

The Emergency Care Workforce in the United States

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EXECUTIVE SUMMARY

Emergency care systems in the United States include pre-hospital emergency services, emergency departments (EDs) in hospitals, freestanding urgent care centers, and teams dispatched by local, state, or federal governments or volunteer organizations such as the Red Cross in response to widespread emergency or disaster. Volunteers are used in pre-hospital settings as well, which contributes to the difficulty of estimating the number of providers. These systems employ physicians, registered nurses (RNs), physician assistants (PAs), advanced practice nurses (APNs), emergency medical technicians (EMTs) and paramedics, and emergency medical dispatchers.

The total number of workers in the emergency medical care workforce is difficult to estimate due to the limitations of existing data, but some figures that are available are presented below:

- In 2002, there were 25,500 self-identified emergency medicine physicians in the U.S.¹, although not all work in EDs. Many additional physicians are employed in EDs practicing a specialty other than emergency medicine.
- Approximately 95,000 RNs and 4,500 APNs (primarily nurse practitioners and clinical nurse specialists) worked in EDs nationwide in 2000.²
- There were an estimated 6,030 PAs in the emergency care workforce in 2003³;
- In 2003, State Offices of Emergency Medical Services reported approximately 757,000 individuals throughout the country licensed as EMTs or paramedics;⁴
- There were approximately 90,000 emergency medical dispatchers in the U.S. in 2003.⁵

The composition of the emergency medical care workforce varies dramatically by geography, particularly in terms of urban/rural location. The 10 most rural⁶ states had fewer emergency medicine physicians per 100,000 than the most urban states (an average of 7.7 versus 9.3 in 2002), but had more ED RNs (41.3 versus 28.0 in 2000) and more PAs in the emergency medicine workforce (1.3 versus 0.6 in 2003).

¹ American Medical Association, 2004.

² National Nurse Sample Survey, 2000.

³ AAPA. Does not include PAs working in a non-urgent setting who reported family practice with urgent care as a specialty.

⁴ Emergency Medical Services Magazine. Includes licensed EMTs not actively working as EMTs.

⁵ BLS, 2004.

⁶ In this context, “rural” refers to the percent of the state’s population living in nonmetropolitan areas.

**Average Emergency Care Personnel Per 100,000,
Ten Most Rural and Ten Most Urban States**

| | EM Physicians, 2002 | ED RNs, 2000 | EMPAs, 2003 | EMTs (registered), 2003 | EMTs (licensed), 2003 | EMDs, 2002 |
|-----------------------|---------------------|--------------|-------------|-------------------------|-----------------------|------------|
| Ten Most Rural States | 7.7 | 41.3 | 1.3 | 191.4 | 317.3 | 42.8 |
| Ten Most Urban States | 9.3 | 28.0 | 0.6 | 61.0 | 246.0 | 28.0 |

Given the increases in projected demand for emergency medical care services in the U.S. resulting from a variety of factors, several professions could potentially face shortages.

- Emergency care services are impacted by the current shortage of RNs. Some studies indicate that emergency departments are one of the most common locations of RN openings in hospitals.
- There are concerns that the supply of board-certified emergency physicians may not be adequate to meet demand. An annual survey of residents completing training in New York indicates a strong job market, with emergency medicine residents consistently reporting high levels of demand relative to other specialties between 1998 and 2002, although demand for emergency medicine graduates appears to be declining relative to other specialties.
- While EMTs are not generally seen as being in short supply, a 2004 survey of EMS directors in rural areas indicates that high rates of turnover make recruitment and retention of EMTs a continuing concern.

Physicians in the Emergency Care Workforce

Physicians providing emergency care may be either emergency medicine (EM) specialists or may be practicing other specialties in an emergency setting such as a hospital emergency department (ED) or an urgent care clinic. Some physicians work as medical directors in emergency medical services such as ambulance or rescue squads.

- Between 1990 and 2002, the number of EM physicians in the U.S. increased by 79%, while the number of EM medical residents increased 116% between 1989-90 and 2002-03. The number of certificates in emergency medicine issued by the American Board of Medical Specialties increased by 41% between 1997 and 2000.
- More physicians in EDs worked on a contract basis compared with physicians in other specialties in 2002. Nearly 20% of physicians reporting their specialty as EM worked as independent contractors, compared to 4% of all physicians. The practicing of hiring contract physicians for EDs is especially prevalent in rural areas.

- Emergency medicine physicians are less likely to be female than other physicians (20% versus 25%), despite being younger on average. There are significant differences in the racial/ethnic composition of emergency physicians and the patients they treat. In 2002, emergency medicine physicians in the U.S. were 4% Black/African-American and 4% Hispanic/Latino, compared to a general population that was 12% Black/African-American and 13% Hispanic/Latino.

Registered Nurses in the Emergency Care Workforce

Emergency department (ED) nurses are registered nurses (RNs) who work in hospital emergency departments. Some RNs also provide emergency care in urgent care centers or in the pre-hospital environment as transport nurses.

- The estimated number of RNs working in EDs as a primary work setting nationwide increased by 41%, from 67,249 to 94,912 between 1988 and 2000.
- RNs in EDs tended to be younger on average than other RNs (with a median age of 40 versus 43). The majority of ED RNs in the country (89%) was non-Hispanic White in 2000; 3% were Hispanic/Latino and 4% were Black/African-American, lower than the percentages in the general population. RNs in EDs were also more likely to be men than other RNs, although the percentage of men was still low (14%).

Physician Assistants and Advanced Practice Nurses in the Emergency Care Workforce

Physician assistants (PAs) and advanced practice nurses (APNs) provide medical care to patients under the supervision of a physician. The specialty of the PA reflects the specialty of their supervising physician.

- The vast majority of PAs in EDs in 2003 reported a specialty in emergency medicine (94%), followed by surgical specialties (2%). There is no formal PA certification program for EM at this time, and only one or two residency programs for PAs in EM. For most, specialty training is based on practice and experience. APNs in emergency settings in 2001 were most likely to report certifications as a family nurse practitioner (NP) (43%), acute care NP (13%), adult care NP (12%), critical care clinical nurse specialist (9%), or pediatric NP (7%). There is currently no option of certification for NPs in EM, although it is desired by those who complete the few training programs of this type.
- Approximately one-third of EDs in the U.S. employed physician assistants in 1999, while nurse practitioners worked in approximately 17% of EDs.
- Emergency care PAs were more likely than other PAs to be male in 2003, but were older on average than other PAs. The majority of PAs in the country were non-Hispanic White; 4% were Hispanic/Latino and 3% were Black/African-American, lower than their percentages in the general population. Very large numbers of emergency care PAs had a background in the Armed Forces.

Emergency Medical Technicians and Paramedics

Emergency medical technicians (EMTs) and paramedics are often the first providers of direct medical care to patients needing emergency treatment, although first responders, such as police and firefighters, may provide some basic care at the scene. EMTs may practice at various levels, from EMT-Basic to Paramedic. A substantial number of EMTs serve in a volunteer capacity; in 2003, it was estimated that more than one-third of registered EMTs in the U.S. were volunteers.

- The vast majority of EMTs in 2003 were non-Hispanic White, well above their percentage in the general population, while Blacks/African-Americans and Hispanics/Latinos were underrepresented relative to their percentage in the population.
- The number of EMTs grew between 1996 and 2003, and the Bureau of Labor Statistics projects that employment of EMTs and Paramedics will grow an additional 33.1% between 2002 and 2012, or by 59,000 new jobs. Total job openings for the period, including replacement positions, are estimated at 80,000.

There are several issues with potential to substantially affect future demand for emergency care services and workers, including:

- A growing concern about the potential for mass casualty incidents or bioterrorism threats, leading to more focused efforts in emergency preparedness planning;
- The aging of America, leading to a growing cohort of the population placing new demands on the emergency care system;
- The increasing racial and ethnic diversity of the nation, leading to greater concern about the cultural competence and diversity of the emergency care workforce;
- The lack of access to medical insurance, with higher rates of underinsurance and uninsurance leading to increasing use of EDs for non-emergency care;
- Current health workforce shortages and maldistribution of health care workers, which may worsen;
- The closings of hospital EDs; and
- The development and use of new health care technologies, which may potentially increase the efficiency and effectiveness of emergency medical care but which may also require new skills of emergency care personnel.