

Emergency Medical Services and Trauma Registries (EMSTR): Traumatic Brain Injury Data

June 18, 2024

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EMSTR Background

- The Emergency Medical Services and Trauma Registries (EMSTR) is a statewide passive surveillance system that collects data from emergency medical services (EMS) providers, hospitals, justices of the peace, medical examiners, and rehabilitation facilities.
- Texas EMSTR is one of the largest EMS registries in the U.S.
- Under [Texas Administrative Code, Title 25, Chapter 103](#), EMS providers and trauma facilities must report all runs* and trauma events to EMSTR.

*An EMS run is a resulting action from a call for assistance where an EMS provider is dispatched to, responds to, provides care to, or transports a person.

What is Included in EMSTR?

EMSTR includes four registries:

- The **EMS registry** for EMS providers/agencies;
- The **acute injury (trauma) registry** for emergency departments (EDs), trauma hospitals, physicians*, and long-term acute care (LTAC) / rehabilitation (Rehab) facilities;
- The **Traumatic Brain Injury (TBI) / Spinal Cord Injury (SCI) registry** for trauma hospitals, LTAC / Rehab facilities, physicians*, justices of the peace (JPs), and medical examiners (MEs); and
- The **submersion (drowning) registry** for all providers.

In November 2023, EMSTR began using a new reporting platform to improve data quality, increase processing times, and allow facilities to run reports on submitted data.

*A physician is exempt from reporting if a hospital or acute/post-acute rehabilitation facility admitted the patient and fulfilled the reporting requirements.

Why Use EMSTR?

- Monitors and analyzes Texas EMS and trauma care systems;
- Follows National EMS Information System (NEMSIS) Version 3.5, National Trauma Data Bank (NTDB) / International Trauma Data Exchange (ITDX) 2020 and 2020 hospital data standards, and Texas custom questions; and
- Uses data collected from 22 Texas trauma service areas/regional advisory councils to benchmark and compare Texas with other states and perform data analysis and investigations to identify public health issues.

By identifying public health issues, stakeholders can use EMSTR data to support injury prevention projects and ultimately improve the efficiency and quality of care patients receive in Texas.

Registries Overview



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EMS Registry Components

EMS providers report runs* including encounters such as:

- Cancellations;
- Standbys;
- Refusals;
- Intercepts;
- No patient found; and
- Patient deceased.

*An EMS run is a resulting action from a call for assistance where an EMS provider is dispatched to, responds to, provides care to, or transports a person.

EMS Registry Reporting

Texas follows the National EMS Information System (NEMSIS), Version 3.5 Data Dictionary [NEMSIS 3.5 Data Dictionary \(Critical Patch 4\)](#).

Elements include:

- **Mandatory** – Providers must complete the element and it does not allow for NOT* values;
- **Required** – Providers must complete the element and it allows NOT* values; or
- **Optional** – Providers are not required to report the element or the element is unique to certain circumstances.

EMS providers should format their patient records to comply with NEMSIS V3.5.

*NOT values include not applicable, not recorded, or not collected by the EMS agency or the state.

All Other TBI/SCI Injury Reporting Entities

- **Texas Hospitals** submit all TBI and SCI records meeting the [National Trauma Data Bank \(NTDB\)](#) and/or International Trauma Data Exchange (ITDX) [2023 inclusion criteria](#). This includes records where a patient arrived deceased or was admitted for at least 48 hours.
- **LTAC / Rehab Facilities** submit all TBI and SCI records meeting the NTDB and/or ITDX 2023 inclusion criteria. This includes fatalities.
- **JPs / MEs** report all TBI and SCI records (fatality cases only).

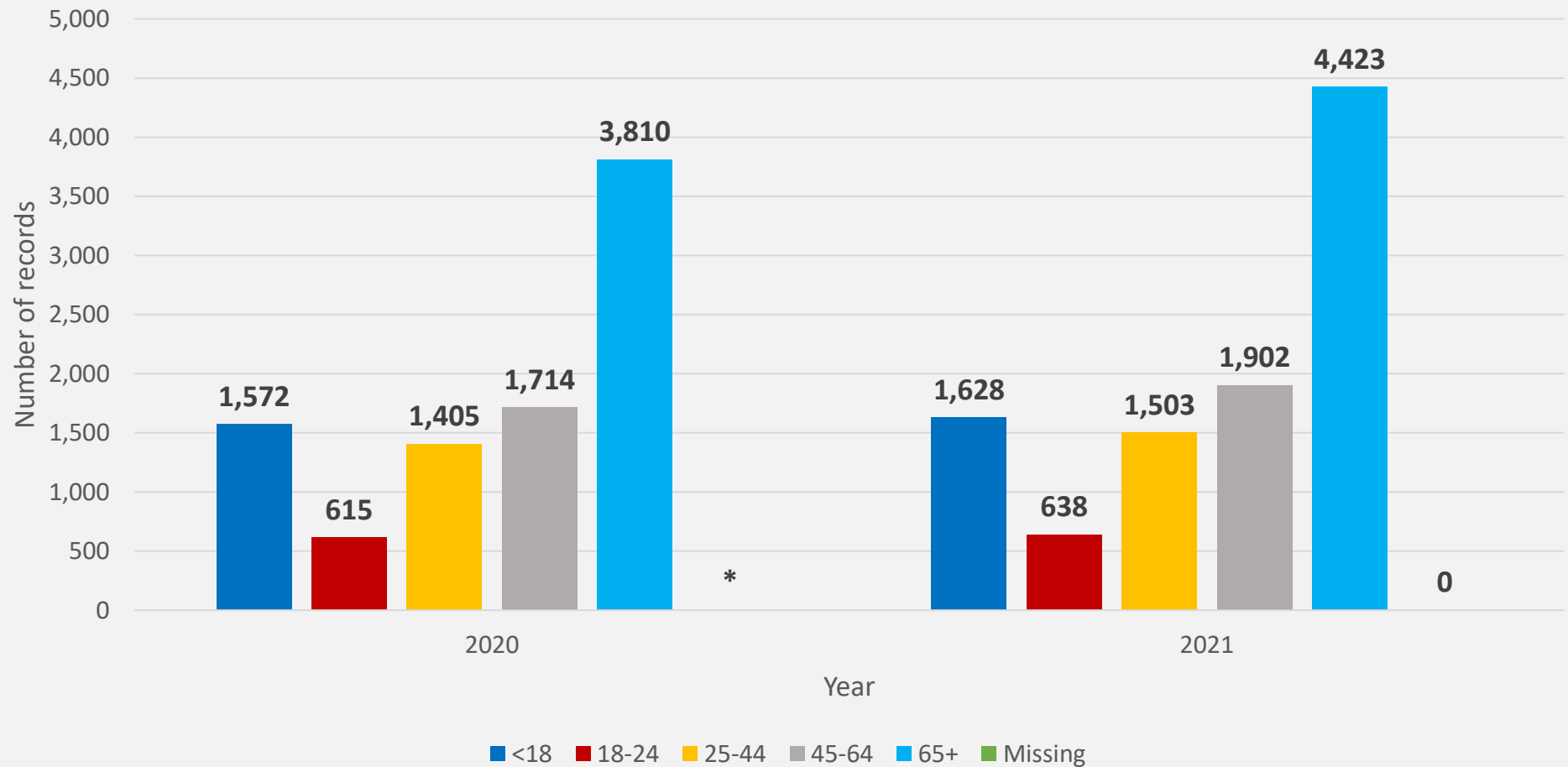
2020-2021 TBI Trauma Data



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TBI Data by Age

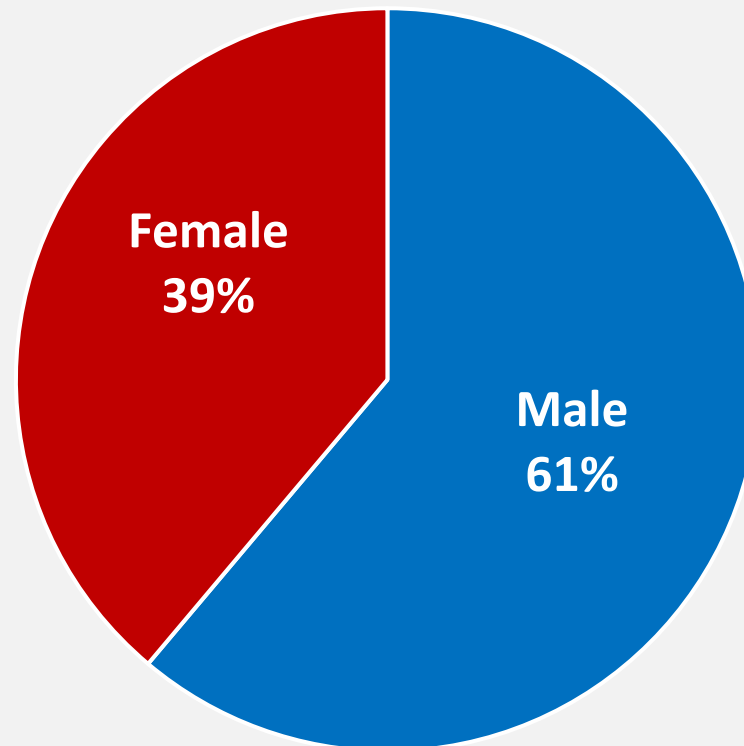


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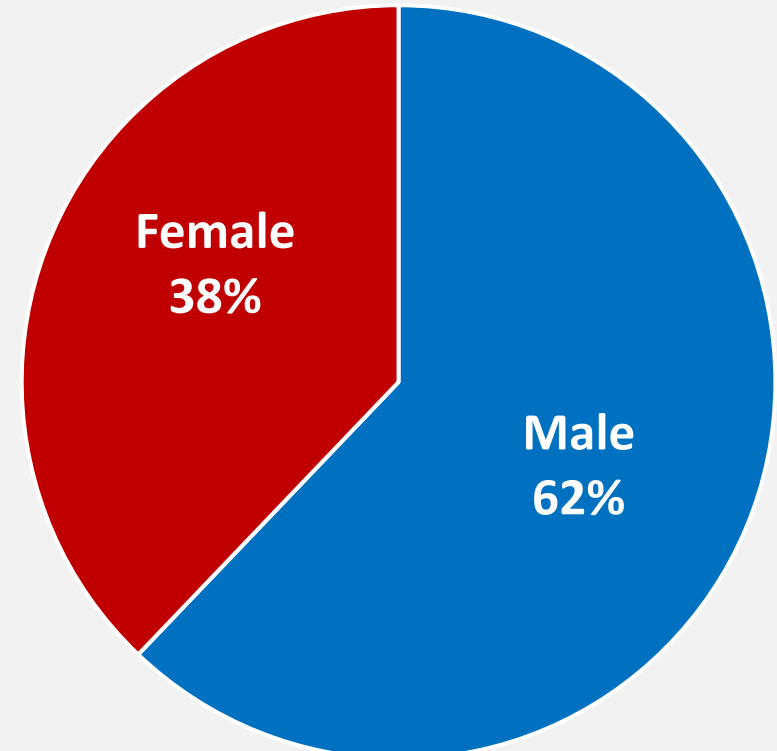
EMSTR suppressed data when there were less than 5 records to protect identifiable data, as noted with an asterisk (*).

TBI Data by Sex

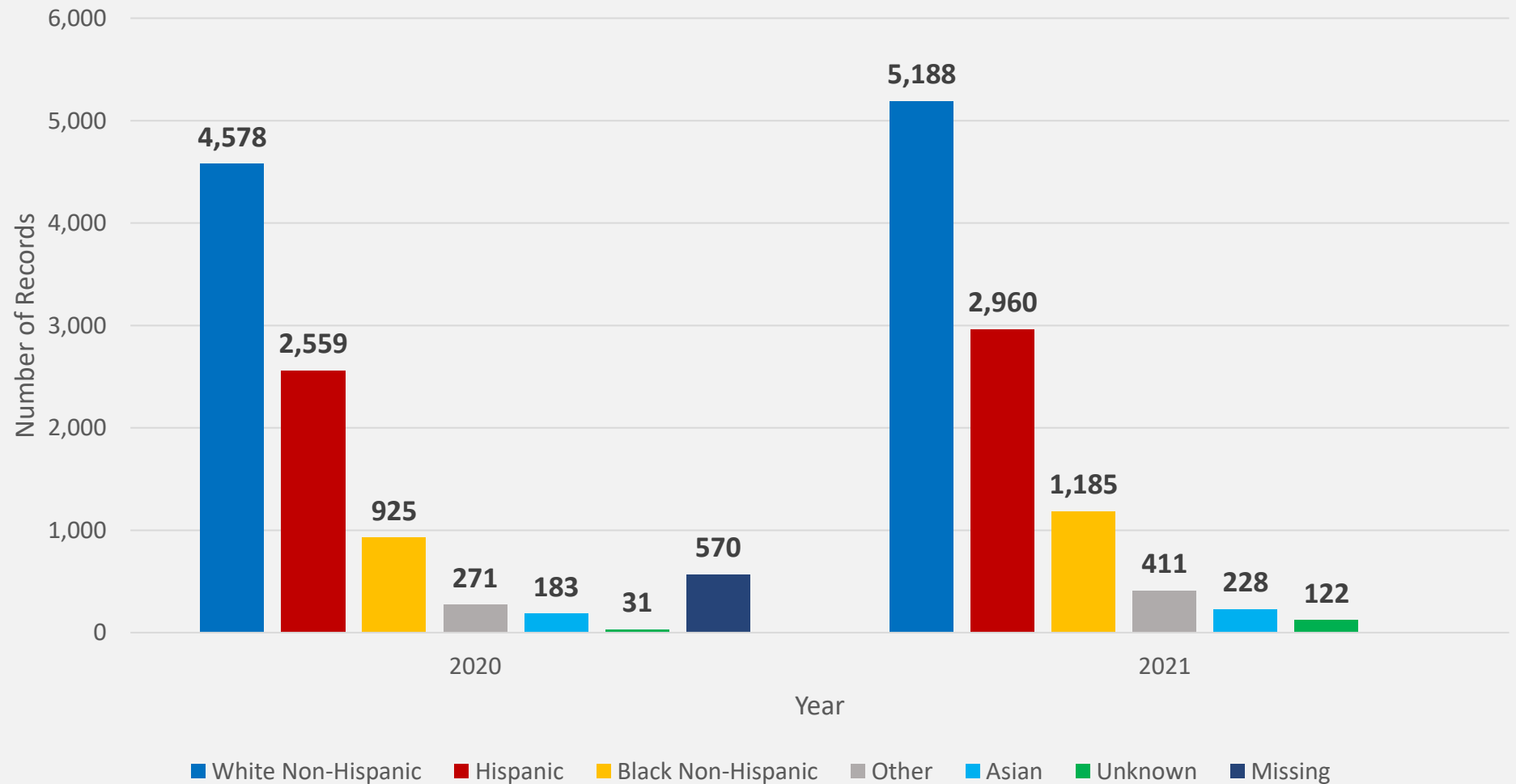
2020



2021



TBI Data by Race and Ethnicity



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TBI Data by Mechanism of Injury

Mechanism of Injury	2020	2021
Fall	5,907	6,670
Motor Vehicle Traffic – Occupant	950	1,123
Struck By / Against	711	766
Firearm	338	362
Motor Vehicle – Nontraffic	231	207
Motor Vehicle Traffic – Motorcyclist	138	159
Motor Vehicle Traffic – Pedestian	129	136
Other Land Transport	112	93
Pedal Cyclist, Other	85	71
Other Specified, Child/Adult Abuse	79	88

Note – this list only includes the 10 leading mechanisms of injury.



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Requesting EMSTR Data



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EMSTR Data Requests



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Injury Prevention Unit

Data Analysis Request Form

Information Requested:

Type of Registry Data:

- ☐ EMS
☐ Trauma
☐ Submersion

Type(s) of Calculations:

- ☐ Counts
☐ Percentages

Time Period:

Period Start: Year Month
to Period End: Year Month
☐ By Year ☐ By Month ☐ Cumulative

Geographic Level:

- ☐ County (or Counties):
☐ of Incident **OR** ☐ of Patient Residence

☐ State

[Data Analysis
Request Form](#)

How to Request EMSTR Data

Requestors must submit all data requests to injury.epi@dshs.texas.gov.

Requestors are encouraged to consider:

- Data element inclusion by reviewing [EMSTR data dictionaries](#) before submitting a request;
- The years of data requested;
- Geographic area(s) (i.e., statewide, regional or county); and
- Confidentiality factors.

Questions?



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Thank you!

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injury.web@dshs.texas.gov