Introduction to NEMSIS

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The National EMS Information System

The National EMS Information System provides standardized EMS documentation and data collection practices to facilitate the sharing of EMS data with local, state and national organizations.

COLLECT – CLEAN – STORE – SHARE

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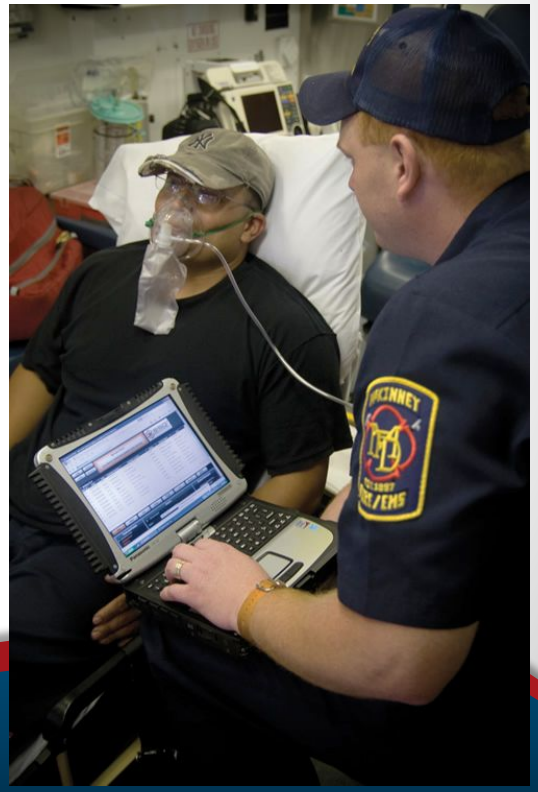
Core Components of NEMSIS

- **Documentation standard** for EMS response and care
- **Data definitions** for point of care data collection
- **Compliance testing** for EMS ePCR software
- **Interoperability** and exchange standards
- National EMS **Database**



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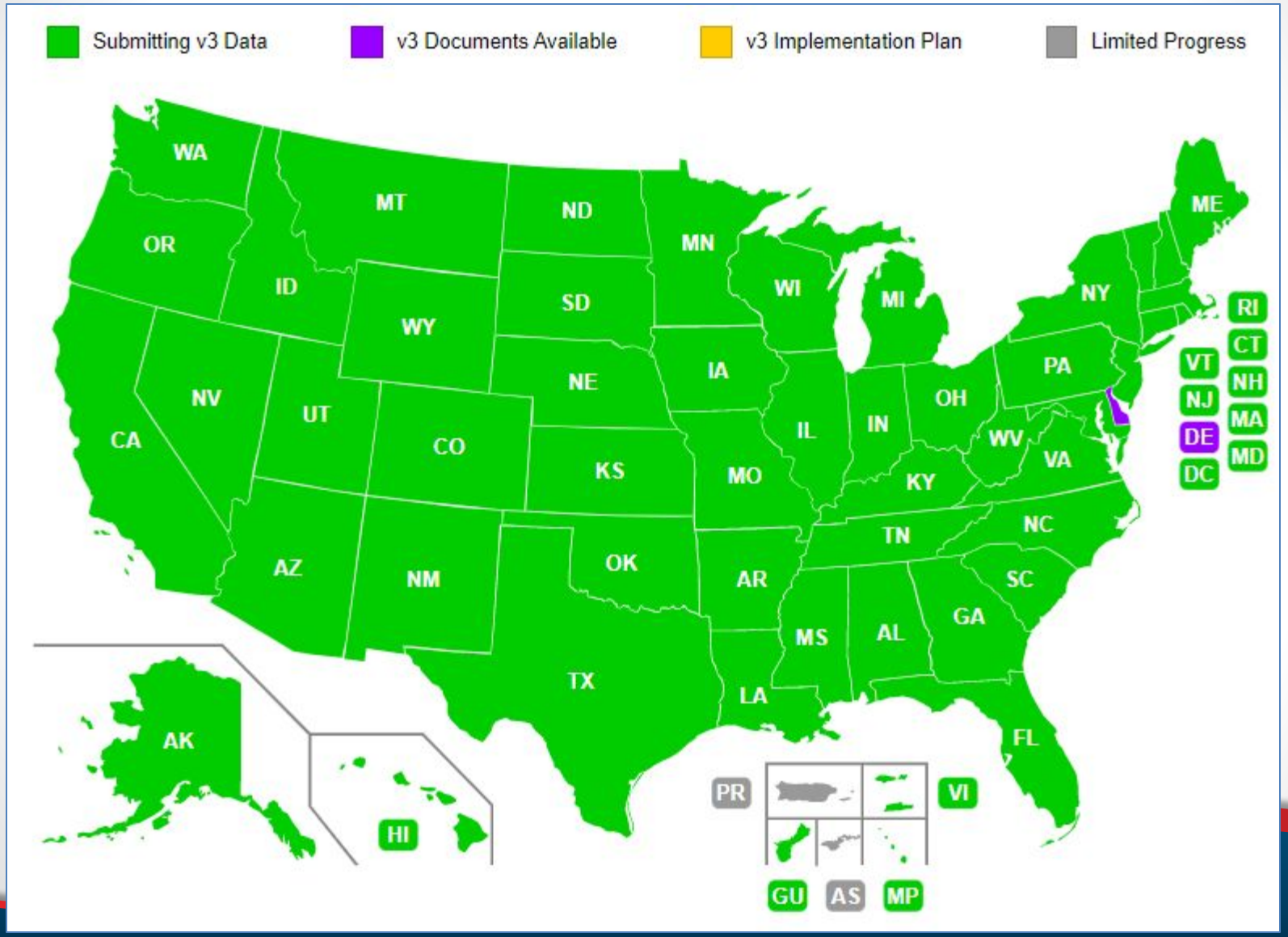
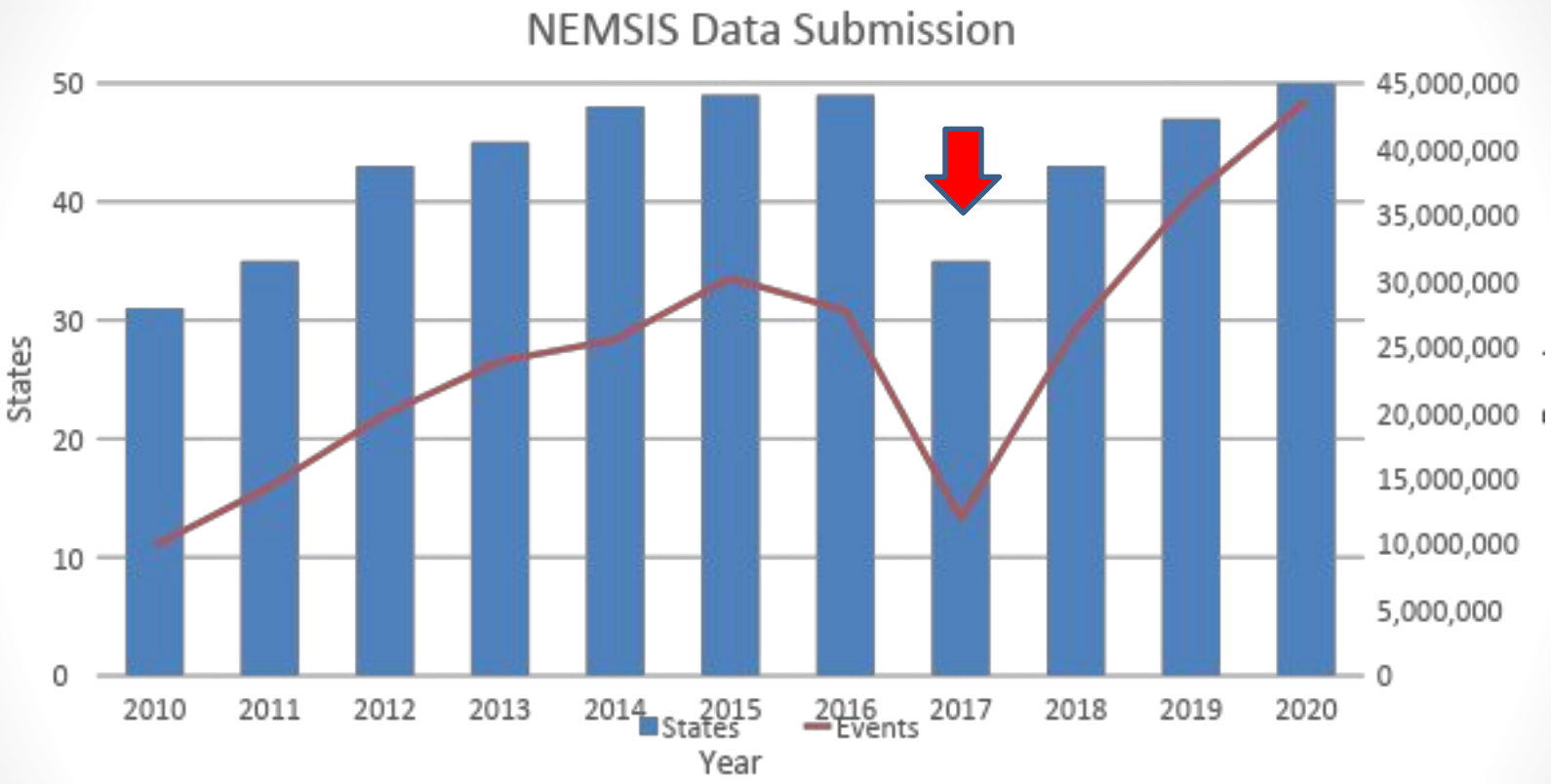
Participating States/Territories



State Participation and Submissions



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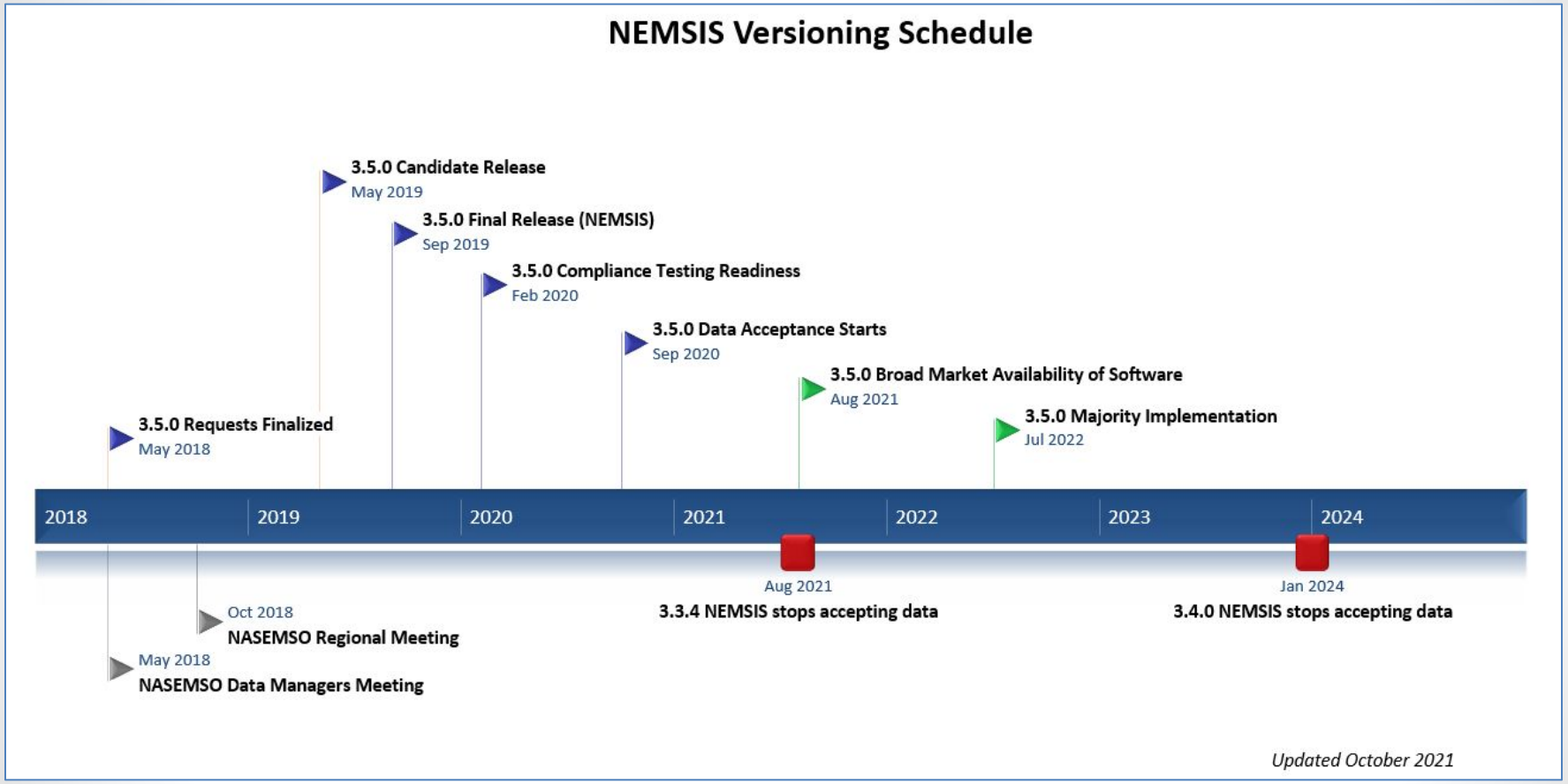
Versioning Timeline



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National Public-Release Research Dataset

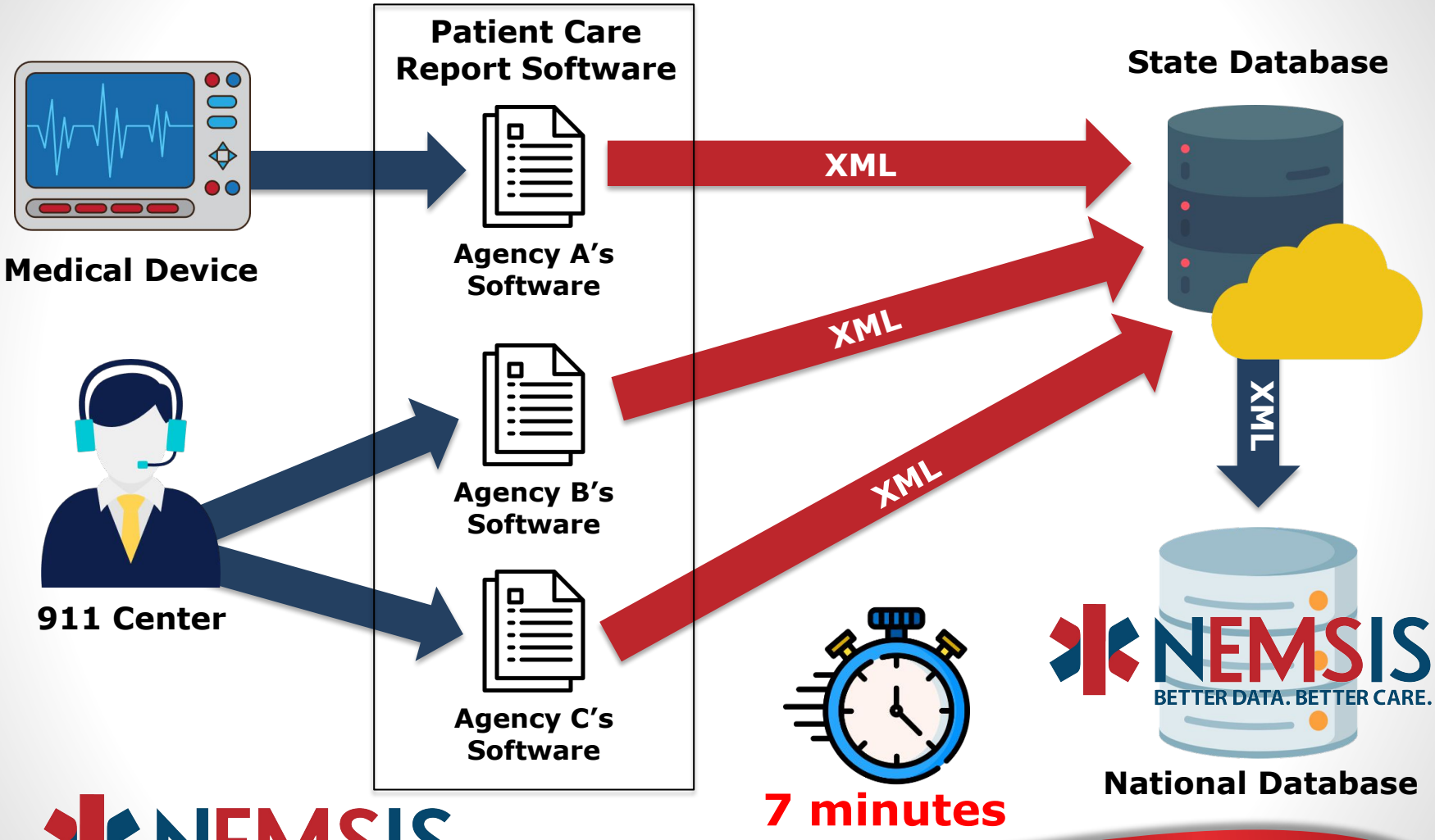
Statistical Year	Reporting States[1]	Reporting Agencies	Number of Events	Treated and Transported 9-1-1 Response[2]
2009	26	2,112	5,767,090	3,367,668
2010	31	4,874	9,874,748	4,874,061
2011	35	7,180	14,371,941	7,701,605
2012	43	8,439	19,831,189	10,733,925
2013	45	9,025	23,835,729	12,595,958
2014	48	9,653	25,835,729	13,769,286
2015	49	8,785	30,206,450	15,729,516
2016	49	10,137	29,919,652	15,361,777
2017	35	4,016	7,907,829	3,835,110
2018	43	7,909	22,532,890	10,675,178
2019	47	10,062	34,203,087	15,873,573
2020	50	12,319	43,488,767	19,533,036
		TOTALS	**267,836,584**	**134,050,693**

[1]Number of reporting states and territories of the United States.

[2]Only including the events that are 9-1-1 calls, treated and transported by EMS.

On track for 45 million records for 2021

The Portability of EMS Data



Data Elements

- Includes 596 data elements that can be implemented by an EMS system
- 165 of those are national elements

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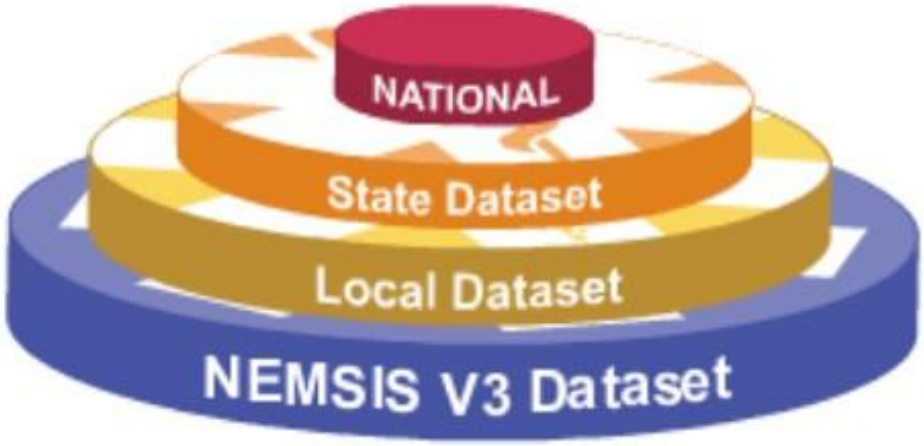
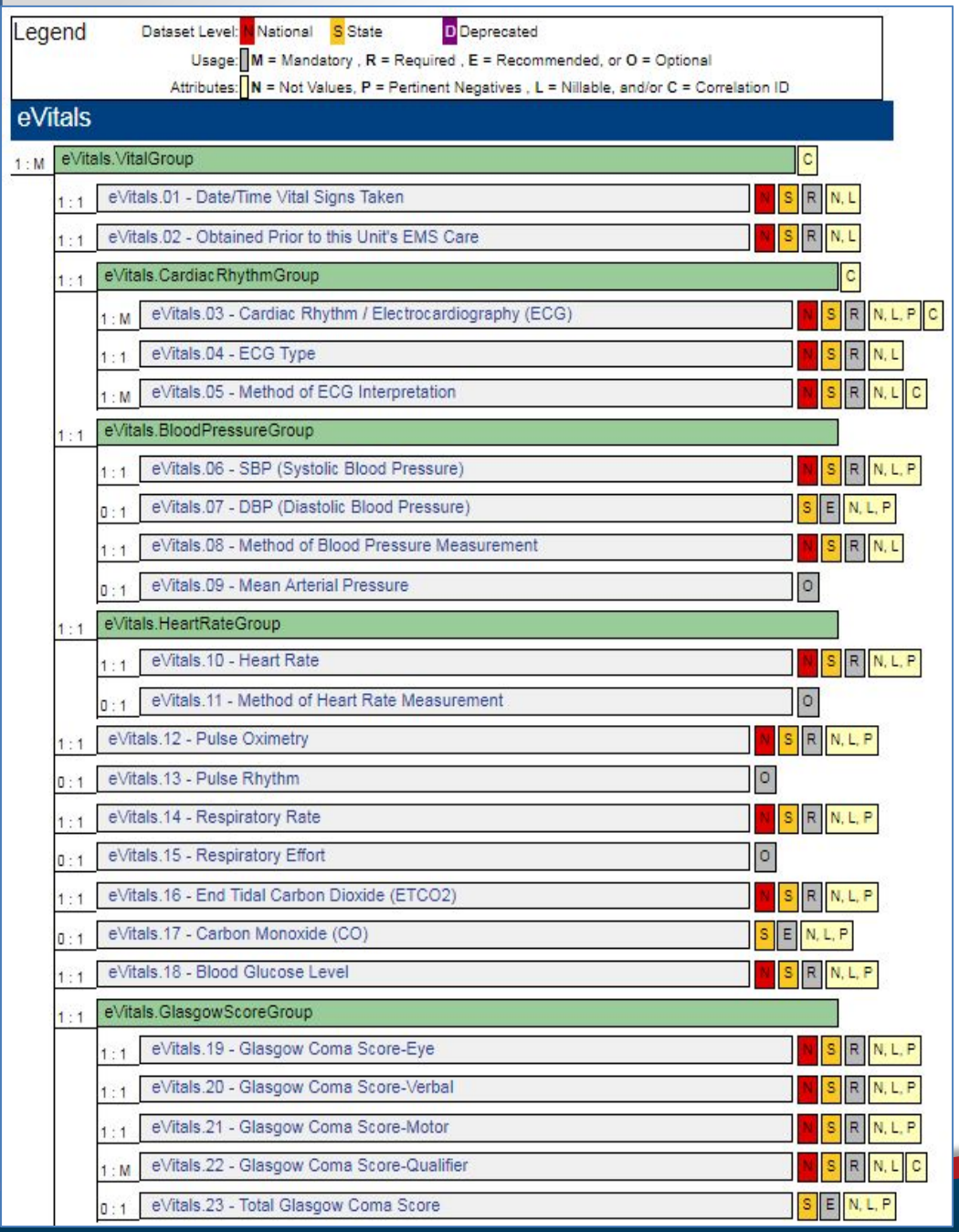
National EMS Data Standard



NEMSIS V3 Dataset	The total NEMSIS Version 3 Dataset – standardized and uniform.
Local Dataset	Local agencies select elements according to their needs, keeping the national AND state elements as part of their selection.
State Dataset	States select elements from the NEMSIS Dataset according to their needs, keeping the national elements as part of their selection.
National Dataset	A subset of base elements identified to accurately describe an EMS event.

The National elements are transmitted to the NEMSIS Technical Assistance Center (TAC) to populate the National EMS Dataset.

Structure of the Data Standard



DATASET LEVEL: NATIONAL

DATASET LEVEL: STATE

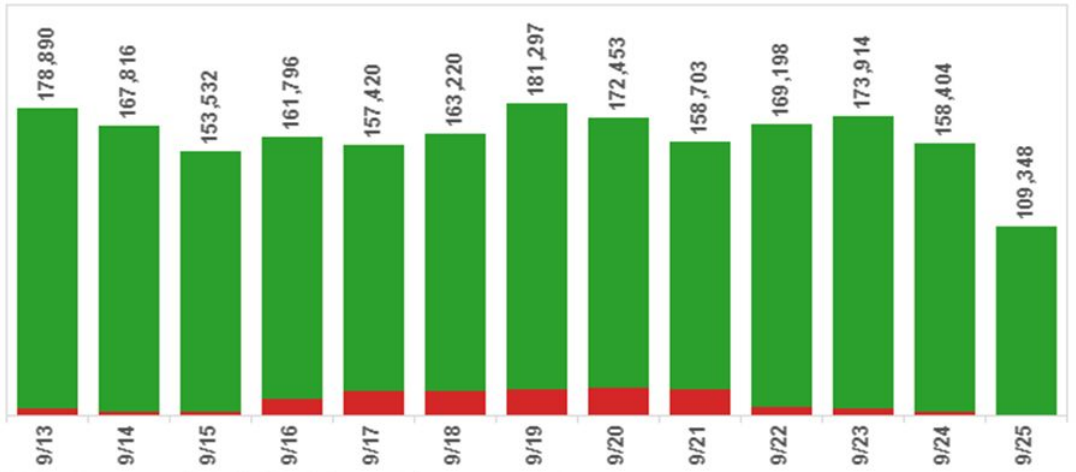
USAGE: M, R, E, O

ATTRIBUTES: P, L, C

Timeliness of Data

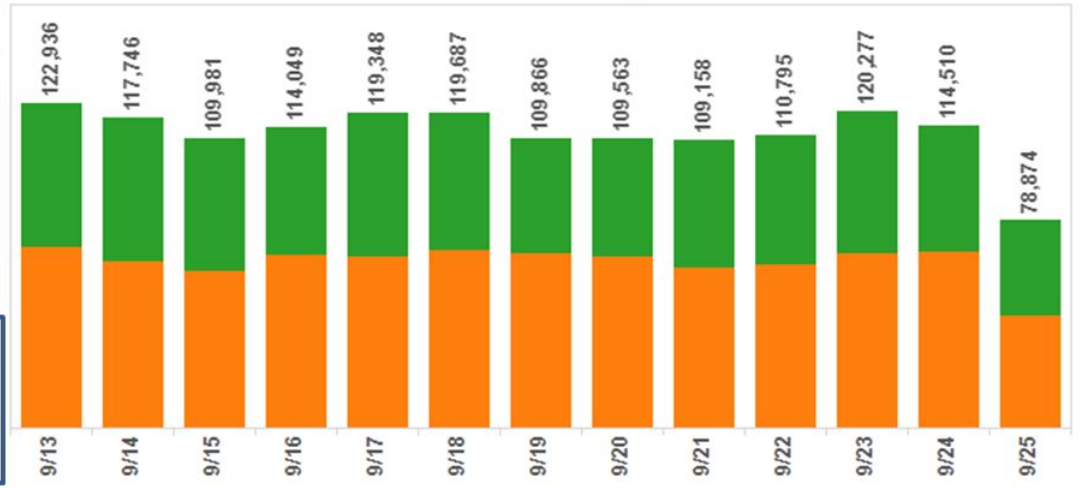
Submissions	
Count of Submissions	2,105,991
Count of Submissions Accepted	2,006,195
Count of Submissions Rejected	99,796
Count of Submission Errors	99,955

Submissions Accepted vs Rejected

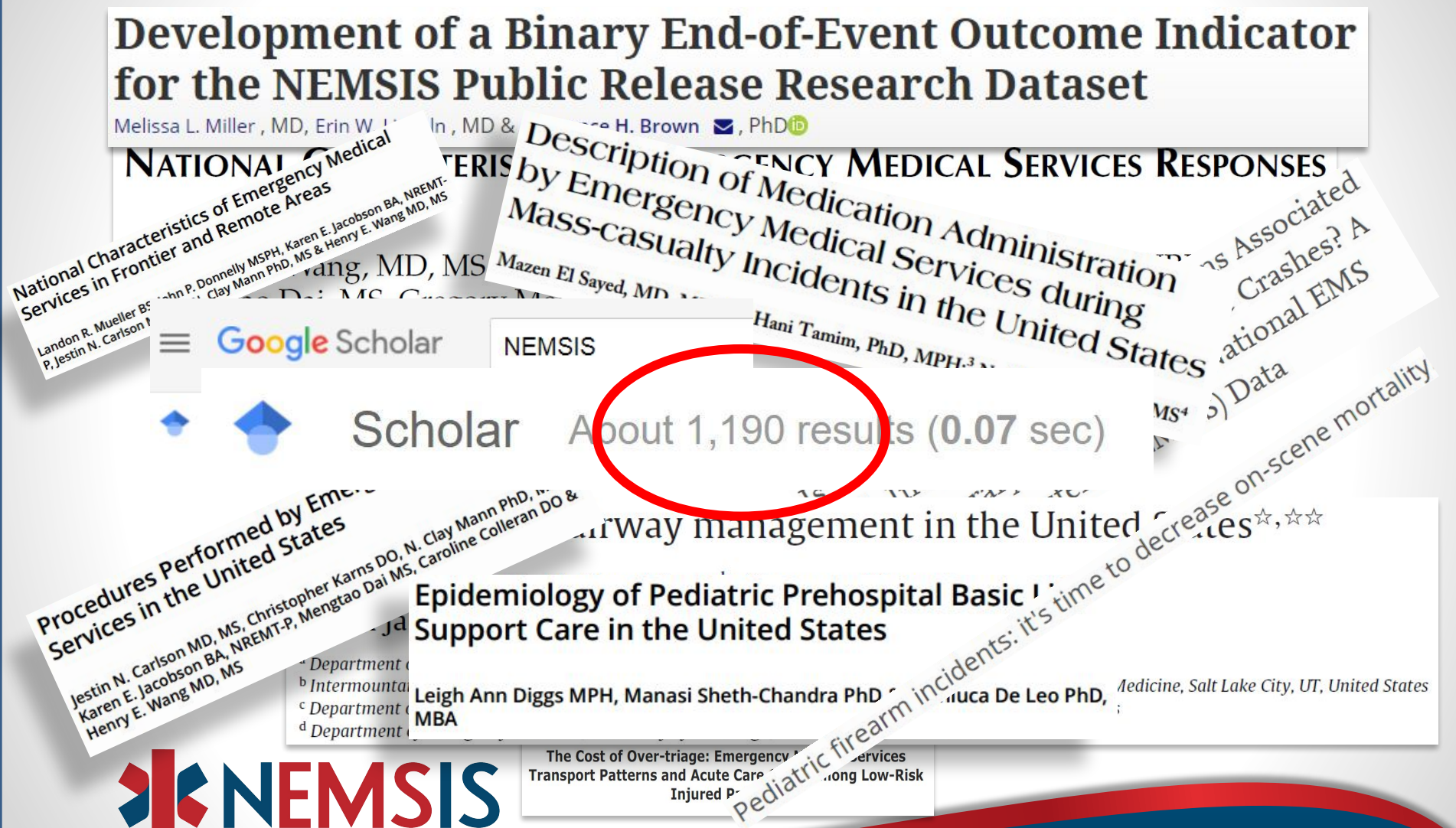


Patient Care Reports (PCR) Processed	
Count of Activations	1,456,790
Count of Activations with Violations	817,025
Count of Violations for all Accepted Activations	2,271,721
Violations Per Activation	1.6
Average Activations per Accepted File	1.1
Count of PCRs Resubmitted	154,734
Submission Lag 25% (hours)	28.1
Submission Lag 50% (hours)	89.8
Submission Lag 75% (hours)	332.4

PCRs Processed With & Without Schematron Warnings



NEMSIS Publications 2021



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Growth & Interest in EMS Data

- COVID
- Opioid Epidemic
- Ketamine Use
- Transportation-related Injuries
  - Ejections, Pedestrians, Cyclists, Motorcycles
- Pediatric Prehospital Care
- Time Sensitive Conditions: Stroke, Cardiac, Trauma, Respiratory
- ET3: Novel Medicaid Reimbursement Model

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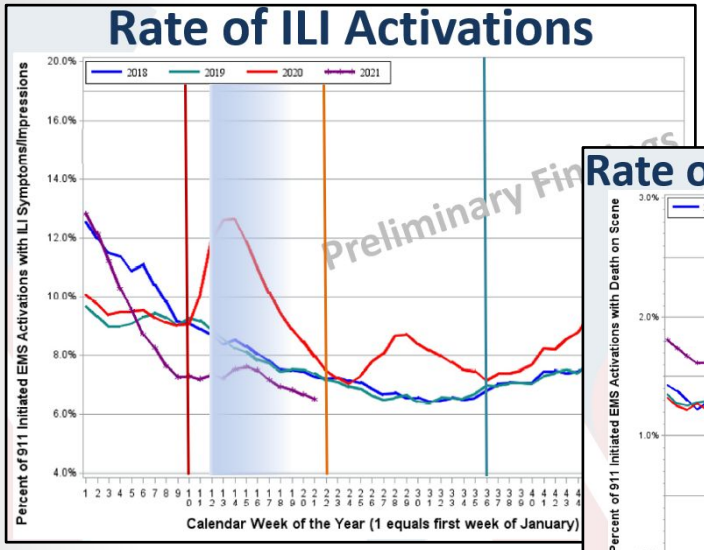
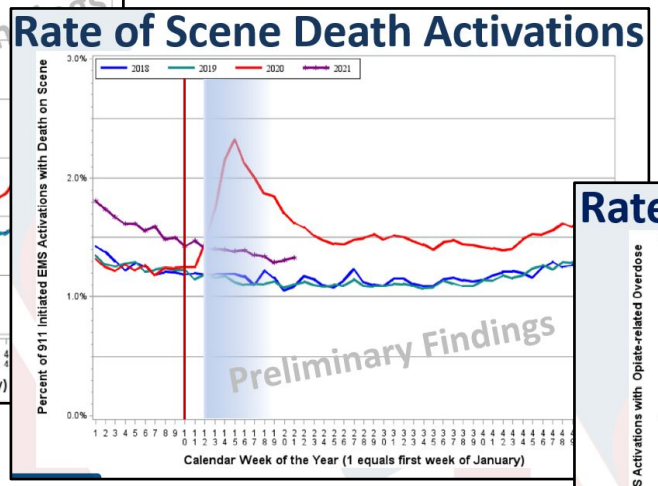
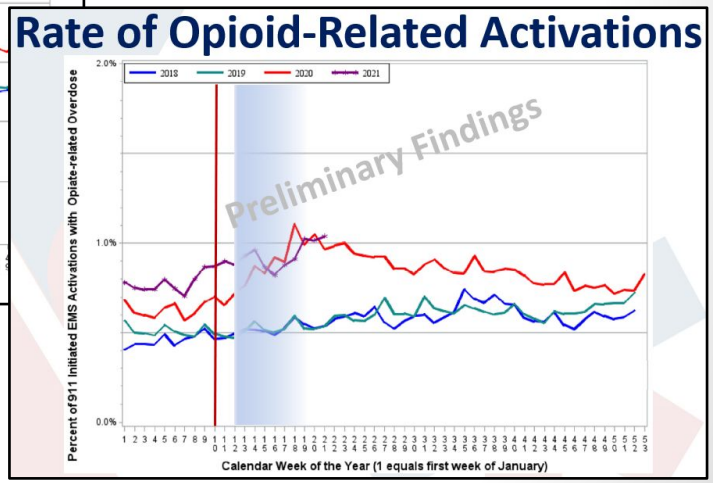
Communicating the EMS Impact of COVID







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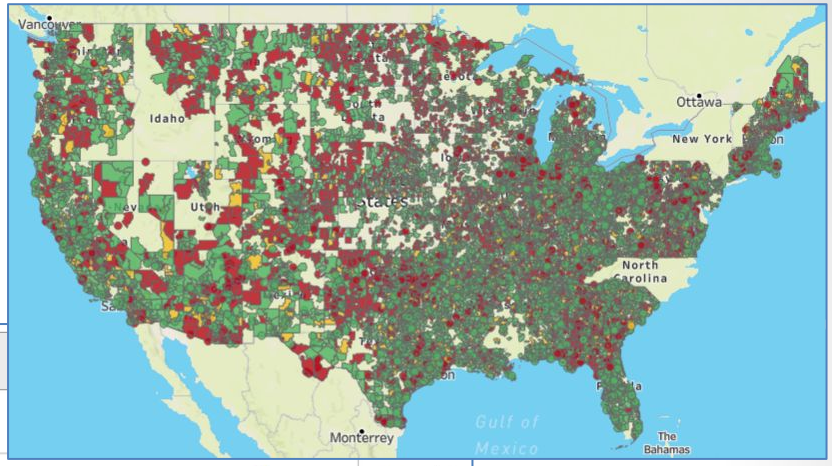
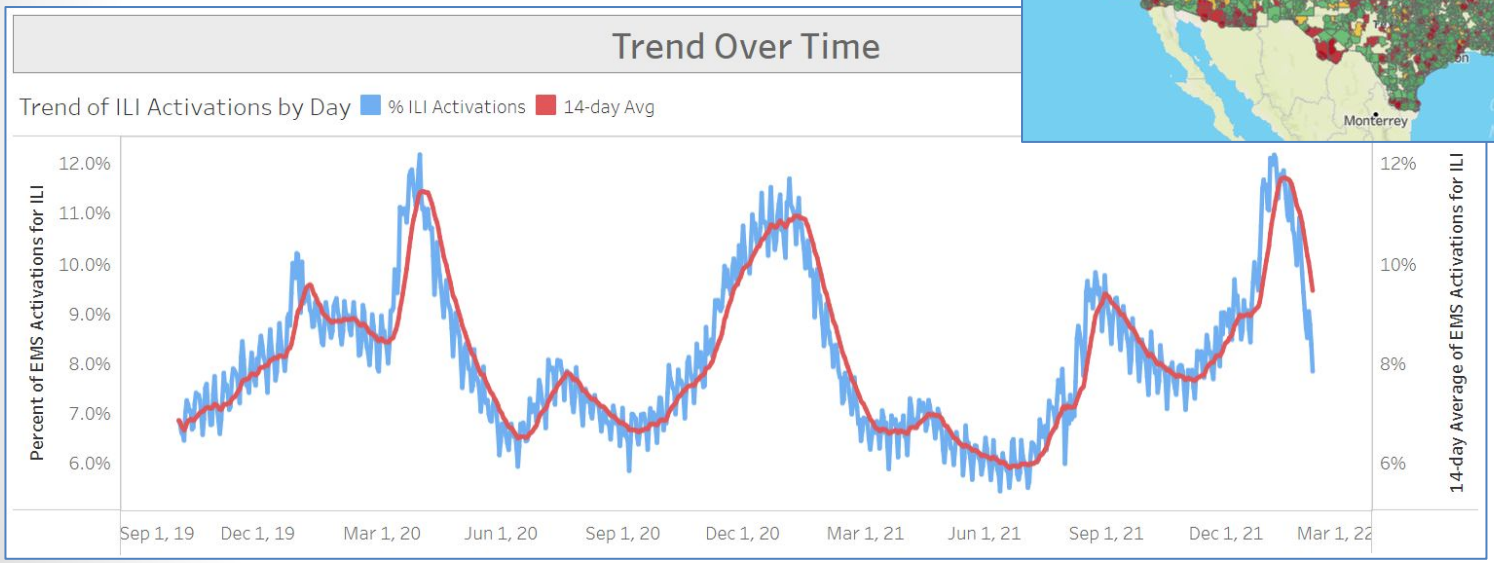
Communicating the EMS Impact of COVID

- ILI Response Trends
- Off-Load and Turn-Around Times
- State COVID/PPE tracking





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Recognizing the Role of EMS in Healthcare

- Federal interest is growing:
  - CDC, DHS, HHS, DOT, NHTSA, FDA, FEMA, White House
- National Registries:
  - CARES: Cardiac Arrest Registry to Enhance Survival
  - Stroke Registry
  - Trauma Registry, American College of Surgeons

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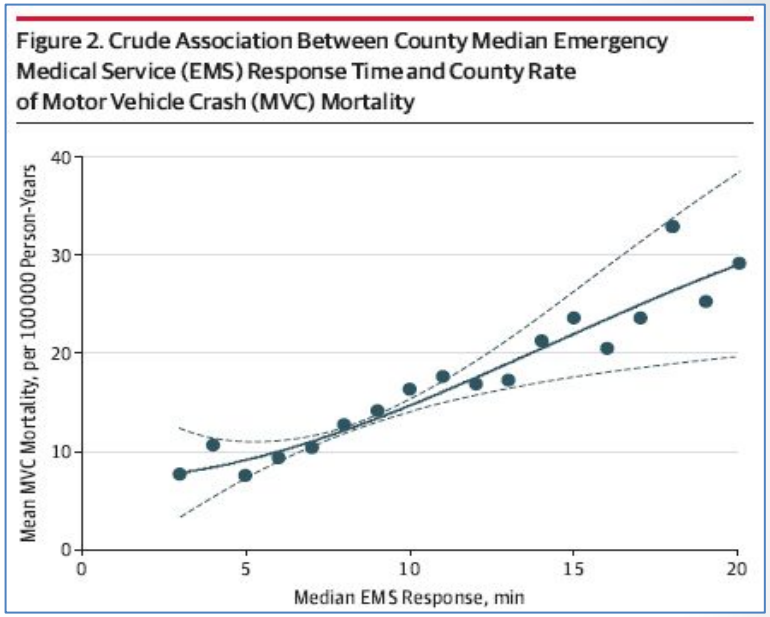
EMS Response Time vs. Mortality

JAMA Surgery | Original Investigation

Association Between Emergency Medical Service Response Time and Motor Vehicle Crash Mortality in the United States

James P. Byrne, MD, PhD; N. Clay Mann, PhD, MS; Mengtao Dai, MS; Stephanie A. Mason, MD, PhD; Paul Karanicolas, MD, PhD; Sandro Rizoli, MD, PhD; Avery B. Nathens, MD, PhD

- Based on 2.2 million responses to a MVC in 2,265 counties
- NEMSIS data linked to FARS data by County
- Indicates increase in MVC mortality with every additional minute of response.



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Delayed Care During Marathons

Do neighborhoods behind street barriers for marathons receive delayed EMS care compared to neighborhoods away from the barriers?

- 11 largest US urban marathons
- 3 years
- 62,890 EMS activations for >65 yrs. chest pain patients
- **On average, transport times 4.4 min longer.**

Jena AB, (2017). **Delays in Emergency Care and Mortality during Major U.S. Marathons**. N Engl J Med, Apr 13(376), 1441-1450.

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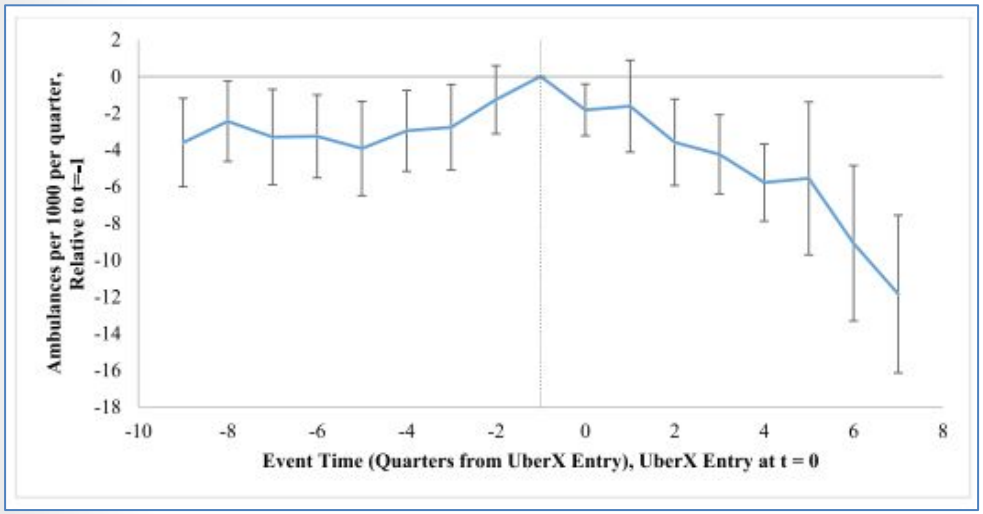
Does Uber Reduce Ambulance Volume?

Pre/Post Uber introduction study including 43 states and 766 cities.



7% decrease in the per capita ambulance rate when Uber enters a city.

Moskatel L, Slusky DJG **Did UberX Reduce Ambulance Volume?** Hlth Econ, 2019;28:817-29.

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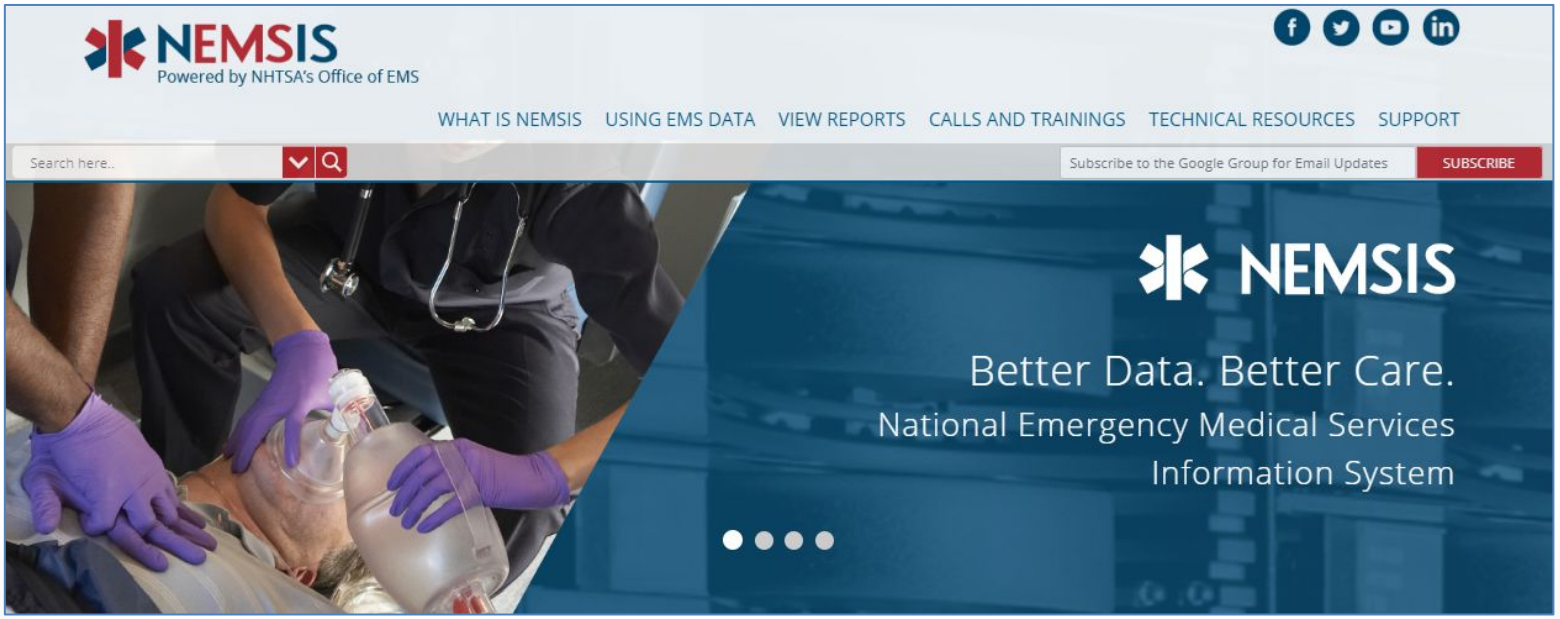
For questions, visit www.NEMSIS.org or email nemsis@hsc.utah.edu



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