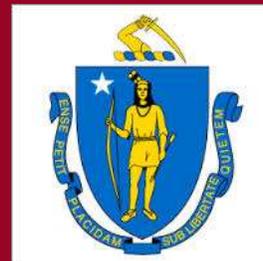


Best Practices Spotlight



August 19, 2014



NEMSIS
TECHNICAL ASSISTANCE CENTER

About Us

The National EMS Information System (NEMSIS) project strives to standardize EMS data collection in every state and territory and provide a national EMS dataset to bolster EMS training/education, research, disaster preparedness and much more.

Spotlights

This document was developed to highlight utilizations of NEMSIS data to improve healthcare systems and EMS performance. Each issue will highlight successful programs/attributes associated with state or local EMS that are integrating EMS data to serve local and state public health and safety needs.

In each quarterly issue we will focus on a state program or implementation strategy that has been successful in utilizing NEMSIS data to enhance patient care, ensure workforce training and safety, reduce healthcare spending, or advise healthcare reform.

In This Issue

In this issue of NEMSIS Best Practices Spotlight, we focus on The Commonwealth of Massachusetts and their use of the NEMSIS data. The Massachusetts Department of Public Health (MDPH) requires that EMS personnel report Patient Care Report data into the Massachusetts Ambulance Trip Record Information System (MATRIS).

After a review of their current Quality Assurance/Quality Improvement (QA/QI) system, South Shore Hospital, which performs QA/QI for 8 services realized that their current system relied on paper or disparate electronic data formats from individual services, resulting in very dated feedback to EMS agencies and hospitals. MDPH participated in the Lean process review with South Shore stakeholders and identified that MATRIS provided a consolidated solution for collecting the data, with QA/QI tools for identifying the cases for review and giving feedback to the provider.

Using the electronic EMS data present in MATRIS allows for timely feedback and trending which will potentially decrease the margins for error in the current system. The details of this transformation are listed on the next page.

Reporting Tools

NEMSIS Data Exchange (NDX) provides:

1. A secure, fast and reliable data submission channel for states and vendors to NEMSIS TAC.
2. Automated data processing, feedback and data quality reports in real time.
3. A forum-like system to facilitate communication between states, vendors, and NEMSIS TAC

Reference Materials

Presentations, articles and other information can be found on our website <https://nemsis.org/>

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<http://www.facebook.com/NemsisTac>



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“Streamlining QA/QI for EMS and Hospital Communities”

Old Process

The old process was a paper system with a significant delay in feedback (1-2 month delay). The process for submitting trip sheets was not standardized and the criteria for review was not clear and was left open in some areas for interpretation. Feedback provided to the services was brief and did not include patient history of illness and patient disposition. The old system pulled approximately 800 charts per month and, at the rate of 1 chart review per 2-3 minutes, only 100-150 charts could be reviewed per day and this was far too slow.

New Process

The QA/QI process via MATRIS will allow for real time electronic submission of information once (eliminating duplication of efforts), case trending across community services, problem identification and real time constructive feedback.

The review criteria (Appendix 1) are based upon the selection of high risk EMS cases agreed upon by the multi-disciplinary team. The MATRIS system has the ability to search based on the criteria, drug usage and administration as well as by EMS system, department and on an individual provider level. The MATRIS program allows for statistics to be gathered on every aspect of EMS. This methodology will present feedback both positive and constructive to the providers. Any of the issues identified in the QA/QI process will be classified in one of the following categories:

1. Meets Protocol
2. Deviated from Protocol but Acceptable
3. Protocol Deviation

In the case of a protocol deviation, a plan of correction will be developed by the local Medical Director. The service involved and Medical Director will ensure the correction plan is carried out appropriately.

Results & Roll Out

John Dockray EMT-P Assistant Fire Chief Cohasset Fire Department stated,

“This has been a great experience, giving validity to the MATRIS system and allows for an easier flow of information. It has greatly improved the QA/QI process and allows for constructive feedback. It has added value and repurposing of my time for other duties”.

The results from MATRIS are then presented to the EMS coordinators at a monthly regional meeting. Benefits to QA/QI processes in individual communities are highlighted by findings presented by Cohasset and South Shore Hospital:

Task	Old System	New System	Time Savings
Submission of records for review	4 hours	.02 hours	3.88 hours \$3K per month = \$36K per year
Feedback & problem identification	3 months	1 month	2 months

As of April 2014, the MATRIS system is in place with all eight emergency medical service teams that receive medical oversight from South Shore Hospital.

James Sheard EMT-P Assistant EMS Coordinator Hingham Fire Department states:

"It is definitely headed in the right direction....closing of the information loop is fantastic. The feedback is a valuable learning tool and the trending will be an invaluable asset to EMS in the future."

Conclusion

The MATRIS-based QA/QI process is fully operational and the community teams continue to be satisfied with the robust feedback being provided. As part of the process, hospital/EMS teams complete a randomized review to validate the QA/QI criteria.

The multi-disciplinary teams continue to work on how to trend the criteria data by system, department, and provider. In creating a best practice pathway, by the end of 2014, the team is looking to complete a dashboard view which will allow trending and tracking of information and create impactful educational opportunities as a whole and for individual providers.

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APPENDIX 1

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South Weymouth

Massachusetts

South Shore Hospital

Emergency Medical Services

QA/QI Review Criteria

Date: 01/09/2014

Criteria for EMS QA/QI Lean redesign

- 1) Advanced Airway management. (Waveform Readings)
- 2) High Risk Medications
 - a Magnesium Sulfate
 - b Amiodarone with pulses
 - c Adenosine
 - d Epinephrine (In Pediatrics)
 - e Cardizem
- 3) Pediatric Cardiac Arrest
- 4) Medical Control Requests
- 5) Referral from hospital performance improvement committees, ie Trauma Committee, Code AMI, Code Stroke
- 6) Refusals
- 7) ROSC
- 8) MD/RN referrals
- 9) P/B- PI Staffed Cases
- 10) C Spine Clearance cases

Inter facility Transfer Criteria

- 1) Medical Necessity Compliance
- 2) Documentation ex. infusion settings, ventilator settings
- 3) Vasopressors
- 4) Blood
- 5) Ventilator Calls
- 6) Specialty Care Calls 3+ infusions