



Milwaukee County Emergency Medical Services

Organizational Profile

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Organizational Description

Milwaukee County Emergency Medical Services (MC EMS) is a section within the Milwaukee County Department of Health and Human Services, Division of Health Programs. The EMS System is a comprehensive, coordinated entity of nineteen municipalities servicing 241 square miles and approximately one million people through the activation of the 911 Emergency Response System.

EMS is an integral part of our health care community administering critical emergency medicine in pre-hospital settings. Milwaukee County EMS is responsible for administering the operation and maintenance of Countywide emergency medical services through contractual agreements with eight of Milwaukee County's nineteen municipalities to provide Advanced Life Support (ALS), paramedic level, emergency medical services. Milwaukee County EMS provides administration, medical control, education, health information management, medical supplies, quality assurance and dispatch guidelines for the ALS and the municipal fire department Basic Life Support (BLS) system.

ALS responders responded to 30,756 calls in 2009, a decrease of 1.5 % from 2008, ending a 5-year trend of increased call volume since 2004.

The Milwaukee County EMS System is a fire department based "tiered response" system. In such a system, two levels of care are provided to patients who call 911. All fire department vehicles – fire engines, ladder companies, ambulances, etc., are staffed at minimum with Emergency Medical Technician – Basics (EMTs). EMTs provide basic life support including CPR, defibrillation, airway management, oxygen administration, bandaging, blood sugar determinations, and administration of medications for asthma, allergic and diabetic reactions. Paramedic ambulances are staffed with at least 2 Emergency Medical Technician - Paramedics. Only paramedics are licensed to provide advanced care, including IV medication administration, advanced airways and other invasive procedures. All fire stations have EMTs on duty; not all stations have paramedics.

Based on the information provided to the dispatcher when the 911 call is placed, the appropriate level of response is dispatched. For patients requiring a paramedic response, the closest BLS unit (usually a fire engine or rescue squad) is sent along with the closest paramedic unit. The basic EMTs usually arrive on scene first, initiate the assessment and provide minor treatment. When the paramedic unit arrives, care is transferred to the higher-level providers working under the supervision of medical control to stabilize the patient and provide transport to the appropriate emergency department.

Fire departments contracted with MC EMS send basic Emergency Medical Technicians to the MC EMS Education Center for initial paramedic education and certification. The course is approximately 1300 hours in length, follows a conventional academic calendar, and includes classroom instruction, clinical rotations, and field supervision. After the field internship, the National Registry Certification Examination for Emergency Medical Technician - Paramedic is administered and licenses are issued by the State of Wisconsin.

The Education Center also provides the required continuing education through CE sessions held for all paramedics three times

a year, classroom refresher sessions held in spring and fall, and through the Internet based distributive learning system.

The MC EMS Communications Center is the critical link between paramedics, ambulances, medical control physicians, hospitals and all other emergency personnel on every paramedic run dispatched. In the event of a mass casualty incident within Milwaukee County and Southeastern Wisconsin, the Communications Center is the designated agency for gathering and disseminating information from incident command to receiving hospitals. The Communications Center is also a resource for paramedics needing consultation.

Our Community Training Center is certified by the American Heart Association and offers a wide range of classes in adult and pediatric Emergency Cardiac Care. Classes are provided for both the professional medical community and the general public.

Milwaukee County EMS partners with the Medical College of Wisconsin to provide medical control to paramedics and basic EMTs. This includes establishing standards of care, medical protocols, standards of practical skills, and administrative policy.

Assessment findings and treatment provided are documented on a comprehensive record for every patient seen by a paramedic unit. The records are stored in a secure relational database and kept confidential per federal and state privacy laws. Implementation of electronic patient care records (ePCR) in some departments enables immediate access and transfer of advanced and basic patient care information. With one of the most sophisticated patient care and outcome tracking systems, information is routinely extracted to meet state reporting requirements and for operational and research purposes. Research completed in our system has initiated changes in national standards for pre-hospital emergency medical treatment.

Beyond responding to individual emergencies, paramedics in our Milwaukee County EMS system are also out in the community providing support at special events. For example, paramedics were assigned to cover 139 Bradley Center events in downtown Milwaukee in 2009. Paramedics are staffed on-site for basketball games, hockey games, concerts, and other events in case emergency medical attention is needed.

Milwaukee County EMS also partners with Froedtert Memorial Lutheran Hospital to provide medical supplies and drugs to the paramedic units. The EMS Communications Center is also located in Froedtert Hospital's Emergency Department.

The Quality Management Section evaluates the system on all levels to determine whether: patients receive the best care possible; students receive the education necessary to function effectively in the field; data is accurate and comprehensive; supplies are effectively used and when used, appropriately documented; policies are relevant; and whether the system is well designed, monitored and effective.

Milwaukee County EMS' core competencies refer to our areas of greatest expertise. They describe our strategically important capabilities providing an advantage in our service environment. These strengths provide us with a sustainable competitive advantage and are difficult for our competitors to imitate.

Milwaukee County EMS Core Competencies:

Infrastructure design supports the entire County of 19 municipalities.

- Contracts with municipalities for provision of EMS services
- Contract with MCW for medical control
- Contracts with medical vendors
- Receiving hospital agreements
- EMS Council
- Regional radio communication
- Emergency management relationship

EMS Operations provides consistent, standardized equipment; facilitates equipment ordering and maintenance; high level of support and coordination for all municipalities' equipment and supply needs;

EMS Communications serves as the regional center for medical direction, multiple casualty incident transport coordination, ED Diversion status, forwards patient status reports and transport information to receiving hospitals; activates Trauma, STEMI and Stroke Alerts for some receiving hospitals

Health Information Management is the centralized repository for all municipal EMS System providers' patient care records. Customized, comprehensive relational database meeting NEMSIS standards with extensive data mining capabilities to support system planning, research, system monitoring, benchmarking, education, improvements in patient care

Education system is customized to meet the specific needs of Milwaukee County EMS paramedic initial and continuing education: instructor lead clinical rotations and field training; high instructor to student ratio; investment into student success through infrastructure support

Centralized Quality Management system establishing a consistent Community Standard of Care, committed partnership with system EMS providers and hospitals, real time access to patient care data allowing for continuous monitoring, extensive data available to develop standards, monitor system compliance, identify problems and successes, drive improvements

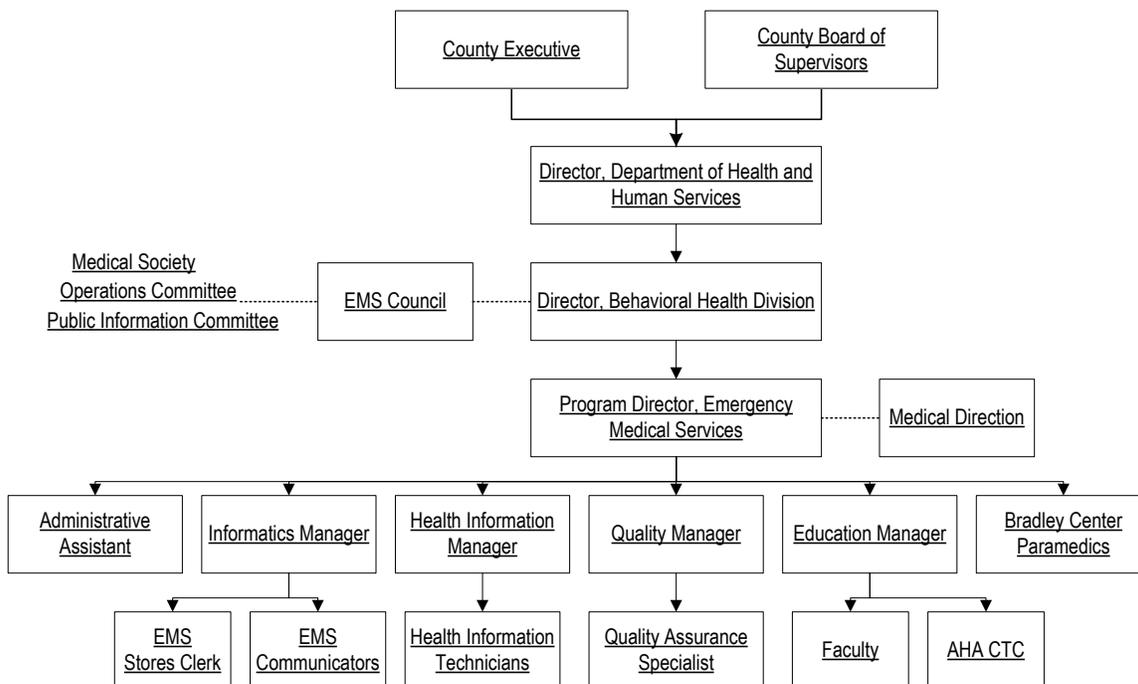
Scientific Discovery is driven by opportunities to effect significant, meaningful change and innovation in prehospital care delivery. Patient safety is ensured through provider education and close system monitoring.

Our purpose, vision, mission and values are listed on the next page.

Milwaukee County EMS Purpose, Vision, Mission, Values

Purpose	To coordinate, review, approve, analyze, and integrate all emergency medical services performed by public and private entities within the geographical boundaries of the county as described in various subsections of chapter 146 of the WI state statutes
Vision	<p>Milwaukee County EMS will demonstrate excellence</p> <p>... in remaining committed to ongoing planning and project management, implementing changes outlined in municipal contracts, steering committee initiatives and department strategic plans</p> <p>...in Communication and Store Services provided by enhanced communication, data delivery, medical supplies and meeting anticipated changes in provision of prehospital care</p> <p>...by maintaining knowledge of the federal Privacy and Security Rules and state confidentiality laws governing the protection of patient care records and thereby serving as a resource to our contracted providers</p> <p>...through the ability to provide real time comprehensive data driving improvements in patient care and scientific discovery</p> <p>... by ensuring excellence in the provision of all services by expanding analysis of currently collected data, which in turn, will drive improvement initiatives</p> <p>... by improving cardiac arrest resuscitation rates and implementing the latest Resuscitation Outcomes Consortium trials</p> <p>Milwaukee County EMS will be firmly established as an industry leader</p> <p>...as an independent entity developing a relationship with a degree granting institution becoming part of an established school of higher learning</p> <p>...embracing alternative teaching/learning methods with access to complicated technological to deliver EMS Education</p> <p>...in migrating toward a paperless supply chain management system; provision of a wireless reporting and data transmission system for paramedics; enhanced medical control through on-scene video/telemetry capabilities</p> <p>...as the data repository of all Milwaukee County ALS and BLS data; in the development of electronic, integrated field and medical command forms</p> <p>...in performance improvement by making data-driven decisions and showing trends in continuous system-wide improvement</p> <p>...by maintaining one of the highest survival rates from cardiac arrest in the nation and publishing scientific discoveries mined by the MCEMS system</p> <p>Milwaukee County EMS will be the premier EMS System against which other EMS Systems will benchmark their own services</p> <p>...providing Education, Health Information Management, Quality Management, Medical Control, Medical Communication, and Supply Management services to EMS agencies within and outside of Milwaukee County</p> <p>...through a collaborative education consortium sharing education content, faculty and technology resulting in the provision of a baccalaureate degree program in emergency health services</p> <p>...providing an infrastructure open to outside agencies enabling them to utilize the communication system, enabling real-time monitoring of the EMS units</p> <p>...through a fully-integrated data collection system, following a patient from the time of the 911 call placement to hospital discharge</p> <p>...by continuing to exceed and set new national standards for prehospital patient care with innovations in education, technology, scientific discovery, and continuous performance improvement</p> <p>...by regularly analyzing and publishing in the scientific literature data captured by the MCEMS patient care database</p> <p>...through collaboration with local hospitals to streamline processes for acute myocardial infarction, stroke, and trauma outcome data</p> <p>...through hospital diversion management and census/activity management</p> <p>... through identification of an infection control officer or coordinator as the contact person for the reporting of hazardous chemical or infectious exposure incidents</p>
Mission	Milwaukee County EMS provides performance excellence in pre-hospital care through education, communications, operations, health information and quality management, and scientific discovery
Core Values	<p>Accountability: We are each accountable for our work and proudly take responsibility in assuring it is done in a customer-focused manner to achieve the mission and vision of Milwaukee County EMS.</p> <p>Advocacy: We are advocates for the individuals we serve in this community who are in need of health care or who may require medical care.</p> <p>Collaboration: We explore opportunities to work together with each other, our clients, other County departments, municipalities, businesses, other governmental units, not-for-profit agencies and academic community.</p> <p>Communication: We strive to communicate in a timely, professional manner to facilitate professional relationships and to share the knowledge and experience of the MC EMS staff and other professionals with whom the EMS Section has established working relationships.</p> <p>Honesty: We fulfill our mission with integrity.</p> <p>Innovation: We work within a dynamic environment, which requires a flexible, creative and adaptable application of systems management.</p> <p>Quality: We are committed to ensuring high quality service to citizens and providing high quality services to the entities we partner with to accomplish results.</p> <p>Respect: We respect the dignity of all individuals working in MC EMS and all individuals receiving services through MC EMS.</p> <p>Stewardship: We utilize fiscal, human, and capital resources in an appropriate, effective and efficient manner.</p>

Milwaukee County Emergency Medical Services Organizational Chart



Employee Profile

Milwaukee County EMS has 47 employees in 24 full-time equivalent positions. The Education Center utilizes community paramedics as adjunct faculty to assist in clinical rotations, refresher class, and practical skills education and testing. The Communications Center also utilizes community paramedics as hourly communicators.

Line staff are represented by one of 2 unions: AFSCME District Council 48, or Staff Nurses' Council.

The Program Director and all managers have bachelor-level or advanced degrees. The Medical Record Technicians have bachelor degrees. All full-time faculty members are RN paramedics. Communicators are EMT basic or paramedics. Medical Control staff are all board certified Emergency Medicine physicians contracted through the Medical College of Wisconsin.

EMS Staff require unique skill sets, making it difficult to recruit from a diversified pool of candidates. 87.2% of our employees are Caucasian, 8.5% African American, 2.1% Hispanic, and 2.1% Asian American; 68.1% of the staff are male and 31.9% female. With the exception of RNs and the Health Information Manager, all Milwaukee County employees also have residency requirements, further restricting the pool of qualified candidates for employment.

Key benefits for employees are health and dental insurance, as well as a pension plan for vested employees.

Safety concerns are limited to the staff members who come into contact with patients. Significant exposures are a continuous risk,

for which personal protective equipment is not only provided, but also required.

Major Technologies, Equipment and Facilities

Milwaukee County EMS is located on the Milwaukee Regional Medical Center grounds. Education classrooms are also located in the building, while clinical rotations take place in various community hospital emergency departments, operating rooms, the Medical Examiner's Office, and paramedic ambulances. The EMS Communications Center is located in Froedtert Memorial Lutheran Hospital's Emergency Department. Medical Control physicians work and have offices in Froedtert Memorial Lutheran Hospital's Emergency Department. On-line medical control is provided via radio and/or cell phone contact through the Communications Center in Froedtert's Emergency Department. The paramedic providers are employees of and respond from the fire department stations of their municipality.

Milwaukee County paramedics use state of the art monitoring and diagnostic equipment in the field. ZOLL Medical electrocardiographic monitors are capable of predicting the probability of a patient having a heart attack. The monitors are also equipped to transmit the ECG to the receiving hospital, enabling the cardiac cath team to be prepared when the patient arrives at the hospital. Pre-hospital 12-leads have reduced time to definitive treatment by up to 30 minutes in some system hospitals. The ZOLL monitors also are equipped with oxygen and carbon dioxide monitors to enable detection of accurate placement of advanced airways for patients in cardiac arrest. Blood glucose monitors enable paramedics to treat unresponsive diabetic patients in the field.

Milwaukee County Paramedics are licensed and equipped to treat numerous medical and traumatic emergencies. They administer advanced cardiac life support (ACLS) medications, establish and maintain advanced airways, administer cardioversion and defibrillation, establish intravenous access and in difficult cases, intraosseous access. Advanced invasive procedures include pericardiocentesis and thoracentesis.

The Communications Center relies heavily on radio and computer technology. Communication with ambulances is through voice radios. Cardiology monitoring is transmitted via telemetry radios. All calls are logged and time stamped on a computerized "base card". Computerized medical command forms are generated for each request for medical control. Patient information from the computerized report and the "base card" feed into an automatic paging system, notifying hospitals of incoming patients and resources required. This information is stored digitally for CQI, information management, and educational purposes.

The Health Information Management and Quality Management sections rely heavily on the Milwaukee County EMS Oracle web-based relational database, the record scanning and imaging system, the ECG web-based file transfer protocol and server, and Microsoft Office software. Milwaukee County EMS also maintains a website which provides access to system information. The website serves as an archive with public and provider access to current dispatch protocols, standards of care, medical protocols, practical skills, medical standards for special operations, and operational policies. Process and clinical performance dashboards, as well as other items pertinent to the EMS Community are also posted to the web site.

Much of a paramedic's initial and continuing education is provided through a web-based MC EMS Online Learning and Information System. Education is provided through on-line lectures and

presentations. This allows paramedics to complete a portion of their continuing education requirements at their own pace, while on duty at their station, and has decreased the cost of overtime paid by the fire departments to send their employees to class while not on duty.

Milwaukee County EMS is a section of the Division Behavioral Health Services within the Department of Health and Human Services. The DHHS Director reports to the County Executive, who is elected every four years. The County Board is the policy-making body comprised of 19 elected County Supervisors.

Regulatory Environment

Chapter 97 of the Milwaukee County Ordinances governs the EMS System. Chapter 97 identifies an EMS Council, chaired by one of the County Board Members to assist the Section of EMS and other emergency medical providers within the county. Assistance shall include: planning, review and evaluation of EMS; making recommendations regarding the operation of the EMS delivery systems to the Section of EMS and to the Health and Human Needs Committee of the County Board of Supervisors; recommending policy relating to the coordination, oversight, and delivery of EMS within the county; and acting as the coordinating body for all pertinent local, state, or federal grant applications pertaining to the provision of EMS.

MC EMS is considered a covered entity by the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA). Privacy and Security Rules establish regulations for the use and disclosure of Protected Health Information (PHI) and security safeguards for electronic PHI.

Regulatory Environment

Regulatory Agency	Frequency of Review
State of Wisconsin, Division of Public Health, Bureau of Local Health Practice and EMS	Every 2 years
Food and Drug Administration and Drug Enforcement Agency	Every year
Safety and Buildings Division, Department of Commerce	Ongoing
Clinical Laboratory Improvement Amendment (CLIA) Waiver	Every 2 years
Federal Communications Commission licensure	Every 10 years, with ongoing monitoring
American Heart Association Community Training Center Accreditation	Every 2 years
Health Insurance Portability and Accountability Act (HIPAA)	Upon request

Key Customer Groups, Suppliers and Partners

Milwaukee County EMS has several key customer groups with very different requirements and expectations.

Milwaukee County EMS collaborates with Medical College of Wisconsin researchers and ZOLL in scientific discovery, improving technology and patient care. Our most important distributors provide our medical supplies and hardware. We rely on them for Just-in-time accurate delivery.

Milwaukee County EMS is the primary provider of 911 ALS services in Milwaukee County and the largest ALS system in the State of Wisconsin. The ALS System responded to 30,756 calls in 2009, resulting in 20,577 ALS transports to local emergency departments. The system has experienced a 5-year continuous trend of increasing calls. Four private ambulance companies respond to ALS calls not generated through the 911 System. (Some calls go directly to the company's 7-digit phone number). The private ambulance companies also provide EMS coverage at local special events, i.e. festivals, bike rides, sporting events, etc., as do some of the municipal fire department EMS providers.

The EMS Education Center competes with the Wisconsin Voc Tech System and the Brookfield Fire Department training center. The EMS Education Center graduates one class every year, with an average of 20 graduates per class. The Education Center also provides the mandatory continuing education for the 300 paramedics licensed to the system, as well as for some paramedics not licensed to the System. 48 hours of education covering specific topics is mandated in a 2-year licensing period.

The Education Center/ American Heart Association Community Training Center (AHA CTC) is relatively small, but allows us to provide necessary certifications – Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS) and cardiopulmonary resuscitation (CPR) – internally without contracting with another CTC to provide the education. The CTC also provides 1st Responder training and CPR certification to other County departments.

The EMS Communications Center is the largest in the State of Wisconsin providing ambulance-to-hospital communications. In the event of a mass casualty incident within Milwaukee County and Southeastern Wisconsin, the Communications Center is the designated agency for gathering and disseminating information from incident command to receiving hospitals.

Key Customer Groups

Stakeholder	Requirements	Requirement Differences
Patients	Well educated & equipped paramedics who respond rapidly and provide high quality care	Diverse population. Paramedics expected to respond to and interact with all groups and segments.
Active Milwaukee County Paramedics	Adequate supplies, well-maintained equipment, continuing education, consistent direction; medical oversight	Paramedics represent 8 different municipal fire departments
Constituents	Efficient, cost-effective, high quality EMS services for their communities	
Froedtert Memorial and Children's Hospitals	Notification of incoming ambulance, aeromedical transports, CHW staff paging, notification of medical and/or trauma patients	Knowledge of Trauma Paging algorithms, radio and other paging systems
Municipalities	Education programs preparing students to pass examinations and provide high quality care at ALS and BLS levels; medical oversight	Fire department work schedules create challenges for scheduling educational activities
Other Milwaukee County departments	AED program administration, AED Certification, maintenance, QA, CPR certification, 1 st responder certification, train the trainer	Students entering class with variety of education levels and experiences, from GED to bachelor degrees
Outside Counties/ Public	EMS Education	Curriculum adaptations to meet needs of County/ public
Receiving Hospitals	Turnover of patients to appropriate facility with appropriate pre-hospital emergency care and complete documentation Notification of patient transport and resource needs	Specialty services of receiving hospitals – triage/transport destinations; disaster coordination
Students	Education programs preparing them to pass certification exams and to provide high standard of care; medical oversight	Students entering class with variety of education levels and experiences, from GED to bachelor degrees
WHEPP and Region 7	Communication capabilities to enable MCI and disaster coordination as well as sentinel event review; National Disaster Medical Service Bed Polling	Interoperability of radio systems
Private Ambulance Services	System information & representation Policy updates Performance Improvement	Contract with City of Milwaukee; no Milwaukee County contract
Milwaukee County Emergency Management	System information; medical oversight; event notification	Cross charged for services; high-level collaboration
General Mitchell International Airport Fire Department	Education programs preparing students to pass examinations and provide high quality care at BLS levels; medical oversight; informatics	Non-transporting department, unique disaster preparedness
Milwaukee County Sheriff's Department	AED program administration, AED Certification, maintenance, QA, CPR certification	Law enforcement environment; non-medical environment
128 th Air National Guard Fire Department	Medical oversight, informatics; performance improvement	Federal agency; Department of Defense; Homeland Security
Bradley Center	Special Event paramedic services	Non-transporting agency; fixed health care first aid center

Milwaukee County EMS Key Suppliers and Partners

Supplier	Product	Requirements	Relationship - Communication
Milwaukee County Emergency Management	Information Disaster preparedness & resource allocation	24-hour 365 availability; Information and resources	Collaborative; phone; e-mail; meetings; radio
EMP	EMS supplies	Timely & cost effective	Phone, e-mail
EMS Clinical Sites	Supervised patient care, skill opportunities	Outlined in contract	Contract
Froedtert Memorial Lutheran Hospital	Drugs and medical supplies	Outlined in contract	Work with pharmacy and purchasing to make supplies available; Lawson ordering system, e-mail
General Devices	Rosetta, UHF radio telemetry transmission device; CarePoint doctor consoles	Outlined in specs	Phone, e-mail, fax
Information Mgt. Systems Division	Data and radio communication support	Hardware, maintenance, software support	Phone, e-mail, pager
i-Visions	Computer programming	Timely completion	Contract – meetings
Medical College of Wisconsin	Medical Direction	Qualified, licensed EM physicians able/willing to meet contract obligations	Contract – phone, e-mail, meetings
Municipal Fire Departments	EMS responders, ambulances	Outlined in contract	Contract – phone, e-mail, meetings
PCR Printing	EMS Run Report Form	Outlined in specs	Purchasing, IMSD Document Svcs., phone, e-mail, inter-office mail
Procurement	Office supplies & equipment	Timely & cost effective	Advantage purchasing system, phone, e-mail
Receiving Hospitals	Patient outcome information	Receiving hospital agreement	Fax, mail, phone; WITrac
ZOLL Medical	Monitor/ defibrillator	Outlined in specs/ service agreement	Partnership – phone, e-mail, meetings
Electronic patient care record vendors	Electronic patient care records	Accurate capture of secure patient data; transfer of validated, accurate data to MC EMS and WARDS	Phone, e-mail, meetings, fire department contracts
American Heart Association	Emergency Cardiac Care programs for Southeastern Wisconsin	Meet AHA requirements for CTC credentialing	E-mail; phone
Verity, Inc.	Scanning Software	Technical support, software upgrades	Phone; e-mail

Organizational Success Factors and Challenges

Success factors are established and tracked for all EMS sections.

Fire departments are best equipped to respond to 911 emergencies for several reasons: the fire departments are strategically located throughout the County, are staffed 24-hours with trained personnel, have the dispatch accessibility, and have the shortest response times. The system has a large paramedic pool, continuous access to medical control and specialized rescue teams. The fire departments are supported by tax levy, ensuring a minimal level of support, and they do recover some costs through billing for services.

The EMS Education Center has a pass rate above state and national average for paramedic graduates taking the National Registry Certification Examination. The in-field training period provides the best experience for students due to the volume and type of calls, and the diversity of the population. The faculty members are highly qualified because are all RNs with emergency department experience, and all are licensed paramedics with field experience. One of the greatest challenges for the Education Center is due to scheduling problems. Fire fighter paramedics

work 24-hour shifts in various combinations of on and off days. Scheduling education sessions for all paramedics to attend on off days limits the number of opportunities for the education sessions. Another challenge is due to the length of the initial training program. Fire departments are under continuous budget constraints and have expressed hardships in paying employees to go to school while having to hire another firefighter to cover for them on the engine. The Education Coordinator is continually investigating more creative options for educating paramedics with less time away from their work duties.

The AHA CTC, although small, has access to the resources of the Milwaukee County EMS Education Center. Our relationship with medical college emergency physicians and researchers has enabled us to maintain a leading role in providing evidence based education and emergency cardiac care.

The Milwaukee County EMS Patient Care database contains assessment, treatment, and outcome information on all patients since 1990. The information, stored in an Oracle database, has yielded a vast amount of information used to monitor the system, plan for the future, support research resulting in changes in

national standards of care, and help support the system by gathering billing information.

Information extracted from the database has allowed us to establish system benchmarks, such as the Utstein cardiac arrest survival statistics, system size and response statistics, education activity and results, clinical performance measures, operational performance measures, paramedic skill proficiency and “report card” information to provide feedback to key partners. Many EMS services throughout the nation don’t have the capability of collecting and publishing information at the level of MC EMS, so benchmarking within the industry is sometimes difficult.

Organizational challenges and corresponding initiatives are listed in the table on the next page.

Performance Improvement

Milwaukee County EMS uses a systematic approach to performance improvement. The approach follows the DMAIC philosophy of Six Sigma. A problem is identified/defined; the current status is measured against the target status; data is

gathered and analyzed; improvement plans are developed and implemented; results are reanalyzed for improvement; positive improvements are controlled or new improvement plans are developed for implementation and reanalysis.

MC EMS seeks to continuously improve existing processes through scheduled policy review and updates. Goals are established, reviewed and reset on an annual basis. EMS staff members participate on national, state, county, and local outside committees focusing on technical innovation, best practices, research, education, system planning and performance improvement. Where information is available, the system benchmarks itself against other EMS providers.

Organizational knowledge and improvements are shared through meetings with staff, management staff, section, and individual employee meetings. Information is also shared through written communication: memos, e-mail, policy changes and manual updates. Other change and improvement reporting mechanisms include county level department meetings, County Fire Chief Association meetings, and the outside local, state, and national committee meetings

Challenges and Corresponding Initiatives

Rank	Challenge	2007 Initiative	Progress with Next Steps for 2009
1	Customers	Survey customers at multiple levels to determine needs and satisfaction. Design survey to meet customers needs/capabilities. Educate customers: routine scheduled system updates; improve reports to committees with EMS representation; annual report	Results have been reviewed and analyzed Develop action plans for any results below 3.5 on 5 point Likert scale Explore publishing benchmarks and achievements in local, state, and national venues
2	Operations	Develop and implement EMS Dashboard with budget, operations, and performance improvement components	Review initial dashboard results for levels and trends Revisit established standards for appropriateness and adjust as necessary Develop and implement action plans to meet established standards Revise and implement HIPAA policies and procedures for compliance with legislative changes in the privacy and security of health information: American Recovery and Reinvestment Act of 2009, Medical Identity Theft and Red Flag Rules.
3	Patients	Monitor compliance with current standards using current reporting mechanisms Work with providers to implement corrective action plans Benchmark against WARDS	Review initial clinical compliance results Develop action plans to improve results Benchmark MC EMS clinical compliance monitors against WARDS, where possible Establish relationships with EMS agencies outside Milwaukee to compare patient care benchmarks
4	Financial	Collect and track revenue information from municipalities* Implement inventory tracking Implement high-level budget monitoring	*Discontinue, as budget process change rendered this inapplicable Develop inventory tracking sites, locations and items Begin tracking supply orders and inventory capital equipment Continue monthly budget briefings with EMS Accountant
5	Partners	Increase collaboration through two-way accountability through information exchange, defining roles and responsibilities and development of common goals	Develop report cards from contract specifications to provide feedback to partners
6	Technology	Increase Milwaukee County's role in management of uploaded patient care and ECG data Implement electronic health records Develop a proactive approach to technology upgrades Meet new FCC frequency rebanding requirements	Update all software to current standards Reconfigure fire station computers for consistency Work with e-PCR vendor to ensure data collection is complete and accurate for transfer to EMS database Develop a technology plan Continue to participate in Milwaukee County Radio Advisory Committee, establishing policies and procedures Participate in rebanding process with lead agencies with an expected completion date in early 2010
7	Facilities	Continue to explore with partners and stakeholders a definitive facility to meet not only our current operational needs, but also our anticipated growth	Same
8	Staffing	Develop effective recruitment, retention, and succession plans Design and offer employee development programs for current staff	Same