NEMSIS Pediatric Dashboards for EMSC

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Speaker Disclosure

This educational activity is being presented without the provision of commercial support and without bias or conflict of interest from the planners, presenters, or reviewers.

I am not Clay Mann/do not work at NEMSIS!

Funding Acknowledgements

The NEMSIS pediatric dashboard project is being conducted with support from the Emergency Medical Services for Children Innovation & Improvement Center (EIIC) with support from the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) (U07MC37471)

The National EMS Information System (NEMSIS) is receiving support from a contract with the National Highway Traffic Safety Administration, Office of Emergency Medical Services (DTNH-22-C-00030)

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Project Goal

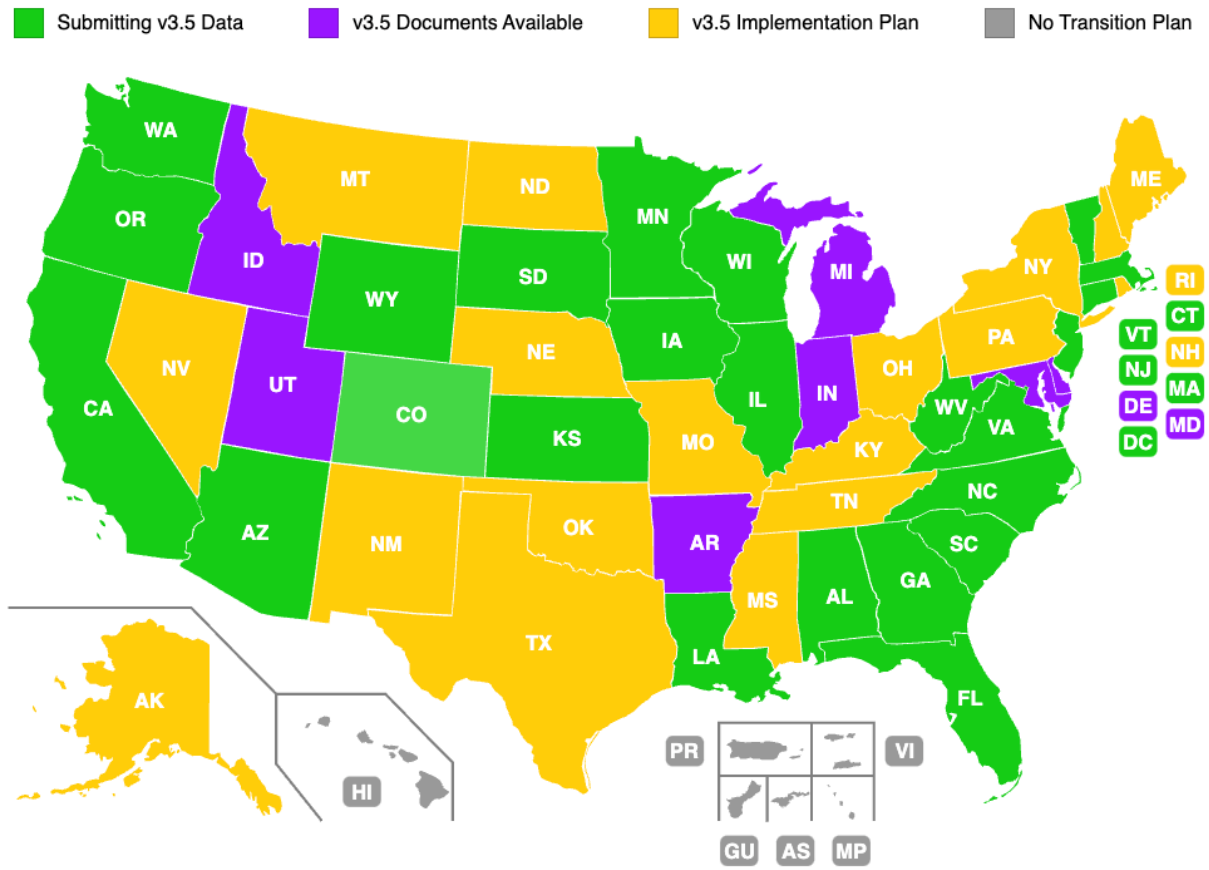
- Develop a **NEMSIS pediatric dashboard** that can help drive performance improvement in pediatric prehospital emergency care

- The dashboard will integrate
  - EMS agency and state level data
  - Prehospital Pediatric Readiness Project (PPRP) Assessment
  - Up to date evidence based guidelines for key conditions

What is NEMSIS?

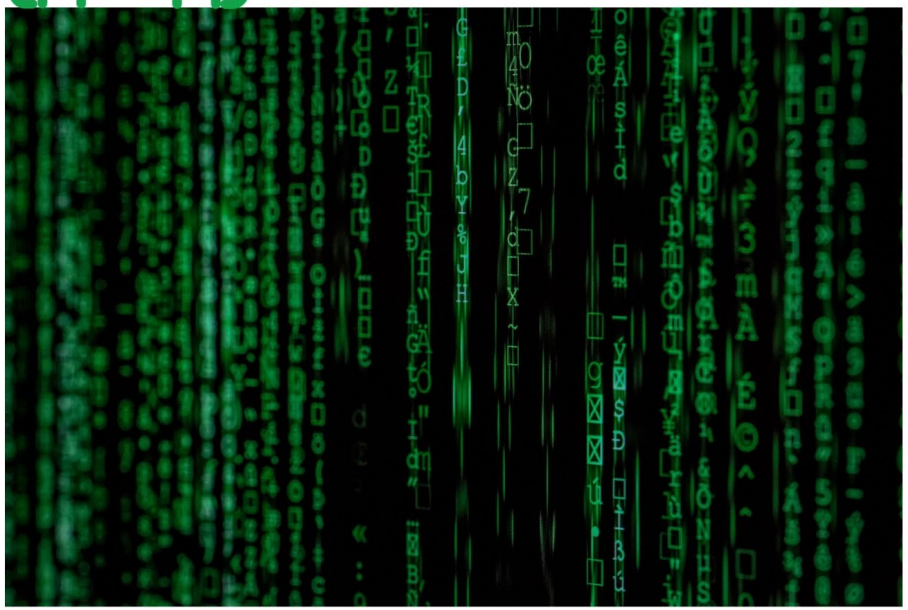
- The National EMS Information System (NEMSIS) provides the framework for **collecting**, **storing**, and **sharing** standardized EMS data from states and territories nationwide

NEMSIS v3.5 Data

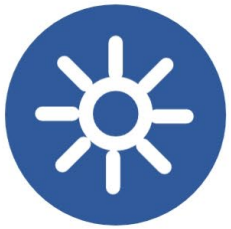


Why a Dashboard?

51 million EMS activations (2022)



NEMSIS Dashboards



HEAT ILLNESS

OPIOID OVERDOSE

STEMI

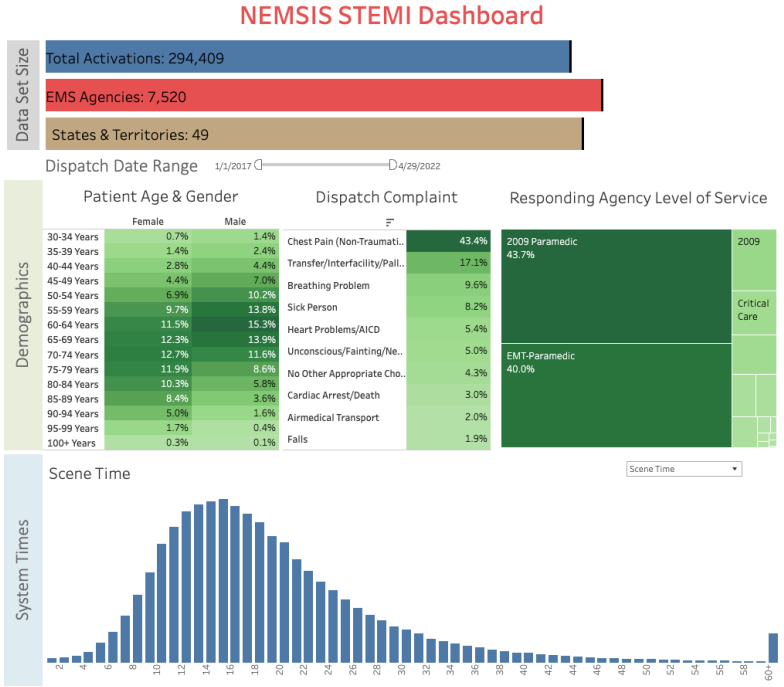
CHIEF COMPLAINTS

MVC

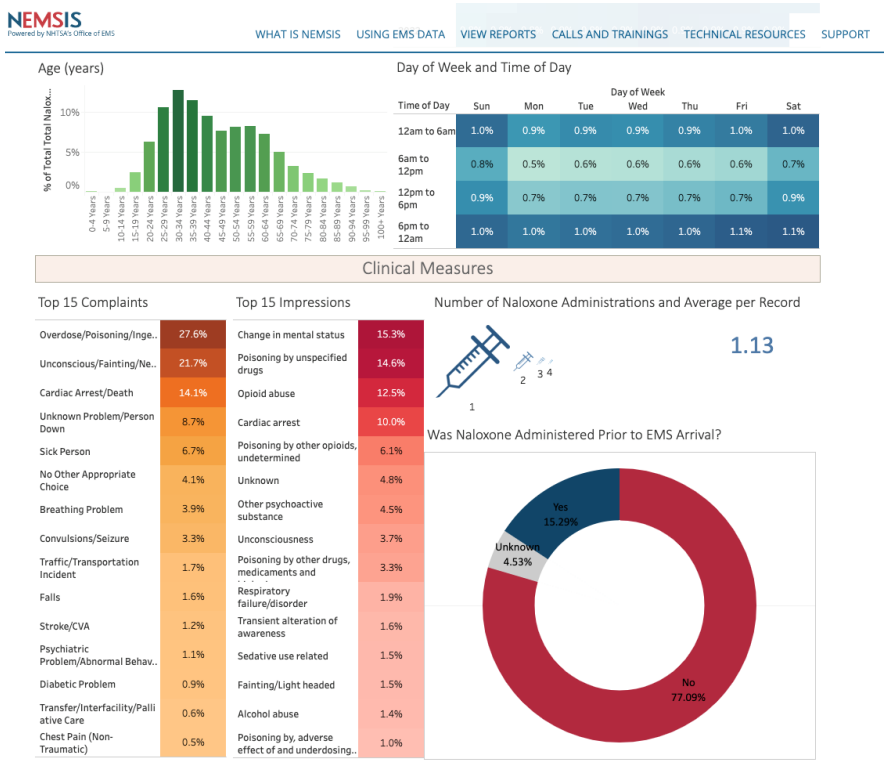
PERFORMANCE MEASURES

NEMSIS Dashboards

STEMI



OPIOID OVERDOSE

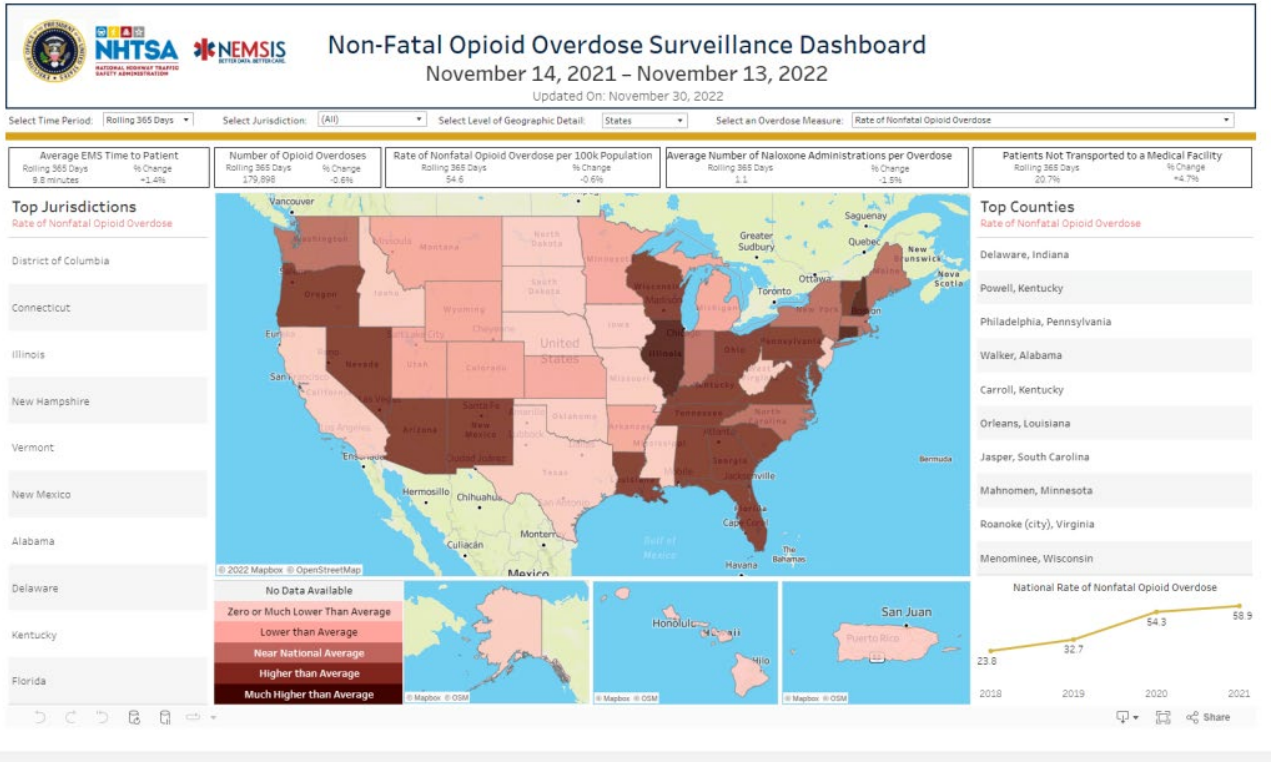


NEMSIS Dashboards

FILTERS

- Geography
- Urbanicity
- Organizational status
- Organizational type
- Annual patient volume
- Level of care
- PPRP score

NEMSIS Dashboards



Institutional Partners

NEMSIS
BETTER DATA. BETTER CARE.

EIIC
EMSC Innovation and Improvement Center

NHTSA

HRSA
Health Resources & Services Administration

Technical Expert Panel

EMSC FELLOWS

National PRP
Prehospital Pediatric Readiness Project
Ensuring Emergency Care for All Children

PECARN
Pediatric Emergency Care Applied Research Network

NASEMSO

NEMSQA
National EMS Quality Alliance

Prehospital Guidelines Consortium

American College of Emergency Physicians®

National Pediatric Disaster Coalition

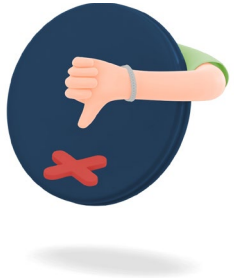
NAEMSP

The American Academy of Pediatrics

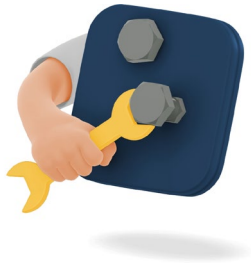
Process

Convene Technical Expert Panel

Generate list of candidate measures



Sequential rounds of voting



Technical build of dashboard

Finding Candidate Measures

- Prehospital Guidelines Consortium
- National EMS Quality Alliance (NEMSQA)
- Prehospital Pediatric Readiness Project (PPRP)
- Other

Finding Candidate Measures

- **Prehospital Guidelines Consortium**
- **National EMS Quality Alliance (NEMSQA)**
- **Prehospital Pediatric Readiness Project (PPRP)**
- **Other**

e.g. Patients with seizure & hypoglycemia should be transported to an ED
(EBG – Shah, 2014, Prehospital Emergency Care)

Finding Candidate Measures

- Prehospital Guidelines Consortium
- National EMS Quality Alliance (NEMSQA)
- Prehospital Pediatric Readiness Project (PPRP)
- Other

e.g. Stroke assessment performed for patients with suspected stroke
(NEMSQA Stroke-01)

Finding Candidate Measures

- Prehospital Guidelines Consortium
- National EMS Quality Alliance (NEMSQA)
- Prehospital Pediatric Readiness Project (PPRP)
- Other

e.g. Trauma patients are transported to a trauma center
(PPRP checklist & NEMSQA Trauma-04)

Finding Candidate Measures

- Prehospital Guidelines Consortium
- National EMS Quality Alliance (NEMSQA)
- Prehospital Pediatric Readiness Project (PPRP)
- Other

e.g. Children are transported by EMS with age-appropriate restraints
(FAIR Safety-04)

Defining “Important” Measures

Proposed Dashboard Measures

- Airway Management X 5
- Trauma X 4
- Pain Control X 3
- Respiratory (asthma) X 3
- Cardiac Arrest X 2
- Other X 7

Proposed Dashboard Measures

- Airway Management X 5
- Trauma X 4
- Pain Control X 3
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- Other X 7

1. Advanced airway placed on first attempt without hypoxia or hypotension
2. Oxygen saturation documented during placement of advanced airway
3. Correction of hypoxia prior to placement of advanced airway
4. Use of waveform capnography during placement of advanced airway
5. Use of end-tidal CO2 verification of advanced airway placement

Proposed Dashboard Measures

- Airway Management X 5
- **Trauma X 4**
- Pain Control X 3
- Respiratory (asthma) X 3
- Cardiac Arrest X 2
- Other X 7

1. Documentation of GCS, BP and respiratory rate in patients with trauma
2. Documentation of BP, oxygen saturation and end-tidal CO_2 for patients with traumatic brain injury
3. Patients meeting CDC Step 1 & 2 field triage criteria have a trauma alert
4. Patients meeting CDC Step 1 & 2 field triage criteria are transported to a trauma center

Proposed Dashboard Measures

- Airway Management X 5
- Trauma X 4
- **Pain Control X 3**
- Respiratory (asthma) X 3
- Cardiac Arrest X 2
- Other X 7

1. Injured patients have a pain assessment completed
2. Injured patients with pain have analgesia administered
3. Injured patients with pain have a reduction in pain level during transport

Proposed Dashboard Measures

- Airway Management X 5
- Trauma X 4
- Pain Control X 3
- **Respiratory (asthma) X 3**
- Cardiac Arrest X 2
- Other X 7

1. Patients with a respiratory chief complaint/impression have a documented assessment
2. Patients with asthma exacerbation receive a beta-agonist
3. Patients with hypoxia receive oxygen

Proposed Dashboard Measures

- Airway Management X 5
- Trauma X 4
- Pain Control X 3
- Respiratory (asthma) X 3
- **Cardiac Arrest X 2**
- Other X 7

1. IV or IO access obtained for patients in cardiac arrest
2. Scene time for patients in cardiac arrest is > 10 minutes

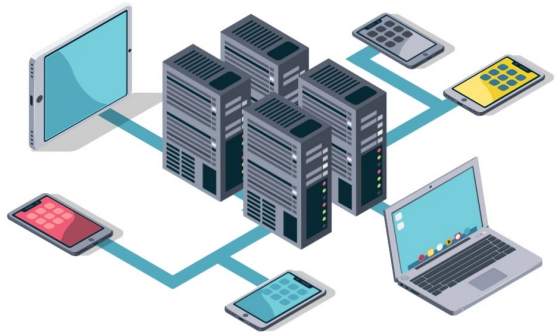
Proposed Dashboard Measures

- Airway Management X 5
- Trauma X 4
- Pain Control X 3
- Respiratory (asthma) X 3
- Cardiac Arrest X 2
- Other X 7

1. Patients in anaphylaxis receive epinephrine
2. Patients in shock receive IV fluids
3. Patients in status epilepticus receive benzodiazepines
4. Hypoglycemia is treated
5. Newborn babies have a heart rate and respiratory rate documented
6. Complete vital signs documented for children not transported by EMS
7. Use of lights and sirens during transport

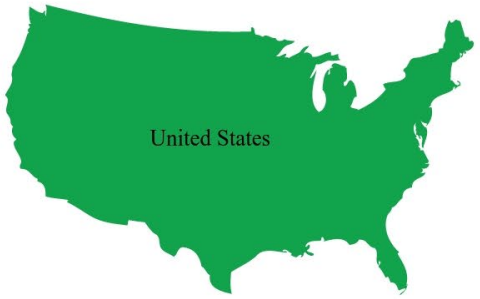
Data Access

NEMSIS Pediatric Dashboard



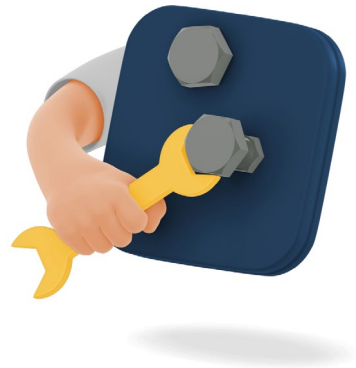
EMS Agency

State EMS Office



National Data

Assessing Prototype



- Is the dashboard interface **user friendly**?
- Is there the right **amount** of information?
- Are some of the measures **duplicative**?
- How much **missing data** is there (and does that matter)?
- Does the measure have **variability** between agencies?
- Are some of these measures relevant to **BLS** teams?

Conclusions

- NEMSIS Pediatric Dashboard launching 2024
- Facilitate system level performance improvement in pediatric EMS care
- National Prehospital Pediatric Readiness Project (NPPRP) will be integrated into the dashboard

Acknowledgements

NHTSA

Eric Chaney

HRSA

Theresa Morrison-Quinata

Sofia Arias

EIIC

Kasey Petika

Eleni Balourdos

NEMSIS

Mengtao Dai

Skyler Peterson

Technical Expert Panel

Kathleen Adelgais

Jane Brice

Kathleen Brown (Chair)

Eric Chaney

Tabitha Cheng

Mark Cicero

Ann Dietrich

Julianne Ehlers

Pat Frost

Andrea Genovesi

Matt Hansen

Hilary Hewes

Eric Hicken

Lindsey Jaeger

Kathryn Kothari

Clay Mann

Christian Martin-Gill

Tom McGinnis

Sheree Murphy

Katherine Remick

Jason Rhodes

Sam Vance

Theresa Walls

Caleb Ward (Chair)

Questions & Suggestions