WISCONSIN OFFICE of RURAL HEALTH RURAL EMERGENCY MEDICAL SERVICES (EMS) NEEDS ASSESSMENT

FINAL REPORT

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A very special thank you to the Rural Emergency Medical Services Service Directors that completed the Wisconsin Office of Rural Health "Rural Wisconsin Emergency Medical Services Needs Assessment 2007", the EMTs who took time out of their busy schedules to attend one of the EMS Forums, and the Critical Access Hospitals (CAH) who completed the CAH survey and also sent representatives to one of the EMS forums. In addition, a thank you to Norah Stofflet and the Bureau of Local Health Support and EMS for providing mailing lists and presenting at the forums. And finally, to Bob Nack, RTAC Coordinator, who presented at the Shawano EMS Forum.

BACKGROUND

Created in the Balanced Budget Act of 1997, the Medicare Rural Hospital Flexibility Program (Flex Program) provides states with funds to improve access to care in rural communities. The program provides cost-based Medicare reimbursement to hospitals that convert to Critical Access Hospital (CAH) status. The Flex Program also provides grants to encourage rural hospitals to initiate community based health initiatives, such as establishing rural health networks or improving EMS systems in rural areas. The overall purpose of the Flex Program is to help sustain the rural healthcare infrastructure with CAH as the hub of an organized system of care. The federal Office of Rural Health Policy (ORHP), Health Recourses and Services Administration (HRSA), U.S. Department of Health and Human Services (DHHS) administers the grant program.

Six priority areas have been established for states implementing the Flex Program:

1. Creating and implementing a state Rural Health Plan
2. Converting hospitals to CAH status and supporting them after conversion
3. Fostering and developing rural health networks
4. **Enhancing and integrating rural Emergency Medical Services (EMS)**
5. Improving the quality of rural health care
6. Evaluating Flex Program activities and related outcomes

A one-day Flex Grant Program Stakeholder Strategic Planning Session was held on February 21, 2007 and hosted by the Wisconsin Office of Rural Health. Issues identified for integration and improvement related to EMS in Wisconsin were:

- Recruitment and retention of staff
- Delays in getting patients to the correct facility
- Access to transportation services
  - ✓ Incorrect staffing
  - ✓ Lack of availability
  - ✓ Lack of knowledge related to the extent of the problem (may be regional issue)
  - ✓ Lack of ground transport may be causing an overuse of air transport
- Poor reimbursement

Two strategies for integration and improvement for EMS were to

1) Fund EMS training
2) Establish and consult an EMS advisory panel of experts

The EMS component of the 2006-2007 Flex Grant is included in objective seven which is "To explore, develop and offer the Emergency Medical Services (EMS) resources and educational offerings". The accompanying goal is "To improve access to services that meet identified needs and to improve access to emergency services, strengthen rural emergency care, and provide additional EMS resources".

Although there has been a sense or perception of what may be needed by the rural EMS services in Wisconsin, there has not been any formal rural-specific needs assessment conducted in a number of years. To best meet the needs of rural EMS systems, it was determined that those needs had to be identified with a needs assessment being the tool. The identification of rural EMS services current needs would provide the Wisconsin Office of Rural Health a greater understanding from which to develop recommendations, to prioritize those needs, and determine how to best to meet the identified needs of the rural communities through the Flex Grant.

The steps involved in accomplishing this goal were to:

1. Develop and disseminated a rural EMS needs assessment
2. Conduct three EMS forums across the state to present the results and solicit additional information regarding the needs of Wisconsin rural EMS services
3. Provide a written report of the findings which would assist in the guidance of future Flex Grant proposals

NEEDS ASSESSMENT METHODS AND RESPONSE

In an effort to determine which rural ambulance services transport patients to Critical Access Hospitals, Wisconsin's fifty-nine CAHs (including Ashland – in the certification process) were distributed a brief four question survey via the list serve. There was a 61 percent return rate with thirty-six of the fifty-nine CAHs responding 36/59).

The CAH survey consisted of the following four questions:

1. Please indicate the names of EMS ambulance services who transport patients to your CAH
2. How many patients were transported to your CAH last year (2006)?
3. Does your CAH provide medical direction for your local EMS ambulance service? (28/33= yes)
4. Do you collaborate or participate in any other activities with your local EMS ambulance service provider?
   - Community CPR
   - Education
   - Fundraising
   - Injury Prevention
   - Quality Assurance

A mailing list consisting of all EMS services and Service Directors, was obtained from the Bureau Local Health Support and EMS. Utilizing the CAH survey and the Wisconsin EMS Association's publication of "When There's An Emergency" EMS Service location map (WEMSA), 235 *Wisconsin Office of Rural Health Emergency Medical Services Needs Assessments* were mailed. A copy of the Needs Assessment is located in the appendix of this report. Ninety-six needs assessments were completed and returned and ten were returned undeliverable. This resulted in an overall return rate of 42.67 percent (96/225).

EMS Forums were then held in three locations (Barron, Shawano, and Richland Center) during the month of August to discuss the results of the needs assessment. CAH representatives and EMS directors were invited to participate. Although the forums were poorly attended, the discussions that took place were extremely beneficial. In addition to the presentation of the needs assessment results, the area Regional Trauma Advisory Council (RTAC) Coordinator and Bureau Local Health Support and EMS and were invited to speak at each of the forums.

DISCUSSION/FINDINGS

The rural EMS needs assessment addressed six areas:
- Demographics
- Personnel and Training
- Ambulance Operations
- Data Collection
- Injury Prevention
- Priority Needs

The goals of the rural EMS needs assessment were to:
- Determine specific needs of Wisconsin's rural EMS providers
- Include the Federal Rural Health concerns in the areas of EMS education, billing/reimbursement, recruitment and retention, and trauma system involvement
- Determine the greatest needs for Flex grant funding opportunities
- Provide information to the Wisconsin Office of Rural Health, State EMS Office, EMS Advisory Board, and Physician Advisory Committee for consideration in policy-making and use for legislators

Section One – Demographics of EMS Respondents

The demographics section of the needs assessment asked questions related to the estimated population base served, square miles of coverage area, what rural hospitals they transported patients to, and whether they participated in their Regional Trauma Advisory Council (RTAC). In addition, the level of licensure was obtained through the use of the State EMS Section licensing database. The estimated population base was reported in a range of 494 to 25,373 with many rural services experiencing seasonal variances in population due to tourism and special events. The respondents also reported that their EMS service coverage area ranged from 10 to 1500 square miles. All respondents provided the names of the CAH (s) to which they transported patients.

Table 1 shows that the greatest majority of rural respondents were licensed at the EMT-basic level (49%) followed by the EMT-Intermediate Technician (26%). The coverage of paramedic and intermediates combined totaled 25 percent. Overall, this data demonstrates that the majority of rural communities (75%) responding to the needs assessment in Wisconsin receive prehospital care from providers licensed at the EMT-basic and EMT-intermediate technician levels. This result coincides with data from other state surveys that found that rural EMS providers typically do not have paramedic capability.

Table 1. Level of licensure[a]

EMT – Basic	47	(49.0%)
EMT- Intermediate Technician	25	(26.0%)
EMT-Intermediate	8	(8.0%)
EMT-Paramedic	16	(17.0%)

[a] Data from WORH EMS Needs Assessment

The question regarding the EMS service's participation in their RTAC was included on the needs assessment because there has been concern that many EMS services are not participating in their RTAC, despite the fact that all EMS services were required to select an RTAC for membership and notify the DHFS by July 30, 2005. The key to the success of the Wisconsin Trauma Care System has been the development of each of the nine RTAC regions. The purpose and responsibilities of the RTAC's are defined in Wisconsin Administrative Code HFS 118.06[1]. The purpose of the RTACs is to develop, implement, monitor, and improve the regional trauma care system and ultimately the entire statewide trauma care system. They are responsible for various activities including the development of triage and transport guidelines, regional performance improvement plan, injury prevention and education strategies, trauma education for healthcare and EMS providers, and analysis of local and regional trauma registry data.

Table 2 represents the number of respondents by RTAC service area and shows that every RTAC Region was represented. When asked if they actively participated in their RTAC, sixty-eight indicated that they did, yet twenty-eight indicated they did not. The importance of participation by rural EMS services cannot be stressed enough given that statistics from the Center for Rural Health sites that injury related deaths are 40% higher in rural communities than in urban areas (2003). EMS is an integral component of each RTAC region – they need to be involved in the development of regional triage and transport guidelines, data collection, performance improvement, and all of the activities included in their regional trauma plan so that the number of trauma related injuries and deaths can be reduced. Rural EMS issues are different than urban EMS issues and need to be discussed as part of the planning, development and implementation of both a regional and statewide approach to trauma care.

Discussions at the forums indicated that there is a lack of communication regarding the RTACs. For example, many were unaware of activities within their RTAC, did not receive minutes from meetings, were unaware of the individual RTAC websites, and several did not know when the meetings were scheduled. Suggestions were made to have a central location where an individual could go for all information.

The forum discussions also centered on possible utilization of the regional approach for group buying, shared medical direction, billing, injury prevention programs, and even the possibility of having one Clinical Lab Improvement Act (CLIA) waiver per RTAC instead of each service having to purchase the waiver.

[1] http://www.legis.state.wi.us/rsb/code/hfs/hfs118.pdf

Table 2. Respondents by RTAC Region[a]

RTAC Region	Respondents/RTAC
Lake Superior	6
North Central	15
Northeast	7
North / Northwest	14
West Central	9
Fox Valley	11
Southwest	12
South Central	18
Southeast	4
	96

[a] Data from WORH EMS Needs Assessment

Section Two: Personnel and Training

The 1996 NHTSA EMS Agenda for the Future addresses the issue of personnel by stating that" *The task of providing quality EMS care requires qualified, competent, and compassionate people. The human resource, comprised of a dedicated team of individuals with complementary skills and expertise, is the most valuable asset to EMS patients.*" [2]

Section two addresses the challenges and critical issues facing Wisconsin rural EMS systems – personnel and training. Questions on the needs assessment pertained to the issues of difficulty covering shifts, recruitment and retention, training difficulties, and their preference or training/education delivery methods.

In rural EMS systems, personnel needs reflected their heavy dependence on volunteers. The rural EMS systems reported that it is getting more difficult to recruit volunteers, especially for daytime coverage, and that declining volunteerism was a major problem affecting the ability to quickly respond to emergencies. Discussion examples included a heavy reliance in having neighboring services cover calls when there was no one from their service to take the call, which increases response and transport times. Discussions also revealed that many services were encountering problems with attrition and retention due to increased demand on personal time for training and calls, not willing or uncomfortable utilizing the computer and internet, and having to use antiquated and unreliable equipment.

Table 3 shows that an overwhelming majority (75%) of responding service managers reported that there were times when their ambulance service had difficulty covering calls. Of those indicating such difficulty, most indicated that they had such problems covering

[2] U.S. Department of Transportation (NHTSA). Emergency Medical Services Agenda for the Future. TR Delbridge editor. NTS-42, Item No. 808-441, p25. 1996. Washington DC.

the weekends (34%) and during daytime hours (31%). Excluding the "other" category, the greatest factors contributing to those difficulties were the "distance from work" and "conflict with employers".

Table 3. Difficulty Covering Calls[a]

Difficulty covering calls		
Yes	72	(75.0%)
No	24	(25.0%)
Specific periods of difficulty		
At night	14	(10.0%)
During days	43	(31.0%)
On weekends	48	(34.0%)
During holidays	35	(25.0%)
Factors making call coverage difficult		
Distance from work	26	(21.0%)
Conflict with employers	21	(20.0%)
Daycare / Child care obligations	15	(21.0%)
Family Issues	10	(19.0%)
Other	31	(27.0%)

[a] Data from WORH EMS Needs Assessment

Comments indicated under the "other" category included:

- Limited number of EMTs (6)
- Short staffed & overworked
- Bedroom community
- Low pay
- Call volume
- Everyone works out of the area (6)
- Few EMTs & everyone has so much going on (4)
- Lack of time available to volunteer
- Decreasing numbers
- EMTs have regular FT jobs – EMS is not
- Certification requirements
- Employee injury
- Lack of interest in EMS

Discussion comments from the forums indicated that many of the volunteers worked some distance from the service or even at a significant distance from their home towns (people commuting to employment in other municipalities). They noted the difficulties surrounding taking call when you are an hour away from your service area. Others stated that they respond directly from their job in their work clothes. There have been numerous incidents where there has been no one to respond or it has taken a great deal of time for the response. Many EMS services work with their neighboring service(s) to

cover calls, which could result in a delayed response to their area, but at least someone would respond. Rural EMS services are struggling to provide their communities with timely response to their emergencies. They are being creative; however wonder how long they can keep this up. Seventy-five percent is a staggering number – as one Forum participant stated “How long can we continue to depend on volunteers alone?”

Another contributing factor was that they were having difficulties with their employers. To demonstrate the severity – one EMT was reported fired from their place of employment due to missing work because they were on an EMS calls. Many EMT’s throughout the state have been given the ultimatum – EMS or your job. Discussions revealed that employers of many volunteers in Wisconsin have disciplined the volunteer when they report to work late after responding to an emergency incident in their community. As ambulance call volume increases, employers are less likely to allow EMS personnel to respond during their working hours. Because of long transport distances each call can last from 30 minutes to several hours. They also expressed concern that the computerized run forms will add an additional 30-40 minutes to the length of their call, thus increasing the length of time away from their employment.

One service manager stated that he makes a point to meet with each new EMTs employer to explain the role of the EMT and what it means in terms of being on an ambulance call. It was also noted that the Wisconsin Fire Chief Association has indicated that there is legislation being developed which would provide volunteers safety from being penalized by their employers. Most of our surrounding states have such legislation. The Wisconsin Fire Fighter’s Association has the following statement on their web site: “*Wisconsin communities need legislation to protect their volunteers from employers who discipline these dedicated volunteers.”* [3]

Recruitment and Retention

Wisconsin rural EMS services continue to struggle to maintain volunteer EMS personnel. The needs assessment revealed that one of the most pressing problems facing local EMS providers includes recruitment and retention. When the service directors were asked if their service(s) has a recruitment and retention plan, the majority (56%) stated they did not. One service indicated that they had a recruitment plan, but not a retention plan.

Of those respondents that indicated they had a recruitment and retention plan the top three most successful methods used to recruit personnel were:

- Word of mouth
- Advertising (paper, radio, website, etc)
- Open House/Community Events

[3] www.wi-state-firefighters.org

It would seem that in terms of recruiting volunteer EMTs – marketing is the bridge. Some of the other methods that services are utilizing for recruitment strategies included:

- Explorer program
- Ride-a-long program
- "Be Somebody Campaign"
- Tuition reimbursement
- Instructor input
- Bonuses
- Cross-training FF/Paramedic
- Flexible scheduling
- Pay incentives

The results of the needs assessment revealed that the top three most successful methods used to retain personnel were:

- Competitive pay and benefits (clothing allowance, longevity bonuses, etc)
- Modern equipment
- Flexibility (scheduling, etc)

Other strategies utilized in retention included:

- Treating EMTs fairly and with respect
- Good communication, teamwork, participation in decision-making
- Length of Service Award Program
- Paid education
- Employee recognition awards / showing appreciation
- Remind them of their value to the community
- Training/education location is close

There were also a few who stated that "nothing really seems to work."

Through the recruitment and retention discussions at the forums participants felt that people who volunteer in EMS do so because they love it. Volunteers who feel good about their work create a contagious atmosphere that stimulates the feelings of self worth, personal satisfaction that they are doing something that helps others, enjoyment, friendship, and achievement. The satisfaction from meaningful work and relationships, status in an organization, achievement of goals, personal/professional growth and recognition all seem to contribute to the retention of their volunteer EMTs.

The Length of Service Award Program (LOSAP) was noted as being a means of retention for volunteer EMTs. Current law has established this LOSAP under which a municipality that provides emergency medical services may provide length-of-service awards to qualifying emergency medical technicians who perform emergency medical

services for the municipality. Annual contributions to the awards program by each municipality are matched by the state, subject to certain conditions and limitations.[4]

Utilizing a table, the respondents were requested to indicate a factor rating for each of the listed personal factors that may contribute to their agency's ability to retain personnel. The ratings ranged from being a minor factor (1) to being a major factor (3) in the retention of personnel. Table 4 represents the results the respondent's rankings. Difficulty getting time off from employer for emergency calls, employment schedule / shift work, time commitment at agency, and family obligations other than child/elder care were rated the highest in terms of being factors related to personal attributes and retention of personnel.

Table 4. To what extent does each one of the following Personal factors contribute to your Agency's ability to retain personnel? [a]

	Minor Factor		
Factors	1	2	3
Lack of support from non-agency employer	60	20	13
Difficulty getting time off from employer for emergency calls	**35**	**36**	**22**
Lack of support from non-agency coworkers	71	18	4
Out of pocket expenses to volunteer	63	21	9
Employment schedule/shift work	**21**	**28**	**44**
Time commitment at agency	**19**	**37**	**37**
Lack of wage/salary compensation during call time	41	23	29
Transportation issues interfere with agency participation	74	15	4
Child/Elder care issues interfere with agency participation	52	27	14
Family obligations other than child/elder care interfere with agency participation	**33**	**37**	**23**
Lack of family support interferes with agency participation	58	28	7
Community not supportive of EMT to participate with agency	79	10	4
Personal health interferes with agency participation	76	17	

[a] Data from WORH EMS Needs Assessment
Note – 1 answered n/a to all of the above; 1 answered "none" as a factor to all; 1 did not answer this question.
Total = 93/96

Utilizing a table, the respondents were requested to indicate a factor rating for each of the listed agency factors that may contribute to their agency's ability to retain personnel. The ratings ranged from being a minor factor (1) to being a major factor (3) in the retention of personnel. Table 5 represents the results of the respondent's rankings. Personality issues, on-call expectations, and a shortage of personnel for back-up call were rated highest in terms of the ambulance service attributes in relation to retention of personnel.

[4] www. http://dhfs.wisconsin.gov/ems/index.htm

Table 5. To what extent does each one of the following Agency factors contribute to your Agency's ability to retain personnel?[a]

Factors	Minor Factor 1	2	3
Lack of emotional support from agency coworkers	72	15	6
Effort is not valued by agency	76	11	6
Personality issues at agency	**42**	**38**	**13**
Lack of respect from physicians	54	32	7
Lack of respect from nurses	55	28	10
On-call expectations	**41**	**32**	**20**
Lack of opportunity to participate at agency	75	13	5
Lack of independence	83	7	3
Must also be a firefighter	88	3	2
Must participate in firefighting	88	3	2
Response location	66	20	7
Response time requirements	54	27	12
Lack of internal structured training program	78	15	
Sufficient similarly certified EMS personnel	72	20	1
Lack of adequate EMS equipment	80	9	4
Amount of critical incident stress	82	11	
Poor critical incident stress debriefing	88	5	
Physical demands of EMS work	70	16	7
Shortage of personnel for backup	**29**	**29**	**35**
Health and/or safety hazards	78	12	3
Legal liability	82	10	1

[a] Data from WORH EMS Needs Assessment
Note – 1 answered n/a to all of the above; 1 answered "none" as a factor to all; 1 did not answer this question.
Total = 93/96

Overall, rural EMS services directors are utilizing a variety of creative methods to recruit and retain their volunteer EMTs. The discussions and needs assessment revealed a mix of incentives including pay incentives, professional liability & health coverage, retirement benefits, public education, training/education, personal support, and awards and recognition for dedicated providers. Despite their best efforts, the challenge to provide coverage during the day and on the weekends remains critical to the survival of many rural EMS systems in Wisconsin.

According to the Rural EMS and Trauma Technical Assistance Center (REMSTTAC) there are a few comprehensive EMS recruitment and retention programs that have been developed - the Wisconsin EMS Association (WEMSA) and the Commonwealth of Virginia. Pennsylvania has also developed an ad campaign targeting high school graduates to choose an EMS career. All of these programs have proven successful over time. There may be other programs available in other states. There is also a federal EMS recruitment and retention guide available from the US Fire Administration (FEMA "EMS Recruitment and Retention Manual" (FA-157), 1995.)[5]

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[5] http://www.remsttac.org

WEMSA's program is available on their WEMSA Resource Kit – "Recruitment and Hiring" which is available to service and corporate members only.[6]

A suggestion from forum discussions is that a statewide, coordinated recruitment strategy be developed and implemented. In addition, a statewide marketing campaign would be beneficial.

Education

Rural EMS services often feel that education and training are difficult to access. The respondents were asked to indicate which of the following factors they felt were contributing to their training center's inability to meet their needs.

Table 6. Factors contributing to Training Center's inability to meet needs[a]

Classes not conveniently located	32	(30.0%)
Lack of quality instructors	5	(5.0%)
Cost	18	(17.0%)
Classes scheduled wrong time of year	6	(6.0%)
Class times not convenient	10	(19.0%)
Other	29	(27.0%)

[a] Data from WORH EMS Needs Assessment

Other Responses included:

- Not offering level of education we seek (EMT-P)
- Minimum number of students/class
- Lack of having choices
- Have to travel so far
- Instructors not following state standards
- Class start of 5:30PM is too early for day shift workers
- Difficult for staff to get off
- Inadequate amount of classes being offered
- Not enough courses/classes offered due to lack of instructors
- Poor communication with training center
- 7 answered – have no problems..TC is Great
- Having classes twice/week
- No options; internet, labs @ various times, etc

The majority or respondents (30%) felt that classes were not conveniently located. Many of the services were required to travel long distances for class. Many also felt that they

[6] www.WisconsinEMS.com

were not given many choices for the time of year, days of the week, or time of day for the courses to be held. Discussions also revealed that the requirement for having a minimum number of students per course or the availability of instructors also made it difficult to get a class. Because most EMTs work day or evening shifts, it is difficult to find the best time of day for a course. There were several services (7) that stated they were extremely happy with their training center. If services had a good rapport and open lines of communication with their training center, they seemed to be able to come to a compromise. The discussions suggested that services maintain open lines of communication with their training center, that training centers consider alternative methods of presenting the course materials, and that labs be held at various times so all students could attend. It was also noted that not all training centers offer the same levels of EMS education. Some services seeking advancement to the paramedic level have to travel great distances and out of the district to obtain the education.

The cost of the education was also considered a factor by 17 percent of the respondents. Ninety-three respondents indicated that the service pays for their individual EMT's continuing education (unsure if this is required CE only). The Federal Assistance Program (FAP) provides money to ambulance services which is usually utilized for training/education purposes.

The EMS Education Subcommittee of the EMS Advisory Board continues to pursue various alternative methods for the delivery of EMS education. The rural respondents were asked to indicate their preference (most to least preferred) of educational opportunities. Their order of preference for educational opportunities, most to least preferred were:

1. Hands on skills practice
2. Classroom
3. Video
4. CD/DVD
5. Internet & Interactive video tied
6. Correspondence

It is no surprise that EMTs continue to prefer hands on skills practice as their number one method of receiving education. It is truly the best method for instruction of any of their skills. Many still prefer the classroom setting, primarily because they are somewhat hesitant of using computers or other electronic equipment. Internet and interactive video were tied at the fourth preference. Since the service director completed the needs assessment question, the response as they relate to the age of the respondent may have been a variable.

Section Three – Ambulance Operations

The questions related to ambulance operation were inquiries about the number of ambulance calls in 2006 and questions related to billing activities.

Table 7 indicates the number of ambulance calls in 2006. The highest range of ambulance calls is between 101 – 200 (26.04%) calls in a one year period. The range was 44 to 2759. Those with responses greater than 1000 (21.9 %) were generally hospital or county owned.

Table 7. Total number of transports, 2006 [a]

# Transfers	# Services	Percentage
0 – 49	2	2.10 %
50 – 100	5	5.21 %
101 – 200	25	26.04 %
201 – 300	10	10.42 %
301 – 400	5	5.21 %
401 – 500	8	8.33 %
501 – 600	6	6.25 %
601 – 700	5	5.21 %
701 – 800	1	1.00 %
801 – 900	2	2.10 %
901 – 1000	4	4.20 %
1001 – 1300	4	4.20 %
1301-1500	5	5.21 %
1501 – 1700	1	1.04 %
1701-2000	6	6.25 %
Unknown	5	5.21 %

[a] Data from WORH EMS Needs Assessment

When asked if their service conducted billing activities the responses indicated that 62.5 percent of services directly bill for their services, 35.4 percent contract their billing to an outside entity, and two services do not bill for their services.

The primary difficulties encountered were low reimbursement, large number uninsured, and slow reimbursement by payer. Complicated billing procedures and types of services covered by insurers were also indicated by 25 percent of the respondents.

Ambulance is a part B Medicare service with constantly changing rules related to billing which makes it extremely difficult to keep abreast of all the changes and requirements. Many rural ambulance services indicated that they were using the city or county clerk to do their ambulance billing. Several indicated that the hospital was doing their billing. The percentage of billing claims reported rejected ranged from < 1% to 43%. The most significant percentages of rejected claims were by services that billed directly. Some services were in the process of switching to a contracted billing service. REMSTTAC states that services that switch to professional billing companies often report significant

increases in income as their claims are transitioned from paper to electronic and professionals handle collections. [7]

<u>Section Four</u> - Data Collection

The primary reasons why EMS systems should collect data include to evaluate whether current treatments and procedures make a difference in patient care and outcome, to develop and implement new treatments and procedures, develop EMS policy, evaluate the State, Regional and local EMS Systems and identify areas for improvement, assist legislators, and assist EMS services when making requests to their local governing bodies.

For the rural EMS service whose care may be hindered by long response times, long scene arrival times and sometimes even longer hospital arrival times, the data may provide them with valuable information to justify paid staffing, new equipment/vehicle, or facilities.

The Wisconsin Division of Public Health has developed a secure, web-based reporting system called the Wisconsin Ambulance Run Data System (WARDS). Ambulance service providers that have received training to use the system are able to enter and submit their ambulance run information electronically via the internet. This program is available at no charge to Wisconsin ambulance service providers and will become mandatory January 1, 2008.

The EMS Section lists the following features / benefits of WARDS:

- WARDS is easy to use
- A printable report takes the place of the ambulance run report
- Data available to the service will be current
- Continuous quality improvement functions are included in the programming
- Service information is available at the manager's fingertips for annual reports, budget requests, training records and other measures of performance
- System can help find spikes in symptoms and allow for investigation and early identification of possible disease outbreaks
- System will assist in identifying interventions that work best for patients by comparing interventions used under different conditions against the patient outcome.

100% or the respondents had heard about WARDS and the fact that the State EMS Office will be requiring its use beginning January 1, 2008. Information regarding WARDS is available at www. http://dhfs.wisconsin.gov/ems/index.htm

Table 8 shows that 27 percent of rural EMS services still do not have a computer available to them. This will pose a significant problem to them as the deadline for

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[7] http://www.remsttac.org

mandatory use of WARDS approaches. EMS services that will have difficulty meeting this mandate have been instructed to contact Brian Litza, State EMS Section Chief at litzabd@dhfs.state.wi.us

Of the 73 percent of services that do have computer availability, the majority is located at their stations or hospitals. A proactive approach has been taken by many of the CAHs to work with their community ambulance services to supply them with a computer. Of the 69 percent of services with internet access the majority have DSL available to them.

Table 8. Computer and Internet availability [a]

Computer Availability		
Yes	70	(73.0%)
No	26	(27.0%)
Location of Computer (some had more than one location)		
Station	53	(60%)
Hospital	18	(20%)
Technical College	0	
Crew Member's Home	7	(8%)
Ambulance	11	(12%)
Internet Availability		
Yes	69	(72%)
No	27	(28%)
What speed of Internet		
Dial-up	5	(7%)
DSL	34	(46%)
Cable	20	(28%)
T1	9	(13%)
Other	4	(6%)

[a] Data from WORH EMS Needs Assessment

The final question asked if their EMS service was using the State EMSS licensing database. All but 10 Services answered "Yes". Of those services not utilizing EMSS they listed for following reasons for non-use:

- Do not know anything about it
- In the process of establishing
- Have no computer (3)
- Not comfortable using the internet
- Have no interest to access it
- Time

Section Five: Injury Prevention

A community has a duty to provide injury prevention strategies to its citizens, particularly because unintentional injuries are the leading cause of death in people ages 1-44 both in Wisconsin and the nation and the fifth leading cause of death for all ages. Prevention strategies can include leadership and educational activities. One goal of injury prevention is to decrease the incidence of preventable illness and injury. Another is to preserve life and function. As a member of the health care system the EMS provider can be a key resource in community injury prevention programs. EMS providers are unique in that they serve as role models; are welcome into homes, schools, and businesses; are seen as authorities on injury and prevention; and are often the first to spot situations that pose a risk for illness and injury (unsafe environment, unsanitary conditions, etc). The role of the EMS provider in injury prevention is included in all EMT curriculums, the NHTSA EMS Agenda for the Future, and the Wisconsin Statewide Trauma Care System Report (2001). Prevention is also one of the 14 EMS attributes of the Rural and Frontier EMS Agenda for the Future. The types of injuries that occur in the rural community are varied and may differ from those of urban programs. Prevention programs should be population –specific. Rural programs may focus on farm, home, vehicle, firearm, and water safety. Access to healthcare and EMS should also be an important focus. Community cardiopulmonary resuscitation (CPR) and Public Access AED instruction are extremely good opportunities for CAH and local EMS services to combine resources to enhance healthcare in their community.

Table 9 shows that there are still 14% of rural EMS services that provide no programs within their communities. The greatest percentage of programs includes access to EMS (15%) and child safety seats (17%). There is a good distribution of programs with additional programs indicated under the "other" category.

Table 9. Public Awareness and Education Programs[a]

Program	Number	(%)
Poison prevention	10	(4%)
DNR	23	(8%)
Child Safety seats	50	(17%)
Drug/Alcohol abuse	30	(11%)
Water safety	18	(6%)
Violence prevention	14	(5%)
CAH	17	(6%)
Access to EMS	44	(15%)
Other	30	(11%)
None	10	(14%)

[a] Data from WORH EMS Needs Assessment

Others programs included:

- Ask a Medic Program
- Bicycle Safety
- CPR
- Fire Safety in Schools
- P.A.R.T.Y. Program
- Every 15 Minutes Program
- Juvenile Decision-making
- Safety Camp for Second graders (PD)
- All Awareness done through Public Health

Section Six: Priority Needs

The first question asked the respondent to list, in order of importance, what they would consider their agency's top five (5) needs. These needs fell into the main categories of staffing/personnel, education/training, equipment and facility needs, computer/internet, and finance (budget and finance). Other comments included:

- Not enough grants for non-fire based services
- Time for Quality Assurance (QA) & Quality Improvement (QI)
- More people who will volunteer to help us
- Hiring Full time staff
- Advance to higher level of care
- Growing our response area
- "No problem, usually if needed, I just buy it!!"
- Allowing EMTs to work at highest level of licensure
- Flexibility with refresher courses
- More funding from State
- Projector & laptop for in-house training
- More grants for EMS
- Increased medical director involvement
- CPAP

The second question asked: "What are the five greatest challenges you face as the manager of a rural EMS service?" The number one response was budget, followed by personnel issues/staffing and communications (includes staff, policy makers, patients).

Other comments included:

- Radio communication
- Training/continuing education
- Time management
- Customer service

- Recruitment / Retention
- Trying to get our EMT's to use computer
- Trying to keep up with all the new things coming out
- Finding time to do administrative work
- "Municipal Gout" – lack of understanding of EMS
- Education availability and cost
- Building a satellite station
- Enlarging our coverage area
- Getting qualified/experienced EMT & paramedics
- Maintaining good skill levels
- Conflicts between Fire and Police Departments
- Having to have Village Board approval on most everything
- Having on-call room for EMTs during their shift
- Keep Basic services in business
- Meet community's needs for EMS
- Keep politics out of patient care
- Getting WARDS up and running
- Long hours (my wife and I cover 24 hrs/day/7days/week with very little relief)
- Lack of understanding by the community of EMS
- Keeping the good crew I have now
- Finding time to be responsive to the concerns and wants of personnel
- Keeping skills current with low call volumes
- WARDS
- Small town rumors
- Political pressure to provide interfacility transfers for our hospitals
- I have to take call when others can not – no freedom
- Lack of support from administration
- Retiring seasoned EMTs
- Road construction and visible fire numbers

Many ambulance service managers/directors have not been trained to manage a volunteer workforce, comply with state and federal regulations, oversee billing, plan deployment of resources, or even strategic planning. The REMSTTAC recognized this as a problem and developed two assistive products; the EMS Manager's Awareness Guide and the Service Chief's Guide to Implementing the Rural and Frontier EMS Agenda for the Future. [8]

On Thursday, January 31, 2008 the WEMSA Conference being held in Milwaukee, Wisconsin has a session entitled "Volunteer EMS Management" from 8 AM – 5 PM. [9] This is an opportunity for rural service managers/directors to obtain EMS leadership-specific training.

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[8] Rural EMS and Trauma Technical Assistance Center. Resources and Information. 2007. http://www.remsttac.org

[9] www.WisconsinEMS.com

CONCLUSION / RECOMMENDATIONS

The intent of this report has been to provide a snapshot of the realities of the challenges associated with the delivery of EMS services to Wisconsin's rural communities**.** EMS providers are an integral part of Wisconsin's health care system and carry an especially important role in the rural environment. There is no doubt that prehospital care influences patient outcome.

Understanding and supporting the rural EMS provider is an essential component of Wisconsin's EMS and Trauma Care Systems. The citizens in rural communities should have a vested interest in the success of its community healthcare and EMS system. What if they had an emergency and dialed 9-1-1, but no one came? The state of Wisconsin's Rural EMS systems needs to be addressed. Shrinking resources, inadequate equipment, increased requirements for volunteer's time, and greater demands from the public are all factors affecting the delivery of EMS rural services.

Rural EMS service providers have many strengths. They genuinely care about the people that enter their system and they often provide life saving interventions necessary prior to transfer of a critically injured victim. One EMT stated it perfectly – "EMTs get into EMS because they love it". They are creative in terms of accessing their patients given many times their patients are not accessible by vehicle and access by foot, snowmobile, ATV or other means of transportation as necessary. They are very aware of their individual and system limitations as well as the needs of their patients.

There are also many barriers that make the delivery of prehospital care in the rural environment extremely challenging. Rural service ambulance call volume is low. Because of volunteer staffing, many providers must respond from home or business to the station and then to the scene prolonging the response times to victims. Transport times can be prolonged due to roads, weather conditions and location. EMS providers are often strictly volunteers who have other professional and family obligations that interfere with opportunities for continuing education and skill enhancement. As one would expect, urban EMS care is progressively more advanced than rural EMS care. Much of this is due to the availability of urban hospitals and the research and advanced technology available to prehopsital providers. Equipment can be outdated. For example, vehicles may be older and keeping them maintained is a financial burden for most services. Financial backing can be difficult and purchase of new equipment may be impossible. The needs of the Wisconsin rural EMS services are real and need to be addressed. This will involve a collaborative effort of several state, regional, and local organizations.

One of the recommendations by the Rural and Frontier EMS Agenda for the Future is to "extend federal and state rural and health manpower recruitment and retention planning leadership, technical assistance and funding specifically and categorically to rural/frontier/tribal EMS and implemented through state EMS offices, state offices of rural health, or other appropriate entities". [10]

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[10] National Rural Health Association (NRHA). Rural and Frontier Emergency Medical Services Agenda for the Future. Kevin McKinnis editor.Publication No.PU0904-69, p28. 2004. Kansas City, MO.

Recommendations based upon the results of the Rural EMS Needs Assessment and discussion at the EMS forums are:

- Support legislation to protect the volunteer EMT
- Improve communication with stakeholders
- Provide education for Grant writing/fundraising
- Statewide coordinated Recruitment/retention strategy
- Statewide EMS marketing campaign
- Support funding for equipment and facilities
- Offer benefit incentives to volunteers
- Support improved local and regional evaluation and QI programs
- Provide funding opportunities, such as mini grants, to assist rural EMS systems in purchasing equipment, education, facilities, etc
- Provide one central location for information and minutes from RTACs, EMS Advisory Board and subcommittees, grant opportunities, etc
- Continue to pursue various education delivery modalities for continuing education
- Incorporate Rural EMS System specific issues into the 2008 EMS State Plan
- Improve data collection
- Develop public education strategies
- Provide injury/illness prevention programs
- Investigate strategies to integrate CAH and EMS efforts to promote healthcare to their communities
- Consider utilization of the RTACs for EMS group buying, CLIA waivers, rural prevention education program development, equipment and personnel “sharing”
- Promote and provide EMS leadership education to rural EMS service directors
- Foster the development of a culture volunteerism and community service through local schools in partnership with community agencies.

The vision statement of the Rural and Frontier EMS Agenda for the Future is that:

> *“The rural/frontier EMS system of the future will assure a rapid response with basic and advanced levels of care as appropriate to each emergency, and will serve as a formal community resource for prevention, evaluation, care, triage, referral and advice. Its foundation will be a dynamic mix of volunteer and paid professions at all levels, for and determined by its community.”*[11]

It is the hope that Wisconsin’s vision for our rural EMS system of the future coincides with the national vision and that through collaborative efforts it can be achieved.

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[11] ibid p 1

Resources and Information
from
Rural EMS and Trauma Technical Assistance Center (REMSTTAC)
Source - http://www.remsttac.org

Evidence Based Recruitment and Retention Programs

Wisconsin EMS Association: http://www.wisconsinems.com/
Virginia EMS Recruitment Program:
http://www.vdh.state.va.us/OEMS/Locality_Resources/Recruitment_Retention.asp

Comprehensive Budget Planning Processes

Critical Illness and Trauma Foundation: http://www.citmt.org/
REMSTTAC: http://www.remsttac.org/
ORHP: http://ruralhealth.hrsa.gov/pub/fulltext.htm

Group Buying and Billing Services

North Central EMS Cooperative: http://www.ncemsc.org/
Western EMS Network: http://www.citmt.org/wemsn.htm
EMS Association of Colorado: http://www.emsac.info/
Florida Association of Rural EMS Providers: http://www.farems.org/
Illinois State Ambulance Association: http://www.illinoisambulance.org/
Louisiana Rural Ambulance Alliance
Maine Ambulance Association: http://www.the-maa.org/
Michigan Association of Ambulance Services: http://www.miambulance.org/
Minnesota Ambulance Association: http://www.mnems.org/
North Dakota EMS Association: http://www.ndemsa.org/
Ohio Cooperative Health Partners
South Dakota EMT Association: http://www.sdemta.org/
Wisconsin Bayfield-Ashland EMS Council
Wisconsin Mobile Healthcare Alliance: http://www.mobilehealthcarealliance.org/

EMS Assessments and Strategic Planning

Critical Illness and Trauma Foundation: http://www.citmt.org/

EMS Leadership-specific Training

Critical Illness and Trauma Foundation: http://www.citmt.org/
REMSTTAC: http://www.remsttac.org/

EMS-based Community Healthcare Models

International Roundtable on Community Paramedicine: http://www.ircp.info/

REFERENCES

National Rural Health Association (NRHA). Rural and Frontier Emergency Medical Services Agenda for the Future. Kevin McKinnis editor.Publication No.PU0904-69, 1-105. 2004. Kansas City, MO.

U.S. Department of Transportation (NHTSA). Emergency Medical Services Agenda for the Future. TR Delbridge editor. NTS-42, Item No. 808-441, 1-96. 1996. Washington DC.

U.S. Fire Administration. Emergency Medical Services (EMS) Recruitment and Retention Manual. Federal Emergency Management Association, editor. FA-157, Item No. 0-0186, 1-118. 1995. Emmetsburg, Maryland.

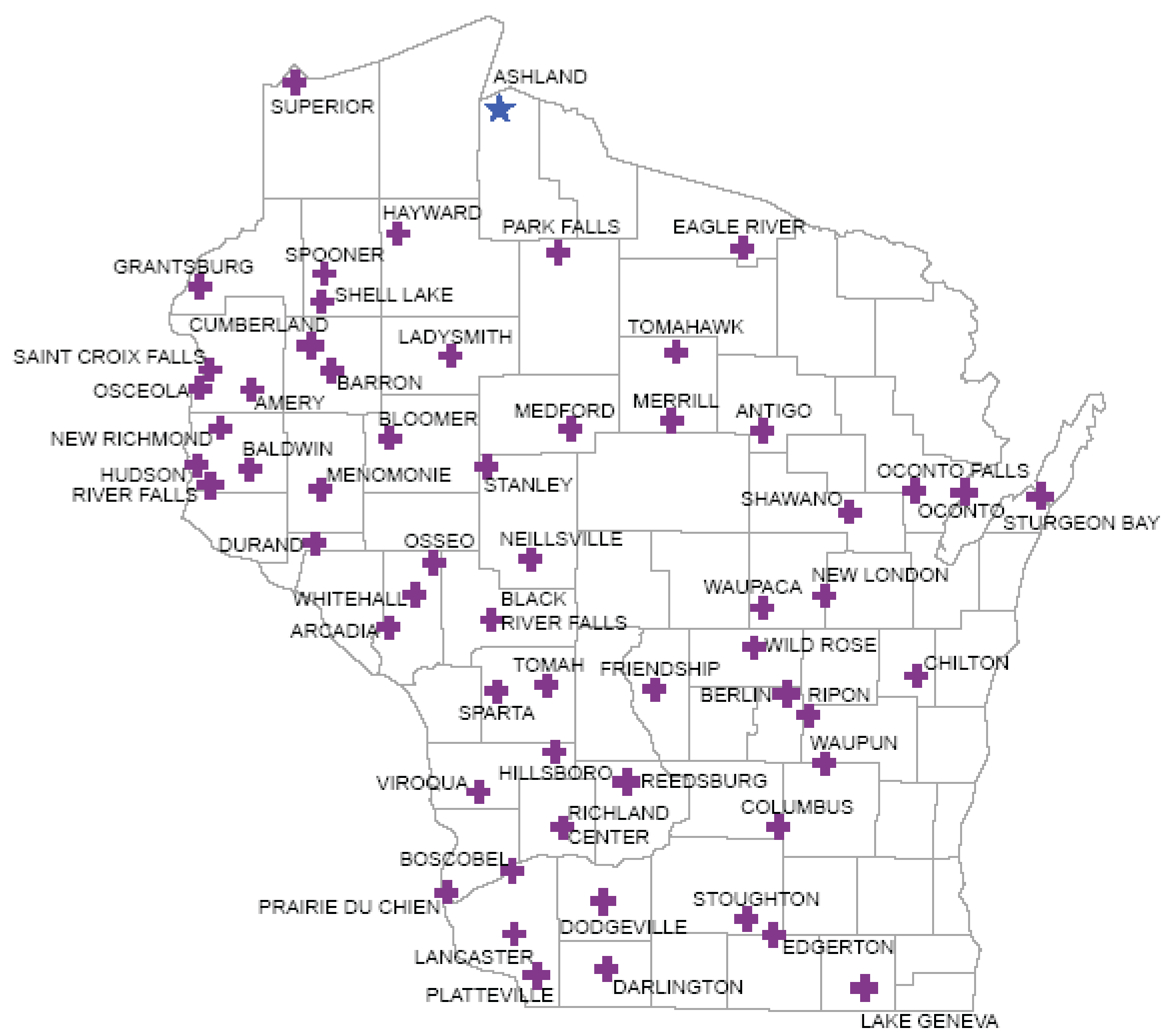
WISH LIST FROM EMS FORUM PARTICIPANTS

- **Educating and re-educating society on the values of civic duty to reduce "what's in it for me" and change back to "what can I do to help you?"**
- **Foresight**
- **Computer program to meet state requirements**
- **Computer and Internet**
- **Working computers to use WARDS**
- **Computer hardware/Software that would integrate education, QA, PI and operational data**
- **Laptops/computers with internet access on each ambulance (3)**
- **Better medical director involvement**
- **Standard protocols within hospital**
- **More communication with local EMS and try to work closely to serve the public – Patients**
- **Quality trained EMTs who don't argue with one another**
- **Mini-ambulance on ATV chassis**
- **Ambulance**
- **Second ambulance**
- **Fulltime Paramedic / EMTS**
- **Funds for education to advance to higher level of licensure**
- **More educational opportunities at a more reasonable price tag**
- **Facility for training**
- **Staff for Full time**
- **Higher level of training**
- **More $$ for training aids**
- **New cots**
- **Defibrillators**
- **New cardiac monitor (2)**
- **Autopulse**
- **Radio equipment (communication)**
- **Updated/adequate equipment**
- **Ambulance building with sleeping quarters**
- **EMT quarters**
- **More EMS time**
- **People in higher places listening to the needs/realities of rural EMS and of course … more $$**
- **No need for emergency services of any kind !!**
- **The ability to educate our local community members about personal health care and injury prevention**
- **Fund programs to increase the numbers of EMTs across WI – can be via**
    - **Grants/tax breaks to businesses**
    - **Legislation**
    - **Public awareness**

Appendix A

Map of Wisconsin Critical Access Hospitals

Wisconsin's Critical Access Hospitals



Certified CAHs

CAH Designation in Process

ORH WISCONSIN

May 2007
Map Prepared by the
Wisconsin Office of Rural Health

communications/maps/cah_map/cahmap.ai

Appendix B

Wisconsin RTAC Service Regions

Wisconsin RTAC Service Regions

Source: http://www.southcentraltrauma.com

1	**Lake Superior** Counties: Douglas, Bayfield, Sawyer, Ashland, Iron Website: http://www.lsrtac.com
2	**North Central** Counties: Price, Vilas, Oneida, Forest, Langlade, Taylor, Clark, Marathon, Wood, Portage, Lincoln Website: http://www.ncrtac-wi.org
3	**Northeast** Counties: Florence, Marinette, Oconto, Menomonee, Brown, Kewaunee, Door Website: http://www.newrtac.org
4	**North/Northwest** Counties: Washburn, Burnett, Barron, Rusk, Dunn, Chippewa, Pepin, Eau Claire Website: http://www.nnwrtac.com
5	**West Central** Counties: Polk, St. Croix, Pierce Website: http://www.wcrtac.org

6	**Fox Valley** Counties: Shawano, Waupaca, Outagamie, Waushara, Winnebago, Calumet, Manitowoc, Green, Lake, Fond du Lac Website: http://www.foxrtac.org
7	**Southwest** Counties: Buffalo, Trempealeau, Jackson, Monroe, La Crosse, Vernon, Crawford, Richland Website: www.swrtac-wi.org
8	**South Central** Counties: Adams, Juneau, Marquette, Sauk, Columbia, Dodge, Dane, Jefferson, Iowa, Grant, Lafayette, Green, Rock Website: http://www.southcentraltrauma.com
9	**Southeast** Counties: Sheboygan, Ozaukee, Washington, Waukesha, Milwaukee, Racine, Walworth, Kenosha Website: www.sertac-wi.org

Wisconsin RTAC Service Regions (Source: http://www.southcentraltrauma.com)

APPENDIX C

WORH Rural Wisconsin Emergency Medical Services

Needs Assessment 2007