at Stephanie's second choice (the Not Quite as Hot Residency Program) and repeats the above process.

Applicants aren't penalized for putting "reach" programs higher on their ROL and therefore should prioritize according to their preferences. While students may not match at "reach" programs higher on their list, they'll still match at a program lower on their list as long as that program has listed them high enough to match.

The terms and conditions of the NRMP Match Participation Agreement¹ "...allow applicants and programs to make selection decisions...without coercion or undue or unwarranted pressure." This binding agreement has been developed to, among other outcomes, help minimize angst from abstruse correspondences although variability exists among programs on following the spirit of this recommendation.

Basing your ROL on a positive statement or trying to game the system can torpedo your candidacy. So heed this advice: Avoid interpreting communication from a residency program when creating your ROL. Rather, use these rules:

Research residency programs using resources such as your student affairs dean(s), specialty-specific advisors, the Careers in Medicine Web site, and the joint AAMC and NRMP "Charting Outcomes in the Match" report.

Include all programs on your ROL in order of your true preferences.

Rank all programs you're willing to go to. You don't want to regret leaving off a program if you end up not matching.

Include "reach" programs as long as you rank programs within your reach.

Don't make last minute changes to your ROL—leave it alone!

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Have a question you want our panel of experts to address? Send your queries to careersinmedicine@aamc.org and put "Ask the Advisor" in the subject line.

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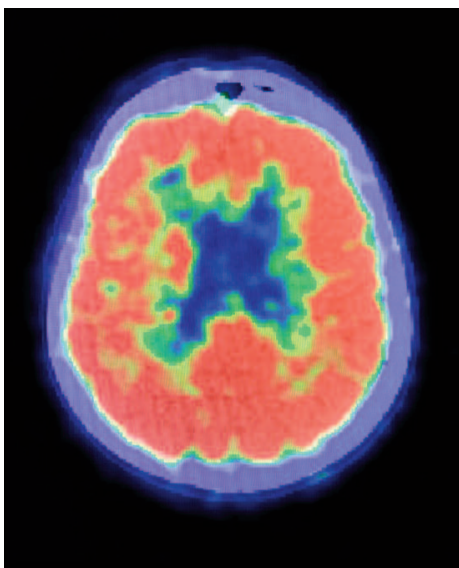
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Nuclear Medicine

With only 1,572 nuclear medicine physicians in the United States in 2008,¹ it's likely you're unfamiliar with the field. Because exploring a variety of specialty options assists in making a well-informed specialty choice, let's introduce you to nuclear medicine.

Nuclear medicine is a branch of medical imaging that uses small amounts of radioactive material to diagnose or treat a variety of diseases, including many types of cancers, heart disease, and certain other abnormalities within the body.² As a nuclear medicine physician, you'd understand the biologic effects of radiation exposure, the fundamentals of the physical sciences, and the principles and operation of radiation detection and imaging instrumentation systems. Likely based in a university or hospital, you'd employ the properties of radioactive atoms and molecules in research and in diagnosing and treating disease. Although you'd have limited involvement in direct patient care, you'd indirectly impact patients' lives by using radiation detection and imaging instrument systems to detect disease as it changes the function and metabolism of normal cells, tissues, and organs.³



For more detailed and personal insight into life as a nuclear medicine physician, Dr. Michael Graham, Ph.D., M.D., president of the Society of Nuclear Medicine, professor of radiology, and director of nuclear medicine at the University of Iowa in Iowa City; Dr. Myo Han, associate physician with the Permanente Medical Group, Inc. in Oakland, Calif.; and Dr. Lale Kostakoglu, professor of radiology at the Mount Sinai Medical Center and School of Medicine in New York, share their experiences.

On the job

Nuclear medicine closely mirrors—although is more specialized than—radiology. One difference between the two specialties is the nature of the doctor-patient relationship: Nuclear medicine physicians interact with patients more than diagnostic radiologists do, Dr. Han says. In radiology, most diagnoses can be made from the picture or scan alone. In nuclear medicine, interaction with patients (i.e., patient interviews, the accurate preparation of patients for studies) is often necessary to focus differentials, accurately diagnose conditions and illnesses, and provide therapies such as radioiodine to treat hyperthyroidism and radioactive strontium or samarium to palliate the pain of skeletal metastases.

As a sister imaging specialty, the practice options in nuclear medicine are similar to those in radiology, although most nuclear medicine physicians practice in hospital or academic medical center settings. Practice in a private radiology group is possible, says Dr. Kostakoglu. Unfortunately, radiology groups want all members to take general radiology call and nuclear medicine physicians can't, Dr. Graham says. Traditional training paths don't produce nuclear medicine physicians who can also practice radiology (see "Nuclear Medicine Training Paths" on pg. 8). However, major discussions about modifying training to address this issue are underway at the national level, says Dr. Graham. But in the past and meantime, most physicians work in hospital-based academic settings, Dr. Han says.

As an academic, your work day would likely involve supervising, reviewing, and dictating nuclear medicine studies,

exercise cardiac stress tests, and Positron Emission Tomography (PET)/Computed Tomography (CT) scans, and discussing results with patients. You'd interview mostly hyperthyroid or thyroid cancer patients, supervise thyroid radioiodine and other treatments, discuss cases with referring physicians and surgeons, and answer referring physicians' phone calls. You might also write manuscripts, supervise resident or medical student research and conduct your own, prepare lectures, and read articles. You'd rarely deliver distressing test results to patients, Dr. Graham says. And you'd likely work only 50 to 60 hours per week, and this may include working on weekends.

You could consider other job options, such as working for the government or independent groups in industry. The Food and Drug Administration and the National Cancer Institute seek doctors with nuclear medicine backgrounds to help advise their work, says Dr. Graham. In independent industry groups, nuclear medicine physicians serve as medical advisors and medical directors, especially in programs that develop new nuclear medicine imaging equipment or new radiopharmaceuticals. However, government agencies and industry groups generally expect physicians to have four to five years of clinical experience, especially for roles involving advancing clinical practice.

Nuclear Medicine by the Numbers

Number of practitioners in United States¹

1,572 in 2008

Compensation

For academic medicine positions⁴

Early career	Low: \$207,000 Median: \$245,000 High: \$291,000
Mid to late career	Low: \$271,000 Median: \$312,000 High: \$369,000

In general, the current job market is small with limited turnover, Dr. Han says. “Nuclear medicine is currently less flexible than other specialties if you need to relocate or switch jobs.” But Dr. Graham projects the number of jobs in nuclear medicine will increase as collaboration with radiologists increases. Also, the first nuclear medicine board-certified physicians are starting to retire, which will leave many academic positions open, he says.

Pursuing nuclear medicine

Before committing to such specialized training, assess your fit. Interested students should have good eyesight and computer and communication skills, and be dedicated to patient care—which means addressing all factors that ensure a good quality scan can be obtained, Dr. Han says. It’s also important nuclear medicine physicians have a strong general knowledge of medicine, chemistry, and physics. A background in hard sciences such as engineering and molecular biology also helps, says Dr. Graham. And nuclear physicians must love the field of imaging and be interested in research and publishing, says Dr. Kostakoglu. The next step? Peruse the Society for Nuclear Medicine’s Web site, says Dr. Han.

To compete, Dr. Han recommends that medical students talk to nuclear medicine residents and practicing physicians, join the Society of Nuclear Medicine, and complete a nuclear medicine rotation. “If your hospital lacks a dedicated nuclear medicine department, contact other

Assessing your fit with nuclear medicine

Consider these aspects of working in nuclear medicine as you hone your specialty choice:

Lifestyle: Regular, family-friendly work hours; few emergency cases

Prestige: Respected by colleagues and other physicians

Flexibility: Changing jobs can be challenging

Patient-Doctor relationships: Mostly indirect interaction; provide short-term care

Intellectually challenging: Use physics and other complex concepts

medical centers that do—most departments welcome students,” says Dr. Han. He also notes nuclear medicine is not as competitive to match. However, good programs will always be competitive, says Dr. Kostakoglu. Nuclear medicine candidates with related experience or who’ve participated in basic research are more competitive. Many programs do not participate in the Match, but you can find information about most nuclear medicine residency openings on the Society for Nuclear Medicine’s Web site or by directly contacting the individual program.

The progression of nuclear medicine

In the last 10 years, Dr. Graham has witnessed the introduction of hybrid imaging, including PET/CT and Single Photon Emission Computed Tomography (SPECT)/CT imaging, which resulted in expanded training for residents and practicing physicians. He expects Magnetic Resonance Imaging (MRI) systems to be similarly integrated next, and eventually, the profession will require nuclear medicine and radiology board certification for all nuclear medicine physicians.

Dr. Graham also sees nuclear medicine slowly morphing into molecular imaging, including optical imaging, which is akin to nuclear medicine. Current medical students are already preparing for this shift by learning molecular biology, biochemistry, and gene regulation and regulatory pathways in cells. Dr. Han agrees and also anticipates the development of disease-specific probes for imaging and treatment and improved scanner technology that features faster acquisition time with improved resolutions.

To explore nuclear medicine in its current state and consider participating in the changes to come, visit

- Society of Nuclear Medicine www.snm.org
- American Board of Nuclear Medicine www.abnm.org
- American College of Nuclear Medicine www.acnmonline.org

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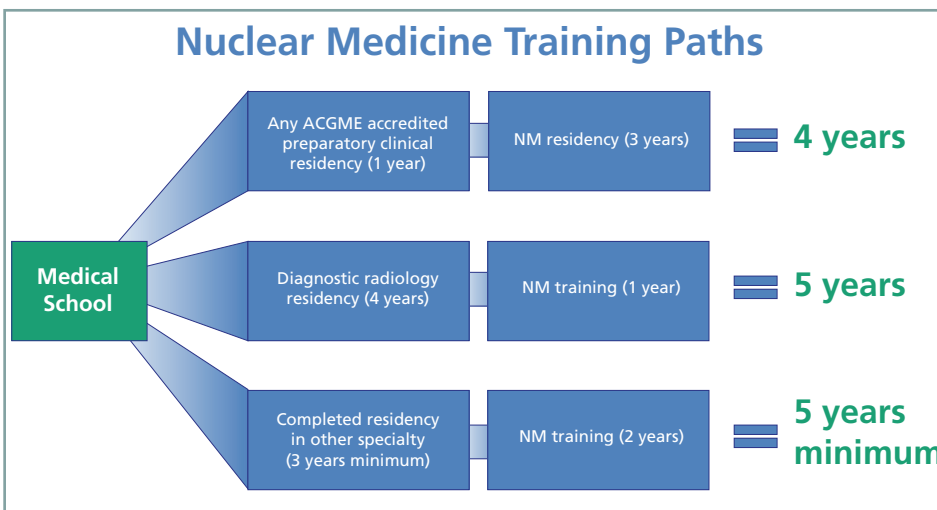
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CiM Toolbox

Meet the Specialty Pages

With more than 120 medical specialties recognized by the Accreditation Council for Graduate Medical Education (ACGME), gathering information that will help you narrow your specialty options can be difficult. Start by searching for the most basic and broadly insightful information including

- What physicians in the specialty do
- The qualities and characteristics physicians in the specialty share
- The length of the residency training
- How competitive the specialty is

This and other information is included in the Specialty Pages on the Careers in Medicine Web site. The Specialty Pages feature data from nationally-recognized sources including the ACGME, American Medical Association (AMA), National Resident Matching Program (NRMP), and American Board of Medical Specialties to give you the best possible start in your research.

The Specialty Pages are organized first by major specialty then sub-specialty to give further insight into available training paths. Here's a look at what the Specialty Pages offer:

Nature of the Work describes the specialty including types of work, diseases and systems, and typical patients. This section also includes links to any related sub-specialty or major specialty. Thirty-nine specialties include a Patient Details section that gives further information about patient encounters and characteristics.

Personal Characteristics provides insight into the interests and personality traits common to physicians in the specialty. The Medical Specialty Preference Inventory, Revised (MSPI-R) Interest Scales for 16 major specialties are provided for you to compare your results.

The most-often viewed page on the Careers in Medicine Web site in 2009 (besides the CiM home page) is the Specialty Page for anesthesiology.

Residency Requirements includes the length of training, prerequisites, ACGME training overview, average resident training stipends (by region and year in training, but not specialty-specific), residency application procedure, and involvement in matching programs. We recently added results from the NRMP 2008 Program Director Survey, which indicate what program directors look for when selecting applicants to interview and rank in the Match. Survey results are available for 18 major specialties: anesthesiology, dermatology, emergency medicine, family medicine, internal medicine, internal medicine/pediatrics, neurology, obstetrics & gynecology, orthopedic surgery, otolaryngology, pathology, pediatrics, plastic surgery, psychiatry, physical medicine & rehabilitation, radiation oncology, radiology, and surgery.

Match Data presents the most current, relevant information that indicates the competitiveness of the major specialties. The data includes the total number of residency programs in the U.S., NRMP Match statistics for the most recent match, a link to AMA's FREIDA statistics for the specialty, and data from the 2009 joint AAMC and NRMP "Charting Outcomes in the Match" report. This report includes the average USMLE step 1 and 2 scores, average number of research experiences,

average length of the rank order list, and other criterion for matched and unmatched applicants in 19 major specialties.

Workforce Statistics provides data from the AMA Physician Masterfile about the current numbers of physicians and past workforce trends in the U.S. Data can also be broken down by state, major professional activity, metropolitan statistical area, sex, and age. For example, you can see how many family medicine physicians practiced in Knoxville, Tenn., in 2006 (278), or how many female surgeons practice in Wisconsin as of 2008 (83).

Compensation is the most popular section within the Specialty Pages according to the number of page views counted by CiM. Salary information for physicians in academic medicine is available for 48 specialties and includes ranges for early and mid- to late-career faculty. Clinical practice salary information is available for 27 specialties and includes ranges for starting salaries and for all physicians, as well as median figures for one to two years in the specialty.

Links and Readings offers sources of further information. Web site links to more than 1,000 specialty associations, journals, newsletters, and publications provides a place to begin in-depth research.

The availability of information varies by specialty. Some subspecialty and fellowship areas feature less data, but most major specialties are covered extensively. The Specialty Pages are your one-stop-shopping destination to begin gathering specialty information. Log in to the CiM Web site at www.aamc.org/careersinmedicine to view all they offer.

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