

GAGE COUNTY NEBRASKA EMERGENCY MEDICAL SERVICES SYSTEM ASSESSMENT

September 12, 2007

**THIS IS AN ABRIDGED VERSION OF THE REPORT. THE
FULL REPORT IS AVAILABLE ON THE INTERNET:
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We give special recognition to Robyn Henderson of the Southeast Nebraska AHEC for coordinating appointments and meetings, taking minutes, supporting the steering committee and printing the final report. We give special recognition to Keith Mueller, Michelle Mason and Michael Shambaugh-Miller of the University of Nebraska Medical Center School of Public Health for their role in monitoring and documenting the assessment process and for their future research role as Gage County considers and implements change.

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Executive Summary

Gage County emergency medical services (EMS) is a system, a system made of many fragmented units operated by multiple government and non-governmental organizations. We did not find the system “broken” but neither is it in “good health”. If the results of our independent assessment and recommendations are fully utilized with the immediate attention of the elected officials, residents, and employees of Gage County, we feel that a noticeable improvement in the delivery of EMS would occur. For that reason the following pages will focus on measurable objectives that will benefit the taxpayers of Gage County during the next 12-18 months when a progress check (reassessment) would be appropriate.

Largely due to the support of Beatrice Fire & Rescue, much of Gage County benefits from Advanced Life Support capable paramedics responding even to calls outside of the city limits. This service in the past has been supplemented by Lincoln Fire & Rescue responding with paramedics to the Adams and Clatonia communities; however they have recently requested substantial subsidies to continue providing this benefit to one third of Gage County.

To prepare for an appropriate response to the changes in their EMS system, the Gage County Board of Supervisors (GCBOS) contracted with the Southeast Nebraska Area Health Education Center (AHEC) to engage SafeTech Solutions (STS) for the purpose of evaluating the EMS system and to develop a strategic plan for Gage County, Nebraska. STS provides “best practices” learned from many years of EMS system design at the local, regional, state, and national levels.

To identify the existing condition (or health) of the Gage County system an assessment process combining two methods of evaluation was used:

- A subjective process of key informant interviews
- An objective assessment tool with ranked scoring of each attribute

This report is a presentation of the results of this assessment and the next steps to be taken to improve the EMS system in Gage County. A summary of the major changes that our EMS system experts include the following six primary recommendations:

1. The Gage County Board of Supervisors should establish an EMS Taxing District under Nebraska Law 13-303 for the purpose of:
 - a. Funding placement of a paramedic in both the northern and southern parts of the county,
 - b. Funding a single medical director position for the county, and
 - c. Funding the training, supplies, and equipment necessary to assure that Emergency Medical Dispatch with pre-arrival instructions are provided to the public by the communications center.
2. The Gage County Board of Supervisors should integrate the fragmented EMS system components by establishing an EMS Council, containing representatives of the 15 EMS system components.
3. The Gage County Board of Supervisors should shift their existing rescue squad contracts from being service-based to performance-based subsidies.

4. The Gage County Board of Supervisors should modify their contract with Public Health Solutions to require participation on the EMS Council and integration of the EMS system components with public health functions.
5. The Gage County Board of Supervisors should expedite fixing communication issues including radio coverage gaps; radio frequency patches with Lancaster County; designation of helicopter landing zone channels; and resolution of Marshall County, KS, 911 calls being routed to the wrong communication center.
6. The Gage County Board of Supervisors should engage Beatrice Community Hospital and Healthcare Center to assure that helipad construction is a priority, offering municipal bonding authority, if necessary.

This interactive and dynamic evaluation process concluded with the provision of the final report to the Gage County Board of Supervisors, participating ambulance services, Gage County communities, Beatrice Community Hospital, Nebraska Emergency Medical Services Board, Nebraska Department of Health & Human Services (DHHS) Office of Rural Health, and the DHHS Emergency Medical Services EMS /Trauma Program.

This project was funded using federal bioterrorism and federal Medicare Rural Hospital Flexibility Grant program funds, administered by the DHHS EMS/Trauma Program.

The Gage County EMS System

- **Adams Rescue Squad:**

In 2006, the Adams Rescue Squad (ARS) had about 100 medical calls. They operate with two first responders and 16 EMTs (three of which are nurses) and utilize Lincoln Fire and Rescue to provide Advanced Life Support tiering services (See Attachment F) for its service area.

Retention of volunteers is not an issue for ARS, but recruiting new personnel is difficult – daytime staffing is a particular problem. ARS usually staffs the rescue squad with three personnel, but occasionally uses two, typically with a three to five minute response time. They are located equidistant between Lincoln and Beatrice, but most patients choose to be transported to Lincoln hospitals.

The city of Cortland pays for part of the replacement ambulances for ARS. They have formal mutual aid (See Attachments G& H) with Hallam and Clatonia, and informal mutual aid with other nearby rescue squads.

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

- **Beatrice Fire & Rescue:**

Beatrice Fire and Rescue (BFR) is an all paid combined EMS and Fire Department with 24 full-time employees including a secretary and eight part-time employees. Ten are paramedics, two are EMT-Intermediates and fourteen are EMT-Basics. BFR provides response coverage to 389 square miles of Gage County (See Attachment I) including the city of Beatrice. BFR is staffed with seven employees each day with two assigned to provide first-out ambulance service. BFR can staff up to three ambulances if there are no concurrent fire calls. BFR provides Advanced Life Support services to Southern Gage County on a regular basis through a priority dispatch system and Northern Gage County when requested.

Beatrice Rescue Squad (BRS)¹ normally staffs two paramedics on each ambulance. To ensure a paramedic is available in the city when providing out-of-town coverage or when crew scheduling demands it, an EMT/paramedic team may be used. If available, additional staff is dispatched to help manage complicated cardiac and respiratory calls.

Patient care reports are completed on paper forms and then entered into the state's eNARSIS system. One person from each shift reviews all patient care reports from the shift for accuracy and use of proper guidelines. Billing information is provided by the hospitals.

In 2006, BRS had 1,928 ambulance calls with 576 out-of-town interfacility transfers. There are 50-60 transfers per month from Beatrice Community Hospital and Healthcare Center (BCHHC) to Lincoln hospitals.

¹ While officially known as Beatrice Fire & Rescue, we use Beatrice Rescue Squad to specify comments regarding the rescue squad and BFR when discussing the entire department.

BRS is not accredited by either CAAS or CAMTS.

- **Clatonia Rescue Squad:**

Clatonia Rescue Squad (CRS) is governed by the city of Clatonia and responds to about 65 ambulance calls per year. CRS has an agreement with Cortland where they supply ambulance service to Cortland and in return Cortland helps fund the purchase of CRS ambulances. CRS participates in the BCHHC skills fair program. Cortland Fire does extrication in the area of Cortland. CRS utilizes both BFR and Lincoln Fire and Rescue for Advanced Life Support tiering services.

CRS charges for ambulance service and uses a private billing company, EMS Billing. CRS has an average 3 minute response time of their staff to the ambulance garage. CRS has some concerns about the overall status of the communication system and they describe multiple interoperability issues.

CRS is not accredited by either CAAS or CAMTS.

- **Wymore Fire & Rescue²:**

WRS is also combined with the Wymore Fire Department. The Wymore Fire & Rescue department has some unique internal issues that STS addressed directly with the Mayor of Wymore and are not found in this report.

The Wymore Rescue Squad (WRS) and BRS respond to 180-200 ambulance requests in the WRS service area per year. There are 35 people on the fire roster, 15 of whom are EMTs. It is unclear how many EMTs actually respond to calls. WRS cross trains with EMTs from Barneston. The Wymore police department has police officers on staff and two police cruisers that are equipped with an AED and first aid kit. The officers are trained as first responders.

WRS is not accredited by either CAAS or CAMTS.

- **Beatrice Community Hospital and Healthcare Center:**

BCHHC was established in 1911, averages 440 employees, and is accredited by the Joint Commission on the Accreditation of Healthcare Organizations. Four full-time emergency room physicians see approximately 22 emergency and five outpatient visits per day. BRS paramedics provide services at the hospital when needed, primarily assisting with managing patient airways during surgery, and assisting with cardiac arrests in the emergency room. A formal policy between the hospital and the BRS does not exist.

- **Rural Health Clinics:**

There are 121 rural health clinics (RHC) in Nebraska. Three are located in Gage County, one in Adams and two in Wymore.

² While technically known as Wymore Fire & Rescue, we choose to use the name Wymore Rescue Squad throughout the report when discussing the rescue squad services and Wymore Fire & Rescue when discussing the entire department.

The BCHHC operates one RHC in Wymore staffed full time by two Physician Assistants supported by two Beatrice physicians who spend one half day each in Wymore.

The second Wymore RHC, Community Physicians Clinic, operated by Community Memorial Healthcare Hospital of Marysville, Kansas is staffed on a rotating basis by two physicians, along with a nurse practitioner and a registered nurse.

The Adams Primary Care RHC operated by the Saint Elizabeth Medical Center of Lincoln is staffed by two rotating physicians and a nurse Practitioner. In addition to Adams, they serve patients from Clatonia and Cortland.

- **Public Health:**

Public Health Solutions based in Crete, Nebraska serves as the public health contractor across a five county area but does not maintain a Gage County office.

Blue Valley Mental Health is a non-profit mental health provider that receives state funding. They have on call counselors on staff who are able to avert 80% of the reported mental health crises from becoming hospital inpatients.

The Lancaster County EMS System Interfaces

- **Lincoln Fire & Rescue:**

Lincoln Fire & Rescue completes 16,900 ambulance runs per year. They serve the city of Lincoln as well as 9 fire districts in Lancaster County. They provide paramedic intercept service to ARS and CRS. Lincoln Fire & Rescue has five staffed ALS ambulances and two reserve units. They staff ambulances with one paramedic and one EMT, and have paramedics assigned to fire engines. Lincoln Fire & Rescue responds with 2 paramedics to intercepts in Northern Gage County.

Medical direction for Lincoln Fire & Rescue is provided by EMS, Inc. which was created by city ordinance and is funded by the city and the hospitals. EMS, Inc. is an independent agency with a part-time physician and full-time director. EMS Inc's board is appointed by the Mayor and approved by the city council

- **StarCare:**

Initially during the assessment period Star Care had one helicopter based at Bryan/LGH Medical Center East in Lincoln. Prior to completing the assessment the helicopter was relocated to Bryan/LGH Medical Center West. Fifteen percent of their work is scene related including about two Gage County requests per month.

- **EMS, Inc.**

EMS, Inc. provides protocols, quality assurance and response time verification in the city of Lincoln and oversees ten ambulance services in Lancaster County. The medical director Dr. Rounsberg also works as a physician for St. Elizabeth's.

The Gage County EMS-BIS

For the purposes of this report, the *Agency Average Scoring* identifies the average agency self rating from individual participating agencies. The *Gage County Scoring* identifies the consensus rating of the county by all participants during a large group facilitated discussion session.

EMS System Component: Integration of Health Services

**Benchmark
1.0**

For its patients and the community as a whole, the Emergency Medical Services (EMS) agency provides care and services that are integrated with other health care providers, community health and public safety resources.

Indicator		SCORING	
		Gage County	Agency Average
1.1	The EMS agency has convened, or participated in a multidisciplinary planning process that describes the role of the agency within the health care and public safety systems serving the community and the region.	There have been limited attempts to organize groups, but to date no ongoing system committees meet regularly to design or implement the local system.	There have been limited attempts to organize groups, but to date no ongoing system committees meet regularly to design or implement the local system.
1.2	A clearly defined and easily understood structure is in place for the EMS decision-making process. The EMS operational decisions are based on the system plan and reflect ongoing engagement with multidisciplinary stakeholders and partners to ensure integration of the EMS within the community and the region.	There is no defined process (written policy and procedure) for decision making.	There is an unwritten/informal process that is used when convenient, although not regularly or consistently.
1.3	There is a process in place to measure the EMS System's progress in meeting goals and objectives in the system plan and that support integration of the agency in the health care and public safety assets in the community (Horizontal integration).	There is no process to measure progress towards goals and objectives pertaining to system integration.	There is an informal or sporadic process that reacts to concerns regarding lack of integration with other health care and public safety resources, e.g. the fire department not called to a hazmat incident.

STS Recommendations:

- A. The GCBOS should establish an EMS advisory council that includes participants from a discipline or entity representing each of the 15 EMS system components.
- B. The EMS council should create a written EMS plan that incorporates each of the 15 components identified in this report.

- C. The EMS council should include in the EMS plan a mechanism to increase the level of service in Gage County to the paramedic level countywide by adding quick response vehicles to enhance the basic life support services.
- D. The EMS council should include in the EMS plan a mechanism to improve system integration by positioning paramedics at the rural health clinics in Adams and Wymore during clinic operating hours and to partner with the local services to enhance patient care during non-clinic hours
- E. The EMS council should include in the EMS plan an education component that incorporates a feedback loop from the clinics, the hospital, and the medical directors to provide input to personnel training programs.
- F. The EMS council should include in the EMS plan a plan to implement the Community Health Specialist (CHS) role.
- G. BCHHC should conduct the EMS skills fair at least annually.

EMS System Component: Research

Benchmark 2.0		The EMS system agencies participate in and contribute to research efforts that increase the evidence upon which the system design is based.	
Indicator		SCORING	
		Gage County	Agency Average
2.1	EMS participants (agencies, facilities, other stakeholders) have sufficient policies to conduct and participate in system research efforts.	The system participants do not conduct or participate in research efforts as no policy exists.	The system participants do not conduct or participate in research efforts even though policies permit participation.
2.2	EMS participants (agencies, facilities, other stakeholders) cooperate to conduct and participate in system research efforts. Research efforts may include collaboration with social scientists, economists, health services researchers, epidemiologists, operations researchers, and other clinical scientists.	System participants do not conduct research.	System participants do not conduct research.
2.3	EMS participants are integrated with external stakeholders in applying and publishing system design, patient care and specific intervention research.	System participants do not contribute to research projects.	System participants do not contribute to research projects.

STS Recommendations:

- 1) The GCBOS should require that all ambulance services utilize electronic patient data collection.
- 2) The GCBOS should require baseline research reports as discussed in A below as a condition of contracting with rescue squads.
- 3) The GCBOS should require research reports based on nationally developed outcome measures.
- 4) The GCBOS should require subsidized rescue squads to file run reports electronically into the eNARSIS system.

EMS System Component: Legislation and Regulation

**Benchmark
3.0**

The EMS agencies are in compliance with all applicable federal, state, and local laws, rules, ordinances, contracts, and/or bylaws.

Indicator		SCORING	
		Gage County	Agency Average
3.1	The EMS agencies are in full compliance with all applicable laws, rules, ordinances, contracts, etc. that govern all aspects of their operation and contains current copies of all relevant policies and required licenses, certifications, insurances, etc.	The agency has an approved system plan that commits itself to complying with all applicable laws, rules, ordinances and contracts, but it only maintains documentation of some of the specific requirements.	The agency has an approved system plan that commits itself to complying with all applicable laws, rules, ordinances and contracts, but it only maintains documentation of some of the specific requirements.
3.2	The EMS agency makes decisions and operates based upon its EMS plan, internal policies, and the applicable laws, rules, ordinances and contracts that govern their operations.	The decision-making and functioning of the agency are in compliance with applicable laws, rules, ordinances, and contracts. If an area of non-compliance is identified, immediate corrective action is taken.	The decision-making and functioning of the agency are generally in compliance with applicable laws, rules, ordinances and contracts.
3.3	The EMS Agency is reviewed periodically by objective, third-party experts, reviewers, or regulators to ensure that it functions in compliance with and all applicable laws, rules, ordinances, and contracts that govern its operation.	The agency has had regular reviews of a limited number of operational components that include compliance with some applicable policies, laws, rules, ordinances, and contracts.	The agency has had episodic, objective reviews of a limited number of specific operational components (e.g. financial audit or equipment inspection).

STS Recommendations:

- 1) The Gage County EMS Council, in collaboration with the DHHS EMS/Trauma Program, should generate standardized notebooks to be used for the safekeeping of all licensing and credentialing documents by the rescue squads. Each rescue squad should use the county template for safekeeping of their required inspection documentation.

EMS System Component: System Finance

Benchmark 4.0		EMS agencies are financially stable organizations with approved budgets that are aligned with the EMS plan and priorities.	
Indicator		SCORING	
		Gage County	Agency Average
4.1	Cost, charge, collection and reimbursement data are projected and collected; are compared to (benchmarked) against industry data; and, are used in strategic and budget planning.	Cost, charge, collection and reimbursement data are collected.	Cost, charge, collection and reimbursement data are collected.
4.2	Budgets are approved and based on historic and projected cost, charge, collection, reimbursement and public/private support data.	Data is collected, reports generated and there is an expense budget process, but it is not linked to revenue.	Data is collected and reports generated, but there is no formal budget planning process.
4.3	Financial resources exist that support the planning, implementation and ongoing management of the administrative and clinical care components of the EMS agency.	Administrative, management and clinical care planning is conducted and priorities are identified, but are not linked to the budget process.	Administrative, management and clinical care planning is conducted, but priorities are not identified.

STS Recommendations:

- 1) The GCBOS should pursue a Gage County EMS Taxing District under Nebraska law 13-303 to fund EMS.
- 2) The GCBOS EMS budget should be redeveloped to cover the necessary costs of implementing the county EMS strategic plan, including funding the placement of paramedics in the northern and southern parts of the county.
- 3) The GCBOS should fund a countywide medical director position as recommended in Benchmark 6.0.
- 4) The existing contracts with the rescue squads should be restructured so that they become performance based contracts rather than service based contracts.
- 5) STS found no evidence of any impropriety but recommends proactive management where a perception of a conflict of interest may form. In accordance with Nebraska law the GCBOS should implement appropriate accounting, fiscal, and contracting

controls. The county Emergency Manager is a member of the WRS. Because of the resource distribution role of the EM, actual or perceived bias or favoritism for WRS could occur. Good public policy would require a transparent process and a full accounting whenever decisions are made for funding or activities that may benefit county employees serving in other capacities.

- 6) An appropriate member of each rescue squad should attend formal budget planning workshops sponsored by the DHHS EMS/Trauma Program.
- 7) The rescue squads should exhibit fiscal responsibility by using Nebraska state contracts when they qualify and by purchasing using national contracts maintained by the North Central EMS Cooperative or others.

EMS System Component: Human Resources

**Benchmark
5.0**

The EMS agency has sufficient capacity and ability to recruit, train support, and maintain adequate numbers and an appropriate mix of volunteer and/or paid personnel consistent with its written plan and commensurate with identified needs within the community.

Indicator		SCORING	
		Gage County	Agency Average
5.1	<p>The EMS agency has personnel recruitment and retention policies and programs to maintain adequate numbers of trained and licensed personnel (paid and/or volunteer) to meet performance standards for level of care and response times.</p> <p>Formal personnel policies are reviewed regularly by the EMS agency's governing authority and clearly identify expectations and responsibilities for both the agency and staff.</p>	<p>The agency periodically organizes a program to recruit new staff on an as-needed basis. Personnel policies are informal or although written are not reviewed regularly (at least bi-annually).</p>	<p>The agency periodically organizes a program to recruit new staff on an as-needed basis. There are no personnel policies identifying the expectations and responsibilities of the agency or its staff.</p>
5.2	<p>Staff surveys or regular feedback sessions reflect that personnel understand applicable policies and procedures (e.g. schedules, equipment, protective gear, etc.), have access to required and advanced training, have leadership opportunities, and have access to stress management services as needed.</p>	<p>Staff is invited to provide feedback on a regular basis, but it is limited to specific issues identified by management and there is no expectation for a response from management.</p>	<p>Staff is invited to provide feedback on a regular basis, but it is limited to specific issues identified by management and there is no expectation for a response from management.</p>

5.3	The EMS agency is fully staffed; personnel understand policies and their job duties/ responsibilities. Staff indicates that they have input into management and operational decisions, and have reasonable access to needed equipment, supplies, training, and support including stress management services as appropriate.	The agency is usually able to maintain an adequate staff to perform the mission, but turnover and recruitment of new personnel is a challenge periodically.	The agency is usually able to maintain an adequate staff to perform the mission, but turnover and recruitment of new personnel is a challenge periodically.
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STS Recommendations:

- 1) The rescue squad administrators should make use of free resources, such as the EMS recruitment and retention manual sponsored by the DHHS EMS/Trauma program and the EMS Recruitment and Retention Manual published by the US Fire Administration (available at <http://www.usfa.fema.gov/downloads/pdf/publications/fa-157.pdf>).
- 2) The EMS Council should develop a volunteer and employee survey to determine the factors affecting morale, motivations, and longevity.
- 3) The city councils and GCBOS should develop community support for volunteers by offering volunteer incentives such as:
 - a. local tax breaks,
 - b. municipal service discounts,
 - c. public retirement plans,
 - d. free training,
 - e. paid National Registry exams,
 - f. reimbursed conference travel,
 - g. free clothing (patches, hats, jackets, and T-shirts), and
 - h. paid subscriptions to EMS trade journals.
- 4) The EMS Council should promote regular rescue squad administration/officer networking opportunities both within Gage County and neighboring counties.
- 5) The EMS Council should share standardized personnel policies among rescue squads.
- 6) The city councils should encourage their city employees to participate as rescue squad members while “on the clock”.

EMS System Component: Medical Direction

**Benchmark
6.0**

The EMS agency has a physician medical director that has received medical director training, been recognized by the state and is actively involved in EMS issues including triage, treatment, and transport, dispatch, quality improvement, education and training.

Indicator		SCORING	
		Gage County	Agency Average
6.1	There is clear-cut responsibility for the EMS agency's medical director including the authority to adopt protocols, to implement a quality improvement system, to restrict the practice of prehospital care providers, and to generally assure medical appropriateness of the EMS system.	There is an agency medical director with a written job description and whose specific authorities and responsibilities are formally granted.	There is an agency medical director with a written job description and whose specific authorities and responsibilities are formally granted.
6.2	The EMS agency medical director is actively involved with the development, implementation, and ongoing evaluation of protocols to assure they are congruent with the EMS and hospital system design. These protocols include, but are not limited to, which resources to dispatch (ALS vs. BLS), air-ground coordination, triage, early notification of the medical care facility, pre-arrival instructions, treatment, transport and other procedures necessary to ensure the optimal care of ill and injured patients.	Protocols have been developed in close coordination with the local hospital medical director and are congruent with the local hospital resources.	Protocols have been adopted and are not in conflict with the local hospital resources, but there has been no effort to coordinate the use of protocols between the agency and the local hospital.
6.3	The retrospective medical oversight of the EMS agency's protocols for triage, communication, treatment, and transport is accomplished in a timely manner and is closely coordinated with the established quality improvement processes of the local healthcare system.	There is timely retrospective medical oversight procedure for protocols by the quality improvement processes of the agency.	There is timely retrospective medical oversight procedure for protocols by the quality improvement processes of the agency.

STS Recommendations:

- 1) Gage County should fund a single part-time EMS physician medical director to provide medical supervision countywide.
- 2) The Gage County EMS medical director should develop a medical supervision plan.

Even If Recommendations One and Two Are Delayed:

- 3) All medical directors should complete both the Nebraska specific and the national medical direction course as soon as possible.
- 4) Medical directors should receive basic awareness level training on e-NARSIS so that they understand it well enough to be able to run reports on the rescue squads they are supporting.

- 5) There should be standardized protocols/guidelines in use county wide in order to assure consistent service to the public as well as consistent skill competency exams, training and equipment
- 6) A standardized medical director's job description should be developed and implemented across the rescue squads.

EMS System Component: Education Systems

Benchmark 7.0		The EMS provides appropriate, competency based education programs to assure a competent work force.	
Indicator		SCORING	
		Gage County	Agency Average
7.1	The EMS agency has clear written educational requirements consistent with state and nationally recognized levels of training and has a structure in place to provide education and maintenance of clinical skills.	The agency has a structure in place to provide the educational needs of its employees.	The agency has written policies regarding minimum education and requirements and has a structure in place to provide some education and skill maintenance for its employees.
7.2	The EMS provides initial and continuing education programs including periodic testing, consistent with state and nationally recognized levels of care.	The agency provides a comprehensive program of initial and continuing education for its employees consistent with state and nationally recognized levels of care.	The agency provides for a program of initial and continuing education to its employees
7.3	The EMS agency measures the effectiveness of its continuing education program by measuring competency on a regular, consistent basis and bases continuing education and remedial education on structured performance improvement processes.	Monthly continuing education is provided and individual competency is measured at least annually.	Clinical or field procedural problems are occasionally addressed in continuing education programs. There is no regular, consistent evaluation of competency.

STS Recommendations:

- 1) Each rescue squad should maintain a formal process to determine continuing education needs.
- 2) The rescue squad administrators and DHHS EMS/Trauma Program should meet with college staff to resolve the imbalance between states minimum required hours of initial education and the hours actually delivered by the school.
- 3) Gage County's emergency manager should make available a web page specific to fire and rescue continuing education available to rescue squad staff.

- 4) The CHS curriculum should be implemented for the paramedics assigned to the Adams and Wymore clinics when it is available.
- 5) The rescue squads should work with the DHHS EMS/Trauma Program's regional coordinator to receive technical assistance in scheduling classes.

EMS System Component: Public Education

Indicator		SCORING	
		Gage County	Agency Average
Benchmark 8.0	The EMS agency informs and educates local constituencies and policy makers to foster collaboration and cooperation for EMS enhancement and injury and/or illness prevention and control.		
8.1	A public information and education program exists that heightens public awareness of the need for an EMS and the preventability of injury and/or illness.	There is no written public information and education plan on agency awareness or injury and/or illness prevention and control.	There is no written public information and education plan on agency awareness or injury and/or illness prevention and control.
8.2	An assessment of the needs of the general public concerning EMS information has been conducted.	Plans are in place to provide information to the general public in response to a particular acute illness or traumatic event.	There is no routine or planned contact with the general public.
8.3	The local EMS agency and trauma facilities enjoy strong public support.	There is an ongoing, but inadequate level of funding and community/political support for the local agency.	There is an ongoing, but inadequate level of funding and community/political support for the local agency.

STS Recommendations:

- 1) The rescue squads should target events like the county fair and community gatherings to launch new public education initiatives.
- 2) The GCBOS should take ownership of the disconnect between the EMS providers and the public health contractor, perhaps using a contracting mechanism to assure the EMS system becomes more integrated and is recognized as a stakeholder in the public health of Gage County.
- 3) The EMS Council should develop a countywide Public Information, Education and Relations (PIER) plan.
- 4) The EMS Council should include the Outcome Measures when determining public education needs.
- 5) The rescue squads should seek a partnership with the hospital's foundation, the DHHS EMS/Trauma Program, the Southeast Nebraska AHEC and the Gage County Medical Society directed to providing public education in an integrated manner.

EMS System Component: Illness/Injury Prevention

Indicator		SCORING	
		Gage County	Agency Average
9.1	A written injury/ illness prevention plan is developed and coordinated with other agencies. The injury/illness program is data driven, and targeted programs are developed based on high injury/illness risk areas. Specific goals with measurable objectives are incorporated into the injury/illness prevention plan.	There are multiple injury and/or illness prevention programs that may conflict with each other and/or with the goals of the agency.	There is no written plan for a coordinated injury/illness prevention program.
9.2	Injury/illness prevention programs use EMS information to develop intervention strategies.	There is no evidence to suggest that agency data are used to determine injury/illness prevention strategies.	There is no evidence to suggest that agency data are used to determine injury/illness prevention strategies.
9.3	The effect or impact of injury and/or illness prevention programs is evaluated as part of a system performance improvement process.	There is no effort to review the activities of the agency in prevention efforts.	There is no effort to review the activities of the agency in prevention efforts.

STS Recommendations:

- 1) The rescue squads should conduct public wellness and prevention activities in their communities.
- 2) The public health department and BCHHC should take the lead in engaging the rescue squads in a discussion about the identified wellness and prevention needs from prior community surveys.
- 3) Long term wellness and prevention activity planning should be coordinated between the EMS council, BCHHC and the public health agency.

EMS System Component: Public Access

Benchmark 10.0	The public has reliable, robust and redundant access to a system that can dispatch appropriate resources promptly and accurately to the location of the patient and provide potential lifesaving services prior to their arrival. Access should be universally available regardless of incident location, socio-economic status, age, or special need and an integral part of the EMS plan.
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Indicator		SCORING	
		Gage County	Agency Average
10.1	<p>There is a universal access number for citizens to access the system, with dispatch of appropriate medical resources in accordance with a written plan. The dispatch system utilizes Enhanced-9-1-1 and Wireless-9-1-1 technologies and provide pre-arrival medical instructions to callers</p> <p>The universal access number is part of a central communications system and plan that ensures bidirectional communication, inter-facility dialogue, and disaster communications among all system participants.</p>	<p>The agency has adopted a communications plan that was developed with multiple stakeholder groups, and endorsed by those agencies. However, the integration of Enhanced-9-1-1, Wireless-9-1-1 and other emerging technologies are not included.</p>	<p>The agency has adopted a communications plan that was developed with multiple stakeholder groups, and endorsed by those agencies. However, the integration of Enhanced-9-1-1, Wireless-9-1-1 and other emerging technologies are not included.</p>
10.2	<p>An assessment of the needs of the general public and their ability to access the system has been conducted and the results integrated into the system plan.</p>	<p>Contact with the public is addressed when system failures occur.</p>	<p>Contact with the public is addressed when system failures occur.</p>
10.3	<p>Unique populations (e.g., language, socially disadvantaged, migrant/transient, remote, rural, and others) present within the EMS response area are able to access the EMS agency system.</p>	<p>The system and stakeholders are beginning to consider the needs of unique populations</p>	<p>The system and stakeholders are beginning to consider the needs of unique populations</p>

STS Recommendations:

- 1) The city of Beatrice and the GCBOS should require through ordinance or contract that PSAPs in the county use EMD for all calls determined to be medical in nature.
- 2) The EMS council should establish a communications subcommittee to become the forum for all Issues regarding EMS system communications.
- 3) The EMS Council should develop a communications plan for use by all EMS system participants and coordinate its implementation.

EMS System Component: Communication Systems

**Benchmark
11.0**

EMS agencies are able to transmit and receive electronic voice and data signals between its own agency assets (base, vehicles and personnel), between the agency and other community health care and public safety assets, and between the agency and regional/state health care and public safety assets.

Indicator		SCORING	
		Gage County	Agency Average
11.1	The EMS agency, in concert with a multidisciplinary, multi-agency committee, multi-jurisdiction committee, has adopted an EMS communications plan that includes provisions for intra-agency, inter-agency, regional and state communications of voice and electronic data.	The agency has adopted a system communications plan. However, the plan has not been endorsed by multiple stakeholder organizations.	The agency has adopted a system communications plan. However, the plan has not been endorsed by multiple stakeholder organizations.
11.2	In accordance with the EMS agency's communication plan, radio and other communication asset purchases and configurations are coordinated with community, sub-regional, regional and statewide agencies.	Needs assessments are conducted and procurement needs are coordinated with other agencies, jurisdictions, and disciplines.	Needs assessments are conducted and procurement needs are coordinated with other agencies, jurisdictions, and disciplines. However, the results are not used to guide investment in communications infrastructure improvement.
11.3	The communications system is routinely evaluated and tested to ensure its reliability, robustness, redundancy and interoperability during routine applications and all-hazards events involving multiple patients and multiple agency responses.	The communications system has been evaluated at a sub-regional and regional level through a multi-agency process and issues of reliability have been addressed by all agencies within the system's primary service and mutual aid response areas.	The communications system has been evaluated at a local level through a multi-agency process and issues of reliability have been addressed by all agencies within the system's primary service response area.

STS Recommendations:

- 1) The GCBOS should task the county emergency manager to fix and maintain the radio patch between Gage and Lancaster county communication systems.
- 2) The GCBOS should task the county emergency manager to eliminate existing known radio coverage gaps in Gage County's 450 MHz system.
- 3) The GCBOS should task the county emergency manager with assigning the northern fire and southern fire channels as the primary communication link for StarCare. In the event those frequencies are unavailable due to another incident, a backup channel should be designated.
- 4) The GCBOS should engage the Board of Supervisors in Marshall County and enlist the assistance of the Nebraska and Kansas 911 oversight boards to mitigate a 911 call routing problem in Southern Gage and Northern Marshall Counties.

EMS System Component: Clinical Care

Indicator		SCORING		
		Gage County	Agency Average	
12.0	EMS agencies are integrated into a resource-efficient, inclusive network that meets required standards and that provides optimal care for all patients.			
	12.1	The EMS plan has clearly defined the roles and responsibilities of agency personnel and for those emergency department personnel in treatment facilities accepting patients from the prehospital personnel. Evidence based written prehospital patient care protocols and guidelines are maintained and updated.	The system plan clearly defines the roles and responsibilities of agency personnel and emergency department personnel in treatment facilities for trauma patients. Written protocols and prehospital care guidelines exist and are reviewed and updated at least annually.	A system plan and prehospital patient care protocols exist but are not reviewed and updated regularly.
	12.2	Clinical care is documented in a manner that enables agency and system wide information to be used for quality monitoring and performance improvement.	Clinical care documentation is systematically reviewed at the local level but is not available electronically for quality monitoring and performance improvement.	Clinical care documentation is systematically reviewed at the local level but is not available electronically for quality monitoring and performance improvement.
12.3	Patient outcomes and quality of care are monitored. Deficiencies are recognized and corrective action is implemented. Variations in standards of care are minimized, and improvements are made routinely.	The agency and local hospital maintain an agency quality of care system including patient outcomes, but they do not regularly monitor these outcomes, or quality of care, nor do they regularly review findings together.	The agency and local hospital maintain an agency quality of care system including patient outcomes, but they do not regularly monitor these outcomes, or quality of care, nor do they regularly review findings together.	

STS Recommendations:

- 1) The BCHHC Foundation should consider becoming a “Heart Safe Communities” sponsor by funding AED equipment and training for law enforcement vehicles serving Gage County.
- 2) Lincoln Fire & Rescue’s retraction from providing paramedic intercept in the northern part of Gage County can be mitigated by adoption of the recommendations to place paramedics in the northern part of Gage County.
- 3) GCBOS and BCHHC should make a helipad a high priority with any new construction, using public funding mechanisms like municipal bonds if necessary.
- 4) The auto-launch program between the Gage County 911 communications center and StarCare should be designed around exiting national standards.

- 5) BRS and BCHHC administration should discuss any potential benefit (including cost benefits) of paramedics formally having a role in the emergency room or elsewhere in the hospital.

EMS System Component: Information Systems

Indicator		SCORING	
		Gage County	Agency Average
Benchmark 13.0		There is an information system within the EMS that can evaluate system performance, track provider skills, and formulate policies based on the analysis of collected data.	
13.1	The EMS agency participates in a system data collection and information data sharing network, collects pertinent EMS data from field providers on each episode of care, and uses data for system improvements.	There is a data collection system, and some users access the information for system improvement activities. The use of the data is random and unfocused.	There is a data collection system, and some users access the information for system improvement activities. The use of the data is random and unfocused.
13.2	The information system is available for routine EMS and public health surveillance. It can be accessed by individual users as well as management for system oversight.	There is an information system in place but its use is sporadic; some system oversight is done using the information system in place.	There is an information system in place but it is not used by system providers.
13.3	The information system is used to assess system and provider performance, measure compliance with applicable standards/rules and to allocate resources to areas of greatest need or acquire new resources as necessary.	The agency information system is limited in scope and the data is generally used for billing purposes.	The agency information system is limited in scope and the data is generally used for billing purposes.

STS Recommendations:

- 1) The Gage County EMS services should be required to use a National EMS Information System Gold Standard Compliant vendor for electronic patient data collection.
- 2) The DHHS EMS/Trauma Program should provide targeted training and support to Gage County rescue squads.
- 3) The Gage County rescue squads should identify internal volunteers that are interested in performing quality research and appoint them to multi-year terms.
- 4) The public health agency should be engaged by the Gage County EMS Council for assistance in developing standardized reports that the rescue squads will use in reporting their performance to the GCBOS.

EMS System Component: Evaluation

Indicator		SCORING		
		Gage County	Agency Average	
14.0	The EMS uses its management information system to facilitate on-going assessment and assurance of system performance and outcomes and provides a basis for continuously improving the EMS.			
	14.1	The EMS service provider has available for use computer technology advances and analytical tools for monitoring system performance.	A computer system is in place and is used by providers to collect patient care information; however analytical tools are not used for system monitoring.	There is a simple computer program that collects some billing and patient care information.
	14.2	EMS providers collect patient care and administrative data for each episode of care and provide these data not only to the hospital, but have a mechanism to evaluate the data within their own agency including monitoring trends and identifying outliers.	Service providers collect patient care data and provide the patient care data to the receiving hospital upon arrival.	Service providers collect patient care data and provide the patient care data to the receiving hospital upon arrival.
14.3	The EMS agency engages the medical community in assessing and evaluating EMS agency including participation in EMS research. Findings from research or other quality improvement efforts are translated into improved service.	Service providers are engaged in some research projects but the medical community and hospital are not active in these efforts.	Service providers are engaged in some research projects but the medical community and hospital are not active in these efforts.	

STS Recommendations:

- 1) The GCBOS should require by contract that annual re-assessments by the rescue squads are coordinated by the EMS council and conducted using the EMS-BIS tool.
- 2) The Gage County EMS Council should seek out and make available to the rescue squads strategic planning specialists interested and experienced in EMS.
- 3) The GCBOS should expect delivered reports to show progress over time and eventually reward good performers and penalize poor performers through adjustments of subsidies.

EMS System Component: Medical/Health Disasters

**Benchmark
15.0**

The EMS agency’s activities are integrated with, and complementary to, the comprehensive mass casualty plan for natural disasters and manmade disasters, including an all-hazards approach to disaster planning and operations.

Indicator		SCORING	
		Gage County	Agency Average
15.1	The EMS agency has operational plans and has established an ongoing cooperative working relationship with other public safety and public health agencies to assure EMS system readiness to “all-hazard” multiple patient events.	The agency system and the disaster system plans are integrated and operational. Routine working relationships are present with cooperation and sharing of information to improve system readiness for “all-hazard” multiple patient events.	Formal plans for agency, trauma system/disaster services systems integration are in development and have started the approval process. Working relationships have formed and cooperation is evident.
15.2	Disaster training and exercises routinely include situations involving natural (e.g., earthquake), unintentional (e.g., school bus crash), and intentional (e.g., terrorist explosion) trauma-producing events that test expanded response capabilities and surge capacity of the EMS consistent with the overall response plan and system.	Exercises and training in all-hazards disaster situations are regularly conducted and include testing of facility/clinic surge capacity. These exercises include agency, trauma, public safety and public health stakeholders. Debriefing sessions occur after each drill or event.	Disaster training and exercises are conducted regularly and include agency response capabilities to all hazards.
15.3	There are formal mechanisms to activate an optimal response to all-hazard events in accordance with EMS and disaster response plans and consistent with system resources and capabilities.	A formal system-wide analysis and performance improvement process is in place and implemented at the conclusion of each all-hazard exercise or response. The results of the process result in improvements in the plans, targeted training and/or corrective actions.	There are sporadic, informal, non-documented “debriefings” involving multiple agencies following each exercise or event. Results of these activities do not necessarily translate to improvement processes.

STS Recommendations:

- 1) The current level of activity related to plan review, exercise and evaluation should continue.
- 2) The Gage County EMS Council should develop a regional EMS mutual aid plan to include signed agreements.

- 3) The county Emergency Manager should be tasked with organizing ongoing NIMS training for all responders, elected officials, and appointed officials, and report compliance regularly to the GCBOS.