

# Post Crash Care: The EMS Response to Traffic-Related Events

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# Objectives

- Overview of EMS post-crash care
- EMS data descriptions of motor vehicle crashes
- How to access EMS data through State EMS Offices and the NEMSIS Technical Assistance Center
- Injury vs Fatality data to assess post-crash care
- Review of available MVC reports, research, and publications using NEMSIS data

# National Roadway Safety Strategy

The National Roadway Safety Strategy (NRSS) focuses on five key objectives:

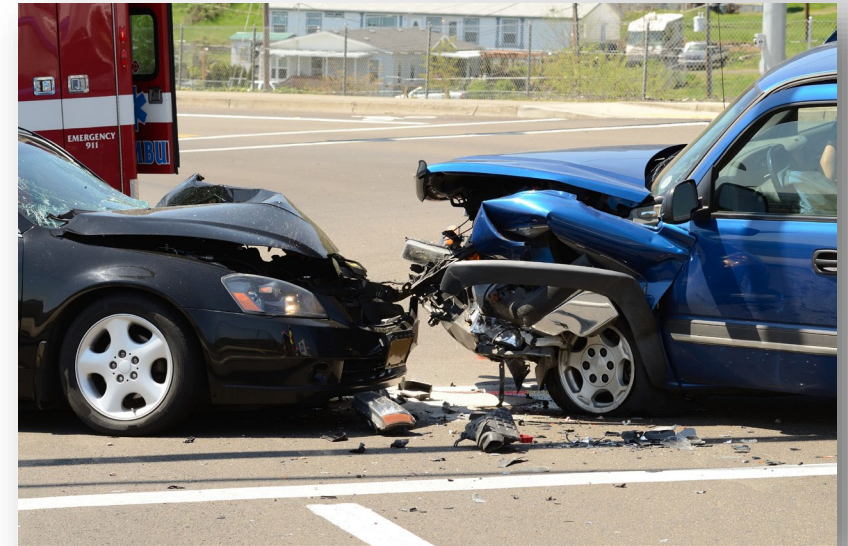
- 1. Safer People.**
- 2. Safer Roads.**
- 3. Safer Vehicles.**
- 4. Safer Speeds.**
- 5. Post-Crash Care.**

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National Roadway Safety Strategy

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United States Department of Transportation | January 2022



Between 2011-2020, over **370,000** people died in transportation incidents in the U.S. More than **94%** of them died on our roads.

<https://www.transportation.gov/NRSS>

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# National Roadway Safety Strategy

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United States Department of Transportation | January 2022

“

U.S. DOT is committed to...make advances in survivability through the delivery of equitable and impartial post-crash care, including EMS and 911.

”

# POST-CRASH CARE



Provide  
**Expedient Access**  
to Emergency  
Medical Care



# NHTSA Office of EMS

Improving patient care and field clinician safety in the out-of-hospital setting by:

1. Bringing together available data and industry experts to identify the most critical issues facing the profession,
2. Tackling those issues through collaboration with partners, including other federal agencies and leading associations, and
3. Providing awareness and education about best practices and evidence-based guidelines.



# NHTSA's Office of Emergency Medical Services Mission



**Reduce** death & disability on our roadways



**Provide** leadership & coordination to EMS & 911 communities



**Assess, plan, develop, & promote** comprehensive, evidence-based EMS & 911 systems



# Key DOT Post-Crash Care Actions in NRSS



- Improve the delivery of EMS throughout the nation



- Improve the availability and quality of national EMS data



- Improve EMS personnel on-scene safety through outreach and training



# Our Message to Highway Safety

Appropriately resourced  
and well-designed EMS  
and 911 systems are  
essential to treating  
serious crash injuries &  
preventing them from  
becoming fatal

# National EMS Advisory Council

## Post-Crash Care Letter Excerpts

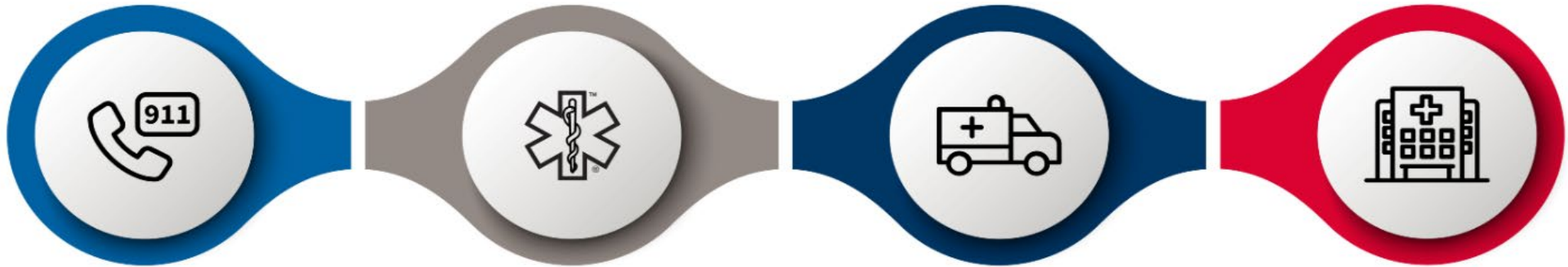


- Encourage **Emergency Medical Dispatch (EMD)** adoption so all 911 calls receive evidence-based pre-arrival instructions
- Support **NEMESIS** adoption and data linkage
- Encourage statewide adoption of **National Trauma Field Triage Guidelines** and **National EMS Model Clinical Guidelines**

*Learn More*



# Seamless Care Transitions Improve Patient Outcomes



01

02

03

04

911, Emergency Medical  
Dispatch, & Bystander Care

Timely On-Scene Care

Triage & Transport

Definitive Care at a  
Trauma Center

# Emergency & Trauma Care Saves Lives

**2 OUT  
OF 5**



**WERE ALIVE WHEN FIRST RESPONDERS  
ARRIVED, BUT LATER DIED**



**40%**

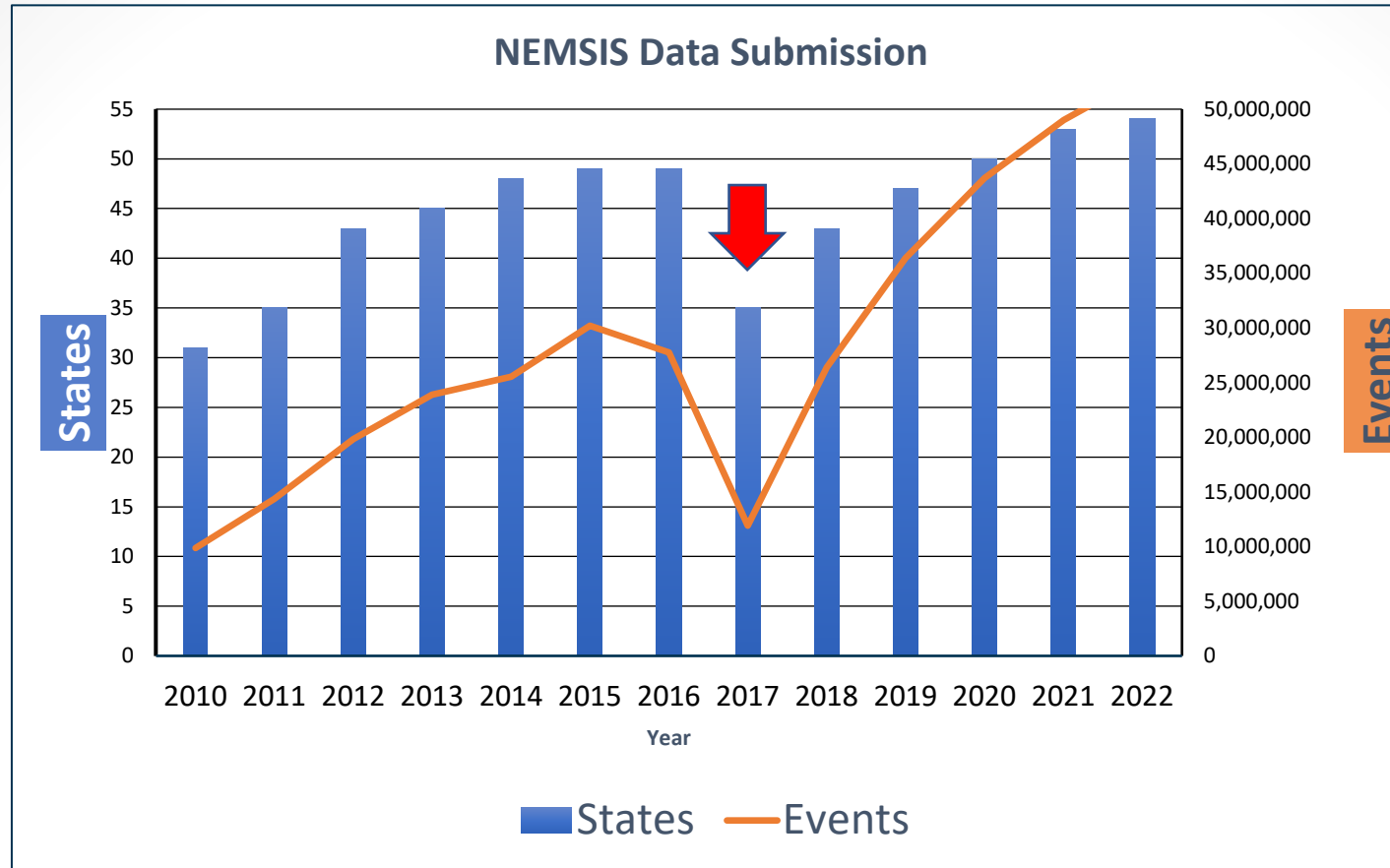
# The National EMS Information System

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.

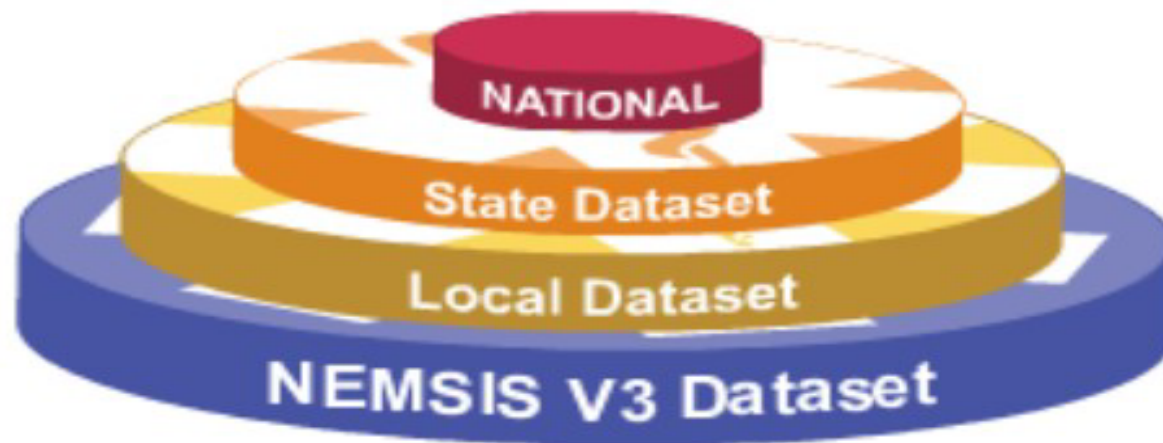
**COLLECT – CLEAN – STORE – SHARE**



# State Participation and Submissions



# National EMS Data Standard



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

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

Legend		Dataset Level: <span style="color:red">■</span> National <span style="color:orange">■</span> State <span style="color:gray">■</span> Deprecated
Usage: <span style="border: 1px solid gray; padding: 0 2px;">M</span> = Mandatory, <span style="border: 1px solid gray; padding: 0 2px;">R</span> = Required, <span style="border: 1px solid gray; padding: 0 2px;">E</span> = Recommended, or <span style="border: 1px solid gray; padding: 0 2px;">O</span> = Optional		
Attributes: <span style="border: 1px solid gray; padding: 0 2px;">N</span> = Not Values, <span style="border: 1px solid gray; padding: 0 2px;">P</span> = Pertinent Negatives, <span style="border: 1px solid gray; padding: 0 2px;">L</span> = Nillable, and/or <span style="border: 1px solid gray; padding: 0 2px;">C</span> = Correlation ID		
<b>eVitals</b>		
1:M	eVitals.VitalGroup	C
1:1	eVitals.01 - Date/Time Vital Signs Taken	N S R N L
1:1	eVitals.02 - Obtained Prior to this Unit's EMS Care	N S R N L
1:1	eVitals.CardiacRhythmGroup	C
1:M	eVitals.03 - Cardiac Rhythm / Electrocardiography (ECG)	N S R N L P C
1:1	eVitals.04 - ECG Type	N S R N L
1:M	eVitals.05 - Method of ECG Interpretation	N S R N L C
1:1	eVitals.BloodPressureGroup	
1:1	eVitals.06 - SBP (Systolic Blood Pressure)	N S R N L P
0:1	eVitals.07 - DBP (Diastolic Blood Pressure)	S E N L P
1:1	eVitals.08 - Method of Blood Pressure Measurement	N S R N L
0:1	eVitals.09 - Mean Arterial Pressure	O
1:1	eVitals.HeartRateGroup	
1:1	eVitals.10 - Heart Rate	N S R N L P
0:1	eVitals.11 - Method of Heart Rate Measurement	O
1:1	eVitals.12 - Pulse Oximetry	N S R N L P
0:1	eVitals.13 - Pulse Rhythm	O
1:1	eVitals.14 - Respiratory Rate	N S R N L P
0:1	eVitals.15 - Respiratory Effort	O
1:1	eVitals.16 - End Tidal Carbon Dioxide (ETCO2)	N S R N L P
0:1	eVitals.17 - Carbon Monoxide (CO)	S E N L P
1:1	eVitals.18 - Blood Glucose Level	N S R N L P
1:1	eVitals.GlasgowScoreGroup	
1:1	eVitals.19 - Glasgow Coma Score-Eye	N S R N L P
1:1	eVitals.20 - Glasgow Coma Score-Verbal	N S R N L P
1:1	eVitals.21 - Glasgow Coma Score-Motor	N S R N L P
1:M	eVitals.22 - Glasgow Coma Score-Qualifier	N S R N L C
0:1	eVitals.23 - Total Glasgow Coma Score	S E N L P

# Structure of the Data Standard



DATASET LEVEL: NATIONAL



DATASET LEVEL: STATE



USAGE: M, R, E, O



ATTRIBUTES: P, L, C





**1.4M**

CRASHES<sup>1,2</sup>



DISPATCHED BY  
THE NATION'S  
**5,400 PSAPs**

**164,978**

SEVERELY INJURED PEOPLE<sup>2</sup>



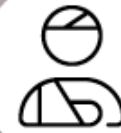
TREATED BY THE NATION'S  
**12,000 EMS AGENCIES**

Post-Crash Care is our  
last opportunity to prevent  
morbidity and mortality  
on the nation's roadways

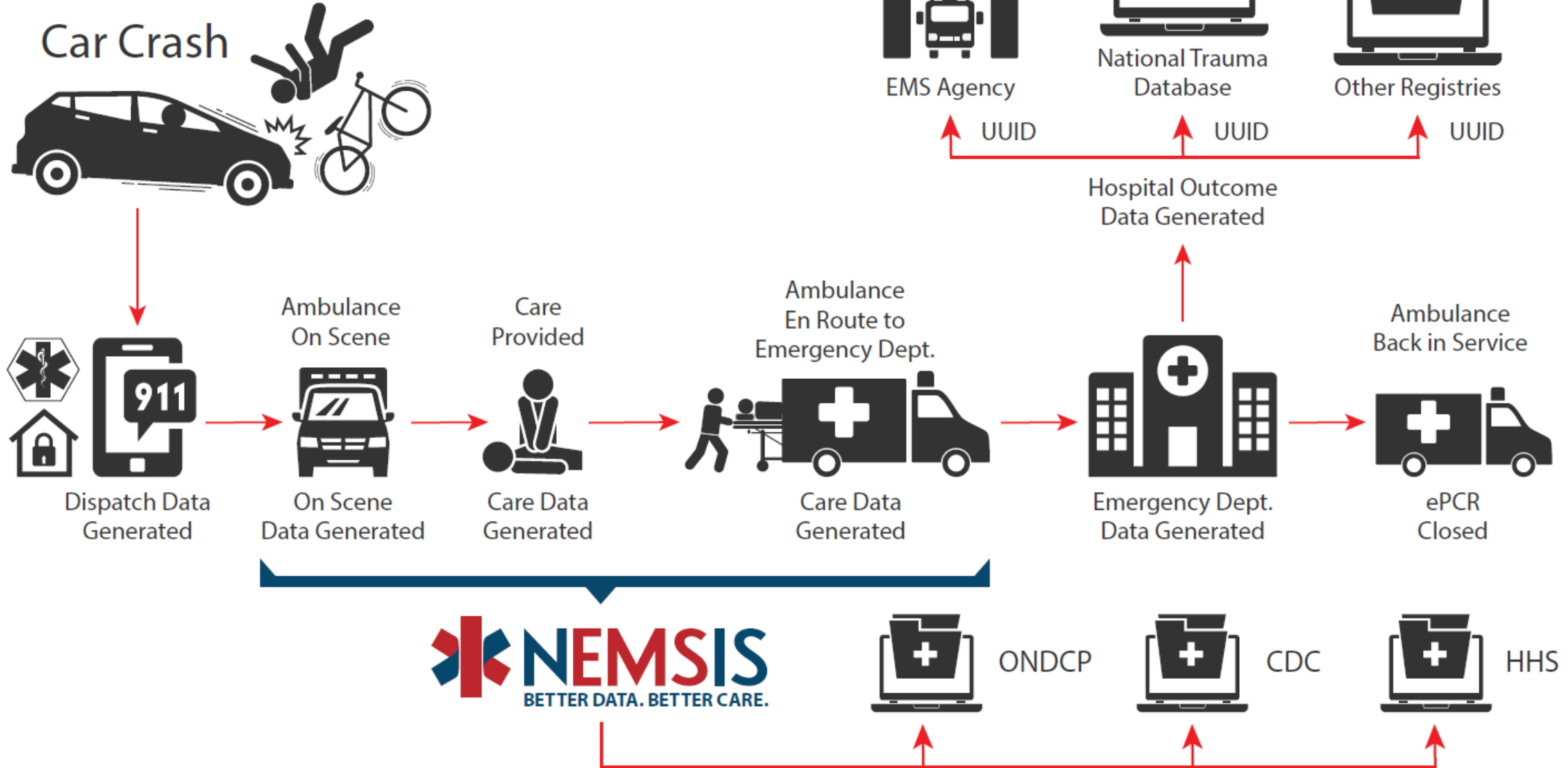


**TIMELY ON-SCENE  
CARE SAVES LIVES**

LONGER RESPONSE TIMES WERE  
SIGNIFICANTLY ASSOCIATED WITH  
HIGHER RATES OF CRASH MORTALITY  
( $\geq 12$  MIN VS.  $< 7$ MIN)



# Flow of EMS Data



# Overview of EMS Post Crash Care and the NEMESIS Role



# Post-Crash Care Suite of Resources

Post-Crash Care was established as a key objective in the 2022 National Roadway Safety Strategy. The resources highlighted help to inform a more complete picture of the characteristics of EMS response.



**Post-Crash Care: EMS Response to MVC-Related Injuries**  
Monthly report on the trends of EMS response to MVC-related injuries. Trends and graphs include details regarding overall responses, severe injury, race/ethnicity, pedestrian, motorcycle, bicyclist, ejections, older adults, and comparisons between fatal, severe injury, and injury rates.



## **NEMSIS Data for MVC with Alcohol/Drug Use Indicators**

Provides an overview and description of MVC-related injury events with one or more indicators of alcohol or drug use. This includes pedestrian, bicyclist, and motorcyclist injuries. Position in vehicle (e.g., driver) is not specifically indicated in national EMS data.



**MVC Crash Dashboard (national, regional, state)**  
Characterization of MVC-related events including patient demographics, probability of survival, and incident details.



**MVC Severity Dashboard**  
Overview of MVC-related injury critical statistics including patient acuity, trauma center criteria, risk factors, and more.



**Post-Crash Care Infographic**  
Brief description of key EMS response characteristics to MVC.



## **Case Definitions**

Description of specific data inclusion criteria for common scenarios documented in EMS to promote consistency in use-case research such as MVC vs car/truck, motorcycle, or pedestrian.



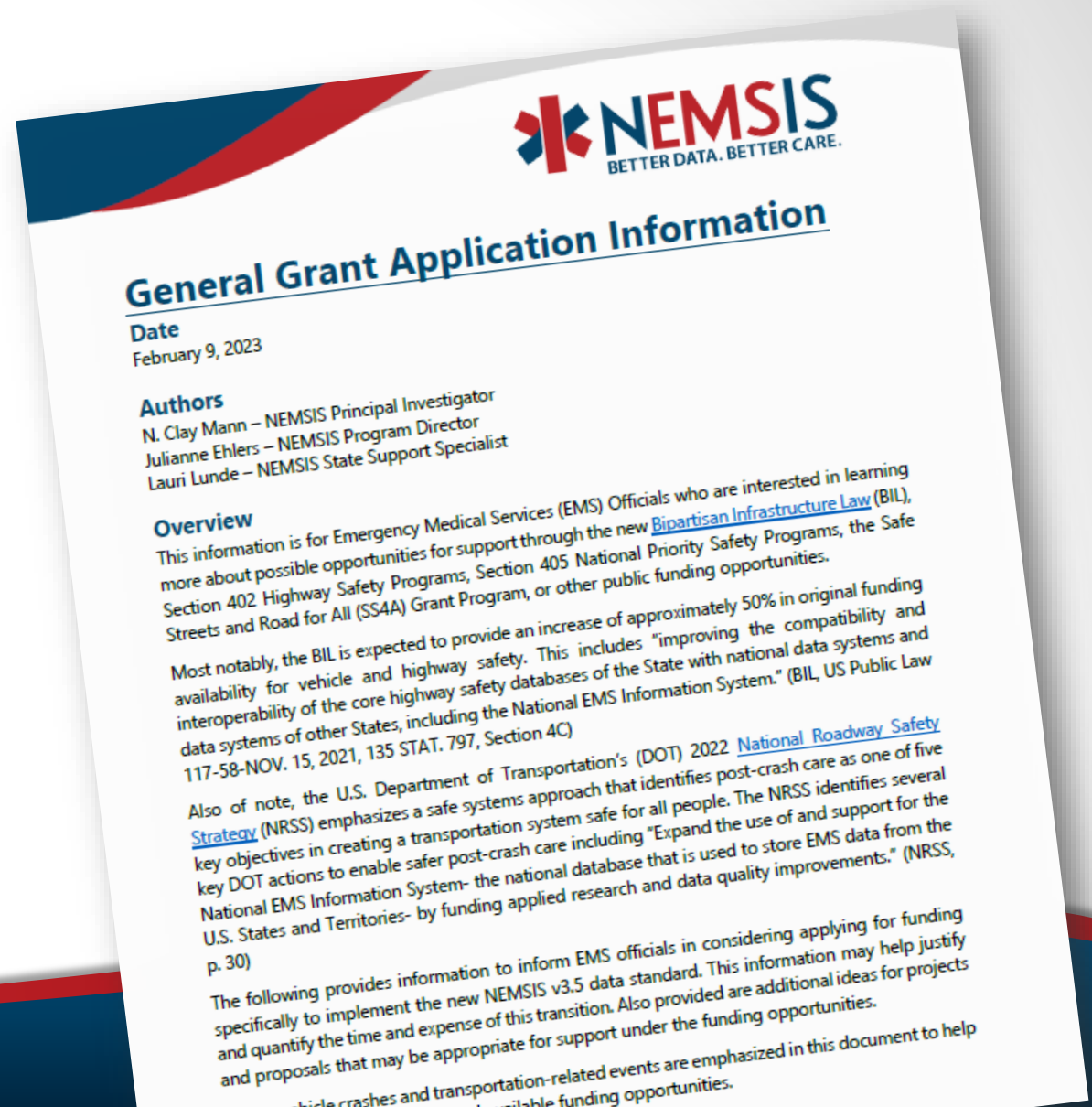
**Performance Measures Dashboard**  
Visualize EMS performance measures such as the use of lights and sirens established by the National EMS Quality Alliance (NEMSQA).



The National Emergency Medical Services Information System (NEMSIS) Technical Assistant Center (TAC), in collaboration with NHTSA's Office of EMS, has developed resources for understanding the scope and quantifying the impact of motor vehicle crash-related (MVC) injuries which generate an EMS response on both a state and national level. These resources utilize EMS response data documented in the field by EMS clinicians when responding to an MVC event.

# General Grant Application Information

- Ready to use descriptions
- Language to describe data priorities
- Content for supporting evidence-based claims
- Other data sources
- Visualization resources



# Post-Crash Care Facts

**200 Million**

Over 5,300 public safety answering points answer 200 million requests for emergency assistance annually<sup>1</sup>



Deaths rates increase by 3% for every minute first responders are delayed<sup>3</sup>

**12,000**

EMS agencies responded to 1,436,763 motor vehicle crashes in 2021<sup>2</sup>

**164,978**

patients were severely injured in motor vehicle crashes in 2021<sup>2</sup>



CONTACT INFO  
<https://www.nhtsa.gov/>  
<https://nemesis.org/>



#### SOURCES

- 1 National Highway Traffic Safety Administration (NHTSA) National 911 Progress Report: 2020 Data
- 2 NEMESIS Severe Injury Criteria: Probability of Survival Score, Final Acuity, or Trauma Team Alert
- 3 James Byrne, MD, PhD, Association Between Emergency Medical Service Response Time and Motor Vehicle Crash Mortality in the United States
- 4 <https://doi.org/10.1001/jamasurg.2018.5097>  
NHTSA Fatality Analysis Reporting System (FARS)

# Post-Crash Care Facts

**2 out of 5**

crash victims were alive when first responders arrived, but later died<sup>4</sup>

**10%**

For every crash death, there are another 10% who suffer a severe or debilitating injury<sup>2</sup>

**3%**

First responders only learn 3% of crash victim outcomes<sup>2</sup>



CONTACT INFO  
<https://www.nhtsa.gov/>  
<https://nemsis.org/>



#### SOURCES

- 1 National Highway Traffic Safety Administration (NHTSA) National 911 Progress Report: 2020 Data
- 2 NEMESIS Severe Injury Criteria: Probability of Survival Score, Final Acuity, or Trauma Team Alert
- 3 James Byrne, MD, PhD, Association Between Emergency Medical Service Response Time and Motor Vehicle Crash Mortality in the United States
- 4 <https://doi.org/10.1001/jamasurg.2018.5097>  
NHTSA Fatality Analysis Reporting System (FARS)

# Trend of Motor-Vehicle Crashes Regardless of Injury: 2016-2023

## MVC Rate:

All activations with a motor-vehicle crash related injury over all 911 activations with patient contact.\*

“Patient” refers to the person involved in the MVC that EMS encounters when dispatched to a crash. Not all patients sustain injuries in an MVC.

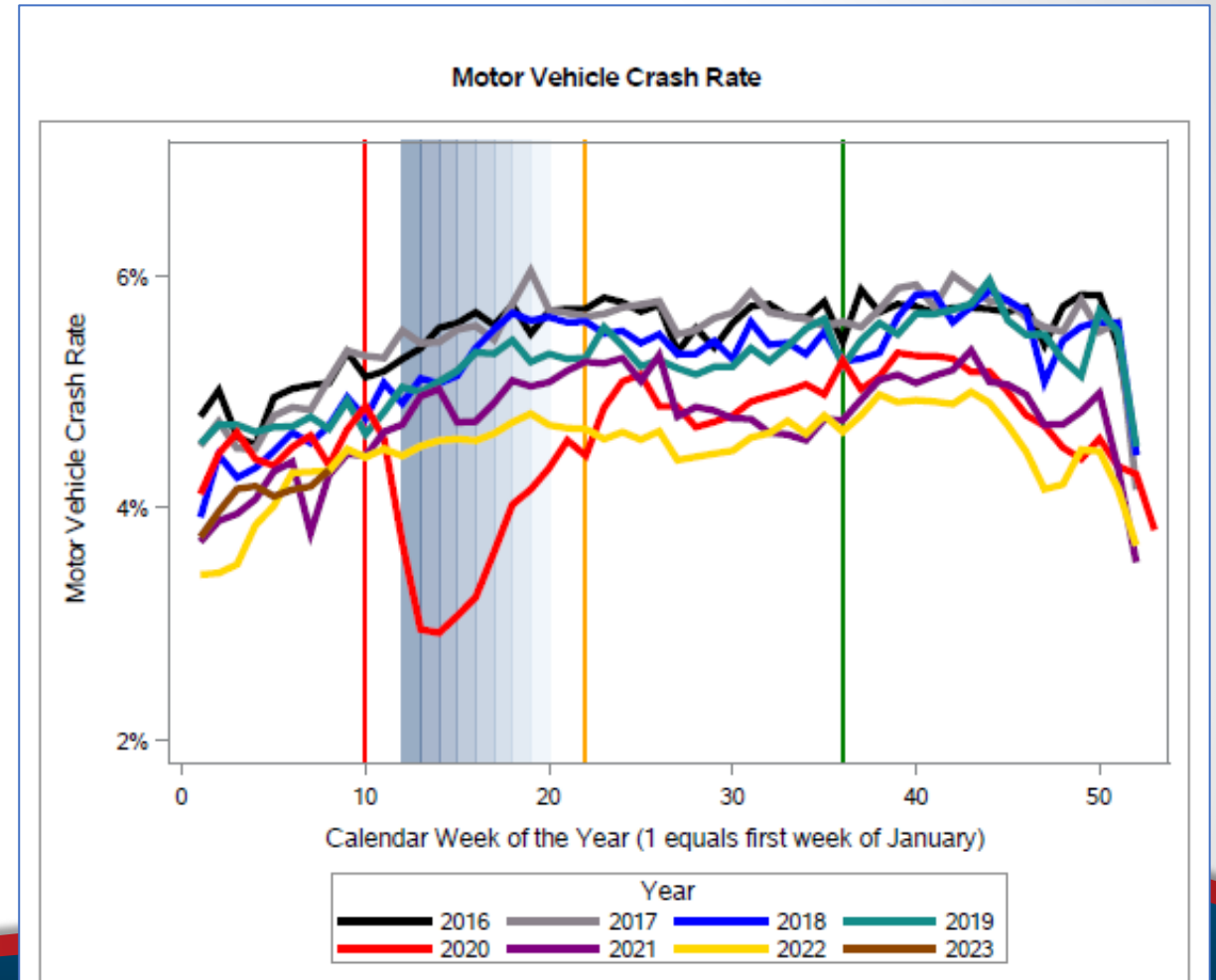
## Date Lines

**Orange:** 2020 CDC reports COVID community spread (week 10)

**Blue gradient:** 2020 States begin initiating Stay-at-Home orders phasing out in Week 19 (weeks 12-19)

**Yellow:** Memorial Day (week 22)

**Green:** Labor Day (week 36)



Preliminary Data

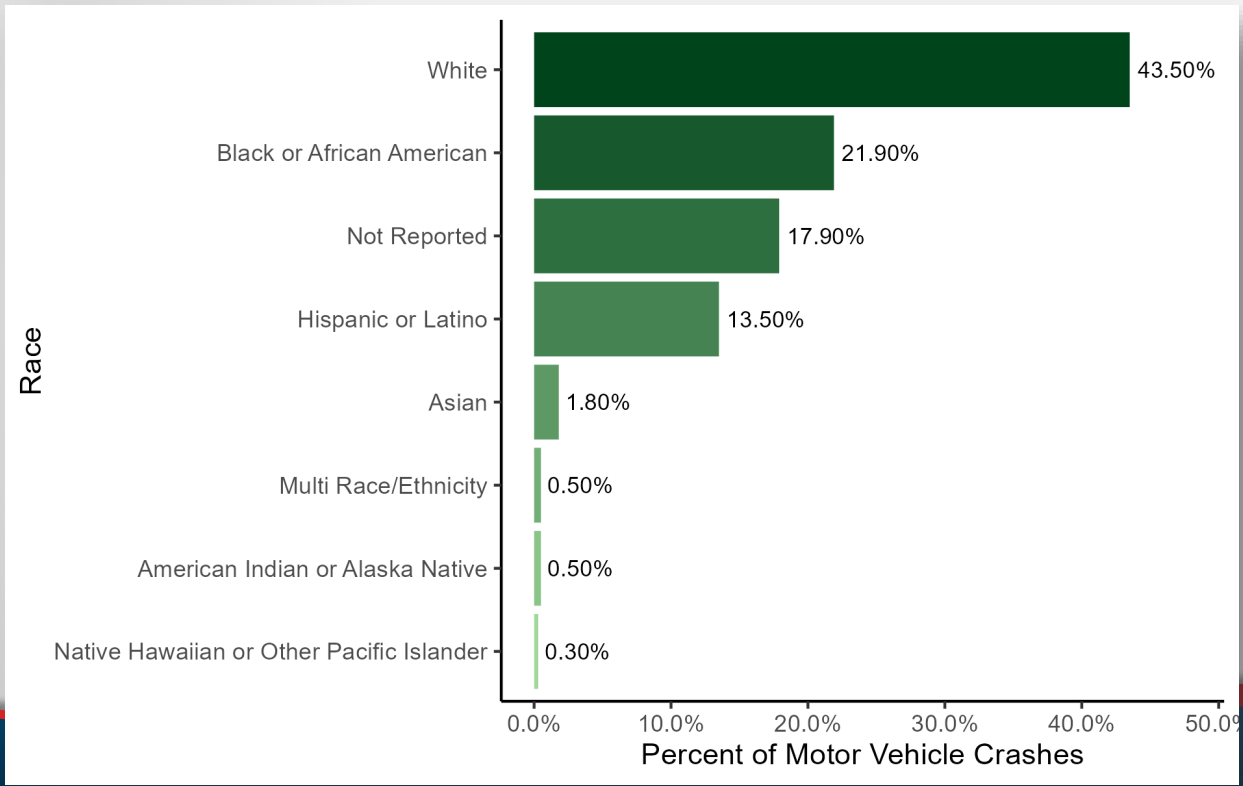
\*Motor-vehicle crashes may generate multiple activations, patient encounters, and ePCRs.





# MVC Patient Demographics

- Date Range: Aggregated for 2018 – 2023.
- Includes all types of MVC-related injuries.
- Race is entered into the patient care report (ePCR) by the clinician in the field. They can select as many descriptors as needed.
- Click here to access the [Public Motor Vehicle Crash Dashboard](#).



Age Range	Female	Male
0-4 Years	0.20%	0.20%
5-9 Years	0.00%	0.00%
10-14 Years	3.30%	3.40%
15-19 Years	5.10%	4.70%
20-24 Years	6.20%	6.00%
25-29 Years	5.30%	5.50%
30-34 Years	4.50%	4.90%
35-39 Years	3.80%	4.10%
40-44 Years	3.30%	3.50%
45-49 Years	3.10%	3.20%
50-54 Years	3.10%	3.30%

55-59 Years	3.00%	3.30%
60-64 Years	2.50%	2.70%
65-69 Years	1.90%	1.90%
70-74 Years	1.50%	1.40%
75-79 Years	1.00%	0.90%
80-84 Years	0.60%	0.60%
85-89 Years	0.30%	0.30%
90-94 Years	0.10%	0.10%
95-99 Years	0.00%	0.00%
100+ Years	0.00%	0.00%
Unknown	0.20%	0.20%

Preliminary Data

# MVC Severely Injured Patients

- “Severe injuries” are assessed using measures for patient acuity, trauma team activation (pre-alert), and probability of survival (POS).\*
- Severe injuries increased with the onset of the COVID-19 pandemic.

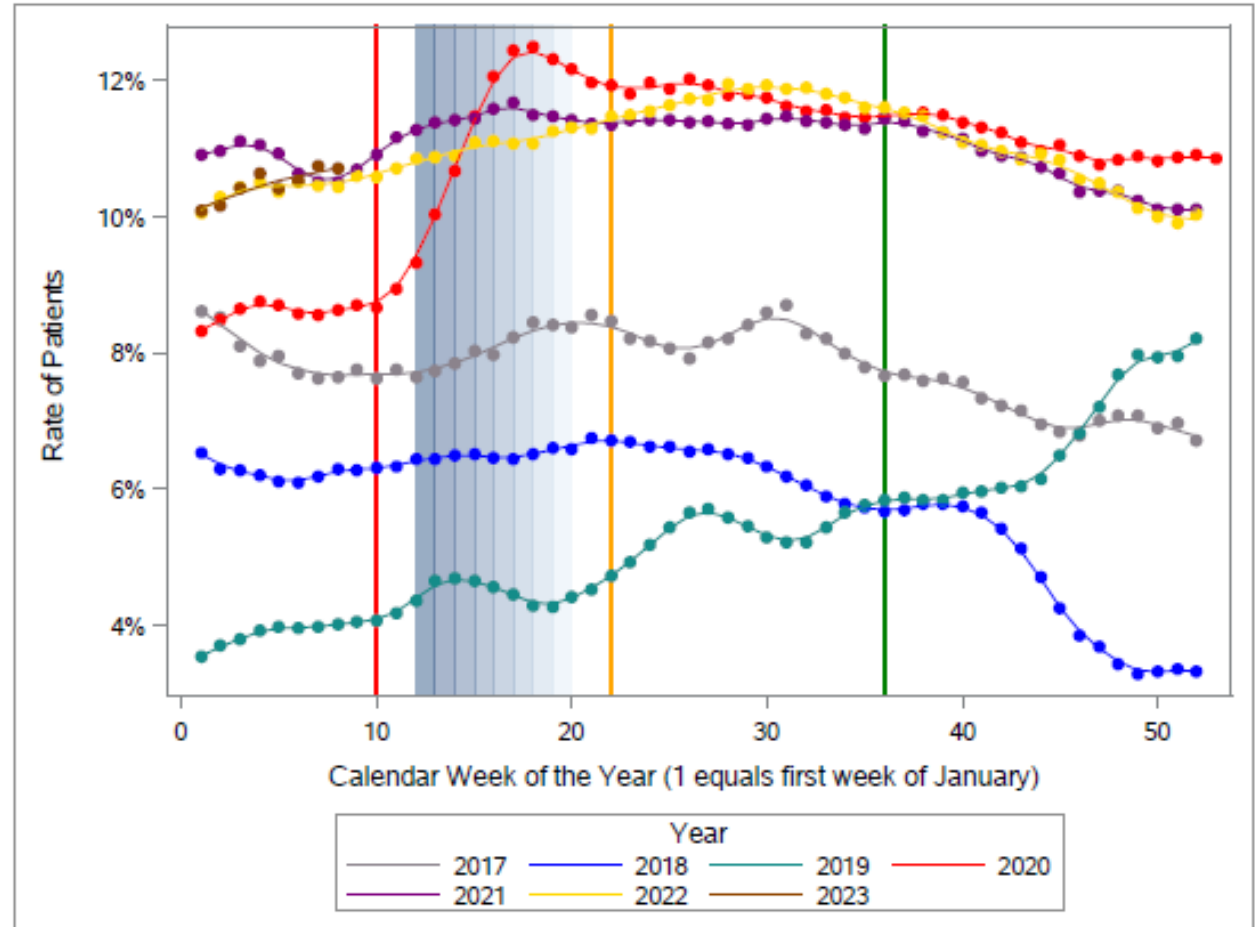
Some trends have a LOESS (locally estimated scatterplot smoothing) curve applied to a 5 week moving average.

EMS trends that are more infrequent are illustrated using this process as it smooths the “sawtooth” impact of fewer or sporadic activations helping to better communicate the trend of activations.

Each dot is the weekly data point.

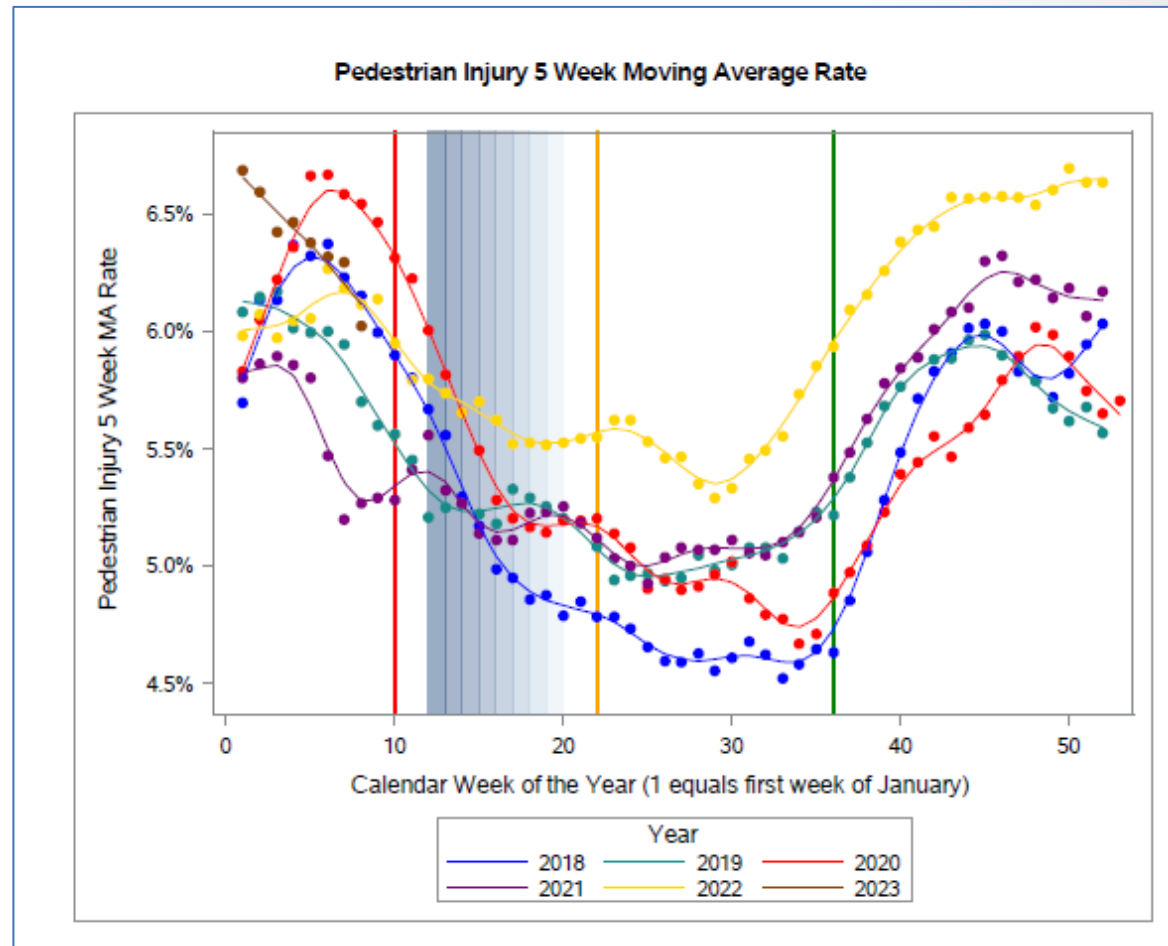


Rate of All Patients in Motor Vehicle Crashes with Severe Injuries



# How Often are Pedestrians Injured in an MVC?

MVC vs. pedestrian injuries are identified by the cause(s) of injury entered into the electronic patient care report (ePCR) by the EMS field clinician which include ICD-10-CM Codes V00-V09: Pedestrian injured in transport accident.

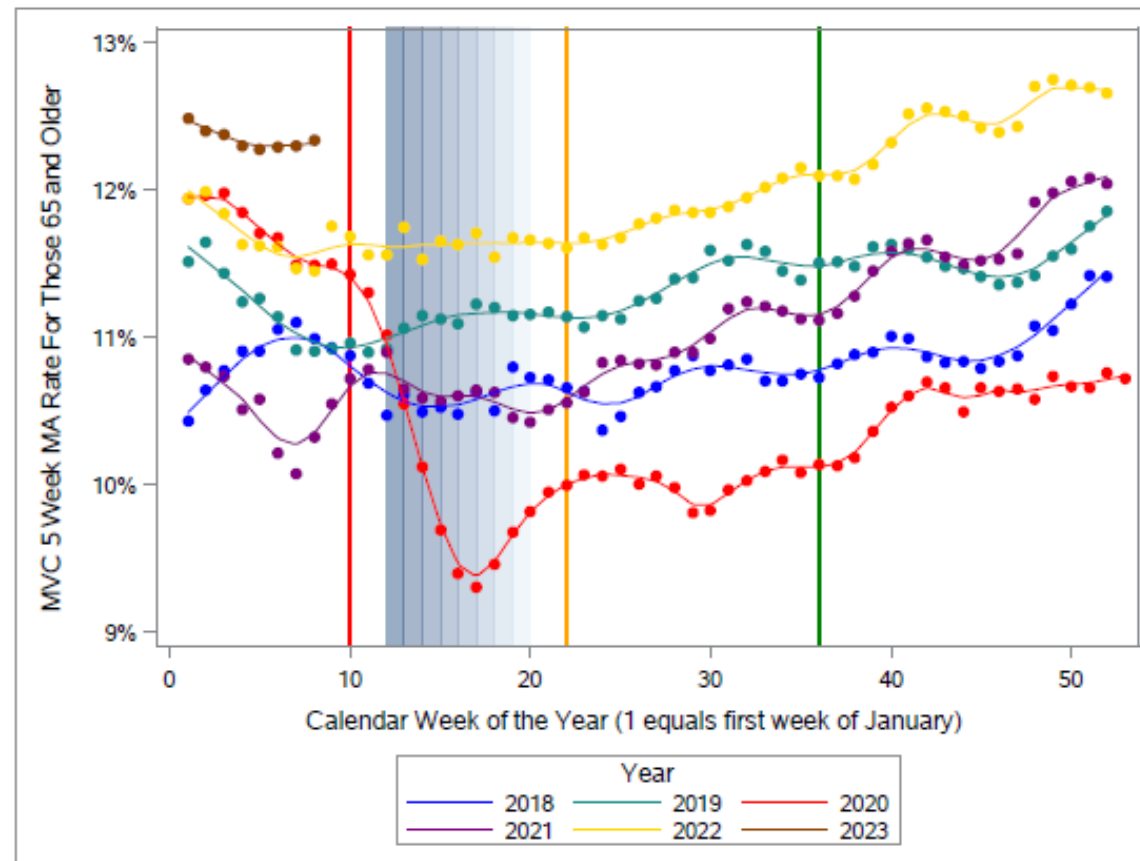


# How Often are Older Adults Injured in an MVC?

Trend lines represent patients 65 years and older who sustained an MVC-related injury.



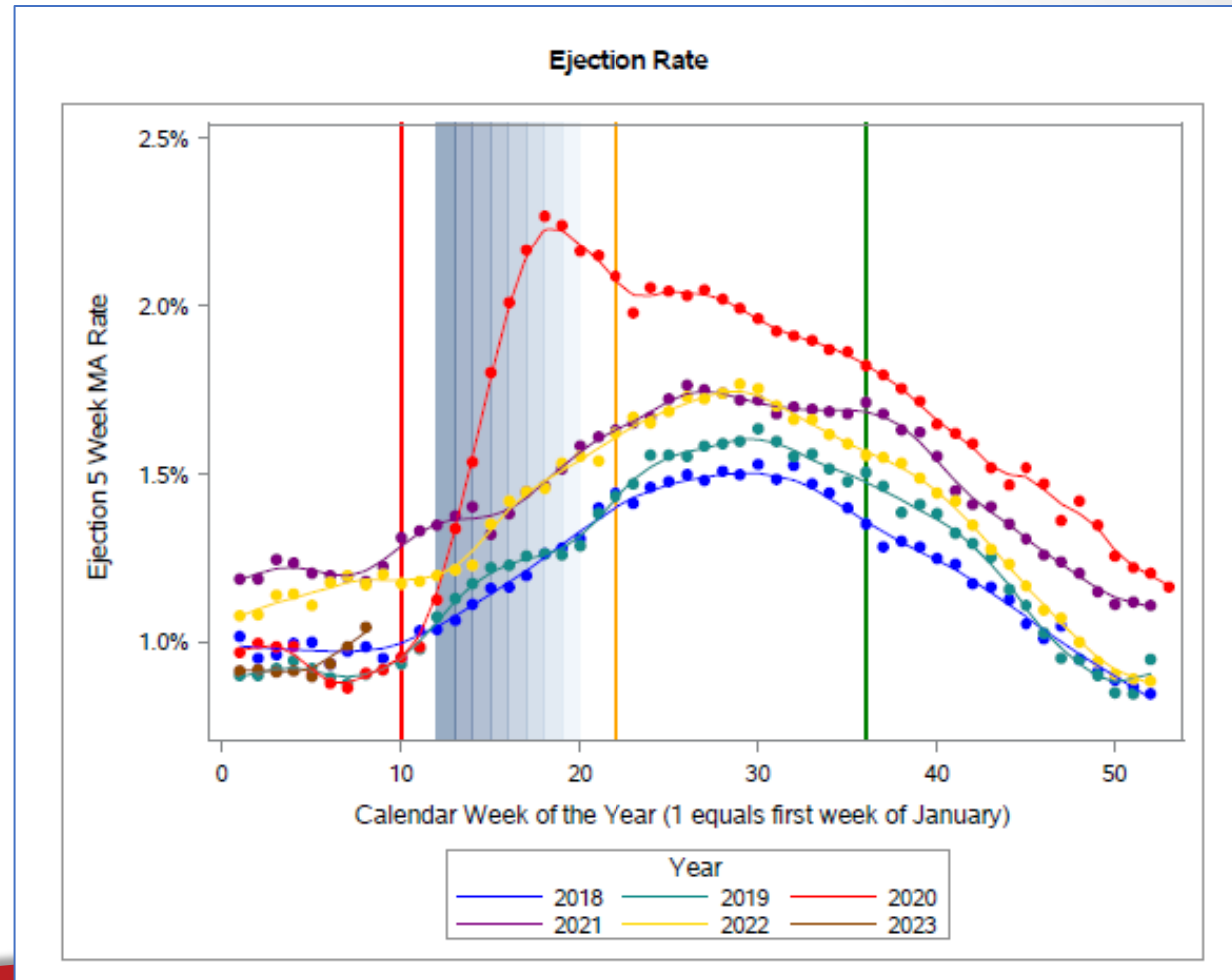
Motor Vehicle Crash 5 Week Moving Average Rate For Those 65 and Older



\*LOESS applied to 5 week moving average.

# How Often are Patients Ejected From the Vehicle During an MVC?

- The rate represented are patients with an injury risk factor of "crash ejection from automobile".\*
- This is not a rate of crashes. This is a **rate of activations** in which EMS encountered a patient who was ejected from a vehicle during a crash. Crashes can have multiple patients, each one with a unique ePCR.

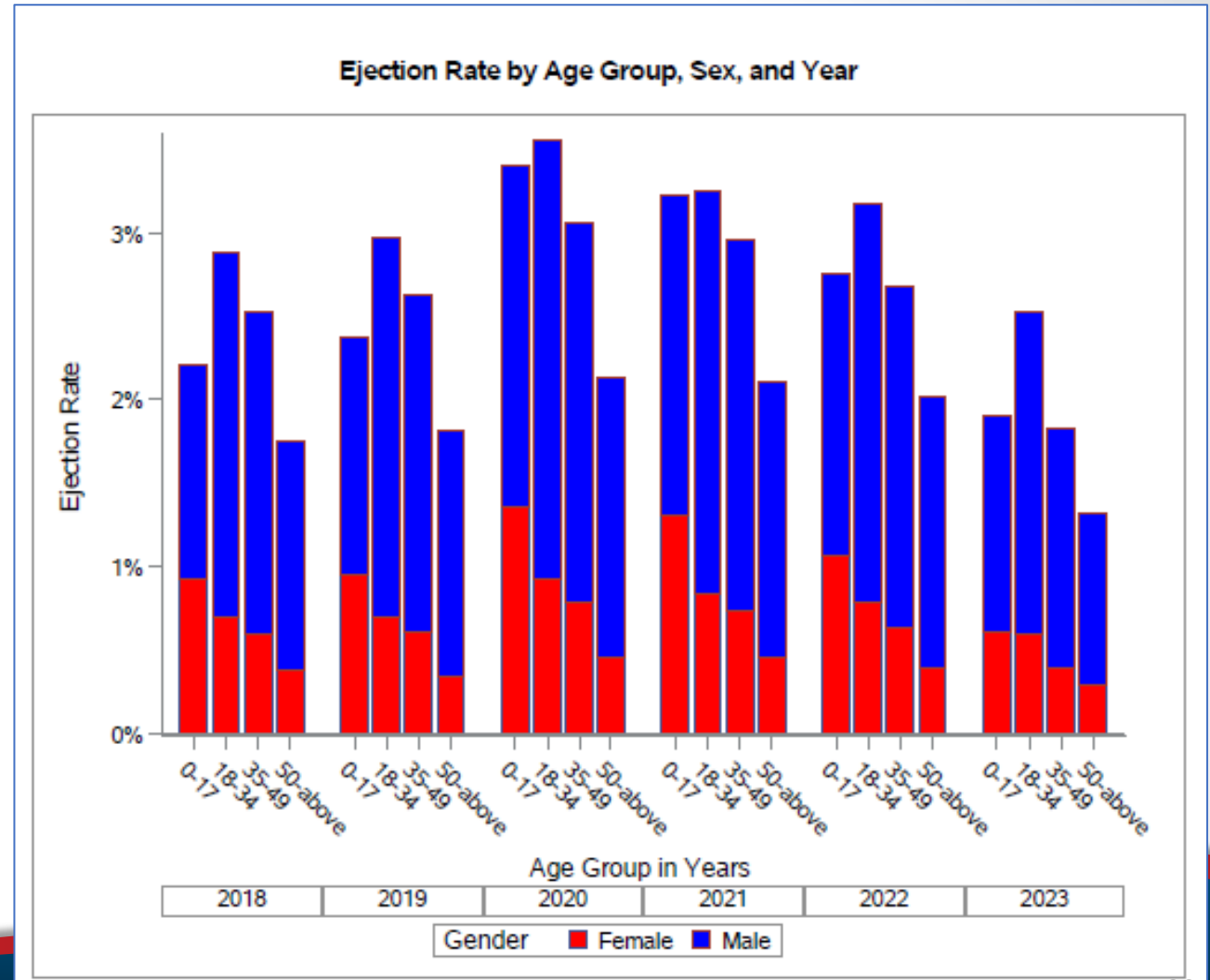


Preliminary Data

\*eInjury.04 - Vehicular, Pedestrian, or Other Injury Risk Factor. \*\*LOESS applied to 5 week moving average.

# MVC Ejections by Age and Sex

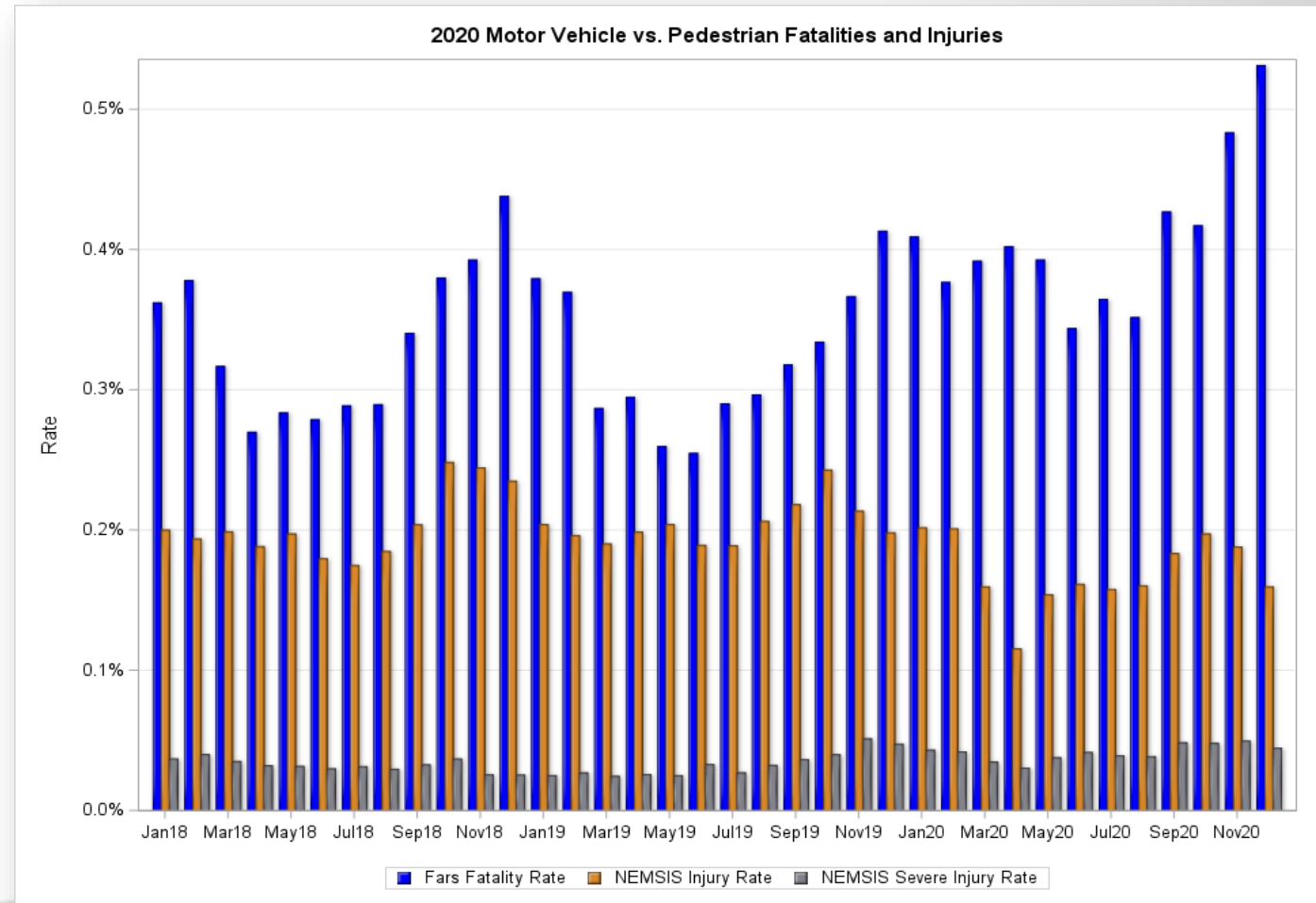
- The rate represented are patients with an injury risk factor of “crash ejection from automobile” based on age group, sex, and year.\*
- This is not a rate of crashes. This is a **rate of activations** in which EMS encountered a patient who was ejected from a vehicle during a crash. Crashes can have multiple patients, each one with a unique ePCR.



# Comparing Fatalities and Injuries: Motor Vehicle vs. Pedestrian

The FARS and NEMSIS data have different denominators:

- FARS Data: Total motor-vehicle crashes vs. pedestrian fatalities over all MVC activations\*
- NEMSIS Injury: Total motor-vehicle crashes vs. pedestrian injuries over all MVC activations
- NEMSIS Severe Injury: Total motor-vehicle crashes vs. pedestrian who sustained a severe injury over all MVC activations

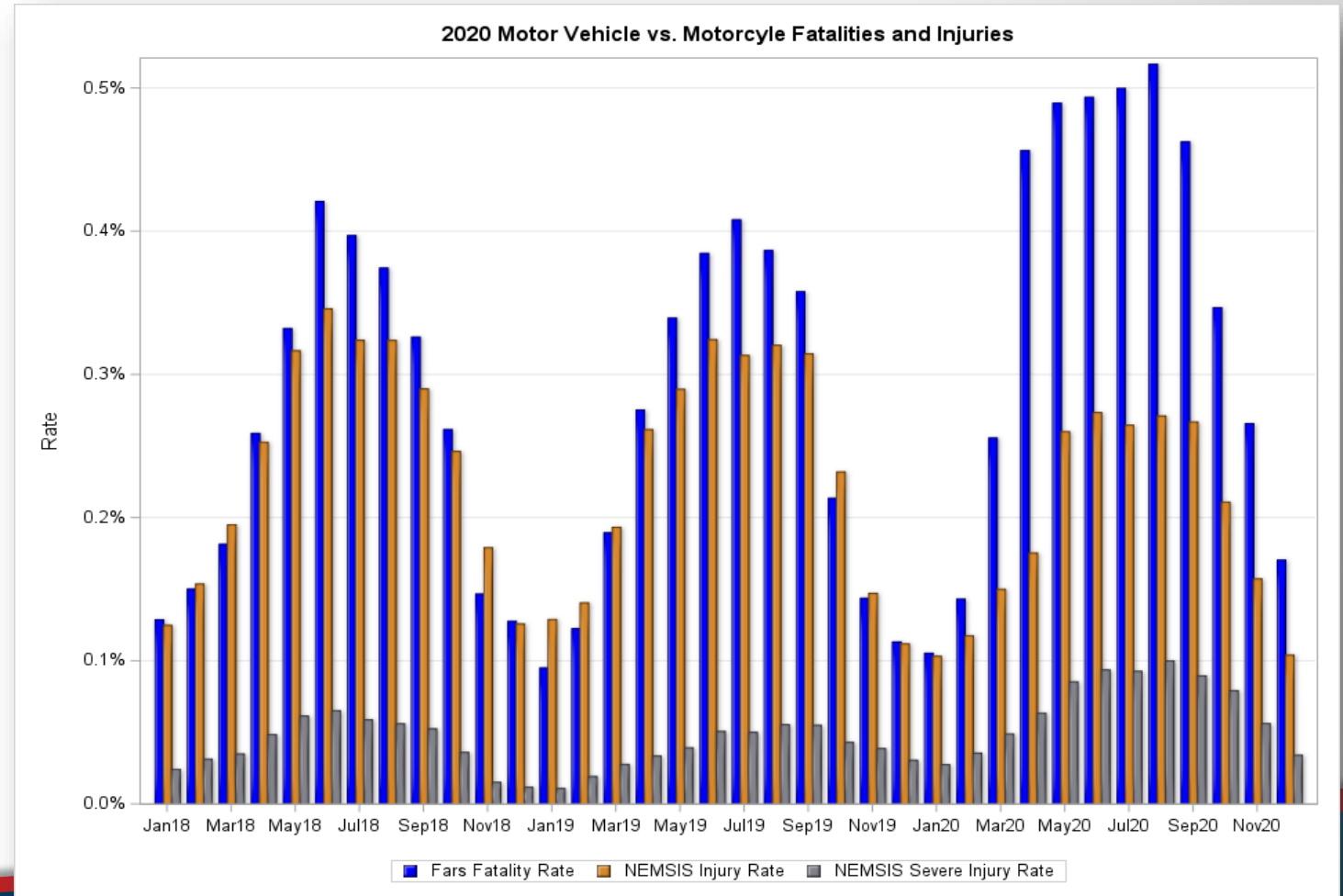


Preliminary Data

# Comparing Fatalities and Injuries: Motor Vehicle vs. Motorcyclist

The FARS and NEMSIS data have different denominators:

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- NEMSIS Injury: Total motor-vehicle crashes vs. pedestrian injuries over all MVC activations
- NEMSIS Severe Injury: Total motor-vehicle crashes vs. pedestrian who sustained a severe injury over all MVC activations

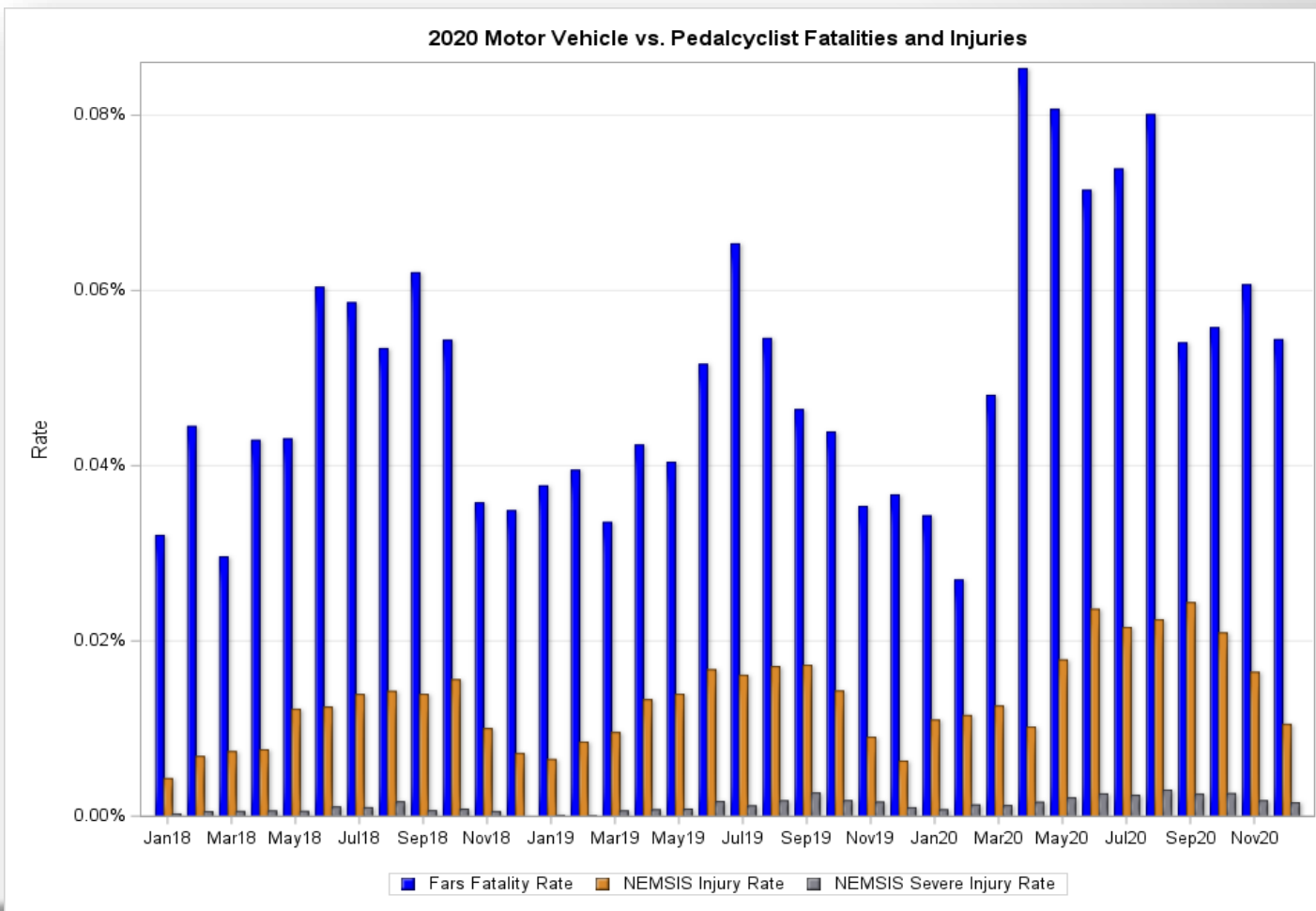




# Comparing Fatalities and Injuries: Motor Vehicle vs. Bicyclist

The FARS and NEMSIS data have different denominators:

- FARS Data: Total motor-vehicle crashes vs. pedestrian fatalities over all MVC activations\*
- NEMSIS Injury: Total motor-vehicle crashes vs. pedestrian injuries over all MVC activations
- NEMSIS Severe Injury: Total motor-vehicle crashes vs. pedestrian who sustained a severe injury over all MVC activations



# State Use of EMS Crash Data

# NASEMSO NEMSIS Liaison



Welcome Randall Eimerman

- Provides the integration between the NEMSIS TAC and NASEMSO leadership, councils and committees
- Voice for all data-related projects
- He is a Paramedic and has worked as a State Data Manager in both Indiana and Kentucky



# Missouri

Peggy Huddleston, EMS Data Manager  
Taz Meyer, EMS Program Manager



# Missouri Bureau of Emergency Medical Services

- Collects data from the electronic patient care reports (ePCR) using the NEMSIS data elements.
- Collaborates with Missouri Department of Transportation (MODOT) to create traffic flyers.
  - Drive Sober or Get Pulled Over
  - Pedestrian Safety Month
  - Older Driver Awareness Week



# Missouri: Drive Sober Get Pulled Over

In 2022 the highest percentage of alcohol-related deaths occurred between 12 a.m. and 6 a.m. on Saturdays in ages 30-34.

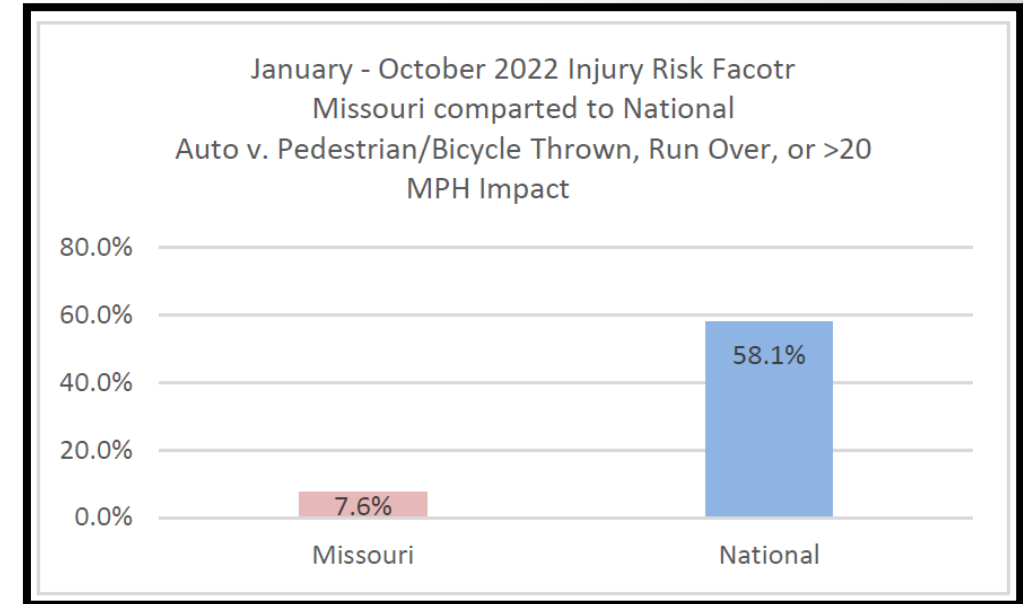
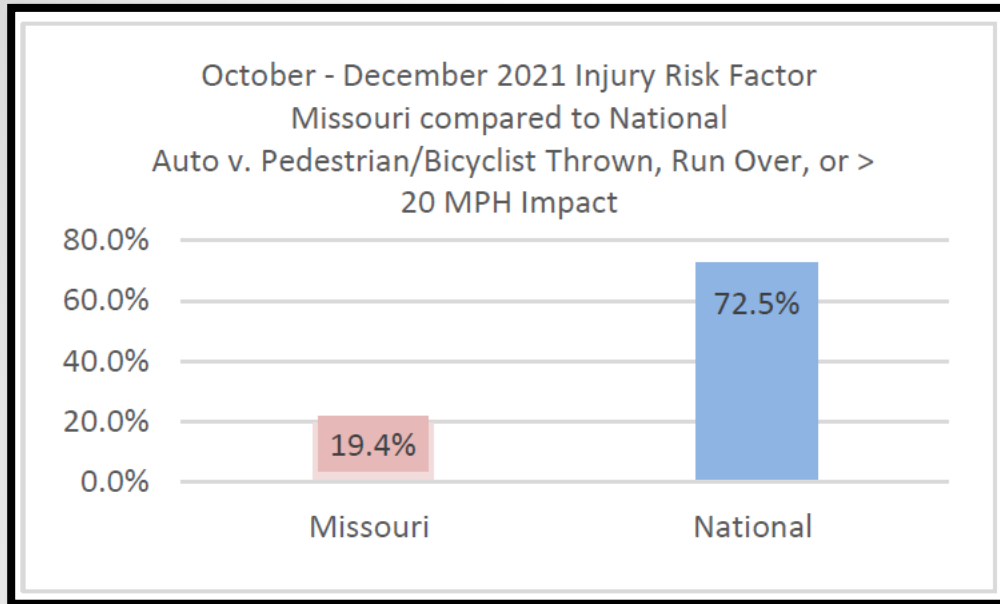
Dispatch Time

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
12am to 6am	22.6%	9.7%	3.2%	16.1%		19.4%	29.0%
6am to 12pm	5.4%	5.4%	16.2%	18.9%	21.6%	18.9%	13.5%
12pm to 6pm	13.2%	18.9%	5.7%	11.3%	9.4%	18.9%	22.6%
6pm to 12am	17.3%	11.5%	5.8%	3.8%	17.3%	26.9%	17.3%

Age Range	Gender	
	Female	Male
20-24 Years	2.6%	4.1%
25-29 Years	2.0%	4.6%
30-34 Years	3.1%	9.2%
35-39 Years	1.1%	8.2%
40-44 Years	2.0%	6.1%
45-49 Years	1.5%	4.6%
50-54 Years	2.0%	5.6%
55-59 Years	0.5%	5.6%
60-64 Years	1.0%	6.1%
65-69 Years	0.5%	5.6%
70-74 Years	2.0%	4.1%
75-79 Years	1.5%	1.5%
80-84 Years	0.0%	2.0%
85-89 Years	0.0%	1.0%
90-94 Years	0.0%	0.0%
95-99 Years	0.0%	0.0%
100+ Years	0.0%	0.0%



# Missouri: Pedestrian Report



IN 2020, A PEDESTRIAN WAS  
KILLED EVERY **81**  
MINUTES IN TRAFFIC  
CRASHES.



# Missouri: Older Driver Safety Awareness Week

MO - CY2021		
Age Range	Gender	
	Female	Male
60-64 Years	2.2%	2.3%
65-69 Years	1.6%	1.5%
70-74 Years	2.0%	2.1%
75-79 Years	1.1%	1.1%
80-84 Years	0.8%	0.6%
85-89 Years	0.4%	0.2%
90-94 Years	0.1%	0.2%
95-99 Years	0.0%	0.0%
100+ Years	0.1%	0.0%

Licensed Drivers by Age and Sex  
(In Thousands) as of May 31, 2022 <sup>1</sup>

Age	Male	Female	Total
60-64	4,970	4,944	9,914
65-69	4,183	4,203	8,386
70-74	3,645	3,823	7,468
75-79	2,820	3,091	5,911
80-84	1,657	1,854	3,511
85 and over	957	1,093	2,050
Total	18,232	19,008	37,240

MO - CY2022		
Age Range	Gender	
	Female	Male
60-64 Years	2.5%	3.2%
65-69 Years	2.0%	2.1%
70-74 Years	1.7%	1.6%
75-79 Years	1.2%	1.0%
80-84 Years	0.7%	0.7%
85-89 Years	0.4%	0.4%
90-94 Years	0.2%	0.2%
95-99 Years	0.0%	0.0%
100+ Years	0.0%	0.0%

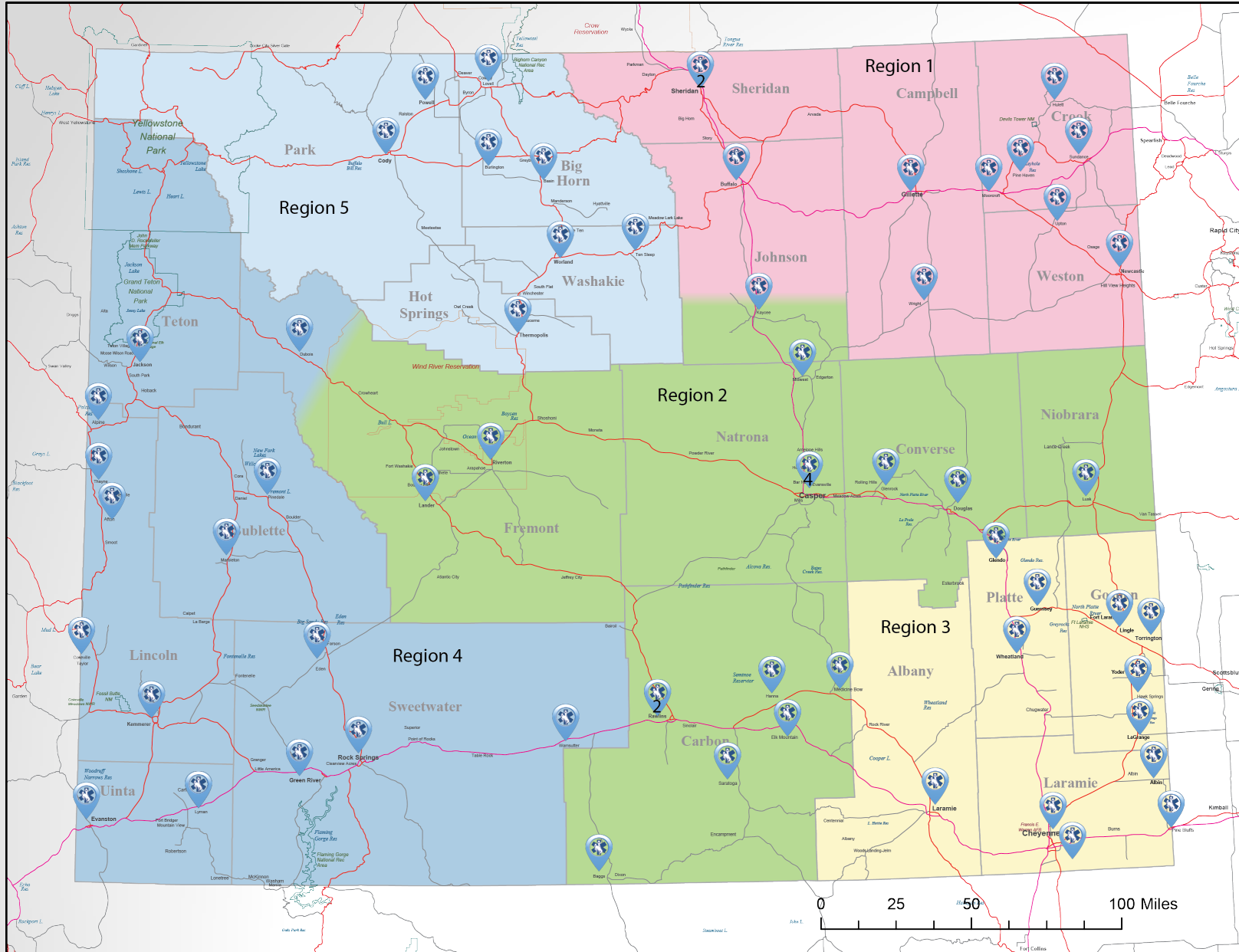


# Wyoming

Jay Ostby, Data Manager  
Office of Emergency Medical Services



# Mapping: Ambulance Stations



# Geographical Data: Response Times



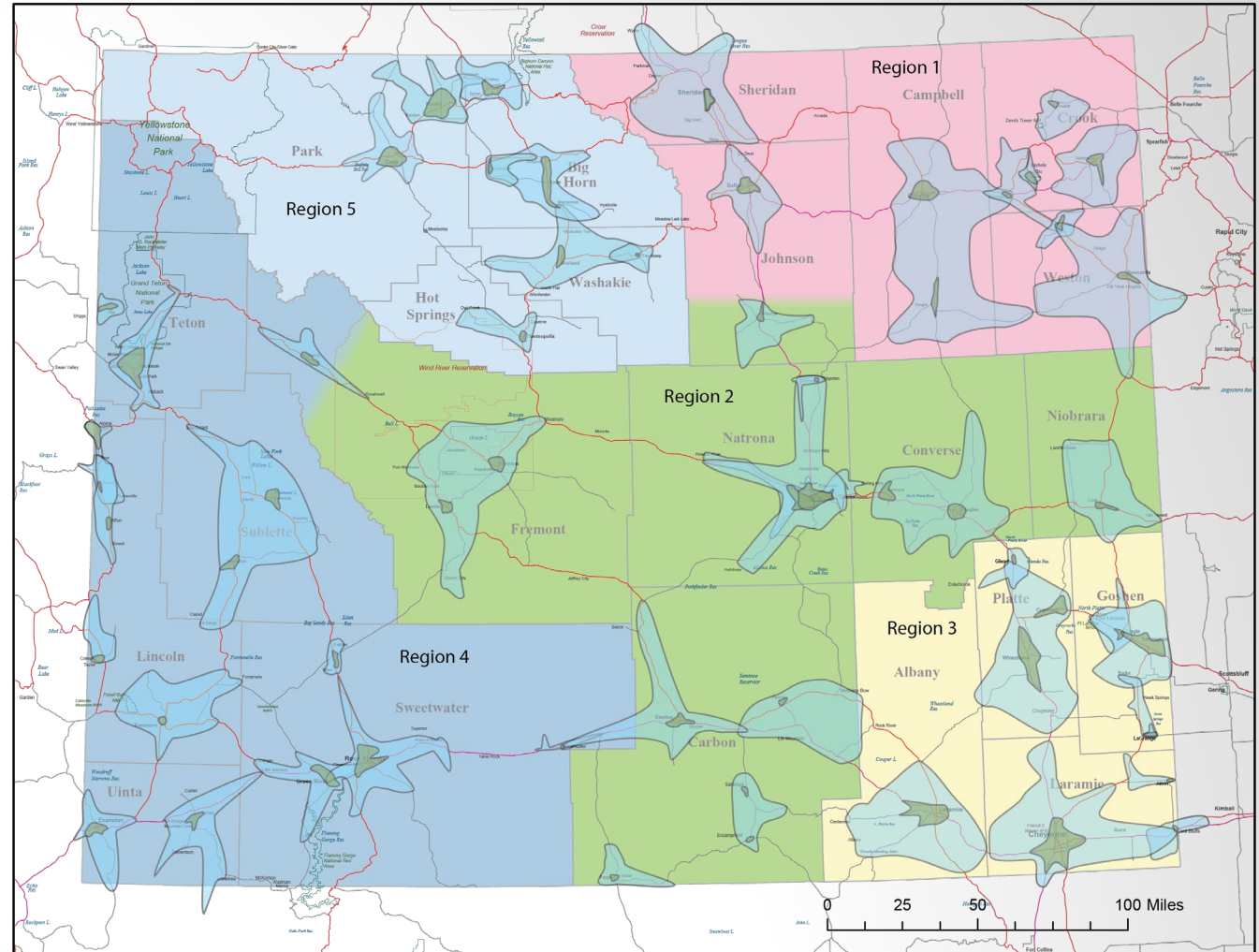
Green: EMS response times less than 9 minutes

Blue: EMS response time less than 30 minutes

*From EMS notification to arrival at scene.*

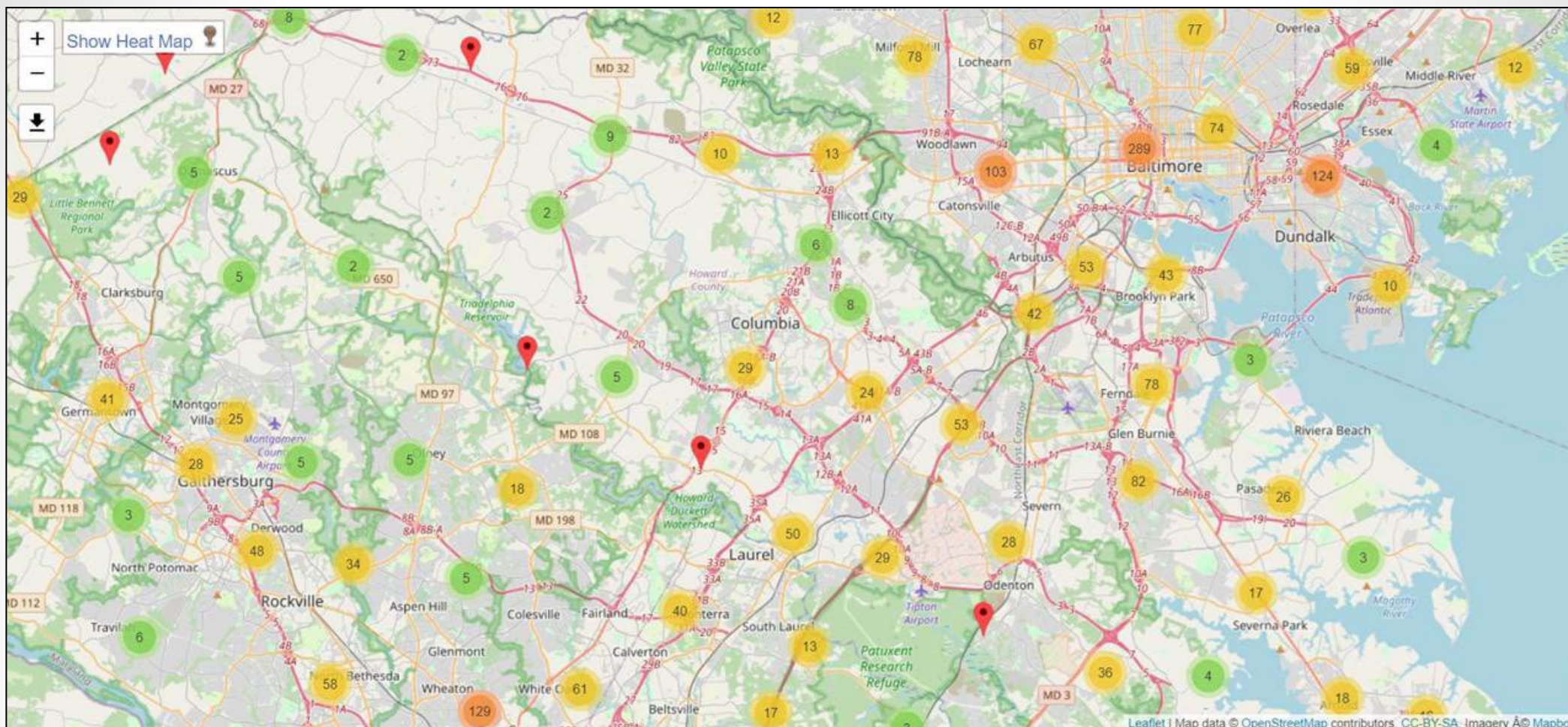


EMS Response Time less than 9 minutes in green and less than 30 minutes in blue

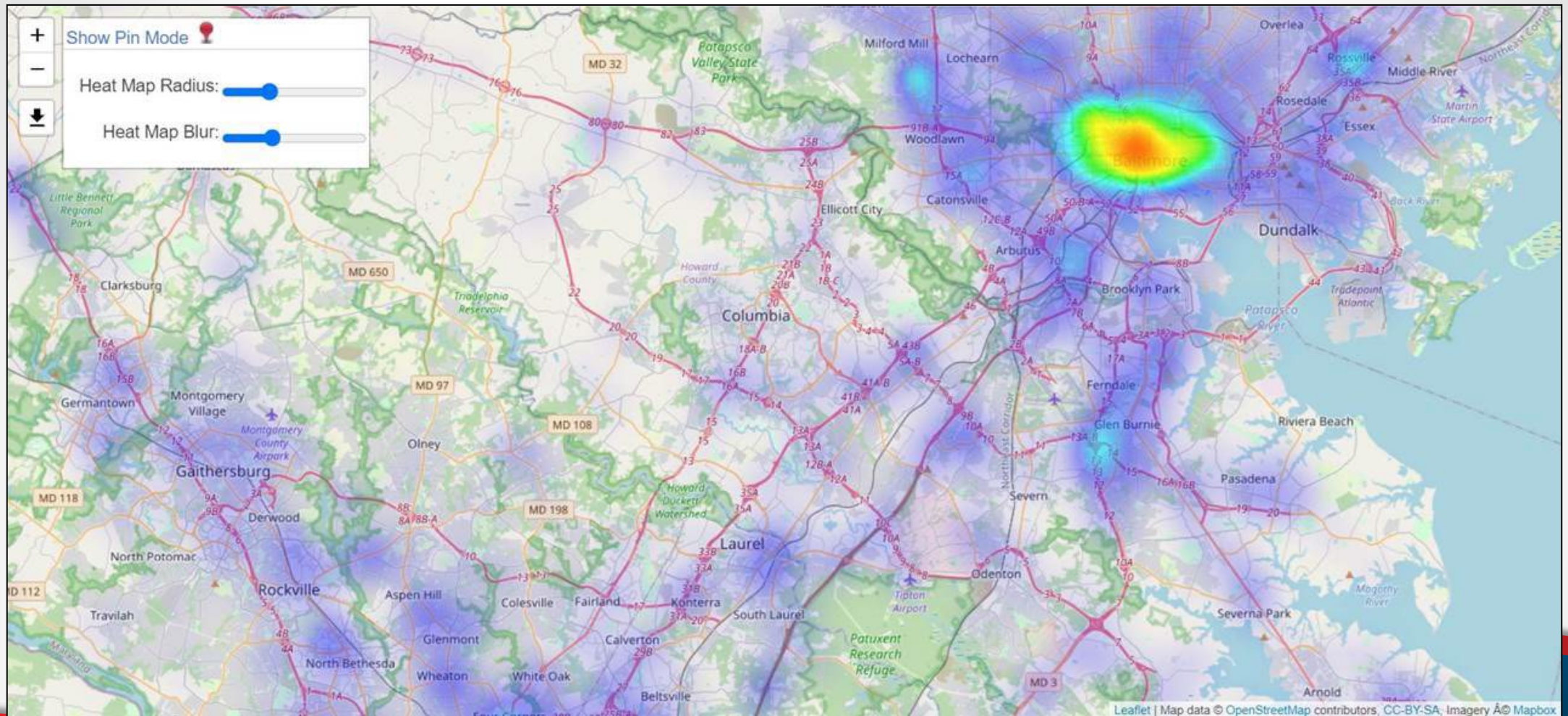


From EMS Notification to Arrival at the Scene - Source Wyoming Ambulance Trip Reporting System (WATRS)

# State-Level Specific to City/County



# State-Level Heat Map: County/City



# Georgia

Dipti Patel, EMS Data Manager  
Michael Johnson, EMS Director



# Georgia Office of EMS and Trauma

- Collect data from the electronic patient care reports (ePCR) using the NEMSIS data elements.
- NHTSA 405c Grant Reports and Analysis
  - Accuracy
  - Timeliness
  - Completeness
  - Uniformity
- Armband Project
- Collaborates with GDOT, TRCC/CODES, and DDS for Traffic Related Education



# Georgia: 405c Quantitative Average Incident Validity Score

BASELINE (April 2020 - March 2021)		
Month	Count of Incidents	Average Incident Validity Score
April - 2020	189,781	97.60
May - 2020	207,171	97.35
June - 2020	217,302	97.04
July - 2020	248,240	97.54
August - 2020	243,641	97.95
September - 2020	222,696	97.09
October - 2020	241,827	96.85
November - 2020	229,827	97.37
December - 2020	247,880	97.40
January - 2021	245,624	98.47
February - 2021	219,342	98.32
March - 2021	247,225	98.29
<b>Overall Average Incident Validity Score</b>		<b>97.61</b>
<b>Total Incident Count</b>	<b>2,759,869</b>	



CURRENT (April 2021 - March 2022)		
Month	Count of Incidents	Average Incident Validity Score
April - 2021	241,292	98.30
May - 2021	248,756	98.26
June - 2021	243,464	98.86
July - 2021	253,798	98.66
August - 2021	268,406	98.93
September - 2021	248,456	98.89
October - 2021	244,421	97.89
November - 2021	232,086	98.50
December - 2021	249,955	98.74
January - 2021	244,887	98.82
February - 2022	211,740	98.33
March - 2022	197,839	98.90
<b>Overall Average Incident Validity Score</b>		<b>98.59</b>
<b>Total Incident Count</b>	<b>2,885,100</b>	



# Georgia: 405c Quantitative Average Time Call Completion



BASELINE (April 2020 - March 2021)		
Month	Count of Incidents	Average Incident Unit Back In Service To Incident Record Created In Hours
April - 2020	112,958	124.35
May - 2020	125,690	104.66
June - 2020	133,149	97.59
July - 2020	157,985	80.94
August - 2020	155,323	83.80
September - 2020	139,586	183.33
October - 2020	152,921	161.87
November - 2020	145,188	133.85
December - 2020	158,145	118.63
January - 2020	162,953	366.33
February - 2021	140,856	171.03
March - 2021	158,798	173.38
<b>Overall Average Incident Unit Back In Service To Incident Record Created In Hours</b>		<b>149.98</b>
<b>Total Incident Count</b>		<b>1,743,552</b>

CURRENT (April 2021 - March 2022)		
Month	Count of Incidents	Average Incident Unit Back In Service To Incident Record Created In Hours
April - 2021	156,976	214.69
May - 2021	164,291	163.50
June - 2021	160,724	157.74
July - 2021	169,376	146.11
August - 2021	186,063	100.82
September - 2021	168,760	82.68
October - 2021	163,456	66.24
November - 2021	152,461	54.25
December - 2021	167,813	48.29
January - 2021	169,673	47.08
February - 2022	142,702	44.99
March - 2022	135,201	18.26
<b>Overall Average Incident Unit Back In Service To Incident Record Created In Hours</b>		<b>95.39</b>
<b>Total Incident Count</b>		<b>1,937,496</b>

# Georgia: Armband Project

**Purpose:** Deterministically link Crash Records, EMS Records, and Hospital Records with one unique ID number.

**Data Documentation:** Armband characters are documented using NEMESIS data elements.



**CRASH REPORT EMS PCR**

Enter # in Occupant Info "By:" Field  
6 letters (A-Z)

**AAEVT P**

External Report Type = "Patient ID", enter # for External Report #

AAEVT P



**A A E V T P**  
6 letters (A-Z)

**Georgia Systems of Care Armband**  
**DO NOT REMOVE**  
To learn more: visit <https://dph.ga.gov/EMS/armband>

AAEVT P

Hospital Use - this # will be recorded in Pt Record and in Trauma/Stroke/Cardiac Registry



AAEVT P



**CRASH REPORT EMS PCR**

Enter # in Occupant Info "By:" Field  
6 letters (A-Z)

**AAEVT O**

External Report Type = "Patient ID", enter # for External Report #

AAEVT O



**A A E V T O**  
6 letters (A-Z)

**Georgia Systems of Care Armband**  
**DO NOT REMOVE**  
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AAEVT O

Hospital Use - this # will be recorded in Pt Record and in Trauma/Stroke/Cardiac Registry



AAEVT O



**CRASH REPORT EMS PCR**

Enter # in Occupant Info "By:" Field  
6 letters (A-Z)

**AAEVT N**

External Report Type = "Patient ID", enter # for External Report #

AAEVT N



**A A E V T N**  
6 letters (A-Z)

**Georgia Systems of Care Armband**  
**DO NOT REMOVE**  
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AAEVT N

Hospital Use - this # will be recorded in Pt Record and in Trauma/Stroke/Cardiac Registry



AAEVT N



**CRASH REPORT EMS PCR**

Enter # in Occupant Info "By:" Field  
6 letters (A-Z)

**AAEVT M**

External Report Type = "Patient ID", enter # for External Report #

AAEVT M



**A A E V T M**  
6 letters (A-Z)

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AAEVT M

Hospital Use - this # will be recorded in Pt Record and in Trauma/Stroke/Cardiac Registry



AAEVT M



**CRASH REPORT EMS PCR**

Enter # in Occupant Info "By:" Field  
6 letters (A-Z)

**AAEVT L**

External Report Type = "Patient ID", enter # for External Report #

AAEVT L



**A A E V T L**  
6 letters (A-Z)

**Georgia Systems of Care Armband**  
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AAEVT L

Hospital Use - this # will be recorded in Pt Record and in Trauma/Stroke/Cardiac Registry



AAEVT L



**CRASH REPORT EMS PCR**

Enter # in Occupant Info "By:" Field  
6 letters (A-Z)

**AAEVT K**

External Report Type = "Patient ID", enter # for External Report #

AAEVT K



**A A E V T K**  
6 letters (A-Z)

**Georgia Systems of Care Armband**  
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AAEVT K

Hospital Use - this # will be recorded in Pt Record and in Trauma/Stroke/Cardiac Registry



AAEVT K



**CRASH REPORT EMS PCR**

Enter # in Occupant Info "By:" Field  
6 letters (A-Z)

**AAEVT J**

External Report Type = "Patient ID", enter # for External Report #

AAEVT J



**A A E V T J**  
6 letters (A-Z)

**Georgia Systems of Care Armband**  
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AAEVT J

Hospital Use - this # will be recorded in Pt Record and in Trauma/Stroke/Cardiac Registry



AAEVT J



**CRASH REPORT EMS PCR**

Enter # in Occupant Info "By:" Field  
6 letters (A-Z)

**AAEVT I**

External Report Type = "Patient ID", enter # for External Report #

AAEVT I



**A A E V T I**  
6 letters (A-Z)

**Georgia Systems of Care Armband**  
**DO NOT REMOVE**  
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AAEVT I

Hospital Use - this # will be recorded in Pt Record and in Trauma/Stroke/Cardiac Registry



AAEVT I



# Data Linkages



## LINKING BASED ON:

- Patient First Name
- Patient Last Name
- Patient Gender
- Patient DOB
- Incident Date

PCR #1

PCR #2

PCR #3

## Hospital A

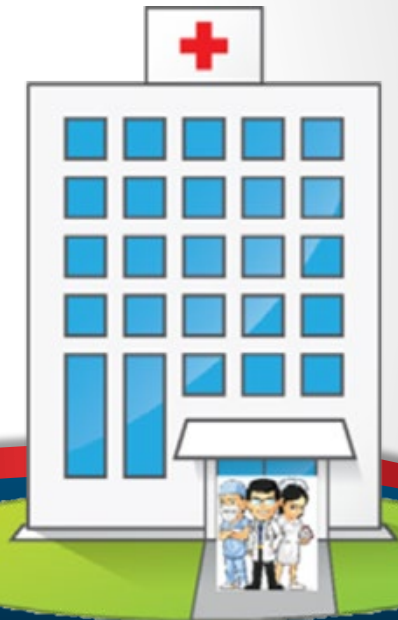
PCR #1



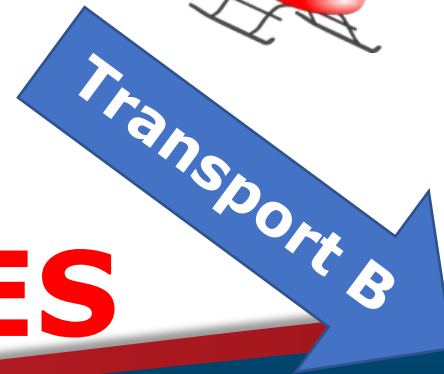
PCR #3



## Hospital B



PCR #2



# OUTCOMES

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