

CITY OF PLATTSMOUTH NEBRASKA



EMERGENCY MEDICAL SERVICES SYSTEM ASSESSMENT

July 16, 2008

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Executive Summary

Emergency Medical Services are a vital part of the unique and historic community of Plattsmouth located at the confluence of the Platte and Missouri Rivers in southeastern Nebraska. As a growing small town, with limited health care resources, Plattsmouth's ability to provide reliable and high quality emergency medical services is an essential part of its citizen's current quality of life and a vital component of future growth. For 40 years, emergency medical services in Plattsmouth have been provided by the Plattsmouth Rescue Squad (PRS).

Recent increasing demand for emergency medical services and the growing challenge to find volunteer staffing have led to local and regional concerns about the current reliability of PRS and the viability of the service going forward. Between June and July 2008, SafeTech Solutions (STS) was engaged by the Southeast Area Health Education Center to conduct an assessment of emergency medical services in Plattsmouth and the surrounding region with the goal of assisting local and regional leaders in creating a solid vision for the future.

What we found

A community and EMS system in transition – Plattsmouth continues to grow and transition from its quiet rural roots into a vibrant bedroom community of Omaha. These changes have brought a growing demand for emergency medical service and a strain upon a 40-year-old system of providing those services. More oversight, organization and planning is needed to ensure that these services can successfully match the needs of today and tomorrow.

A need for more EMS financial Resources – The PRS is a vital part of Plattsmouth's community health picture. To ensure its ability to adapt to change and growing demand more financial resource planning is needed now to solve staffing issues and provide for focused and dedicated medical direction.

Poor response reliability and an outdated EMS staffing system - PRS fails to respond to approximately 25% of its requests for service because of a shortage of volunteers primarily during week day hours. Not only are there less volunteers, the current volunteers have growing limits on availability. The problem is exacerbated by not having a posted call schedule, a failure to know when no responders are in town and not managing participation activity well.

Limited medical direction – The PRS has limited EMS medical direction. With the addition of advanced life support in 2005, PRS increased its need for continual and experienced EMS medical oversight and direction. Currently the requirements of the job are not well defined, medical director involvement is limited, and the position is uncompensated and not held by a physician with specific EMS credentials.

A lack of clear performance measures – The PRS does not have clearly defined performance expectations for all aspects of its operations including- administration and management, finance, response, staffing, clinical care, safety, public awareness and education and prevention. With no clear expectations and measurement tools, it is difficult to evaluate performance trends.

Challenges

New thinking about EMS – Change is often difficult and one of the great challenges ahead for the City of Plattsmouth, its leaders, citizens and members of PRS, will be the need to think differently about the provision of EMS in Plattsmouth. The old volunteer system is not working and needs to change. The growing demand for service will necessitate new ideas, structure, processes, funding, and people. Helping all stakeholders realize this need is one of the most important challenges to address.

Addressing Financial Concerns – Financial issues are top concerns for most communities in America. Plattsmouth is facing the important challenge of ensuring there are enough moneys for quality emergency medical services now and in the future. This will require looking at the use of current moneys and asking citizens to provide additional funds.

Changing a volunteer model – Making volunteer models work today and transition from a purely volunteer model to something else can be a significant challenge not only in terms of budgeting but in terms of organizational and community cultural concerns. This will require great sensitivity to the human element association with volunteer services and exceptional communication between all involved.

Evaluating operations with performance measures – For years volunteer EMS has performed an admirable job in rural areas but often without specific performance criteria. However, modern quality practices have taught that specific and measurable performance measures are key to ensuring best practices and ongoing quality. One of the most fundamental performance measures of EMS system is response reliability. Increasing EMS

response reliability to as near 100 percent as possible is one of the immediate challenges facing Plattsmouth and the PRS.

Expanding Medical Direction - Over the last four decades EMS medical direction and oversight has developed into a vital component of a quality EMS system. The challenge ahead for PRS is finding resources to compensate this position and in finding the best means of obtaining and providing quality medical direction and oversight from an engaged, trained and prepared individual.

Recommendations

1. Establish a Plattsmouth EMS Board (PEMSB). The formation of this board has the potential to dramatically move EMS forward by:

- Creating a distinct identity for the PRS.
- Creating a plan to address immediate staffing shortages.
- Creating a long term strategic plan for EMS in the Plattsmouth area.
- Providing feedback to the City Council and Cass County Commissioners to ensure coordination and integration with county wide initiatives.
- Identifying basic system and agency performance measures.
- Creating a PRS organizational chart that spells out roles and accountability.
- Collaborating with Cass County to collect clinical data from patient care reports.
- Utilizing multiple city resources to assist with recruiting of EMS responders.

2. Prepare to expand the budget for providing EMS to meet the growing need for paid staffing and medical direction. This can be done by:

- Transitioning PRS to an enterprise fund.
- Expanding the current budget to accommodate some paid staff and payment for medical direction.
- Explore the creation of a Plattsmouth EMS Taxing District under Nebraska law 13-303.
- Link funds given to PRS with specific performance measures.
- Seek innovative cost containment.

3. Through the PEMSAB strategic planning address current and future staffing. This will include:

- Realistic future EMS workforce planning.
- Requiring that PRS create and maintain a posted call schedule.
- Requiring that PRS create a policy that limits call shift length to what is reasonable and safe.
- Requiring that PRS examine member participation requirements to ensure that members are active, maintain skills and are scheduled for a reasonable amount of call.
- The consideration of non-traditional recruitment and retention incentives.
- The encouragement of county wide volunteer incentives.
- The promotion of regular ambulance service administration/officer networking.
- Leadership development through appropriate training, job descriptions and leader selection.

4. Improve EMS response reliability by:

- Requiring monthly reports to PEMSAB with reporting to the City Council and County Commissioners.
- Creating effective auto-launch dispatch and helicopter transport use protocols.
- Requiring run data reporting to eNARSIS using the full set of data points in the system including transport mileage.

5. Strengthen clinical care by:

- Funding a part-time EMS physician medical director position.
- Requiring that PRS continue to utilize electronic patient data collection equipment.
- Monitoring specific performance measures.
- Conducting mandatory annual or semi-annual skills reviews and competence evaluations of responders.
- Enhancing communication about the available continuing education .
- Utilizing free training resources available through the DHHS EMS/Trauma Program.

6. Ensure safe and reliable operations by:

- Utilizing standardized notebooks for all licensing and credentialing documents.
- Reviewing the PRS bylaws and policies to assure all safety items are contemporary and coupled with a system to monitor compliance, updating or change.
- Establishing a capital plan to ensure the ongoing acquisition of a quality fleet.
- Providing emergency vehicle operator courses and utilizing best practices in ensuring driver background checks.

7. Improved inter-agency communications, public awareness can be achieved by:

- Utilizing community gatherings to launch new public education initiatives.
- The creation of a countywide Public Information, Education and Relations (PIER) plan
- Utilizing patient outcome measures to guide the assessment and delivery of public education.
- Utilizing the Sarpy/Cass Department of Health & Wellness to better understand and engage in meaningful prevention.
- Having the county Emergency Manager and health officials ensure that EMS providers know their role in large scale medical or health emergencies.

The specific observations, recommendations, and detailed discussion of the STS expert panel follow.

Emergency Medical Service Systems

In 1996, the National Highway Traffic Safety Administration (NHTSA) established an agenda for EMS system development into the 21st century. The EMS Agenda for the Future identified fourteen attributes that make up the modern EMS system including (NHTSA, 1996):

- 1) Integration of Health Services
- 2) EMS Research
- 3) Legislation and Regulation
- 4) System Finance
- 5) Human Resources
- 6) Medical Direction
- 7) Education Systems
- 8) Public Education
- 9) Prevention
- 10) Public Access
- 11) Communication Systems
- 12) Clinical Care
- 13) Information Systems
- 14) Evaluation

In 2004, the National Association of State EMS Officials commissioned the development of the *National Rural and Frontier EMS Agenda for the Future*. Dennis Berens of the Nebraska DHHS Office of Rural Health chaired the project steering committee, Dean Cole, Nebraska DHHS, Emergency Medical Services/Trauma Program served as a steering committee member, and STS partner Gary Wingrove served on the editorial board.

Many of these attributes were evaluated in Plattsmouth. STS recognizes the rural nature of Plattsmouth requires that benchmarks and experiences specific to rural and frontier EMS systems should be considered wherever possible. Due to the rural specificity, national consensus, and State of Nebraska support for its development, STS has incorporated guidance from the 2004 Rural and Frontier EMS Agenda for the Future¹ in this report.

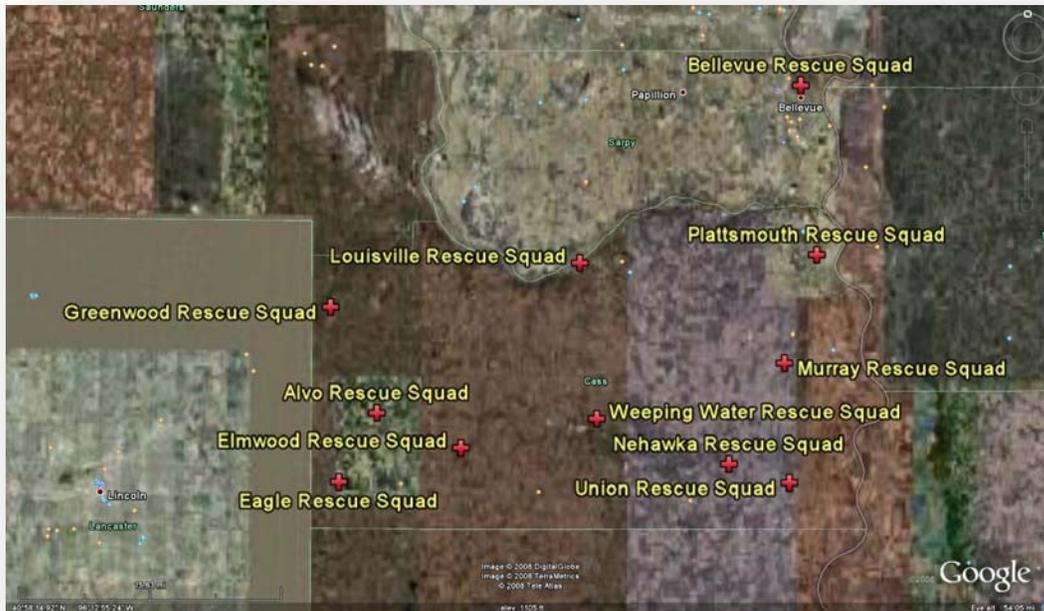
STS partners have been working with the Nebraska DHHS, Emergency Medical Services/Trauma Program to create Rural EMS System Performance Measures for use in Nebraska and elsewhere. We drew on the 1996 EMS Agenda for the Future, the 2004 Rural and Frontier Agenda for the Future, an EMS system Benchmark, Indicator and Scoring system developed in Colorado, along with our expert knowledge in developing these performance measures.

This report is organized around the final draft of the Rural EMS System Performance Measures, which can serve as a way for the City of Plattsmouth to monitor the PRS achievements over time by doing periodic evaluations of progress in each of the Performance Measures.

¹ <http://www.nrharural.org/groups/sub/EMS.html>

Plattsmouth Demographics & Economic Development

Plattsmouth, one of the earliest incorporated towns in Nebraska, is the county seat of Cass County. Located on the Missouri River at the mouth of the Platte River, Plattsmouth is served by U.S. Highways 34, 75, and State Highway 66. Plattsmouth, only 3 miles west of Interstate 29, is located 18 miles south of Interstate 80.



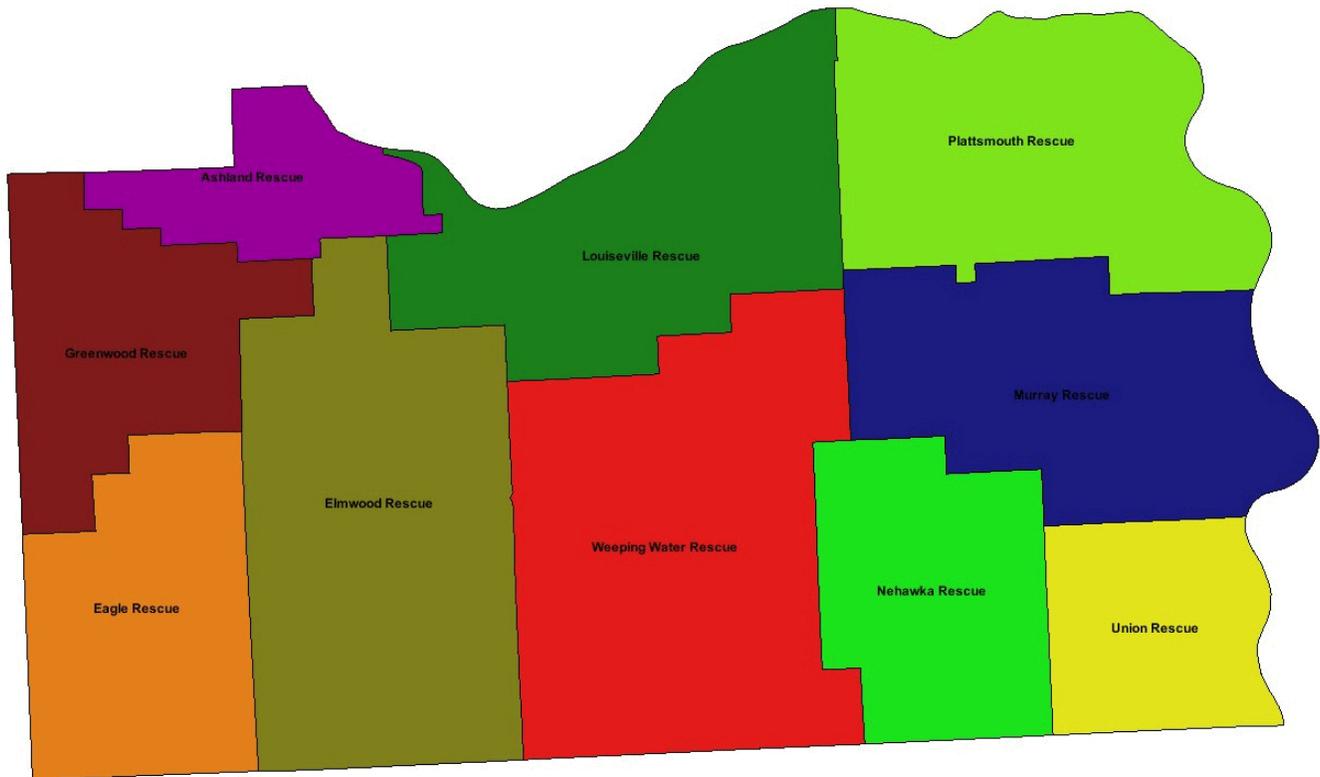
Plattsmouth is located 17 miles south of downtown Omaha and 50 miles northeast of the State Capitol in Lincoln. Cass County is included in the metropolitan Omaha area along with Douglas, Sarpy and Washington Counties.

According to the US Census Bureau 2006 estimate, Plattsmouth's population is 7,047, representing a 2.3% increase over the last seven years, less than Cass County's 5.1%, Nebraska's 3.3%, or the National 6.4% increase. Local officials put the 2008 estimate in the 7,400 range.

The City of Plattsmouth has recently acquired 86 acres of Industrial Land to attract new businesses to the community, including provisions for state and local financial incentives, just minutes from the Omaha Metro Area and all forms of major modes of transportation including air, highway, rail, and barge.

Cass County Emergency Medical Services

A casually organized network of ten ambulance services provide emergency medical services in Cass County. While there is some limited first responder activities from the State Patrol, county sheriff's deputies, and local police, EMS response is single tiered relying primarily on ambulance response. Fire departments and public safety agencies provide assistance for extrication and rescue labor but there is limited or no planned first response. There is some limited use of helicopter service from Omaha; however, due to no criteria-driven formal policy on their dispatch, helicopter scene response is rare. There are two helicopters in the Omaha metro area, one 24-hour and one 12-hour daytime aircraft.



This map was retrieved from (<http://www.gis-srv.cassne.org/CassIMSPublic/index.html>) the Cass County GIS server on July 11, 2008. The Ashland Rescue zone is located in Saunders County and the Alvo Rescue Squad was not included for unknown reasons.

Cass County is divided up into ambulance service areas with response times varying depending on location and weather. In addition to Plattsmouth, volunteer fire-based rescue squads in Cass County are located in the towns of Murray, Louisville, Union, Alvo, Nehawka, Greenwood, Eagle and Elmwood and Weeping Water.

All rescue squads in the county demonstrate a willingness to respond beyond their communities and response service areas. Most Cass County EMS patients are transported to hospitals in the Omaha metro area.

Emergency calls to 911 in Cass County are answered at a public safety answering point (PSAP) at the Cass County Sheriff's Department. Ambulances can communicate with each other and with public safety departments on various interoperable radio systems. Because there is no formal coordination of EMS in Cass County obtaining clear, comprehensive assessment data about EMS in Cass County is difficult. There is no central EMS data collection for the county. Response and transport information varies by source, but the most reliable information resides in the state's eNARSIS system.

Plattsmouth Rescue Squad

The Plattsmouth Rescue Squad (PRS) was formed on April 2, 1968, as a separate company of the Plattsmouth Volunteer Fire Department (PVFD) – a department with a rich history and continuous operation since 1930. Today, the PRS is responsible for more than 1000 calls per year and is a completely volunteer service providing both basic life support and advanced life support levels of care to the City of Plattsmouth and surrounding area.

The PRS and the PVFD share a close and symbiotic relationship. The PRS is corporately separate from, but functionally organized within the PVFD. The PVFD fire chief is elected by the PVFD firefighters at an annual meeting. The mayor forwards the elected chief's name to the city council for appointment. A fire captain elected by the PVFD staff and a rescue squad captain elected by the PRS staff support the fire chief. A lieutenant elected by each staff supports their respective captain.

The PRS is supported by billing patients for services provided. Billing is done through a private company and revenues currently exceed PRS expenses and are used to fund not only the PRS but the PVFD.

Staffing

Despite the 4 First Responders, 113 EMT-Bs, 6 EMT-Is, and 12 EMT-Ps residing in Cass County, PRS is staffed by 14 volunteers - nine EMT-Bs, two EMT-Is and three paramedics. The volunteers are not compensated for time or expenses. Because there is no posted call schedule, all members are provided with pagers and are simultaneously paged when needed. Southeast Community College provides much of the education for the PRS volunteers.

In 2005, the addition of three paramedics to the staff allowed the PRS to function at an advanced life support level when paramedics are available and on the ambulance. PRS paramedics have protocols that allow them to intubate, administer most common prehospital medications, and perform chest decompression. Paramedics do not administer IV drip medications or perform 12 lead EKGs in the field.

Over the years Plattsmouth has evolved into a bedroom community of Omaha and many staff members commute to jobs in Omaha where they are unavailable for calls. More than other communities in Cass County, Plattsmouth appears to have a large proportion of its citizens and volunteers leaving the community, especially during the day time hours during the week.

Operations

When a call for ambulance service occurs in Plattsmouth, the 14 members of the PRS are simultaneously paged and those available respond to the rescue squad headquarters at the fire station, or sometimes directly to the scene. If no one responds, neighboring rescue squads are paged. If paramedics are not on a call and advanced life support is needed, Bellevue Rescue Squad provides paramedic intercept (when feasible depending upon location and transport destination).

The city of Plattsmouth has physician offices within the city but no hospitals, emergenciers or clinics. Most of the PRS patients are transported 16 miles to Midlands Hospital in Papillion, which is currently the closest hospital. Some patients are transported to University Medical Center (20 miles) or Creighton University Hospital (21 miles). University Medical Center is building a new primary care hospital in Bellevue and when opened, it will be the closest hospital.

Medical Direction

Medical direction for Plattsmouth is provided by Lawrence Carlsson, MD, a physician in private practice in Plattsmouth. Medical direction for the Murray rescue squad, the next closest ambulance service to Plattsmouth, is provided by Dr. Jeffrey Harrison, a physician with University Medical Associates.

Accreditation

PRS is not nationally accredited by either the Commission on the Accreditation of Ambulance Services (CAAS) or the Commission on the Accreditation of Medical Transport Systems (CAMTS).

Challenges

The greatest challenge facing the PRS is one of ensuring that it has enough EMS responders available to staff and respond to all requests for services.

Currently the PRS is unable to respond to up to 25 percent of calls for service because of a lack of available responders. In recent years, the PRS has experienced increasing difficulty in recruiting and retaining volunteers. Currently, staff turnover is high, with some volunteers reporting low morale, poor attitudes, and frustration with continuing education, medical direction, and the service's failure to respond on many of its calls. The problem seems to have several roots.

Many volunteer EMS services across the country are experiencing a loss of volunteers. The demands of employment, the need to commute, the increasing demand for EMS services, family responsibilities, and changing attitudes about volunteerism all appear to be having an impact on the supply of volunteers. In addition, the demands of maintaining EMS certification and the responsibilities, stress and risks associated with performing emergency medical care appears to be making volunteering less palatable. With no pay, incentives, or benefits and a heavy time commitment, many volunteers perceive that their services are not appreciated by communities and organizations they serve.

Because of the “bedroom community” nature of Plattsmouth, in which large number of workers are employed north in the Omaha metro area but enjoy the quality of living in a smaller community, a sizeable number of otherwise available potential recruits have no opportunity to serve the rescue squad during the weekday hours.

PRS suffers from a system design that lacks operational accountability. The lack of a call schedule leads to an absence of accountability. Because volunteers do not sign up for specific shifts no single person or crew is responsible to ensure the ambulance will respond. With no schedule, it is not specifically known when volunteers are not available and such a system allows volunteers to cherry pick the calls they desire and ignore others. Not all of the PRS volunteers have the same level of activity. Some members are very active while others are simply on the roster and rarely respond on a call.

The Plattsmouth Rescue Squad Performance Measures

Performance Measure 1		Administration Management	
Indicator		Measure	Agency Progress
1.1	System Design and Participation	<i>Agency is part of a regional EMS system designed to maximize resources such as dispatch, first response, mutual aid, back-up coverage, continuing education and disaster preparedness.</i>	Fully compliant, but overuses mutual aid and back-up resources.
1.2	Data Collection and Record Keeping	<i>Agency collects data on all aspects of its operation including personnel, education and training, responses and response times, clinical/patient interactions, supplies, equipment maintenance, and financial records</i>	Data exists and is collected, but there is no uniform process that ties data to performance improvement.
1.2	Organizational Chart	<i>Agency has an organizational chart outlining leadership structure and describing the roles and responsibilities of leaders, administrators, managers, supervisors, training personnel and boards</i>	A chart does not exist. Roles are in place. Operations committees meet without structure.
1.3	Strategic Plan	<i>Agency has a written and current strategic plan</i>	No plan exists
1.4	Management Preparation	<i>Agency managers and leaders have received documented education or instruction in EMS management</i>	No process in place

STS Observations:

Cass County and PRS lack a formal EMS system evaluation process. The components of the Cass County EMS system work well together but lack an organizing person, entity or process. With no formal countywide EMS leadership and coordination and no mandatory inter-agency communication there is no countywide master planning, no clear EMS vision, goals and objections and no clear process to evaluate performance and make improvements.

Ad-hoc planning does occur when there is a need to react to an internal or external force. There is informal networking through the mutual aid association, meetings hosted by Sarpy/Cass Department of Health & Wellness, and meetings of the Cass County Emergency Management Agency (EMA). The county EMA manager has long tenure of involvement in rescue squad issues and provides technical support to area services.

PVFD has written mutual aid agreements with adjoining fire and rescue squads for incidents involving fires which has some bearing on EMS however there are not EMS exclusive mutual aid agreements. PRS frequently relies on mutual aid, primarily from Murray but also from Bellevue Rescue Squad of Sarpy County. PRS's current situation presents an opportunity for PRS to be a catalyst for more mission integration between the various county EMS entities.

With limited healthcare resources in Plattsmouth, PRS provides a vital community service to its citizens and serves as an important health care safety net. However, the PRS currently lacks community involvement in planning, coordination and oversight. Currently there is no process for the various interested parts of the

community to provide input on the agencies vision and mission, ensure its ongoing viability and performance and provide essential moral and financial support.

PRS is not utilizing available data sources to evaluate various aspects of its operations and performance. The DHHS eNARSIS system is available to provide reports to PRS. The eNARSIS reporting mechanism includes a robust web based interface for generating reports. PRS is using the eNARSIS system but does not use it for internal reporting or strategic planning.

The state's eNARSIS system is relatively new. Ambulance services typically use it to generate reports about response times and number of calls but it is capable of providing much more information. Standardized reports can be saved into the system for use in future periods. The system can track, for example, the number of times each EMT or paramedic is involved in caring for severely traumatized people, and how often they provide specific skills. This source of data and information can drive a program for continuing education within each service. PRS has purchased electronic patient data collection equipment, but no training has been provided, so the equipment sits unused.

A Cass County EMS plan should identify countywide clinical care performance indicators and create a practical and mandatory system-wide clinical evaluation process. Goals should identify expected levels of care, and the plan should address the resources and staffing needed to meet those levels. The plan should ensure that all care providers are following universal protocols and create a formal system to evaluate, correct, and improve performance.

STS Recommendations:

1. The City of Plattsmouth should establish a Plattsmouth EMS Board (PEMSB) to create a distinct identity for PRS and distinguish the function of corporate governance separate from operations. This community board of directors will manage the corporate activities, plan for long-term financial viability and create a buffer of appropriate oversight between staff and the City Council. The PEMSB should be comprised of no more than six volunteer citizens that includes the expertise of a physician; banker or accountant; executive director of a primarily volunteer non-profit organization; a citizen who is not now, nor has ever been, a PRS member; and two elected officials - one from Plattsmouth and the other representing Cass County. Plattsmouth should provide the resources of the city attorney to write a corporate charter, corporate constitution, and bylaws to reflect the change in structure from self-governance to an external governing body.
 - a. Once formed, the city should task PEMSB with creating a plan to immediately address PRS daytime staffing issues. The plan should consider whether current needs require one or two paid position(s), and a recommendation as to whether Plattsmouth should hire and supervise paramedics or seek them by contracting for paramedics from a third party. If hiring is chosen as an option, employed paramedics should be supervised by the City Administrator until conditions warrant hiring a rescue squad manager.
 - b. The PEMSB should provide the council and Cass County Board of Commissioners with regular updates as to the progress of the system that serves its constituents. The EMS plan should include an education component that incorporates a feedback loop from the hospitals, and the medical director to provide input to personnel training programs.
 - c. The PEMSB should create a comprehensive EMS plan for Plattsmouth and the PRS service area that includes a mechanism to improve system integration by considering various options to integrate paramedics into the medical community for the area covered by PRS. For example, the PEMSB should collaborate with the Sarpy/Cass Department of Health & Wellness to conduct a "community needs assessment". Community needs assessments are conducted by other public health departments in Nebraska and would provide results specific to Plattsmouth and Cass County. Such a community assessment would identify unfilled health care roles paramedics may perform in their downtime. PEMSB should also engage Sarpy/Cass Department of Health & Wellness for assistance in developing standardized reports that PRS will use in reporting their performance to the City and County.
 - d. The PEMSB should collaborate with the Plattsmouth and Omaha medical communities to conduct an EMT and paramedic EMS skills competence evaluation at least annually.

- e. The PEMSBS should identify basic system and agency performance measures and include them in the EMS plan. The performance measures used in this report can serve as a model and be localized for PRS.
 - f. PEMSBS should create an organization chart that spells out leadership/management and accountability for executive directions, operations and quality. The City Council should expect delivered reports to show progress over time and eventually reward good performance and penalize poor performance through board member, operations or budget adjustments.
 - g. The PEMSBS should seek out strategic planning specialists interested and experienced in EMS to assist it in performing its strategic planning functions. The DHHS EMS Office will know of experienced resources.
 - h. The PEMSBS should collaborate with Cass County to collect clinical data from patient care reports and system data on operational and human resource issues. These issues may include the number of EMS providers needed; where worker shortages exist; how much ongoing initial EMS training is necessary to maintain a supply of workers; frequency of provider/patient contact and skill use; vehicle failures; response, scene and transport times, and strategic planning of the deployment of ambulance assets.
2. The DHHS EMS/Trauma Program should provide targeted training and support to PRS as needed.
 3. The city should utilize all resources at its disposal to help recruitment efforts to obtain additional PRS volunteers; one option is to include public safety messages and PRS promotion as a vital public service and recruitment messages with city utility statements.

STS Discussion:

- 1) The current structure between PRS and the City needs refinement. PRS functionally reports to the fire chief, and the chief subsequently to the Council. Plattsmouth is experiencing a natural transition phase that is common to volunteer ambulance services when hitting the “two call a day” mark. Normally in this situation, we would recommend hiring professional leadership to assure the long-term success of the PRS “healthcare business unit”, transitioning to full time staff to operate the ambulance at a later date. However, in this case, the current fire chief exhibits exceptional energy and talent as a leader. Having external oversight by the PEMSBS with the fire chief reporting to the board on EMS issues and separately to the Council on fire issues can make for a smoother transition.
 - a) At some point in the future, there will be a need for full-time manager along with daytime EMS staffing Monday through Friday. Another transition will occur when the service starts doing three trips per day and that transition will be to all full-time staffing. An oversight board, made up of community professionals, is essential to PRS now as it transitions to daytime professional staffing and even more important in planning the next transition cycle when the annual call volume rises. The EMS system plan created by PEMSBS should emphasize integration of medical system components and include measurable goals and objectives. To meet objectives, goals must be actionable and attainable and contain an identified funding mechanism. The PEMSBS should include appointed members that remain stable across election cycles.
 - b) It is vitally important that PRS and the community it serves be able to ensure the current and future delivery of quality emergency medical services. This demands that PRS have practical performance measures and tools for the ongoing assessment of its health, and future planning. Such tools will equip the leadership of PRS in clearly understanding and tell its story to citizens and to community, county and state leaders. Sarpy/Cass Department of Health & Wellness and the Cass County EMA should be integral partners in this effort.
 - c) The EMS system plan should emphasize integration of system components and include measurable goals and objectives. The goals and objectives must be actionable and attainable with a funding mechanism identified to allow the objectives to be met. An EMS plan should address each of the performance areas outlined in this document and become the blueprint to ensure community appropriate services are delivered and logical improvements are made. For public accountability, the PEMSBS should report to the City Council and Cass County Commissioners on general EMS matters at least twice annually with more frequent progress updates as needed. Cass County must become a partner in the EMS system of the future.

- d) An EMS plan should address each performance area and become the blueprint to ensure community appropriate services are delivered and logical improvements are made. For public accountability, the PEMSB should inform both the City Council and the Cass County Board of Commissioners on general EMS matters at least twice annually with more frequent progress updates as needed. The City Council would maintain ownership of the license and therefore be ultimately responsible for service delivery, so structural roles will need to be clearly identified in the charter.
- 2) As part of the process of this evaluation, we introduced a standardized tool. Ongoing assessment and performance measurement tools do not need to be complicated or difficult. We have observed that system and agency improvement is often a natural result of simply beginning to ask the question of what should be measured and then implementing simple measurement tools.
 - a) Measuring performance and strategic planning go hand-in-hand. However, the process of strategic planning and agency planning may be difficult in a system with limited experience in planning and limited resources and time. The ambulance services will require technical assistance in developing and maintain strategic planning processes.
 - b) Data is essential to an efficient and effective EMS system. In our experience when an EMS system formulates a practical data collection strategy and then mandates data collection it begins to quickly identify performance improvement areas. The term *research* means different things to different people. The word *research* derives from the French *recherché*, from *recherché*, to search closely where "*cherché*" means, "to search"; its literal meaning is 'to investigate thoroughly'. Research is an active, diligent, and systematic process of inquiry in order to discover, interpret or revise facts, events, behaviors, or theories, or to make practical applications with the help of such facts, laws or theories.
 - c) As an important field within the healthcare industry, EMS systems benefit greatly from research. In the context of this report, research is intended to be those projects upon which evidence is gathered to improve the EMS system. Such projects can include simple activities such as monitoring response times to more complex projects involving human trials.
 - d) The state EMS office is also developing a system to merge EMS data with state trauma data, removing the need for any EMS trauma reporting separate from e-NARSIS.
 - 3) In the past portable electronic devices were purchased for electronic run reporting by PRS. Training for these devices should be prioritized and their use mandated.
 - a) With the near universal use of computers and the internet it is possible to create data tools and data collection tools that are relatively inexpensive and effective. With the low EMS call volume in Cass County and the small number of agencies, countywide EMS data can be an achievable goal in the near future.
 - b) Much work has been done in the area of EMS system data collection around the world. Plattsmouth does not need to start from scratch in creating a data collection system.
 - c) DHHS controls the contract with the vendor of the e-NARSIS system. As standardized reports are identified, tested, and validated, the vendor can script the report into the state system so that it is available for use by all services. Technical support of e-NARSIS is a responsibility of DHHS, although it may be limited by legislative appropriations.
 - 4) Volunteers that have interest in quality measures will produce the most ownership of participation in a countywide process. If this duty is assigned to a chief with other responsibilities and time constraints, it is less likely to be successful.
 - 5) The public health department should be highly engaged in the creation of the reports, and consideration should be given to building upon existing public health data to promote prevention and wellness in Plattsmouth.
 - 6) The Rescue Squad is a component of the Plattsmouth city government, should be recognized as such, and city resources and capabilities should be used to assist promotion. This might be public speaking engagements by mayor or city administrator, fliers and notices in utility or water bills, and other such avenues.

Performance Measure 2		Finance	
Indicator		Measure	Agency Progress
2.1	Budget	<i>Agency has written annual budget and complies with budget</i>	Achieved. Budget is created by the department and approved by the City Council.
2.2	Bookkeeping	<i>Agency maintains accurate financial records</i>	Achieved. Maintained by City.
2.3	Revenue	<i>Agency has identified reliable revenue sources commensurate with budget</i>	Achieved. The current budget is covered by patient revenue.
2.4	Billing	<i>Agency bills for patient transport using appropriate billing practices or an appropriate billing agency</i>	Achieved. Uses professional billing company.
2.5	Reserves	<i>Agency has reserves of at least 25 percent of its annual operating budget</i>	Fund Balance for General Fund is less than 10% for the entire city budget.

STS Observations:

PRS has a clear understanding of its current finances, prepares an appropriate budget, and operates within that budget. Its use of professional EMS billing services has enabled a high collection rate with appropriate revenues to the service and its community. However, its organizational structure within the fire department presents some complexity in assessing exactly what resources are available for growth and expansion of this budget.

There are frequent comparisons made between the fire service and emergency medical services when funding is involved. STS found that Plattsmouth also has this dialogue occurring. Emergency medical services in Plattsmouth and elsewhere are financed in a variety of ways including patient fees and subsidies. While PVFD has access to a number of financing mechanisms including city general funds and receipts from the pull-tab “pickles” from Plattsmouth Keno, the primary source of funding for PRS is its patient billing.

The rescue squad provides a surplus to the City, enough to cover the city funding for both fire and rescue budgets. However, in addressing current staffing and response issues PRS will need to expand its budget beyond the capabilities of its current fee-for-transport funding mechanism.

The Cass County fire services are funded by local property taxes, state and federal grants, and other revenue sources such as the Nebraska Mutual Finance Organization (MFO). MFO funds are collected by insurance companies and are distributed across the state based on population density. In order to receive MFO funding, all fire districts in the county must use the same mill levy. The Nebraska Department of Property Assessment & Taxation (DPAT) annual report for 20072 indicates that the twelve Cass County Fire Taxing Districts received \$478,052 in property taxes at rates ranging from 0.008895 to 0.039991 at an average of 0.038162083 on a total valuation of \$1,575,649,444.

A number of states with significant rural geographies such as Minnesota, Wyoming, and Idaho have taxing districts that support EMS. These taxing districts often cross geo-political lines, allowing the tax to be levied across the specific geography served. In Minnesota for example, a taxing district is established by one or more cities or counties around the area served by an EMS agency. Nebraska Statute 13-303 allows counties to

2<http://pat.ne.gov/researchReports/valuation/pdf/CY6%20Nebraska%20Taxing%20Subdivisions%20&%20Tax%20Rates%20by%20County.pdf>

establish ambulance-taxing districts; these have been established with much success in counties all over Nebraska.

When asked what impact an EMS taxing district had for his ambulance service, Assistant Ambulance Director for Floodwood Ambulance Service in Floodwood, Minnesota, Tom Bertch said, "Ambulance staff could finally stop worrying about money. We now have money for large ticket purchases like ambulances and AEDs." Mr. Bertch helped to pass special legislation specific to his service enabling an EMS taxing district. Floodwood's service specific taxing district was eventually transitioned to the statewide district allowed by state law.

In Idaho, Ada County Paramedics receives 70 percent of its revenue from fees charged to patients and service contracts and 30 percent of its revenue from property taxes via a countywide EMS taxing district. Blaine County Administrator (Idaho) Mike McNees said the county's philosophy for funding the ambulance district, which began operations in 1986, is that county taxpayers pay their property taxes to have the ambulance service available, while the individual transport fees go to (users of) the service. Ketchum, Idaho, Mayor Randy Hall said: "We absolutely need this."

Nebraska state statute 13-303 allows each county to provide emergency medical services as a governmental function and that "Any county board of counties and the governing bodies of cities and villages may pay their cost for such service out of available general funds or may levy a tax for the purpose of providing the service".

Since Plattsmouth switched from internal billing to outsourcing of the billing, collections have increased. PRS pays EMS Billing, Inc. a commission of 15 percent of the collections for providing the billing service. With leadership from the fire chief, a recent change in internal PRS oversight, and our recent communication with EMS Billing, Inc., broken parts of the billing system, including the ability for Plattsmouth to bill ALS, will result in a significant revenue increase.

STS Recommendations:

1. The City of Plattsmouth should transition PRS to an enterprise fund as soon as feasible. This will require an alternative financing mechanism for the PVFD budget, as its budget is currently entirely covered by PRS patient revenues.
2. PRS should expand its budget to accommodate some paid staff and payment for medical direction. The City should examine the impact of the PRS expanded budget upon city and fire department resources and if needed pursue a Plattsmouth EMS Taxing District under Nebraska law 13-303 to fund EMS system enhancements, beginning with a new position, or contract, for one or more paid positions and payment for medical direction services.
 - a. Cass County should be an early partner in an EMS taxing district. As the PEMSB matures, it should seek funding of prioritized EMS projects, directly by charge adjustments, or city or county subsidy, or indirectly through increasing the levy of the EMS taxing district. The EMS taxing district levy budget should include covering the necessary costs of implementing the EMS strategic plan. As the run volumes of PRS and the other county rescue squads continue to increase, at some point it may make sense to transition to a countywide service with a countywide EMS taxing district. PEMSB and Cass County will need ongoing dialogue about how and when to transition to a fully regionalized system.
3. Once established the PEMSB along with the City Council should establish performance standards for PRS, beginning by using the performance areas outlined in this document. Any funds provided by an EMS taxing district should be tied to performance.
4. PRS should exhibit fiscal responsibility by using Nebraska state contracts when they qualify and by purchasing using national contracts maintained by the North Central EMS Cooperative (NCEMSC) or others.

STS Discussions:

- 1) Additional EMS funding may be needed to ensure paid employees are available to provide adequate coverage to the Plattsmouth area during the daytime hours Monday through Friday when fifty percent of the local calls are generated. Volunteers continue to be the vital component of the EMS system and a pool of motivated and trained volunteer professionals should be maintained to supplement paid staff.

- a) The city once allowed city employees to respond to ambulance calls during daytime hours while “on-the-clock” as “driver-only” personnel to augment the medically trained volunteers and allow a rapid response of the ambulance. This practice was discontinued, but consideration should be given to re-instituting this if necessary during the current transition period of clearing dead weight and bolstering the number of volunteers. The goal of PRS must be to have a roster with an adequate number of committed staff equally sharing call time. When that can no longer be achieved, PRS must transition to more paid staff.
- 2) When preparing a budget for staff expansion we recommend paramedic salaries be based on an average hourly rate plus benefits at a level that can attract and maintain quality personnel. We suggest PRS pursue an active volunteer recruitment program and at the same time create a single paid position that will provide daytime coverage between 6am and 6pm Monday through Friday (3,120 hours of coverage per year).
 - a) Such a position will require one full-time and one part-time, or two part-time paramedics. For discussion purposes, we will use an hourly paramedic pay rate of \$17 (this rate may need to be increased to compete with other area employment opportunities). At \$17 per hour this position will require \$68,952 for single paramedic coverage, or \$137,904 (\$17/hr + 30% benefits cost x 3,120 hours x 2 people) for two paramedic coverage. Paid staff should report to the City Administrator until such time that a full-time manager is needed and hired.
 - b) The Plattsmouth medical director contract will require approximately \$25,000 (15% x \$150,000 + \$2,500 travel/meetings) per year. This is a small investment in a quality EMS system that can be effective and reduce the risk of lawsuits, improve pre-hospital care and integrate medical oversight.
 - 3) Proposing an increase in taxes is always a challenge. Rather than increasing the general county property tax, we believe it is best to form a special assessment EMS Taxing District. By using the special assessment, the public will know what the tax supports, the tax is paid by the potential users of PRS and is directed to appropriate PRS programs, and the tax support of EMS is less likely to be jeopardized over time if the county has budget problems unrelated to the provision of EMS services.
 - a) The total 2007 tax valuation of Cass County was \$ 2,100,720,164 and tax revenue totals approximately \$42,257,754 at the average property tax rate as published by the Nebraska DPAT³ of 2.0116%. The Plattsmouth fire district had a 2007 tax valuation of \$300,571,062 with tax revenues of \$56,113 at a rate of 0.018669. To secure a minimal level of countywide EMS funding totaling \$165,000 would require a levy of 0.000549 in property taxes. This equates to an increase of 3% for Plattsmouth property owners.
 - b) An organized process is needed when forming a taxing district. A clear justification for the district needs to be formed and supported with data. Presentation of the taxing district to the public requires a well-crafted campaign with a message that explains the need, benefits and consequences. Outside experts can be useful in this area.
 - 4) There may be opportunities for cost savings. One option is the North Central EMS Cooperative (NCEMSC), is a network of nearly 2,000 ambulance services in 49 states and 8 provinces. NCEMSC is a non-profit purchasing cooperative that bids national contracts on behalf of its members, effectively pooling the purchasing power of all 2,000 members together. NCEMSC members currently purchase between \$300,000 and \$500,000 per month in medical supplies alone. NCEMSC maintains contracts for ambulance vehicles, defibrillators, office supplies, billing services and others. More information is available at <http://www.ncemsc.org> .

³<http://pat.ne.gov/researchReports/valuation/pdf/CY3%20Average%20Tax%20Rates%20by%20County%20&%20State%20Average%20Rate.pdf>

Performance Measure 3		Staffing	
Indicator		Measure	Agency Progress
3.1	Certification	<i>Training and certification of agency members matches agency licensure</i>	Achieved.
3.2	Roster	<i>The number of agency staff members is appropriate to service provided. An agency providing 24/7 EMS response and transport with at least two members on call at all times must have at least 14 active members. This is based on each member being on call no more than 24 hours in any give week.</i>	Roster contains 14 names.
3.3	Call Schedule	<i>An agency providing 24/7 EMS response and transport must have a posted call schedule with designated shifts and specifically assigned staff</i>	No call schedule with assigned staff exists.
3.4	Scheduling	<i>An agency providing 24/7 EMS response and transport must have a policy that limits call shift length to what is reasonable and safe. Personnel are not on call for days at a time and have adequate time off between scheduled shifts.</i>	No policy exists.
3.5	Staff Activity	<i>Staff members listed on roster must be active. This means each staff member takes at least 1 call shift per month (unless prevented by illness or other extenuating circumstance).</i>	There is an ineffective policy in place that each member must make 5% of all calls in a year.

STS Observations:

PRS has a well-trained and certified volunteer staff. However, as noted previously, PRS recently fails to respond to approximately 25% of the requests for service from the citizens. PRS does not maintain a call schedule with assigned staff; instead, an “all call” page is issued. Theoretically, everyone available during the daytime or those assigned to the odd or even day in the evening and nighttime responds to the all call page. This is a typical way that volunteer fire departments are notified and respond, which works generally well for a fire department but not for an EMS – especially for one as busy as PRS.

All of the ambulance services in Cass County report having some EMS worker recruitment and retention difficulties. PRS leadership describes a dire situation in which ensuring the availability of adequate personnel during daytime hours has become nearly impossible. PRS boasted an adequate call roster of 30 people ten years ago, but today the roster is less than half that number. A complicating factor is that only half of those currently on the roster are actively or regularly serving. Exacerbating the problem is a doubling of run volume in the same ten-year period.

Volunteers are called to service frequently and are called away for extended times. Because of response distances and transport distances to hospitals in either Papillion or Omaha, start to finish run times can vary from 60 minutes to several hours. This absence from work often causes employers to be less forgiving to the ambulance volunteer to leave work, as the number of medical calls increase work departures.

Currently PRS has no formal ongoing recruitment or retention plan or program. There has been some use of brochures and a video tape developed and current members have attempted to recruit through talking to citizens at local events.

STS Recommendations:

1. The PEMSB strategic plan development process should include realistic future EMS workforce planning. This means identifying how many volunteer and paid staff will be needed (demand) going forward, the current supply of workers, trends in turnover and strategies for attracting workers into the pipeline. This is an essential part of a successful EMS system. Outside expert help should be consulted on workforce planning. The workforce plan should identify the critical elements and automatic triggers that determine when a request to start EMT training is made of the state EMS office.
 - a. The PEMSB should mandate and the PRS should create and maintain a posted call schedule. The schedule should be a product of both internal and external input and ensure that at least two persons are scheduled to respond 24/7 and available in town while on duty. Policies should be created that outline a process for trading shifts and filling shifts on short notice. If current members are unable to fill a portion of the schedule because no one can commit to being available, the PVFD fire chief and neighboring rescue squads should be notified of that gap and the possible need for their response. Accurate records should be kept of uncovered hours and missed calls.
 - b. The PEMSB should create a policy that limits call shift length to what is reasonable and safe. Personnel should not be on call for days at a time and should have adequate time off between scheduled shifts.
 - c. The PEMSB should examine member participation requirements to ensure that members actively participate on a monthly basis, maintain skills and are scheduled for a reasonable amount of call. Members who are not active should be acknowledge and thanked for service and removed from the roster.
 - d. PEMSB should consider non-traditional recruitment and retention incentives, such as making payments on the student loans for volunteer paramedics for as long as they are actively serving PRS. PRS should consider new approaches to recruitment efforts such as creating a non-patient care volunteer position dedicated to managing recruitment and retention. As these changes are implemented, recruiting should begin first among the pool of former volunteers. PRS should make use of free resources, such as the EMS Recruitment and Retention Manual published by the US Fire Administration (available at <http://www.usfa.fema.gov/downloads/pdf/publications/fa-157.pdf> .
2. The Plattsmouth City Council and Cass County Commissioners should develop community support for all Cass County EMS volunteers by offering volunteer incentives such as:
 - a. local property tax exemptions,
 - b. municipal service discounts,
 - c. public retirement plans,
 - d. free training,
 - e. paid National Registry exams,
 - f. reimbursed conference travel,
 - g. free clothing (patches, hats, jackets, and T-shirts), and
 - h. paid subscriptions to EMS trade journals.
3. The rescue squads should promote regular ambulance service administration/officer networking opportunities both within Cass County and neighboring counties.
4. The rescue squad captain and fire chief should be required to attend administrative and managerial training as opportunities arise. The city council should consider changing the current system of popular elections, to a system where job descriptions with key training and experience (including supervision) requirements exist, applications are completed, credentials are confirmed, and multi-year appointments are made. This is the process used for the administrators, managers and supervisors of all other city departments. If this recommendation is not adopted, targeted leadership courses should be identified as high priority for EMTs desiring to hold leadership positions and mandatory for those that run for office.

STS Discussions:

1. Issues of recruitment and retention are not unique to PRS or Cass County, but are exacerbated in Plattsmouth. Many EMS organizations across the country describe difficulties in recent years with recruitment and retention. Reliance on community members to volunteer their time and resources can sometimes be a challenge. This can be helped by looking at national recommendations, instituting policies that encourage volunteerism, and reducing the need for persons to volunteer.
 - a. In Plattsmouth, like the rest of rural America, there are considerable differences between being a volunteer firefighter and a volunteer EMS worker. The number of structure fires has steadily been declining due to the success of national life safety codes and conducting successful local fire education campaigns. Conversely, as the population ages, ambulance runs are on a significant increase, and will continue to escalate in communities across America. As a result, the number of medical calls in a community can be 8-10 times the number of fire suppression events. Unfortunately, human and financial resource allocations do not parallel the activity and call volume variances.
 - b. Ambulance services in rural America are struggling, especially those reliant on volunteers – volunteers that are the unsung heroes of rural life. In contrast to ambulance services, many rural fire departments operate effective volunteer staffed departments in a civic/social club model. The success of this model for fire departments is due in part to infrequent fire calls, the high regard the public generally holds for fire fighters because of 9/11, and the exceptional federal, state and local benefits frequently offered to fire fighters such as line of duty death benefits, subsidized retirement programs, department jackets, paid training, and other similar benefits. Rescue squad volunteers are usually not eligible for many of these benefits, even though they often respond in their communities to ten times the call volume of the typical volunteer fire department.
 - c. It is not usually necessary to maintain a call schedule for fire department responses in towns with a relatively large number of fire fighters because several members are always in town to make the few calls that come in, so the burden is distributed across a larger number of persons. Infrequent requests for assistance of a short duration are generally tolerable to local businesses who allow their employees to leave while at work.
 - d. Often operating as civic or social clubs, fire or rescue squad elections can become popularity contests rather than serving a human resources purpose, whereby the needed skills would result in applications and interviews. Towns typically have very structured processes in place to assure that a qualified police chief is employed, this is generally not the case with fire chiefs or ambulance managers, and yet all three form the foundation for public safety, a basic governmental function.
 - e. The most functional volunteer fire and ambulance services have an internal set of rules and expectations of their members. Absence a structure and set of rules, volunteers will flounder, each creating expectations that apply to themselves and which each will artificially apply to others; there is no measuring stick with which to monitor and reward good service
 - f. A balance can be achieved to develop successful leadership while fostering volunteer commitment. The fire chief and rescue squad captain's positions at PRS should foster camaraderie, commitment, and result in increasing numbers of responders; while the planning, policy and fiscal functions can be achieved through an accountable oversight entity through PEMSB.
2. The EMS office at the state of Nebraska regularly conducts volunteer ambulance manager leadership training. This training focuses on administrative and management information and skill development. There are other national EMS development programs available to attend, such as the Ambulance Service Manager course of the American Ambulance Association and the EMS Performance Improvement Academy of the North Central EMS Institute. Making this type of training available to the rescue squad captain and the fire chief is recommended.
 - a. Incorporating lessons learned and best practices, ambulance services can learn from each other. By providing a regular forum to discuss what works and what does not, and by expanding the reach of these discussions beyond Cass County, administrators can find new and innovative methods to use in their service.

Performance Measure 4		Response	
Indicator		Measure	Agency Progress
4.1	Reliability	<i>Agency responds to 100 percent of requests for emergency service</i>	Agency responds to only approximately 75% of response requests.
4.2	Records	<i>Agency obtains response time data from dispatch agency and maintains accurate response time reports for all calls</i>	Data entered into eNARSIS and available for analysis.
4.3	Timeliness	<i>Time from response unit notification to vehicle wheels rolling is less than 8 minutes</i>	On average, 6 minutes, 32 seconds in 2007 for the 75% of all calls responded to.
4.4	Travel Time	<i>Time from wheels rolling to providers arrive at patient side is appropriate for miles traveled, scene situation and weather conditions and reflects knowledge of service area</i>	Mileage from fire station to scene is not entered into eNARSIS by Plattsmouth (11 of 728 records contain this information)
4.5	Scene Time	<i>Scene time reflects protocol compliance and sound clinical judgment</i>	On average 15 minutes, 6 seconds on scene in 2007
4.6	Transport Time	<i>Time from wheels rolling with patient loaded to arrival at care facility is appropriate for miles traveled and weather conditions and reflects knowledge of destinations</i>	Mileage from scene to hospital is not entered into eNARSIS by Plattsmouth (12 of 728 records contain this information)

STS Observations:

PRS fails to respond to approximately 25% of its requests for service. Our observation is the primary reason for this system failure is related to the lack of a call schedule and an inadequate staff roster.

PRS appears to provide a high level of prehospital clinical care, although the level of that care provided to a patient that can vary from basic to intermediate to paramedic depending on responding personnel. Consequently, there appears to be the possibility of uneven care delivery depending upon the level of training of personnel responding on any given call. This is mitigated somewhat with paramedics out of Bellevue Rescue Squad that will travel south and intercept the Plattsmouth unit during patient transports where advanced procedures are viewed as necessary by the PRS crewmembers.

Plattsmouth has a singled tiered response system in which patients, in most cases, must wait for an ambulance to arrive before uniform care begins. EMS personnel are all paged simultaneously with crewmembers responding to the station in their private cars to take the ambulance to the scene. In instances where the volunteer is much closer to the scene than the fire station, they may respond directly to the scene and have other responding members bring the ambulance. Police and sheriff's deputies have some emergency medical training and some equipment, and are prepared as first responders with tools such as oxygen and automated external defibrillators. While there is a policy related to the use of helicopters for transport, it is ineffectively written and is not being followed. There is also no medical protocol in place that provides specific guidance on when a helicopter should be auto-launched directly to the scene; instead, it is left to dispatcher discretion and is rarely, if ever, performed.

9-1-1 calls in Cass County are routed to a PSAP at the Sheriff's Department. Training on pre-arrival dispatch instructions, also known as Emergency Medical Dispatch (EMD), is routinely provided but is without quality assurance monitoring by a physician medical director.

Cass County operates on a UHF system and a VHF system for Plattsmouth Fire and Rescue. Strategically placed repeaters throughout the county assure effective radio communications. The communication center provides a 450 MHz to 800 MHz radio patch but it does not allow unit-to-unit communication.

STS Recommendations:

1. PEMSBS should require monthly response reports with an immediate goal of improving response from 75 percent to as close to 100 percent as possible. PEMSBS should report the results to the city council and Cass County.
2. The PRS medical director should collaborate with the state EMS Physician Medical Director Consultant to write an effective auto-launch dispatch and helicopter transport use protocol, based on nationally developed position papers from the National Association of EMS Physicians and others.
3. Run data reporting to eNARSIS should include the full set of data points in the system. Performance monitoring is dependent on accurate data being loaded into the system. Moving swiftly to deliver training on the existing electronic patient care record equipment will streamline this process and can improve information provided to the billing company.
4. Accurate records of mileage are necessary for billing, future performance review and defense.
5. Scene times should be evaluated over time to ensure that scene times are appropriate to the type of call.

STS Discussions:

1. Assessing the quality of volunteer EMS begins with measuring its ability to respond promptly to 100 percent of requests for service. In our experience, a failure to respond to more than 5-10 percent of calls signals a serious problem with a service in terms of either staffing or design. When a service is failing to meet 25 percent of calls, the problem is usually a serious staffing problem.
 - a. Keeping accurate mileage records is important for both assessing service and system performance and for legal defense. Transport mileage is important for billing purposes.
 - b. Scene times continually need to be assessed and compared to clinical protocols to ensure that on-scene treatment is appropriate and transport delays are not the result of skill issues or inappropriate care.
2. The best clinically performing EMS systems identify clinical performance indicators and expectations for providers. They evaluate those indicators and continually work toward improvement. While the ultimate value of certain clinical modalities is still a subject of research, establishing an evaluation process will bring more continuity to care in Cass County.
 - a. Recent studies indicate successful resuscitation depends on what is done in the first few minutes of the cardiac arrest. Studies throughout the United States have shown value in the placement of law enforcement defibrillators. First response can take on many different forms. Two-tiered EMS systems take many shapes throughout the world. Some systems use a variety of responders including citizen rescue groups who respond in their own vehicles to provide basic emergency care and support while awaiting the arrival of additional resources, fire rescue units and police officers.
 - b. We commend the sheriff for making EMD a priority, and we commend Cass County for funding EMD training through the sheriff's budget.
3. The large number of Plattsmouth area calls handled by Bellevue and Murray Rescue Squads deny a substantial financial value to the PRS, and conversely provide financial compensation for those two community squads that would not normally be there.
4. According to our interviews of local people, the geography and location of Plattsmouth results in an abundance of serious trauma. The adoption and use of nationally developed guidelines for the auto-launch of a medical helicopter or its subsequent dispatch after EMS arrival can assure their appropriate use for the right patients at the right time, while reducing morbidity and mortality.

Performance Measure 5		Clinical Performance	
Indicator		Measure	Agency Progress
5.1	Patient Care Protocols	<i>Agency has medical director-approved patient care protocols reflective of staff training and license level</i>	Achieved, but ineffective.
5.2	Medical Director Engagement	<i>Agency has designated physician medical director and monthly contact with medical director for clinical care review</i>	A physician medical director exists and contact is random, periodic and unscheduled.
5.3	Skill Verification	<i>Agency conducts annual clinical skills review</i>	Appropriate clinical skills reviews are not conducted. Skills practice occurs on training night for those that attend.
5.4	PCR Review	<i>Designated staff person reviews all patient care reports and verifies protocol compliance</i>	A committee is in charge of this function.
5.5	Continuing Education	<i>Service provides or supports ongoing continuing education commensurate with state and national certification requirements</i>	Meets state requirements. Training is not organized according to any system that would identify filling gaps defined by QA/QI or the medical director.

STS Observations:

Members of PRS are passionate about providing a high level of clinical care to the citizens of Plattsmouth and the surrounding area. The PRS has the capability (depending upon staffing) of providing basic life support, intermediate and advanced life support. Its protocols reflect current practice and are consistent with clinical practices in surrounding communities.

The initial EMT training for PRS is typically provided by an Omaha instructor employed by Southeast Community College. The college requires a minimum of eight students to conduct a class. The total EMT class time as provided by the college is 150 hours, although state law requires only 110 hours. There are paramedic schools in Lincoln and Omaha. National registration is required only for initial certification and not required by the state of Nebraska or by the rescue squads for re-licensure.

Although required for re-licensure of all rescue squad staff, continuing education is not centrally coordinated. The Cass County rescue squads should support each other by allowing any Cass County rescue squad member to attend any of training meetings at any squad. The rescue squads should take full advantage of free continuing education classes sponsored by the DHHS EMS/Trauma Program.

Nebraska law requires that all levels of EMT have a physician medical director under whose license the EMT practices. Lawrence Carlsson, MD, serves as the Plattsmouth Medical Director. He provides this service informally, voluntarily and without remuneration. There is no contract between PRS and Dr. Carlsson, consequently, no chain of accountability or responsibility is in place. There is no set schedule for Dr. Carlsson's contact with PRS clinical providers and only an informal process for his engagement in patient care report review.

The PRS vice-president for training is responsible to plan training sessions. Training sometimes occurs at monthly meetings, or it may be at a quarterly training-specific session. There is no designated process or medical director engagement for the ongoing determination of clinical skill competence.

STS Recommendations:

1. The PRS should fund a part-time EMS physician medical director position to provide medical oversight. A standardized medical director's job description should be developed and implemented. The EMS medical director should develop a medical supervision plan. The Cass County commissioners should consider unifying medical oversight under a single medical director. The medical director should complete both the Nebraska specific and the national medical direction course within 24 months of appointment. The medical director should receive basic awareness level training on e-NARSIS and develop enough competency with the system to run various reports.

If Recommendation one is Delayed:

- a) The current PRS medical director should complete the national medical direction course as soon as possible. The roles and expectations of medical director should be defined in writing, and he/she should be compensated for providing the service. Further discussion of these points is made below.
 - a. The PRS medical director should have a process in place that allows him/her to review calls where quality-of-care issues are at stake.
 - b. There should be standardized protocols/guidelines in use countywide in order to assure consistent service to the public as well as consistent skill competency exams, training and equipment. For example, Murray has full expanded scope of practice EMT-Is, while the PRS EMT-Is are limited in scope.
 - c. A standardized medical director's job description should be developed and implemented for all Cass County rescue squads.
2. The PEMSB should require that PRS continue to utilize electronic patient data collection. Electronic software systems should be certified as gold compliant by the Technical Assistance Center of the National EMS Information System.
3. PRS should provide baseline research reports such as ongoing progress reports on achieving the Performance Measures in this report as well as the outcome measures discussed below to the City Council and Cass County.
4. Annual or semi-annual skills reviews should be mandatory for all PRS responders. Competence evaluations should be coordinated and conducted at least annually. The medical director should temporarily de-credential any staff not evaluated during the previous 18 months.
5. The communication of available continuing education should be enhanced. While continuing education in Cass County rescue squads is open to personnel from any squad there is no existing method to communicate the availability of such training. Internet tools and other means of communication should be developed to make easy obtaining knowledge of available classes. Rescue squads should also submit their training sessions to the state EMS training calendar for publication free of charge.
6. PRS should take advantage of the free training resources available through the DHHS EMS/Trauma Program including continuing education training and video tape library. Targeted continuing education technical assistance is available from the DHHS EMS/Trauma Program. PRS should take advantage of the free training resources available through the DHHS EMS/Trauma Program including continuing education training and video tape library. Targeted continuing education technical assistance is available from the DHHS EMS/Trauma Program.

STS Discussions:

- 1) The current relationship between PRS and the medical director is one of reaction without substantial guidance. For example, when the state issues a revised EMS guideline or a PRS staff member notices a new device or procedure at a conference, the medical director is presented with an updated or new guideline and asked to approve it, which he usually does. While this system works, it is not ideal. EMS patient care should be driven based on evidence-based medicine and primarily by the medical director through scheduled and focused engagement with the rescue squad. The roles and expectations of medical directors should be defined in writing, and they should be compensated for providing the service.

- a) PRS should have a written agreement with the medical director that includes the following elements:
 - i) Acknowledgement of the authority of the EMS medical director as established in Nebraska statute.
 - ii) An effective date.
 - iii) An expiration date or a provision for automatic renewal upon mutual agreement
 - iv) Assurance of EMS medical director access to relevant agency, hospital, or medical clinic records as permitted or required by statute to ensure responsible medical supervision of licensed EMS personnel.
 - b) PRS should have a written agreement with the medical director that requires the medical director to:
 - i) Accept responsibility for the medical direction and medical supervision of the activities provided by licensed EMS personnel.
 - ii) Obtain and maintain knowledge of the contemporary design and operation of EMS systems.
 - iii) Obtain and maintain knowledge of Nebraska EMS laws, regulations, and standards manuals.
 - iv) Meet with the ambulance services at least twice a year.
 - c) PRS should have a written agreement with the medical director that authorizes the medical director to:
 - i) Provide explicit approval for licensed EMS personnel under his supervision to provide medical care. Licensed EMS personnel may not provide medical care without the explicit approval of an EMS medical director.
 - ii) Credential licensed EMS personnel under his supervision with a scope of practice. This scope of practice may be limited relative to the scope of practice authorized by the State but may not exceed the scope of practice established by the State.
 - iii) Restrict the scope of practice of licensed EMS personnel under his supervision and withdraw approval of licensed EMS personnel to provide services when such personnel fail to meet or maintain proficiencies established by the EMS medical director or the Nebraska DHHS.
 - iv) The medical supervision of licensed EMS personnel must be provided in accordance with a documented Medical Supervision Plan (MSP) that includes direct, indirect, on-scene, educational, and proficiency standards components. The EMS medical director is responsible for developing, implementing, and overseeing the MSP. However, non-physicians can assist the EMS medical director with the indirect medical supervision of licensed EMS personnel.
- 2) PRS should maintain a medical director-driven formal process to determine continuing education needs.
 - a) Continuing education needs should be identified collaboratively with the medical director and primarily through medical director chart and run reviews, staff surveys, quality improvement projects, competence evaluations and public health interfaces.
 - b) Competence evaluations should be coordinated and conducted at least annually. The medical director should temporarily de-credential any staff not evaluated during the previous 18 months.
 - c) PRS should take advantage of the free training resources available through the DHHS EMS/Trauma Program including continuing education training and video tape library. Targeted continuing education technical assistance is available from the DHHS EMS/Trauma Program.
 - d) Targeted leadership courses should be identified as high priority for EMTs desiring to hold leadership positions and mandatory for those that run for office.
 - 3) The Nebraska EMS Medical Director's course is available now and an online version of the national EMS medical director's course is expected to be available by late 2008.
 - a) The purpose of the DHHS EMS/Trauma Program's medical direction course is to provide an opportunity for physicians serving local emergency medical services the opportunity to become better aware of their responsibilities as a Physician Medical Director (PMD) for a local service. The training provides medical directors with the opportunity to share experiences as a PMD, to receive the PMD manual for reference and to learn about their role as a PMD. The EMS medical director should have a written agreement with the EMS agency(s) that includes the following responsibilities:

- b) Approving the planned deployment of personnel resources.
 - c) Approving the manner in which licensed EMS personnel administer first aid or emergency medical attention without expectation of remuneration.
 - d) Documenting the review of the qualification, proficiencies, and all other EMS agency, hospital, and medical clinic affiliations of EMS personnel prior to credentialing the individual.
 - e) Documenting that the capabilities of licensed EMS personnel are maintained on an ongoing basis through education, skill proficiencies, and competency assessment.
 - f) Developing and implementing a program for continuous assessment and improvement of services by licensed EMS personnel under their supervision.
 - g) Reviewing and updating protocols, policies, and procedures at least every two (2) years.
 - h) Developing, implementing and overseeing a Medical Supervision Plan
 - i) Collaborating with other EMS medical directors, hospital supervising physicians, and medical clinic supervising physicians to ensure EMS agencies and licensed EMS personnel have protocols, standards of care and procedures that are consistent and compatible with one another.
 - j) Designating other physicians to supervise licensed EMS personnel in the temporary absence of the EMS medical director.
- 4) After initial certification, ongoing continuing education should be based on the requirements of state law and on maintaining competence. There is no definitive EMS research on specifically how to apply these principles. Low frequency, high-risk, and high frequency, high-risk skills should receive more attention than high frequency, low risk and low frequency, low risk skills.
- a) While state certification and the National Registry of EMT's requires certain on going training, other training needs should be identified by the administrators, training officers, and medical directors. One consideration may be the lack of skill use based on the frequency of events. Data collected from e-NARSIS reporting should also drive continuing education programs.
 - b) "Skills Fairs" are a popular option for completing competence evaluation. They are particularly successful when completed in a teaching format, using local hospital and area ambulance personnel to supplement the medical director. In some parts of the country, helicopter teams schedule site visits on skill fair day, providing additional expertise for monitoring performance demonstrations.
 - c) The goal of the DHHS EMS/Trauma Program's is to use the Continuing Education Calendar to inform the EMS providers of continuing education being offered during a six (6) month period. The calendar, available from the Program's website, is a resource for informing EMS personnel of the new developments in Nebraska EMS, different training sessions that will be offered by the Nebraska EMS Program, special events such as EMS conferences and to advertise training opportunities being offered by agencies that are significant supporters of Nebraska EMS.

Performance Measure 6		Safety and Reliability	
Indicator		Measure	Agency Progress
6.1	Inspection and Maintenance	<i>Agency conducts and documents regular vehicle and equipment inspections and performs regular maintenance on vehicles and equipment</i>	Conducted once per week by maintenance committee.
6.2	Driving Instruction	<i>All staff members have received emergency vehicle driving instruction</i>	Internal training, competence determined by PRS officer. State issued personal red light and siren permit also required.
6.3	Universal Precautions	<i>Staff practices universal precautions on all calls and patient contacts and maintains appropriate cleanliness of vehicle and equipment</i>	Gloves are required on every call; masks and eyewear are available for use when needed.
6.4	Safe Practices	<i>Agency practices scene safety on all calls with safety vests, vehicle positioning and appropriate traffic control</i>	Scene safety is an entry-level qualification, competence determined by PRS officer.
6.5	Records	<i>Agency maintains records on all work-related injuries and illnesses.</i>	All work-related injuries and illnesses are reported with files maintained by the City Clerk.

STS Observations

The Nebraska State Legislature has enacted a number of statutes designed to protect the health and safety of persons in Nebraska. Monitoring the performance of Nebraska ambulance services and personnel is the responsibility of the state's Department of Health and Human Services, Division of Public Health, Licensing and Regulatory Affairs (DHHS). DHHS also issues licenses to ambulance services and issues licenses to first responders, emergency medical technicians (EMT), EMT-Intermediates (EMT-I) and EMT-Paramedics (EMT-P) to provide specific scopes of practice following state statute. Another service provided by the DHHS EMS/Trauma Program is a data collection system called the electronic Nebraska Ambulance and Rescue Service Information System (e-NARSIS). This data collection system is used by EMS agencies statewide.

Rescue squads are inspected randomly and as often as annually by DHHS for compliance with minimum equipment standards, Plattsmouth has no recorded deficiencies. The licenses of personnel are renewed by DHHS every three years upon each provider completing specific continuing education requirements, and again there are no known deficiencies. Many states mandate through legislation minimum standards for firefighters but Nebraska does not. As a result, it is up to the local fire Department to determine a mandate for completion of entry level Fire Fighter I training. For example, it is reported that both Murray and Bellevue Fire/Rescue Squad have this mandate for new volunteers to obtain after a period.

The PRS bylaws contain a number of provisions related to safety. The officers are responsible to assure initial understanding of, and ongoing compliance with, the bylaws. We observed three modern and well-maintained rescue squad units. We did not observe driver training or ride along on any runs and cannot evaluate how well universal precautions and other safe practices are conducted. No current or former PRS member we interviewed identified any safety issues.

STS Recommendations

1. The PEMSB, in collaboration with the DHHS EMS/Trauma Program, should generate standardized notebooks to be used for the safekeeping of all licensing and credentialing documents by PRS.
2. The PEMSB should review the PRS bylaws to assure all safety items are contemporary and to assure a system exists to monitor compliance, updating or changing items if necessary.
3. The PEMSB should establish a capital plan that assures public or private financing (cash, loans, bonds) are available to maintain a quality fleet and contemporary equipment. To be consistent with financial best practices, PEMSB should consider using fleet contracts maintained by NCEMSC.
4. PRS should provide emergency vehicle operator courses. For example, the Nebraska EMS/Trauma Program provides free of charge a certified six hour Emergency Vehicle Operators Course that includes three hours of didactic training and three hours of driving.. The city should request of its insurer the requirements or best practices for checking the background (including driver's license violations) of each staff member to assure PRS complies with insurance contracts.

STS Discussions

1. Standardized notebooks will speed the process of licensure renewal, assure that all required documents have a "home", and provide one complete resource for responding to inquiries from the state. While recertification is a personal responsibility of the individual who is certified, having the credentials housed in one place provides assurance to the city that personnel are current and legal.
2. Safety must be a top priority in the unpredictable 24/7 environment of emergency medical response. The potential for injury and illness in the prehospital environment is high. In 2000, the occupational injury rate was highest for EMS workers compared to other industries (Maguire, Smith, Hunting, & Guidotti, 2005). Among the leading risks to workers are vehicle related injuries and lifting injuries. Safety awareness is a hallmark of a quality EMS operation.
 - a. Ambulance traffic accidents are a significant problem around the nation. The response and transportation components of EMS demand that driver training be a priority. Many agencies mistakenly assume that a good driving record (while vitally important) is enough preparation to drive an emergency vehicle. Initial and ongoing driver training as well as driver performance is essential to protecting workers, patients, and citizens.
3. In the volunteer agency, the maintenance and care of equipment and vehicles must be a priority and clearly defined in a written process with designated coordination and accountability.
4. Protecting workers, patients and the public from the spread of disease is an important part of EMS operations. Ensuring the use of universal precautions on all calls must be a priority. Recent studies have found that many EMS agencies do a poor job of cleaning and disinfecting equipment and surfaces.
5. Keeping record of all worker injuries and illness is paramount in caring for the health of the working and the legal liability of the organizations. It is also important for noting trends and continuing to evaluate and improve practices for safer work environment. Agencies should strive to learn from each illness and injury incident and seek to improve worker, patient, and citizen safety continually.

Performance Measure 7		Inter Agency Relations, Prevention and Public Awareness	
Indicator		Measure	Agency Progress
7.1	Mutual Aid	<i>Agency has clear and written mutual aid agreements to provide coverage to its service area when agency resources are not available</i>	PRS is an active member of both the Sarpy County and the Metro area mutual aid associations.
7.2	Dialogue	<i>Agency maintains regular communications with neighboring agencies and participates in regional dialogue and planning</i>	PRS does this through county EMA committees, as well as direct contact.
7.3	Coordination	<i>Agency has formal and practiced disaster and multi-casualty incident plans with other agencies</i>	This is under the control and direction of the Sarpy County Emergency Management Agency.
7.4	Prevention Programs	<i>Agency participates prevention activities such as seat belt awareness, bike helmets, drunk driving awareness etc.</i>	PRS has limited engagement with Sarpy/Cass Department of Health & Wellness. Prevention programs are sporadic.
7.5	Public Awareness	<i>Agency engages in activities within community that foster better understanding about medical emergencies how to utilize EMS. Programs include public CPR training, public access AEDs, health fairs, community presentations.</i>	Some scheduled and unscheduled public campaigns are conducted.

STS Observations:

Mutual aid agreements between fire departments in Cass County appear to be working well, however mutual aid agreements are not specific to the changing and sometimes complex needs of EMS. The EMS agencies appear to communicate with one another and disaster planning does not appear to be an issue.

Although the fire departments in Cass County actively promote fire safety, there is no community wellness or prevention programs or activities conducted by the rescue squads on a formal or ongoing basis. Because of the staffing issues with the PRS in-depth participation in prevention programs is not currently a priority with PRS.

It was not within the scope of this project to perform an assessment of Cass County's disaster planning, however, some important issues emerged. We learned that Cass County has performed some disaster planning and exercises and has utilized Homeland Security funds on projects for various county departments and public safety agencies.

To receive federal Homeland Security funding each jurisdiction is required to become "National Incident Management System (NIMS) Compliant" following federal guidelines. First responders in the general sense (police, fire, EMS), elected officials, appointed officials and others are required to complete specific National Incident Management System training as one part of becoming compliant. These basic training programs and materials are provided by the Department of Homeland Security for no cost. NIMS training has been performed in Cass County.

PRS is engaged with planning and conducting multi-agency drills in an all-hazards approach.

STS Recommendations:

1. PRS should conduct public wellness and prevention activities in the areas they serve. PRS should target community gatherings to launch new public education initiatives. One potential building block for spearheading a joint project between Plattsmouth and S-CCPHW could be use of the recently developed and released pandemic flu planning protocols and public education training program from the DHHS EMS/Trauma Program and the University of Nebraska Medical Center.
2. A countywide Public Information, Education, and Relations (PIER) plan should be developed between the rescue squads.
3. The PEMSBS should include the Outcome Measures when determining public education needs.
4. The Sarpy/Cass Department of Health & Wellness should take the lead in engaging the ambulance services in a discussion about the identified wellness and prevention needs from prior or future community surveys. Long-term wellness and prevention activity planning should be coordinated between the PEMSBS and the county public health agency.
5. The county Emergency Manager and health officials should ensure that EMS providers know their role in a large scale medical or health emergency and is prepared to fulfill that role.
6. The current level of activity related to plan review, exercise and evaluation should continue.

STS Discussions:

1. EMS agencies can benefit from having frequent and ongoing interaction with the public. Tactics should be developed based on the community need and the vision and goals of the service. Easy programs to implement include interaction with the public at the county fair, including prevention messages in patient billings and providing community emergency medical awareness presentations at senior gatherings and schools.
2. Free resources from the DHHS EMS/Trauma Program, as well as those available through the National Highway Traffic Safety Administration should be used when possible.
3. An EMS system provides a number of public health functions but in Cass County, EMS is relatively disconnected from the public health department.
4. PIER is a nationwide effort by EMS providers to educate the community regarding EMS through public information, public education, and public relations. The program was conceived by the National Highway Transportation Safety Administration. A PIER plan could identify various appropriate venues, methods, and messages for providing public outreach. This may include events with large crowds such as the county fair, school sporting events, and the federal park. If coordinated countywide, then each ambulance service's message will be reinforced by the efforts of the other services. PIER materials are available free from the EMS Office at the National Highway Traffic Safety Administration.
5. E-NARSIS can be used to identify public training needs, especially those areas identified in the EMS Outcome Measures where the public's use of 9-1-1 is delayed.
6. The county Emergency Manager is the individual with the countywide responsibility to prepare for large-scale emergencies. Through networks commonly available to emergency managers, frequently facilitated at the state level, this should be a manageable task. The local emergency manager has a background in EMS and fire service and is aware of common issues.
7. Written mutual aid agreements are necessary for several reasons. They provide public assurance that an ambulance will respond, even when local resources are exhausted. They provide a written record of the agreements that have been made. When built into the mutual aid planning process, such agreements provide ambulance service managers with the comfort and knowledge that a plan will be automatically engaged when they are unable to activate it because of managing an emergency or for any other reason.
8. Regular and comprehensive disaster planning and practice not only prepare a county and community for disasters they often assist in building daily operational capability and system cooperation. Planning and practice enables leader, agency managers, and frontline field providers an opportunity to understand the system capability, various weakness and to build the essential relationships that support ongoing EMS system improvement.