NC Rural Health Research & Policy Analysis Center

Findings Brief, May 2008

Challenges for Rural Emergency Medical Services: Medical Oversight

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BACKGROUND

EMS medical oversight or medical direction refers to the guidance and authority that supports the EMT and paramedic in the provision of prehospital care. Medical direction can occur both on-line and off-line. On-line medical direction is the guidance provided to EMS personnel for medical care in the field or during transport of a patient. Off-line medical direction is the administrative activity which serves to define and enforce standards of care, training, and operational policies for an EMS agency.

Medical oversight is an important factor in maintaining a prepared EMS workforce and in providing the leadership necessary to ensure the availability and quality of these important health care services. This Findings Brief examines the challenges faced by local rural EMS agencies in obtaining a medical director and ensuring medical oversight for EMS personnel. It also describes how the challenges faced in rural areas differ from those in urban ones. Data are from a survey of randomly chosen local EMS directors in both rural and urban areas of the country.

KEY FINDINGS

- More than 96% of respondent EMS systems have a designated medical director (DMD).
- Rural EMS agency directors are significantly less likely to report that their DMD is trained in emergency medicine (57% rural vs 82% urban) and more likely than urban directors to report that the medical specialty of their DMD is family or general medicine (31% rural vs 9% urban).
- In rural areas, 19% of respondents reported difficulty in recruiting a medical director compared to 10% in urban areas.
- Regardless of location, almost two-thirds of EMS directors who had difficulty recruiting a DMD reported that local physicians do not want to serve in this capacity.
- Rural EMS agencies are more likely than urban ones to receive on-line support from their medical director (46% vs 39%) and from their local hospital (33% vs 24%.) Only 6.5% of all directors, rural and urban, reported that they had no source for online medical direction.
- Just more than half (57%) of rural respondents reported that they could always get the on-line support they need, compared to 66% of urban respondents.

PROBLEMS OBTAINING A DESIGNATED MEDICAL DIRECTOR

Most EMS agencies reported that they have a designated medical director but rural agencies were twice as likely to have problems obtaining one. All-volunteer agencies, which are more commonly found in rural areas, were more likely to experience problems recruiting a DMD than were agencies where all staff are paid or those with a mix of volunteer and paid staff (24, 14, and 16% respectively). Among those reporting challenges, obstacles were similar in rural and urban settings (Table 1). Almost two-thirds (62%) of all respondents reported that local physicians did not want to serve as medical director. Overall, only 7% of local EMS directors noted that there were no physicians or midlevel practitioners available, but this barrier was more common in rural areas.

Table 1. Obstacles to Obtaining a Designated Medical Director for Those Reporting Difficulty

	Rural % N=141	Urban % N=68
Local or nearby physicians and mid-levels not willing	59.9	67.2
Cannot pay a DMD	40.9	39.3
No physicians or mid-levels in local area	9.1	1.6
Available physicians or mid-levels are not qulified	18.2	11.5
Other reasons	11.4	18.0

DESIGNATED MEDICAL DIRECTOR FUNCTIONS

Most EMS directors report that their DMD develops or adapts protocols and standing orders (Table 2). DMDs in rural areas were more likely to regularly review run reports for quality control and significantly more likely to review these reports in response to a complaint. Rural EMS directors are less likely, however, to report that their DMD provides other educational functions such as developing or implementing quality improvement programs. They were also less likely to report that their DMD stays up-to-date on state, regional, or local information or that s/he communicates with the local health care community.

Table 2. Designated Medical Director Functions

	Rural % N=741	Urban % N=684
Develop medical protocols and standing orders	78.3	78.3
Adapt existing protocols or standing orders for local use	77.6	75.5
Review patient EMS run reports in response to a complaint**	54.7	44.5
Stay up-to-date on state, regional or local information, changes in procedure, etc**	50.5	59.3
Communicate with local health care community**	44.4	51.5
Regularly review EMS run reports for quality control	43.4	39.3
Develop or implement quality improvement programs*	46.7	53.2
Provide continuing education for EMTs and paramedics**	32.8	42.9
Develop and implement agreements and protocols for disaster management, hazmat or mass casualty response	19.8	21.0

*rural-uban difference is significant at p<.05
**rural-urban difference is significant at p<.01

Rural and urban EMS directors did not differ in those functions that they want from a medical director but do not currently get. Overall, 29% of EMS directors want nothing more from their DMD. For those who do want additional involvement, the most commonly reported need among all agencies, regardless of location, was support for expanding the scope of practice for EMTs and paramedics in special circumstances (35%). About one-quarter of respondents want their medical director to provide continuing education or quality improvement programs and 18% want support for decisions that EMTs make in the field.

SOURCES OF ON-LINE MEDICAL DIRECTION

On-line medical direction is the guidance provided to EMS personnel for medical care in the field or during transport of a patient. About half of all agencies get online direction from ED staff at the receiving hospital (Table 3). There were significant differences between urban and rural EMS agencies in other sources of on-line medical direction. Rural EMS agencies are more likely than urban agencies to get on-line support from their medical director and from their local hospital; urban agencies are more likely to get on-line support from other hospitals. Only 6.5% of all local EMS agencies reported that they received no on-line medical direction.

Rural EMS agencies are more likely to encounter barriers to on-line help than are agencies in urban areas. Only 57% percent of rural respondents report that they can always get the on-line support they need compared to 66% of those from urban areas. The most common reason rural EMS agencies cannot get on-line support is difficulty getting a radio frequency or a cell phone signal. One quarter of respondents from rural EMS agencies reported this communication barrier compared to 15% of their urban counterparts. Other barriers to on-line medical direction cited by both rural and urban directors included no answer on the telephone or radio (17%), inability to get a physician who can authorize care (11%), and inability to get in touch with a physician who knows about EMS capabilities (6%).

Table 3. Sources of On-line Medical Direction for Local EMS Agencies

	Rural % N=741	Urban % N=684
Designated medical director**	45.7	38.8
Home hospital**	33.4	23.7
ED staff at receiving hospital	50.9	54.7
ED staff at non-receiving hospital**	6.1	11.2
Other**	2.2	5.3
No on-line medical direction	6.0	7.1

*rural-urban difference is significant at p<.05
**rural-urban difference is significant at p<.01

SOURCES OF OFF-LINE MEDICAL DIRECTION

The majority of EMS directors, regardless of geographic location, report that they get off-line medical direction from their DMD (Table 4). Both rural and urban EMS agencies also get off-line direction from their State EMS Office or Board. County or local EMS groups were reported under "other" as additional sources of off-line support. Hospital ED staff provide off-line medical direction for some EMS agencies but they are not the predominant source of this type of medical direction.

Table 4. Sources of Off-line Medical Direction for Local EMS Agencies

	Rural % N=741	Urban % N=684
Designated medical director	79.1	78.6
State EMS Office or Board	40.1	44.0
ED staff at local hospital	14.6	11.4
ED staff at hospital service area**	15.0	11.4
Other**	7.6	10.6
No off-line medical direction	3.6	3.4

*rural-urban different is significant at p<.05
**rural-urban difference is significant at p<.01

DISCUSSION AND POLICY IMPLICATIONS

Rural EMS directors are more likely than urban ones to have problems recruiting a DMD. The predominant barrier is not physician supply but the unwillingness of local physicians to assume this role. Among EMS directors who reported problems recruiting a DMD, there were no significant differences between urban and rural areas in the barriers reported. However other findings from the study suggest reasons why staffing the rural DMD position might be more difficult. Rural DMDs are less likely to be emergency medicine specialists, which is not surprising as physicians with this specialized training are less common in smaller communities. An implication of this finding, however, is that family medicine and general medicine physicians may be less comfortable serving in a role for which they were not specifically trained. In addition, rural physicians may be more reluctant to be EMS medical directors for volunteers who may work infrequently and whose competencies may require more frequent review and reinforcement.

The data suggest that rural physicians serving as DMDs have more demands on their time than their urban counterparts as they are significantly more likely to be relied upon for on-line medical direction. Added to that is the fact that rural medical practices, which often do not have the benefit of peer back-up, typically make substantial demands on physicians' time. Thus, the added on-call time of serving as a DMD, particularly in a volunteer capacity, may be more than many rural physicians are willing to take on. It is possible that regional programs for on-line support that decrease the demands on local DMDs would make recruiting and retaining these DMDs easier.

Lack of pay is an additional barrier to obtaining the services of a designated medical director. All-volunteer agencies were the most likely to report DMD recruitment problems followed by those that had a combination of paid and volunteer staff. Agencies that paid all their staff were the least likely to report problems. Many volunteer agencies are in what might be described as a Catch-22 situation. In order to raise the revenues to pay staff, maintain and improve equipment, and ensure a full range of services, full-time paid personnel are needed. Full-time administration requires the funds to pay such a staff. Running an EMS service in a rural area is an increasingly complex venture and reliance on the community spirit of volunteers to serve as DMD or as EMT staff may be stretched to its limits.

METHODS

A stratified random sample of local community-based EMS agency directors, identified from the National Association of State EMS Officials' list of licensed EMS agencies, was surveyed by mail. Ineligible systems include those based at airports or manufacturing plants, those associated with entertainment venues, e.g., racetracks, those that were part of military installations, and others not considered to be community-based services. Eligible EMS systems were classified as metropolitan (urban) or nonmetropolitan (rural) based on the county of their mailing address. The sample was stratified on metropolitan status; 1,250 agencies were chosen from metropolitan counties and 1,250 from nonmetropolitan counties. Surveys were completed by 57.2% (n=1,425) of those sampled with a higher response rate from nonmetropolitan areas (59.5%, n=741) compared to metropolitan areas (54.9%, n=684). Surveys were received from EMS directors in 47 states.

More detailed study results can be found in the final report "Issues in Staffing Emergency Medical Services: A National Survey of Local Rural and Urban EMS Directors" located at http://www.shepscenter.unc.edu/research_programs/rural_program/.

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