

2018 ESO EMS INDEX:

MID-YEAR UPDATE

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CONTEXT AND OVERVIEW FOR THE INDEX



At the beginning of this year, we launched our 2018 ESO EMS Index. We looked at data across five metrics from January 1, 2017 – December 31, 2017: Stroke assessment performance, percent of patients suffering from overdose, ETCO2 after advanced airway procedure, 12-lead performance in adult chest pain, and aspirin administration in adult chest pain.

We heard from many of you about the value of the Index and how you are using the Index to drive internal process and procedure change, including when and how you perform stroke assessment, how you document aspirin administration, and how you conduct training around 12-lead performance.

INTENT

To share national, aggregate data across five metrics that are informative and directional

To showcase the power of data and analytics as a means to provide actionable insights

To help EMS leaders across the country answer the following questions, among others:



IS MY ORGANIZATION ALIGNED WITH OTHER ORGANIZATIONS WHEN IT COMES TO RESPONDING TO CERTAIN EVENTS, SUCH AS STROKE IDENTIFICATION AND ASSESSMENT?



ARE WE ABOVE OR BELOW THE NATIONAL AVERAGE WHEN IT COMES TO RESPONDING TO OVERDOSE EVENTS?



HOW DO WE COMPARE TO OTHER AGENCIES WHEN IT COMES TO 12-LEAD PERFORMANCE?

UPDATE ON STROKE ASSESSMENT

We also heard from many of you that while the data were valuable and insightful, the methods that are being employed to screen EMS patients for the presence of stroke are changing, particularly as it relates to screening for large vessel occlusion (LVO) stroke.

We are constantly seeking to improve and refine our data analytics to provide the best insight possible, so, as a first step, we've modified our stroke metric to account for the additional screening tools being employed. Additionally, we are focused only on 9-1-1 patients and not interfacility transfers and other types of patients.

What you'll see in the numbers is a change from 50.5% in the Index we launched earlier this year to 63% for the first half of this year (2018). The improvement cannot be completely explained by modifications in the reporting mechanism — the good news is we also see improvement in performance. We are encouraged that this interim report demonstrates clinically meaningful improvement in stroke assessment documentation.

While we've started with refinement around the stroke assessment metric, we will continue these refinements around the other metrics in the 2019 version of this Index early next year.

For the Mid-Year Update, the data are based on more than 3.6 million records from January 1, 2018 – June 30, 2018.

MID-YEAR UPDATE

The table below shows the comparison between the Index released earlier this year based on 2017 numbers and the Mid-Year Update based on numbers from the first half of 2018. In a short 6 months, since the launch of the Index, we've seen numbers shift slightly in a positive direction. This is a good sign and showcases the role data can play in helping EMS agencies improve.

CHART 1

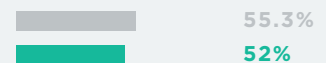
EMS INDEX MID-YEAR UPDATE

DOCUMENTED STROKE ASSESSMENT COMPLETION RATE



While the stroke assessment metric certainly shows improvement based on refining the approach to the metric, that alone does not account for the nearly 13 percentage point jump from 2017 to midway through 2018. This is good news. This means performance around stroke assessment has improved as well.

ASPIRIN ADMINISTRATION DOCUMENTATION



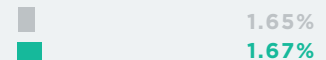
There is still work to be done, especially around successful administration and appropriate documentation of aspirin utilization in patients with chest pain. We know the important role aspirin can play in reducing the risk of acute coronary syndrome.

12-LEAD EKG USE



It's essential to continue to be diligent around documenting, recording and performing activities associated with the other metrics in the Index to continue to drive improvements. For example, can we see documented 12-lead EKG use jump above 80 percent in 2018?

OVERDOSE RATE



The opioid epidemic continues to be a problem and the overall number of incidents and cases continues to rise. Understanding best practices around documenting opioid encounters is an essential element in combating the crisis.

ETCO2 USE DOCUMENTATION RATE



It's encouraging to see an increase in the documentation of ETCO2 usage and highlights the value EMS providers see in using ETCO2 following an advanced airway procedure.

BEST PRACTICES



STROKE

A complete and appropriately documented stroke assessment has never been more important. Given extended treatment windows and the introduction of emergent thrombectomy, the EMS evaluation can literally be the difference between a successful or unsuccessful patient outcome.



OVERDOSE

Monitor incidences and anticipate trends based on geographical "hot spots," age, and gender.



ETCO2

Establish the expectation that if a patient has an advanced airway, continuous ETCO2 monitoring is in place as well.



12-LEAD

Consider expanding performance metrics to include other patients that should receive 12 leads, including those experiencing abdominal pain, respiratory distress, altered level of consciousness, and general weakness.



ASPIRIN

Assure appropriate documentation of aspirin administered by patient, bystander, or first response prior to EMS arrival

METHODOLOGY

The dataset for the ESO EMS Index is real-world data, compiled and aggregated from more than 1,000 agencies across the United States that use ESO's products and services. The data for the Mid-Year Update are based on 3.69 million anonymized patient encounters between January 1, 2018 and June 30, 2018.

**THERE IS A 95%
CONFIDENCE
LEVEL IN THE
NUMBERS USED
IN THIS REPORT
WITHIN A
1% +/- RANGE.**

OK, NOW WHAT?

So, where do we go from here? Similar to what we recommend earlier this year, organizations should continue to use this information to understand why metrics are important and which metrics and drivers can have the biggest effect on your organization and the patients you serve. With the rich data from the Index as a foundation, you can do your own analysis to serve as the basis for other modeling and outcomes.

The metrics shown in this study are by no means exhaustive. Every organization is unique and has its own strengths, structure, and goals. Because of these attributes, results achieved by one organization may not be attainable by another for a variety of reasons. However, these metrics should provide a foundation to compare your measurements and outcomes to what we are seeing nationally.

LIMITATIONS

This Index is retrospective and looks at aggregate data from the first half of 2018. There are no universal rules around these measures. The purpose of the Index is to be informative and directional, but it is not intended to be a scientific study. Nor is it intended to be comprehensive in nature. We hope it serves as a body of literature that adds to the discussion and conversation around best practices for each of the measures identified in this Index to improve positive patient outcomes.

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ABOUT ESO

ESO Solutions, Inc., is dedicated to improving community health and safety through the power of data. Since its founding in 2004, the company has been a pioneer in electronic patient care records (ePCR) software for emergency medical services, fire departments and ambulance services. Today, ESO serves more than 14,000 customers throughout the U.S. The company's healthcare, community safety and technology experts deliver the most innovative software and data solutions on the market, including the industry-leading ESO Electronic Health Record (EHR); ESO Health Data Exchange (HDE), the first-of-its-kind healthcare interoperability platform; record management system (RMS) for fire departments; and ambulance revenue recovery/billing software. ESO is also playing a leading role in helping EMS provider organizations across the nation successfully transition to NEMSIS Version 3 and new state standards for electronic patient care reporting.