



## Allied Health Workforce Projections, 2016-2030: Emergency Medical Technicians and Paramedics

This factsheet presents national-level supply and demand projections for emergency medical technicians and paramedics from 2016 through 2030 using HRSA's Health Workforce Simulation Model (HWSM).<sup>1</sup>

**Emergency medical technicians (EMTs) and paramedics** provide care to ill or injured people in emergency medical settings and are a vital component of the nation's Emergency Medical Services (EMS) system. They also help transport patients from a hospital to another hospital or other care setting (e.g., skilled nurse facility). The EMS workforce comprises both employed and volunteer workers, a feature unique in the healthcare sector.<sup>2</sup> While EMTs provide basic emergency medical care and transportation for patients, paramedics provide advanced emergency medical care such as intubation, oral and intravenous drug administration, and other procedures. EMT licensure typically requires 120 to 150 hours of training and passing a state certification test. Paramedic licensure requires an additional 1,200 to 1,800 hours of training and passing a state certification test.

### About the National Center for Health Workforce Analysis

The National Center for Health Workforce Analysis informs public and private sector decision-makers on health workforce issues 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. Visit the website: <https://bhw.hrsa.gov/national-center-health-workforce-analysis>

### METHODS

While the nuances of modeling workforce supply and demand differ for individual health occupations, the basic HWSM framework remains the same across all occupations. For supply modeling, the HWSM's major components include common labor-market factors like unemployment and new entrants to the workforce (e.g., newly trained EMTs and paramedics), demographic and geographic characteristics of the existing workforce, and workforce participation decisions (e.g., patterns in retirement and hours worked). Current data on the EMT and paramedic workforce lacks specification on new entrants, volunteers, cross-trained providers (e.g., law enforcement officers, firefighters), and burnout rates. Therefore, this factsheet does not include future supply projections for EMS occupations. Improvements in data sources and modeling methodologies may support EMS supply projections in the future.

For demand modeling, the HWSM assumes that demand equals supply in 2016,<sup>3</sup> and applies health care utilization patterns across future population demographics. The model provides demand projections under two scenarios: a "status quo" scenario (Scenario One) and an "evolving care delivery" scenario (Scenario Two).

<sup>1</sup> 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 behavior, and health risk factors that affect their health care utilization patterns. For more information on data and methods, please see: <https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/projections/hwsm-technical-report-to-dea.pdf>

<sup>2</sup> Composite descriptions of health occupations examined in this report are sourced from: Bureau of Labor Statistics. Occupational Outlook Handbook, EMT and Paramedics [online]. 2018. Accessed at <https://www.bls.gov/ooh/healthcare/emts-and-paramedics.htm>.

<sup>3</sup> The assumption that supply equals demand at baseline is a standard approach in workforce projection modelling. Please refer to: 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.

Under **Scenario One**, the model assumes that 2016 health care use and delivery patterns for EMS remain the same over the forecast period, and accounts for changes in population demographics and the commensurate shifts in EMS usage. This status quo scenario does not reflect potential changes in care utilization patterns in future years resulting from advancements in medicine and technology or shifts in health care delivery and payment models (e.g., team-based care, telemedicine).

**Scenario Two** builds upon Scenario One by incorporating the potential impact of evolving health care system trends and goals on EMS services. This includes assumptions related to improvement in population health (e.g. improved control of diabetes, modest reduction in excess body weight) and implementation of team-based care and continuum of care. Detailed information on the modeling of the evolving care delivery scenario can be found in an accompanying technical documentation report.<sup>4</sup> Both supply and demand are reported as full-time equivalents (FTEs). FTE estimates may differ from actual counts of persons who are employed or providing care.

These estimates do not capture changes in health care delivery patterns or disparities between supply and demand at localized geographic levels. Quantifying changes to demand due to innovations in health care delivery models, payment reform, team-based care, health-seeking behaviors, and other health system-level factors presents many challenges. HRSA will continue incorporating such factors into its future workforce projections as the evidence-base evolves and reliable data sources become available.

## FINDINGS

Nationally, approximately 262,340 EMTs and paramedics were estimated to be active in the U.S. workforce in 2016 (*Exhibit 1*). However, this number is an underestimate because it does not include volunteers and cross-trained providers.<sup>5</sup>

Under **Scenario One**, demand for EMTs and paramedics is expected to increase 17 percent to 305,770 FTEs in 2030, based on changing demographics alone (43,340 FTEs). Under **Scenario Two**, demand for EMS services is projected to increase 15 percent to 301,220 FTEs in 2030. In order to meet the demand in 2030 under both the status quo and the evolving care delivery scenarios, the EMS workforce would need to increase by approximately 40,000 FTEs.

**Exhibit 1. Projected Supply and Demand for Emergency Medical Technicians and Paramedics in the United States, 2016-2030**

	Scenario One (Status quo)	Scenario Two (Evolving care delivery)
<b>Supply</b>		
Estimated supply, 2016	262,340	262,340
<b>Demand</b>		
Estimated demand, 2016	262,430	262,430
Projected demand <sup>a</sup> , 2030	305,770	301,220
Changing demographics, 2016-2030	43,340	43,340
Achieving population health goals	NA	8,570
Avoidable hospitalization and ED use	NA	-13,120
Total growth (%), 2016-2030	43,340 (17%)	38,790 (15%)

<sup>4</sup> U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. Technical Documentation for HRSA's Health Workforce Simulation Model. Rockville, MD: U.S. Department of Health and Human Services, 2018. Available from: <https://bhwh.hrsa.gov/sites/default/files/bhw/nchwa/projections/hwsm-technical-report-to-dea.pdf>.

<sup>5</sup> Federal Interagency Committee on Emergency Medical Services. 2011 National EMS Assessment. U.S. Department of Transportation, National Highway Traffic Safety Administration. 2012. Available at [https://www.ems.gov/pdf/2011/National\\_EMS\\_Assessment\\_Final\\_Draft\\_12202011.pdf](https://www.ems.gov/pdf/2011/National_EMS_Assessment_Final_Draft_12202011.pdf)

Notes: All numbers reflect full time equivalents (FTEs). Numbers may not sum to totals due to rounding. NA denotes "not applicable".  
ED denotes "emergency department".  
<sup>a</sup> Demand growth for status quo scenario reflects changing demographics only.