1. Call to Order and Introductions -- 7:00 p.m.

2. Public Comment -- 7:05 p.m.
   
   The public comment portion of the Committee meeting is where the public is invited to address the Committee on subjects which are not part of the meeting agenda. Persons wishing to speak are asked to complete the participation form located at the meeting room door prior to the start of the meeting. Please limit remarks to three minutes.

3. Review and Approve Agenda -- 7:15 p.m.

4. Review and Approve March 3, 2017, Minutes -- 7:20 p.m.

5. MDSAC Committee Chair Report -- 7:25 p.m.
   
   Continuing Education Requirements for Community EMT
   Critical Care Paramedic
   Medication Shortages
   Best Practices for when a medical director is needed for a Medical Response Unit

6. Executive Director Report -- 8:05 p.m.
   
   Agency Update
   Legislative Update

7. Request for Deviation from Statewide Trauma System Requirements -- ACTION ITEM -- 8:15 p.m.

8. Consideration of D10W Emergency Infusion -- 8:30 p.m.

9. 2016 Rural EMS Sustainability Survey Results -- 8:40 p.m.

10. New Business -- 8:55 p.m.
11. Next Meeting -- 9:05 p.m.

12. Adjourn -- 9:15 p.m.

Note: Some Committee members may be attending this meeting by telephone. In accordance with Minn. Stat. Section 13D.015, subd. 4, the public portion of this meeting, therefore, may be monitored by the public remotely and telephonically. If you wish to attend by telephone, please contact Melody Nagy at 651-201-2802 or by email at melody.nagy@state.mn.us for connection information. Please contact Ms. Nagy no later than 10:00 a.m. on Wednesday, September 6, 2017 to ensure a timely response to connect to the meeting.

If you plan to attend the meeting and need accommodations for a disability, please contact Melody Nagy at (651) 201-2802. In accordance with the Minnesota Open Meeting Law and the Internal Operating Procedures of the Emergency Medical Services Regulatory Board, this agenda is posted at: http://www.emsrb.state.mn.us
State of Minnesota
Emergency Medical Services Regulatory Board
Medical Direction Standing Advisory
Committee Meeting Minutes
March 3, 2017, 9:00 a.m.
Minneapolis Marriott Northwest
Brooklyn Park, Minnesota 55428

Attendance: Aaron Burnett, M.D., Chair; J.B. Guiton, Board Chair; Marc Conterato, M.D.; Gary Foley, M.D.; John Hick, M.D.; Jeffrey Ho, M.D.; Paula Fink Kocken, M.D.; Pat Lilja, M.D.; John Lyng, M.D.; John Pate, M.D.; Andrew Stevens, M.D.; Peter Tanghe, M.D.; Mari Thomas, M.D.; Michael Wilcox, M.D.; Tony Spector; Executive Director; Melody Nagy, Office Coordinator; Greg Schaefer, Assistant Attorney General. (Bjorn Peterson, Carson Gardner on the phone for a small portion of the meeting)

1. Call to Order
   Dr. Burnett called the meeting to order at 9:02 a.m.

2. Public Comment
   None.

3. Approve Agenda
   Dr. Burnett suggested an additional agenda item. Siren grant to University of Minnesota.

   Dr. Pate moved approval of the revised agenda. Dr. Conterato seconded. Motion carried.

4. Approve Minutes

   Dr. Pate moved approval of the September 8, 2016 minutes. Dr. Lilja seconded. Motion carried.

5. MDSAC Committee Chair Report
   EMS Crisis Standards of Care
   Dr. Burnett said he is looking for a motion endorsing this document. Dr. Hick provided an example of a mass casualty incident. He commented there needs to be pre-planning at the dispatch level and at the operational level. Dr. Hick provided a power point presentation that was included in the meeting packet. Dr. Hick said that this document will also be discussed at regional meetings and workshops throughout the state.

   Dr. Lyng moved endorsement of the Surge Operations and Crisis Care document by the MDSAC and that MDSAC agrees with the general principals as outlined in the document and feel that it is a valuable resource for EMS services throughout the state. Dr. Lilja seconded. Motion carried.

   Opioid Hospital Visits-Publication
   Dr. Burnett said that he wanted to provide a quick overview of a document that has been discussed at the National Association of State EMS Officials. Dr. Burnett said he is the secretary of the Medical Director’s Council.

   Dr. Burnett provided a handout and highlighted data for Minnesota statistics versus other states and the national average. Dr. Lilja said that in Minnesota these persons may not have been admitted to the hospital. Dr. Burnett said this information should be available for legislative use.
Dr. Lilja asked if the EMSRB has been asked to comment on legislation. He said that his opinion is that legislators should not be practicing medicine. Physicians should not be mandated to implement something they did not have input on developing.

Dr. Pate said guidelines are needed. He provided an example of opioid abuse in his local area.

Dr. Lilja said that we should develop a “paper” for distribution to medical directors. (Sample protocols or care plans). Dr. Ho said services have care plans in place but cannot share information across PSAs. Dr. Burnett said that a health information exchange would be helpful in this situation and this has been previously discussed by this committee.

Dr. Lyng said there needs to be a decision that this is a priority. There have been discussions of what agency should take ownership of this. The technology exits. There is a model to use in the prescription monitoring program data base.

Dr. Conterato said we are discussing this at the Hennepin County EMS Council. There are several models in existence. This is in statute in Florida. One roadblock is the interpretation of what is HIPPA for EMS and hospitals.

Dr. Burnett suggested development of a subcommittee of members willing to further this issue. Dr. Ho said that this should be discussed again by the Board. The committee discussed and revised the above motion. Dr. Hick repeated the motion and it was voted on.

Dr. Hick moved that the MDSAC recommends that the EMSRB and the Minnesota Attorney General’s Office release a joint statement to be circulated by the Minnesota Hospital Association and other partners affirming the importance of EMS quality improvement and the legality under HIPAA and the Minnesota Medical Records Act of sharing specific patient outcome information with the licensed ambulance service or the medical director of a state-registered EMS responder agency that provided the patient’s care. Dr. Lyng seconded. Motion carried. Dr. Lilja voted no.

Dr. Lilja moved to add to future agendas a legislative report from the EMSRB. Dr. Thomas seconded. Motion carried.

Dr. Lilja moved to develop a subcommittee of MDSAC to discuss a health information exchange. Dr. Lyng seconded. Motion carried.

Dr. Ho volunteered to chair the subcommittee.

Critical Care Paramedic and Critical Care Flight Paramedic
Dr. Lilja said medical directors should provide the training for their staff as they see fit. Mr. Spector said that this is being represented publicly with “rockers” on uniforms. What does this mean? Are the standards different at different agencies? The EMSRB’s goal is to protect the public health and safety.

Dr. Lyng said that this has been discussed at the National Association of EMS Physicians. NAEMSP was asked to endorse this and they did not. There is a gap in the verification of this competency level. There is no formal recommendation in any state that I know of. My concern is in setting a specific standard there may be exclusion of persons. It may be too restrictive or limit competition.
Dr. Hick said we should have a “floor” on this. Dr. Lilja asked how this would be validated. He suggested a workgroup to discuss this and bring a recommendation back to the committee. Dr. Pate said the “floor” needs to come from a nationally recognized entity. Dr. Lilja we discussed a Minnesota standard for certification levels and decided to go with the National Registry. Who makes these decisions? How do you write a rule for this?

Mr. Spector said legislation was developed for Community EMT and Community Paramedic. The level of care needs to be defined. Does the MDSAC have specific thoughts as to what is needed? Staff is reviewing data to present to MDSAC. (50 state survey) Currently this is misleading to the public.

Dr. Wilcox asked where EMS is going in the country. EMS should be professionalized for the public. Training should be provided in an academic setting and be controlled by the medical director.

Dr. Burnett asked that this discussion continue in September. EMSRB staff will provide a 50 state survey and the document provided by Dr. Hick can be discussed again in September.

A Course in Cardiopulmonary Resuscitation as Approved by the Board/A Course in Advanced Cardiac Life Support as Approved by the Board

Mr. Spector said this refers to Minnesota Statute 144E.28, subdivision 7. What is “as approved by the board?” Mr. Spector said the Board is looking for a recommendation from MDSAC on this issue. He provided a handout with information from a 50 state survey.

Mr. Spector said their currently is no practical skills test for EMT renewal. Applicants could view this the same way that if there is no course approved by the Board they do not have to comply with this requirement.

Mr. Schaefer said we cannot ignore this question. Who would approve courses? It is detrimental to the Board to not have this in place. Mr. Schaefer said you cannot create a monopoly.

Mr. Guiton said this refers to medical directors who are not licensed ambulance service medical directors.

Dr. Lilja suggested the committee should develop a recommendation. American Heart Association or Red Cross would be acceptable. He asked if the EMSRB would then be approving courses as requested by education programs that have a medical director. Mr. Spector asked about a recognized course or equivalency. It is a course or is it content in the education. Dr. Lilja said we do not want to confuse people. Dr. Burnett said we should approve a course or equivalent.

Dr. Lyng said the previous discussion was to establish a standard. Now we are discussing a course or content. These are conflicting. What is approved by the medical director should be vetted at the state level. Do not dilute the standard.

Dr. Stevens said this is two separate things. An applicant that has a medical director is different. What would a pre-arrival dispatchers use.

Mr. Spector said this is in current statute. What do the physicians want as the standard? How do we integrate classroom versus what happens in the real world. Mr. Guiton suggested accepting the programs that are accepted in other states. (see Figure 2 in 50 Sate Survey)
Mr. Spector asked if this would pass legal muster? Dr. Stevens said a guideline is the basic step “set the floor”.

Dr. Fink-Kocken asked how staff handles this mandate? Dr. Burnett suggested CRP provided by an approved education program would be acceptable.

Dr. Lilja moved that MDSAC recommend to the Board CPR and ACLS courses listed in Figure 2 of the 50 state survey and courses or content provided by an EMSRB approved education program. Dr. Hick seconded. Motion carried.

<table>
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<tr>
<th>Cardiopulmonary Resuscitation</th>
<th>Advanced Cardiac Life Support</th>
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<tr>
<td>American Heart Association (AHA)</td>
<td>American Heart Association (AHA)</td>
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<td>American Red Cross (ARC)</td>
<td>American Safety and Health Institute (ASHI)</td>
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<td>National Safety Council</td>
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<td>Pro CPR LLC (ProCPR.org)</td>
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Senate File 1023
Mr. Spector said this bill was just introduced and the EMSRB was not consulted on this legislation. This document is provided for your information. This relates to patient-assisted medication administration and seems to be targeted for patients with rare conditions. Dr. Lyng said that this is very similar to a position statement that was approved by the National Association of EMS Physicians. NAEMSP.

Dr. Burnett said this would require the Board to develop rules. Mr. Snoke said he knew of a patient situation where there was a problem. He said that this would require training of all EMTs on all drugs statewide.

Mr. Spector said that this would require the EMSRB to develop rules and there would be significant cost ($50,000). The rule writing would be controversial and would require another committee for rule development.

Dr. Pate said it would be impossible to train for all the different possibilities. Dr. Lyng said the intent is to provide collaboration for patient administration and EMS providers being able to provide the care to the person. Dr. Burnett suggested a change in language to allow assistance with permission of online medical control.

Dr. Stevens said that we need to communicate with the author of this bill that the MDSAC has concerns about the current language.

Mr. Snoke said this bill is not currently scheduled for hearing.

Dr. Burnett moved that Dr. Lyng and Dr. Stevens work with Mr. McAlpin and Mr. Snoke and the Legislative workgroup of the EMSRB to develop language that parallels the National Association of EMS Physicians language. Dr. Hick seconded. Motion carried.
Dr. Fink-Kocken asked what happens in other states. It would be a problem to have mandated medications. Mr. Spector repeated this would require rule writing.

6. Executive Director Report – Tony Spector

Mr. Spector said the budget initiative released by the Governor’s office includes additional staffing for the EMSRB. The Southwest EMS Specialist position has been offered and accepted. The person will be on board in a few weeks.

The e-licensing system is not functional. We are working on a paper system. We are bringing on extra temporary staff to work on renewals and currently have a one week turnaround time for documents submitted.

Mr. Spector commented that the Legislative Ad-Hoc Workgroup is a subgroup of the Board and EMS stakeholders. The workgroup has suggested changes that need to be made but staff do not have bandwidth or expertise to make these changes. I will be bringing on a contract vendor to clean up the statute. There will not be policy legislation advanced by the EMSRB this year. This needs to be developed and vetted before it is proposed at the legislature.

Mr. Spector said that he wanted to bring to the Committees attention legislation proposed regarding an interstate compact for REPLICA related to cross boarder patient care. REPLICA would allow for staffing access across state boarders. In theory it makes sense. This legislation excludes EMRs. The compact being proposed requires 10 states to pass the legislation. Member states would be required to conduct criminal background checks within 5 years. This would cause at least two week delays for certification while waiting for the background check results. This would also require investigation and fingerprint fees and would be costly.

Mr. Guiton said backgrounding people is a good concept. The other health licensing boards are requiring this. Mr. Spector said that this would increase reporting for disclosures.

Dr. Ho left the meeting.

7. Update on MDH Inter-Facility Stroke Workgroup – Dr. Andrew Stevens

Dr. Stevens thanked members for welcoming him to this committee. Dr. Stevens said that he and Dr. Hick worked on this together and that research is an interest for him. The stroke protocols came from statute and a grant. This can be a model for medical directors.

Dr. Stevens said that the rural survey will be presented at the Minnesota Ambulance Association (MAA) meeting. I would like to share this information with medical directors and will be presenting further information at the Medical Directors Conference in September.

Dr. Hick said that there is a document on highly infectious disease being circulated and this document has inaccuracies. There is no Ebola in Minnesota. There needs to be changes in the document to emphasize that crews must provide emergency lifesaving care while waiting for other resources.

Dr. Hick said the EMSRB is working with ImageTrend to integrate trauma records with EMSRB records to develop meaningful reports.
8. **Regions Approach to Coordinated Emergency Care (RACE-Care) – Dr. John Hick**

   Dr. Hick said there are multiple initiatives being developed. It is hard to balance all the needs and interests. We are looking for support from ACEP. We are looking for funding for a pilot project. The EMSRB could focus the efforts of patient care activities at a regional level. The goal is consistent expectations for best practices. We want to provide information for QA and enhance education and development of triage processes.

   Dr. Wilcox said there needs to be a determination of what data elements provide better patient outcomes.

9. **Community EMT Education Program – Dr. Wilcox**

   Dr. Wilcox said that a program exists for Community Paramedics. This is a step in the development of a Community EMT Education Program. The statute was passed in 2016.

   Dr. Wilcox said to educate persons we needed to develop a framework of educational elements for approval by the EMSRB. This is a framework for an academic setting for education that includes a 48 hour program. This would be classroom and web based with a clinical component. A gap analysis would be developed for in the community wanting to implement the Community EMT.

   Mr. Snoke said Community EMT does not include persons working on an ambulance service. The personnel can also work for an ambulance service. The person also needs to be a member of a medical response unit.

   Dr. Burnett said this provides the framework for the curriculum.

   Dr. Lyng asked what the term primary provider means. This is problematic.

   Mr. Spector said to advance EMS as a profession the statute refers to the education program approved by the Board. Community EMT cannot move forward without Board approval. This module is being offered.

   Mr. Guiton suggested approval of a pilot project.

   Dr. Hick moved approval of the document provided for a pilot project with changes to terminology from primary provider to Community EMT. Dr. Lilja seconded. Motion carried.

10. **New Business**

    Dr. Lyng said the NAEMSP guidelines will be available for public comment soon. Dr. Burnett said that this is a good tool for medical directors.

11. **Adjourn**

    Dr. Lilja moved to adjourn. Dr. Fink-Kocken seconded. Motion carried.

    Meeting adjourned 11:53 a.m.
Request Form
Deviation from Statewide Trauma System Requirements

Ambulance Service Name: Cuyuna Regional Medical Center Ambulance
Ambulance Service Manager: Tom L. Bausman

Contact Information: Phone: 218-546-3169 E-Mail: Tom.Bausman@cuyunamed.org

Ambulance Service Medical Director: Paul Allegra, MD

Contact Information: Phone: 218-546-3789 E-Mail: Paul.Allegra@cuyunamed.org

Authority:

In accordance with Minnesota Statutes, section 144E.101, subdivision 14, the Minnesota Emergency Medical Services Regulatory Board (EMSRB) may approve an ambulance service’s requested deviations from the trauma system requirements due to the availability of local or regional trauma resources if the changes are in the best interest of the patient’s health.

❖ A map of hospitals that includes designation levels and trauma program manager contact information can be found at the following link: http://www.health.state.mn.us/traumasystem/map.html.

Deviation Request:

All deviation requests must be submitted to the EMSRB with complete information in the following five areas:

1. List all hospitals and their actual or anticipated trauma designation status within a 30-minute transport time from all areas within your Primary Service Area (PSA). Include contact information for each hospital. For Level III designated hospitals, describe their trauma care resources, including what types of trauma patients are they prepared to admit.

Response:

Essentia Health St. Joseph's Medical Center
523 North Third Street
Brainerd, MN 56401

Designation: Level III

Essentia Brainerd is staffed with providers in the ED 24 hours a day 7 days a week. Surgeons are on a 30-minute response call.

Trauma patients brought to their ED are stabilized and kept when possible, if not they are sent to the next appropriate level of trauma care in accordance with the state Trauma Criteria.

Trauma Program Manager:
Heather Nixon
(218)828-7554

Riverwood Healthcare Center

Request Form – Deviation from Statewide Trauma System Requirements
12-2009
Request Form – Deviation from Statewide Trauma System Requirements

200 Bunker Hill Drive
Aitkin, MN 56431

Designation: Level III

Riverwood is staffed with providers in the ED 24 hours a day 7 days a week. Surgeons are on a 30-minute response call.
Trauma patients brought to their ED are stabilized and kept when possible, if not they are sent to the next appropriate level of trauma care in accordance with the state Trauma Criteria.

Trauma Program Manager:
Jeanine LeBlanc
(218)927-2121

2. Describe the proposed deviation from the Statewide Trauma System EMS Triage and Transport Requirements. How would the proposed deviation improve trauma care? How would optimal trauma care be hindered if the deviation is not approved?

Response:

CRMC Ambulance is a hospital based ALS Ambulance service operating out of Crosby, Minnesota. The service has two on duty trucks during peak volumes, each truck is staffed with 1 Paramedic and 1 EMT. Paramedic staff at CRMC Ambulance utilize the Glide Scope Ranger for intubations and carry the Oxylog 2000 ventilator for management of ventilated patients. We carry the Phillips MRX and a Lucas 2 on each ambulance.

Major Traumas are normally flown to Hennepin County or one of the other level I designated facilities from the scene of the incident.

There is a potential condition that would lead to delays in transport decision making. Essentia Health St. Joseph’s Medical Center is 22 min. from Cuyuna Regional Medical Center’s front door and Riverwood Healthcare Center is 25 minutes from Cuyuna Regional Medical Center's front door on clear unobstructed roads. During inclement weather these times would exceed the recommended 30-minute window. This difference can create a challenge in decision making for the on-scene crew who is interested in adhering to the law and provide the best care for their patient.

Cuyuna Regional Medical Center’s Emergency Department is currently staffed with Board Certified ED physicians 24 hours a day and 7 days a week. Surgeons at Cuyuna Regional Medical Center are on a 30-minute callback response 24 hours a day and 7 days a week as well.

If patients are transported to more distant facilities, patient care may suffer during the lengthy ride compared to care delivered in a closer ED, those patients with shock may not receive as aggressive resuscitation in the back of an ambulance as they would in the ED at CRMC. There is also a likely hood of a delay in 911 response because the ambulance had to transport to a destination outside of our service area.

Proposal:
1. Compromised or Unsecured Airway resulting from a traumatic event transport to the closest hospital. If Air Medical Transport is available, they will be utilized as outlined below.
2. Respiratory Distress resulting from a traumatic event transport to the closest hospital. If Air Medical Transport is available, they will be utilized as outlined below.
3. Altered level of consciousness (Less than “A” on the AVPU scale) resulting from a traumatic event transport to the closest hospital. If Air Medical Transport is available, they will be utilized as outlined below.

4. Shock/diminished perfusion resulting from a traumatic event transport to the nearest hospital. If Air Medical Transport is available, they will be utilized as outlined below.

5. Severe Burns transport to the nearest hospital. If Air Medical Transport is available, they will be utilized as outlined below.

6. Other Considerations:
   a. Severe multiple injuries (2 or more systems) or severe single system injury.
   b. Cardiac or Major vessel injuries resulting from a blunt or penetrating trauma.

3. Based on the previous years’ MNSTAR data for your ambulance service, approximately how many major trauma patients could this potentially involve annually?

   **Response:** Given the Trauma System designation for a major trauma patient with Airway compromise, an unsecured airway, a level of consciousness of less than A on the AVPU scale, a patient in shock due to a traumatic event, Severe Burns, Severe multiple injuries or single system injury and or Cardiac or Major vessel injury due to blunt or penetrating trauma. Three were no patients whose destination would have been changed due to this variation.

4. Is there known or anticipated opposition to your proposal, and why?

   **Response:** No I am not aware of opposition to this variation.

5. Is there any additional information to support the deviation request?

   **Response:** CRMC’s service area is covered by 1 ambulance during many hours of the day due to lengthy interfacility transfers. Taking that vehicle out of service to transport major trauma patients an additional 20 to 30 minutes away would take the vehicle out of the service area for up to 2 hours at a time. Leaving the remaining residents uncovered by emergency ambulance services without.

**Signatures:**

Ambulance Service Manager: [Signature] Date: 6/24/17

Medical Director: [Signature] Date: 6/24/17

Office Use: Request Approved □ Request Not Approved □
Major Trauma Destination Criteria
3/9/2017

Level One Centers
- Hennepin County Medical Center
- Mayo Clinic Hospital Saint Mary's Campus
- North Memorial Medical Center
- Regions Hospital

Level Two Centers
- St. Cloud Hospital
- St. Luke's Hospital Duluth
- Essentia Health St. Mary's Duluth

Level Three Centers
- Essentia Health St. Joseph's Brainerd
- Riverwood Aitkin

Level Four Center
- Mille Lacs Health System

- Altered level of Consciousness (less than “A” on AVPU from trauma
- Systolic BP <90 resulting from trauma
- Respiratory <10 or >29 (<20 infant < one year)
- Traumatic
- Severe Burns
- Compromised or Unsecured Airway from trauma

Glasgow Coma Scale

Eye Opening
- Spontaneous 4
- to voice 3
- to pain 2
- none 1

Best verbal Response
- Oriented 5
- Confused 4
- Inappropriate words 3
- Incomprehensible 2
- None 1

Best Motor Response
- Obeys commands 6
- Localizes pain 5
- Withdraws from pain 4
- Abnormal flexion 3
- Abnormal extension 2
- None 1

- Transport to the closest facility.

This protocol is a guide to assist the paramedic in the field with trauma destination decisions. This protocol is not intended to supersede the good judgement of a paramedic with a patient in front of them or direction from medical control. Continue to do the best for each patient. All major trauma transport decisions will be reviewed with the medical director and the ED/Ambulance committee for potential process improvements.
August 4, 2016

John Solheim
CEO
Cuyuna Regional Medical Center
320 East Main Street
Crosby, MN 56441

Dear Mr. Solheim,

Enclosed please find a report on your hospital’s trauma program based on the trauma system re-designation site visit. It identifies a few of the many strengths your hospital contributes to the statewide trauma system as well as five deficiencies and some opportunities for improvement.

The State Trauma Advisory Council (STAC) Applicant Review Subcommittee has reviewed the report and the hospital’s application for re-designation. Based on that material, the committee plans to recommend to the full STAC that Cuyuna Regional Medical Center not be recommended to the Commissioner for re-designation as a Level 3 Trauma Hospital. The STAC will consider the recommendation at their next meeting on September 13.

The MDH trauma system staff is a resource while you consider the next steps for your trauma program. You and your trauma program staff can follow the STAC activities and the progress of the trauma system by bookmarking our website, www.health.state.mn.us/traumasystem, and by subscribing online to e-Trauma Updates. If you have any questions or if I may assist you further, please contact me at (651) 201-3841 or chris.ballard@state.mn.us.

Sincerely,

Chris Ballard
Trauma System Coordinator
Statewide Trauma System
P.O. Box 64882
St. Paul, MN 55164-0882

Cc: Ron Furnival, M.D., STAC Chairman
Cuyuna Regional Medical Center Level 3 Trauma Hospital Site Visit Report

Minnesota Department of Health,
Statewide Trauma System
PO Box 64882, St. Paul, MN 55164-0882
651-201-3838
www.health.state.mn.us/traumasytem

Upon request, this material will be made available in an alternative format such as large print, Braille or audio recording. Printed on recycled paper.
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Overview

This report identifies the strengths and opportunities for improvement observed during the trauma system designation site visit, along with any deficiencies noted by the State Trauma Advisory Council (STAC).

*Deficiencies* are criteria requirements of trauma system participation that were not met at the time of the site visit and must be remedied. *Opportunities for improvement* are recommendations for improving trauma care and care processes that should be addressed and resolved, but are not criteria requirements.

Site Visit Team

John Cumming, M.D.
Tracy Larsen, R.N.

Date of Site Visit

May 26, 2016

Date of State Trauma Advisory Council Review

July 26, 2016
Introductory Comments

Cuyuna Regional Medical Center is a 25-bed critical access hospital having an average daily census of 15.3 patients. The Minnesota Institute for Minimally Invasive Surgery (MIMIS) is housed on campus. The Minnesota Center for Orthopedics and Minnesota Center for Obstetrics and Gynecology are also housed on campus.

The emergency department (ED) expanded from six to 14 beds in 2016 and has an annual volume of approximately 10,500 patients. There are five general surgeons that provide trauma call coverage.

Cuyuna Regional Medical Center (CRMC) utilizes its own ambulance service which is clearly an invaluable resource for the community. There is a fleet of three ambulances and one suburban that are staffed by advanced life support personnel 24 hours per day. The ambulance service has a community paramedic program that currently has five participating staff. Air ambulance services are also available via North Air Care, Life Link III, and Sanford AirMed.

The trauma medical director (TMD) is new in the role since the last site visit. The hospital is also transitioning to a new trauma program manager (TPM). Unfortunately, the transition period for the two key leadership roles has been to the detriment of the trauma program. It was evident within ten minutes of the introductory comments that there was not a collaborative relationship between the outgoing TPM and the current TMD.

As previously identified, the emergency medical service (EMS) program was a real strength for the trauma center. There is excellent education and training for EMS and ancillary personnel.

Deficiencies

All five deficiencies are associated with global problems in the trauma performance improvement process and the lack of meaningful performance improvement activities.

- The trauma medical director has demonstrated limited involvement in the PI process and has a limited understanding of his role as trauma medical director. The completed PI worksheets documenting his secondary review over the past year indicated that he signed off on a majority of them on the same day. Review should be reasonably concurrent to facilitate the PI process (e.g. every two weeks). For each case reviewed, indicate the presence or absence of improvement opportunities and address deviations to performance measures or acceptable standards of care. Maintain these records for review at the trauma system site visits.

- There is no evidence that the trauma medical director and trauma program manager, along with other key players of the team involved in trauma care, are conducting critical case reviews. There has been only cursory review of trauma care over the past two years. There is a PI tracking worksheet that contains some information and is signed by the trauma medical director. There is no documentation of case discussion and these tracking worksheets are typically signed several months later. Continuous improvement is facilitated by a trauma program staff in a timely manner that is sufficiently critical of the institution's
performance, relentlessly seeking opportunities to improve it. Critically, comprehensively and concurrently review cases, evaluating care based on Advanced Trauma Life Support (ATLS), Comprehensive Advanced Life Support (CALS) and Trauma Nursing Core Course (TNCC) standards. Document findings from primary and secondary review on PI tracking forms.

- There have only been two multidisciplinary committee meetings in two years where cases were reviewed. There is no evidence that providers attended 50 percent of the meetings as required by the trauma system criteria. Schedule regular multidisciplinary trauma meetings where critical case reviews can be conducted by all providers involved in trauma care. These scheduled meetings should be co-chaired by the trauma medical director(s) and the trauma program manager. The agenda for these meetings should include cases that have been reviewed previously by the TMD and TPM. Consider scheduling the multidisciplinary meetings to occur in conjunction with other widely-attended meetings or at another time when the agenda can be accommodated. Since the trauma case volume would likely support quarterly meetings, increase the frequency and regularity of the meetings to ensure that issues are addressed in a timely fashion. Ensure all ED providers, general surgeons and advance practice providers participate in the case review meetings and meet attendance requirements of the state trauma system.

- While some components of a trauma PI process exist, there is essentially no functional PI process. Performance improvement activities exist only as identified in the primary review by the TPM. There is a process for identifying trauma patients; and issue identification occurs, but these data are not carried forward for adequate discussion, action planning and issue resolution. The TMD apparently lacks understanding of the PI process and the need for a collaborative multidisciplinary team to effect change. Some limited secondary review appears to take place, but it does not appear to translate into effective or meaningful performance improvement initiatives. There was no documentation of any substantive discussion with all providers involved in the care of trauma patients (i.e. ED providers and surgeons) or a multidisciplinary team. Build a comprehensive and effective trauma performance improvement process that includes case review by the ED providers and general surgeons. The trauma program manager should provide the initial review, scrutinizing whether the standards of care were met. She should then identify certain cases for review by the medical director. Typically, this is any case in which care or decision-making is questioned, or unacceptable deviations from the established performance standards are identified. Additionally, there should be criteria that prompts an automatic medical director review such as trauma deaths, admits and TTAs. After the trauma medical director provides the second level of review, the two together determine if a performance improvement initiative should be pursued and if there is value in discussing the identified learning opportunities in one or more committees (tertiary review). All levels of review must be documented. Consider having the TMD and the TPM attend Trauma Program 101 offered by the statewide trauma system to gain a basic understanding of trauma program administration and performance improvement.

- There is little to no evidence that the surgeons participate in the trauma program or the care of trauma patients. General surgeons should assume a leadership role in the level 3 trauma hospital and provide clinical oversight of trauma care via the performance improvement process. They should aspire to meet the needs of trauma patients in the community and region by accepting the responsibility of caring for trauma patients.
admitted to the facility. Ensure that the general surgeons assume a leadership role in the trauma program and in the care of trauma patients.

**Strengths of the Trauma Program**

- The EMS program at Cuyuna Regional Medical Center is outstanding. A fleet of three ambulances and one suburban are staffed with an ALS crew of one paramedic and one EMT 24/7. There are five staff participating in the community paramedic program at CRMC.

- The paramedics participate in the care of the emergency department patients. They may assist with advanced airway management and cardiac monitoring, and are members of the Level-One Acute MI Response Team.

- The staff are well trained. Ninety percent of the ED nurses and 81 percent of intensive care unit nurses have either Trauma Nursing Core Course (TNCC) or Comprehensive Advanced Life Support (CALS) certification. The hospital requires new hires to be certified in TNCC or CALS within one year of their hire date.

- The new ED trauma rooms are spacious. Once the organization completes the move-in process, all the essential equipment used during a trauma resuscitation (adult and pediatric) will be in close proximity to the patient.

- The outgoing trauma program manager, Violet Mussell, has been active in the Central Minnesota Regional Trauma Advisory Committee.

- The hospital has committed to hiring only board certified emergency medicine physicians to staff the ED.

- Dr. Allegra, the trauma medical director, is also the medical director for CRMC EMS.

- The hospital undertook a performance improvement (PI) project that resulted in new trauma team activation criteria that aligns with new statewide guidelines. The activation criteria has been placed on the badge cards of all ED and EMS staff.

- Documentation of the care rendered was thorough.

- The lab department was well prepared for the site visit. Staff were able to produce documentation of their emergency release process as well as their massive transfusion policy.

- The Orthopedic service is very active and admits many patients. This resource allows individuals to stay within their own community.
Opportunities for Improvement

▪ The trauma program manager has only .15 percent of an FTE dedicated to the trauma program, which is insufficient. The trauma program performance improvement process is ineffective and will require additional resources to achieve an acceptable level. Monitor the needs of the trauma program closely and increase the amount of time the trauma program manager is allotted as necessary to complete the system-required activities.

▪ The trauma program manager is responsible for entering cases into the trauma registry, which represents a considerable drain on her time. It is unreasonable to expect the program to have an effective PI process, considering the responsibilities the TPM is charged with in light of the current FTE allocation. Since her expertise are clinical in nature, consider enlisting the help of others (such as staff nurses or paramedics) for data entry, freeing up the program manager’s time to review cases and pursue performance improvement initiatives, which is more in concert with her education and experience.

▪ Case review revealed a number of cases in which radiology reports from the tele-radiology provider exceeded 30 minutes. Such delays can result in treatment and transfer delays; but the trauma program does not track the tele-radiology provider’s turn-around. Radiology read times should be tracked to ensure that results are communicated in a timely manner. Consider adding a PI filter such as, “STAT CT report received >15 minutes; routine CT report received >30 minutes.” Critically review all cases that fall out of the standard with the goal of identifying factors that contribute to long CT read times and remedying them.

▪ The hospital’s typical practice is to admit trauma patients to the hospitalist service with consultation of a specialty service (i.e. surgical services) when indicated. Since hospitalists are not typically trained in trauma management, consider offering trauma education for these primary care providers aimed at averting missed or delayed recognition of injuries. The surgeons could provide such education in concert with the case review meetings. Monitor the co-management of trauma patients carefully through the performance improvement process.

▪ The trauma program uses the filter, "ED length of stay for code green transfers." But there is no specific time threshold for this filter, which will prevent the trauma program from measuring its performance. An unwritten goal of transferring patients within 120 minutes was mentioned; but two hours is a long time for trauma patients to remain at a sending facility before being transferred to definitive care. Trauma patients have the occasional tendency to harbor life-threatening occult injuries and can deteriorate after at first appearing stable. Monitor trauma patients' length of stay in the emergency department with a PI filter such as "length of stay >60 minutes," which can be objectively measured, then critically review all cases that fall out of that standard with the goal of identifying factors that contribute to long stays and remedying them. Such a conservative filter will no doubt result in the filter falling out on many lower-acuity cases. But these cases can be critically reviewed and then adjudicated as an acceptable deviation from the standard.

▪ There is a need to better define the trauma patient in order to identify those cases for analysis through the performance improvement process. Broaden the trauma program’s scope of review to include, at a minimum, all trauma deaths, admits, transfers and trauma team activations.
There is no emergency airway equipment in the CT scanner room. Patients leaving the emergency department are at increased risk for airway complications as their distance from the emergency department resources increases. Equip the CT scanner room with basic airway resuscitation equipment for all ages that is immediately accessible such as adult and pediatric bag-valve-masks and oral airways along with oxygen and suction.

There appears to be limited formal interaction between the TPM and the TMD. In order for the trauma performance improvement process to be effective, ensure that the trauma program leaders interact regularly and collegially collaborate on PI initiatives.

Case Summaries

**Case Summaries Redacted**

Closing Comments

Previous site visits identified insufficient surgeon involvement in clinical care and PI activities. This continues to be a problem.

The PI process is ineffective. The program has had two marginal PI meetings in the past two years and none within the last year. The friction between the TPM and TMD appears to be hindering the performance improvement process. The TMD could benefit from better understanding trauma performance improvement and the multidisciplinary approach to programmatic PI.

Substantial changes to the trauma program at CRMC are necessary for the hospital to meet the essential criteria of the statewide trauma system. It is important that the hospital commit to and maintain the trauma system resource requirements in order to provide optimal trauma services the community and region.
September 8, 2016

Ron Furnival, MD
State Trauma Advisory Council
P.O. Box 64882
St. Paul, MN 55164-0882

Dear STAC members,

The General Surgeons, Orthopaedic Surgeons, Emergency Physicians and Administration of Cuyuna Regional Medical Center have received the report submitted for review by the STAC. We have met together and agreed that you should receive our response before reaching a decision regarding our trauma center. We all strongly feel that our Trauma Program is on the cutting edge of advanced Rural Trauma Care. The recent report received from the STAC subcommittee does not represent the state of our Trauma Services. In fact, the report does identify opportunities for improvement, many of which have already been addressed. Substantial expansion, building projects, and the re-organization of our Emergency Department, Hospitalist Program, Orthopaedic Services and Committee structures have resulted in transient delays, which have already been ameliorated particularly as it relates to required meetings and the paperwork associated with PI processes.

As a facility, we have invested heavily in our Trauma Care by developing a new model for the Emergency Department. In addition to substantial changes in personnel and a dramatic physical expansion of the Emergency Department, we have in the past year spearheaded a highly evolved and quality based integrated rural trauma system. As of late 2015, we are the only rural lower volume out-state ED staffed 24/7 with Emergency Physicians with American Board of Emergency Medicine training and certification. The remarkable care that our ED Physicians provide is driving all cause metrics. Notably our ED volumes have grown 19% in the past year. Despite facing the challenge of increasing volumes, our enhanced patient flow strategies have decreased our “Door to Doctor” time, previously over 60 minutes, down to an average of 9 minutes. Our “Time in Department” for discharged patients, previously averaging 260 minutes, is now averaging 100 minutes. The number of patients who leave without being seen was 35 patients per month in the second quarter of 2015 and was 1 patient per month during the same peak season interval this year. These and other metrics are
industry-leading figures which comes in large part from the insights and mentorship of the Hennepin County ED which includes five HCMC ED Faculty Physicians actively working in our ED providing insight on current best practices. With this remarkable world class Emergency Medicine mentorship, we have been able to grow and foster a rural ED that last fall received national recognition from the National President of the American College of Emergency Physicians. Our ED Director was invited to the East Coast to speak at the President of National ACEP's Residency Training Program regarding rural Emergency Medicine last fall. The demands of our Emergency Physicians’ training and backgrounds have necessitated that we make significant equipment investments in our trauma care for our ED to include a latest generation cardiac ultrasound, fiber optic intubating scopes, a dedicated trauma bay, an updated airway cart, Stryker, Mini C-arm as well as nearly tripling the size of our ED square footage and capacity. All of our investments have occurred since the summer of 2015 and these investments have direct benefits on all cause quality and care for Trauma patients presenting to our ED. The patients in our ED are taking note as evidenced by our truly remarkable outlier ED Press Ganey Scores which have month to month variability between the 96th and 99th percentiles.

Our Surgery Services have always been robust but have grown significantly, even since the May STAC review. We have four General Surgeons who all trained in urban centers as trauma surgeons. We are a teaching center with Minnesota's most established Post-Graduate General Surgery Fellowship in Minimally Invasive Surgery, Bariatric Surgery and Flexible Endoscopy. The Fellow participates in the Trauma Program along with the four faculty general surgeons, all of whom have a background of residency trauma training at Level 1 Trauma Centers (three at HCMC), 95 years of combined rural trauma experience, and have either helped to initiate rural trauma care for Minnesota or served on the STAC. We are an accredited Level I Bariatric Center and have recently started a GERD Center. Our Orthopaedic Services now include three specialists, and three are fellowship trained; Lower Extremity Adult Reconstruction (Total Joint), Hand, and Sports Medicine.

Our skilled general and orthopaedic surgeons, coupled with our board-certified ED physicians, in a well-equipped center with a longstanding pedigree of excellent team-based trauma care, provide rapid and high quality care for the trauma patients in our region.

The pathways and algorithms may be novel due to capabilities not usually available to a rural lower volume center, and therefore our trauma center may not align with expectations for trauma care as conceived by the American College of Surgeons for rural facilities. It is all too apparent that the recent report does not represent the care we provide nor adequately reflect who we are, and the
commitment we have toward excellence in trauma care. If there is further
guidance or improvements the STAC feels are necessary, we are keen to integrate
these concepts. That said, at present we are disappointed with the lack of
partnership and collaboration implied by the recent report.

We the undersigned are eager to give the STAC the opportunity to revisit our
facility and are confident that a concerted review would come to quite different
conclusions.

Alternatively, we the undersigned, representative of Cuyuna Regional Medical
Center, are content to resign our designation while continuing to advance rural
trauma care for our region.

Respectfully,

Paul Severson, MD, FACS
Howard McCollister MD, FACS
Timothy LeMieur, MD, FACS
Shawn Roberts, MD, FACS
Martin Perez, MD, Fellow

Paul C. Allegra, MD
Director of Emergency Services
HCMC Emergency Medicine Residency, Class of 2008

Erik Severson, MD, Director, Minnesota Center of Orthopaedics
Jon Herseth, MD, Sports Medicine
Susan Moen, MD, Hand Center

Rob Westin, MD, CMO
Kyle Bauer, CEO
Amy Hart, COO

Cc: Carol Immermann, RN, Vice Chair
Sharon Moran, MD, Level 1 or 2 Trauma Surgeon
Aaron Burnett, MD, State EMS Medical Director
Colonel Matt Langer, Commissioner of Public Safety
John Fossum, Rural Hospital Administrator
Gayle Williams, RN, Level 3 or 4 Trauma Program Manager
Daniel DeSmet, EMT-P, Rural EMS Attendant or Ambulance Director
John Hick, MD, Emergency Medicine Physician
Steven Lockman, MD, Rehabilitation Specialist
Alan Johnson, PA-C, Rural Physician Assistant or Nurse Practitioner
Peter Cole, MD, Orthopedic Surgeon
Robert Roach, MD, Level 1 or 2 Neurosurgeon
Craig Henson, MD, Rural General Surgeon
Mark Paulson, Level 3 or 4 Family Medicine Emergency Physician
September 22, 2016

Dr. Edward Ehlinger  
Commissioner of Health  
Minnesota Department of Health  
P.O. BOX 64975  
St. Paul, MN 55164-0975

Dear Dr. Ehlinger:

Cuyuna Regional Medical Center in Crosby, MN has been dedicated to excellence in rural trauma care for 30 years, well in advance of the inception of the Minnesota Statewide Trauma System. We have long participated in Minnesota rural trauma program development, including contribution to the formation of the State Trauma Advisory Council (STAC).

We, the undersigned Trauma Service physicians at CRMC and representatives of CRMC Administration feel that the current requirements for Level III Trauma Designation as evaluated and implemented by the Minnesota Department of Health through the State Trauma Advisory Council do not adequately respect nor fully understand the widely varying needs and capabilities of Minnesota’s many rural hospitals, including Cuyuna Regional Medical Center.

It is therefore with regret that we hereby notify you that we resign the Level III Trauma Designation that had been previously granted to us by the Minnesota Department of Health and that we have held since the very first days of the Minnesota Statewide Trauma System.

We are firm advocates of and strong believers in quality rural health care, and we have been long-recognized leaders in that arena, both on a state and national level. We firmly believe in the critical importance of quality trauma care in rural America and our record and reputation over three decades clearly supports that assertion. Please rest assured that despite our resignation of formal ACS Level III Trauma Designation, we will continue to provide the same excellent trauma services and continue the same robust innovative Trauma Program development that we have always provided to our patients, our community, and all the citizens of the state of Minnesota.

Respectfully submitted,

Kyle Bauer  
Interim Chief Executive Officer
Paul Allegra, MD, FACEP
Medical Director Emergency Medical Services
Medical Director Trauma Program

Howard McCollister, MD, FACS
Chief of Surgery

Paul Severson, MD, FACS
Department of Surgery

Tim LeMieur, MD, FACS
Department of Surgery

Shawn Roberts, MD, FACS
Department of Surgery

Erik Severson, MD
Department of Orthopaedic Surgery

Susan Moen, MD
Department of Orthopaedic Surgery

John Herseth, MD
Department of Orthopaedic Surgery

Rob Westin, MD
Chief Medical Officer
October 13, 2016

Kyle Bauer
Interim Chief Executive Officer
Cuyuna Regional Medical Center
320 East Main Street
Crosby, MN 56441

Dear Mr. Bauer:

Thank you for your hospital’s application for designation as a Level 3 Trauma Hospital in April of this year. After months of deliberation and review of your September 8 letter, the State Trauma Advisory Council (STAC) concluded on September 13 that Cuyuna Regional Medical Center (CRMC) has ongoing global deficiencies with its performance improvement program dating back to 2007. Due to the serious and ongoing nature of the deficiencies (cited in the July 26, 2016, site visit report) the STAC recommended that CRMC not be redesignated.

Subsequent to that action, CRMC sent a letter of resignation dated September 22. However, there is no provision in statute that permits a voluntary withdraw from the system absent a formal refusal of designation. Therefore, according to STAC’s recommendation and in acknowledgement of your requested resignation, I am denying your application for redesignation.

Cuyuna Regional Medical Center is no longer a state-designated Level 3 Trauma Hospital.

Four immediate consequences are now in effect:

1. CRMC may not advertise itself as or use the terms “trauma center” or “trauma hospital” or otherwise indicate it has trauma treatment capabilities, in accordance with Minnesota Statutes, Section 144.605, Subdivision 1.

2. Ground ambulance services are not permitted to transport major trauma patients to CRMC, in accordance with Minnesota Statutes, Section 144.604. (Minnesota Statute, Section 144.602 defines major trauma.)

3. CRMC will no longer receive trauma transfers from other designated hospitals, in accordance with Minnesota Statewide Trauma System Level 3 Trauma Hospital Designation Criteria.

4. CRMC must notify regional hospitals and emergency medical services providers and authorities that it is no longer a designated trauma hospital, in accordance with Minnesota Statutes, Section 144.605, Subdivision 6. This is necessary since these organizations may need to change their transport and/or transfer policies.

Protecting, maintaining and improving the health of all Minnesotans
Trauma system hospital designations assure the public and EMS providers that standardized trauma education, policies, and clinical quality review processes are verified and integrated into the care of seriously injured patients, so that patients receive the most accountable and timely quality care. Designations also recognize that both the administrative and medical leadership are committed to meeting all required designation criteria. Participation in the statewide network of dedicated trauma hospitals is a valuable community asset.

I encourage CRMC to consider the industry-proven patient and provider benefits of a trauma performance improvement process, and to integrate this into its existing trauma care model. I have instructed my staff to contact you within the week to offer any assistance you might desire should you want to reapply for trauma designation in the future.

Please address any questions to Chris Ballard, Trauma System Coordinator, at chris.ballard@state.mn.us or (651) 201-3841.

Sincerely,

Edward P. Ehlinger, MD, MSPH
Commissioner
P.O. Box 64975
St. Paul, MN 55164-0975

Cc: Amy Hart, Chief Operations Officer
Rob Westin, Chief Medical Officer
Caity Eggen, Chief Human Resources Officer
Ron Furnival, M.D., Chair, State Trauma Advisory Council
State Trauma Advisory Council Members
Tony Spector, Executive Director, Minnesota EMS Regulatory Board
Tami Bon$g, Chair, Central Minnesota Regional Trauma Advisory Committee
Joint Policy Committee Recommendation of Cuyuna Regional Medical Center Ambulance Service’s Request to Deviate from Trauma Triage and Transportation Requirements

JPC Meeting Date: August 25, 2017

In Attendance
*Dr. Aaron Burnett (EMSRB)
*Pat Coyne (EMSRB) (Alternate; in for Dr. Ho)
*John Fossum (STAC)
Dr. Ron Furnival (STAC Chair)
Carol Immermann (STAC alternate)
*Al Johnson (STAC)
*Dr. Sharon Moran (STAC)
*Dr. John Pate (EMSRB)
*voting

Absent
Dr. Jeff Ho (EMSRB)

Staff
Tony Spector (EMSRB)
Tim Held (MDH)
Marty Forseth (MDH)
Chris Ballard (MDH)

Recommendation

Minnesota Statutes 144E.101, Subd. 14 permits the EMS Regulatory Board to approve an ambulance service’s deviation request (1) due to the availability of local or regional resources, and (2) if the deviation is in the best interest of a patient’s health.

The JPC reviewed and discussed CRMC Ambulance Services request to deviate from the Trauma Triage and Transportation Guideline and trauma system staff’s analysis of the request. The committee found that the application fails to satisfy the statutory requirements because:

▪ The proposed destination hospital does not possess unique capabilities to treat specific traumatic injuries that are unavailable at two nearby trauma hospitals.
▪ The proposed destination hospital’s resources and capabilities have been subjected to the trauma system’s verification process and found to be insufficient to satisfy the requirements for a trauma hospital in Minnesota.

Based on these findings, the JPC recommends that the EMS Regulatory Board deny Cuyuna Regional Medical Center Ambulance Service’s request to deviate from the state’s trauma triage and transportation requirements.
FROM: Carson Gardner, M.D.
TO: Aaron Burnett, M.D., chair; Minnesota EMSRB—MDSAC
DATE: August 25, 2017
REGARDING: Consideration of D10W emergency infusion by Minnesota EMT’s

Dr. Aaron and MDSAC members,

I would like to request that the MDSAC discuss the issue of granting Minnesota EMT’s variance-authority to do emergency field intravenous infusion of D10W to seriously hypoglycemic patients—those unable to take emergency oral glucose calories as treatment for their acute hypoglycemic presentation. I am aware that, in past years, MDSAC has discussed this issue and recommended against EMT authorization to administer IV medications of any type. Thank you for reconsidering this issue in current times. My reasons for believing such an EMT D10W-administration variance-authorization would benefit EMS care and EMS patients are as follows:

1. Many rural EMS agencies still must run BLS a significant proportion of time, even despite having a part-time ALS license.
2. Both the diabetes diagnosis and diabetic-medication-related hypoglycemic emergencies, are becoming more and more common in EMS practice.
3. While Minnesota EMT’s are varianced to give emergency IM glucagon in such situations,
   A. Glucagon is very expensive and many rural EMS agencies are seriously budget-stressed.
   B. Glucagon may not be adequately effective for individuals who are malnourished, underweight, metabolically unbalanced already, and suffering from liver dysfunction.
4. Even experienced paramedics—who are and should be authorized to “push” D50W in emergency severe-hypoglycemia care situations—find that D50W can be a metabolically-shocking sugar load for patients with multiple complex health problems, and that any inadvertent extravasation of D50W may cause significant, serious tissue breakdown/necrosis.
5. Valid EMS studies in current EMS literature have shown that D10W infusions in the field are adequately rapid and effective, in comparison to D50W “push” infusions; and that D10W infusions have not been associated with any significant adverse study events.
6. There have been recent significantly daunting medication shortages for EMS agencies regarding D50W unit-dose inventory availability—at any price.
7. A Minnesota precedent has already been wisely and effectively set by allowing Steve’s Law—Minnesota SF 1900 Naloxone Rescue Good Samaritan Law—to grant EMS medical directors authority to specify EMT administration of a medication—naloxone—by any route of the EMS medical director’s choice, as long as the route used is accompanied by appropriate training of the varianced EMT’s. That authority includes the IV and IO routes. To my knowledge there have been no adverse events reported in Minnesota related to EMT IV or IO administration of this medication.

Thank you for considering this issue very important to Minnesota rural EMS care,

Carson Gardner, M.D.
medical director, White Earth Nation Tribal Health Department; White Earth Reservation Ambulance Service
board of directors member, West Central EMS Foundation
Tribal Health Department Building
26246 Crane Road
White Earth, MN 56591
218-983-3286, ext. 1219 carson.gardner@whiteearth-nsn.gov
2016 Rural EMS Sustainability Survey Results
2016 Rural EMS Sustainability Survey Results

Minnesota Department of Health
Office of Rural Health and Primary Care
PO Box 64882,
St. Paul, MN 55164-0882
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As requested by Minnesota Statute 3.197: This report cost approximately $10,000 including staff time, printing and mailing expenses.

Upon request, this material will be made available in an alternative format such as large print, Braille or audio recording. Printed on recycled paper.
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Acknowledgements

This report was developed by the Minnesota Department of Health in partnership with the Minnesota Emergency Medical Services Regulatory Board and the Minnesota Ambulance Association. Most importantly, the partnership would like to thank all the rural ambulance service managers who participated in this survey. An astounding 81 percent response rate from these rural EMS providers makes these results an objective and valuable contribution for policymakers and industry leaders who seek long-term solutions to rural EMS sustainability in Minnesota.

This project was supported in part by the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services (HHS) under grant number H54RH00023. The information, conclusions and opinions expressed in this document are not endorsements by FORHP, HRSA or HHS.
Abbreviation List

- ALS – Advanced Life Support
- BLS – Basic Life Support
- EMR – Emergency Medical Responder
- EMS – Emergency Medical Services
- Flex – Medicare Rural Hospital Flexibility Program
- MAA – Minnesota Ambulance Association
- MDH – Minnesota Department of Health
- CEMS – Minnesota Department of Health Center for Emergency Medical Services
- EMSRB – Minnesota Emergency Medical Services Regulatory Board
- ORHPC – Office of Rural Health and Primary Care
- PT-ALS – Part-time Advanced Life Support
- REMSSC – Rural Emergency Medical Services Sustainability Committee
- SLS – Specialized Life Support
Executive Summary

The sustainability of rural emergency medical services (EMS) has been a concern of EMS professionals, policymakers and citizens for many years. Many issues have been documented in the past, but industry leaders and policymakers have only anecdotal data to describe the current realities of rural EMS. Thus, this survey was developed and distributed to all rural EMS providers in Minnesota, in order to identify and quantify areas where partnering agencies, stakeholders, and policymakers may provide assistance in supporting rural EMS.

This survey incorporated questions and concepts from state and national discussions about the sustainability of rural EMS. The results will supplement previous findings with updated and new information about the status of rural EMS operations. It may also support future legislative and policy discussions to ensure sustainability of rural EMS in Minnesota.

For purposes of this survey, “rural EMS” was defined as all services that do not serve the Metro EMS Region plus three Metro services that serve primarily rural populations (total of 230). An astounding 81 percent responded, making these results an objective and valuable contribution for long-term solutions to rural EMS sustainability in Minnesota.

Key findings for each section follows below.

Characteristics of Rural EMS Agencies

Key Findings

Most rural EMS agencies provide basic life support services to relatively small populations spread across large geographic areas. Along with low daily call volumes, these realities exacerbate the inability to create sustainable business and staffing models.

- The median call volume is nearly one call per day
- Over half of the agencies cover more than 200 square miles; 37 percent cover more than 300 square miles
- Over half of the agencies serve populations of less than 5,000

Workforce and Staffing

Key Findings

Staffing shortages are a major challenge for rural EMS agencies. Eighty (80) percent utilize some version of volunteers to staff their operations. Roster sizes are decreasing, many staff are trained for multiple public functions and many call schedules are not covered 24 hours prior to the shifts.

- The active staff roster decreased for half of the agencies from the previous year
- Weekday daytime hours are the most difficult shifts to cover. However, all weekend and holiday shifts are also difficult to cover
- About 60 percent of agencies have inadequate staff to cover their call schedule without undue burden to the agency.
- Fifty-nine (59) percent of agencies do not have their shifts 100 percent covered at least 24 hours in advance
Recruitment and retention of ambulance personnel continues to be a significant challenge even though:

▪ Emergency Medical Responders (EMRs) are now widely used to actively staff rural EMS agencies
▪ Most agencies cover the full cost of the continuing education courses for their staff
▪ Most eligible recipients take advantage of state EMS training reimbursement

Agency Leadership and Financial Management

Key Findings
The largest problems that rural EMS agency managers face today, as in the past, are recruitment of staff and filling call schedules. These two management tasks seem to form a Maslow’s Hierarchy of basic management needs (see Appendix C, Question 24). It may be that efforts to address other management issues will be fruitless and/or unwelcomed until these basic needs are addressed.

▪ Sixty-nine (69) percent of rural EMS managers report difficulty recruiting staff despite the fact that 57.5 percent have a recruitment plan
▪ Over half of rural EMS managers report difficulty staffing their schedule

High leadership turnover was defined in this survey as an EMS agency having had three or more managers in the past five years. Using this definition, there is remarkably low turnover of rural EMS managers. A high majority of EMS managers have an active role in developing their budgets, but generally are not directly involved in billing.

▪ Eighty-six (86) percent of services did not have high turnover of their managers
▪ Eighty-one (81) percent of rural EMS managers have a role in developing their annual budgets
▪ Eighty-one (81) percent use other resources to bill, with billing agencies as the most common at fifty-two (52) percent

Medical Direction

Key Findings
The results from this survey do not support previously documented problems in hiring and retaining medical direction for rural Minnesota EMS agencies. This may be due to an increase in participation in a medical direction consortium. Twenty-six (26) percent now participate in a medical direction consortium.

▪ Eighty-eight (88) percent of services report that they do not have difficulty recruiting or retaining a medical director
▪ Twenty-six (26) percent of rural EMS agencies participate in a medical direction consortium

However, according to survey respondents some responsibilities of the medical director required by statute are not universally provided to all rural EMS agencies regardless of the medical direction model (see Appendix C, Question 37). These duties include:

▪ Develop protocols and orders
▪ Review and approve protocols
▪ Approve continuing education for staff
▪ Quality improvement: review run reports
▪ Investigate complaints
Community Relations

Key Findings

Rural EMS agencies seem to have inconsistent engagement with their communities. A large majority provide additional non-response services to their communities, such as conducting public CPR/AED classes and first aid training. These visible services likely foster a sense of collaboration between EMS and the community. However, most EMS services do not have a community advisory board, which ideally is a place to bridge discussions between EMS and the community about short and long-term strategies for sustainability. Community Advisory Boards can also help build awareness about the necessity of EMS services and the role of EMS as a member of the greater community health care system.

- Ninety-four (94) percent of rural EMS agencies provide additional non-response services to their communities
- More than 62 percent of agencies believe that community support for EMS is similar to other public services
- Eighty-two (82) percent do not have a community advisory board

Summary

The survey results suggest that with some small exceptions, rural EMS has remained the same in Minnesota from 2002 - 2016. The same business problems of economics and structure exist, for example:

- Low transport volumes
- Low and sparse populations served
- The implicit population changes in seasonal density and distribution
- Large geographical primary service areas to cover
- Availability of a sustainable EMS workforce, including dependence on volunteers
- Need for fully engaged medical directors
- Need for non-transport revenue

The survey results also suggest the need for further and deeper assessment of what the results may indicate or mean. Subject matter experts are encouraged to do just that, because EMS is a vital link in the healthcare continuum. Without it, patients in need of time critical care for conditions such as trauma, stroke, allergic reactions and cardiac emergencies will suffer unnecessary disability and death. EMS must survive for Minnesota’s rural citizens and visitors to have the best chance to survive these and other emergencies.

1 For instance, the importance of and need for Community Advisory Boards is a growing EMS leadership concept that this survey did not explore in detail.
Background

Past Efforts to Understand and Address EMS Sustainability

The sustainability of rural emergency medical services (EMS) has been a growing concern of EMS professionals, policymakers and citizens for many years. The first attempt to qualify and quantify these issues was in 2002. That year the Minnesota Department of Health (MDH) conducted an in-depth study of EMS sustainability. The publication resulting from this work is, “A Quiet Crisis: Minnesota’s Rural Ambulance Services at Risk.” The report made 16 recommendations for state policy changes to improve EMS sustainability. But from 2002 to 2015 very little long-term systemic progress was accomplished. Numerous independent initiatives addressed some of the recommendations, but there was no singular coordinated effort to strategically address the issues at a state level.

Then in April 2015, the Greater Northwest EMS Region and the Minnesota Ambulance Association (MAA) hosted a Rural EMS Summit. The Office of Rural Health and Primary Care (ORHPC) at MDH funded part of the summit using funds from its Medicare Rural Hospital Flexibility (Flex) Grant Program. The goal of the summit was to “engage a broad segment of EMS leaders and stakeholders from across Minnesota in a discussion about rural EMS sustainability and use the collective knowledge and experiences to identify strategic trends, issues, challenges and directions.”

Seventy EMS leaders from across the state participated. The group set goals in seven areas of concern and identified recommendations in the following areas:

- Lead State EMS Regulatory Agency
- Local EMS Leadership
- Workforce Sustainability
- Community Awareness
- Certification/Education/Recertification
- Funding
- Medical Direction

Current Efforts to Understand and Address EMS Sustainability

The MAA assumed responsibility to follow-up on the 2015 Summit recommendations. In partnership with the Minnesota EMS Regulatory Board (EMSRB) and the MDH-ORHPC, MAA established the Rural EMS Sustainability Committee (REMSSC) to lead the effort. This group continues to meet to discuss the recommendations identified at the Summit.

Concurrently, The MDH Flex Program at the ORHPC began development of a new EMS survey for rural EMS agencies. MDH CEMS provided oversight and staff support for this initiative in partnership with the EMSRB and MAA (see Appendix A for details). The purpose of the survey was to gather information on rural ambulance service demographics, workforce, leadership and operations in Minnesota.

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3 The MDH Center for EMS (CEMS) is an informal group that coordinates activities among programs and initiatives at MDH who work with EMS in Minnesota. Representatives from EMSRB and other key stakeholders regularly participate with CEMS.
The survey results can inform stakeholders and policymakers about the status of rural EMS operations. These results can also support future legislative, State agency, designated regional EMS system, regional health care coalition and EMS agency organizational and policy changes in support of rural EMS sustainability.
Results

Summary of Survey Response Rates

Two-hundred thirty surveys were sent to rural EMS services in all eight EMSRB designated EMS regions. Completed surveys were received from 80.9 percent of respondents or 186 licensed ambulance services. The Southwest EMS Region has the largest number of EMS agencies totaling 57). The Southeast EMS Region had the highest response rate, 100 percent. The Metro EMS Region has three EMS agencies that serve rural communities; one agency completed a survey (Table 1).

Table 1. EMS agency survey responses (Total 186)

<table>
<thead>
<tr>
<th>EMS Region</th>
<th>Number of Surveys Sent</th>
<th>Number of Surveys Completed</th>
<th>Survey Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southeast</td>
<td>39</td>
<td>39</td>
<td>100.0%</td>
</tr>
<tr>
<td>South Central</td>
<td>30</td>
<td>27</td>
<td>90.0%</td>
</tr>
<tr>
<td>West Central</td>
<td>19</td>
<td>17</td>
<td>89.5%</td>
</tr>
<tr>
<td>Northwest</td>
<td>21</td>
<td>17</td>
<td>81.0%</td>
</tr>
<tr>
<td>Central</td>
<td>29</td>
<td>22</td>
<td>75.9%</td>
</tr>
<tr>
<td>Southwest</td>
<td>57</td>
<td>40</td>
<td>70.2%</td>
</tr>
<tr>
<td>Northeast</td>
<td>32</td>
<td>20</td>
<td>62.5%</td>
</tr>
<tr>
<td>Metro</td>
<td>3</td>
<td>1</td>
<td>33.3%</td>
</tr>
<tr>
<td>Missing$^4$</td>
<td>0</td>
<td>3</td>
<td>0.0%</td>
</tr>
<tr>
<td>All regions (Total)</td>
<td>230</td>
<td>186</td>
<td>80.9%</td>
</tr>
</tbody>
</table>

$^4$ Completed surveys did not indicate region.
Characteristics of Rural EMS Agencies

The majority of EMS Agencies in rural Minnesota provide Basic Life Support service (88.2 percent). Other types of ambulance licenses include Advanced Life Support (26.9 percent or 50 EMS Agencies), Part-time Advanced Life Support (17.2 percent, 32 ambulance services) and/or Specialized Life Support, which includes air ambulance services (8.6 percent or 16 ambulance services) (Figure 1 – it was possible to select multiple options).

![Figure 1. Type of license](image)

Over half of EMS agencies (55.4 percent) serve populations that are less than 5,000 people (Figure 3). Twenty-seven EMS agencies (14.5 percent) serve populations larger than 15,000 people. Almost 10 percent of agencies service tribal regions (Appendix C, Question 2).

![Figure 3. Population size served by EMS agency](image)

---

5 It was possible to select multiple options.
The median EMS agency call volume is equivalent to less than one response per day. Most agencies in Minnesota provide 911 emergency response and patient transport. Many also provide inter-facility patient transport (this survey did not differentiate between scheduled and non-scheduled transfers) (Table 2).

Table 2. According to MNSTAR\(^6\), what was your call-volume in 2015?

<table>
<thead>
<tr>
<th>Type of Call Response</th>
<th>Number of Agencies</th>
<th>Median Call Volume</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>911 Call Volume</td>
<td>151</td>
<td>305</td>
<td>16 - 11,000</td>
</tr>
<tr>
<td>Inter-facility Transport Call Volume</td>
<td>139</td>
<td>40</td>
<td>0 - 8,000</td>
</tr>
<tr>
<td>Total Call Volume</td>
<td>167</td>
<td>319</td>
<td>1 - 26,500</td>
</tr>
<tr>
<td>Total Transports</td>
<td>161</td>
<td>265</td>
<td>0 - 19,300</td>
</tr>
</tbody>
</table>

The ownership of EMS agencies varies across the state (Table 3). Public ownership is the most common (60.8 percent).

- Public organizations that own EMS agencies include fire departments, public hospitals, cities, counties or other public entities
- City or county ownership is the most common type of public ownership (45.2 percent)

Private ownership accounts for 39.2 percent of agencies.

- Private organizations that own EMS agencies include hospitals, non-profit organizations, for-profit organizations and sovereign nations
- A non-profit organization or hospital are the most common type of ownership

Other than ownership, a health system can provide EMS agencies with management or other types of support. Fifty-one EMS agencies (27.4 percent) report that they have a management or supportive relationship with a corporate health system (Appendix C, Question 7).

Table 3. Type of agency ownership

<table>
<thead>
<tr>
<th>Types of Ownership</th>
<th>Number of Agencies</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Ownership</td>
<td>113</td>
<td>60.8%</td>
</tr>
<tr>
<td>Fire Department</td>
<td>19</td>
<td>10.2%</td>
</tr>
<tr>
<td>City or County</td>
<td>84</td>
<td>45.2%</td>
</tr>
<tr>
<td>Public Hospital</td>
<td>7</td>
<td>3.8%</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>1.6%</td>
</tr>
<tr>
<td>Private Ownership</td>
<td>73</td>
<td>39.2%</td>
</tr>
<tr>
<td>Non-Profit</td>
<td>32</td>
<td>17.2%</td>
</tr>
<tr>
<td>Hospital</td>
<td>31</td>
<td>16.7%</td>
</tr>
<tr>
<td>For-Profit</td>
<td>9</td>
<td>4.8%</td>
</tr>
<tr>
<td>Sovereign Nation</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

---

\(^6\) MNSTAR is an online database for EMS agencies. Agencies are required to submit ambulance data in order to report and review prehospital data for quality assurance and administrative purposes.
Discussion

Similarities between the 2002 and 2016 survey results exist regarding the quantity of BLS license holders in rural Minnesota. For ALS, EMS agencies held 35 ALS license in 2002. In 2016, 50 services reported offering ALS, 32 provided part-time ALS and 16 held a specialized life support license. However, it is unclear if the 2002 survey counted part-time ALS license holders, which makes it difficult to compare the number of licenses held then to 2016. But it does appears that access to ALS services in rural Minnesota increased between 2002 and 2016.

The majority of EMS agencies in Minnesota are publicly owned (60.8 percent). For-profit organizations own fewer than 5 percent of rural ambulance agencies. This is similar to the 2002 study in Minnesota, however, 2002 included urban ambulance services. A national study of EMS directors in 2008 documented that 40.2 percent of non-metro ambulance services were city and/or county-affiliated. This closely aligns with Minnesota’s 45.2 percent.

EMS agencies in Minnesota serve geographically diverse areas, varying greatly in size and population. With the exception of the metro region, all regions include three or more agencies that cover more than 300 square miles. Nationally in 2008, the median service area for rural agencies was 150 square miles. Minnesota EMS agencies seem to have larger geographic territories than their national, rural counterparts. The realities that most rural EMS agencies provide emergency services to relatively small populations spread across large geographic areas, with a median call volume of one transport per day, exacerbates the inability to create sustainable business and staffing models.

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11 This national study collected data on geography differently than this survey making it difficult to make direct comparisons about geographic territory.
Workforce and Staffing

Recruitment

When asked about changes to the size of their active staff roster, 49.7 percent of EMS agencies reported a decrease in their staff from the previous year and 21.1 percent reported an increase in staffing (Table 4). The remaining agencies (29.2 percent) reported no change to their staffing numbers.

Table 4: Has the number of active staff on the roster changed in the last year?

<table>
<thead>
<tr>
<th>Type of Change</th>
<th>Number of Agencies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased</td>
<td>92</td>
<td>49.7%</td>
</tr>
<tr>
<td>Increased</td>
<td>39</td>
<td>21.1%</td>
</tr>
<tr>
<td>Same</td>
<td>54</td>
<td>29.2%</td>
</tr>
</tbody>
</table>

Most EMS agencies (57.5 percent) had a recruitment plan in place (Appendix C, Question 15), but 62.9 percent reported difficulty in recruiting new ambulance staff (117 agencies) (Table 5).

Table 5: EMS agencies that have difficulty recruiting staff

<table>
<thead>
<tr>
<th>Difficulty Recruiting Staff</th>
<th>Number of Agencies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>117</td>
<td>62.9%</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>3.8%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>63</td>
<td>33.3%</td>
</tr>
</tbody>
</table>
The three most frequently reported obstacles to recruiting staff were time-related:

- Time commitment is too great (67.2 percent)
- Lack of availability (61.8 percent)
- Training requirements were too time consuming (58.1 percent)

Figure 6 provides the full list of reported recruiting obstacles (multiple responses were permitted). Obstacles to recruitment in the category of “other” include 9 agencies:

- Difficulty finding local businesses that allow ambulance staff to leave work to respond to a call
- Many community members working outside of the community and unavailable for weekday hours
- Lack of support and understanding from the city about the requirements of managing and maintaining an ambulance service

![Figure 6: Obstacles to recruiting EMS staff](image)

Approximately three quarters of responding agencies report that they cross-train ambulance staff in other public service duties such as law enforcement or fire suppression (Appendix C, Question 17).

Nearly sixty percent of EMS agencies (110) report having Emergency Medical Responders (EMRs) as active members of their staff (Appendix C, Question 11). An EMR has the lowest level of training required by the EMSRB for registration and certification in Minnesota. An EMR is a registered individual who, “upon arriving early to an incident or emergency, assumes immediate responsibility for the protection and preservation of life, property, evidence and environment.” EMRs can provide patient care in the ambulance alongside an Emergency Medical Technician (EMT).

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12 Values do not sum to 100 because multiple responses were permitted.
Compensation

Compensation in this survey refers to EMS agency staff, excluding the staff director. The majority of EMS agencies (106 or 57.0 percent) staff their services with volunteers who receive some type of compensation (Figure 7). Some of the compensation models include:

- Nominal hourly pay while scheduled for on-call ambulance coverage
- Hourly pay while on a call
- Flat fee per call (which may vary with the distance transported)
- Special compensation for on-call weekend or holiday coverage
- A combination of the above models

Only 38 or 20.3 percent of EMS agencies exclusively utilize non-volunteer paid staff who receive an hourly salary. A smaller group of 32 agencies uses a combination of paid and volunteer staff (17.2 percent). The least common model is a volunteer that does not receive compensation (10 agencies or 5.4 percent) (Appendix C, Question 9). One-third of EMS agencies reported that their staff receive less compensation than other public safety agencies in their community (24% were not sure how they compare to other public safety agencies) (Appendix C, Question 12).

Figure 7: EMS agency staff compensation

<table>
<thead>
<tr>
<th>Compensation Model</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteer, no compensation</td>
<td>10</td>
</tr>
<tr>
<td>Volunteer, on call compensation*</td>
<td>106</td>
</tr>
<tr>
<td>Paid, hourly wage or salary</td>
<td>38</td>
</tr>
<tr>
<td>Combination, volunteer and paid</td>
<td>32</td>
</tr>
</tbody>
</table>

*Minnesota Statute 144E.001, Subd. 15. https://revisor.mn.gov/statutes/?id=144E.001

This question asked about ambulance staff, excluding the ambulance staff director.
Retention

Half of the managers reported they have a retention strategy for EMS agency staff (Appendix C, Question 19); however, almost all indicated that they sometimes or always have difficulty retaining staff. Only a small group reported they never have difficulty with retention (Table 6).

Table 6: Agencies with difficulty retaining staff

<table>
<thead>
<tr>
<th>Difficulty retaining staff</th>
<th>Number of Agencies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>19</td>
<td>10.2%</td>
</tr>
<tr>
<td>Never</td>
<td>10</td>
<td>5.4%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>157</td>
<td>84.4%</td>
</tr>
</tbody>
</table>

The most common obstacles to retaining staff include excessive time commitments, retirement of older crewmembers and inadequate pay or benefits (Figure 8).

Figure 8: Obstacles to retaining staff

- Excessive Time Commitment: 72.0%
- Age: Older Crew Members Retiring: 60.2%
- Inadequate Pay or Benefits: 39.3%
- Employer Does Not Allow Staff to Leave Work: 37.1%
- Certification is Too Difficult to Maintain: 25.8%
- Limited Advancement Opportunities: 22.6%
- Lack of Recognition: 14.0%
- Too Many Runs or Transports: 10.8%
- Community is Too Isolated: 10.2%
- Too Few Runs or Transports: 9.7%
- Dissatisfaction with EMS Manager: 5.4%
- Dissatisfaction with Job Duties: 3.2%
- Dissatisfaction with EMS Manager: 1.6%
- Other: 9.7%

Eighteen EMS agencies reported “other” obstacles to retention, which included on-call requirements, college students who leave the community, staff moving out of the area, employment by multiple EMS agencies, staff uncomfortable working in the ambulance, family responsibilities and work conflicts with their primary job (Appendix C. Question 21).

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14 Multiple responses were permitted.
Scheduling

About 60 percent of respondents reported having inadequate staff to cover their call schedule without undue burden to the agency (Appendix C, Question 13). Forty-one percent reported their shifts are 100 percent covered at least 24 hours in advance and 43 percent reported their shifts were over 75 percent covered 24 hours in advance (Table 9).

Table 9: Percent of shifts covered at least 24 hours in advance

<table>
<thead>
<tr>
<th>Percent of Shifts</th>
<th>Number of Agencies</th>
<th>Percent of Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 24%</td>
<td>4</td>
<td>2.2%</td>
</tr>
<tr>
<td>25 - 49%</td>
<td>6</td>
<td>3.3%</td>
</tr>
<tr>
<td>50 - 74%</td>
<td>20</td>
<td>10.9%</td>
</tr>
<tr>
<td>75 - 99%</td>
<td>79</td>
<td>42.9%</td>
</tr>
<tr>
<td>100%</td>
<td>75</td>
<td>40.8%</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>1.1%</td>
</tr>
</tbody>
</table>

Almost half of the EMS agencies reported that weekday daytime hours are the most difficult shifts to cover. About 40 percent reported that weekend shifts are difficult to cover and 35 percent reported holidays are difficult to cover. Overnight hours on weekdays were the least difficult to staff, with only about 10 percent reporting difficulty (Figure 9).

Figure 9. Percent of agencies that report scheduling difficulties by time of day and day of week

<table>
<thead>
<tr>
<th>Time of Day</th>
<th>Mid-2am</th>
<th>2am -4am</th>
<th>4am -6am</th>
<th>6am -8am</th>
<th>8am -10am</th>
<th>10am noon</th>
<th>noon -2pm</th>
<th>2pm -4pm</th>
<th>4pm -6pm</th>
<th>6pm -8pm</th>
<th>8pm -10pm</th>
<th>10pm -Mid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekdays</td>
<td>10.8%</td>
<td>10.8%</td>
<td>22.0%</td>
<td>44.6%</td>
<td>48.9%</td>
<td>48.4%</td>
<td>49.7%</td>
<td>49.5%</td>
<td>40.3%</td>
<td>11.8%</td>
<td>8.1%</td>
<td>8.1%</td>
</tr>
<tr>
<td>Weekends</td>
<td>38.2%</td>
<td>38.2%</td>
<td>38.7%</td>
<td>40.9%</td>
<td>44.6%</td>
<td>45.7%</td>
<td>46.0%</td>
<td>45.7%</td>
<td>44.1%</td>
<td>45.7%</td>
<td>45.2%</td>
<td>42.5%</td>
</tr>
<tr>
<td>Holidays</td>
<td>32.3%</td>
<td>32.3%</td>
<td>33.3%</td>
<td>35.0%</td>
<td>36.0%</td>
<td>37.4%</td>
<td>37.6%</td>
<td>37.6%</td>
<td>36.0%</td>
<td>33.9%</td>
<td>34.4%</td>
<td>31.7%</td>
</tr>
</tbody>
</table>
Continuing Education

Most EMS agencies (84.4 percent or 157) cover the full cost of the continuing education courses for their staff (Table 7). A smaller group (67.2 percent) pays their staff – or provides incentives – when they attend continuing education courses (Appendix C, Question 28).

Table 7: Does the agency cover the costs of continuing education for EMS staff?

<table>
<thead>
<tr>
<th>Type of Payment</th>
<th>Number of Agencies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency covers all costs</td>
<td>157</td>
<td>84.4%</td>
</tr>
<tr>
<td>Combination of agency and staff cover costs</td>
<td>28</td>
<td>15.1%</td>
</tr>
<tr>
<td>Staff covers all costs</td>
<td>1</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

In-house training is the most common type of continuing education. Almost 88 percent of the EMS agencies provide in-house training to their staff. Technical and community colleges, online education and training provided by regional consortiums were also common forms of continuing education (Table 8). Among EMS agencies that qualify for training reimbursement from the EMSRB, 71 percent utilized the reimbursement (Appendix C, Question 30).

Table 8: Types of continuing education used by agencies

<table>
<thead>
<tr>
<th>Type of Continuing Education</th>
<th>Number of Agencies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-house training</td>
<td>163</td>
<td>87.6%</td>
</tr>
<tr>
<td>Technical or community college</td>
<td>102</td>
<td>54.8%</td>
</tr>
<tr>
<td>On-line education</td>
<td>98</td>
<td>52.7%</td>
</tr>
<tr>
<td>Regional consortium</td>
<td>85</td>
<td>45.7%</td>
</tr>
<tr>
<td>Staff is responsible</td>
<td>17</td>
<td>9.1%</td>
</tr>
</tbody>
</table>
Discussion

“A Quiet Crisis,” documented that staff shortages were common for many rural ambulance services.¹⁵ In 2002, 70 percent of rural ambulance services added staff the previous year in an effort to make sure that all of their shifts were covered. Most rural services (67 percent) experienced difficulty covering their daytime shifts, and 59 percent of the statewide EMS workforce and 75 percent of the state’s rural ambulance services relied on volunteers.¹⁶

The 2015 EMS Sustainability Summit documented that a significant number of ambulance services continue to be volunteer-based. Participants at the summit expressed that volunteerism is not a sustainable model for rural EMS in Minnesota. This 2016 survey documented an 80 percent volunteer ambulance staff in rural Minnesota, an increase from the 2002 report.

Results from the current survey indicate that workforce continues to be a major challenge for rural EMS sustainability as well as recruitment and retention of personnel. Currently, EMRs are a large and integral part of the ambulance staffing in rural Minnesota. Roster sizes are decreasing, staff are trained for multiple public functions and many call schedules not covered 24 hours prior to a shift are all evidence that staffing shortages exist. Similar to 2002, it remains challenging and difficult for rural ambulance services to cover their weekday, daytime hours.

¹⁵ A Quiet Crisis: Minnesota’s Rural Ambulance Services at Risk. Minnesota Department of Health. 2002
Agency Leadership and Financial Management

Leadership

About half of EMS agencies, 53.8 percent (100), report their service manager has received formal leadership or management training (Appendix C, Question 22).

High leadership turnover was defined in this survey as an EMS agency having had three or more managers in the past five years. Most agencies (86.0 percent or 160) did not have high turnover of their management staff. A small group of 25 respondents, 13.4 percent, reported high turnover of management (Appendix C, Question 23). Most of those (92 percent) have a BLS license and utilize some type of volunteer staff (84 percent).17

The two most difficult tasks for EMS managers are recruitment of ambulance staff (68.8 percent or 128 agencies) and staffing the schedule (50.5 percent or 94 agencies). Less common management challenges include licensing requirements, medical direction, maintaining equipment, billing or reimbursement and maintaining updated technology for the office. Sixteen agencies did not have difficulty managing any options provided in the survey (Figure 10- multiple options could be selected).

Figure 10. Areas that are difficult to manage for ambulance service leadership18

<table>
<thead>
<tr>
<th>Area</th>
<th>Number of Ambulance Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment</td>
<td>69%</td>
</tr>
<tr>
<td>Staffing the Schedule</td>
<td>51%</td>
</tr>
<tr>
<td>Retention</td>
<td>43%</td>
</tr>
<tr>
<td>Continuing Education Requirements</td>
<td>32%</td>
</tr>
<tr>
<td>Managing Staff</td>
<td>31%</td>
</tr>
<tr>
<td>Policy Development and Enforcement</td>
<td>25%</td>
</tr>
<tr>
<td>Staff Certification</td>
<td>20%</td>
</tr>
<tr>
<td>Budget Development</td>
<td>17%</td>
</tr>
<tr>
<td>Billing and Reimbursement</td>
<td>15%</td>
</tr>
<tr>
<td>Maintaining Equipment</td>
<td>11%</td>
</tr>
<tr>
<td>Medical Direction</td>
<td>10%</td>
</tr>
<tr>
<td>None</td>
<td>9%</td>
</tr>
<tr>
<td>Licensing Requirements for the Ambulance</td>
<td>5%</td>
</tr>
</tbody>
</table>

17 No common factors indicated when stratified across region, call volume, square miles covered or agency ownership.
18 Multiple options could be selected.
Financial Management

Eighty-one percent or 151 EMS agency managers have a role in developing their annual budget (Appendix C, Question 41). Seventy-three percent or 136 reported that the budget was adequate to cover the operational needs of the agency, but almost a quarter responded that their budget is inadequate (Table 9).

Table 9. Is the budget adequate to meet the operation needs of the agency?

<table>
<thead>
<tr>
<th>Budget is adequate for operations</th>
<th>Number of Agencies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>136</td>
<td>73.1%</td>
</tr>
<tr>
<td>No</td>
<td>42</td>
<td>22.6%</td>
</tr>
<tr>
<td>Unknown</td>
<td>7</td>
<td>3.8%</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

For the 42 respondents stating that their budgets are inadequate (Table 9), the greatest financial difficulty is covering capital expenses\(^\text{19}\) followed by staff compensation (Table 10).

Table 10. Most difficult areas for budget to cover for those stating that their budget is inadequate (42 agencies)

<table>
<thead>
<tr>
<th>Most difficult areas for budget to cover</th>
<th>Number of Agencies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Expenses</td>
<td>37</td>
<td>88.1%</td>
</tr>
<tr>
<td>Staff Compensation</td>
<td>28</td>
<td>66.7%</td>
</tr>
<tr>
<td>Daily Expenses</td>
<td>13</td>
<td>31.0%</td>
</tr>
</tbody>
</table>

All respondents bill for their services (Table 11). An outside billing service is used by 51.6 percent or 96 of EMS agencies. Hospital or agency staff are the next most common parties responsible for preparing bills, followed by a city or county.

Table 11. Who prepares bills for the EMS agency?

<table>
<thead>
<tr>
<th>Who Prepares Bills</th>
<th>Number of Agencies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billing Service</td>
<td>96</td>
<td>51.6%</td>
</tr>
<tr>
<td>Hospital</td>
<td>37</td>
<td>19.9%</td>
</tr>
<tr>
<td>EMS Manager of Staff</td>
<td>36</td>
<td>19.4%</td>
</tr>
<tr>
<td>City or County</td>
<td>13</td>
<td>7.0%</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

\(^{19}\) Capital expenses are equipment costing $5,000 or more.
Although most respondents do not have difficulty obtaining donations from their communities or do not seek donations, 30.1 percent (56 agencies) do report difficulty obtaining donations for large capital purchases (Appendix C, Question 45).

**Discussion**

Staff recruitment, leadership, finance and operations remain as key concerns for EMS managers. In 2002, “A Quiet Crisis” found that EMS agencies had difficulty recruiting staff and filling their call schedules. The 2015, the EMS Summit findings state that long-term rural EMS sustainability requires human capacity as well as adequate funding. A key message from that Summit was the importance of developing leadership within local EMS agencies. The summit also identified the importance of assisting local agencies in understanding the cost of operating their services as well as communicating the true cost of rural EMS systems to government officials as a way to move toward a more sustainable model.

The 2016 survey results did not find an excessive level of leadership turnover at EMS agencies, yet only half of current leadership has participated in any formalized leadership training. The largest problem that EMS agency leaders face today is recruitment of new staff and filling their call schedules. These are the same problems found in 2002.

Most EMS agency leaders participate in developing their agency’s budget and most report that capital expenses are the most difficult budget category to fund. The second biggest financial concern is staff compensation. Again, these are not new concerns. Staff recruitment, scheduling and operations are the same issues faced by EMS agencies in 2002 as well the same issues discussed in 2015.
Medical Direction

Medical Oversight

All EMS agency respondents reported having a medical director. The reported specialty of the director was approximately equal between emergency physicians and family practice physicians (Table 12). The survey did not differentiate between emergency physicians who are board-certified in emergency medicine and those board-certified in family medicine. The majority of respondents did not know if their medical director had taken an EMS medical directors training course and 36 percent responded that their medical director had taken an EMS course (Appendix C, Question 34).

Table 12. Medical Director Specialty

<table>
<thead>
<tr>
<th>Medical Director Specialty</th>
<th>Number of Agencies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Practice or similar</td>
<td>87</td>
<td>46.8%</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>86</td>
<td>46.2%</td>
</tr>
<tr>
<td>Surgery</td>
<td>3</td>
<td>1.6%</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>Unknown</td>
<td>9</td>
<td>4.8%</td>
</tr>
</tbody>
</table>

Most EMS agencies (87.6 percent) reported they do not have difficulty recruiting or retaining a medical director (Appendix C, Question 35). For the twenty-three agencies that reported difficulty, the primary barriers to recruiting and retaining a medical director include the physician was too busy with their primary practice (87.0 percent), local physicians were not interested (65.2 percent), the EMS agency is unable to pay for services (30.4 percent), or there is a lack of physicians in the area (26.1 percent) (Appendix C, Question 36).

Consortium Models

To understand the difficulty in obtaining and recruiting a medical director, EMS agencies were divided into two groups: those that participate in a consortium model for medical direction and those that do not. The consortium language used in this survey did not distinguish between a physician that provides medical direction for several ambulance services and a broad consortium model that provides medical direction, ambulance staff training and additional services. EMS agencies using a consortium reported less difficulty in recruiting and retaining a medical director (4.2 percent) than for those not participating (14.7 percent).

In this survey, 25.8 percent of rural EMS agencies in Minnesota reported participating in a consortium model. There were three types of consortium models documented:

- Regional model based on EMS regions
- EMS agency model of affiliated bases that use centralized medical direction
- Hospital model that provides centralized medical direction for agencies that transport patients to their facility
Overall, EMS agencies felt the consortium was looking out for the best interests of the individual EMS agencies. Several agencies reported that their participation in a consortium resulted in better patient care.

EMS agencies that participate in a consortium listed the benefits to participating as:

- Consistent medical direction
- No burden to recruit a medical director
- Consistent protocols and standing orders throughout the region
- Consistent training
- Flexible training offered at multiple locations and dates, staff could make-up training sessions easily at another location
- Affordable and higher quality training than the individual agency could provide
- Experienced trainers
- Completion of mandatory training in a timely manner
- Assistance with licensing paperwork

Agencies also reported disadvantages to participating in a consortium as:

- Reduced communication with the medical director
- Local physicians did not like the regional protocols
- Protocols required the use of new equipment that the EMS agency didn’t have or couldn’t afford to purchase
- Feeling that the consortium focused on the needs of the larger, city-based EMS services in their region and didn’t provide the same level of support and awareness for the small agencies that were on the outer border of the region and not affiliated with the main hospital

EMS agencies reporting between 0 and 180 calls per year (the lowest quartile for total responses) were most likely to participate (37.5 percent) in a consortium (Figure 11). This represents agencies with 0 to 1 call every other day over the course of one year. More than half (66.7 percent) of rural agencies in Minnesota participating in a consortium model for medical direction report fewer than 320 calls per year or less than one call per day. Five agencies that reported using a consortium model for medical direction did not report their annual call volume for total responses in 2014.

**Figure 11. Participation in a consortium model for medical direction by agency call volume**
EMS agencies that relied on volunteer staff that receive a stipend for responding to calls used a consortium more frequently (77.1 percent) for medical direction than agencies that have fully paid staff (4.2 percent), a combination of paid and volunteer staff (4.2 percent) or fully volunteer staff (14.6 percent) (Figure 12).

**Figure 12. Participation in a consortium model for medical direction and type of compensation for ambulance staff**
Of the many services provided by medical directors, they most commonly approve protocols (90.9 percent) or develop protocols and standing orders (72.6 percent) (Figure 13). Duties of the medical director were similar regardless of whether the agency participated in a consortium. More agencies that participate in a consortium reported that their medical director develops protocols and standing orders, investigates complaints and approves continuing education than agencies that do not participate in a consortium.

EMS agencies not participating in a consortium more frequently report that their medical director responds to high profile incidents, reviews and approves protocols, advocates for the agency, participates in performance reviews and reviews run reports for quality improvement more than agencies that participate in a consortium. Regardless of participation in a consortium, rural medical directors do not frequently respond to calls with the EMS crew or approve staff hiring.

Interestingly, according to survey respondents some responsibilities of the medical director required by statute, such as approving medical protocols and continuing education for staff, are not universally provided to rural EMS agencies regardless of the medical direction model (note asterisks in Figure 13).

Figure 13. Duties performed by the medical director based on consortium participation

“Participates” is defined as percent of agencies that participate in a consortium whose medical director performs that duty. “Does not participate” is the percent of agencies that do not participate in a consortium whose medical director performs that duty.

*Indicates duties that are required by a medical director per Minnesota statute 114E.265.
Discussion

The 2002 study, “A Quiet Crisis,” listed two recommendations to strengthen involvement of medical directors in ambulance service operations:

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

2. Public recognition of the contributions medical directors make to the operation of the local ambulance service should be encouraged by the EMSRB.

At the 2015 Rural EMS Sustainability Summit, medical direction was a specific area of concern in Minnesota. The goal was to create a collaborative, regional approach to better support local medical directors in their role. Within the past year, the EMSRB has developed a medical-director training program offered annually and in-person at the Minnesota EMS Medical Directors Retreat. This course is also available on-line through the EMSRB website.

Minnesota EMS medical directors also have the Minnesota EMS Medical Directors Association, which offers networking and technical assistance for rural medical directors. The Association hosts the two-day EMS Medical Directors Retreat, which provides cost-effective EMS-specific continuing medical education as well as networking with rural EMS physicians, managers and vendors.

The results from this survey do not support previously documented problems in hiring and retaining medical direction for rural Minnesota EMS agencies. This may be due to an increase in participation in a medical direction consortium. More than 25% of rural ambulance services now participate in a consortium. There are costs for an agency to participate in some consortiums, and this additional financial requirement may make the large regional-based consortium model unattainable for those EMS agencies whose budgets are already insufficient.

Based on the survey responses, some of the responsibilities of the medical director required by statute, such as approving medical protocols and continuing education for staff, are not universally provided to ambulance services. This survey also did not evaluate whether the existing qualifications and responsibilities of the medical director based on current Minnesota Statutes are difficult to attain in rural Minnesota.
Community Relations

More than 62 percent of agencies believe that community support for EMS is similar to other public services (Appendix C, Question 39), however, the majority of EMS agencies (91.7 percent) reported that they do not have a community advisory board (Appendix C, Question 38).

Most EMS agencies reported that they provide additional services to their communities beyond responding to calls for service (Figure 14, multiple activities could be selected). The majority provide medical coverage at local sporting events and provide CPR/AED classes for their community. Agencies that provide “other” services for their community state these services include:

- AED placement and management
- Open house
- School career day and student visits
- Community safety program ‘Kids on WHEELS’
- Elderly visits
- Mock crashes (e.g. Operation Prom)
- Toy drive
- Bike helmet sales
- Fund raisers
- Demonstrations and training for scout programs

Figure 14. Non-response activities provided for the community by the EMS agencies

- Sporting Events: 74%
- CPR/AED Classes: 66%
- Health Fair: 57%
- First Aid Training: 53%
- EMS Training: 51%
- Blood Pressure Monitoring: 29%
- Adopt a Highway: 8%
- Other: 8%
- None: 7%

---

20 Multiple activities could be selected.
Discussion

The 2015 Rural EMS Sustainability Summit documented community awareness as a key area for long-term sustainability. Summit attendees believed that the public does not understand rural EMS, and takes for granted the services they provide. This survey results show that 93.5 percent of rural EMS agencies provide additional services for their communities, which likely fosters a sense of collaboration between EMS and the community.

However, most EMS services do not have a community advisory board, which ideally can bridge discussions between EMS and the community about short and long-term strategies for sustainability and build a supportive constituency base for the services. Community Advisory Boards can also help build awareness about the necessity of EMS services and the role of EMS as a member of the greater community health care system.

The majority of respondents believe that community support for their EMS agency was similar to that of other community services. This survey did not evaluate whether the community believed EMS was an essential service, nor did it attempt to define how accurately the community understands EMS.
Appendix A – Survey Design and Administration

The following publications informed the development and content of the survey:

- 2002 “A Quiet Crisis: Minnesota’s Rural Ambulance Services at Risk”\(^{21}\)
- 2015 “Rural EMS Sustainability Summit Report”\(^{22}\)
- 2015 “Rural Ambulance Service Attributes Survey Tool”\(^{23}\)

The EMSRB and the REMSSC provided significant input regarding survey design and question content. The survey was pilot-tested with two ambulance services in the Southeast and Northwest EMS regions. The final survey incorporated feedback from the pilot sites.

A communication strategy was deployed in advance of releasing the survey to increase participation and accuracy of responses. A letter signed by MAA, EMSRB and MDH was sent to licensed EMS agency managers announcing the survey and encouraging participation. In addition, information about the upcoming survey was announced at various EMS meetings around the state.

In May 2016, the survey was sent electronically to 230 rural ambulance service managers (including three Metro services that serve primarily rural populations) or individuals who have responsibility for their EMS agency. EMSRB staff and some rural EMS regional programs held regional EMS manager meetings to review the survey questions and ensure consistent interpretation. All survey responses were anonymous. Respondents could anonymously verify their survey completion. If an EMS agency did not verify they completed the survey, CEMS staff followed-up by email and/or telephone. On July 1, 2016, the on-line survey closed.

In some EMS regions, more surveys were returned than licensed agencies. When this occurred, duplicate surveys were identified based on demographic data. In most cases, one survey had been completed while the duplicate had not. In these cases, the incomplete survey was deleted. When multiple duplicate completions were identified, only the first survey was included in this analysis.

Data collected from the survey responses were analyzed using statistical analysis software, SAS version 9.4 (Cary, NC). Descriptive statistics were used to characterize rural ambulance services collectively. No tests for statistical significance were performed on the data.

After MDH staff completed the initial analysis, CEMS, REMSSC and other subject matter experts reviewed each section for accuracy. The results presented here incorporate the feedback from these subject matter experts.

\(^{21}\) A Quiet Crisis: Minnesota’s Rural Ambulance Services at Risk. Minnesota Department of Health. 2002
\(^{22}\) Report on the Rural Minnesota EMS Sustainability Summit Meeting. SafeTech Solutions, LLP. 2015. Available at https://mnems.org/rural-ems-resources/
Appendix B - EMS Regions & Ambulance Coverage

Rural EMS agencies include all services that do not serve the Metro EMS Region except for three metro services that serve primarily rural population.
Appendix C – EMS Sustainability Survey Questions and Responses

EMS Agency Demographics

Question 1. What is your local EMS service region according to the EMSRB?

Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%.
Question 2. Do you serve a tribal region?

![Graph showing the distribution of tribal regions served by EMS agencies.]

- Yes: 88.7% (165 agencies)
- No: 9.7% (18 agencies)
- Missing (No response): 1.6% (3 agencies)

Question 3. How many square miles does your agency cover?

![Graph showing the distribution of agency size in square miles.]

- 0 - 49 square miles: 6.5% (12 agencies)
- 50 - 99 square miles: 9.1% (17 agencies)
- 100 - 199 square miles: 24.7% (46 agencies)
- 200 - 299 square miles: 21.0% (39 agencies)
- 300+ square miles: 37.1% (69 agencies)
- Missing (No response): 1.6% (3 agencies)

Question 4. According to MNSTAR, what was your call volume in 2015?

<table>
<thead>
<tr>
<th>EMS Agency Response Volume from MNSTAR 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call Volume</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>Total Responses</td>
</tr>
<tr>
<td>Total Transports</td>
</tr>
<tr>
<td>911 Call Volume</td>
</tr>
<tr>
<td>Inter-facility Transports</td>
</tr>
</tbody>
</table>

The median EMS agency call volume is equivalent to less than one response per day. Most agencies in Minnesota provide 911 emergency response and patient transport. Many also provide inter-facility patient transport (this survey did not differentiate between scheduled and non-scheduled transfers).
Question 5. What is the estimated total population that you serve?

![Population Distribution Graph]

- < 2,500: 24.7% (46 agencies)
- 2,500 - 4,999: 30.7% (57 agencies)
- 5,000 - 9,999: 15.1% (28 agencies)
- 10,000 - 14,999: 11.8% (22 agencies)
- > 15,000: 14.5% (27 agencies)
- Missing (No response): 3.2% (6 agencies)

Question 6. Which type of ownership best describes your agency?

![Ownership Type Graph]

- Public: 60.8% (113 agencies)
- Private: 39.2% (73 agencies)
- Missing (No response): 0.5% (1 agency)

Breakdown of public and private ownership of EMS Agencies

- **Public (n=113, 60.8%)**:
  - City or County: 45.2%
  - Fire Department: 10.2%
  - Public Hospital: 3.8%
  - Other: 1.6%
- **Private (n=73, 39.2%)**:
  - Non-Profit: 17.2%
  - Hospital: 16.7%
  - For-Profit: 4.8%
  - Sovereign Nation: 0.5%
- **Missing (n=1, 0.5%)**
Question 7. Is your agency owned, managed or does it receive support from a corporate health system?

![Bar chart showing the percentages of EMS agencies by ownership status.]

- **Yes**: 27.4% (51 agencies)
- **No**: 72.0% (134 agencies)
- **Missing (No response)**: 0.5% (1 agency)

Question 8. What type of services do you provide?

![Bar chart showing the type of services provided by EMS agencies.]

- **Basic Life Support**: 88.2% (164 agencies)
- **Advanced Life Support (ALS)**: 26.9% (50 agencies)
- **Part-Time ALS**: 17.2% (32 agencies)
- **Specialized ALS**: 8.6% (16 agencies)

Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%.
Question 9. How are staff compensated, not including the agency director?

![Bar chart showing compensation models for EMS staff](chart1.png)

*Minnesota Statute 144E.001, Subd. 15. [https://revisor.mn.gov/statutes/?id=144E.001](https://revisor.mn.gov/statutes/?id=144E.001) defines “volunteer ambulance attendant”. Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%.

Question 10. If you have volunteer or paid on-call staff, how are they compensated?

![Bar chart showing on-call compensation models](chart2.png)

Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%.

Compensation in this survey refers to EMS agency staff, excluding the staff director. Other compensation models included in the answer include:

- Nominal hourly pay while scheduled for on-call ambulance coverage
- Hourly pay while on a call
- Flat fee per call (which may vary with the distance transported)
- Special compensation for on-call weekend or holiday coverage
- A combination of the above models
Question 11. Are you using Emergency Medical Responders (EMRs) to routinely staff your ambulance(s)?

- 58.8% (110) Yes
- 41.2% (77) No

Question 12. How does your compensation for EMS staff compare with other public safety agencies in your community?

- Better: 13.4% (25)
- Same: 28.9% (54)
- Worse: 33.2% (62)
- Unknown: 24.0% (45)
- Missing: 0.5% (1)
Workforce Sustainability

Question 13. Do you have enough people to cover your call schedule with undue burden or excessive time commitments?

![Graph showing 39.6% of EMS agencies agree and 60.4% disagree.]

Question 14. Over the past year, has the number of active* staff on your roster changed?

![Graph showing 21.1% increased, 49.7% decreased, 29.2% same, and 0.5% missing.]

*Active EMS staff are someone who meets your service call hour policy minimums.
Question 15. Does your agency have a recruitment plan?

- Yes: 57.5% (107)
- No: 40.9% (76)
- Missing: 0.5% (1)

Question 16. Is it difficult to recruit new EMS staff?

- Yes: 62.9% (117)
- No: 3.8% (7)
- Sometimes: 33.3% (63)

Question 17. Are any EMS staff cross-trained to work in police, fire or other public service functions?

- Yes: 74.2% (138)
- No: 24.7% (46)
- Missing: 0.5% (1)
Question 18. Which of the following items are obstacles to recruiting EMS staff for your agency?

- Time Commitment is too Great: 67.2%, 125
- Lack of Availability: 61.8%, 115
- Training Requirements Time Consuming: 58.1%, 108
- Lack of Trained Candidates: 50.0%, 93
- Inadequate Pay or Benefits: 39.8%, 74
- Childcare Responsibilities: 38.2%, 71
- Training Requirements Far Away: 23.1%, 43
- Too Few Runs or Transports: 14.0%, 26
- Too Many Runs or Transports: 8.6%, 16
- Other: 4.8%, 9

Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%

Additional responses given in the “other” category are:
- Difficulty finding local businesses that allow ambulance staff to leave work to respond to a call
- Many members work outside of the community and not available during weekday hours
- Lack of support and understanding from the city about the requirements of managing and maintaining an ambulance service
Question 19. Does your EMS agency have a retention strategy?

- Yes: 50.0% (93)
- No: 48.9% (91)
- Missing: 1.1% (2)

Question 20. Does your agency have difficulty retaining existing staff?

- Always: 10.2% (19)
- Never: 5.4% (10)
- Sometimes: 84.4% (157)
Question 21. Which of the following items are obstacles to retaining staff for your agency?

Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%.

Additional responses given in the “other” category are:
- On-call requirements
- College students who leave the community
- Staff moving out of the area
- Employment by multiple EMS agencies
- Staff uncomfortable working in the ambulance
- Family responsibilities
- Work conflicts with their primary job
Local EMS Leadership

Question 22. Has the EMS manager of your agency had formal leadership or management training?

- Yes: 53.8% (100)
- No: 45.7% (85)
- Missing: 0.5% (1)

Question 23. Has your agency had three or more managers in the past five years?

- Yes: 13.4% (25)
- No: 86.0% (160)
- Missing: 0.5% (1)

This survey created its own definition of high turnover within leadership positions as three or more managers within the past five years.
Question 24. Which areas are most difficult to manage? (check all that apply)

Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%.

Question 25. What percent of your shifts are fully covered at least 24 hours in advance?
Question 26. What shifts are the most difficult to cover?

Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%.
Education, Certification and Recertification

Question 27. Does your agency cover the costs of continuing education for EMS staff?

Question 28. Are staff members paid and/or receive incentives to attend training?
Question 29. What type of continuing education is used by your agency?

- In-House Training: 87.6% (163 agencies)
- Technical college or Community college: 54.8% (102 agencies)
- On-Line Education: 52.7% (98 agencies)
- Regional Consortium: 45.7% (85 agencies)
- Staff is Responsible: 9.1% (17 agencies)

Question 30. Does your agency utilize the training reimbursement offered by the EMSRB?

- Yes: 71.0% (132 agencies)
- No: 15.1% (28 agencies)
- No, Staff is not Volunteer: 14.0% (26 agencies)
Medical Direction

Question 31. Do you receive regional medical direction or participate in a consortium?

- Yes: 73.7% (137)
- No: 25.8% (48)
- Missing: 0.5% (1)

Question 32. Describe the benefits to your agency in participating in this model?

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistent medical direction</td>
<td>Reduced communication with the medical director</td>
</tr>
<tr>
<td>No burden to recruit a medical director</td>
<td>Local physicians did not like the regional protocols</td>
</tr>
<tr>
<td>Consistent protocols and standing orders</td>
<td>Protocols required the use of new equipment that the EMS agency didn’t have or couldn’t afford to purchase</td>
</tr>
<tr>
<td>orders throughout the region</td>
<td></td>
</tr>
<tr>
<td>Consistent training</td>
<td>Feeling that the consortium focused on the needs of the larger, city-based EMS services in their region and didn’t provide the same level of support and awareness for the small agencies that were on the outer border of the region and not affiliated with the main hospital.</td>
</tr>
<tr>
<td>Flexible training offered at multiple locations</td>
<td>Reduced communication with the medical director</td>
</tr>
<tr>
<td>and dates, staff could make-up training sessions</td>
<td></td>
</tr>
<tr>
<td>easily at another location</td>
<td>Local physicians did not like the regional protocols</td>
</tr>
<tr>
<td>Affordable and higher quality training than the</td>
<td></td>
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<tr>
<td>individual agency could provide</td>
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<tr>
<td>Completion of mandatory training in a timely</td>
<td></td>
</tr>
<tr>
<td>manner</td>
<td></td>
</tr>
<tr>
<td>Assistance with licensing paperwork</td>
<td></td>
</tr>
</tbody>
</table>
Question 33. What is the medical specialty of your medical director?

- Family Practice or Similar: 46.8% (87 agencies)
- Emergency Medicine: 46.2% (86 agencies)
- Unknown: 4.8% (9 agencies)
- Surgery: 1.6% (3 agencies)
- Internal Medicine: 0.5% (1 agency)

Question 34. Has your agency’s medical director taken an EMS medical director training course?

- Yes: 35.5% (66 agencies)
- No: 23.7% (44 agencies)
- Unknown: 40.9% (76 agencies)
Question 35. Does your agency have difficulty recruiting or retaining a medical director?

![Yes/No chart]

<table>
<thead>
<tr>
<th>Yes</th>
<th>12.4%</th>
<th>23</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>87.6%</td>
<td>163</td>
</tr>
</tbody>
</table>

Question 36. What are the barriers to recruiting or retaining a medical director for your agency?*

![Bar chart]

- 87.0% (20) Physicians Too Busy with Primary Practice
- 65.2% (15) Local Physicians are not Interested
- 30.4% (7) Unable to Pay for Services
- 26.1% (6) Lack of Physicians in the Area
- 4.3% (1) Physicians are not Qualified

*This question uses the 23 responses of ‘yes’ for Question 35 – Does your agency have difficulty recruiting or retaining a medical director – to calculate the percentages (denominator = 23). Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%.
Question 37. Which services does your medical director provide for your agency?

Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%. *Indicates duties that are required by a medical director per Minnesota statute 114E.265.

Respondents with Crew
Approves Staff Hiring
Responds to Incidents (High)
Participates in Performance Reviews
Advocates for Agency
Investigates Complaints*
QI: Run Report Review*
Approves Continuing Education for Staff*
Reviews and Approves Protocols*
Develops Protocols and Orders*
Participates
Does not participate

Percent of EMS Agencies

Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%. *Indicates duties that are required by a medical director per Minnesota statute 114E.265.
Community Relations

Question 38. Does your agency have a community advisory board?

- Yes: 81.7% (152)
- No: 17.4% (33)
- Missing: 0.5% (1)

Question 39. Is community support for your EMS agency the same as it is for other community public services? (police, fire or public utilities)

- Yes: 62.4% (116)
- No: 37.1% (69)
- Missing: 0.5% (1)
Question 40. Which of the following services does your EMS agency provide for your community?

- Sporting Events: 73.7%, 137
- CPR/AED Classes: 66.1%, 123
- Health Fair: 57.0%, 106
- First Aid Training: 52.7%, 98
- EMS Training: 51.1%, 95
- Blood Pressure Monitoring: 28.5%, 53
- Other: 7.5%, 14
- Adopt a Highway: 7.5%, 14
- None: 6.5%, 12

Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%.

Additional responses given in the “other” category are:
- AED placement and management
- Open house
- School career day and student visits
- Community safety program ‘Kids on WHEELS’
- Elderly visits
- Mock crashes (e.g. Operation Prom)
- Toy drive
- Bike helmet sales
- Fund raisers
- Demonstrations and training for scout programs
Funding

**Question 41. Does the EMS agency manager have a role in developing the budget?**

- 81.2% (151) Yes
- 17.2% (32) No
- 1.6% (3) Missing

**Question 42. Is the budget adequate to meet the operational needs of the agency?**

- 73.1% (136) Yes
- 22.6% (42) No
- 3.8% (7) Unknown
- 0.5% (1) Missing
Question 43. If the budget is not adequate, which areas does the service struggle? (check all that apply)

<table>
<thead>
<tr>
<th>Most difficult areas for budget to cover</th>
<th>Number of Agencies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Expenses</td>
<td>37</td>
<td>88.1%</td>
</tr>
<tr>
<td>Staff Compensation</td>
<td>28</td>
<td>66.7%</td>
</tr>
<tr>
<td>Daily Expenses</td>
<td>13</td>
<td>31.0%</td>
</tr>
</tbody>
</table>

Respondents were asked to check all answers that applied. Because there were multiple answers per question, the percentages do not sum to 100%.

Question 44. Who prepares bills for service?

- Billing Service: 51.6% (96)
- Hotel: 19.9% (37)
- EMS Manager or Staff: 19.4% (36)
- City or County: 7.0% (13)
- EMS Manager + Billing Service: 0.5% (1)
- Family Member: 0.5% (1)
- City + Billing Service: 0.5% (1)
- Bookkeeper: 0.5% (1)

Question 45. Do your EMS agency have difficulty seeking donations from the community for large purchases?

- Yes: 30.1% (56)
- No: 43.1% (80)
- Not applicable: 26.3% (49)
- Missing: 0.5% (1)
Question 46. Does your EMS regional program assist with large purchases?

Yes: 23.1% (43 agencies)  
No: 75.8% (141 agencies)  
Missing: 1.1% (2 agencies)