

Health Care
CAREERS



Respiratory Therapists

Among the heroes of COVID-19 were respiratory therapists, little known medical professionals before the pandemic.

In reality, they were essential employees in health care long before we ever heard of the dreaded COVID-19. “We like to call ourselves the Rodney Dangerfield of health care,” said Timothy Myers, chief business officer of the American Association for Respiratory Care, to U.S. News and World Report. “Not because we don’t get respect, but because people don’t know about respiratory therapists. We’re often confused with nurses.”

WHO ARE THEY?

Respiratory therapists work in the care of the growing number of Americans struggling with heart and lung problems. Among their duties is conducting diagnostic tests for lung capacity, they administer breathing treatments, record patient progress and consult physicians. They often treat people who have asthma, chronic bronchitis, emphysema, cystic fibrosis or sleep apnea, but they also have the skills to respond to some emergency situations, such as those experiencing a heart attack or suffering a stroke.

HOW TO BECOME A RESPIRATORY THERAPIST

Often an associate degree



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suffices as educational requirements, but many other respiratory therapists have bachelor’s degrees centering on advanced competencies. The Commission on Accreditation for Respiratory Care accredits more than 300 associate degree programs, more than 70 bachelor’s

degree options and a handful of master’s degree programs. A school counselor will advise to be prepared for coursework in anatomy, chemistry, microbiology, pharmacology and mathematics, as well as training on diagnostic tests and patient assessment.

Licensing and certification

are also required. The National Board for Respiratory Care offers two baseline certification levels: certified respiratory therapist and registered respiratory therapist. An RRT credential signifies a more advanced level of knowledge. Today’s market essentially requires an

advanced RRT credential. “We’ve basically told our grads when coming in the door that they had to achieve their RRT within a year of employment,” Myers said. Certifications in adult critical care, sleep disorders and neonatal/pediatric care are also available.

Undergrad Paths for Med School

Identifying the undergraduate coursework that makes an applicant the best candidate for med school is, well, an inexact science.

Nonetheless, the American Medical Association recommends that the best course load for would-be medical students is to follow the science.

WHAT THE NUMBERS SAY

According to the most recent data released by the Association of American of Medical Colleges, among the more than 50,000 candidates who submitted MCAT scores as part of a medical school application, roughly 60% had an undergraduate major that could be classified as focusing on biological sciences.

The most common majors were the following, though it is worth noting that the second-largest group of students (3,843) tracked by the AAMC fell into the “other” category:

- Biological sciences — 11,843.
- Physical sciences — 2,214.
- Social sciences — 2,107.
- Humanities — 797.
- Specialized health sciences — 650.
- Math and statistics — 168.
- A science-focused major, some students have said, gave them the foundation to succeed on the MCAT and hit the ground running in med school.



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“In my [med] school, most of the premed requirements were easy to satisfy doing a bio major,” said Avi Levy, a first-year medical student at Arizona College of Osteopathic Medicine, according to the AMA.

DOES ANY MAJOR PROVIDE AN ADVANTAGE?

No, according to the data.

For instance, 29,443 students with majors in the biological sciences applied to medical schools in 2018-19. The matriculation rate for that group was roughly 40%, lower than several other primary majors. Students who studied biological sciences also had an average total MCAT score that fell in the middle of the group of tracked undergradu-

ate majors.

UC Davis’ admissions office doesn’t give more weight to one major or another as long as a student has completed the required prerequisites, said Tonya Fancher, associate dean for workforce innovation and community engagement at the school. “We look for mastery in an area that a student is passionate about. That could be in

the study of art or history or science, in participation in college athletics or music or dance.”

That approach might have benefits. A study in 2018, published in *Medical Education*, found that med students with backgrounds in the humanities and social sciences may be more effective at communicating with patients.



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Becoming an Athletic Trainer

When the star wide receiver falls to the field clutching his right knee, a professional in an occupation on a rapid rise — the athletic trainer — runs to his aid.

Athletic training is recognized by the American Medical Association, Health Resources Services Administration and the Department of Health and Human Services as a healthcare profession.

“We’re always in the background watching,” said Kathy Stompro, an athletic trainer in the Fargo, North Dakota, area, in an interview with Stanford Health. “We’re highly trained to do the things when we need to, should an emergency or injury surface.”

JOB OUTLOOK

According to the U.S. Bureau of Labor Statistics, employment of athletic trainers is projected to grow 16% from 2019-29, much faster than the average for all occupations. Demand

for athletic trainers is expected to increase as people become more aware of the effects of sports-related injuries, and as the middle-aged and older populations remain active. Trainers also aren’t pigeonholed in the arena of athletics. The performance and stage arts need them. Dancers and actors sustain sprains and muscle strains and suffer from tendinitis, too, as well as bunch of other things.

ACADEMIC REQUIREMENTS

Athletic trainers must graduate from an accredited professional program.

Those programs are at both the bachelor’s and master’s level, many universities offering students a combo bachelor’s and master’s degree program.

Students are trained in a variety of content areas, including, among other things, acute care of injury (that is, that football player) and illness, clinical examination and diagnosis, evidence-based practice; health care administration, prevention and health promotion, and therapeutic interventions.

Additionally, just about every state requires licensing and certification.

Hospital Chaplain

Hospital chaplains perform critical and rewarding work.

As one chaplain explains to the HealthCare Chaplaincy Network, “As I was speaking to the wife, I noticed that the man’s arm was tattooed with numbers — the markings of a Holocaust survivor. I felt great sorrow for him, his family and all the other victims. Later on, as we sat next to the bedside of her husband, whose breathing was labored and assisted by oxygen, the wife asked again about arrangements. I noted that during the day it was easier to get the chevra kaddisha than in the evening, weekends, the Sabbath or holidays. The wife then noticed that her husband was no longer breathing. I realized afterward that he had heard me speaking about the chevra kaddisha and wondered if he thought that this would be a good time to let go.”

JOB DESCRIPTION

Hospital chaplains give spiritual counsel or advice to hospital patients and their family members and friends. They have in-depth knowledge and expertise that guides them in talking with people faced with medical crises or other challenges. As part of the clergy field, they pray with and counsel people who have spiritual and emotional needs. They are authorized to perform religious rites and ordinances. Some hospital chaplains read specific sacred texts including the



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Bible, Torah or Koran.

ACADEMIC REQUIREMENTS

Generally, a master’s degree

in theology, divinity, religion or pastoral counseling is required. Some prefer a doctorate. An applicant will also need two to five years of experience in the

field of clergy or chaplaincy and/or experience in palliative care and hospice. Ordination or certification by Association of Professional Chaplains or

other religious bodies and/or specific certification, such as offered by the National Association of Catholic Chaplains, are also required.

Futuristic Careers

Not even the Jetsons could have forecast what is on the horizon for breakthroughs in medicine.

With innovation comes new jobs and job growth, like these.

CLINICAL SCRIBES

Rather than typing up manual notes, speech-to-text programs are making it easier for health care professionals to log all of their clinical notes and patient information. Even though the technology behind voice recognition and speech-to-text software is constantly improving, it isn't perfect. This means that clinical Scribes are needed to proofread the documentation, make edits and recommend changes to the software to make it more accurate.

TELESURGEON

Telesurgeries are surgical procedures that are conducted from a remote location. Compared to the medical roboticist surgeons who conduct a surgery just a few feet away from a patient using robotics, telesurgeons are able to use cutting edge technology to perform a surgeon on somebody when they are miles away. The first recorded (successful) telesurgery was conducted in 2001 with the removal of a patient's gallbladder.

CRYOPRESERVATION SPECIALIST

Straight out of a sci-fi



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movie, cryopreservation, the process of preserving biological constructs by cooling samples to very low temperatures, is becoming a realistic possibility when it comes to patient care. One example of how modern cryopreservation is occurring is through the use of freezing embryos for future insemination.

Cryopreservation specialists are working on finding new ways to keep cells alive through the freezing process, and then transplant those cells into new hosts. Another way that cryopreservation could potentially change in the future revolves around the transplanting of vital organs or limbs.

CUSTOM IMPLANT ORGAN DESIGNER AND DEVELOPER

Patients can wait weeks, months or even years to receive a potential transplant that matches their genetic makeup.

A new profession has risen in which custom organs are being developed for each

patient. For instance, biomedical engineers are now capable of growing entire organs in labs and then using those organs in human transplants. This means that they can make organs that won't be automatically rejected based upon the genetic match or genetic makeup of the patient.

Careers in Rural Medicine

Careers in health care are expanding. According to the Bureau of Labor Statistics, health care is among the fastest growing industries in the country.

They're expected to grow 27% in the next five years. Not all of those jobs are in the city. There are a number of needs in rural areas that pay well and provide flexibility not always available in the bigger cities.

DEMAND IN THE MARKETPLACE

Research indicates that physicians tend to practice near where they received their educations. However, only 7.3% of family medicine residency training takes place in rural areas, where roughly 20% of the U.S. population lives. This has led to a shortage of health care providers in rural areas. Registered nurses comprise nearly half of health care providers in rural areas. Licensed practical nurses are the second-largest group, according to data Concorde published. Rural jobs are increasingly found in the service sector, including health care services.

THE AGING COUNTRYSIDE

The scope of care is often more limited in rural areas. Providers deliver more general services, and lower reimburse-



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ment rates for primary care or general services make it difficult for rural health care practices to remain financially stable. Additionally, transportation and associated costs can be a barrier to accessing care for many rural residents.

Yet, rural populations tend to be older than urban populations. Residents have higher

rates of chronic disease and poverty than urban residents. Rural populations are more likely to be underinsured or uninsured. Hospitals and clinics tend to be smaller than in urban areas.

THE BENEFITS OF THE COUNTRYSIDE

There are a number of bene-

fits for health care professionals working in a rural setting.

Unlike urban medical centers, where you are just another physician in the rotation, you will connect personally with your patients. In rural hospitals with a limited number of physicians, you get the opportunity to practice with greater autonomy, and you will learn to be a

jack of all trades.

“Health care professionals receive incentives, such as bonuses, scholarships or loan forgiveness, to work in these areas after working there so many years,” said Danielle Vander Knaap, graduate employment specialist at Concorde Career College in San Antonio, in college literature.

Gerontology

Gerontology is one of the fastest-growing health care professions. Why? The Baby Boomers.

WHAT IT IS AND WHAT IT ISN'T

Gerontology is the study of aging and the issues that arise as a result of aging. It is not “geriatrics,” which focuses primarily on the medical aspects of aging. Gerontology takes a holistic approach, combining biology, psychology and sociology to fully understand the aging process. Gerontology even encompasses the psychological, biological and sociological effects aging has on an elderly person’s younger family members.

Elie Metchnikoff first coined the term gerontology in the beginning of the 20th century. It wasn’t until 1940, however, that James Birren would begin formally developing gerontology as a field of study. Among his most significant findings was his theory of the three types of aging.

- **Primary Aging:** The natural deterioration of the physical form.

- **Secondary Aging:** The comorbidities that arise as a result of aging, such as dementia or Alzheimer’s.

- **Tertiary Aging:** The cognitive and physical deterioration one experiences shortly before death.



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A VERSATILE CAREER

Gerontologists can work in a variety of professional roles, ranging from financial advisors and occupational therapists to health care workers and government administrators. As specialists in the issues of an aging population,

gerontologists can help older adults and the organizations serving them overcome the obstacles aging presents, possessing a comprehensive understanding of relevant legal and ethical issues as a result of their studies.

A master’s degree will

afford the best opportunities in gerontology.

AGE ISN'T GOING AWAY

Life expectancy in the U.S. continues to increase, despite the setback experienced by the pandemic. In the first half of 2020, life expectancy at

birth for the entire population was 77.8 years, a drop of almost one full year from 2019. Still, by 2060, the number of Americans over the age of 65 is projected to grow to more than 98 million.

They’ll need gerontologists like you.