

Figure 1

Health Workforce Projections: Health Technologist and Technician Occupations

KEY FINDING

Between 2012 and 2025:

- All five health technologist and technician occupations presented in this fact sheet will experience an increase in demand.
- Demand will grow by 24 percent for nuclear medicine technologists, 24 percent for radiologic technologists, 21 percent for diagnostic medical sonographers, 22 percent for medical and clinical laboratory technologists, and 22 percent for medical and clinical laboratory technicians.

This fact sheet presents the national demand for select health technologist and technician occupations for 2012 through 2025 using HRSA's Health Workforce Simulation Model (HWSM).¹ Supply projections are not included due to lack of sufficient data to provide reliable estimates of future supply. Occupations discussed in this fact sheet include nuclear medicine technologists, radiologic technologists, diagnostic medical sonographers, medical and clinical laboratory technologists, and medical and clinical laboratory technicians. While the nuances of modeling supply and demand differ for individual health professions, within the HWSM the basic framework remains the same. The HWSM assumes that demand equals supply in the base year. For demand modeling, the major components include population demographics, health care use patterns (including the influence of the Affordable Care Act health care coverage), and demand for health care providers (translated into Full-Time Equivalents). Over the period studied, the model assumes that current national patterns of service demand remain unchanged within each demographic group.² These projections do not account for the geographical distribution of providers which may impact access to care in certain communities.

BACKGROUND

The five technologist and technician occupations discussed in this brief fall into two categories: *diagnostic imaging providers* and *diagnostic medical laboratory providers*. The diagnostic imaging occupations include nuclear medicine technologists, radiologic technologists, and diagnostic medical sonographers. Nuclear medicine technologists prepare and administer radioactive drugs to patients undergoing nuclear medicine imaging scans. They operate special imaging equipment that detects and visualizes abnormalities in the body where the radioactive drugs concentrate. Nuclear medicine technologists must have a certificate, associate's, or bachelor's degree education. Requirements for licensure vary by state. Radiologic technologists perform diagnostic imaging procedures including X-rays, mammography, magnetic resonance imaging (MRI), and computed tomography (CT) for interpretation by radiology physicians. Radiologic technologists are most commonly educated in associate degree programs, and must be licensed or certified in some states. Diagnostic medical sonographers use high frequency sound waves (ultrasound) to produce images of internal organs for diagnosis and interpretation by a physician. Sonographers must have a postsecondary certificate or associate degree, and many employers require certification.

¹ This model uses a micro-simulation approach where supply is projected based on the simulation of career choices of individual health workers. Demand for health care services is simulated for a representative sample of the current and future U.S. population based on each person's demographic and socioeconomic characteristics, health-related behavior, and health risk factors that affect their health care utilization patterns. For more information on data and methods, please see [Health Workforce Supply and Demand Simulation Model](#).

² Ono T, Lafortune G, Schoenstein M. "Health workforce planning in OECD countries: a review of 26 projection models from 18 countries." *OECD Health Working Papers*, No. 62. France: OECD Publishing; 2013:8-11.

The diagnostic laboratory services occupations reported in this fact sheet include medical and clinical laboratory technologists and technicians. Both medical laboratory technologists and technicians collect samples and perform tests to analyze body fluids, tissue, and other substances. Technicians usually work under the general supervision of technologists or laboratory managers. Becoming a medical laboratory technologist typically requires a bachelor's degree. To become a medical laboratory technician, an associate's degree or certificate is required. Some states require laboratory personnel to be licensed or registered. To be licensed, a technologist often needs a bachelor's degree and must pass an exam. Certification of medical laboratory technologists and technicians is also required for licensure in some states and by some employers.

FINDINGS

There were approximately 20,900 nuclear medicine technologists, 194,800 radiologic technologists, and 58,000 diagnostic medical sonographers nationally in 2012. Demand for nuclear medicine technologists and radiologic technologists is projected to grow 24 percent between 2012 and 2025 (Exhibit 1). Demand for diagnostic medical sonographers is projected to increase by 21 percent during this same time period.

Exhibit 1. Estimated Demand for Selected Health Technologists and Technicians in the U.S., 2012 – 2025

| | Nuclear medicine technologists | Radiologic technologists | Diagnostic medical sonographers | Medical and clinical laboratory technologists | Medical and clinical laboratory technicians |
|---------------------------------|---------------------------------------|---------------------------------|--|--|--|
| <i>Demand</i> | | | | | |
| Estimated demand, 2012 | 20,900 | 194,800 | 58,000 | 164,300 | 161,500 |
| Total demand growth, 2012-2025: | 5,000 (24%) | 46,600 (24%) | 12,200 (21%) | 36,100 (22%) | 35,400 (22%) |
| Changing demographics Impact | 4,100 | 37,800 | 11,100 | 33,600 | 33,000 |
| ACA insurance coverage Impact | 900 | 8,800 | 1,100 | 2,500 | 2,400 |
| Projected demand, 2025 | 25,900 | 241,400 | 70,200 | 200,400 | 196,900 |

There were approximately 164,300 medical laboratory technologists and 161,500 medical laboratory technicians nationally in 2012. Between 2012 and 2025, demand for medical and clinical laboratory technologists and technicians is projected to grow by 22 percent for each occupation. For both technologists and technicians, 20 percent of this demand growth is associated with changing demographics. The aging of the population will lead to a greater need to diagnose medical conditions through laboratory procedures. The remaining 2 percent of the growth is associated with expanded insurance coverage under the Affordable Care Act. Collectively, the analysis presented here suggests that the U.S. will experience an increased demand for all five of these health technologist and technician occupations by 2025.

[About the National Center for Health Workforce Analysis](#)

The National Center for Health Workforce Analysis informs public and private-sector decision-making related to the health workforce by expanding and improving health workforce data, disseminating workforce data to the public, and improving and updating projections of the supply and demand for health workers. For more information about the National Center for Health Workforce Analysis please visit our website at bhw.hrsa.gov/healthworkforce/.