



Public Health
Seattle & King County

HEALTHY PEOPLE. HEALTHY COMMUNITIES.

**Division of
Emergency Medical Services**



Quality Management Plan

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Mission and Values

It is the mission of the Emergency Medical Services Division to increase survival and reduce disability from out-of-hospital medical emergencies in King County. This is achieved through partnerships with other agencies, providing the highest quality of patient care and innovative leadership.

The mission is best accomplished through the application of organizational values. These values can be expressed as follows:

1. A commitment to quality, beginning with a goal of providing quality patient care. We endeavor to achieve quality in virtually every program or service we provide.
2. Providing services in an efficient, systematic, and fiscally responsible manner is a value that helps to ensure we receive the respect and support needed to accomplish our mission.
3. Using innovation, creativity, evaluation, and research to guide our mission, we search for ways to improve how services are delivered and how patient care is provided.
4. This system is a unique and complex blend of county, cities, fire districts, hospitals, individual paramedics, emergency medical technicians (EMTs), dispatchers, physicians, private ambulance companies, citizens, elected officials, and countless others dedicated to emergency medical services. Maintaining open communications and a commitment to cooperation and consensus building with these entities is essential to our continued success.
5. Individual success equates to organizational success. When individuals within the system succeed in their role, the system as a whole succeeds. The EMS Division encourages and supports individual excellence.
6. Service to the citizens of King County and our partners in the EMS community is a strongly held value. For some, the service is to provide direct patient care. For others, the service is to support the regional network of providers delivering care.
7. Our EMS system has always valued scientific research, evaluative studies, and data analysis. We actively participate in the gathering of this kind of information for possible application in the field of EMS.

Introduction:

Background: In 1996, the State of Washington approved the EMS Division's *Quality Plan* for the Division of Emergency Medical Services in King County in accordance with Washington Administrative Code (WAC) 246-50. The plan was developed to provide a comprehensive and consistent review program that would oversee the practice of quality emergency medical services in the region and mitigate medical malpractice in an already established high standard of patient care. The plan was designed to meet, and where possible, exceed the requirements set by the State of Washington.

Most EMS provider agencies had already established some aspects of a quality improvement program, including ongoing review of Medical Incident Report Forms (MIRFs) and evaluation of sentinel cases. However, the framework of Quality Plan was designed to build on the already existing foundation, yet allow for improvements and expansion that reflected changes in technology, the needs of the system, and research-based outcomes.

The *1998-2003 EMS Strategic Plan*, a document that was reviewed and approved by the King County Council, further supported the EMS Division's efforts to create a dynamic quality management system by including the development of a 'uniform EMS quality management plan' as a major strategic initiative. This initiative provided continued support for the assessment, development, and maintenance of quality improvement activities, including data collection, review of paramedic and EMT protocols, and Basic Life Support (BLS) run review enhancements.

Update to the Plan: The EMS Division's *2005 Quality Management Plan* is designed to update the currently approved *1996 Quality Plan* by documenting the quality management networks that are now in place under the auspices of the EMS Division and in relationship to the thirty-four EMS providers in King County. These networks are evaluated by the EMS Division on an ongoing basis, in cooperation with the local area EMS agencies, to identify and enhance the process of EMS quality improvement across the county. It is the intent of the EMS Division to continue to enhance this already established standard.

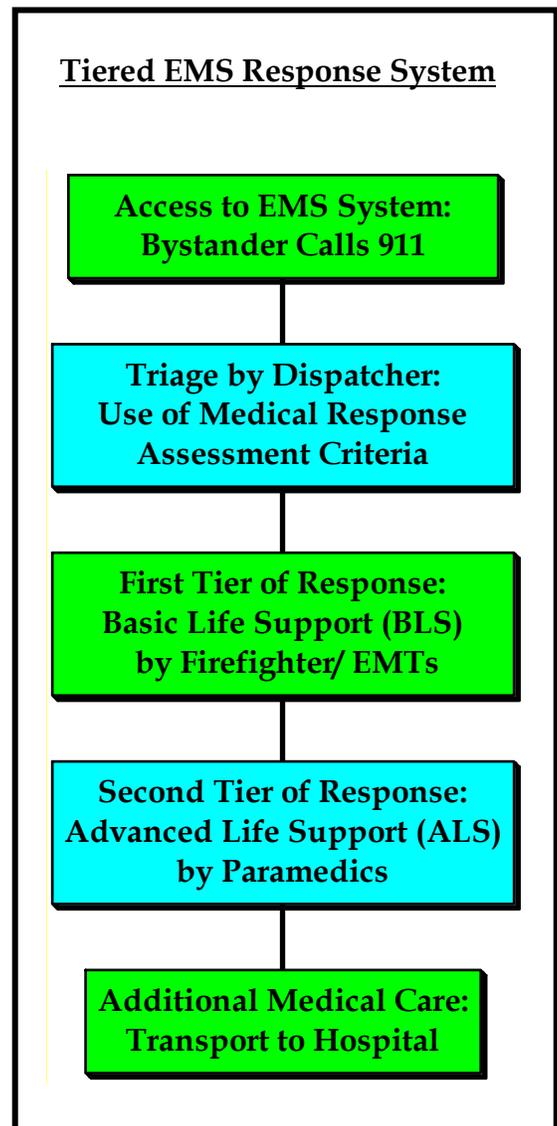
The state-approved *1996 Quality Plan* also provides exemption from discovery for quality review practices conducted by EMS agencies in King County when the format for confidentiality of materials is followed. The scope of the *1996 Quality Plan* focused on issues of patient care and patient outcome, and supported the mission of the EMS Division and Public Health - Seattle & King County. Many additions, changes, and improvements have been incorporated since approval of the plan and they are now reflected in the newly updated *2004 Quality Management Plan*.

EMS System Review:

The **Emergency Medical Services (EMS) / Medic One** system provides an internationally regarded regional service to the citizens of Seattle and King County, responding in an area of over 2,000 square miles and serving a population of approximately 1.7 million. The EMS/Medic One system operates in a coordinated partnership between King County, various cities, fire districts, private ambulance companies, local area hospitals, and others involved in providing high quality pre-hospital medical care. The EMS response system is tiered to ensure 911 calls receive care by the most appropriate care provider.

There are five **major components** in the regional tiered EMS/Medic One system and they are described below:

- **Universal Access:** Patient or bystander accesses the EMS system by calling 911 for medical assistance.
- **Dispatcher Triage:** Calls to 911 are received and triaged by trained professional dispatchers in five dispatch centers throughout King County. A majority of dispatch centers use the Criteria Based Dispatch (CBD) Guidelines to provide uniform triaging to callers.
- **Basic Life Support (BLS) services:** BLS personnel provide the first level of response to most calls and are staffed by firefighters trained as Emergency Medical Technicians (EMTs). BLS units arrive at the scene in an average of about six minutes.
- **Advanced Life Support (ALS) services:** ALS services are provided by six paramedic agencies responding to patients with more critical or life-threatening injuries and illnesses. Paramedics respond to about 30% of all EMS responses.
- **Transport to Hospitals:** Some patients require additional medical care and are taken



to hospitals for further evaluation.

Quality Management Organization:

The following describes the general EMS quality management infrastructure in King County. It reflects the complex, interactive nature of providing EMS care in the region. There are five major sections: Regional Medical Control, Advanced Life Support (ALS) Program, Basic Life Support (BLS) Program, Emergency Medical Dispatch, and Regional Services. Confidentiality of the proceedings has been recognized by the State of Washington as a quality assurance activity consistent with RCW 43.70.510. Committee members affirm their pledge to maintain confidentiality of proceedings.

A. Regional Medical Control

The **Medical Program Director (MPD)** is responsible under the Washington Administrative Code (WAC) and Revised Code of Washington (RCW) for medical control and direction of all certified EMS personnel in King County. This is accomplished through a delegation of medical oversight to individual medical directors of paramedic programs and emergency room-based, on-line medical control for ALS personnel. The MPD also oversees the development of policies and procedures related to the provision of ALS and BLS services, and provides written treatment guidelines for BLS personnel.

The medical program director evaluates a variety of new or existing programs and activities involving dispatchers, EMTs, paramedics or public responders as part of an overall approach to system oversight and improvement. These evaluations require ongoing review of medical incident report form (MIRF) data, and/or focused data collection.

Although there is no 'governing body', the Medical Program Director utilizes the Medical Directors' Committee as a forum for conducting ALS discussions regarding patient care. The committee is comprised of individual program medical directors and the medical services administrator from each ALS provider agency. The committee meets on a quarterly basis to address pertinent medical issues, including:

- Review of current pre-hospital medical practices within the county.
- Evaluation of new techniques, equipment, and medications.
- Recommendation of procedures where consistent practice throughout the county would be appropriate.
- Suggestions to enhance patient care (supported by MIRF data).
- Review of sentinel events.
- Oversight of continuing medical education.

The Medical Program Director meets regularly with the BLS agency chiefs to discuss EMT protocols, EMT training, and BLS-related sentinel events (see Section C for details). The Medical Program Director also meets regularly with the Dispatch Review Committee to discuss Emergency Medical Dispatch (EMD), training, and sentinel dispatch events (see Section D for details). The MPD and Medical Committee approve the Criteria Based Dispatch (CBD) Guidelines when revised, approximately every three years.

B. Advanced Life Support (ALS) Program

General Program Description

The goal of quality improvement in ALS is to ensure the provision of the highest level of paramedic services in King County, an internationally recognized program. There are a variety of components to the paramedic program that create a solid foundation based on standardized training, provide ongoing program oversight, and establish a system of quality management.

Major quality improvement activities for ALS services in King County:

- Paramedic Assessment and Oversight
- Sentinel Event and Inquires
- ALS Medical Incident Report Form (MIRF) Review

These activities are monitored by the individual medical program directors and supported by the King County Medical Program Director (see Section A. Regional Medical Control). Paramedics are required to complete a standardized training program and recertify on a regular basis. The following sections detail the specifications.

Paramedic Training and Certification

Initial paramedic training and certification is completed through the Harborview Medical Center (HMC)/University of Washington. Training exceeds 2000 hours.

- Didactic (lectures, labs, medical rounds, tutorials)
- Internship and Evaluations
- Field, Emergency Room, Critical Care Unit Experience

Paramedic Recertification Requirements

Paramedics in King County recertify every two years, including the following:

- Fifty hours of Continuing Medical Education (CME) per year which must include at least six hours of pediatric training every two years.
- Successful completion of at least twelve intubations and thirty-six IVs per year.
- Skills review and testing at least once each recertification period to include CPR, airway management, spinal immobilization, back-boarding, intraosseous cannulation, and tracheostomy review.
- Passing score on the recertification examination given by HMC/UW.

Paramedic Continuing Medical Education (CME)

The objective of the CME program is to provide continuing medical education to paramedics consistent with the quality of their original training from HMC/UW. Harborview offers thirty hours of CME (total sixty hours during the two year recertification period) per year which contains at least the following:

- Courses directly related emergency medical care.
- Courses which include the specialties of neurology, cardiology, pharmacology, pediatrics, trauma, respiratory and OB-Gyn.
- Skills courses which include intraosseous cannulation, ACLS (Advanced Cardiac Life Support), CPR (Cardio Pulmonary Resuscitation), airway management, spinal immobilization, back-boarding, tracheostomy review, Pediatric Advanced Life Support (PALS), Pre-hospital Trauma Life Support (PHTLS).
- Courses related to personnel and patient safety and injury prevention, legal aspects of providing health care, and causes of malpractice claims.
- Operational issues such as driving courses are provided by the individual agencies.

Documentation

- Documentation of CME, practical and invasive skill requirements are presented to the certifying body prior to the recertification exam.

- Excellent documentation is the requirement of the professional paramedic and the responsible agency, including the medical incident report form. Agencies must keep legible, accurate, and complete records.

The EMS Division contracts with four of the six paramedic agencies that provide ALS services in King County: Bellevue Fire Department, Redmond Fire Department, Shoreline Fire Department, and Vashon Fire Department. These contracts specify that each ALS agency not only participate in regional quality improvement activities, but have specified and documented internal quality review activities (including management of sentinel events and required reporting procedures). Although one ALS agency, King County Medic One, operates directly under the auspices of the EMS Division, the paramedic program is held to the same system standard. There is no direct contract with Seattle Fire Department for paramedic or EMT services, although the EMS Division still maintains the responsibility for medical direction and quality control.

C. Basic Life Support (BLS) Program

General Program Description

The goal of quality improvement in BLS is to ensure the provision of the highest level of basic life support services in King County. There are a variety of components to the BLS program that create a solid foundation based on standardized training, provide ongoing program oversight, and establish a system of quality management. This requires considerable coordination and communication between agencies.

Emergency Medical Technician (EMT) Training and Certification

Initial basic EMT training and certification is coordinated by the EMS Division. The training is derived from the National Department of Transportation Standardized Course and includes ~110 hours of lecture and skills. EMTs are certified by the Washington State Department of Health. The Basic EMT Training Program incorporates a variety of methods to ensure quality improvement. This comprehensive approach allows for any necessary changes in order to maintain a high level of quality training. These methods include:

- EMT instructor workshops to maintain continuity amongst instructors throughout King County.
- Use of Senior EMT Instructors (SEIs) to maintain a high level of quality instruction.

- Evaluation of SEIs by students and instructors, evaluations of classes by students, evaluations of instructors by SEIs and students.
- Use of Small Group Instructional Diagnosis (SGID) by the students to determine their satisfaction and needs in current and future classes.
- Evaluation of MIRF data to determine if what is being taught is making its way to the field.

EMT Competency Based Training

The approved method for recertification in King County utilizes the Washington State-approved King County Competency Based Training (CBT) Program. EMTs recertify every three years. Testing is done by a series of Competency Based Training (CBT) exercises coordinated throughout the recertification period by the hiring agency. The King County Medical Program Director is charged by state law with auditing the Competency Based Training (CBT) Program. The Competency Based Training Program (CBT) for EMTs utilizes a variety of methods to ensure quality improvement. These include:

- CBT instructor workshops to maintain continuity amongst instructors throughout King County.
- Use of Education Coordination Officers (ECOs) in instructor and evaluator audits and the recertification process to maintain continuity in training among various agencies in King County.
- Evaluations of the curriculum by instructors and students, and evaluation of instructors and evaluators by students and ECOs.
- Use of standardized, high-technology CBT curriculum to maintain continuity of continuing education for EMTs throughout King County.
- Quarterly and annual CBT summary reports to track compliance and exam performance.
- Agency EMT/CBT record audits performed by ECOs in fire stations to assess compliance with the CBT program and determine training needs.
- Evaluation of MIRF data to determine if what is being taught is making its way to the field.

EMT/Defibrillation Program

This specialized program is designed to train and evaluate EMTs in the most efficient method of defibrillation. Every case in which an EMT attempts defibrillation is reviewed by the designated medical director and paramedic supervisor of the program for exceptional medical treatment and potential improvements. System evaluation of the EMT/Defibrillation Program is conducted at a regional level through the EMS Division and includes case review, documentation, and timely feedback/remediation using an up-to-date database designed specifically for this function.

Placement and review of Automatic External Defibrillators (AEDs) in the general population, otherwise known as the PAD program, is authorized by the Medical Program Director. The Medical Program Director, along with PAD staff, is responsible for evaluating the program and monitors regularly.

The EMS Division contracts with thirty-two of the thirty-four BLS agencies that provide BLS services in King County. These contracts specify that each BLS agency not only participate in regional quality improvement activities, but have specified and documented internal quality review activities (including management of sentinel events and required reporting procedures). There is no direct contract with Seattle Fire Department or the Port of Seattle for BLS services, although the EMS Division still maintains the responsibility for medical direction and quality control.

D. Emergency Medical Dispatch (EMD) Program

Program Description

The goal of EMD Quality Improvement is to increase the incidence of appropriate dispatching for EMS units and enhance the EMD program and training for dispatch agencies. The Dispatch Review Committee (DRC) regularly reviews both trending and sentinel event data to monitor dispatch activities. Results are used to evaluate the quality and impact of EMD training provided by the EMS Division and the consistency and appropriateness of the use and application of the Criteria Based Dispatch (CBD) Guidelines. These guidelines offer a mechanism for providing standardized dispatching across the county. The QI process includes a feedback system to dispatchers, supervisors, and the EMS Division. It also provides an opportunity to conduct QI in key areas and conduct system wide review in areas where there is over utilization of ALS services.

Quality improvement for Emergency Medical Dispatch in King County consists of the following broad categories:

- Individual case/tape review.
- Review of sentinel cases by dispatch agency and/or the DRC.
- System review of compliance data.
- Random or selected review of EMD cases/tapes.
- Evaluation of EMD Training.

Emergency Medical Dispatcher (EMD) Training

Initial training and dispatch continuing education is coordinated by the EMS Division. Basic training is a 40-hour course which includes 8 hours of anatomy and physiology and 32 hours of training in use of the CBD Guidelines. Basic training is team-taught by a dispatch instructor and a certified paramedic. Instruction is both didactic and scenario-based and is focused on six major categories of medical illness and trauma, including Life Threat, Neurological, Medical Emergencies, Bleeding/Gynecological/OB, Pharmacology and Trauma.

Dispatch Continuing Education

Dispatchers and call receivers are required to attend eight hours of continuing education annually. Continuing education courses are offered either in-classroom or as web-based training. The EMS Division maintains training records for all EMD training in King County, outside the city of Seattle.

E. Regional Services Programs

The EMS Division is committed to providing exceptional regional emergency medical services in King County. The following programs reflect a commitment to a comprehensive regional quality improvement approach to service delivery.

Center for the Evaluation of Emergency Medical Services (CEEMS)

The CEEMS program seeks federal grants and private donations to support research in the field of pre-hospital emergency care for cardiac events. CEEMS collaborates with faculty, residents, and students from the University of

Washington. The focus of CEEMS research has been to evaluate each of the links in the chain of survival.

Central Region Emergency Medical Services and Trauma Care Council Quality Assurance Committee

The Central Region Quality Assurance Committee was established to meet the requirements of RCW 70.168.90 and WAC 246-976-910. The Quality Assurance Committee reviews system performance and treatment of major trauma in the Central Region. Major trauma is defined as injuries that are potentially life threatening and require immediate medical or surgical intervention and treatment.

The focus of the Quality Assurance Committee is to improve patient care and outcome through analysis, including:

- Patient distribution patterns, including severity of injury
- Pre-hospital response, scene and transport times
- Pre-hospital triage and inter-facility transfers
- Outcomes compared to predicted outcomes and published studies

Data is managed through contract between the Central Region EMS & Trauma Care Council and the Central Region Trauma Registry located at the Harborview Injury Prevention Center. The Central Region Trauma Registry contains trauma center data provided by the Washington State Department of Health Trauma Registry and pre-hospital data provided by the EMS Division of Public Health - Seattle & King County.

Confidentiality of the proceedings of the Central Region Quality Assurance Committee has been recognized by the State of Washington as a quality assurance activity consistent with RCW 43.70.510. Members and guest affirm their pledge to maintain confidentiality of the Committees proceedings upon signature of the attendance roster. Registry staff distributes and collects confidential printed materials at each meeting.

Administrative Quality Assurance Programs

The EMS Division oversees a variety of quality assurance activities to ensure appropriate and efficient administration of EMS personnel, finances, and long-term planning. The following reflects a few of these programs:

Administration of Contracts: The Administration section is responsible for the receipt, review, and processing of the ALS/BLS contracts in a timely manner to ensure compliance in the distribution of EMS levy funds.

Risk Management: The EMS Division follows the Risk Management Policy of Public Health - Seattle-King County. Other agencies contracted with but not directly administered by the EMS Division follow the Risk Management Policy of their individual agency. These agencies are then responsible for alerting the EMS Division regarding Medical Risk Management concerns that affect county policies or training.

Financial Monitoring and Forecasting: Financial monitoring and forecasting reports are completed on a regular basis to keep the EMS Manager and Public Health Administrative Management apprised of trends in spending and revenue collection compared to budget, and year-end expenditures and revenues.

Strategic Planning: The EMS Division operates under the guidelines presented in the various Master Plans, Master Plan Updates and Strategic Plans and approved by the King County Council.

Data Management: The EMS Division is responsible for management of the Medical Incident Report Form (MIRF) data gathered in the field in compliance with Washington Administrative Code (WAC) 246-976-420. This information is collected by all ALS and BLS agencies in King County and forwarded to the EMS Division on a regular basis.