

Executive Summary

A Quiet Crisis: Minnesota's Rural Ambulance Services at Risk

**Minnesota Department of
Health**

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Report to the Minnesota Legislature

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Executive Summary

Introduction

In an attempt to understand the challenges facing ambulance services in rural areas in Minnesota, the 2001 Minnesota Legislature charged the Governor-appointed **Rural Health Advisory Committee (RHAC)** to complete a study of the challenges facing Minnesota's rural ambulance services and to develop recommendations to the Commissioner of Health to address those challenges (Appendix A). Included in the charge were an examination of personnel challenges, including volunteer, part-time, full-time and paid staff; funding for ambulance services; and the financial impact of the federal Balanced Budget Act of 1997 on rural ambulance services. The Legislature further charged the committee to identify existing state, regional, and local resources that support the provision of local ambulance services in rural areas.

To address this legislative charge, RHAC convened a work group composed of members familiar with emergency medical services (EMS) in Minnesota and representative of those groups interested in rural health and emergency medical services. The work group developed a plan to include both **statewide data and community-level input**, including a combination of a statewide survey of all ambulance services and case studies in three rural communities.

The **history** of EMS in Minnesota dates back to the 1800s, when horses were the mode of transportation. In the first half of the 20th century, community funeral homes performed ambulance functions, using the hearse for dual functions. The 1960s and 1970s brought significant changes to the system. Today, ambulance services in Minnesota reflect a great diversity of ownership, organizational structure, and operational styles, and rely on both volunteer and paid staff, both part-time and full-time. The variety of ownership, funding and staffing creates unique and diverse challenges in maintaining quality of and access to emergency medical services, especially in rural areas of Minnesota.

Rural Ambulance Services in Minnesota: System Overview

The **Emergency Medical Services Regulatory Board (EMSRB)** was established by the Minnesota Legislature in 1995 and began operations in 1996 after becoming independent from the Minnesota Department of Health. The EMSRB is responsible for regulation, policy development and grant support for EMS in Minnesota. Minnesota's ambulance services are organized at the state, regional and local level. The EMSRB is responsible for the regulation of both ambulance services and ambulance personnel.

In 2002, Minnesota's ambulance services held a total of **310 licenses** of which **308 are currently active**. For purposes of ambulance service coverage, the state is divided into **primary service areas (PSAs)**, with each ambulance service licensed to serve a specific PSA. Ambulance services are licensed as **Basic Life Support (BLS)** (199), **Advanced Life Support (ALS)** (72), **Part-Time Advanced Life Support (ALS-P)** (7), and **Specialized Life Support** (which includes air ambulance service) (30). An additional two licenses are currently not active — one has expired and the other has not been allocated. Each license type has different licensing standards and is required to provide differing levels of care.

EMSRB licenses ambulance services and certifies all **ambulance personnel** in Minnesota. There are **four levels of certification** for EMS personnel in Minnesota: **first responder, EMT-B (basic), EMT-I (intermediate)** and **EMT-P (paramedic)**. All ambulance services are also required to have a medical director, and most have an ambulance service director.

Minnesota is divided into **eight EMS regions** that receive financial assistance through the Emergency Medical Services (EMS) Fund. Other sources of funding are: seat belt fine revenue; General Fund support for personnel training; local tax support and subsidies; service charges; the Revenue Recapture Act; insurance, and public programs including Medicare, Medicaid, GAMC, and MinnesotaCare.

Survey Results & Discussion

The **Minnesota Ambulance Service Survey** was developed with assistance from the Rural Ambulance Services Work Group in late 2001 and sent to all ambulance services in early January 2002 (Appendix B), with follow-up contact, through phone calls, faxes and additional survey mailing between February and September 2002. The survey was designed to gather information on the ambulance workforce, operations and finances.

The findings are based on the responses of 98 percent of ambulance services in the state. Some services were unable to complete all of the questions on the survey, especially those relating to service operations and finances, so a portion of surveys are incomplete. The findings are presented with an emphasis on exploring the differences and similarities between services in different regions and areas of the state.

Geographic Distribution

Eighty-five percent of ambulance services are located outside of the state's urbanized areas. Close to 70 percent of rural services are BLS services, while roughly half of urban services are BLS. The southeast and southwest regions account for one-third of all ambulance services, with the fewest services in the northwest region (7.4 percent). Reflecting the uneven distribution of services across the state is the variation in maximum carry distance, varying from two miles in a metropolitan county to 70 miles in northern Minnesota.

Workforce

Ambulance personnel currently on the rosters of ambulance services in Minnesota total 6,983. Of this number, 59 percent are volunteers, 25 percent are full-time paid staff, and 16 percent are part-time paid staff. The state's services have, on average, a total roster of 26 personnel, with a **median of 19**. BLS services average 20 personnel, mostly volunteer, while ALS services generally have a much larger staff (39 on average), with three-fourths paid. Somewhat predictably, rural areas are more likely to have volunteer staff (77 percent volunteer) than their urban counterparts, who have more paid staff (54 percent paid).

The **characteristics** of ambulance personnel also vary statewide. Two-thirds of all ambulance service personnel are male, with a larger proportion of female staff in rural areas (41 percent) than in urban areas (20 percent), and a larger proportion of female ambulance personnel are volunteers (67 percent females v. 55 percent males). The age distribution of ambulance staff goes from 18 through 70+ years, with most staff between the ages of 20 and 50. Rural personnel are more likely to be over the age of 40 (45 percent), when compared to urban staff (34 percent).

Paid staff tends to have fewer years on the job than volunteer staff. Rural staff is likely to have been on the job more years than their urban counterparts.

Recent staffing additions were reported to be highest in rural areas; 70 percent of rural services added new staff in 2001, and 75 percent report a need to add staff. When viewed with the higher proportion of volunteer staff in rural services, this is not surprising. Rural services reported experiencing more difficulty in covering all of their shifts than urban services, particularly during the daytime, with 67 percent of rural services indicating difficulty versus 38 percent of urban services. Weekend and holiday coverage also appears more challenging for rural services.

In summary, the survey findings suggest that staffing shortages are an issue. Many services, especially those located in rural areas of the state, have problems covering shifts, and rely significantly more on volunteers. The problem may be more acute in specific regions. Still, how staffing shortages are distributed among services, whether they are systemic or the result of a maldistribution of ambulance personnel, is unclear.

Operations and Finance

Ambulance services were asked to provide detailed operations and financial information including: number of service runs made, percent of charges billed to Medicare, total operating and personnel expenses, total net revenue and revenue sources, and information regarding the ambulance fleet. The data describe a wide diversity of services across the state, from rural services with small operations and few runs to large providers with many runs. Although the response on this portion of the survey was not complete, available data offers some helpful insights into the state's ambulance industry.

In 2000, the state's ambulance services made a **total of 371,944 runs**, with urban services reporting an average 6,693 runs versus rural services at 480 runs. As predicted, ambulance services in smaller PSAs have a smaller volume of runs. Run volume alone may be deceptive, however, since this may suggest that services with lower volumes may not be actively engaged in providing services. When run volume is examined on a **per capita basis**, there is no meaningful difference between urban and rural services or between services by PSA. Almost two-thirds of services reported operating one or two ambulances. The median age of the state's **ambulance fleet** is 6 years, with 11 percent reporting ambulances of 12 twelve years or older. Radios in these vehicles ranged from less than one year to 25 years old, with the average just slightly over six years.

Close to one-quarter of all ambulances services did not report an annual estimate of **operating expenses** on the statewide survey. The information collected showed broad variation in operating expenses, ranging from a reported \$1,000 to \$35.9 million annually. Services located in urban areas spent, on average, close to 20 times more than services located in rural areas. Of those reporting, **rural services** averaged \$211,000 in operating expenses, with a median of **\$92,000**. Rural BLS services (136) reported a median of \$64,000, with rural ALS services (35) reporting a median \$618,000 in operating expenses. This compares to a median of **\$1,238,000** for the 22 **urban services** that provided this information. Personnel expenses, on average, account for roughly 60 percent of services' total operating expenses, with a slightly higher rate for urban areas. Education and training expenses accounted for an average expenditure of 15 percent of total personnel expenditures.

Ambulance service funding comes from five major sources: Medicare reimbursement, insurance coverage, private- or self-pay, Medical Assistance and contract services. Medicare is the largest of these, representing about forty percent of ambulance service revenue. Funding generated from other sources, including grants, training reimbursements, public subsidies, and interest dividends from pension investments, also support service operations. There are several notable geographical differences for revenue sources within the state. In particular, Medicare reimbursement tends to play a more important role in the revenue picture of rural services where it, on average, accounts for 41 percent of revenue compared to 31 percent for urban services. By contrast, the average proportion of revenue from private pay and Medical Assistance is slightly higher for urban services. In addition, services in several regions, including the northwest, southwest, west central and central regions, reported Medicare as a source of revenue at a higher rate than the state average.

Total system cost

A complete understanding of the financial and operational challenges that ambulance services in Minnesota face is not easy to delineate. The survey findings reveal an ambulance system that is diverse in capacity and resources. For example, the range of annual runs in the state ranges from 3¹ to 50,000, with a median of 292. The cost of providing ambulance service in the state varies greatly by region and by service. On average, an ambulance run in rural Minnesota costs \$415. However, in northwestern Minnesota, where the runs are longer and the operating costs are higher, a run costs closer to \$575. Calculating a total current estimate of operating expenses for all ambulance services in Minnesota is thus somewhat challenging (Appendix C), and therefore was approached from two perspectives.

- **Total operating expense analysis** uses the average cost per run and the total ambulance runs performed in 2000. This method produces a total expense range for the state in the **range of \$188 million to \$200 million per year.**
- **In-kind volunteer contribution estimate** includes the assignment of value to the thousands of volunteer hours that are contributed to the rural ambulance system, relying upon the median wage (\$10.44) for EMTs/Paramedics outside of the MSA (Metropolitan Statistical Area). Assuming two staff on hand for each shift in rural ground-based services, the estimate of potential total system value for volunteer labor is approximately **\$37 million per year.**

Case Study and Vignettes

To further understand and describe the variety of ambulance service operations in Minnesota, a case study approach was developed to supplement information from the statewide survey. The case study involved site visits to three rural communities and additional phone interviews with ambulance captains and staff in several other communities. The site visits included interviews with the directors, focus groups and short surveys with EMTs and paramedics, and community focus groups. The case studies and interviews were critical in understanding the data, and indeed provided a view of the rich diversity of resources and challenges experienced by Minnesota's rural ambulance services and their communities. Several issues formed a common thread throughout each of the ambulance service visits and interviews: recruitment and retention of personnel, ambulance garages/quarters, hazards, and long-term financial viability.

¹ Total annual runs per service generally begin at 20. Services with fewer than 20 annual runs are specialized service providers.

Recruitment and Retention of Personnel

EMTs and paramedics in each of the case study sites were asked why they volunteer and how they view their work as well as their future involvement. In answer to why they volunteered, 36 percent responded that they wanted to help people or their community and 32 percent expressed a previous or current interest in medicine. A sense of community pride and civic responsibility were clear. Ninety-one percent of case study respondents agreed that being on the ambulance service was a good use of their time. However, **barriers to recruitment/retention** were identified and are listed below.

- **Nature of the work.** There is fear of responding to serious accidents or injuries, even though many ambulance runs are for chest pain, shortness of breath or other less traumatic causes.
- **Changing demographics and selective volunteerism.** Increasing elderly populations and difficulty retaining young families in communities place multiple demands upon the volunteers' time, including work and families.
- **Invisibility.** Due to the confidential nature of ambulance work, it is difficult for volunteers to share their work with others and generate interest.
- **Time and training demands.** Time commitment for calls (up to 60 hours per month for some services) and training (both the 110 hour initial training and ongoing required refresher courses) rank as top challenges.
- **Training issues.** Many volunteers felt that refresher course requirements were too frequent and repetitive. Balancing training requirements and increasing skill expectations with optimal patient care was a concern
- **High stress and menial tasks.** These include encountering serious accidents and injuries, and then being responsible for ambulance cleaning and maintenance.
- **Fear of errors and the need for high quality medical direction.** Ambulance personnel expressed need for consistent medical direction, high quality ambulance protocols, and refresher testing based on helping ambulance personnel maintain and improve their skills.
- **Employment concerns.** Some volunteers expressed concern over employers' unwillingness to release employees for ambulance calls. This contributes to difficulty in covering daytime weekday ambulance shifts.
- **Compensation.** There is great disparity in the ability of communities to compensate their ambulance volunteers. Pay varies per service from no pay to \$20 per run regardless of time or distance to \$12.00 per hour for paramedics who are hospital or county employees released for ambulance runs.
- **Retirement.** Retirement compensation programs, such as the Longevity Award and Incentive Program, do not adequately reflect the contribution made by ambulance volunteers

In the current environment of changing demographics and difficulties recruiting volunteers in general, it is hard to predict how well ambulance services will be able to recruit volunteers over the next five to ten years. Many of those interviewed were deeply concerned about their towns becoming retirement communities, with few people available to work on the ambulance squad. Rural economic development and the availability of local ambulance staff are clearly linked.

Quality of Ambulance Garages/Facilities

This issue was identified in several case study communities, arising from a not infrequent use of older or hand-me-down buildings to house ambulance facilities. Specifically, concerns were directed toward:

- **Air quality.** Housing personnel and fire/ambulance vehicles together is problematic for personnel. Many facilities do not meet OSHA standards.
- **Training facilities.** Many ambulance services don't have training space, so equipment must be moved to other locations for training, away from the ambulance garage.
- **Sleeping quarters.** Increased travel time in rural areas creates hardships and affects recruitment of personnel from neighboring towns. Residents of neighboring communities could be recruited by an ambulance service if there were kitchen facilities and sleeping quarters available for the long hours of call shifts.
- **Hazards.** Those mentioned include:
 - Methamphetamine labs, which are being discovered at an increasing rate across Minnesota.
 - Blood borne pathogens, and lack of protective clothing and equipment. Some ambulance services have no uniforms or receive hand-me-down uniforms from neighboring services. Many are not composed of current technologically advanced materials to prevent pathogens from penetrating the fabric.
- **Chemicals.** Trucks and trains carrying hazardous or flammable materials are an ongoing concern.

Financial and Reimbursement Issues

Several issues are threatening the long-term financial viability of ambulance services in Minnesota. These include:

- **Impact of the new Medicare fee schedule.** With increasing elderly populations, there is concern about reduced reimbursements and their impact on ongoing costs.
- **Inconsistent billing practices.** Minimal staff training, coupled with complex coding systems for reimbursement, may result in services not receiving run compensation they are due.
- **Rising costs.** Insurance, fuel, training and supplies were mentioned specifically. Beside the rising costs of insurance, some services fear losing coverage due to insurers dropping this line of business.
- **Bad debt.** A rising rate of bad debt was reported by several ambulance services. Medicare assignment may alleviate some of this because services will receive payment directly from Medicare. However, this will not affect bad debt for non-Medicare patients, some of whom question why they have to pay for "volunteer" ambulance service.
- **Mandates and requirements.** Compliance with HIPAA and Medicare assignment without support from the regulating authorities are a particular stress to volunteer services.
- **Unloaded miles.** Long ambulance runs to transport patients to the nearest facility or to facilities offering higher levels of care, especially in the northern part of the state, are costly. The ambulance services receive no reimbursement for the portions of the trip before and after the patient is en route to the facility.
- **License Fees.** For the very smallest services, even the \$150 license fee and additional \$96 per ambulance every two years, can be a hardship.

Recommendations

Recommendations Involving State Level Policy Changes

Note: Some of these recommendations have financial implications.

- **Tax credits or exemptions for ambulance volunteers**

Recommendation 1: Ambulance volunteers' service-related income, up to the statutory limit on "volunteer income" (currently \$3,000 per year), should be made exempt from state income taxes, and that the volunteer income cap be eliminated.

- **Training related improvements**

Recommendation 2: Ambulance personnel training should be shifted from "training for the sake of training" to an approach involving skills-based testing, and training targeted to refreshing only those skills where a need for improvement is identified. The EMSRB has already done some exploration of this approach. The Committee recommends that the EMSRB continue to explore and formulate proposals for furthering this approach.

Recommendation 2a: The EMSRB should explore training delivery methods that could be more efficient than the current system, including greater use of electronic delivery mechanisms such as the Internet. In addition, any required "variance training" or other specialized training such as CPR be incorporated into the basic refresher course rather than being offered separately.

- **Improvements to the Longevity Program**

Recommendation 3: Current statute places an upper limit of 20 on the years of service for which an ambulance volunteer can receive credit through the Ambulance Service Longevity Award and Incentive Program. This 20-year limit should be eliminated. In addition, the Emergency Medical Services Regulatory Board should conduct further review and analysis of possible improvements to the program.

Recommendation 3a: An analysis of the longevity program, PERA enrollment, or other retirement options for paid and volunteer ambulance staff should be conducted to identify which vehicle would provide the most appropriate incentives for retaining paid ambulance personnel.

- **Training reimbursement and cost saving strategies**

Recommendation 4: The hourly training stipend ambulance services receive for staff training (currently \$5.50/hour) should be increased to an amount that more closely represents the value of employees' time, and an additional allowance should be made for the cost of required training materials.

Recommendation 4a: The amount of time ambulance squads must wait for reimbursement after an employee is trained should be reduced from one year to six months, in order to allow re-use of training funds on a more frequent basis.

- **Strengthen involvement of medical directors in ambulance service operations**

Recommendation 5: The EMSRB is encouraged to work with regional EMS programs, the Minnesota Academy of Family Physicians, the Minnesota Medical Association, and others as appropriate to develop incentives for medical directors to participate in available national and state training opportunities, and to develop as necessary additional training opportunities that better meet the needs of rural medical directors.

Recommendation 5a: Public recognition of the contributions medical directors make to the operation of the local ambulance service should be encouraged by the EMSRB.

- **Variations for health, child care, and other local employers with staffing ratio issues**

Recommendation 6: Implementation of a variance or exemption for staffing ratios for health and childcare facilities, schools, and other employers during the period of time that an employee is staffing an ambulance run, up to a certain limit (possibly two hours), would help meet daytime ambulance volunteer needs.

Recommendation 6a: A child care provider exemption should be structured to allow for unannounced drop-off of the children of ambulance personnel from their community during the time the ambulance staff member is on a run.

- **Include ambulance personnel in health legislation and analysis**

Recommendation 7: The Legislature and the Minnesota Departments of Health and Human Services are encouraged to consistently include references to ambulance services and personnel in health workforce policy directives and health workforce analysis.

Recommendations Involving Direct State, Federal or Foundation Financial Support

- **Support for federal legislation**

Recommendation 8: The Legislature, the Commissioners of Health and Human Services, the EMSRB, and other state policy makers should support federal efforts to improve reimbursement and provide other supports to rural ambulance services.

- **Grant and/or loan programs**

Recommendation 9: A grant and/or loan program to meet capital, clothing, and equipment needs of rural ambulance services is recommended.

- **Fee or tax related strategies**

Recommendation 10: Further exploration of fee-related strategies to support rural ambulance services is recommended.

Recommendation 10a: The EMSRB and/or the Department of Revenue should develop ways to encourage city and county operated ambulance services to take full advantage of the

Revenue Recapture Act, which provides a mechanism for services to collect unpaid charges out of tax refunds or lottery prizes.

Recommendations Involving State and/or Regional Technical Assistance and Support to Rural Ambulance Services

Recommendation 11: The EMSRB and regional EMS programs should explore and, where appropriate, develop implementation plans addressing the following identified needs:

- Standardized accounting system
- Specialized training
- Intensive support for struggling ambulance services
- Mutually supportive roles of health care facilities and ambulance services
- Regional communication systems
- Centralized ambulance repair support