Cedar County, IA

Emergency Medical Services Study Report

Project Team

Cedar County

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Scope

MCM Consulting Group, Inc. conducted a comprehensive analysis of emergency medical services (EMS) in Cedar County and developed a strategy that will strengthen the county's ability to support local solutions for effective EMS response.

Key Findings

- Routine staffing and scheduling of ambulance crews is inconsistent across Cedar County.
  - Providing complete crews available to respond to emergencies **can require the 911 center staff to alert multiple stations** simply to have one ambulance respond to the emergency call for service. Responses to some calls for service have gone **more than twenty to thirty minutes.**

- Average response times.
  - Dispatch to enroute times average just over ten minutes for responding ambulances.

- Consistent training and certification as well as, continuing education programs, are not readily available to first responders in Cedar County or are not consistently scheduled.

  - Available sessions are uncoordinated among the EMS agencies.

Key Findings

- **Duplication of efforts** inclusive of personnel, equipment and apparatus, and agency budgets exist. County-wide services can provide economies of scale in purchasing power, staffing, equipment, apparatus, and departmental budgets.

- Billing for services are handled through third-party billing agencies, that retain more than thirteen percent of the fees charged. An estimation for all services reflects a potential savings of nearly $30,000.00 annually.

- Inconsistent **public education** and training programs exist. Public education and training programs are shown to significantly reduce unnecessary 911 calls for service.

Key Findings

- Agency staffing models are a hybrid model of paid, paid-on-call, and volunteers, with multiple agencies "sharing" personnel who work or volunteer with multiple services.
    - **Working and/or volunteering with multiple services** significantly increase the rate of "burn-out" among first responders, while staffing models are **not accurately represented when counting** the same staff members multiple times.
    - Based upon information received in the survey and interviews, numbers of available personnel **average fifteen individuals per agency**, and is **insufficient to provide enough crew** members to staff an ambulance twenty-four hours per day, seven days per week.
    - Interviews with agencies identified the **likely occurrence** of newly training EMTs and Paramedics working and/or volunteering in Cedar County, and upon establishing a level of experience, **transitioning to out-of-county agencies** where pay, benefits, or high call volumes are available.
    - Staffing levels and recruitment and retention are **the primary concerns for the agencies** in Cedar County.

Key Findings

- System status management is not established or implemented formally or informally.
    - No governance exists regarding dispatch procedures for moving ambulances strategically within the county, or into the county during times of either high call volume or low staffing availability.
    - Most agencies identified their busy periods, but none of the agencies account for the busy times and increase staffing, or pre-stage ambulances accordingly throughout the county.

Strategic Plan

- **"….the state of emergency medical services in Cedar County, in the present state, does not appear to be sustainable, long-term, under the current model."**

- MCM Consulting Group, Inc. recommends Cedar County **explore assuming responsibility** for the provision of emergency medical services administrative and operational services for all of Cedar County.

- Cedar County emergency medical services agencies have a valuable commodity: **devoted and compassionate volunteers** interested in seeing EMS succeed. Careful consideration should be taken to **include those who choose to continue volunteering** their time and valuable skills for the betterment of Cedar County.

Recommendations

- Emergency medical services coverage can be provided by **staffing two advanced life support** ambulances twenty-four hours per day.
    - A third ambulance could be provided through volunteer staffing supplementing and assisting with basic life support coverage or splitting crews to provide a third advanced life support ambulance during times of high call volume. The paramedic for this third ambulance would not require additional staffing, instead using either the program administrator or operations supervisor.

Recommendations

- Each advanced life support ambulance should be staffed with one paramedic and one emergency medical technician.
    - The **national average** for an ambulance to arrive at the scene of a reported medical or traumatic emergency following dispatch is **thirteen minutes**. Staffing personnel in station, ready to respond to an emergency in Cedar County, will bring the county emergency medical services in line with the national average response time.

Recommendations

- Personnel **staffing of ambulances** should be configured in an **overlapping schedule allowing for extended periods of coverage** while significantly reducing personnel costs.
    - Methodologies for **hiring staff should include** preference reflected in scoring to qualified, experienced **individuals currently working and volunteering** at a Cedar County emergency medical services agency.
        - The program administrator and operations supervisor should be scheduled on **overlapping schedules** allowing for extended operational periods.
        - The program administrator and operations supervisor certified as paramedics allow for quick response operations prior to the arrival of transport capable ambulances, can provide assistance with high acuity patients, **and provide for staffing of a third advanced life support transport ambulance** during times of high call volume.

Recommendations

- In addition to providing emergency medical services, we are recommending **enhancing emergency medical services responses with existing quick response services** by financially assisting and/or supporting the entities providing services to Cedar County.
    - Quick response services (QRS) agencies and response vehicles decrease response times, decrease the time a patient will wait for care, and can improve patient care outcomes.

Recommendations

- Equip and implement all emergency medical services vehicles with **GPS based system status management** for better resource management and assignment to emergency medical and traumatic calls for service.
    - **Establish governance** policies for both the emergency medical services agency and the communications center related to systems status **management and assignment of ambulances** to calls for service.
    - Establish move up agreements with mutual aid partners (28E Agreements).
    - Establish a reciprocal **staging plan inclusive of pre-determined locations** within the county for movement of ambulances during times of high call volume. Pre-determined location movement of ambulances based on areas of call volumes can reduce the amount of time necessary to establish patient contact when ambulances are committed to medical or traumatic calls for service.

Recommendations

- **Equip all** emergency medical services vehicles with **mobile data terminals** for tracking other EMS units, enhanced communications, and **completion of patient care records** in transit.
    - Completion of patient care records in transit reduces the necessity for crews to complete documentation on return to station and potentially eliminates the need for staff to remain on duty beyond their scheduled shifts. Realized benefits include reduced overtime potential and crew burn out.

Recommendations

- Divide the county into **four equal response zones**, assigning a **station order** for back up emergency medical services of at least **five levels**.

- **The service should not perform non-emergency medical transportation** of patients capable of using alternative methods of transportation to and from routine medical appointments or discharged from medical facilities. This ensures units are always available for emergency response.

Recommendations

- Develop a **mass casualty plan** in coordination with emergency management.
- Consider employing an administrative staff person to conduct the **business of the organization including in-house billing.**
- Develop and implement a **public education program** inclusive of what constitutes an emergency and when to dial 911.
- **Consider** implementation of a **community paramedicine program** to review low acuity, high frequency patient calls for service.

Recommendations

- Develop a training component within the agency to coordinate state certification course for paramedic training as needed, become a designated training facility and host regular EMT and First Responder training courses.

- Develop and implement a quality improvement program to review patient care records for proper documentation, validate appropriate use of state and local protocols, responses, training, and other internal processes.

Conclusions

- Establish legislation providing for a Cedar County emergency medical services organization as the primary EMS response agency for the county.

- Establish an essential services tax.

- Develop a crew staffing plan to provide twenty-four-hour coverage of two advanced life support ambulances, and one volunteer basic life support ambulance.

Conclusions

- Develop a department budget, staffing sufficient personnel for two advanced life support ambulances twenty-four-hours, a volunteer basic life support ambulance, as well as a program administrator and operations supervisor at forty hours.

Conclusions

Rural Emergency Medical Services & Trauma Technical Assistance Center
Ambulance Service Budget Model Tool

Cedar County EMS

You entered the number of emergency and non-emergency trips and number of loaded miles (the red cells) on the demographics page.
If you wish to see the affect of changes to these values, please change them on the demographics page.

EMERGENCIES		Charge	If you change the number in yellow, the other columns will automatically increase by 50 dollars.										
Emergency Calls	2250	$ 350	$ 400	$ 450	$ 500	$ 550	$ 600	$ 650	$ 700	$ 750	$ 800	$ 850
Collections at	100%	$ 787,500	$ 900,000	$1,012,500	$1,125,000	$1,237,500	$1,350,000	$1,462,500	$1,575,000	$1,687,500	$1,800,000	$1,912,500
Collections at	90%	$ 708,750	$ 810,000	$ 911,250	$1,012,500	$1,113,750	$1,215,000	$1,316,250	$1,417,500	$1,518,750	$1,620,000	$1,721,250
Collections at	80%	$ 630,000	$ 720,000	$ 810,000	$ 900,000	$ 990,000	$1,080,000	$1,170,000	$1,260,000	$1,350,000	$1,440,000	$1,530,000
Collections at	70%	$ 551,250	$ 630,000	$ 708,750	$ 787,500	$ 866,250	$ 945,000	$1,023,750	$1,102,500	$1,181,250	$1,260,000	$1,338,750
Collections at	60%	$ 472,500	$ 540,000	$ 607,500	$ 675,000	$ 742,500	$ 810,000	$ 877,500	$ 945,000	$1,012,500	$1,080,000	$1,147,500
Collections at	50%	$ 393,750	$ 450,000	$ 506,250	$ 562,500	$ 618,750	$ 675,000	$ 731,250	$ 787,500	$ 843,750	$ 900,000	$ 956,250
Collections at	40%	$ 315,000	$ 360,000	$ 405,000	$ 450,000	$ 495,000	$ 540,000	$ 585,000	$ 630,000	$ 675,000	$ 720,000	$ 765,000

NON-EMERGENCIES		Charge	If you change the number in yellow, the other columns will automatically increase by 50 dollars.										
Non-emergency Calls	0	$ 250	$ 300	$ 350	$ 400	$ 450	$ 500	$ 550	$ 600	$ 650	$ 700	$ 750
Collections at	100%	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Collections at	90%	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Collections at	80%	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Collections at	70%	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Collections at	60%	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Collections at	50%	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Collections at	40%	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Mileage		Charge	If you change the number in yellow, the other columns will automatically increase by 50 dollars.										
Loaded Miles	67500	$ 3.00	$ 3.50	$ 4.00	$ 4.50	$ 5.00	$ 5.50	$ 6.00	$ 6.50	$ 7.00	$ 7.50	$ 8.00
Collections at	100%	$ 202,500	$ 236,250	$ 270,000	$ 303,750	$ 337,500	$ 371,250	$ 405,000	$ 438,750	$ 472,500	$ 506,250	$ 540,000
Collections at	90%	$ 182,250	$ 212,625	$ 243,000	$ 273,375	$ 303,750	$ 334,125	$ 364,500	$ 394,875	$ 425,250	$ 455,625	$ 486,000
Collections at	80%	$ 162,000	$ 189,000	$ 216,000	$ 243,000	$ 270,000	$ 297,000	$ 324,000	$ 351,000	$ 378,000	$ 405,000	$ 432,000
Collections at	70%	$ 141,750	$ 165,375	$ 189,000	$ 212,625	$ 236,250	$ 259,875	$ 283,500	$ 307,125	$ 330,750	$ 354,375	$ 378,000
Collections at	60%	$ 121,500	$ 141,750	$ 162,000	$ 182,250	$ 202,500	$ 222,750	$ 243,000	$ 263,250	$ 283,500	$ 303,750	$ 324,000
Collections at	50%	$ 101,250	$ 118,125	$ 135,000	$ 151,875	$ 168,750	$ 185,625	$ 202,500	$ 219,375	$ 236,250	$ 253,125	$ 270,000
Collections at	40%	$ 81,000	$ 94,500	$ 108,000	$ 121,500	$ 135,000	$ 148,500	$ 162,000	$ 175,500	$ 189,000	$ 202,500	$ 216,000

Rural Emergency Medical Services & Trauma Technical Assistance Center
Ambulance Service Budget Model Tool

Cedar County EMS

	Last Year	Percent Inflation	Contributed By Community 1	Contributed By Staff 2	Budget
Patient Care					
6101 Salaries-Patient Care	$ 735,840	3.00%		$ -	$ 757,915
6102 Benefits-Patient Care	$ 220,752	3.00%		$ -	$ 227,375
6103 Medical Supplies-Patient Care	$ 5,000	3.00%			$ 5,150
6104 Gases (oxygen)-Patient Care	$ 4,000	3.00%			$ 4,120
6105 Drugs-Patient Care	$ 2,500	3.00%			$ 2,575
6106 Laundry & Linen-Pateint Care	$ 5,000	3.00%			$ 5,150
6107 Equipment Depreciation-patient care	$ 45,067	3.00%			$ 46,419
6108 Equipment Repair-Patient Care	$ 2,500	3.00%			$ 2,575
6109 Minor Equipment-Patient Care	$ 2,500	3.00%			$ 2,575
6110 Training-Patient Care	$ 2,550	3.00%			$ 2,627
6111 Books & Periodicals-Patient Care	$ -	3.00%			$ -
6112 Travel & Entertainment-Patient Care	$ -	3.00%			$ -
6113 Uniforms	$ 3,000	3.00%			$ 3,090
Dispatch					
6201 Dispatch Salaries	$ -	3.00%	$ 131,400		$ -
6202 Dispatch Benefits	$ -	3.00%	$ 39,420		$ -
6203 Dispatch Supplies	$ -	3.00%			$ -
6207 Dispatch Equipment Depreciation	$ 2,350	3.00%			$ 2,421
6209 Dispatch Minor Equipment	$ -	3.00%			$ -
6213 Telephone	$ -	3.00%			$ -
6214 Radio Maintenance	$ -	3.00%			$ -
6215 Radio Antenna (Monthly Fees)	$ -	3.00%			$ -
6216 Cell Phone (Monthly Fees)	$ 300	3.00%			$ 309
6217 Pager (Monthly Fees)	$ -	3.00%			$ -
Administration					
6301 Administration Salaries	$ 116,480	3.00%		$ -	$ 119,974
6302 Administration Benefits	$ 34,944	3.00%		$ -	$ 35,992
6303 Office Supplies	$ 3,500	3.00%			$ 3,605

Conclusions

- Consider short term measures implementation prior to establishing a full time, county emergency medical services agency.
    - Sharing personnel between agencies to establish around the clock coverage/scheduled crews to respond to calls for service.
    - Develop an agency rotation to cover calls among all existing agencies. For example, two agencies could provide coverage Sunday through Wednesday at 12:00 p.m. while another agency provides coverage Wednesday 12:00 p.m. though Saturday at 11:59 p.m.
    - Establish sectors within the county, assigning second and third due EMS inclusive of out-of-county mutual aid agencies as necessary.

Questions