

Chapter 4

EMS Initiatives Under the Flex Grant Program

Julie A. Schoenman, Ph.D., Penny E. Mohr, M.A.,
Curt D. Mueller, Ph.D., and Meredith Milet, B.A.
The Project HOPE Walsh Center for Rural Health Analysis

Introduction

The emergency medical services (EMS) tracking work during this past year has been focused on two objectives. First, we have worked to provide an overview of how states are using their Flex grant funds to further the program objective of strengthening rural EMS systems. Second, we have sought to highlight selected state initiatives designed to address at least one of three areas that have long been challenges for rural EMS systems: (1) EMS system financing, (2) recruitment and retention of EMS personnel, and (3) the need for improved networking and coordination between EMS providers and with other providers. These three problem areas were clearly identified during all prior site visits and in the findings of the Tracking Team's Year 2 critical access hospital (CAH) administrator survey, and have recently been highlighted in the recommendations of the EMS Task Force of the National Organization of State Offices of Rural Health (NOSORH).

Study Methods

We began our work by reviewing the Year 3 proposals submitted to the Federal Office of Rural Health Policy (FORHP) by the 47 states participating in the Flex grant program. Information on proposed EMS activities, requested EMS budget and total budget request was summarized in a state-by-state table. Based on this information, we developed a list of states proposing activities in the three topic areas of interest (or whose proposals discussed relevant activities that had been initiated during prior years). Representatives of these states were contacted to assess the status of their activities. Finally, we selected one state per topic area for in-depth follow-up via a site visit including: North Carolina for system financing, Minnesota for recruitment and retention efforts, and Kansas for network development. The site visits were conducted between late March and early May 2002 to allow as much time as possible for states to implement proposed activities.

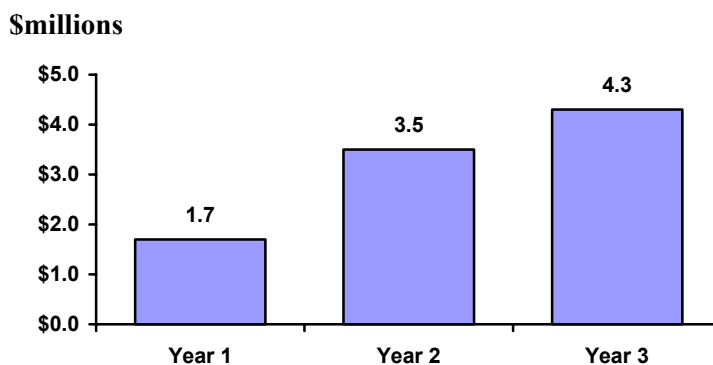
EMS Activities Proposed by States in Year 3

Proposed EMS Budgets

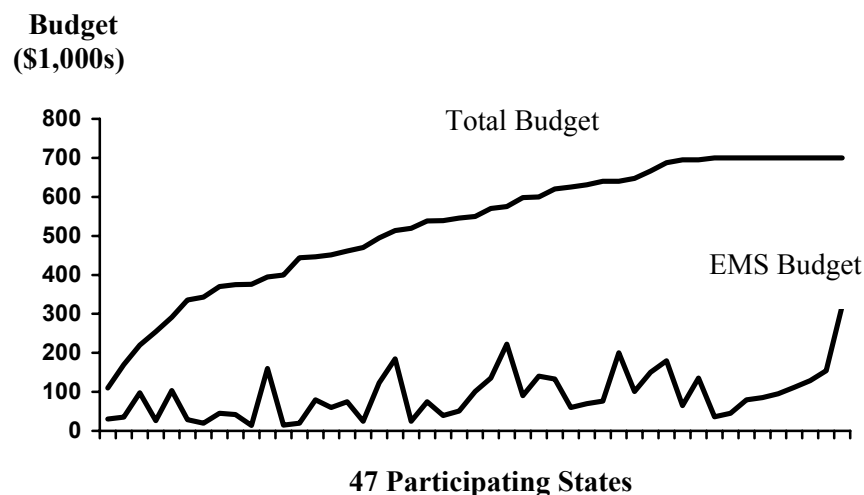
Based on our review of the Year 3 proposals, we estimate that states proposed to spend \$4.3 million on EMS activities, or approximately 17 percent of their total request of \$24.8 million. This \$4.3 million figure is an estimate because the states' budgeting information was not always presented in a consistent way. For example, some states specifically allocated their general administrative costs to the five required program areas (e.g., EMS, networking), while others did not. Likewise, in addition to funds earmarked for EMS, some states may also end up funding EMS-related activities as part of their networking or quality initiatives. Typically, this would occur if states were awarding networking or quality mini-grants for which EMS is identified as a priority area. In such situations, the additional funds supporting EMS improvements cannot be identified from the state proposal. For these reasons, the \$4.3 million figure could be an underestimate of the funds being spent on EMS during Year 3.

However, the \$4.3 million estimate represents the amount *requested* by states explicitly for EMS. Actual awards to most states were less than requested, possibly necessitating reductions in proposed scopes of work, including plans for EMS. Additionally, implementation of even those proposed activities that were fully funded may be delayed for any number of reasons, so that not all budgeted EMS expenditures were actually incurred during Year 3.

Figure 1. Requested EMS Budgets by Flex Program Year



When measured against similar estimates for Years 1 and 2, however, we see evidence that states have been proposing to spend increasing amounts of their Flex grants on EMS over the life of the grant program (Figure 1). Proposed EMS spending more than doubled in the first two years of the program, and increased by another 23 percent between Years 2 and 3.

Figure 2. States' Requested EMS Budgets Relative to Total Budgets Requested

We also noted wide variation across states in their proposed EMS budgets in Year 3, ranging from a low of only \$14,000 to a high of \$321,000. The mean EMS budget was \$80,000, however, and the median was just over \$91,000, indicating that most states were clustered toward the lower end of the range.

In addition to wide variation in the absolute amounts requested for EMS activities, states also varied widely in the proportion of their total budget that they proposed to spend on EMS. Figure 2 arrays the 47 participating states in ascending order of their total budget request (the top line), from a low of \$110,000 to a cluster of states that requested the maximum of \$700,000. The jagged line at the bottom of the figure represents each state's EMS budget request. It is immediately apparent that there was not a strong relationship between the total budget and the EMS budget. Some lower budget states proposed to spend relatively large proportions of their total Flex grant funds on EMS, while some of the higher budget states proposed to spend relatively little on EMS.

Proposed EMS Activities

A complete listing of proposed EMS activities is presented in Table 1 at the end of this chapter. The activities described in the table are similar to those proposed in Year 2 of the program, suggesting that states are building upon their earlier efforts (Schoenman et al., 2001).

As in Year 2, it appears that training programs were the most popular activity. These programs continue to cover virtually all areas of EMS clinical and management activities, including initial and continuing education for first responders to paramedics, instruction in medical direction and dispatch, trauma training for hospital emergency department personnel, and courses to assist leaders of EMS squads, those responsible for billing, and those charged with entering run data into trauma data collection systems. Additionally, a number of states are implementing "bridge" training programs that facilitate paramedics becoming licensed as RNs; personnel who are dually

trained as paramedics and RNs become particularly valuable because they can help to staff hospital emergency departments and still be available for emergency runs when needed.

Nearly all states implementing training programs are working to ensure that this training is as accessible and convenient as possible to personnel in remote areas, by using distance learning mechanisms such as video conferencing and computerized training packages, and/or by offering the courses in rural communities. Frequently, these courses are conducted in conjunction with a CAH, and involve hospital staff as well as non-hospital emergency personnel. Training sessions that could be attended by staff of several neighboring EMS agencies were also popular, and have the added benefit of promoting cooperation between these providers. Finally, some states are making small grants or scholarships available to students to offset the cost of training. Receipt of this type of support is usually linked with a requirement to remain active in the community as an EMS provider for a fixed amount of time (one to two years).

EMS needs assessments also continued to be an important activity in Year 3. In general, such assessments are designed to evaluate EMS performance systematically along a number of critical dimensions, identify shortcomings, and design and implement strategies to address these shortcomings. Most states are building upon prior experience by conducting these assessments in additional CAH communities as new hospitals join the program, or by completing assessments initiated in Year 2. A few other states are just beginning the assessment process, either for all rural communities in the state or for all CAH communities.

A number of states are using Flex grant funds to implement data collection systems. Typically these systems focus on computerized entry of trip report data from the ambulance run, and some states are attempting to link the run data with hospital data. These systems can be used for quality assessments and outcomes studies, as well as for quality improvement initiatives. Implementation support includes not only the design of the system but also the purchase of computer hardware and software, and training of personnel in the use of the software.

Several states are also working to implement computerized billing systems, some of which could be linked with the trip report data. A few other states, while not implementing formal billing systems, are providing technical assistance and education to providers who wish to enhance their EMS billing and collections.

Flex grant funds were also used by many states to purchase equipment needed by their rural EMS systems. Computers were probably the most popular equipment purchase, as they could be used for distance learning as well as for data collection and billing systems. Other items of equipment included video conferencing equipment, communications equipment such as pagers and radios, equipment needed for EMS training courses, automated external defibrillators, and other small items needed for ambulances or hospital emergency departments.

A small number of states proposed to use Flex money to support assessments of ways to better integrate CAH and EMS activities, including several studies of the feasibility of having the local ambulance service(s) be owned and operated by the CAH. Several states were also using Flex funds to begin or continue development of a statewide trauma system (usually in conjunction

with development of a data collection system). Finally, a few states were promoting the use of paramedics in settings such as hospital emergency departments and outpatient clinics when they were not needed for an emergency run.

The majority of states are carrying out their EMS activities through “mini-grant” programs in which applicants submit proposals in response to a state solicitation outlining program priorities and requirements. States vary in regard to who is eligible for these grants; awards have been made not only to CAHs but also to other hospitals, EMS providers, trauma system organizations, county governments, and other entities. Some states explicitly require the application to represent a collaboration between two or more of these types of entities in order to promote more extensive networking.

We are also observing that states that are the most active in the EMS area appear to be working closely with their state EMS Office; during site visits conducted by the Tracking Team in the past three years, many states have indicated that the Flex Program has been a very strong catalyst for enhancing the working relationship between the EMS Office and the Federal Office of Rural Health. The most active states also appear to be committed to providing technical assistance and education to EMS providers, hospitals, and others regarding EMS issues and ways that the Flex Program could be used to improve EMS systems. This assistance is being offered through workshops and conferences, videos and manuals produced and distributed by the states, and through many one-on-one site visits to local communities.

Efforts to Enhance Revenue Collection Among Rural EMS Providers

Nature of the Problem

More than a decade ago, a comprehensive report on rural EMS identified the lack of local resources as a major factor contributing to the fragility of pre-hospital emergency systems in rural areas (Office of Technology Assessment, 1989). Since that time, financing difficulties have continued to pose a problem for rural EMS providers. Nearly half of the state EMS directors responding to a recent survey stated that obtaining adequate financing, reimbursement, or compensation were either the most or the second-most pressing needs of rural EMS systems (National Association of State EMS Directors, 2000). Although much of the information about financing rural EMS systems is anecdotal, these systems have typically relied upon bake sales, donations, and local taxes to survive. Many rural systems reportedly have a limited ability to enhance revenue through local subsidies and donations. Nationally, the percentage of rural EMS systems that bill for transports is unknown, but occasional state surveys show marked variation. Some states report that very few rural ambulance firms bill for services (Firch, personal communication, 2002), while others, such as Michigan and Wyoming, report that only one-third to one-quarter of rural firms do not bill (Wingrove, 2002; Ostby, personal communication, 2002). However, collection rates among firms that do bill can be low. In North Carolina, for example, the average collection rate is 25 percent (Mears, personal communication, 2000).

Although billing for transports and enhancing existing revenue collection may not be panaceas, they may be important first steps toward ensuring the financial stability of rural EMS. Many studies have found that difficulties with recruiting and retaining EMS personnel is the most immediate problem faced by rural EMS squads (NASEMSD, 2000; Schoenman et al., 2001; NOSORH, 2002), and this fact has forced some communities to move toward a paid- or part-paid staffing model. As moving toward a paid system may double typical operating expenses (Mohr et al., 2000), some believe it is essential to bill for transports to afford this transition. For these reasons, many state EMS offices in partnership with state offices of rural health are working to expand the number of ambulance services that bill for transports and to improve the collection rate of those that bill. In studying Flex-funded efforts to improve billing and collections, Walsh Center staff sought to answer the following research questions:

- What lessons have Flex Program participants learned regarding obstacles to enhancing revenue collection in rural EMS systems?
- What alternative methods are states using to enhance revenue collection from ambulance transport fees?
- What lessons have been learned regarding the strengths and weaknesses of these various approaches?
- What are the implications of these findings for other states as they consider their own options for enhancing revenue collection?

Obstacles to Billing and Enhancing Collections

Whether through conducting needs assessments and convening work groups, or through less formal contacts with rural EMS providers, state officials have identified several major obstacles to expanding the use of billing as a revenue tool. With respect to taking the first step toward implementing a billing system, communities may resist establishing transport fees for services that have, historically, been provided for free. Concerns may arise about increasing barriers to care for the community's indigent population, who are traditionally heavy users of the EMS system. In addition, providers that do not currently bill fear they will lose income from donations, local subsidies, and subscription fees. Another consideration is that once a firm begins to bill for services, EMS personnel in some states lose liability protection provided under Good Samaritan laws.

While some income loss from other sources might be expected, several persons interviewed said the potential revenue gain from charging for services usually far outweighs the income loss. Illustratively, one squad in North Carolina lost \$500 in monthly donations, but gained \$5,000 per month in collections (Turnage, personal communication, 2002). Similarly, according to one informant, community resistance may not be as large a barrier as it first seems. A simple message for the community is that there are two parts to an EMS system: one is the standby capacity needed for rescue and emergency response and the other is the ambulance transport. The former should be paid for through subsidies and donations and the latter through fees.

Perhaps a larger barrier to billing is the fact that EMS firms in rural areas are largely staffed by volunteers. Many volunteers do not view EMS as a business, and they were not drawn to becoming an EMT or a paramedic for the management opportunities it might offer. They often have little knowledge or experience with third party payment issues. Moreover, a significant amount of time is required to keep abreast of changes in billing regulations across insurers (Ramirez, personal communication, 2002). A high level of staff turnover and the financial and legal consequences of billing errors further complicate the issue.

Once a community has made a decision to bill, it is often difficult to attain a high collection rate. In small communities, where everyone knows their neighbor, EMS providers may find it hard to take the business-like steps necessary to improve collections. Also, there is often a lack of computer resources and technical expertise among small rural firms. The pen-and-paper billing systems used by many volunteer squads are prone to error, and result in a high proportion of rejected claims. Because of the time required to follow up on rejected claims, if a claim is returned due to filing or billing errors, these services often do not resubmit the claim.

State Plans to Improve EMS Billing

During the first three years of the Flex Program, at least one-third of grant recipients (16) proposed to spend some of their grant money to enhance revenue collection among EMS providers.¹ Grant recipients proposed a wide array of activities to meet this objective, ranging from hosting work groups to share ideas about billing to providing seed money to facilitate the consolidation of billing functions across several squads. The broad areas of assistance proposed included:

- Placing laptop computers in rural EMS squads, some of which include software with billing capabilities (Alaska, Maryland, North Dakota, South Dakota, Wyoming);
- Providing technical assistance, either by hosting training conferences and workshops (Alaska, Nebraska, Oregon) or by providing a forum, or a central point of contact, to enable rural EMS providers to learn about billing from others in the state with experience in this area (Alaska, Maryland);
- Facilitating vertical integration (Missouri, Minnesota, Michigan, Georgia, Kansas); and
- Facilitating horizontal integration (Alaska, Illinois, North Carolina, Kansas; Iowa, West Virginia).

Details of these activities are provided below.

¹ It is likely that more states are conducting billing-related activities than what we report. If their proposal did not explicitly state that enhancing billing was an objective of the activity, we did not include them in this part of our study. However, many states did propose to enhance data collection, and this indirectly may improve billing capabilities. Similarly, other networking activities may have been proposed that have either a direct or indirect effect on improving billing systems.

Enhancing Computing Capabilities: Several states are using Flex funds to place laptop computers, palm pilots, and software in local EMS squads. Although the main objective is typically to collect more accurate state-level trip report data and improve the use of pre-hospital emergency services, in some states the software that is being distributed also contains billing capabilities. In other states, simply improving computing capabilities is expected to lead to enhanced revenue collection. While local squads will still need to purchase their own billing software, an electronic system is expected to markedly improve the accuracy of claims submissions, reduce the proportion of rejected claims, and reduce staff time needed to prepare bills. Both Maryland and North Dakota are pursuing web-based applications, which will eliminate data entry at the state level. In Maryland, an additional benefit of the software is that it will provide information on patient outcomes and quality indicators. Ultimately, it will be possible to merge run data with emergency department records, which will provide important information for outcomes research in EMS.

Maryland has already let a contract for the design of the software, and computers have been purchased for seven rural counties using Flex funds. The data collection system is expected to be in place in these counties by the end of 2002. Computers have already been distributed in Wyoming; however, in South Dakota and North Dakota, progress has been delayed. Some of the difficulties encountered there have been the lack of computer knowledge among EMS personnel, political tensions in deciding which EMS systems will receive the first computers, and delays in the design of the data collection software. North Carolina, which developed data collection software with funds outside of the Flex Program, also found that it is difficult to design a system that is competitive with commercial packages and that offers the degree of flexibility and functionality required by EMS providers. Data collection software developed by that state has been slow to diffuse. Incompatibility with popular commercial billing software was one factor contributing to its lack of success.

Providing Technical Assistance: Many states have used their Flex funds to host billing conferences or workshops, which may be a very cost-effective way to help EMS providers beginning to bill for services. Oregon, for example, estimates that the total cost of one of its two regional workshops—excluding the costs of transport for participants—will be less than \$3,000. To reduce travel costs, Alaska has hosted its billing workshops in conjunction with the state EMS symposium. As a result, these seminars have attracted a large number of participants from around the state. The goals of these workshops vary, but many serve to educate EMS providers about the various options available to them to begin billing. Others offer detailed information about Medicare regulations and patient coding and documentation. These seminars also have been useful in facilitating connections for providers who would like to begin billing. In Iowa, the state is actively trying to convince ambulance providers of the necessity of billing. A core message of their seminars is that without money for operations, the EMS personnel will be unable to realize their missions.

Some of these billing seminars are being conducted by larger rural EMS providers and third-party billing companies that have long-term experience in billing in the state. These billing firms may potentially expand their customer base at the same time that they are teaching small providers about the issues. State involvement can help to minimize conflicts of interest and

ensure that the educational content is unbiased. In Illinois, for example, while a third-party billing company is conducting the seminar, it informs providers about all of their other options as well. One useful piece of advice this company has offered is that the terms of contracts with third-party agents are not always transparent during negotiations (Fitch and Associates, 2002). Providers are urged to inquire about additional charges that may be levied for crew training and scanning services, as well as set-up fees for data collection and per-account fees. Nebraska and Illinois are both encouraging providers to use third-party billing companies. They note, however, that one of the downsides to these companies is that they may not be very responsive to patients, particularly the elderly, who have questions regarding their bills.

Although not using Flex funds to do so, both Maryland and North Dakota also maintain a central list of billing providers. These lists are seen as a way to facilitate contacts between small ambulance providers and EMS entities that have experience billing and are willing to offer assistance to others.

One of the difficulties states have had with these activities has been locating the right person with the expertise to head the seminars. Clearly, states that have gained a great deal of expertise in this area, such as Alaska, can offer valuable advice to other states with less experience in this area as the Flex Program moves forward. Alaska has hosted at least five separate sessions and brought in experts from as far away as Maryland and Georgia. None of the states have evaluated the extent to which these seminars have changed billing behavior or improved collections. However, in several states, participants have reported a high degree of satisfaction with the content of the sessions.

Facilitating Horizontal Integration: Economies of scale are possible when several ambulance services consolidate billing and other operations. An Illinois billing consultant estimates that the breakeven point for a stand-alone service to handle its own billing operations is 15,000 transports per year (Fitch and Associates, 2002)—a scale of operation that is more than ten times as large as that of the average Medicare-billing rural provider (Mohr et al., 2000). When several EMS providers agree to use the same third-party billing company, economies can be achieved by adopting the same data processing standards, which may lead to discounts from the third-party agent. For these reasons, several states are promoting horizontal integration among EMS providers. Although keeping these networks together takes time and leadership, the benefits can be considerable.

Mini-grants are being provided by at least six states to facilitate collaboration among small rural EMS providers. In Iowa, Flex funds have mainly enabled groups to begin the process of discussing shared services, although there have been some early success stories that have moved beyond the discussion phase. In one Iowa County, for example, a private EMS service is now doing the billing for all local squads. Flex funds are supporting a half-time county coordinator for the consortium. In southwest Minnesota, three CAHs have combined to share a single management system and share one administrator. Discussions are underway to consolidate the EMS systems of these hospitals. A Flex grant in Kansas has supported an effort to bring together five ambulance squads to share billing operations and other services. (This EMS networking project is discussed in detail in a later section of this chapter.)

In Illinois, Flex funds are supporting a cooperative regional EMS billing project in the West Central part of the state. The goal of this project is to produce a self-sustaining regional billing system that can be replicated in other areas of the state. To date, Illinois has hosted a workshop that brought together the key players in the region. Currently, it is envisioned that this regional consortium would share a common third-party billing company. However, EMS providers in the region have been slow to take the necessary steps to build the consortium, and progress has been delayed.

Perhaps the largest barrier to forming horizontal networks is local political resistance. Both Georgia and Iowa—among others—have found that the term “regionalization” can be threatening to some counties or EMS squads, which fear loss of control. “System development” or “shared services” have been more acceptable terms. Even so, concrete examples where independent services have developed a complete centralized billing system are rare, and strong local leadership may be an essential prerequisite to their success.

Facilitating Vertical Integration: Vertical integration is also being encouraged, either by promoting mergers between hospitals and their supporting EMS systems or by establishing an alliance with a hospital or other provider to conduct the EMS billing. Among the many potential benefits of merging with a hospital, a formal merger with the local CAH could provide cost-based Medicare reimbursement for ambulance providers (as long as there are no other EMS providers within a 35-mile radius) and yield access to an experienced full-time billing staff. Other potential benefits of hospital acquisition of the local EMS system were discussed at length in the Year 2 Tracking Project report (Schoenman et al., 2001). In that report we highlighted a successful merger that occurred in West Virginia (under the Essential Access Community Hospital/Rural Primary Care Hospital program that predated the Flex Program), but also noted that resistance from independent squads was likely. Notably in Missouri, Flex money was used to study the financial consequences of merging the independent EMS squads with the local CAH, in the hope of receiving cost-based reimbursement and improving revenue. Despite finding that an additional \$150,000 in Medicare revenue would be available for EMS transports if a merger took place, local political resistance eventually blocked the merger (Backer, personal communication, 2002).

Hospitals have long forged alliances with their supporting EMS providers to provide a variety of services, including emergency medical staff training, supplies acquisition, and the provision of billing services. The Flex Program, with its emphasis on network development, has proven to be a good vehicle for fostering these relationships. In Pocahontas County, Iowa, Flex Program funds were used to plan the development of a cooperative billing service spearheaded by the local CAH, which also has its own transport service. The hospital offered the expertise of its own billing department to seven independent squads in nearby areas. Currently, five of the seven squads have joined with the hospital in a billing cooperative.

Such cooperative billing services may have their downsides, however, particularly if the local hospital does not currently operate its own transport service. Hospitals that have not previously billed for EMS may face a steep learning curve in understanding the idiosyncrasies of EMS billing. Also, if hospitals do not own the ambulance system, they may not pursue collections as

aggressively as might be done by independent EMS providers. Finally, it is often difficult to disaggregate the EMS revenue from the revenue arising from hospital operations, which complicates financial planning for the EMS provider.

North Carolina: A Case Study in Horizontal Integration

In Halifax County, North Carolina, six previously independent EMS squads were merged into a county-run system in January 2000. There were many goals for this consolidation, including improving the consistency of response times and the quality of pre-hospital care across the county. In addition, a predominantly volunteer force was replaced by a paid paramedic staff. To help finance this change, a 2.5 percent property tax already levied in some districts for EMS was expanded to the entire county. Also, by combining administrative functions, it was hoped that revenue collections would improve and a greater proportion of the EMS provider's income would be derived from transport fees. A small amount of Flex money during the first two years of the program (\$30,000) was used to offset the costs of an improved billing department, including the purchase of software for trip reporting and billing. Changes occurring in this county were highlighted in the previous two years of Tracking Team reports, and we thought it would be enlightening to detail its progress after three years, particularly since so many other billing-related projects were just beginning in other states.

As previously reported, about 50 to 60 percent of Halifax county residents are covered by Medicare, 38 percent are covered by Medicaid (with many being eligible for both public programs), and many of the remaining residents are uninsured. Although the county is sparsely populated, it spans a relatively large geographic area, and the current number of transports per year (9,300) is substantially larger than the number provided by average rural ambulance service (1,200) (Mohr et al., 2000). Prior to the county merger, fees for transports varied widely, and collection rates for the squads that billed ranged from 20 percent to 60 percent; two squads did not bill and one billed only for transports that occurred during the day. Halifax County EMS hoped to achieve a countywide collection rate of 64 percent by the second year of operations, earning transport fees that would cover approximately 54 percent of its operating costs (Mitchell, personal communication, 2002).

Halifax County EMS never considered any alternatives other than enhancing its internal billing capability, such as using a third-party billing company or allying with a hospital for billing services. At least one squad in the county had been billing since 1987, and it already had the basic infrastructure in place, including a trained and dedicated billing staff, a billing office, and a claims filing system. The objective of Halifax County EMS was to build on the system they already had in order to extend it to other parts of the county. One of the advantages they saw to building their internal billing capacity was that their business' interests would be at the forefront of staff concerns, as opposed to relying on a hospital or third-party billing company that may view Halifax County EMS as a minor priority relative to their overall billing operations.

Billing System Costs: Once the county merger took place, Halifax County EMS made several changes to its billing department to improve revenue from transport fees. In addition to hiring one more full-time dedicated billing person, it:

- Dramatically increased transport fees;
- Established unique patient identification numbers that are used every time a patient is transported, so that residence and insurance information would be more readily available;
- Attained legal permission from the county to garner wages for unpaid fees; and
- Adopted an electronic data entry system in the field, which provides trip report data that can be uploaded to billing software.

Currently, the total annual cost of maintaining its billing office is about \$200,000, or about 8 percent of its operating revenue. This money covers the salaries and benefits of four full-time equivalent staff that are dedicated to data entry, filing, billing and collections; the costs of billing and trip report software; and other supplies. According to the EMS Director, the billing and trip report software has been a tremendously important component of their billing system. He believes that accurately billing Medicare would be extremely difficult without this capability.

Halifax County EMS also experienced indirect costs by moving to a countywide system. These included the loss of donations in areas that previously had not been billing and additional malpractice expenses. The lost revenue from donations amounted to about \$38,000 per year. By moving to a paid system and losing the Good Samaritan status previously available to volunteers, the county now has to pay about \$15,000 annually to cover 115 people for medical liability insurance.

Impact on Collections: Despite high expectations, Halifax County EMS has found it very difficult to increase its collection rate. Over these first three years, it moved its overall collection rate from about 50 percent to 52 percent. According to Walsh Center staff calculations, its billing department improvements cost them nearly twice as much as the revenue it brought in; collections improved by less than 1 percent. Part of the difficulty was that in areas of the county where fees had previously not been charged, residents were poorer and less able to pay. Also, among residents who were reluctant to pay, it was much more difficult to change their behavior than anticipated. Notably, it cost them about 22 percent of their transport revenue to maintain their billing office.

As a result of these difficulties, the county is now considering using a third-party agency for billing and collections. The firm it is planning to use will charge \$9 per bill and 20 percent of the revenue derived from bills turned over to collections. According to Walsh Center calculations, this fee structure will cost about 10 percent of the total revenue brought in from transport fees, or about 43 percent less than the cost of maintaining its own billing staff. These estimates assume collections will increase by about 25 percent. Another factor precipitating the movement toward a third-party billing company is the increased complexity of billing with Medicare and Health Insurance Portability and Accountability Act (HIPAA) regulations, as the consequences of making an error have become more costly in recent years.

Lessons Learned: Halifax County EMS achieved many of its goals by consolidating operations across the six independent squads. Response times have been dramatically reduced and

advanced life support (ALS) capabilities are now available throughout the county—both important advances for the quality of patient care. However, it has been more difficult than anticipated to enhance revenue collections. County planners have learned many valuable lessons by this experience. Because of the relative poverty of areas to which they were extending transport fees and because the population that had not previously paid bills was found to be particularly reluctant or unable to pay, it may be difficult to attain the 64 percent collection rate they had targeted. The EMS Director also noted that it is difficult to enhance collections when billing staff know the patients involved and when their salaries are not tied to their performance in enhancing collections.

Halifax County EMS would advise other small, rural EMS systems to be cautious about implementing their own billing systems. According to their experience, third-party billing agencies may be more economical in the long run. Additionally, new Federal regulations have changed the relative costs and benefits of doing one's own billing, shifting the advantage toward outside firms with more expertise in these areas. Despite these cautionary notes, the EMS Director believes if a small rural firm moves toward a paid system (e.g., to upgrade to ALS, help recruit and retain staff, etc.), it will have to charge for transports, even if this step only partially funds the system costs.

Implications for Other States

As the case study for North Carolina illustrates, improving billing systems may help to alleviate some financing problems, but it is unlikely to be a panacea. Rural ambulance firms will probably continue to need local subsidies and donations to survive. However, successful billing operations can be developed, and this can help rural EMS squads to better compensate their emergency medical technicians (EMTs) and paramedics. As states move to encourage EMS billing as part of their Flex Program initiatives, we need to know more about the relative advantages and disadvantages of the various approaches. Although Halifax County EMS found that the use of a third-party billing company may be more cost-effective, and this option is actively being promoted by some states, this may not be the best approach for all situations. Under what circumstances does it make sense to develop horizontal networks that rely upon their own administrative resources? What are the key elements required for successful vertical integration of billing functions? States have not yet conducted systematic evaluations of their Flex-funded efforts, which would be helpful for informing future decisions.

Somewhat unexpectedly, there does not appear to have been a good forum to facilitate the sharing of ideas about specific EMS programs to date. Although the Flex Program Technical Assistance and Services Center (TASC) and NOSORH have both hosted conferences that included rural EMS improvements as a topic, many of the state officials we interviewed were unaware of the accomplishments that have been made in this area by states that are further along. As a result, they have experienced difficulty moving their own activities forward, while other states have already identified solutions to problems they are confronting that could be helpful. Sharing non-proprietary training materials or even lists of experts who have conducted successful seminars would help states avoid duplication of effort. For example, Maryland already has developed a template for its web-based data collection system (Maryland Institute for

Emergency Medical Services, 2002). This template could be useful for other states that are undertaking similar projects. Alaska and Illinois can both offer valuable insights to other states contemplating setting up billing seminars for their rural providers.

As with many areas of the Flex Program, we found that delays in implementing proposed billing enhancement projects have been commonplace. Many of these projects are just starting to get off the ground. Delays are understandable since facilitating complex change, such as EMS integration, takes time. State experience to date has shown that a depth of patience is required, and that political differences can sometimes form insurmountable barriers. In Iowa, at least, they have found that taking one concrete idea—such as the potential to improve revenue through consolidating billing—has been a feasible first step toward developing networks.

Efforts to Improve Recruitment and Retention of Rural EMS Providers

Issues Related to EMS Recruitment and Retention

The majority of rural EMS systems continue to depend on volunteer staff, and most are experiencing increasing difficulty recruiting and retaining these volunteers. Data from the Tracking Team's Year 2 survey of CAH administrators, for example, showed that recruitment and retention was consistently identified as one of the leading challenges facing the EMS systems in CAH communities (Schoenman et al., 2001). Information compiled by NOSORH from state Flex Program officials also revealed that recruitment and retention was identified by virtually every responding state as a pressing rural/frontier EMS issue within their state (NOSORH, 2002).

National survey data show that the percent of the U. S. adult population that volunteered during the year increased from 45 percent in 1987 to 56 percent in 1998. However, the weekly number of hours per volunteer declined from 4.7 to 3.5 over this period. Moreover, a large proportion of the survey respondents reported favoring one-time events or intermittent volunteer activities, or volunteer opportunities with a fixed schedule (Independent Sector, 1999; Gagnon, 2002).

EMS service, on the other hand, requires a long-term commitment and many (often unpredictable) hours. It can also be a high-stress job that does not always lead to happy endings. Initial training requirements are high, as are the on-going continuing education requirements necessary for maintaining certification. All too often, the rural volunteer must travel great distances (in his "free" time) to obtain this training, and must bear the out-of-pocket costs, as well.

In light of these realities, it is not surprising that new recruits are hard to find, and existing personnel are leaving. Although many services and states offer a small pension for volunteer EMS personnel after a defined number of years of service (e.g., 20), these pensions are typically quite small (and are much smaller than those provided to volunteer firefighters) and offer little

incentive for longevity. As existing personnel “burn out” and leave EMS, retaining the remaining volunteer squad members becomes ever more difficult since the burden on them increases. Slimly-staffed rural EMS providers may find themselves in a “death spiral” as more and more volunteers leave and no new recruits step forward to take their place. And if these staffing difficulties eventually lead to the closure of an EMS provider in one community, the burden on providers in neighboring communities increases, exacerbating their own staffing problems.

Even services that are currently successful in retaining their existing volunteers are likely to face problems in the future as their staff ages and becomes eligible for retirement. If volunteer staffing is to continue to be the model used by most rural EMS providers, recruitment of a new corps of younger volunteers is quickly becoming critical. Yet attracting younger volunteers is proving to be a difficult task for many rural providers.

There are numerous reasons why it is difficult to find younger volunteers for EMS. To begin, most rural areas have a disproportionately elderly population, meaning that there are fewer young people from whom to draw. Services are also finding it particularly difficult to attract volunteers with children, reflecting increased involvement of both parents in childrearing duties and the lack of around-the-clock childcare providers who might be needed when a parent has to respond to an emergency call.

Moreover, most working age people today hold paying jobs outside of the home (and thus have less time available for EMS service), and an increasing proportion of rural residents are traveling outside their home community for their jobs. Daytime staffing becomes especially problematic in this case since these commuters are not available for call when they are outside of the community. They are also spending more time commuting so they have less time available to volunteer.

Volunteers who *are* available within their community during work hours can face enormous personal costs if they agree to take emergency calls during work time (assuming their employer will even allow this). They may be required to make up the time, lose pay for the hours they were absent, or lose accrual of work time counting toward benefits such as vacation, sick leave, and pensions. Rural response and transport times can be long, especially in areas without a local hospital, requiring EMS personnel to be absent from their job (or home) for extended periods.

Nighttime staffing may also pose a problem for some services that are seeing their (potential) volunteers build homes further and further away from the town center. In order to be available for a quick response, these personnel would need to sleep in or near the ambulance shed. However, crew quarters that are adequate for this purpose may not be available to many rural EMS services.

Some Approaches Being Tried in Rural Minnesota

The Minnesota Office of Rural Health and Primary Care has used a large portion of its Year 2 and Year 3 Flex Program funds to support mini-grant programs related to network development

and EMS improvements. Many of the network grants included a significant EMS component, and several of the EMS projects were designed specifically to address EMS recruitment and retention issues. We visited three of these awardees to learn more about their projects. Together, they represent a wide range of strategies that are likely to be of interest to other rural areas facing EMS staffing shortages.

The first award (a Year 2 network grant) went to a county public health department that was working in coordination with three local ambulance services and a large regional hospital located just outside of the county in a neighboring state. The second award (a Year 2 EMS grant) went to a small rural hospital (not a CAH) that owned an ambulance service. The final award (a Year 3 EMS grant) went to an independent, fire-based ambulance service. One of the awards was for \$23,000, while the other two were for \$25,000—the maximum amount permitted under the Minnesota grant guidelines. All three areas were facing acute problems staffing their ambulance services.

The project spearheaded by the county public health department adopted a multi-faceted approach to resolving the recruitment and retention problems facing the county's EMS system. Project leaders proposed a countywide recruitment campaign and collaborative training activities to increase the number of new staff. Collaborative continuing education and staff development programs and a volunteer recognition event were planned to help retain existing staff and develop their skills. Additionally, project leaders believed it was important to enhance communication among EMS providers in the county by offering other opportunities for staff from the different ambulance services and first responder units to interact in non-emergency situations. Finally, the project was to explore the feasibility of implementing two other potential solutions to the staffing shortages: (1) an employer incentive program to support daytime volunteers, and (2) inter-agency agreements to share staff between services. The combined effect of these efforts has been—at least for the moment—to greatly ease the staffing pressures facing the county's EMS providers. County leaders warned, however, that they will need to be ever vigilant, and noted that they wish to continue to build upon the successes achieved to date if they can find additional funds.

Collaborative Training: Education for EMTs and first responders in this county is coordinated through, and generally provided by, the large area hospital and representatives of its associated ambulance service. Continuing education courses are offered approximately once per month, at locations throughout the county, and classes for new EMTs and first responders are offered about once a year.

Money from the Flex grant was used to enhance these courses in several ways. First, it was possible to bring in expert speakers from other areas, send local instructors for specialized training, and obtain special equipment for the continuing education courses. For example, the instructor for a course in agricultural trauma was sent to another state for specialized training before teaching the local course. Flex funds were also used to obtain old pieces of farm equipment so that participants would have the opportunity for hands-on, realistic practice of rescue techniques—experience that is rarely available outside of emergency situations. This class attracted more participants than any prior course, and was lauded as tremendously

successful. Similarly, two dispatchers from the county's dispatch center were sent to another state for specialized training before teaching a local course to other dispatchers. It was also possible to bring in an expert instructor from a neighboring city for a class in cold-water rescue techniques. These steps increased the quality of the programs and reduced the burden on volunteers to plan and conduct the training.

Second, the Flex money was used to purchase training equipment needed for the initial and refresher courses offered for EMTs and first responders. Previously, this equipment had to be "borrowed" from ambulances during classes and for testing—at the risk of not having it readily available for an emergency run—and was not accessible to students for additional practice outside of classroom hours.

The continuing education classes were hosted by the various ambulance services in the county and were open to participants from all services in the area. Although some initial resistance to this joint training was reported, the major sessions were very well attended by rescue personnel from throughout the county (and beyond). Project leaders viewed this collaborative training not only as a way to enhance skills and help existing staff to maintain their certification, but also as an opportunity for staff from different services to get to know one another during non-emergency situations. Developing these personal relationships can lay the groundwork for increased collaboration and even for a more integrated, countywide EMS system.

Continued Professional Development: A similar opportunity for professional development and networking was the annual regional EMS conference. Flex funds were used to subsidize attendance at this conference for volunteer staff from several of the local ambulance companies, enabling many more staff members to attend than had attended in prior years. Participants were able to earn continuing education credits that will help them to meet recertification requirements, facilitating retention of existing staff.

Recognition of Existing Volunteers: Yet another opportunity for non-emergency socialization was a banquet held to recognize the efforts of volunteer rescue personnel in the area. The appreciation banquet was organized in collaboration with a local American Legion post, and Flex funds were used to support a portion of the expenses. Planned long before September 11, this event was held in early October, when emotions and positive support for emergency personnel were still extremely high. Attendees included several local and state elected officials, as well as nearly 175 rescue personnel. Speakers honored these personnel for their role in "homeland security," and urged them to reach out to their friends and neighbors to encourage them to volunteer for the county's emergency system. Project leaders viewed this one-to-one personal recruitment and associated mentoring as very effective for attracting new volunteers. (One local ambulance service, whose director was participating in the Flex grant, had used this type of personal recruitment in the prior year, and had succeeded in attracting 10 new EMTs.)

Countywide Recruitment Campaign: Shortly after the volunteer recognition banquet, the Flex grantees developed a recruitment ad that was run in all of the local newspapers. This ad also emphasized the importance of stepping forward to ensure homeland security. Potential volunteers began calling the EMT instructor to inquire about the next class. As a result of this ad

and the personal outreach by existing volunteers, the EMT class that began in January 2002 fielded 20 students, and a first responder class attracted ten students. The instructor noted, “I have never had a response like this in the 15 years I have been teaching EMT classes” (Houston County Public Health Department, 2002). Graduates from these classes and an EMT refresher class have added seven EMTs and nine first responders to the roster of one service that had previously been so slimly staffed that it was in danger of closing. Another service added four EMTs available for daytime shifts, which had been their problem shift time. Several other graduates will join an ambulance service located just across the county line.

Employer Incentive Program: Another goal of the Flex project in this county was to create an employer incentive program to compensate employers who permit their employees to leave work in order to respond to emergency calls. Minimizing possible employer resistance and helping to indemnify employers so they do not have to remove employees from the payroll during emergency runs may encourage new people to volunteer for EMS service, as well as make it more likely that current volunteers can continue to serve, particularly during hard-to-staff daytime hours.

Work in this area did not advance as far as planners had hoped, however. The major obstacle encountered was the fact that many of the area employers are very small businesses, which tend to be chronically understaffed and may be operated with only one or two employees. Even employers who are willing, in theory, to have employees leave for emergency runs find it difficult to permit this practice on a regular basis when it means closing the business entirely during the employee’s absence. This situation has worsened since the county’s one hospital closed and transports to acute care now take the ambulance crew out of the area for several hours at a time. Incentives would have to be high to compensate these small businesses for their losses and enable them to keep the volunteers on the payroll while they are on runs.

The area planners noted that local businesses that currently have EMS volunteers in their employ have demonstrated considerable support for having these employees leave for emergencies during their shifts. This support has included flextime and unpaid leave, and some employers have even continued to pay staff for the time they are on emergency calls. For employers who are already supportive of their EMS personnel, the need for an incentive program is less immediate, although such a program could help to ensure that this support continues in the future and reduce the personal cost to volunteers.

Despite these obstacles in this particular county, an employer incentive fund is an approach that may hold more promise in areas with a different composition of employers, especially those with a large employer such as a manufacturing plant or a school system. In those situations, it is easier to allow one or two employees to leave without disrupting the entire business operation. The employer fund is also an approach that may be better implemented at the state level, through state tax credits or a statewide incentive fund.

Shared Staffing Arrangements: The final activity planned in this county was exploration of inter-agency agreements to share staff between the ambulance services as a way of addressing temporary and intermittent staffing problems (e.g., associated with vacation or sick time for

regular staff). One possible approach was to have volunteer staff from one service fill shifts at other services as needed. Alternatively, the services considered pooling resources to hire one or two paid staff members who would rotate between the services to fill scheduling gaps. Although this activity was not fully implemented by the end of the grant period, county planners were optimistic that remaining obstacles could be worked out.

Two principal roadblocks were encountered. First, the staff members who would be “on loan” to another service would need to be located near that service in order to respond to an emergency call in a timely manner. Generally, this would require being stationed at that service’s ambulance shed. However, not all of the services have crew quarters that are adequate for this purpose; overnight stays would be particularly problematic.² Additionally, some volunteers may be resistant to this relocation, and the added burden that it imposes on them.

Second, the services currently differ in their requirements for membership (e.g., tests of physical fitness for the job), treatment protocols and state licensure, medical direction, and liability and worker’s compensation insurance. Many of these factors will need to be standardized before a member of one squad can be “employed” by another squad, even on a temporary basis.³ The county planners are seeking legal counsel regarding these issues; one solution to the insurance problem may be to have a single policy covering all participating services. Longer term, some planners envision a unified, countywide system with satellite branches. This system could include some paid staff who are centrally located and ready to respond in all directions to supplement volunteer staff. (A similar solution has been successfully adopted in another area of the state.) As we have seen in other places, however, this vision of an integrated county system is not uniformly embraced, due to concerns about loss of autonomy and local control.

Recruitment of Younger Volunteers: One priority of the Flex-funded project carried out by the hospital-based ambulance service was to increase its pool of younger volunteers. This hospital is located within approximately 30 miles of five community colleges that offer EMT courses, providing a natural pool of new young recruits. The hospital used a portion of its Flex grant to renovate some existing space into ambulance crew quarters, making it a comfortable living area with sleeping quarters for two people, equipped with a computer with Internet access. They now plan to market the availability of this space to the local EMT students, offering them a quiet place to live and study in exchange for weekend coverage. The new recruits would also accrue \$1 per hour, up to a maximum of \$500, toward a scholarship that would be provided to them after 12 months of service. (The renovated crew quarters will also greatly facilitate plans to share staff with a neighboring ambulance service, as soon as that service is able to find the resources to provide similar quarters.)

² Two other services in another area of the state that we visited are also beginning to explore a shared staffing arrangement, and are encountering the same problem with inadequate crew quarters.

³ A shared staffing arrangement would differ from mutual aid agreements, under which one service backs up another service during a call, using its own staff and equipment. In the latter case, the assisting squad is still covered by its own insurance policies and works under its own protocols.

Targeting local students is not a new idea for this hospital. For the past six years (outside of the Flex grant), the hospital has worked with the two local school systems to offer a three-trimester program in health professions to high school juniors and seniors. The program is very selective, and is in high demand among the students. Students spend the first trimester shadowing health professionals in eight different fields. During the second trimester, they take a first responder course and the associated exam; students who are at least 18 and who pass the exam may then work as first responders. The final trimester is a nursing assistant course, and students have the option of completing the required clinical work and sitting for the exam after this course if they wish. More than 70 students have completed the program to date, and 32 are now employed at the hospital, some in the ambulance service. The hospital plans to reach out to the first responders and others in this program to recruit them for additional EMT training and service with the ambulance squad (the hospital also hopes to provide the training directly as it realizes its goal of becoming an EMS training hub). This service is also looking into the possibility of offering students the opportunity to ride along on ambulance runs in order to peak their interest and give them a realistic view of what service would entail.

A second, fire-based ambulance service in this same region has operated a similar “Student EMT” program for the past three years. High school and college students are provided with some financial support for their EMT training if they stay with the ambulance service for at least one year. Students who are 18 or older may take the national exam and serve as EMTs. In this case, they are also paid a small amount per call. At the end of their first year, they are given the equivalent of a fire fighter’s annual pension (\$700). The program is funded by charitable gambling receipts and can handle up to four students per year. The service also has an auxiliary membership program open to students under age 18; participants in this program perform tasks other than emergency runs.

Expanded Use of Paramedics: The second objective of the project conducted by the hospital-based ambulance service was to cross-train paramedics so they can be employed within the hospital system to supplement other personnel. The initial plan calls for using paramedics in the hospital emergency department, but hospital leaders envision a future when paramedics also assist in the hospital’s outpatient clinic and other departments (e.g., respiratory therapy, X-ray, lab) and, possibly, with home health visits. This strategy is part of the hospital’s plan to upgrade its basic life support (BLS) ambulance service to a part-time advanced life support (ALS) license, a special licensing category in Minnesota that permits a service to provide ALS care on a shift-by-shift basis, depending on the availability of paramedics. The strategy also helps to address the hospital’s other staffing shortages, particularly for nurses.

Only a small amount of additional training and orientation is needed to ready an EMT or paramedic for work in the hospital’s emergency room. Minnesota law does not prescribe a particular scope of practice for EMS personnel (Minnesota Ambulance Association, 2002). Rather, these personnel work under an extension of the attending physician’s license, and can perform any task that the physician is comfortable having them perform. The emergency personnel are often able to provide services that an RN cannot, such as intubation and cardiac monitoring, as well as patient assessments that are beyond an LPN’s scope of practice.

Financing for these positions has been drawn from the nursing department budget and the ambulance budget—an arrangement that would likely work well in any hospital-owned ambulance service. To date, due in large part to the pressing nursing shortage, the hospital's nurses have been very supportive of the arrangement. They are finding that they are able to meet their staffing needs at a lower total cost. Currently, the paramedic works an 8-hour shift in the ER, during which he is not available for emergency runs, and then spends an additional 4 hours on call for emergencies. It is possible that this system will evolve to one that permits the medic to leave for emergencies during an ER shift.

By providing a paid position within the community, this approach helps to make being a paramedic a viable career choice, not simply a volunteer commitment that must be met during the person's off hours. This can be a huge aid in recruitment and retention. As we have observed in prior years at other sites that have tried a similar approach, people are interested in obtaining the training necessary for these paid positions. At this facility, one paramedic and one EMT with an LPN background are currently working in the emergency department, two other people have just passed their paramedic exam, and four more have expressed interest in this training and the hospital jobs that it would open up to them. In addition to these obvious recruitment benefits, this arrangement can help emergency personnel to maintain their skills (since they are seeing more patients), and may improve quality of care by making the transition between the pre-hospital system and hospital care more seamless.

Recruitment Video: The final recruitment strategy we investigated in Minnesota was a recruitment video that is being developed by the fire-based ambulance service. Since this Flex grant was awarded in Year 3, work was still in the early planning stages at the time of our site visit. The video will be targeted to children and/or young adults, and will emphasize the excitement of serving as an EMT and how this activity can contribute to a person's sense of self-worth and need for self-improvement—three factors identified by the grantee as being important determinants of the decision to become an EMT. When completed, the video will be made available to ambulance services throughout the state to show at schools in their area and anywhere else that the target audience might be reached (e.g., local movie theaters and banners on sports fields).

Efforts to Restructure Rural EMS Systems

Introduction

As the number of CAHs has increased under the Flex Program, Tracking Team analysts have expected that states will devote a larger share of program funds to network development and EMS activities as a means of strengthening the rural health infrastructure. In prior years, there has been extensive study by the Tracking Team of the rural health network concept and how networks involving the CAHs, affiliated hospitals, and EMS providers have been established and function. At the same time, we have studied EMS providers and their relationships with CAHs and their community.

The rural health networks that have been formed under the Flex Program to date have tended to be CAH-centric. In fact, the most common network relationship observed during the second year of the CAH program was “a dyad link between a CAH and its support hospital” (Gregg and Moscovice, 2001).⁴ While EMS providers may be members of these networks, their responsibilities have tended to be defined principally by their responsibilities to the network hospitals: the local ambulance companies transport emergency patients to the CAH and between the CAH and other area hospitals.

Formal, horizontal networks comprising several EMS providers have been more rare under the Flex Program; thus, less is known about these types of collaborations. While such networks hold great potential, they often encounter significant implementation obstacles. As noted in the proposal for Flex Program funding submitted in 2001 by the Kansas Department of Health and the Environment, “integration of EMS into rural health networks is an effective way to stabilize local EMS systems ...”; at the same time, “the complexities of integrating EMS into network functions and activities remain difficult to design and carry out” (Kansas Department of Health and the Environment, 2001).

In this section, we describe an attempt to create a network of EMS providers. Our purpose is to examine the network’s goals, activities, and accomplishments, and to identify lessons that could be applicable to other areas wishing to establish a similar network. The key research questions that guided the design of our work included the following:

- What are costs and benefits of collaboration from the perspectives of the service area and individual providers?
- What is the nature of the linkages between the EMS providers participating in the network?
- How does the group function?
- What has the collaboration accomplished, and how?
- How do the structure, conduct, and performance of the collaborative effort reflect the EMS environment of the area?

Why a Network?

As evidenced by recent proposals for Flex Program funding and other information collected by the Tracking Team, networks have evolved somewhat since the mid-1990s. Network agreements now include provisions to collaborate on quality assurance or improvement activities, patient

⁴ Data collected this year by the Tracking Team reveal an increase in the proportion of networks with non-CAH affiliates, even for states that did not have a formal network development program in place prior to the Flex Program. But horizontal hospital-to-hospital relationships remain the most common: 40 percent of CAHs report being in a formal network that included non-acute care providers as members.

transfer, and provision of specialty care (Gregg and Moscovice, 2001). Although the Flex Program has probably stimulated the evolution of rural health networks, it is likely that these would have evolved independently. Networks can offer rural facilities economies that would not otherwise be available to facilities that operate at relatively low volume.

An important reason for joining a network is the opportunity to participate in shared-service arrangements (Wellever, 2001). Sharing services enables small providers to obtain resources at the lower costs attained by larger-volume purchasers, providing purchasing efficiencies that would not be available independent of the shared services agreement. Examples include joint purchasing of large quantities of supplies, and joint purchasing of billing services.

Network affiliation, however, is not based on economic considerations alone. Many members of rural health networks are non-profit organizations or government-administered providers and institutions. While cost-minimization is often a goal, these providers are not driven by the incentives of the profit-maximizer depicted in economic theory. Members may seek to serve the community in ways that do not lead to increased profits. Members may also want to join the community network simply to ensure that the team remains viable in the face of threats from future competitors. Likewise, members may join because they are interested in being members in the future—an option that may not be open if membership responsibilities are not assumed in the present.

Nevertheless, successful networks consist of members who recognize a “compelling need” for membership—a need that is strong enough to compel actions that are consistent with group goals and needs (Bonk, 2000). Member needs and goals influence the form and function of the network’s organization and activities (Teevans, 1999). Resources that are available to members for network activities will necessarily exceed the resources available to individual members; otherwise, member needs could be satisfied individually, without network affiliation.

Early Steps Toward an EMS Network in Rural Kansas

Network Objectives: Kansas has a long history of working with rural health networks, and has established at least one Flex mini grant specifically to support the formation of a network of rural EMS providers. This \$25,000 grant was awarded to the Clay County network, a collaboration of five EMS providers who proposed to “share specific resources, while maintaining autonomy, to provide an improved level of pre-hospital response” (Kemp, 2001). The three-year goals proposed by this consortium addressed EMS service delivery problems related to communication and response, personnel, financing, and provision of care. Specific tasks identified for the first year (the year for which funding has been approved) included the following:

- Coordination of training and recertification activities;
- Evaluation of the costs and benefits of sharing billing and other administrative functions;
- Evaluation of emergency response policies and protocols;
- Development of area-wide recruitment and retention strategies;

- Assessment of available software for collectively meeting data collection and billing needs; and
- Evaluation of cost savings associated with implementation of a network purchasing system.

Network Members: The five EMS providers comprising the Clay County network are located within approximately 25 miles of one another in a sparsely populated three-county area in North Central Kansas. Clay County EMS is the largest of these services and the most centrally located (in Clay Center, KS). Eight members of its roster of 38 EMTs, including the director, are full-time paid employees. Several staff members are trained at the intermediate and paramedic levels, which permits this unit to provide some ALS services. The director of this service is also the leader of the Clay County network. The four other network partners—Clifton Ambulance Service, Linn City Ambulance, Miltonvale City Ambulance Service, and Clyde Ambulance Service—are much smaller, totally volunteer companies that provide BLS and first response services. These services are partially funded by patient billing, supplemented by donations, local tax support, and other contributions from the county governments. Their annual run volume ranges from 40 to 100 runs per year.⁵

Network members had worked together informally prior to applying for and obtaining the Flex grant. The five ambulance services had mutual aide agreements, and the smaller services relied on Clay County EMS for assistance with the most demanding emergencies. Network members had also previously collaborated on training efforts, with several EMTs from the smaller services received training either in Clay Center or from a training officer sent from Clay Center to the trainee's service site. The activities supported by the Flex grant are seen by participants as the next logical step in furthering this cooperation.

Activities to Date: According to Clay County network director, one of the main objectives of the network in this first year has been to identify and implement efforts that will improve the quality of patient care. There is concern that quality of care is difficult to maintain because skills can deteriorate rapidly when volunteers respond to a low number of calls. Thus, a major goal of the network has been to maintain and improve EMT training and experience. The network director favors consolidation of some training efforts in Clay Center, as well as having EMTs from smaller services perform occasional shifts in Clay Center. This director believes that these shifts would increase run exposure among volunteers from the smaller services, ultimately improving quality of care.

Although directors of the smaller services recognize the importance of training as a means of improving quality of emergency care, some expressed concern over the efficacy of using Clay

⁵ In light of the earlier section on recruitment and retention, it is worth noting that one of these smaller ambulance companies had great difficulty filling daytime staffing needs in the past and nearly closed. The service implemented a creative staffing mix to alleviate this problem. In addition to four EMTs and two first-responders, the staff now includes five non-certified volunteers who are used as drivers only, reducing the number of EMTs needed for each call. Perhaps more importantly, three RNs have been added to the staff. These RNs are employed at the local nursing home and take daytime calls. Because of the type of work and the willingness of their employer, they are permitted to leave during the day to assist with emergency calls.

Center as a training hub because travel to Clay Center would increase the training burden among volunteers who had, in the past, received training closer to home. One service director also questioned the practicality of offering training for a higher level of service because the number of runs necessary to maintain the corresponding skill level would exceed the number available to the service's volunteers. Some concerns were also expressed about requiring EMTs to travel to Clay Center for extra "practice" shifts because of the already taxing constraints on their volunteers' time.

In spite of these reservations, however, some Flex support was used to help subsidize training based in Clay Center that advanced 20 EMTs from the basic to the intermediate level. In addition, funds were used to support attendance by eight EMTs from among the smaller services at a recent statewide EMS conference, convened in Kansas City. This was the first time EMTs from the network had attended this conference or been exposed to training beyond Clay Center.

The volunteer directors of the smaller ambulance services were generally unanimous in their support of activities designed to consolidate various administrative functions. One such activity is the acquisition of software that can be used by all network members to collect run data. At present, each ambulance service processes run data by hand. The network director is now working with a consulting firm to identify data collection software that can be shared as part of a consolidated data system. Some network members believe that this type of system might support shared billing services in the future, as well as efforts to examine quality of EMS services.

Network members also expressed strong support for centralizing the task of monitoring state regulations. Following changes in legislation is particularly time consuming for the volunteer directors, who are happy to have the network director take on the responsibility for following regulatory developments and distributing relevant information to the other services as needed.

The group has also made progress in sharing some services and in joint purchasing. Until recently, EMTs with the smaller services had been washing soiled ambulance linens at home in personal washing machines. Laundry services are now consolidated in Clay Center, where an Occupational Safety and Health Administration (OSHA)-compliant laundry facility is available on site; these services are provided to the smaller services free of charge. Likewise, Clay Center is now taking supply orders from the smaller services and providing bulk-purchased items to the smaller services at cost.

Lessons Learned: Volunteerism is an integral part of EMS service provision in the Kansas communities we studied, as well as in most other rural communities across the nation. This fact provides both an impetus for collaboration, as well as a possible roadblock. No matter how ardent their commitment to their EMS system, volunteers face very real time and financial constraints with respect to participation in EMS activities. Most volunteers have fulltime, paying jobs in addition to their other family and community responsibilities. Many also must bear the out-of-pocket cost of obtaining training and continuing education.

Collaboration may offer opportunities for "lightening the load" on individual volunteers, and thus should be attractive to a large number of rural EMS systems. Activities that are required of each service, but that can be shared across network members, are natural starting points for

collaboration. Sharing responsibility for these types of tasks can not only lower the cost to individual members, but may also permit volunteers to specialize in activities that they enjoy most. Being relieved of activities viewed as burdensome can, in turn, help to retain volunteer personnel. For instance, the Clay County network director's willingness to assume responsibility for keeping up with state regulations on behalf of other services frees time for the four volunteer directors to pursue the other EMS activities that attracted them to service in the first place.

Specialization also has the potential to yield benefits to the individual services, the network, and the communities served. The Clay County network director may become more proficient at following the state's regulatory efforts, for example. In the same way, clerks who take on billing activities for fellow network members may become more proficient and billings and collections may increase, benefiting individual providers and the entire network.

At the same time, volunteerism can be a source of failure for collaborative efforts unless all participants—including volunteers who are already stretched to the limit—are prepared to make the time commitments necessary to reach the network's goals. Responsibilities for a well-functioning network are particularly great for the network director. Personal satisfaction must come from commitment to task; by contrast, network directors will generally not face strong for-profit incentives that encourage action on behalf of the network. Thus, the network director either needs to be extremely committed, *or* this position should be filled as a paid position, *or* preferably both. An EMS network is not likely to achieve much success if the director's attachment to the EMS service is as a volunteer who lacks a strong commitment to the network's mission. Along this same line, network leaders who are working with a team of volunteers will likely need to be flexible when scheduling meetings, make very efficient use of face-to-face meeting time, and use other informal means of communication on a regular basis to keep the collaboration moving forward.

The structure and evolution of the Clay County network is likely a product of the EMS environment. The geographic area is sparsely populated, lacks medical resources, and has a relatively limited tax base. With the exception of Clay County EMS, which employs a small number of paid staff, all other services rely exclusively on volunteer personnel. We would expect the structure of EMS networks to differ in areas where service providers are less dependent on volunteerism, and where communities enjoy a larger tax base and greater access to medical resources. Representatives of networks in such settings would be expected to face stronger incentives to devote more time and effort to attainment of network goals.

Finally, we have observed that cooperation among EMS providers need not be adversely affected by the involvement of multiple governmental jurisdictions. Several of the informants in this case study indicated that collaboration activities were not constrained by EMS providers serving under different local jurisdictions. Officials of the local governments having oversight responsibilities for the network's providers appeared to be very cooperative and to understand how cooperation with other jurisdictions would enable them to meet their own needs more efficiently. We have observed other successful EMS collaborations involving multiple governmental jurisdictions in prior years of the Tracking Project, as well. It should be noted,

however, that the cooperation of local governments cannot be assumed, as intergovernmental relationships will vary from place to place.

Conclusions

This year's review of states' EMS activities has revealed that there is increasing emphasis on the goal of EMS improvements as the Flex Program matures. States are proposing to spend larger proportions of their overall Flex budgets on EMS activities, and are implementing more specific projects that appear to be well targeted to local needs—either because they are being implemented through small grants to local communities or because they are based on findings from prior needs assessments. As the third year of the Flex Program draws to a close, most states now have a clear picture of their rural EMS challenges, and many have identified the steps (or, at least, the general approach) they wish to take in an effort to address these challenges. Their Year 3 EMS activities were often built upon knowledge and accomplishments from preceding years, pointing to the development of a coherent strategy at the state level rather than a diverse, “scatter-shot” approach. Although a wide range of EMS projects is being carried out, activities in most states target the most pressing rural EMS problems, namely inadequate financial resources, recruitment and retention difficulties, and the need to improve collaboration and cooperation among small, independent EMS providers.

We are also seeing evidence of continued collaboration between state rural health officials and state EMS officials. Very often this collaboration is attributed to the state's Flex Program administrative process and the opportunities presented by the program for these offices to work together. This collaboration also appears to be a good predictor of states' progress in defining and accomplishing EMS goals under the Flex Program, with more successful states tending to have stronger links between their state rural health and EMS offices.

Increased collaboration is also evident at the local level, particularly in communities that have received Flex grant support. In those areas it is not unusual to see people from a variety of backgrounds uniting as never before to work toward the common goal of strengthening their EMS system. The collaborations spawned by these grants may be one of their most important accomplishments. Grant participants are generally very excited about their successes to date, and anxious to build upon what they have begun.

At the same time, we are seeing that the Flex mini-grants used by many states to implement their EMS initiatives may be best viewed as “seed money.” While apparently very effective at encouraging collaboration and starting the process of change, they are typically too small to make large and lasting differences. Needs of rural EMS systems are great, and not all needs can be addressed with a single grant, nor can all jurisdictions be helped with the current level of grants.

Similarly, meaningful improvements will take time to accomplish. Not only are the challenges daunting and not subject to quick fixes, there can also be a natural resistance to change, especially when more dramatic changes are envisioned that may be seen as threatening (e.g.,

networking of EMS providers). Marshalling the manpower necessary to carry out planned activities may also be difficult in systems that are heavily reliant on volunteers. Critical first steps can be completed within the year timeline typical of these mini-grants, but many areas will need additional time as well as resources to truly address their system needs.

Obtaining additional financial support to continue current initiatives will not be easy for many local communities. A rural EMS system staffed principally by volunteers is not likely to have people with the time and experience necessary to track down and obtain grants. While some EMS providers are fortunate enough to be associated with a hospital or some other entity that employs a grant writer and makes this person's assistance available, this situation is more the exception than the rule. States may need to step into the void by disseminating information about non-Flex grant opportunities that are relevant for rural EMS projects,⁶ and even by providing more specific grant writing assistance. Successes in this area could be an excellent way to leverage limited Flex funds, and help local communities build upon the successes achieved with the Flex grants.

As was noted in prior years of the Tracking Project, we cannot overemphasize the importance of having a strong leader with vision and effective management skills, and a team of committed people to assist with project implementation. This factor has been cited as key in virtually every successful project we have visited over the past three years. Unfortunately, there is no recommendation to be made as to how to find, or make, an effective leader. Likewise, securing the necessary level of commitment from key players may be very difficult when they are volunteers already stretched beyond capacity. This reality makes it all the more important for the leader to make efficient use of team members' time. Clearly, too, the payoff to participation needs to be as tangible, large, and immediate as possible in order to make participation worthwhile.

Finally, as the Flex Program moves into its fourth year, states need to begin documenting their activities more comprehensively, and conducting more extensive assessments of whether these activities are having the intended consequences. Many innovative approaches are being tried, yet their impact is seldom known or reported. While the Tracking Team is charged with providing a national overview of *how* states are using Flex funds in the EMS arena and has attempted to highlight some of the more innovative approaches, it is impossible to describe all worthwhile activities in adequate detail. Furthermore, the responsibility for evaluating the effectiveness of these activities remains with the states and their own grantees. Successful approaches and positive outcomes need to be publicized, along with lessons learned that could help others who may be planning a similar activity. TASC has begun posting Flex-related (and other) EMS materials on its web site (<http://www.ruralresource.org/ems.shtml>), and this forum

⁶ For example, the FORHP's Rural Health Outreach Grants provide up to \$200,000 per year for up to three years and have supported a number of EMS-related initiatives over the years. In addition, \$3.5 million is being made available in 2002 to states to enhance their trauma systems through HRSA's Trauma Care authority. At least 10 percent of these funds must be used to improve rural EMS systems, with an emphasis being placed on funding innovative methods to improve the recruitment and retention of EMS personnel. Some states may offer grants to local providers under this authority, which has been extended through 2005 (Mohr and Schoenman, 2002).

would be an excellent outlet for EMS success stories achieved by states under the Flex Program. Likewise, both TASC and NOSORH have hosted conferences that included rural EMS improvements as agenda items; expanded attention to this topic in future conferences would provide an additional forum for sharing information among states.

TABLE 1. EMS ACTIVITIES PROPOSED BY STATES FOR YEAR 3

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Alabama	<p>Total federal funds requested = \$450,800 Total EMS budget = \$60,000</p> <ul style="list-style-type: none"> • Conduct local needs assessments for up to 8 potential CAHs (\$40,000). • Provide grants for up to 4 communities to implement activities suggested by needs assessments (\$20,000). • Conduct EMS evaluations by consultants to CAH Task Force.
Alaska	<p>Total federal funds requested = \$620,000 Total EMS budget = \$132,711</p> <ul style="list-style-type: none"> • Coordinate 4 technical assistance team visits and 1 specialty team visit to review Medevac capabilities. • Conduct training needs assessments and specialty training for providers in CAH communities (e.g., Medevac, dispatch and upgrade to EMT-I and EMT-II). • Amend EMT instructor regulations to ease the burden of certification and re-certification. • Distribute CD-ROM containing information on EMS resources. • Support 1 additional EMT Instructor training program that targets rural providers. • Develop moderated case studies for training materials. • Support travel for physician medical directors to rural communities. • Provide an EMS coordinator for Prince of Wales Island.

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Arizona	<p>Total federal funds requested = \$631,129 Total EMS budget = \$70,000</p> <ul style="list-style-type: none"> • Complete a survey of EMS needs in CAH communities. • Develop education programs to address identified needs. • Develop best practices model for CAH/EMS/tertiary care network. • Select, test and evaluate model in 1 to 2 CAH communities. • Provide mini-grants to CAH EMS network “clusters” to install videoconferencing units to enhance education and administration. • Explore legislative options to permit flexible use of paramedics in CAHs. <p>Previously, the state has spent \$15,000 in Flex money to hire an EMS special projects coordinator, develop EMS profiles in CAH communities, and develop a needs assessment survey.</p>
Arkansas	<p>Total federal funds requested = \$469,995 Total EMS budget = \$25,000</p> <ul style="list-style-type: none"> • Host training sessions for a hospital and a pre-hospital provider employee to attend instructor classes in Advanced Cardiac Life Support and Trauma Life Support (will increase numbers trained in CAH areas). • Host workshop for CAH and EMS providers on state and federal Flex Program.
California	<p>Total federal funds requested = \$446,117 Total EMS budget = \$80,000</p> <ul style="list-style-type: none"> • Provide mini-grants to CAHs to enhance local EMS (\$50,000). • Support travel and training expenses for EMTs (\$30,000). <p>Year 2 funds were used to purchase equipment to allow a CAH to connect to a telecommunications networks to facilitate continuing education for EMTs and First Responders.</p>

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Colorado	<p>Total federal funds requested = \$545,848 Total EMS budget = \$50,676</p> <ul style="list-style-type: none"> • Provide technical assistance to conduct assessments and help develop plans to integrate CAH/EMS system with the Regional EMS and Trauma Councils.
Connecticut	<p>Total federal funds requested = \$110,000 Total EMS budget = \$30,000</p> <ul style="list-style-type: none"> • Reproduce and distribute video (produced in Year 2) on how EMS providers should produce a community EMS plan (\$1,000). • Provide SORH support and technical assistance to OEMS and rural providers regarding the state’s mandatory EMS data collection (\$10,000). • Conduct study of emergency and non-emergency transportation needs (\$19,000).
Florida	<p>Total federal funds requested = \$700,000 Total EMS budget = \$154,000 (plus a portion of the funds allocated for mini-grants to rural health networks)</p> <ul style="list-style-type: none"> • Develop CD-ROM interactive training materials for continuing education for rural EMS personnel and ER nursing staff in rural hospitals (\$100,000). • Continue the Rural EMS Scholarship Program (\$54,000). Funds will flow through the state’s 9 rural health networks. Individuals will receive up to \$2,000 in exchange for a two-year commitment to remain employed in the network service area. The EMS entity that receives the funds must agree to become/remain active in the rural health network for two years (such participation has been limited, historically). As more EMTs become trained as paramedics they will be able to work as medical assistants in CAH ERs and other settings, in accordance with state law permitting an expanded scope of practice. • Provide mini-grants to the state’s certified rural health networks (\$280,000). Projects could include EMS integration activities.

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Georgia	<p>Total federal funds requested = \$695,250 Total EMS budget = \$65,000</p> <ul style="list-style-type: none"> • Promote regionalization of EMS throughout Georgia (\$50,000). • Support training of first responders (\$15,000).
Hawaii	<p>Total federal funds requested = \$444,004 Total EMS budget = \$20,000</p> <ul style="list-style-type: none"> • Refine and implement data collection system to track response times, inter-island transfers, and outcomes. • Develop strategies for studying the effectiveness of EMS and improving the quality of the rural EMS system. • Provide technical assistance to local communities and EMS services.
Idaho	<p>Total federal funds requested = \$639,861 Total EMS budget = \$200,377</p> <ul style="list-style-type: none"> • Complete EMS technical assessments, follow-up, and evaluation activities in 10 CAH communities. The state is conducting EMS assessments of each CAH market area. A standard assessment tool has been developed by the state, and each assessment is conducted by a five-member team. A report is completed and discussed with the community at a follow-up meeting. The state then makes \$11,000 available to each community if the various interests can collaborate on a project to address identified needs.
Illinois	<p>Total federal funds requested = \$519,144 Total EMS budget = \$25,000</p> <ul style="list-style-type: none"> • Support education and training programs (\$15,000). • Provide 4 mini-grants for equipment purchases (\$10,000). <p>Additionally, carry-over funds of \$22,715 will be used to support EMS demonstration projects for leadership development, operations improvement, or the development of new delivery models. Projects are to be based on strategies identified in a concept paper on the status of EMS in the state, recently developed by a consultant.</p>

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Indiana	<p>Total federal funds requested = \$569,718 Total EMS budget = \$135,000</p> <ul style="list-style-type: none"> • Conduct EMS needs assessments in remaining CAH communities. • Assist hospitals with coordination of emergency services and training for EMS personnel. In areas with improved technology, on-line training will be provided through an interactive video pilot program. • Provide digital cameras for recording accident scenes so ER personnel can see injuries before the patient arrives at the hospital. <p>Previously, two CAHs received funding for EMS projects. One grant provided training for EMS personnel using the network established with the tertiary hospital. The other supported an assessment of EMS in the CAH's market, including a feasibility study of an EMS/CAH merger.</p>
Iowa	<p>Total federal funds requested = \$574,872 Total EMS budget = \$221,773 (plus a portion of the \$57,362 devoted to network development activities and earmarked to for EMS networking projects)</p> <ul style="list-style-type: none"> • Provide more extensive technical assistance to the 17 counties where EMS needs assessments have already been conducted, and promote EMS needs assessments in additional counties. • Provide grants for local EMS training, regional Critical Care Paramedic classes, and equipment as identified in needs assessments. • Assist local providers in development of a centralized billing system. • Modify the current EMS infrastructure by utilizing full-time personnel with paid and unpaid volunteers. <p>Previously, the state has used Flex funds to hire an EMS Coordinator, who meets with providers from a given area to review the status of EMS in the area and discuss opportunities for collaboration. Flex funds have also been used to provide small grants to CAHs to support discussions with support hospital(s) and area EMS providers regarding possible collaboration.</p>

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Kansas	<p>Total federal funds requested = \$700,000 Total EMS budget = \$321,245</p> <ul style="list-style-type: none"> • Provide EMS Network Integration grants specifically for EMS projects (\$256,327). • Hold meetings of the EMS Integration Committee (\$2,400). • Provide policy analysis and research support to the EMS Integration Committee (\$10,000). • Develop a State EMS Plan (no budget given, may be part of the above activity). • Convene a statewide EMS Summit (\$7,500). • Develop a “bridge program” between paramedic and nurse training, as part of a major emphasis in Year 3 to deal with personnel shortages (no budget given). • Staff and operating support (\$45,018). <p>Kansas has well-developed rural health care networks. Most are horizontal, but some include provider types in addition to hospitals. Each network must have an “Integrated Network Development Plan” and this plan must address ways to integrate EMS into the network.</p> <p>In Year 1, the state awarded grants totaling nearly \$400,000 to seven networks; five of the grants included an EMS component, including training activities, needs assessments, and communication system improvements. Grants were up to \$25,000 for planning activities, and up to \$75,000 for implementation.</p> <p>In Year 2, they held a similar round of grants, and network-based EMS projects were a major funding priority. Nearly all of the nine applicants included significant EMS components. Proposed projects included planning/feasibility studies of ways to integrate EMS into the network, training courses, area-wide data collection systems, update/development of network-wide EMS protocols, consolidation of administrative/billing functions, and development of area-wide recruitment and retention strategies.</p> <p>The EMS Integration Committee is charged with guiding the integration of EMS into the rural health networks, and improving access to/quality of emergency care. It has completed a report highlighting EMS problems in the state, identifying priority areas, and recommending network-based solutions. This report will guide Year 3 (and later) decisions about EMS network grant funding, and envisions increasingly-complex networks of EMS and other providers.</p>

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Kentucky	<p>Total federal funds requested = \$687,991 Total EMS budget = \$180,000</p> <ul style="list-style-type: none"> • Support continuing education for paramedics, EMT-basics, and first responders. The funds are to be split evenly between 2 state universities. Courses may be given in traditional classroom settings, or via distance learning. Some grant funds will be used to offset students' tuition costs. • Hold 2 conferences (no details given).
Louisiana	<p>Total federal funds requested = \$290,954 Total EMS budget = \$103,100</p> <ul style="list-style-type: none"> • Perform National Highway Transportation Safety Administration (NHTSA) reassessment to gauge progress in meeting goals of previous NHTSA assessment (\$20,000). • Hold statewide summit with EMS providers (\$5,000). • Support a telemedicine pilot program, including training for EMS personnel. This task will involve site surveys and facility assessments with the goal of establishing telemedicine links between CAHs and an existing telemedicine program operated by LSU (\$10,000). • Develop hospital-sponsored safety education programs for the lay public, e.g., bystander care (\$10,000). • Conduct a variety of training programs in emergency and trauma care for EMS and other medical professionals (\$10,000). • Co-sponsor annual EMS for Children conference (\$5,000). • Purchase 3 AEDs (\$10,500). • Conduct job fairs at 5 high schools (\$2,600). • Provide \$5,000 to \$10,000 mini-grants to CAHs to subsidize salaries for ER physicians. Grants will be matched dollar for dollar by the hospital or community (\$30,000). • Train local health care professionals, including EMS providers, in "community development" (no budget given). <p>The state has previously worked to develop a pilot project for EMS integration in 1 area of the state having 5 potential CAHs, and developed a pilot training institute for EMS training in the area.</p>

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Maine	<p>Total federal funds requested = \$375,000 Total EMS budget = \$41,500</p> <ul style="list-style-type: none"> • Complete collection of data on EMS services, and distribute results to interested parties (\$1,500). • Support EMS projects at CAHs via a mini-grant program (expect 4 grants of \$10,000). Focus areas will be developed by SORH upon completion of EMS data collection.
Maryland	<p>Total federal funds requested = \$400,000 Total EMS budget = \$15,000</p> <ul style="list-style-type: none"> • Conduct an EMS project in one rural county of the lower Eastern Shore. Activities include: <ul style="list-style-type: none"> – bringing area EMS personnel and medical transportation providers together to discuss collaboration opportunities, – providing information to non-billing volunteer services that could help them to bill for their services, and – expanding a new communications system (Year 2 funds were used to buy laptops and software to enhance medical direction and EMS education).
Massachusetts	<p>Total federal funds requested = \$343,000 Total EMS budget = \$20,000</p> <ul style="list-style-type: none"> • Conduct EMS Service Zone Planning (SZP) in 4 rural communities and promote EMS integration and network development. Service zone plans address geographic boundaries of each zone, providers, inventories of EMS resources, and performance standards. • Monitor state and national policies regarding EMS. • Make resources from other EMS-related state initiatives available to rural communities.
Michigan	<p>Total federal funds requested = \$537,544 Total EMS budget = \$75,000</p> <ul style="list-style-type: none"> • Provide grants to 3 areas of the state to implement EMS regionalization projects, similar to those being carried out in the Eastern Upper Peninsula (funded in part using Year 2 funds). All three areas have existing CAHs.

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Minnesota	<p>Total federal funds requested = \$700,000 Total EMS budget = \$128,978</p> <ul style="list-style-type: none"> • Support cross-agency collaboration at the state level. • Provide outreach and TA to CAH communities regarding EMS systems. • Integrate EMS into rural health networks. • Support staffing changes in the ER. • Provide grants for 2 EMS pilot projects to address the following issues: (1) declining numbers of volunteers; (2) limited financial resources and inadequate reimbursement; and/or (3) limited collaboration among local EMS providers.
Mississippi	<p>Total federal funds requested = \$219,985 Total EMS budget = \$98,000</p> <ul style="list-style-type: none"> • Purchase computer systems with software for 11 CAHs or community EMS systems for collection of pre-hospital and trauma system data (\$33,000). This activity is part of the state’s efforts to build a statewide trauma system. • Conduct needs assessments within counties that have potential CAH facilities (\$5,000). • Provide grants to 6 potential CAH facilities for EMS activities (\$60,000).
Missouri	<p>Total federal funds requested = \$460,870 Total EMS Budget = \$75,000</p> <ul style="list-style-type: none"> • Hold monthly meetings of the working group of the state’s EMS Task Force that is charged with making recommendations for EMS development and networking in CAH communities. • Identify 2 sites with potential for owning ambulance service and receiving cost-based payment for services, based on findings from a report funded in Year 2 to analyze the financial impacts of integrating ambulance services into CAH operations. • Support 1 CAH to expand its EMS plan, implement more EMS/ER training, and conduct quality assurance/improvement for local EMS and ER (\$25,000).

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Montana	<p>Total federal funds requested = \$700,000 Total EMS budget = \$36,400</p> <ul style="list-style-type: none"> • Provide community planning assistance to CAHs and local EMS services to assist with decisions about the level of pre-hospital care that can be provided and maintained, including studying the feasibility of converting community-based ambulance services to CAH-owned and operated services. • Accelerate development of the Together Everyone Achieves More (TEAM) Program, which gives the facility tools for organizing a system of emergency and trauma care. Four facilities will be assisted this year.
Nebraska	<p>Total federal funds requested = \$700,000 Total EMS budget = \$95,000</p> <ul style="list-style-type: none"> • Conduct training courses for EMS personnel (\$30,000). • Promote use of distance learning and nontraditional training methods (\$15,000). • Provide technical assistance and training to medical directors (\$12,000). • Expand use of quality improvement manual developed previously with Flex funds (\$10,000). • Conduct local EMS assessments (\$20,000). • Improve system integration between CAHs and EMS (\$4,000). • Provide technical assistance to local EMS organizations to improve the efficiency of management operations and Medicare billing (\$4,000).

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Nevada	<p>Total federal funds requested = \$666,230 Total EMS budget = \$149,908</p> <ul style="list-style-type: none"> • Enhance skills of EMS instructors using video methods. • Continue training program in rural, frontier communities. • Coordinate statewide EMT Basic course. • Finalize statewide EMS protocols. • Coordinate meeting of EMS medical directors. • Map EMS referrals. • Assess feasibility of CAH-based ambulance services. • Develop and implement equipment purchasing network for EMS providers. • Address regulatory barriers to determining appropriate levels of care by local EMS providers.
New Hampshire	<p>Total federal funds requested = \$335,861 Total EMS budget = \$28,924</p> <ul style="list-style-type: none"> • Conduct Trauma Triage Pathways Program training course for instructors, EMS units and hospital personnel. • Provide matching grants to CAHs to address EMS needs.
New Mexico	<p>Total federal funds requested = \$170,000 Total EMS budget = \$35,000 (Contractual expenses only, does not include administrative expenses or supplies related to EMS activities. Also plan to use \$15,000 in Year 2 carry over for EMS activities.)</p> <ul style="list-style-type: none"> • Develop annual EMS improvement projects of CAHs. These projects will vary by local system needs, but have previously included training and upgrading of EMS personnel, improving EMS/hospital communications, improving transfer protocols, and improving a trauma registry data system. • Install the hospital diversion management system in CAHs and their local EMS providers (this is a real-time computer-based system that enables assessment of available locations for hospital transfers). • Revise EMS component of state plan.

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
New York	<p>Total federal funds requested = \$600,000 Total EMS budget = \$140,000</p> <ul style="list-style-type: none"> • Promote cross-agency collaboration among state, regional, and CAH entities. • Assist 2 hospitals in developing hospital-based EMS systems. One product of this work will be the development of effective models of EMS integration and TA materials that can be used by other CAHs.
North Carolina	<p>Total federal funds requested = \$539,000 Total EMS budget = \$38,500</p> <ul style="list-style-type: none"> • Provide technical assistance from Halifax County EMS to other counties to develop a centralized billing and inventory control system (\$2,500). • Provide funding for 3 counties to develop centralized purchasing, billing, and inventory systems (\$36,000).

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
North Dakota	<p>Total federal funds requested = \$699,570 Total EMS budget = \$80,000</p> <ul style="list-style-type: none"> • Fund 4 EMS Network Demonstration projects (\$15,000 each). Applicants must represent a collaboration between at least two ambulance companies, a CAH, and a tertiary hospital. In Year 2, the state planned to fund 2 such demonstrations. One application was received and funded, to develop and adapt a mass casualty protocol in one county. Funds supported equipment purchases and training. Three ambulance services, one CAH, a tertiary hospital, and six first response units were involved. • \$20,000 in staff time to work on on-going tasks, including: <ul style="list-style-type: none"> – Finalize establishment of EMS Advisory Board; – Continue to monitor state EMS legislation; – Educate EMS personnel about benefits of networking and regionalization (using materials developed with prior Flex funds); and – Design and implement web-based ambulance run data collection system. This system could also help with billing, and perhaps can be merged with ED injury data. Previously, the state has used Flex funds to purchase software for ambulance services in order to support this data system. <p>Additionally, four prior Flex grants to CAHs included an EMS component: one supported local training for EMS providers in the CAH’s community, with training provided by the network hospital; the other three were to purchase computer equipment to enable EMS providers to participate in a state-wide on-line continuing education program.</p>
Ohio	<p>Total federal funds requested = \$513,644 Total EMS budget = \$185,000</p> <ul style="list-style-type: none"> • Collect statewide EMS data and develop plan for rural EMS in the state (\$35,000). • Continue grant support to an EMS pilot project where a tri-county regional EMS coordinator was instituted (\$65,000). • Provide assistance for the creation of a multi-county alliance in 1 region (\$85,000).

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Oklahoma	<p>Total federal funds requested = \$700,000 Total EMS budget = \$85,408</p> <ul style="list-style-type: none"> • Provide training to ensure that each ambulance run has EMT-Intermediate or advanced paramedic staff, and encourage development of first-responder agencies in CAH markets.
Oregon	<p>Total federal funds requested = \$640,356 Total EMS budget = \$76,096</p> <ul style="list-style-type: none"> • Continue to foster EMS regionalization in 10 selected areas, via technical assistance from SORH and EMS consultants. • Provide training to 5 regional EMS consortia on how to bill for their services. • Investigate feasibility of implementing a paramedic-to-RN bridge program and a critical care paramedic program.
Pennsylvania	<p>Total federal funds requested = \$375,762 Total EMS budget = \$14,252 (plus some funding for other EMS improvements via Flex network grants)</p> <ul style="list-style-type: none"> • Evaluate EMS system components in CAH communities, including ALS and inter-facility transport capabilities. • Encourage CAHs to support local EMS units with physician staff participation in a variety of activities, including serving as ALS medical directors; development of protocols for transfers; and assistance in development of training programs. • Hold one-day meeting to inform CAHs about EMS activities.
South Carolina	<p>Total federal funds requested = \$646,616 Total EMS budget = \$101,021</p> <ul style="list-style-type: none"> • Make state staff available to facilitate partnerships between local EMS services and rural health networks (\$13,521). • Use network development consultants to advise on integration of EMS into the rural health network (\$5,000). • Provide mini-grants to modernize EMS communications and transport systems (\$75,000). • Support travel of EMS personnel to visit a CAH where integration with EMS has been successful (\$5,000). • Convene a workshop on EMS-related topics at SC Rural Association Conference (\$2,500).

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
South Dakota	<p>Total federal funds requested = \$625,000 Total EMS budget = \$59,500</p> <ul style="list-style-type: none"> • Continue to sponsor medical director training, in at least 6 locations, training at least 42 medical directors. Previously, the state has conducted 4 such training sessions in CAH communities. • Assist the next 24 “access-critical” ambulance services with computer networking to streamline trip reporting and data collection and billing. Access critical ambulance services were identified by the state using prior Flex grants, and are defined as the sole provider of ambulance services in the area. These services are often in a fragile state, and their closure would be expected to result in significant hardship for local residents. • Sponsor a pilot project to administer 10 interactive EMT refresher courses and 4 sessions of 6 new EMT classes through the Dakota Digital Network.
Tennessee	<p>Total federal funds requested = \$700,000 Total EMS budget = \$45,000 (plus a portion of grants to hospitals and communities)</p> <ul style="list-style-type: none"> • Upgrade licensing data for personnel and ambulances (\$45,000). • Provide grants to hospitals/communities for many possible activities, including EMS improvements (\$220,000). Needs are identified through the Community Diagnosis Process conducted by existing community health councils, and through other needs assessments conducted with prior Flex funds.

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Texas	<p>Total federal funds requested = \$598,223 Total EMS budget = \$90,000 (plus administrative time for state Flex Program staff)</p> <ul style="list-style-type: none"> • Continue to support the Rural EMS Scholarship Incentive Program (\$3,000 to each of 30 CAH communities). This amount represents an increase over the \$60,000 Year 2 budget. However, in prior years, they have not received enough scholarship applications to exhaust the program budget. In Year 2 they divided unused scholarship funds evenly between existing CAHs for use in EMS training, ALS certification, purchase of training equipment, etc. They plan to distribute any unused Year 3 scholarship funds in this same manner. • Include EMS personnel in the state’s regular “Health Find” job fairs, designed to match providers with rural communities. • Work with a local university to provide continuing education for hospital staff and EMS personnel using distance learning (video, Internet). • Have state Flex Program officials participate in the annual state EMS conference.
Utah	<p>Total federal funds requested = \$495,000 Total EMS budget = \$123,050</p> <ul style="list-style-type: none"> • Hold a two-day EMS Leadership seminar to help EMS agencies with reimbursement, protocol development, recruitment and retention of personnel, EMS/hospital communications, public education, and federal and state laws (\$8,500). • Conduct 3 pre-hospital trauma life support courses in CAH communities (\$20,000). • Conduct 4 Together Everyone Achieves More (TEAM) courses in CAH communities (\$16,000). • Hold a statewide conference at an urban tertiary care center to promote quality EMS/trauma care and provide networking opportunities (\$12,500). • Conduct 2 EMS medical direction courses, targeting medical directors at CAHs/potential CAHs (\$5,885). • Conduct 8 Department of Transportation (DOT) EMT information and skills training courses for EMT-I instructors, who will then teach other EMT-Is so they can transition to the next level of certification (\$60,165).

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Vermont	<p>Total federal funds requested = \$370,000 Total EMS budget = \$45,000</p> <ul style="list-style-type: none"> • Support at least 3 additional rural hospitals in conducting EMS needs assessments, and support all participating hospitals in incorporating emergency services into their community plan (\$45,000). During Year 2, the state developed a tool to guide EMS needs assessments in potential CAH communities, and awarded 2 grants for these assessments. These grants were approximately \$25,000 each; one went to a hospital, the other was expected to go to an EMS system. CAHs are expected to develop community network plans, and to integrate EMS into these plans.
Virginia	<p>Total federal funds requested = \$254,238 Total EMS budget = \$26,200</p> <ul style="list-style-type: none"> • Prepare descriptive analyses of the EMS systems in 2 counties that are home to potential CAHs (3 other counties with CAHs/potential CAHs were studied in Year 2) (\$16,200). • Purchase 5 satellite dishes for EMS providers in 5 counties to enhance their participation in the EMS Satellite Training Program—a monthly, one hour interactive training and information program (\$10,000).
Washington	<p>Total federal funds requested = \$550,000 Total EMS budget = \$101,240</p> <ul style="list-style-type: none"> • Complete and update assessments and administer EMS/CAH mini-grant program (\$51,240). • Provide 10 joint EMS/CAH mini-grants (\$50,000). Applicants must represent a collaboration between EMS providers and a CAH, or between EMS providers and a tribal entity or IHS facility.
West Virginia	<p>Total federal funds requested = \$694,721 Total EMS budget = \$135,000</p> <ul style="list-style-type: none"> • Continue to provide grants to hospitals to promote integration of EMS into the CAH (\$60,000). The state has an example of successful integration of EMS providers with an RPCH, and is actively encouraging CAHs to partner with local EMS providers. Prior grants have supported studies of the feasibility of having the ambulance service be owned and operated by the CAH, as well as activities designed to move the system in that direction. • Provide training, mentorship and technical assistance to designate 4 CAHs as Level IV Trauma Systems (\$75,000).

STATE	INFORMATION FROM STATE GRANT PROPOSAL FOR YEAR 3 (APRIL 2001)
Wisconsin	<p>Total federal funds requested = \$699,837 Total EMS budget = \$112,000</p> <ul style="list-style-type: none"> • Support the CAH Coalition in learning more about the State Trauma Plan and the Regional Trauma Advisory Councils, and in developing a subcommittee to explore ways to provide ALS training at the local level. • Help CAHs to purchase the EMS data collection software recommended by the Statewide Trauma Advisory Council, and secure consultants for assistance with use of the software.
Wyoming	<p>Total federal funds requested = \$394,723 Total EMS budget = \$160,000</p> <ul style="list-style-type: none"> • Upgrade or replace equipment used by small rural ambulance services (\$75,000, not to exceed \$2,500 per service). • Update trauma registry software and provide technical support for each hospital in the state's trauma system (\$25,000). • Provide training and stipends to trauma registry nurses to attend trauma registry update training (\$10,000). • Support services of part-time consultant to bridge gap in replacement of the trauma system coordinator (\$15,000). • Support instructors of EMT-Intermediate classes (\$15,000). • Provide 8 to 10 PCs to local ambulance services for use in data collection and billing (\$20,000).

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