

## Rural Emergency Department Staffing: Potential Implications for the Quality of Emergency Care Provided in Rural Areas

### Key Findings

- The majority of rural hospitals use more than one type of staffing to cover their Emergency Department (ED), including combinations of physicians on their own medical staff, contracts with emergency physician management groups and with individual physicians, and physician assistants (PAs) and nurse practitioners (NPs).
- It is important to ensure that the family physicians, internists, PAs, NPs and nurses who staff rural EDs have the expertise and technical skills needed to provide evidence-based ED care.
- Rural ED staff would benefit from additional continuing education opportunities, particularly in terms of specialized skills to care for pediatric emergency patients and trauma patients and training in working effectively in teams.

### Background

The practice of emergency medicine presents many challenges in rural areas. Rural hospital emergency departments (EDs) must be staffed to handle a wide range of emergency situations, but other demands on rural physicians' time and limited ED patient volume may complicate ED staffing.

Critical access hospitals (CAHs) and other rural hospitals are subject to Medicare Conditions of Participation and Emergency Medical Treatment and Labor Act (EMTALA) regulations regarding the provision of emergency services.<sup>1</sup> Emergency services must be available in CAHs on a 24-hour a day, seven days a week basis. To provide emergency services, a physician or mid-level practitioner must be on call

and immediately available by telephone or radio contact and onsite at the CAH within 30 minutes except under certain well-defined circumstances. Other rural hospitals are not required to have an emergency department, but must meet the emergency needs of their patients in accordance with acceptable standards of practice. If a hospital has an emergency department, it must be supervised by a qualified member of the medical staff; and have adequate medical and nursing personnel qualified in emergency care to meet the written emergency procedures and needs anticipated by the facility. Hospitals without emergency departments must have policies and procedures in place for addressing emergency care needs 24 hours a day, seven days a week.

EMTALA regulations require all Medicare participating hospitals that offer emergency services, including CAHs, to medically screen and provide stabilizing treatment for emergency medical conditions, including active labor, regardless of an individual's ability to pay.

The quality of emergency care is an important issue for rural hospitals. At the national and state levels, increased policy interest in the quality of emergency care is evident in efforts to establish statewide trauma systems, promote the use of protocols for care provided in EDs, implement electronic medical records, and encourage or require reporting on quality measures involving care that may be provided in the ED setting.<sup>2-3</sup>

In a recent report on hospital-based emergency care, the Institute of Medicine expressed concern about the variability in initial and continuing education received by ED providers, and recommended that the U.S. Department of Health and Human Services, in partnership with professional organizations, develop national standards for core competencies that are applicable to physicians, nurses, and other key emergency and trauma professionals.<sup>4</sup>

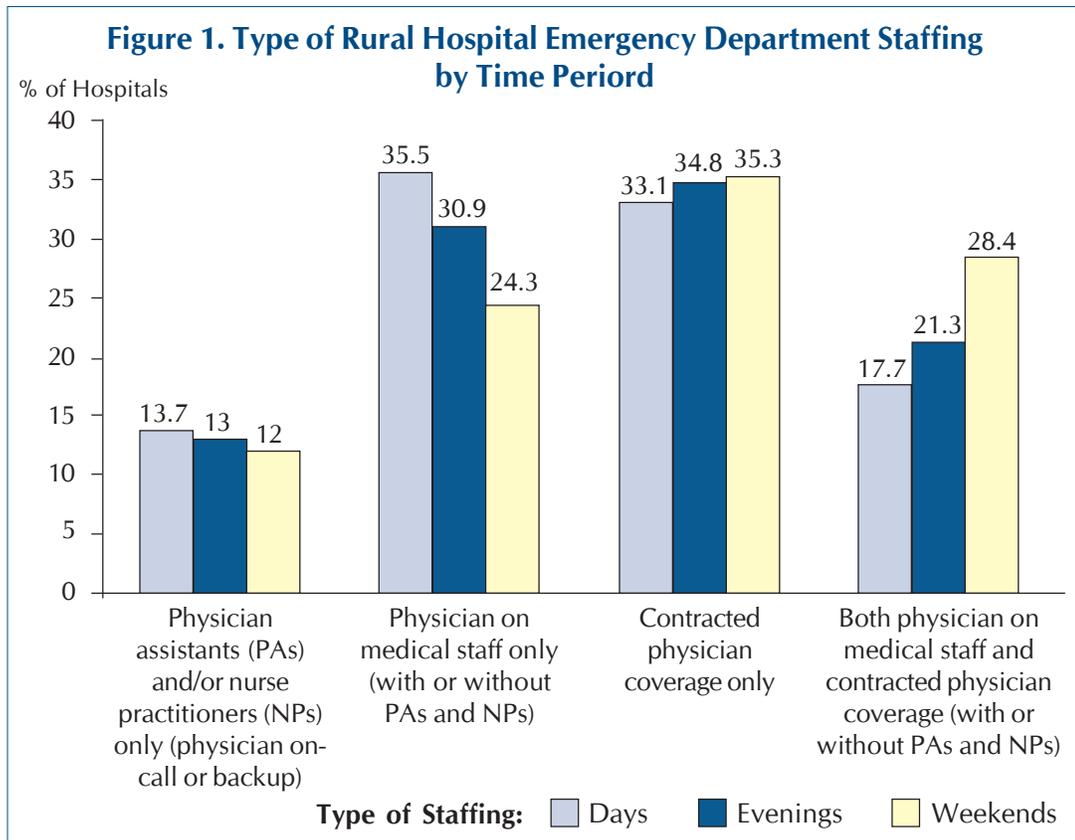
## Purpose of the Study and Approach

To describe rural emergency department staffing nationally and to assess the potential implications of staffing for the quality of emergency care provided in rural areas, a national telephone survey of a random sample of rural hospitals with less than 100 beds was conducted in June to August 2006. A total of 408 hospitals responded to the survey for a response rate of 95.8%. ED managers were asked about the volume of ED patients, type of staffing, training of ED physicians and other providers, specialty coverage arrangements, and the use of ED protocols and quality measures.

## Rural Emergency Department Staffing Results

Rural hospitals are using a variety of arrangements to staff their EDs, including combinations of physicians on their own medical staff, contracts with emergency physician management groups and with individual physicians, and physician assistants (PAs) and nurse practitioners (NPs).

In many rural hospitals, the type of ED staffing varies for weekdays, evenings, and weekends. The type of ED staffing also varies significantly by hospital characteristics including ownership type, region, and size. Smaller hospitals (with 25 or fewer beds) and those with lower ED volume are more likely to use regular medical staff only, while larger hospitals (with 26-99 beds) and those with higher ED volume are more likely to use contracted coverage either alone or with regular medical staff (Figure 1).



One-third of hospitals that contract for ED coverage indicate that their primary reason for contracting is an insufficient number of physicians on the medical staff or problems recruiting physicians to cover the ED. Other reasons for contracting include ensuring adequate, consistent or 24 hour ED coverage; providing relief for physicians; physicians are unwilling to cover the ED; and obtaining emergency medicine expertise.

## Certification and Training of ED Staff

Many of the surveyed hospitals provide emergency certification and training classes on site and arrange for ED staff to take courses at other facilities. Nearly all hospitals give ED nurses paid time off to attend classes, and pay either part or all of the costs of

classes. A significant number of hospitals also provide time off and cover costs for physicians taking courses.

The vast majority of hospitals report that most or all of their ED physicians, NPs and PAs have current Advanced Cardiac Life Support certification, but Pediatric Advanced Life Support and Advanced Trauma Life Support (ATLS) training and certification are less common. In over half of the hospitals, most or all of the registered nurses working in the ED have taken the Trauma Nursing Core Course; many fewer hospitals have a high percentage of nurses who have taken the Emergency Nursing Pediatric Course. Relatively few hospitals report that their ED staffs have had special training in working as a team such as the Rural Trauma Team Development Course, Comprehensive Advanced Life Support or in-house team training.

## Quality-Related Activities in Rural Emergency Departments

Surveyed hospitals were asked about three types of quality-related activities in their ED: 1) use of electronic medical records; 2) use of protocols for treatment of patients with three conditions frequently seen in EDs; and 3) assessment of ED performance on quality measures.

Eighty percent of surveyed hospitals report using a paper medical record in the ED, while 9% use an electronic medical record, and 11% use a combination of paper and electronic records. About two-thirds of the hospitals surveyed report using standard protocols for ED patients with pneumonia and trauma patients, compared to 94% that report using standard protocols for treatment of ED patients with chest pain or suspected acute myocardial infarction. Nearly all surveyed hospitals (98%) report that they assess ED performance on quality measures using medical record review.

## Policy Implications

For several reasons, it is not realistic to expect a significant increase in the number of board-certified emergency medicine physicians in rural areas in the near future. The overall supply is insufficient to keep up with growing demand, many rural states have no emergency medicine residency programs, and the low volume of many rural EDs means that it is not practical or financially feasible for them to use full-time board-certified emergency medicine physicians. Consequently, efforts to improve the quality of emergency care in rural areas will need to focus on ensuring that the family physicians, internists, PAs and NPs who comprise the majority of providers staffing rural EDs have the expertise and technical skills they need to provide evidence-based ED care, as well as training in working effectively in teams with nurses and other hospital staff.

The survey results suggest that continuing education is a priority for many medical and nursing staff who work in EDs and for the rural hospitals where they work. However,

continuing education opportunities need to be increased for some rural hospital ED staff, particularly in terms of specialized skills to care for children and trauma patients, and team training.

The timeliness of care is an important factor in emergency care. Respondents in 38% of surveyed hospitals indicated that physicians were not always physically present in the hospital when they were primarily responsible for ED coverage. This staffing pattern may reflect the reality of rural hospitals with a limited supply of physicians, other demands on their time and limited ED patient volume. Respondents in 91% of these hospitals report that physicians can always get to the ED when needed in an appropriate time (as defined by the respondent), but 9% of hospitals indicated that this is not always the case. Information about patient outcomes at these hospitals would be needed to assess the extent to which physician delays in reaching the ED negatively impact care.

Efforts to encourage use of standard protocols for treatment of ED patients with chest pain or suspected acute myocardial infarction (AMI) have been largely successful, with 94% of surveyed hospitals reporting that they use these protocols. The use of standard protocols for ED pneumonia patients is less widespread, with one-third of hospitals not using these protocols. Additional efforts to encourage the use of standard protocols for ED pneumonia patients should focus on hospitals with fewer beds and lower ED volume, which are less likely to report using pneumonia protocols. Increased attention to rural hospitals' reporting of data on national quality measures for both chest pain/AMI and pneumonia patients may also increase awareness of evidence-based practices for care of patients with these conditions and influence hospitals' use of standard protocols.

The use of ED protocols for trauma patients varies by state. Protocol use appears to be somewhat more common in states with trauma systems that include small rural hospitals, and as with ATLS training, may be the result, at least in part, of state trauma system requirements. Further analysis is necessary to more fully understand the potential implications of identified variations in protocol use, staffing patterns and training for the quality of care provided in rural hospital EDs.

## About the Study

A random national sample of 440 non-federal, general medical/surgical hospitals with 100 or fewer staffed beds located in rural areas was selected for the survey. Rural areas were based on the Office of Management and Budget non-metropolitan county definition. About half of the responding hospitals reported having between 16 and 25 beds; about 12% have 15 or fewer staffed beds; and 37% have over 25 beds. Seven percent of the hospitals are for-profit; the rest are government (42%) or not-for-profit (51%) hospitals. Sixty percent of the surveyed hospitals are critical access hospitals, and two-thirds of the hospitals have less than 10,000 annual ED visits.

The telephone survey interviews were conducted by the Survey Research Center at the University of Minnesota. Survey respondents included ED nurse managers/supervisors (72.1%), Directors of Nursing (22.5%), and other administrative and clinical staff with ED supervisory responsibilities, including Directors of Patient Care, Acute Care, Clinical Services, and Trauma (5.4%). For the analysis, the survey data were linked to Fiscal Year 2004 American Hospital Association Annual Survey data on hospital characteristics.

The information in this policy brief is based on Upper Midwest Rural Health Research Center Final Report #7 by Michelle Casey, MS; Douglas Wholey, PhD and Ira Moscovice, PhD.

## References

1. The Medicare Conditions of Participation for hospitals and critical access hospitals and EMTALA regulations are in the Code of Federal Regulations (42 C.F.R. 482.55, 2005, 42 C.F.R. 485.618, 2005, 42 C.F.R. 489.24, 2005).
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3. Schenkel, S. "Promoting Patient Safety and Preventing Medical Error in Emergency Departments." *Academic Emergency Medicine* 7:1204-1222, 2000.
4. Institute of Medicine, Committee on the Future of Emergency Care in the United States Health System. *Hospital-Based Emergency Care: At the Breaking Point*. Washington, DC: National Academies Press, 2006.

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