Northwest Community EMS System

Quality Assessment
and
Performance Improvement
Plan
2024 (Rev)

"In God we trust; all others bring data."

Edward Deming

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

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NORTHWEST
COMMUNITY
EMERGENCY
MEDICAL
SERVICES
SYSTEM

NWC EMS System
Quality Assessment and Performance Improvement Plan

CORE ASSUMPTIONS

- EMS can and should be made better.
- Efforts to improve EMS quality assessment and performance improvement 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)

GOALS

The NWC EMSS quality assessment and performance improvement (QAPI) initiatives are designed to:

1. Provide uniform and consistently high quality EMS 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 including oversight of the QAPI program. He delegates authority for guiding the QAPI process to the Provider Based Performance Improvement (PBPI) Committee that is composed of paramedics, paramedic officers, Emergency Communications Registered Nurses (ECRNs), administrators, and educators selected by their EMS agency/ hospital for pre-established terms.

The Resource Hospital EMS MD and EMS Administrative Director periodically review the program, the progress of QAPI projects, and evaluate the effectiveness of improvement actions. They are responsible for ensuring that clear safety expectations are established and communicated System-wide as well as allocating adequate resources to carry out the functions of the QAPI program requirements.

Mission statements

System Motto: "Quality people; Quality education; Quality Care"

System Mission Statement

To inspire excellence and transform EMS education, leadership, and care in service to others

PBPI Committee Mission Statement

To optimize EMS care through a peer review process that creates synergy between data, education, and practice.

The PBPI Committee provides an excellent opportunity for System members to actively participate in creating and modifying System structures and processes to improve EMS care. The Committee's mission is accomplished, in part, through assessment of selected patient care reports (PCRs) and Communication Logs to determine the degree of variance from EMS practice standards or desired states. Screens shall monitor risk mitigation activities, compliance with documentation standards, patient outcomes, and the appropriateness of care.

System demographics and Scopes of Care

- **Members**: The NWC EMSS is composed of 24 EMS Agencies that employ over 1500 paramedics, EMTs & prehospital registered nurse (PHRNs); Emergency Dispatch Centers and Emergency Medical Dispatchers (EMDs); and one Resource, and five Associate hospitals that employ Emergency Communications Registered Nurses (ECRNs). Northwest Community Hospital is the Illinois Department of Public Health (IDPH) designated Resource Hospital for this System and is one of six EMS Systems located within IDPH Region IX.
- **Geographic service area and responses**: The System covers ~440 square miles and extends from Mount Prospect on the east to Hoffman Estates on the west; Wauconda on the north to Bloomingdale on the south. We serve a population in excess of one million persons, 24 hours a day, every day of the year and responded to over 83,280 calls in 2022.
- **Populations served:** Patients range in age from the preborn to the elderly. The System responds and cares for all persons and respects their patient rights without regard to age, race, ethnicity, national origin, religion, culture, language, physical or behavioral health disability, socioeconomic status, sex, sexual orientation, gender identity or expression, or any other status, protected by and consistent with applicable laws.
- **Acuity levels** match the categorization model of Clinical Practice of Emergency Medicine in the National EMS Core Content and Illinois EMS Act and Rules, and range from low (non-emergent) to critical (life-threatening). EMS personnel are educated to assess and respond to a person's physiological, psychological and emotional responses to illness and/or injury irrespective of a specific medical diagnosis.
- **Standards of Practice:** EMS operates in compliance with Federal and Illinois laws and rules; national EMS education and practice standards; and System Standard Operating Procedures (SOPs), Policy and Procedure Manuals, and memos that serve as guidelines for practice.
- **EMS practice** includes *medical services rendered to patients for analytic, resuscitative, stabilizing, or preventive purposes, precedent to and during transportation of such patients to healthcare facilities.* (Section 3.10(e) of the Act) from the time of established duty until the transfer of responsibility to appropriate medical personnel or appropriate patient disposition is complete. Basic through Advanced Life Support care is delivered by appropriately licensed and credentialed practitioners as defined in the IDPH EMS Rules and Regulations and System policy.
- **System-approved educators** are responsible for facilitating entry level course offerings and continuing education for each discipline whose quality and outcomes must be measured: EMT, PM, PHRN, ECRN, Trauma Nurse Specialist (TNS), Emergency Medical Responders (EMR), and EMD.

Aspects of Care to be Assessed and Monitored

The prioritization of QAPI activities focus on high-risk, high volume, or problem-prone areas and their effects on health outcomes, patient safety, and quality of care. Prevention of adverse events through reporting and tracking of these events is included in these activities. Data gathered for quality indicators is used to determine if the services provided are effective and sustainable.

The System has effective, ongoing processes in place for identifying problematic events, policies, or practices and takes sustainable actions to remedy these problems, including following up on remedial actions to determine if they were effective in improving performance and quality.

These include, but may not be limited to, the following:

- Customer satisfaction: internal and external
- EMS crew and leadership satisfaction (rate of turnover, years of service; feedback)
- Compliance with standards | Incidence of nonconformaties
- Thoroughness and timeliness of documentation
- Dispatch accuracy | Communications quality
- EMS personnel wellness/occupational injuries and follow-up
- EMS cost-effectiveness
- Ambulance inventory: Drug/supplies/equipment maintenance/effectiveness
- Innovations/research
- Appropriate use of EMS: All requests for service are referred to appropriate resources

Areas to be studied in 2024 on a monthly, quarterly and/or yearly basis (subject to change based on system needs or EMS MD request)

- Naloxone administration (Annual)
- ADV airway mgt/DAI and iGel insertion; success rates in conformity with national guidelines
- Stroke: BEFAST and LVO assessments; stroke alerts; selection of destination hospitals
- Diabetic emergencies: Hypoglycemia in conformity with national guidelines
- Pediatric emergencies in conformity with National Pediatric Readiness Project and IDPH EMSC
- Heart failure
- Sepsis and septic shock; norepinephrine usage
- Severe trauma management and selection of appropriate destination hospital
- IV success rates
- Allergic reactions/anaphylaxis: Epinephrine 1 mg/1 mL usage
- Controlled substance program: inventories, chain of custody; errors/nonconformities; documentation

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

- AMA refusals
- All cardiac arrests (Cardiac arrest committee)
- Pleural needle decompression
- Cricothyrotomy
- Aeromedical transports
- Medication errors/near misses
- Medical Device failure/malfunction
- MCIs
- Patient/receiving hospital complaints/RFCs

Methods to assess performance

1. Surveys of patients and families
2. Surveys of EMS personnel/ECRNs/Physicians
3. Tracking Request for Clarifications (RFCs)/complaints/significant exposures/comments
4. Tracking litigation
5. Monitoring financial performance
6. Retrospective data review 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.

Indicators

Members of the Committee identify measures 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 practice.

Thresholds

Thresholds may be established by the Committee based on system performance, benchmarks published by national EMS data repositories, national literature or standards set through statute, rulemaking, or reliable research and guidelines. 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 assessment instruments.

For retrospective chart reviews, a peer reviewer shall examine PCRs or Communications Logs that meet the inclusion criteria and determine conformity with established standards. Sample sizes are generally established as convenience samples of all patients that meet the inclusion 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 assessment and feedback of calls when patients are transported to an ED within the System. System preceptors provide additional concurrent monitoring of all student paramedics and ECRNs.

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

Data analysis

The Committee shall analyze multimodal surveillance data to determine discrepancies between current performance and the desired state. They shall conduct a gap analysis that may include an apparent cause or root cause analysis. They shall identify barriers and determine process limitations that may contribute to less than optimal performance. The evaluation shall 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 and/or through continuing education. Provider-specific performance will be compared to System-wide data.

Confidentiality

Only those who have been designated as screeners, are members of the PBPI Committee, or have a need to know under HIPAA as approved by the EMS MD or his designee or Chiefs/Administrators of an EMS Agency or hospital, have access to electronic PCRs (ePCRs) to review records for QAPI purposes. 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 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

QAPI 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 benchmarks. If the quality review surfaces nonconformities that are not sufficiently explained by the written record, the agency PEMSC will be contacted to make needed edits to documentation (to correct errors or omissions) and/or to provide coaching on care/documentation. IDPH shall receive data reports in compliance with State rulemaking.

Research Studies

The committee will support efforts to ensure that the NWC EMSS is actively participating in research projects and/or data collection activities. Participation can vary from 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 databases may include but are not limited to the CARES database (Cardiac Arrest Registry to Enhance Survival), National EMS Information System (NEMSIS), and Get with the Guidelines stroke data repositories.

Mobile Integrated Healthcare

The NWC/NLC Mobile Integrated Healthcare Program has separate quality improvement measures. The PBPI Committee may or may not be involved in the development, implementation, analysis, or review of those QAPI measures.

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, except when the first Wednesday falls on a major holiday or significant system event. If such a case occurs, the PBPI Chair will determine an alternate time and location for that month's meeting. 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: Adam Sielig (Arlington Heights)
Vice Chair: Taylor McIntyre (Hoffman Estates)
Secretary: Nichole Junge (RMFD)
Data Coordinator: VACANT
Screen Coordinator: VACANT

CARS Committee: Adam Sielig (Arlington Heights)
Education Committee: Adam Sielig (Arlington Heights)/VACANT
Chiefs/Administrators: Adam Sielig (Arlington Heights)
Advisory Board: Taylor McIntyre (HE)
Advisory Board Alternate: Adam Sielig (Arlington Heights)
Provider EMS Coordinators: Adam Sielig (Arlington Heights)/VACANT
Cardiac Arrest: Phil Schroeder (Buffalo Grove)

Resource Hospital liaison: Kourtney Chesney

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. 01/17, 02/17, 01/18, 01/19, 01/20, 01/21, 01/22
CJM Rev: 03/23; 1/24; 6/24