

Northwest Community  
EMS System

# Performance Improvement Plan

2017

*“In God we trust; all others bring data.”*

Edward Deming

Prepared by:  
The Northwest Community EMS System  
Provider-Based Performance Improvement (PBPI) Committee



# NWC EMS System Performance Improvement Plan Monitoring and Evaluation Activities

## Foundational values

- EMS can and should be made better.
- Efforts to improve EMS quality should be continuous.
- Every EMS process can yield data and information on how well the process works.
- Data and information are essential to improving EMS quality.

(NHTSA, 1997)

## Objectives

The Northwest Community EMS System (NWC EMSS) performance improvement initiatives have been designed to

1. Provide uniform and consistently high quality prehospital patient care through a comprehensive multidisciplinary approach which combines prospective, concurrent and retrospective strategies to monitor the structures, processes and outcomes of EMS practice; identify opportunities for improvement; establish and implement corrective action plans; and celebrate achievements;
2. Determine future learning needs and to assure that the professional competency of EMS System personnel is measured through valid and reliable instruments on a semi-annual basis;
3. Enhance communication at all levels of the System; and
4. Improve continuity of care from the prehospital to the hospital environment through concurrent and retrospective monitoring of care in both environments and sharing the strengths and opportunities discovered with all system disciplines.

## Assigned responsibilities

The EMS Medical Director (EMS MD) is responsible for all system activities. He delegates authority for guiding the PI process to the Provider Based Performance Improvement (PBPI) Committee composed of system paramedics, paramedic officers, Emergency Communications Registered Nurses (ECRNs), administrators, and educators selected by their EMS agency/hospital for pre-established terms.

## Mission statements

**System Motto:** "Quality People; Quality Education; Quality Care"

### System Mission Statement

The Northwest Community Emergency Medical Services System is a team of highly educated emergency specialists committed to providing quality emergency care to the communities we serve.

We continue to strive for preeminence through a philosophy of total quality, continuous improvement, and advocating the appropriate use of technology and research to compassionately meet emergency care needs.

### PBPI Committee Mission Statement

The Northwest Community EMS System Provider Based Performance Improvement (PBPI) Program exists to improve patient care through a peer review process.

PBPI provides an excellent opportunity for System members to actively participate in creating and modifying System structures and processes to improve out of hospital care.

The PBPI Committee's mission will be accomplished, in part, through a survey of selected patient care reports (PCRs) and Communication Logs to determine the degree of variance from prehospital practice standards. Screens shall monitor risk management activities, compliance with documentation standards, patient outcomes and the appropriateness of care.

### Scopes of Care

- The NWC EMSS is composed of 24 EMS Agencies, over 1500 paramedics, EMTs & prehospital registered nurse (PHRNs), Emergency Medical Dispatchers (EMDs), Emergency Communications Registered Nurses (ECRNs), one Resource and five Associate hospitals. Northwest Community Hospital is approved by the Illinois Department of Public Health (IDPH) as the Resource Hospital for this System, which covers approximately 400 square miles. The service area extends from Des Plaines on the east to Hoffman Estates on the west; Barrington/Lake Zurich/Lincolnshire-Riverwoods on the north to Bloomingdale/Wood Dale on the south. (Fermilab is farthest south, but is discontinuous to the main body of the System). NWC EMSS personnel serve a population in excess of one million persons, 24 hours a day, every day of the year.
- Patients range in age from the newly born to the elderly. Acuity ranges from low acuity (non-emergent) to critical (life-threatening). EMS personnel are educated to assess and respond to a patient's physiological, psychological and emotional responses to illness and/or injury irrespective of a specific medical diagnosis and care is initiated within the context of Standard Operating Procedures and policies that serve as guidelines for practice.
- EMS practice includes emergency medical dispatch procedures, patient access procedures, all assessments, interventions, transportation, and monitoring from the time of established duty until the transfer of responsibility to appropriate medical personnel is complete. Basic and Advanced Life Support care is delivered as defined in the IDPH EMS Rules and Regulations and System policy. EMS Agencies in the Northwest Community EMS System are approved to administer BLS and ALS services via licensed EMT-Bs, EMT-Ps, and PHRNs with privileges to practice in this System. Certified ECRNs and physicians with EMS privileges in this System provide on-line medical control.
- System-approved educators are responsible for facilitating the following course offerings and continuing education for each discipline whose quality and outcomes must be measured: EMT, paramedic, PHRN, ECRN, Trauma Nurse Specialist (TNS), Emergency Medical Responders (EMR), and EMD.

### Aspects of Care to be monitored generally fall within the following categories:

- Customer satisfaction: internal and external (Goal: 90% or better)
- EMS crew and managerial satisfaction (rate of turnover, years of service)
- Appropriateness of patient assessments/compliance with treatment standards/patient outcomes including patient comfort
- Individual performance: patient care; invasive skills; modular exams
- Patient prognosis for an out-of-hospital event is equivalent to an in-hospital event
- Adherence to policies and procedures
- Thoroughness and timeliness of documentation
- Dispatch accuracy
- Response times/scene times/transport times/appropriateness of patient disposition
- Communications quality
- EMT wellness/occupational injuries
- EMS cost-effectiveness
- Ambulance inventory: equipment maintenance/effectiveness
- Requests for Clarifications (RFCs)
- Significant exposures/appropriateness of follow-up
- Innovations/research
- Appropriate use of EMS: All requests for service are referred to appropriate resources

### Areas to be studied in 2017 on a monthly, quarterly and/or yearly basis (subject to change based on system needs or Medical Director request)

- Cardiac arrests
- Pediatric and elderly refusals
- Ketamine and norepinephrine administration
- Assessment, management and disposition of patients with stroke
- Naloxone administration
- Sepsis

### Sentinel monitoring (Critical incidents that may be reviewed during the committee meeting one month post occurrence):

- Management and outcomes of patients with life-threatening dysrhythmias (done by Hospital EMS Coordinators)
- Pleural needle decompression
- Cricothyrotomy
- Pediatric endotracheal intubations
- Pediatric sepsis diagnosis
- Aeromedical transports
- Medication errors and/or other reportable events
- MCI

#### Methods to measure performance/aspects of care

1. Surveys of patients and families
2. Surveys of EMS personnel/ECRNs/Physicians
3. Tracking Request for Clarifications (RFCs)/significant exposures/comments
4. Tracking litigation
5. Monitoring cost/benefit and performance ratios
6. Retrospective data retrieval from PCRs/communication logs
7. Outcome studies from monitoring screens
8. Prospective (concurrent) applied research
9. Competency validation: EMS personnel, ECRNs
10. Sentinel events shall continue to be investigated on an individual basis through a topic-specific study or post-incident analysis. ~~These may include, but are not limited to, use of restraints, medication errors, unexpected death of a patient, malfunction of EMS equipment, and/or incidents that require an RFC or Override.~~

### Indicators

Members of the Committee identify indicators for each aspect of care. They shall be well defined, measurable and specific depending on whether they apply to a process or outcome of care. Data collected through responses to the indicators will determine whether System performance relative to each aspect of care conforms to current standards of prehospital practice.

### Thresholds

Thresholds may be established by the Committee based on system performance and shall be compared against benchmarks published in national literature or standards set through statute or rulemaking by the Federal, state or local governments whenever possible. Thresholds may be adjusted based on performance (raise the bar if performance improves), or changing environmental constraints.

## Collection and organization of data

The Committee will determine collection methods, sampling techniques, sample sizes, and the frequency and timing of data collection. The Committee shall create and distribute measurement instruments.

For retrospective chart reviews, a peer reviewer shall examine PCRs or Communications Logs that meet the population criteria and determine compliance with established indicators. Sample sizes are generally established as convenience samples of all patients that meet the study criteria. Some studies, such as effectiveness of vascular access and advanced airway attempts and outcomes of life-threatening dysrhythmias may have a 100% sample size.

Concurrent monitoring of performance is accomplished through immediate critique and feedback of calls when patients are delivered to an ED within the System. System preceptors provide additional concurrent monitoring of all student paramedics and ECRNs.

The EMS MD shall notify the appropriate chief(s)/administrators of EMS Agencies whose representatives have not attended the monthly meeting and/or who are delinquent in submitting their data.

## Evaluation of Care

The Committee shall perform data analysis to determine the percentage of compliance and root causes of variances. They are responsible for identifying barriers that may impede performance, and determining process limitations that may contribute to less than optimal performance. The evaluation will include an analysis of patterns or trends that can be generalized to the whole system. They shall form their recommendations for improvement into a meaningful report for distribution to the system or through continuing education. Provider-specific performance will be compared to System means.

## Confidentiality

Only those persons who have been designated as screeners, are members of the PBPI Committee, or have a need to know under the provisions of HIPAA as approved by the EMS MD or his designee or Chiefs/administrators of an individual EMS agency have access to electronic PCRs (ePCRs) for the purpose of reviewing records for quality indicators. All information obtained, including any appended materials, is furnished as a report of quality management and is privileged and confidential, to be used solely in the course of internal quality control for the purpose of reducing morbidity and mortality and improving the quality of patient care in accordance with Illinois Law (735IL CS 5/8-2004 et seq).

## Corrective action recommendations

The Committee shall submit recommendations for commendations or corrective action to the EMS MD for his review and approval and to other system committees/boards as appropriate. All root causes of variances stemming from a learning deficit and all recommendations requiring a change in practice shall be communicated to EMS personnel through continuing education offerings.

Corrective action plans shall be specific in terms of the behaviors that need to change; the methods selected to achieve the desired change; the individuals responsible for implementing the recommended actions; and the time given to correct the behavior before the activity will be remonitored.

## Remonitoring strategies and documentation of improvement

The Committee will assess the effectiveness of corrective actions by remonitoring and suggesting improvements as long as it appears necessary. Aspects and/or indicators that consistently fall within established thresholds shall only be monitored on a periodic basis.

## Communication of relevant information

Performance improvement strategies shall emphasize the identification and removal of process barriers that diminish performance. General results of each monitor shall be communicated to all System members. Agency administrators shall receive provider-specific data so they can compare their performance against system benchmarks. If calls surface that have deviations from standards that are not sufficiently explained on the patient care report, the individual crew may be contacted to complete an addendum or to receive coaching on their care/documentation. IDPH shall receive data reports in compliance with State rulemaking.

**Research Studies:** The committee will make efforts to assure that the Northwest Community Hospital EMS System is actively participating in research projects and/or data collections. Participation can vary from actual inclusion submission of system data to national and state databases to extracting data for approved research trials. Whenever possible, the Committee uses national data points to help guide PBPI analysis. National studies may include but are not limited to the CARES database (Cardiac Arrest Registry to Enhance Survival) and that National EMS COMPASS initiative.

**Annual review:** This plan will be reviewed and revised annually by the PBPI Committee.

**Meetings:** The Committee meets on the first Wednesday of each month at 9:00 am. Minutes are distributed to all Committee members, alternates, screeners, System administrators and educators. They will be uploaded to the system web site after approval.

### **System interfaces**

Chair 2017: Jason Brizzell (Schaumburg)  
Vice Chair: Adam Rothenberg (Palatine)  
Secretary: Nichole Junge (RMFD)  
Data Coordinator: Joseph Albert (Elk Grove)  
Screen Coordinator: Daniel Pasquarella (Buffalo Grove)

CARS Committee: Jason Brizzell  
Education Committee: Ron Swidler (LRWFPD)  
Chiefs/Administrators: Jason Brizzell  
Advisory Board: Jason Brizzell  
Provider EMS Coordinators: Steve Johnson (Schaumburg)/ Jason Brizzell

Resource Hospital liaison: Connie Mattera

Region IX CQI Committee: Nicole Junge

CJM: Rev. 12/96; 12/97; 1/98; 12/98; 12/99; 2/00; 12/00; 12/01; 12/02; 11/03; 1/05; 1/06; 1/07; 1/08; 1/09; 4/09; 1/10; 12/10  
JA: Rev. 12/11  
SW: Rev. 1/16  
JB: Rev. 1/17