

The Respiratory Therapist Workforce in the U.S.

Supply, Distribution, Education Pathways, and State Responses to Emergency Surges in Demand

Susan M Skillman, MS, Bianca K Frogner, PhD, Arati Dahal, PhD, Benjamin A Stubbs, MPH, Grace Guenther, MPA

Practice Scope and Settings

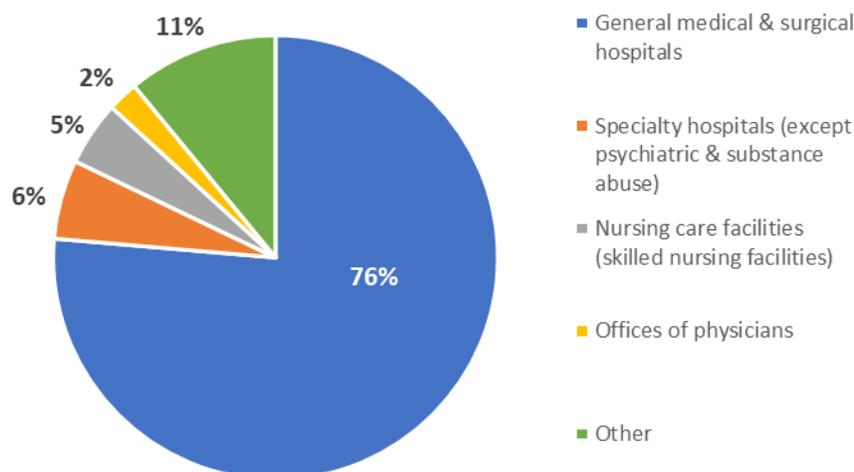
Respiratory therapists, also called respiratory care practitioners, are trained to assess and treat patients with pulmonary disease. Respiratory therapists diagnose lung and breathing disorders, consult with providers to recommend therapies, manage ventilators and other artificial airway devices for patients needing breathing assistance, and educate patients and families about lung disease.¹

Respiratory therapists work across medical care settings, primarily in acute care hospitals, but also in nursing facilities, emergency departments, ambulatory care clinics, patient homes, and sleep clinics, among others (Figure 1).² In acute care hospitals, respiratory therapists treat a wide variety of patients ranging from people with asthma and other respiratory conditions, children with cystic fibrosis, premature newborns, and patients undergoing surgery. In hospital intensive care units (ICUs), respiratory therapists manage mechanical ventilators used to treat critically ill patients who cannot breathe on their own. Hospital-based respiratory therapists typically work on teams with physicians (often pulmonologists and intensivists) and nurses. Respiratory therapy technicians/assistants are employed in some settings and work under the direction of respiratory therapists and physicians to assist in providing respiratory care.³

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Figure 1. Work Locations of Respiratory Therapists, 2018



Supply and Distribution

There were 128,250 respiratory therapists employed across the U.S. in 2017, or 39 per 100,000 population.⁴ Figure 2 shows the number of respiratory therapists per 100,000 employed in each state in 2017 and Figure 3 shows state ranking by the number of respiratory therapists per 100,000 population.

Figure 2. Respiratory Therapists per 100,000 Population by State, 2017

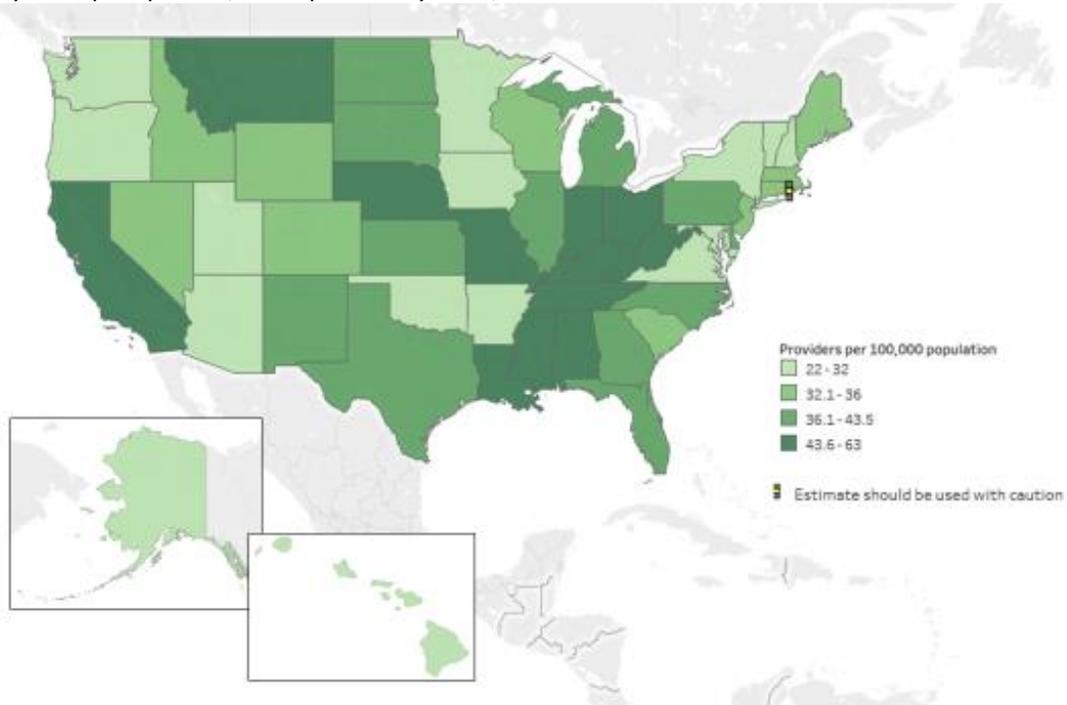
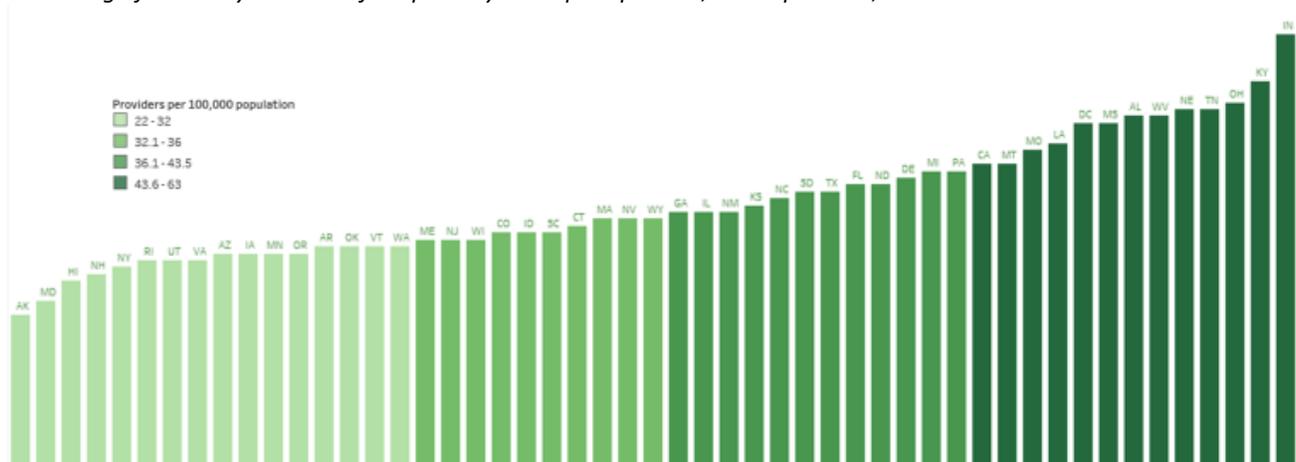
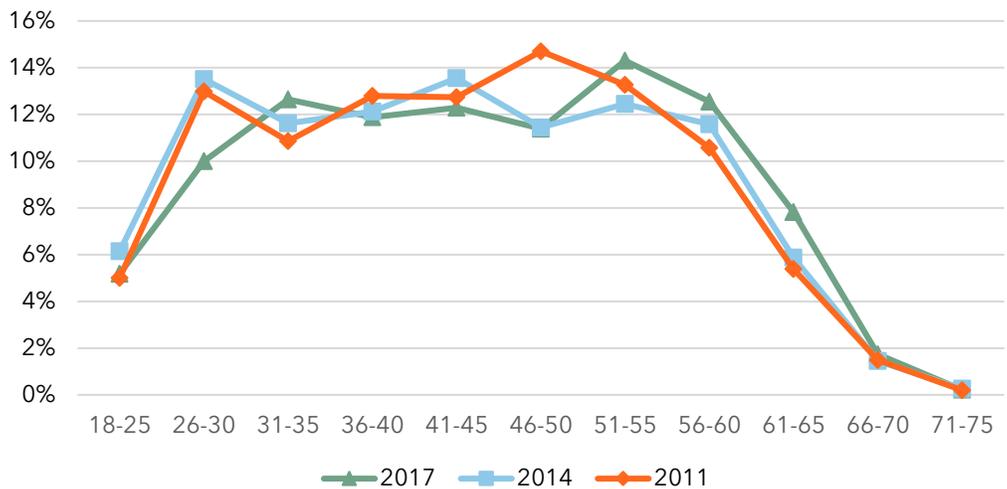


Figure 3. Ranking of States by Number of Respiratory Therapists per 100,000 Population, 2017



The average age of respiratory therapists in 2017 was 44.6 years, and as shown in Figure 4, the distribution of respiratory therapists by age group has remained relatively consistent from 2011 to 2017.⁵

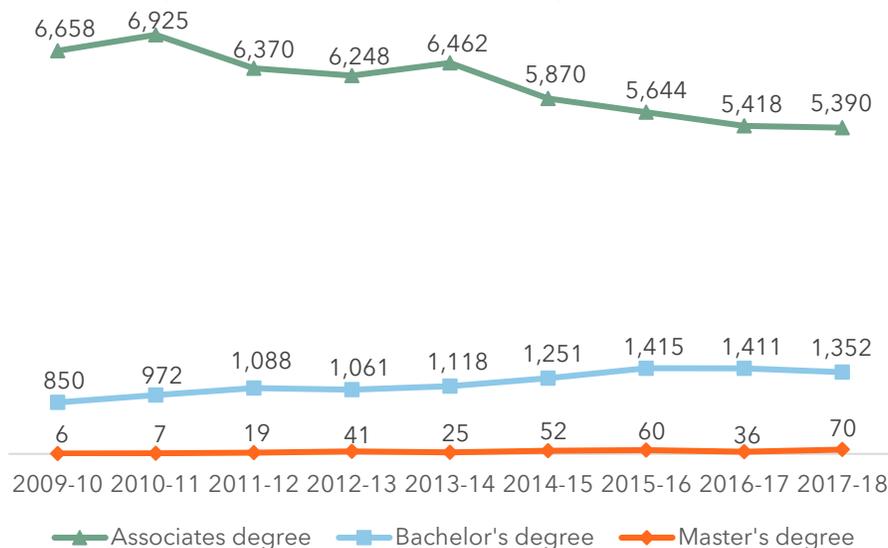
Figure 4. Number of Respiratory Therapists by Age Categories, 2011, 2014 and 2017



Education and Credentialing

An associate degree is the minimum education requirement for respiratory therapists, and bachelor’s and master’s degree programs are also available.⁶ In January 2018 the Commission on Accreditation for Respiratory Care (CoARC) updated the minimum education requirement to the bachelor’s level for any new respiratory care program. No new associate level programs in respiratory care will be approved by CoARC but existing programs may continue.⁷ As shown in Figure 5, over the past decade the number of respiratory therapists completing bachelor’s and master’s level programs has increased while the number of students completing associate degree programs has declined, consistent with entry level education policy changes.^{8,9} The number of students completing respiratory therapy associate degree programs, however, is still nearly four times greater than bachelor’s and master’s degree completions.

Figure 5. Number of Students Completing Respiratory Therapy Education Programs in the U.S., 2009-10 to 2017-18



After graduating from an accredited program, respiratory therapists take a national examination to earn the Certified Respiratory Therapist (CRT) credential and then are eligible to take an examination to obtain the Registered Respiratory Therapist (RRT) credential.¹⁰ Although graduates can obtain just the CRT credential and be employed in some states, single certification is not considered standard of practice. Currently six states require RRT as entry to licensure with many more states moving in this direction.¹¹ In 49 states, respiratory therapists must be licensed in order to practice.

The COVID-19 emergency has drawn attention to the respiratory therapist workforce in the U.S. Patients with COVID-19 most commonly are admitted to hospital ICUs due to severe hypoxic respiratory failure that requires mechanical ventilation. Concerns about the capacity of the respiratory therapist workforce to meet the need for mechanical ventilation in the country's hospitals, especially in ICUs, have been shared by multiple experts.

What's under recognized is that the machine itself is just one aspect of having a ventilated patient. You have several other very notable issues that limit ventilation, such as staffing if there is a shortage of respiratory therapists and supply issues with things like ventilator tubing, for example...After all, a ventilator cannot run itself.

Dr. Pritish Tosh, Medical Director for Emergency Management, Mayo Clinic. March 11, 2020¹²

At forecasted crisis levels, we estimate that the projected shortages of intensivists, critical care APPs and nurses, and respiratory therapists trained in mechanical ventilation would limit care of critically ill ventilated patients. Therefore, priority should focus not only on increasing the numbers of mechanical ventilators, but on growing the number of trained professionals, for both the near and long term, who will be needed to both mechanically ventilate patients with COVID-19 and to care for other critically ill patients who will require ICU care.

Society of Critical Care Medicine. March 19, 2020¹³

The demand for respiratory therapists during the COVID-19 crisis is driven by the need for management of mechanical ventilation for ICU patients, which in turn is affected by the availability of ventilators. Demand is difficult to project, because while respiratory therapists typically manage multiple patients on ventilators at a given time (varying depending on the hospital and acuity of the patients), the maximum number of patients one respiratory therapist can safely manage, including under a patient surge situation, is not clear.^{14,15}

Many rural areas have had concerns about access to respiratory therapists even before the COVID-19 emergency:¹⁶ Because of limited availability, rural patients often must travel to larger rural hospitals or urban hospitals to access respiratory care services, or do without the services. During a surge in patient demand, such as during the COVID-19 emergency, these access issues will likely be exacerbated. Additionally, the American Association for Respiratory Care has advocated that more rural patients with chronic respiratory disease could be supported to stay at home during the emergency and avoid COVID-19 infection if respiratory therapists were included among practitioners able to be reimbursed for telehealth services.¹⁷

Physicians, especially pulmonologists and intensivists, and nurses are key to providing care for patients suffering respiratory failure due to COVID-19, and can provide mechanical ventilation. Respiratory therapists, however, are specifically trained on the science and management of mechanical ventilation.

Expanding access to respiratory therapists' skills during an emergency, such as the COVID-19 pandemic, is being addressed in various ways by states. As the COVID-19 crisis evolves, we expect to see more states follow suit on these actions as well as other state and federal responses to meet the needs of patients.

Examples of State Approaches for Emergency Increases to Respiratory Therapist Workforce

Re-activate licenses for respiratory therapists who have recently left practice.

- North Carolina,¹⁸ Washington,¹⁹ Maryland²⁰

Continue uninterrupted practice by waiving continuing education and other training requirements

- Washington²¹

Speed processing of out-of-state reciprocity licenses

- North Carolina,²² Connecticut,²³ Florida,²⁴ Maryland,²⁵ Oregon²⁶

Authorize “respiratory therapist extenders”

- Michigan (Medical students, physical therapists, and emergency medical technicians authorized to volunteer or working under the supervision of physicians, respiratory therapists, or advanced practice registered nurses. Extenders may assist respiratory therapists and other health care professionals in the operation of ventilators or related devices.)²⁷

Expedite student transition into practice

- Washington (recent respiratory therapy graduates are able to practice for 90 days after course completion prior to passing the credentialing exam. Policy was in effect before the emergency).²⁸
- North Carolina (second year respiratory therapist students able to work as respiratory care assistants to expand capacity of therapists)²⁹

Extend license expiration dates

- Washington (expiration dates of licenses expiring between April and September extended to September)³⁰

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