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Health and Human
Services

**Texas Department of State
Health Services**

Trauma Systems Data Request (Texas 2021) and Injuries Over Time (1999-2020)

Prepared by the Office of Injury Prevention
August 19, 2022

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Introduction

- The data used are hospital-reported traumatic injuries. Hospitals must report spinal cord injuries, traumatic brain injuries, and other traumatic injuries specified in Texas Administrative Code, Title 25, Chapter 103.
- This data report includes only records submitted into the Emergency Medical Services and Trauma Registries (EMSTR) through a passive surveillance system.
- Patients transferred between hospitals will result in more than one registries record since each hospital must independently submit a patient's record to the registries.

Methodology Notes

- In June 2022, EMSTR pulled and cleaned 2021 trauma variables.
- In 2021, EMSTR received a total of **153,135** unique patient records.
- Per epidemiology best practice, EMSTR suppressed data when there were less than 5 records to protect identifiable data, noted with an asterisk (*).

Definitions

- Shock – A patient with a blood pressure (BP) of 90 systolic or less on arrival or admission to the trauma center. For this request, EMS/TR used patients ages 16-65.
- Double Transfer – A patient who arrives at a facility by a transfer from another facility and is then transferred out.
- Missing – Providers did not fill in the section.

Governor's EMS and Trauma Advisory Committee (GETAC) Data Request – Trauma Systems Subcommittee



Trauma Patients – Shock versus No Shock



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Mechanism of Injury (MOI) – Shock versus No Shock

Shock patients – 4,194; No shock patients – 76,024

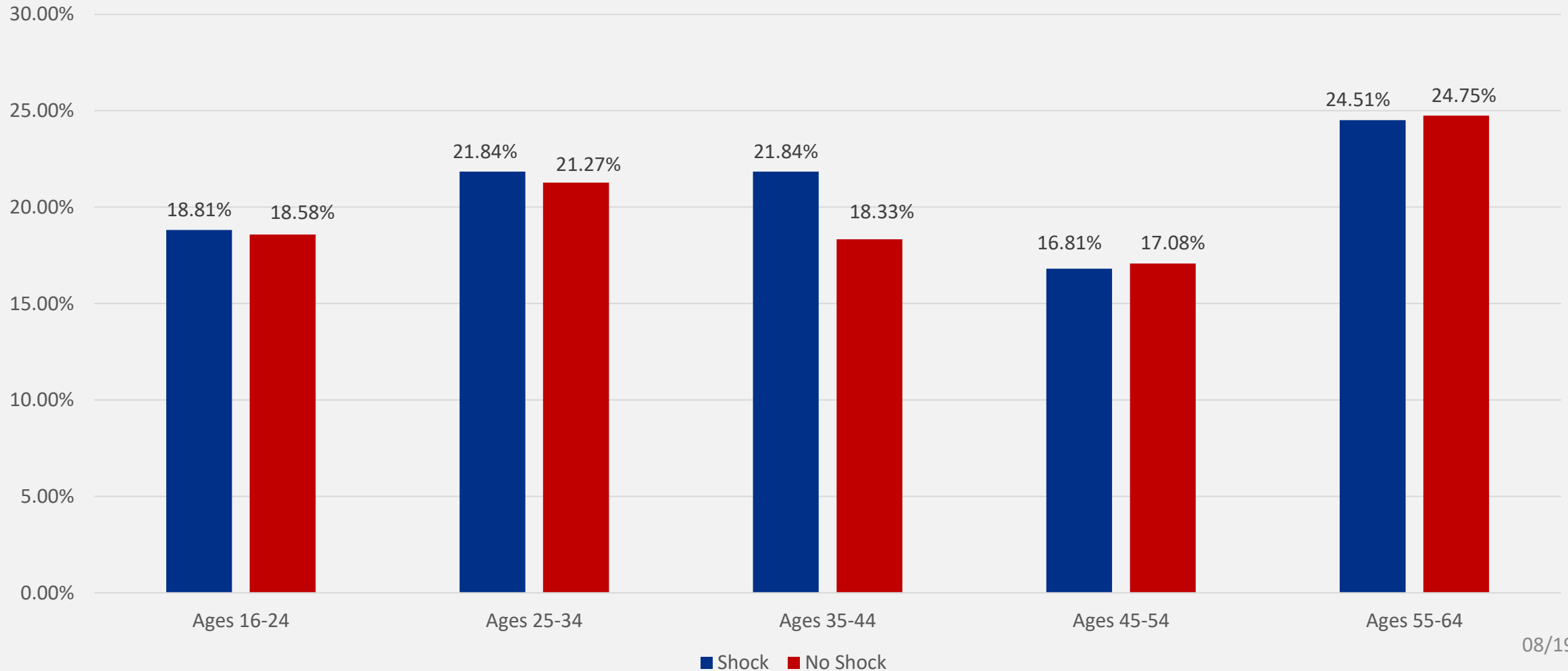
MOI	Shock	No Shock
Firearm	22.03%	07.84%
Fall	21.48%	30.59%
Motor Vehicle Traffic (MVT) - Occupant	21.48%	21.26%
Cut / Pierce	06.94%	06.74%
MVT - Motorcyclist	05.10%	04.60%
MVT - Pedestrian	04.98%	02.53%
Struck By / Against	04.74%	09.05%
Not Applicable	01.93%	00.98%
Motor Vehicle (MV) - Non-Traffic	01.88%	03.18%
Other*	09.44%	13.23%

*Other includes other land transport, bites and stings, pedal cyclist, machinery, hot object/ substance, etc.

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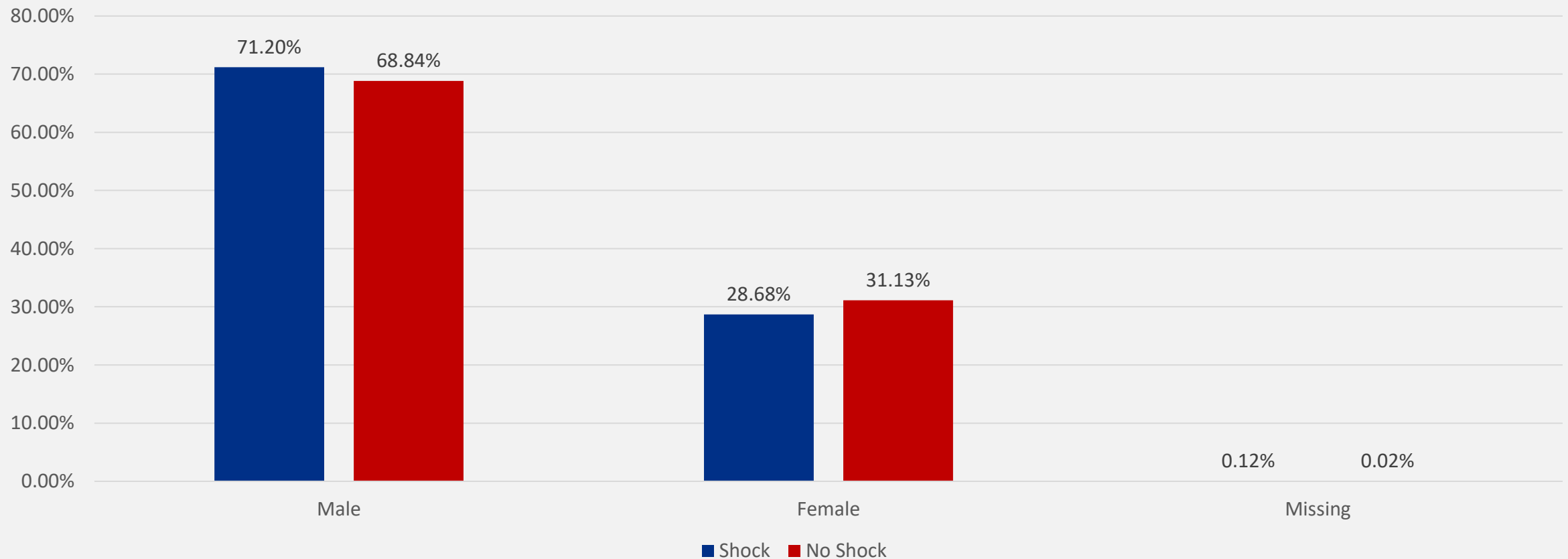
Patient's Age – Shock versus No Shock

Shock patients – 4,194; No shock patients – 76,024



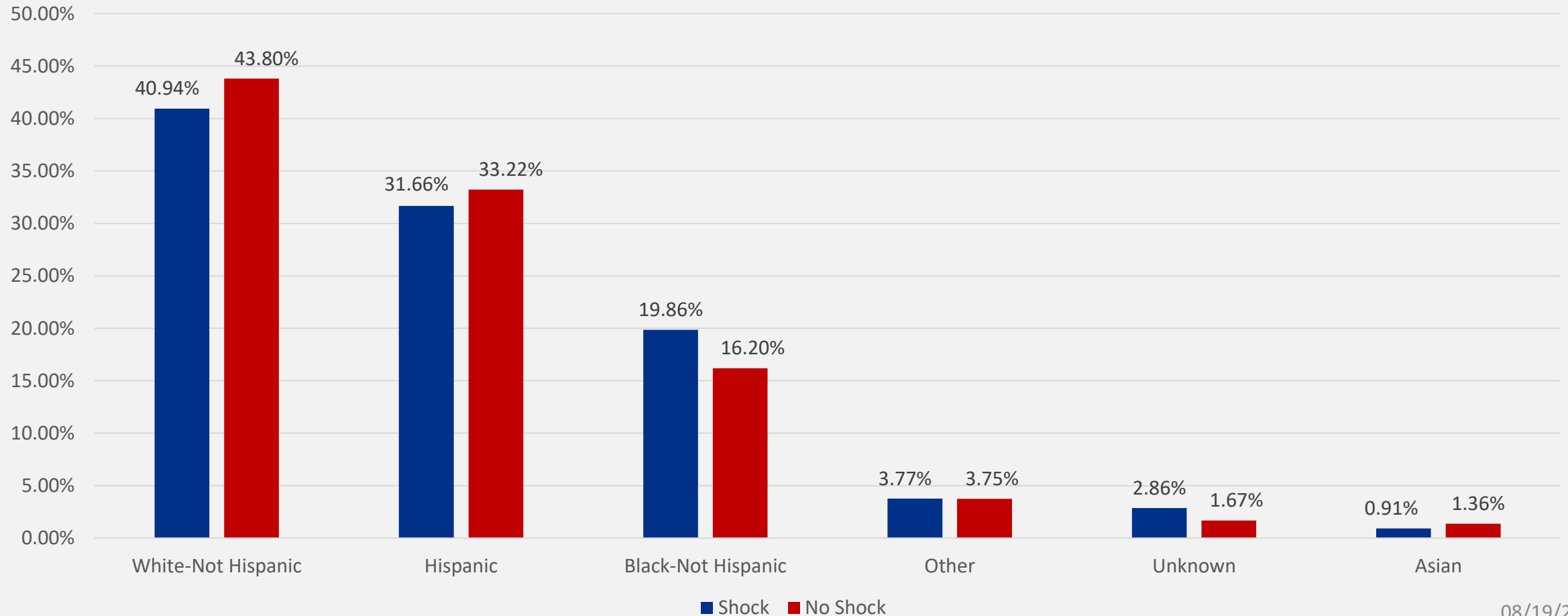
Patient's Sex – Shock versus No Shock

Shock patients – 4,194; No shock patients – 76,024



Patient's Race and Ethnicity – Shock versus No Shock

Shock patients – 4,194; No shock patients – 76,024



Transport Mode – Shock versus No Shock

Shock patients – 4,194; No shock patients – 76,024

Transport Mode	Shock	No Shock
Ground Ambulance	72.99%	67.35%
Private / Public Vehicle / Walk in	16.09%	24.77%
Helicopter Ambulance	08.63%	06.57%
Other	00.83%	00.22%
Fixed-Wing Ambulance	00.33%	00.28%
Not Known / Not Recorded	00.26%	00.17%
Police	00.21%	00.56%
Missing	00.64%	00.07%

Emergency Department (ED) Disposition – Shock versus No Shock

Shock patients – 4,194; No shock patients – 76,024

ED Disposition	Shock	No Shock
Deceased / Expired	25.30%	01.61%
Operating Room	19.50%	13.00%
Floor Bed	17.05%	35.36%
Intensive Care Unit (ICU)	15.64%	13.89%
Transferred to Another Hospital	09.06%	15.41%
Not Applicable	04.24%	01.94%
Telemetry / Step down unit	04.15%	06.72%
Home without services	02.46%	07.72%
Observation unit (unit that provides < 24 hour stays)	01.50%	03.60%
Left Against Medical Advice	00.17%	00.32%
Other (jail, institutional care, mental health)	*	00.36%
Home with services	*	00.02%
Missing	00.79%	00.05%

Hospital Disposition – Shock versus No Shock

Shock patients – 4,194; No shock patients – 76,024

Hospital Disposition	Shock	No Shock
Not Applicable	37.15%	25.45%
Discharged home or self-care	33.98%	55.80%
Deceased / Expired	08.89%	01.80%
Discharged / Transferred to inpatient rehab or designated unit	05.44%	04.81%
Discharged / Transferred home under home health care	04.22%	04.27%
Discharged / Transferred to Skilled Nursing Facility	03.12%	02.73%
Left against medical advice	01.65%	01.55%
Discharged / Transferred to a short-term general hospital	01.38%	00.68%
Discharged / Transferred to a Long-Term Care Hospital	01.14%	00.45%
Discharged to court / Law Enforcement (LE)	01.03%	01.34%
Discharged to hospice care	00.64%	00.24%
Discharged to psychiatric hospital	00.52%	00.57%

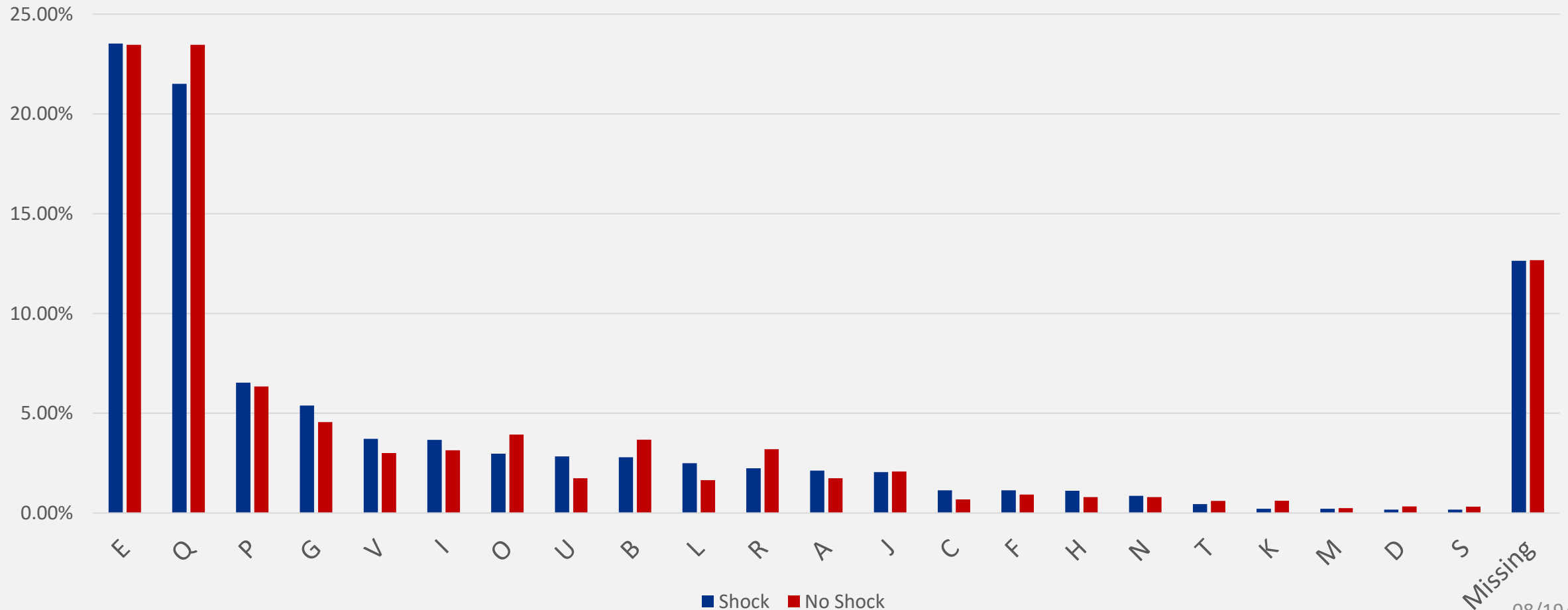
Hospital Designation – Shock versus No Shock

Shock patients – 4,194; No shock patients – 76,024

Designation Level	Shock	No Shock
Trauma Center Level 1	34.50%	34.20%
Trauma Center Level 2	08.56%	09.56%
Trauma Center Level 3	21.72%	21.63%
Trauma Center Level 4	14.33%	13.74%
Hospital	05.39%	04.68%
STEMI (ST-elevation myocardial infarction) Center	00.26%	00.15%
Pediatric Center	*	00.08%
Rural Access Hospital	*	00.01%
Missing	15.21%	15.96%

Regional Advisory Committee (RAC) – Shock versus No Shock

Shock patients – 4,194; No shock patients – 76,024



Double Transfers – Shock versus No Shock

Shock patients – 4,194; No shock patients – 76,024

	Shock	No Shock
Double Transfer	0.19%	0.21%

Trauma Patients with and without a Traumatic Brain Injury (TBI)



MOI – TBI versus Without TBI

TBI patients – 2,722; Patients without TBI – 73,302

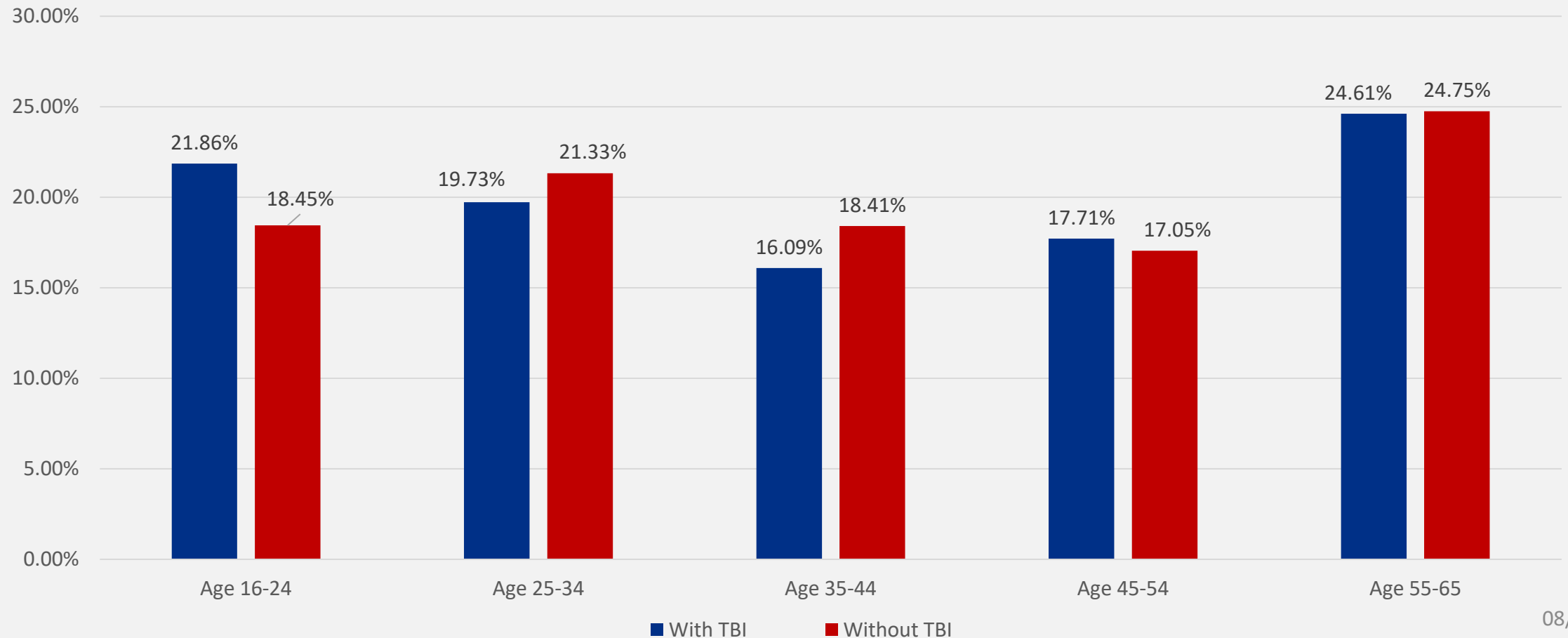
MOI	With TBI	Without TBI
Fall	39.09%	30.27%
MVT – Occupant	21.20%	21.26%
Struck By / Against	12.78%	08.91%
Firearm	08.96%	07.80%
MVT – Motorcyclist	03.75%	04.63%
MV – Non-Traffic	03.20%	03.18%
MVT – Pedestrian	02.46%	02.53%
Other Land Transport	01.29%	01.12%
Not Applicable	01.25%	00.97%
Cut / Pierce	01.18%	06.94%
Other*	04.84%	10.80%

*Other includes pedal cyclist, natural/ environmental, machinery, etc.

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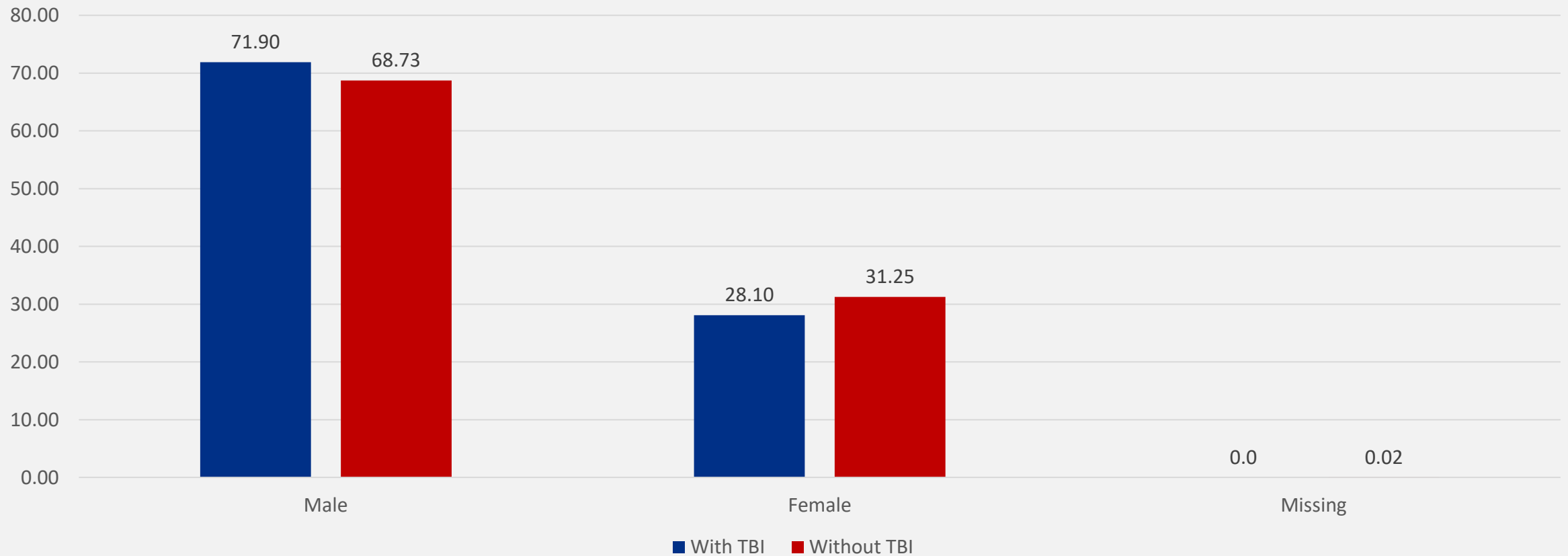
Patient's Age – TBI versus Without TBI

TBI patients – 2,722; Patients without TBI – 73,302



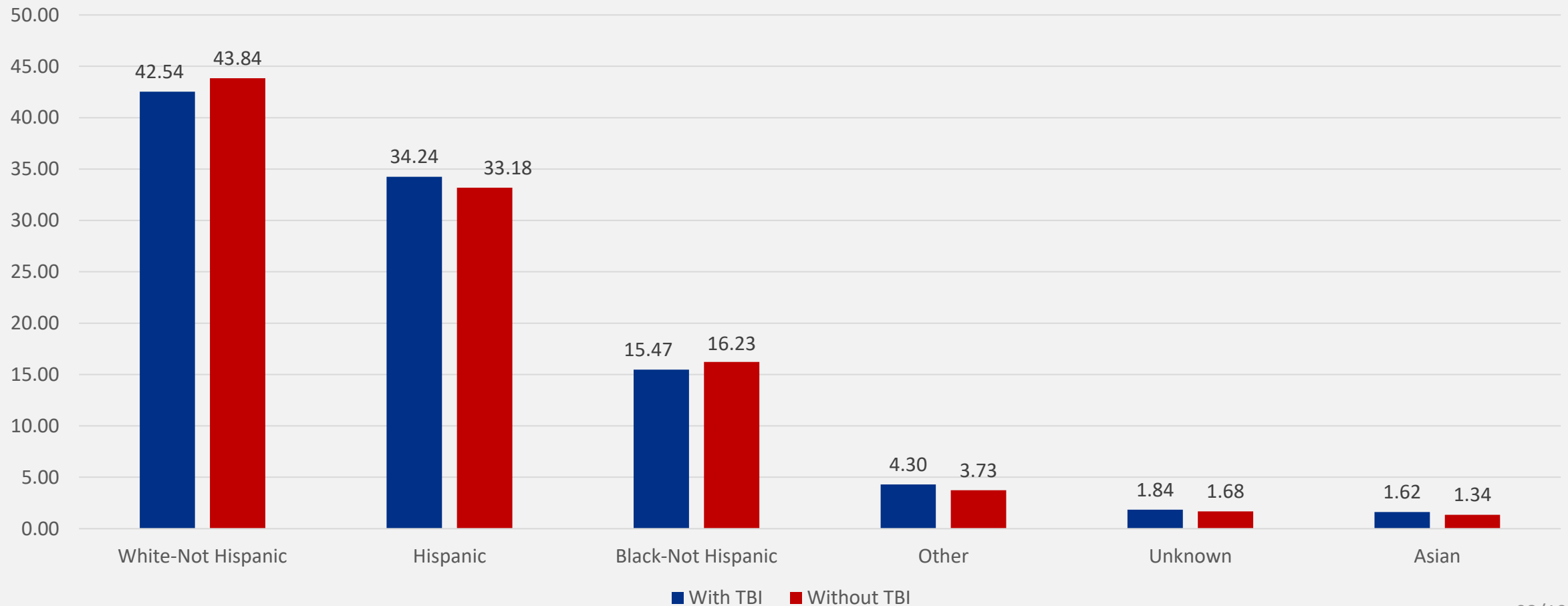
Patient's Sex – TBI versus Without TBI

TBI patients – 2,722; Patients without TBI – 73,302



Patient's Race and Ethnicity – TBI versus Without TBI

TBI patients – 2,722; Patients without TBI – 73,302



Transport Mode – TBI versus Without TBI

TBI patients – 2,722; Patients without TBI – 73,302

Transport Mode	With TBI	Without TBI
Ground Ambulance	72.30%	67.17%
Private / Public Vehicle / Walk-in	18.88%	24.99%
Helicopter Ambulance	07.86%	06.52%
Police	00.37%	00.57%
Fixed-wing Ambulance	00.29%	00.28%
Not Known / Not Recorded	0	00.17%
Other	*	00.23%
Missing	0	*

ED Disposition – TBI versus Without TBI

TBI patients – 2,722; Patients without TBI – 73,302

ED Disposition	With TBI	Without TBI
Missing	*	00.05%
Intensive Care Unit (ICU)	29.90%	13.29%
Transferred to Another Hospital	20.35%	15.23%
Floor bed (general admission, non specialty unit bed)	19.58%	35.94%
Telemetry / step-down unit (less acuity than ICU)	06.83%	06.71%
Home without services	06.47%	07.77%
Operating Room	06.17%	13.25%
Deceased / Expired	04.41%	01.51%
Observation unit (unit that provides < 24 hour stays)	03.20%	03.62%
Not Applicable	02.20%	01.93%
Left against medical advice	00.48%	00.32%
Other (jail, institutional care, mental health, etc.)	00.33%	00.36%
Home with Services	*	00.02%

Hospital Disposition – TBI versus Without TBI

TBI patients – 2,722; Patients without TBI – 73,302

Hospital Disposition	With TBI	Without TBI
Discharged to home or self-care	46.29%	56.16%
Not Applicable	32.07%	25.21%
Deceased / Expired	06.25%	01.64%
Discharged / Transferred to inpatient rehab or designated unit	05.51%	04.79%
Discharged / Transferred to home under care of organized home health	02.53%	04.33%
Left against medical advice	02.46%	01.51%
Discharged / Transferred to Skilled Nursing Facility	01.58%	02.77%
Discharged / Transferred to court / LE	00.81%	01.36%
Discharged / Transferred to Long Term Care Hospital	00.70%	00.44%
Discharged / Transferred to a short-term general hospital	00.62%	00.68%
Discharged to hospice care	00.55%	00.23%
Discharged to a psychiatric hospital	00.51%	00.57%

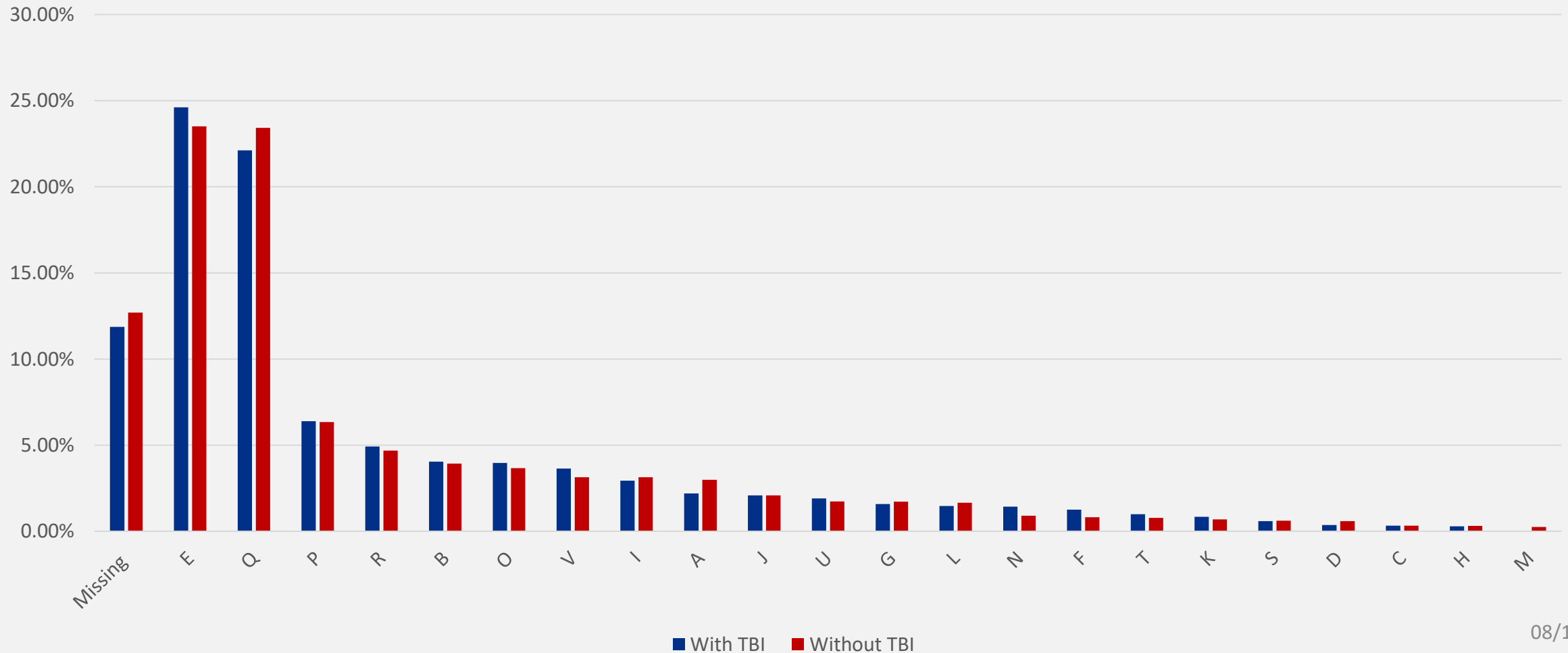
Hospital Designation – TBI versus Without TBI

TBI patients – 2,722; Patients without TBI – 73,302

Hospital Designation	With TBI	Without TBI
Trauma Center Level 1	30.42%	34.35%
Trauma Center Level 2	07.38%	09.64%
Trauma Center Level 3	30.42%	21.51%
Trauma Center Level 4	15.43%	13.67%
Hospital	04.85%	04.67%
STEMI Center	*	00.15%
Pediatric Center	*	00.08%
Rural Access Hospital	0	00.01%
Missing	16.97%	15.92%

RAC – TBI versus Without TBI

TBI patients – 2,722; Patients without TBI – 73,302



Double Transfers – TBI versus Without TBI

TBI patients – 2,722; Patients without TBI – 73,302

	With TBI	Without TBI
Double Transfer	0.37%	0.21%

Trauma Patients with Lower Extremity Open Fractures



MOI – Lower Extremity Fractures

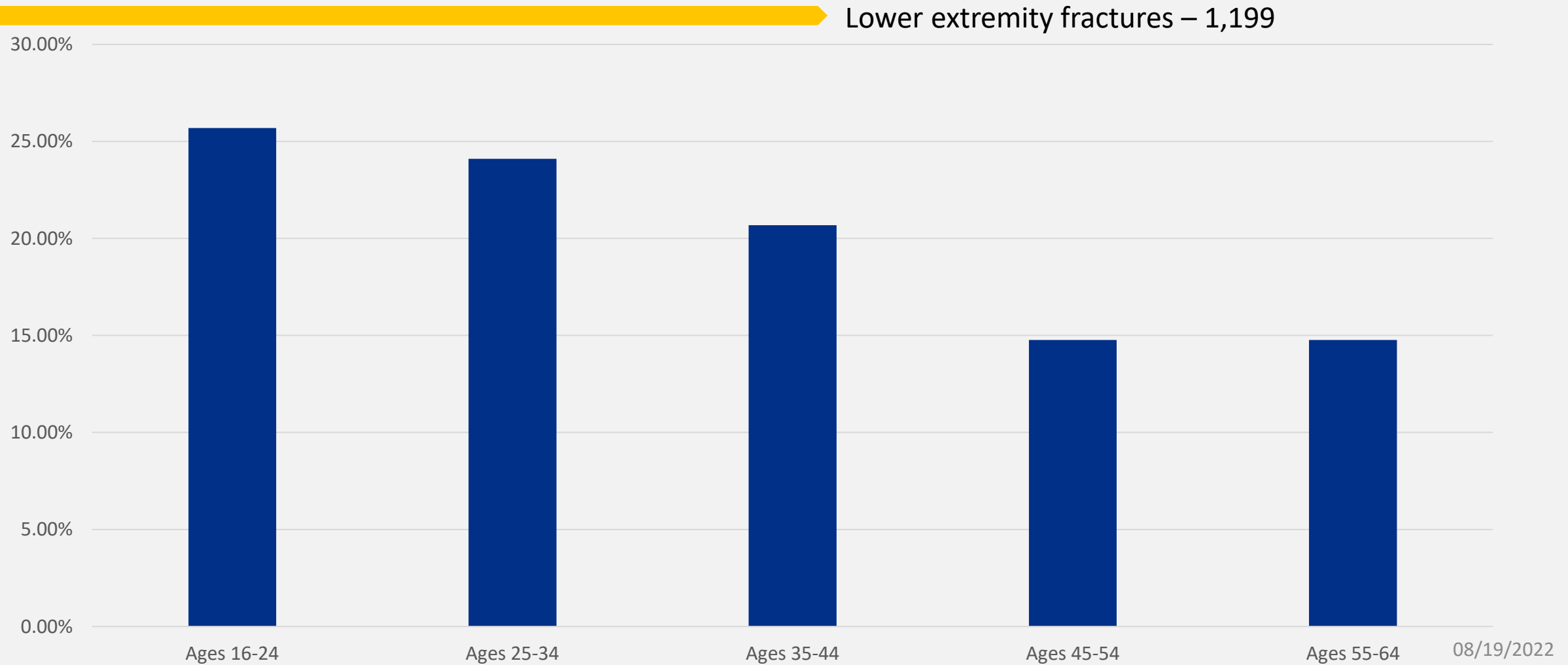
Lower extremity fractures – 1,199

MOI	Percent
Firearm	37.20%
Fall	23.69%
MVT - Occupant	10.76%
MVT - Motorcyclist	04.50%
Cut / Pierce	04.42%
Struck By / Against	04.00%
MVT - Pedestrian	03.34%
MV Non-Traffic	03.17%
Other*	08.92%

*Other includes other land transport, bites and stings, pedal cyclist, machinery, hot object / substance, environmental, etc.

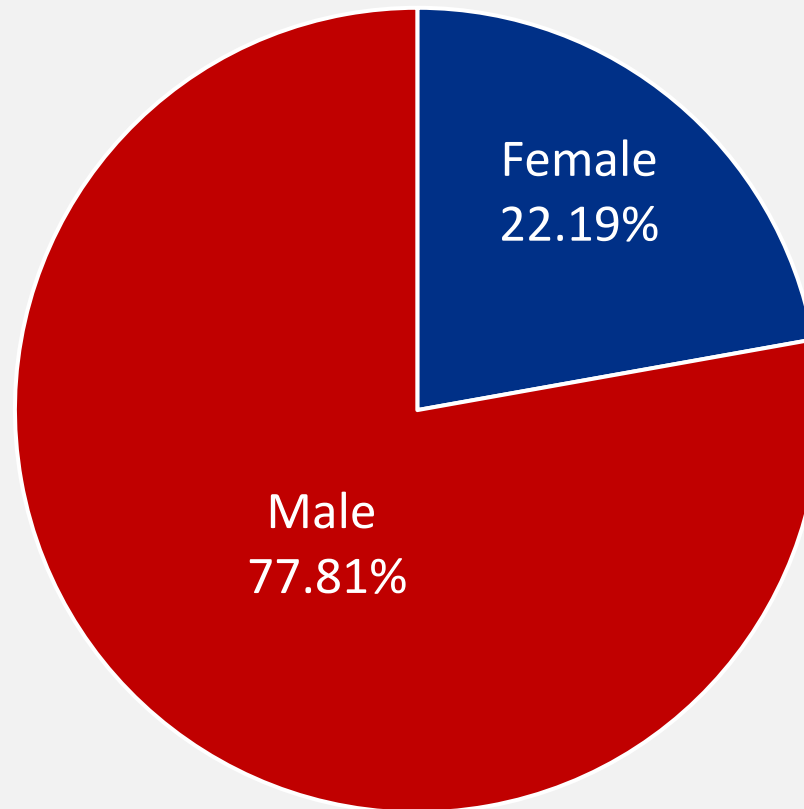
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Patient's Age – Lower Extremity Fractures

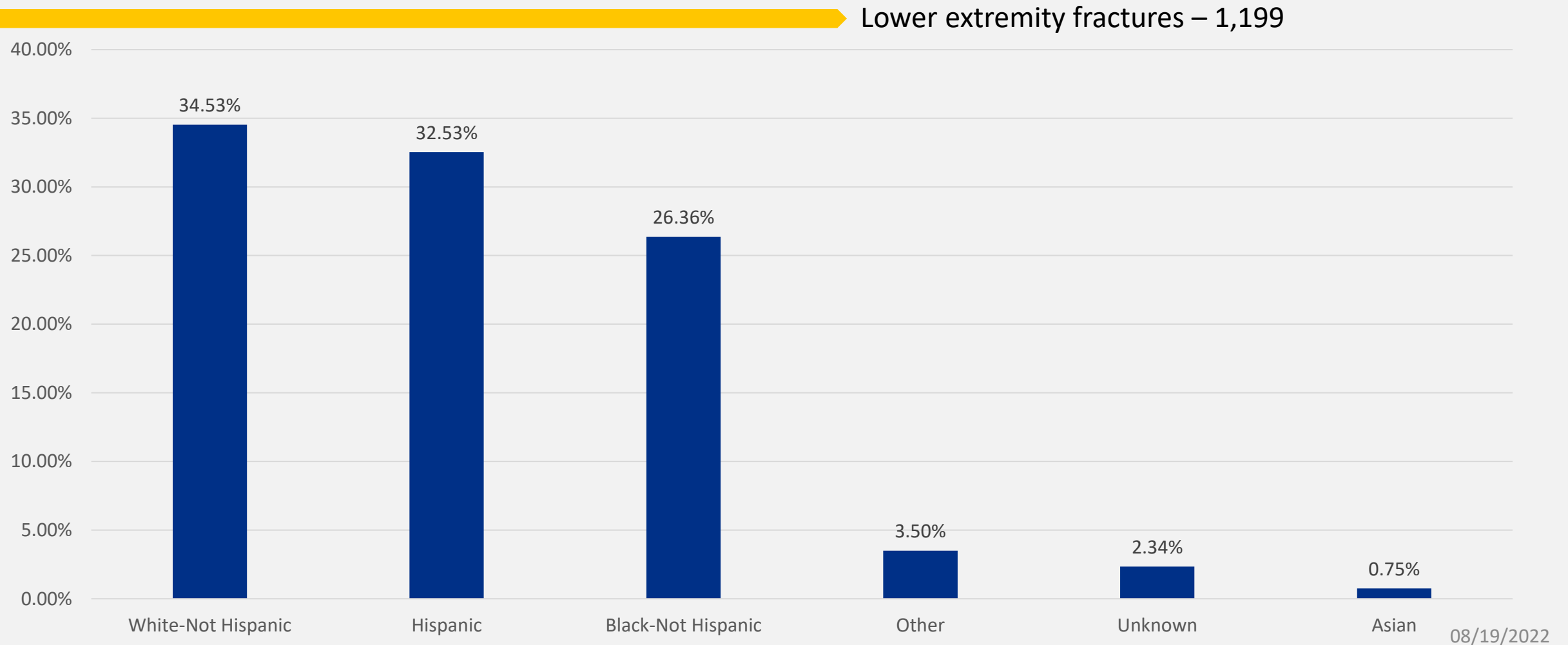


Patient's Sex – Lower Extremity Fractures

Lower extremity fractures – 1,199



Patient's Race and Ethnicity – Lower Extremity Fractures



Transport – Lower Extremity Fractures

Lower extremity fractures – 1,199

Transport	Percent
Ground Ambulance	72.64%
Private / Public Vehicle / Walk in	19.68%
Helicopter Ambulance	06.76%
Other	*
Fixed-Wing Ambulance	*
Not Known / Recorded	*
Police	*

ED Disposition – Lower Extremity Fractures

Lower extremity fractures – 1,199

ED Disposition	Percent
Floor Bed	44.04%
Operating Room	31.53%
Transferred to Another Hospital	08.59%
Telemetry / Step down unit	06.26%
ICU	04.34%
Observation Unit	02.17%
Deceased / expired	01.33%
Home without services	01.00%
Not Applicable	00.75%

Hospital Disposition – Lower Extremity Fractures

Lower extremity fractures – 1,199

Hospital Disposition	Percent
Discharged home or self-care	71.14%
Not Applicable	10.93%
Discharged / Transferred home under care of home health	06.09%
Discharged / Transferred to inpatient rehab or designated unit	04.00%
Discharged / Transferred to Skilled Nursing Facility	02.42%
Left against medical advice	02.00%
Discharged to court / LE	01.92%
Deceased / expired	00.50%
Discharged / Transferred to a Long-Term Care Hospital	*
Discharged / Transferred to a short-term general hospital	*

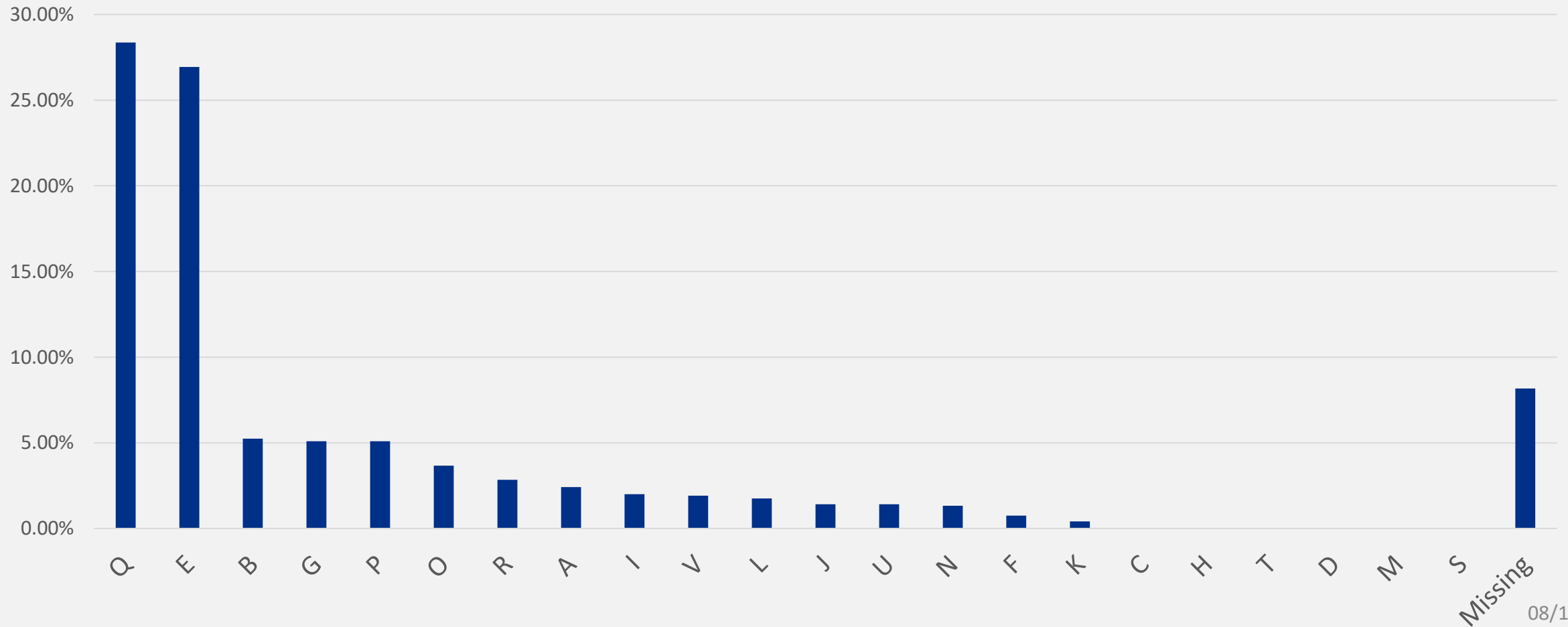
Hospital Designation – Lower Extremity Fractures

Lower extremity fractures – 1,199

Hospital Designation	Shock
Trauma Center Level 1	39.70%
Trauma Center Level 2	10.93%
Trauma Center Level 3	22.85%
Trauma Center Level 4	08.92%
Hospital	03.25%
Missing	14.35%

RAC – Lower Extremity Fractures

Lower extremity fractures – 1,199



Level 4 Trauma Centers



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Transport Mode – Level 4 Trauma Centers

Level 4 Trauma Center patients – 10,444

Transport Mode	Percent
Ground Ambulance	56.47%
Private / Public Vehicle / Walk in	41.51%
Helicopter Ambulance	00.80%
Police / LE	00.55%
Not Known / Recorded	00.34%
Other	00.17%
Fixed-Wing Ambulance	*
Missing	00.13%

Trauma Type – Level 4 Trauma Centers

Level 4 Trauma Center patients – 10,444

Trauma	Percent
Blunt	29.92%
Penetrating	04.65%
Other	01.91%
Burn	01.38%
Not Recorded	10.98%
Not Applicable	00.09%
Missing	51.07%

ED Disposition – Level 4 Trauma Centers

Level 4 Trauma Center patients – 10,444

ED Disposition	Percent
Transferred to Another Hospital	50.09%
Floor Bed	24.60%
Operating Room	05.71%
ICU	05.27%
Telemetry / Step down unit	04.59%
Home without services	02.78%
N/A	02.59%
Deceased / expired	01.72%
Observation Unit	01.70%
Other	00.60%
Left against medical advice	00.11%
Home with services	00.05%
Missing	00.20%

Hospital Disposition – Level 4 Trauma Centers

Level 4 Trauma Center patients – 10,444

Hospital Disposition	Percent
Not Applicable	55.36%
Discharged home or self-care	30.25%
Discharged / Transferred home under care of home health	4.23%
Discharged / Transferred to inpatient rehab or designated unit	3.02%
Discharged / Transferred to Skilled Nursing Facility	2.87%
Discharged / Transferred to a short-term general hospital	0.92%
Left against medical advice	0.84%
Deceased / Expired	0.64%
Discharged to court / LE	0.56%
Discharged to psychiatric hospital	0.35%
Discharged to Long Term Care Hospital	0.26%
Discharged to hospice care	0.20%
Discharged to another type of institution	0.16%
Missing	0.15%

Injury Severity Score (ISS) – Level 4 Trauma Centers

Level 4 Trauma Center patients – 10,444

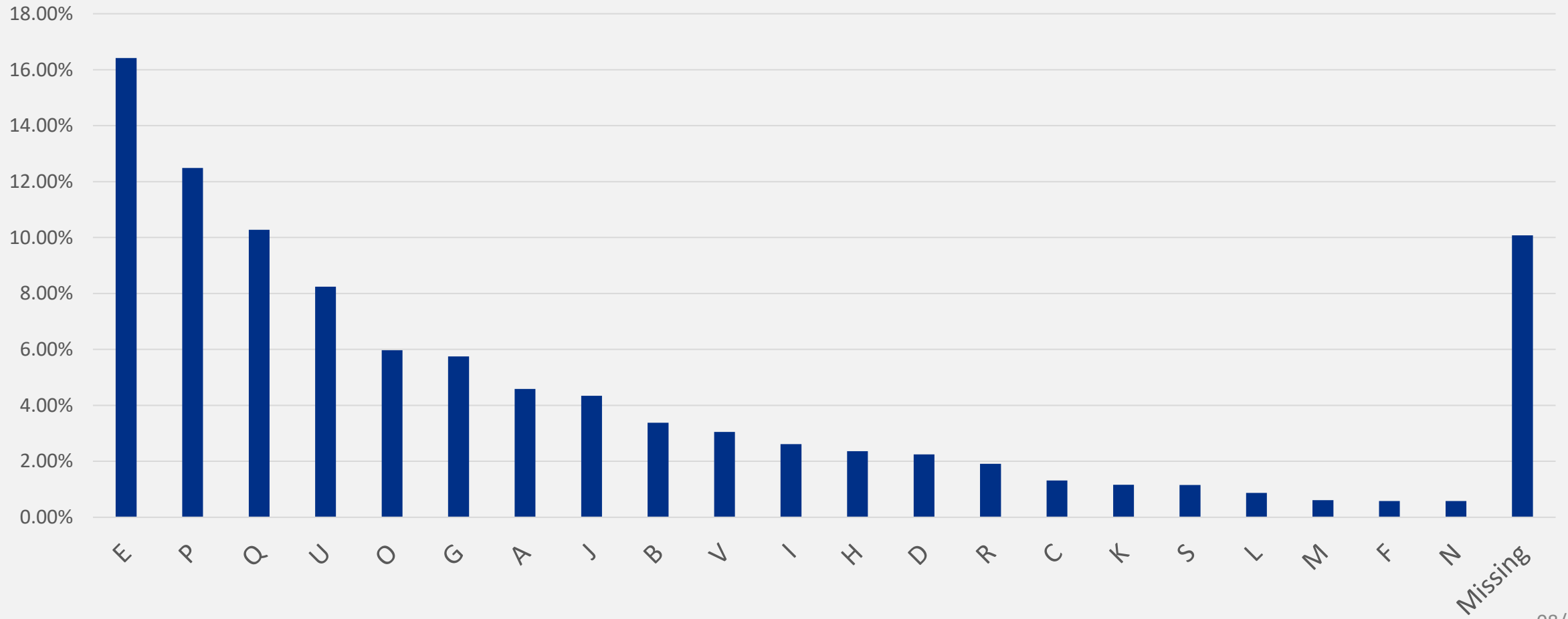
ISS	Percent
0	09.21%
1-8	57.54%
9-15	25.65%
16-24	04.63%
>= 25	02.97%

ISS Levels (out of a possible 75 points):

- 0 – no injury
- 1-8 – minor to moderate injury
- 9-15 – serious injury
- 16-24 – severe injury
- ≥25 – Critical injury

RAC – Level 4 Trauma Centers

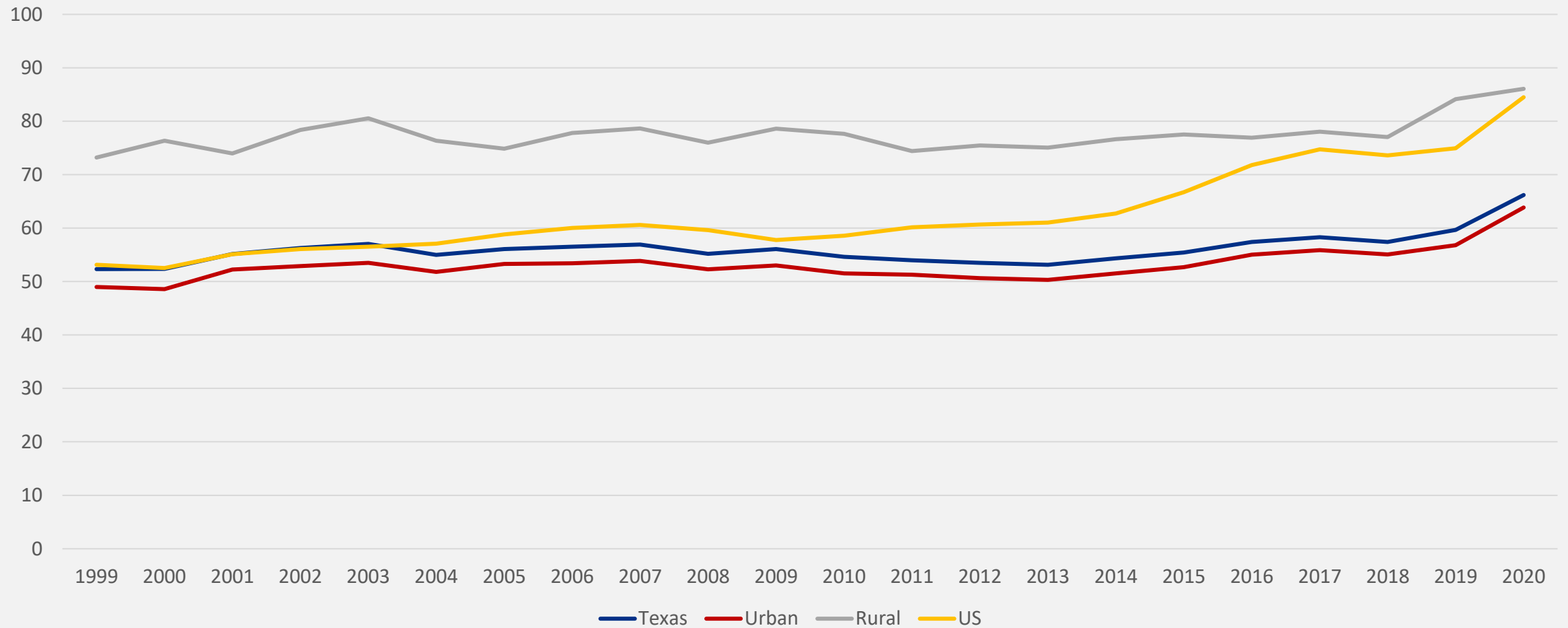
Level 4 Trauma Center patients – 10,444



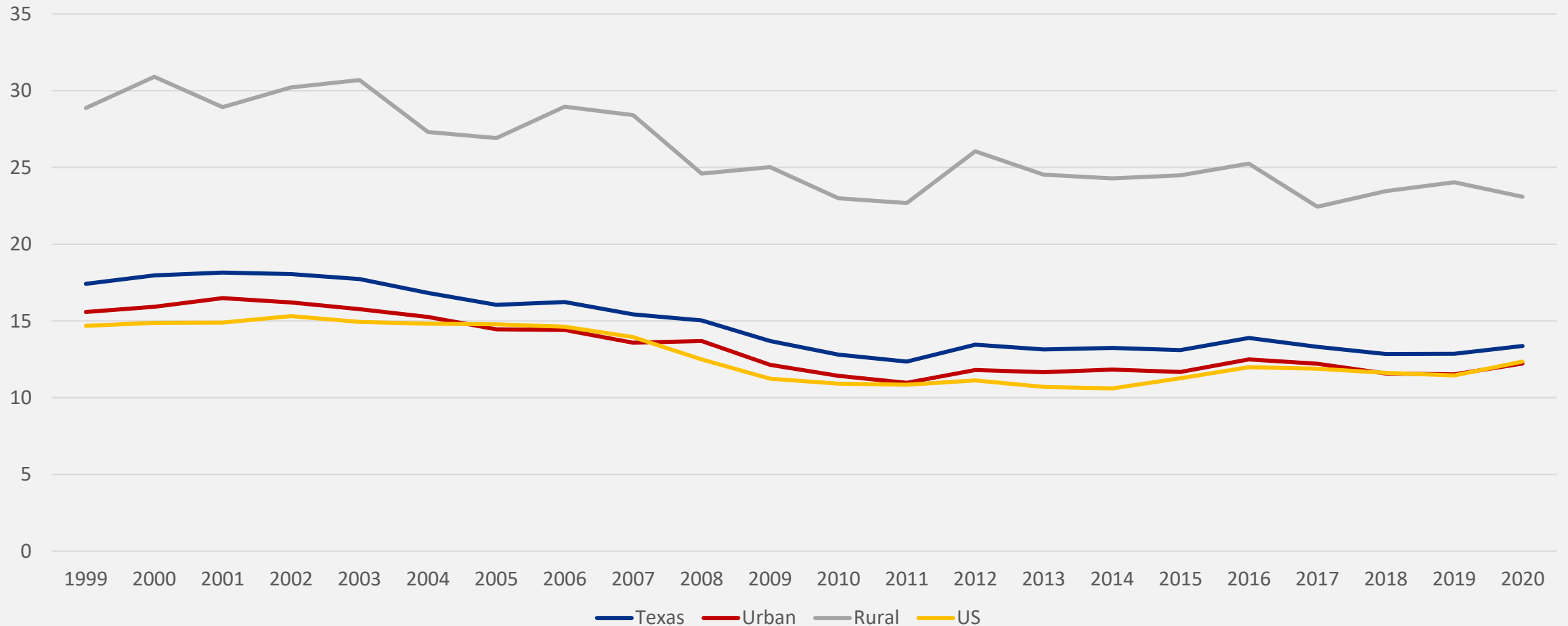
Injury Fatality Rates Over Time (1999-2020) All Ages



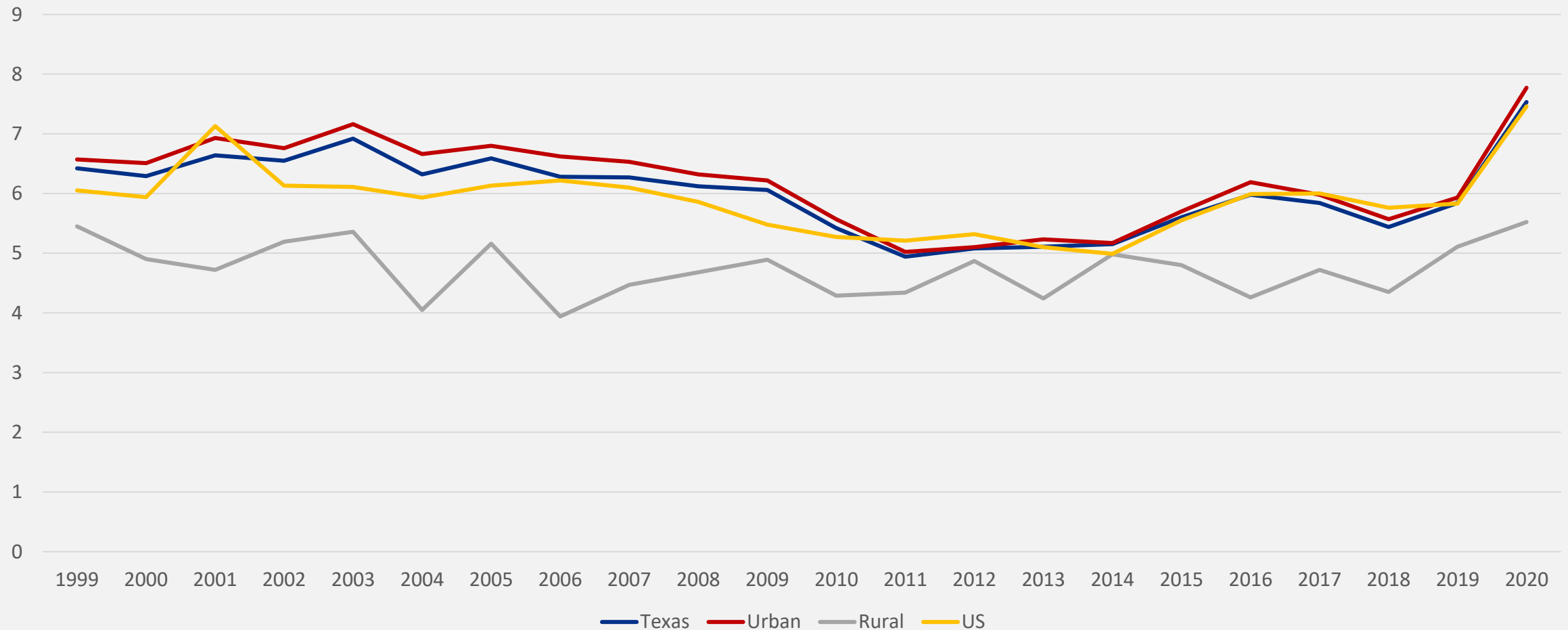
Injury Fatality Rates Over Time



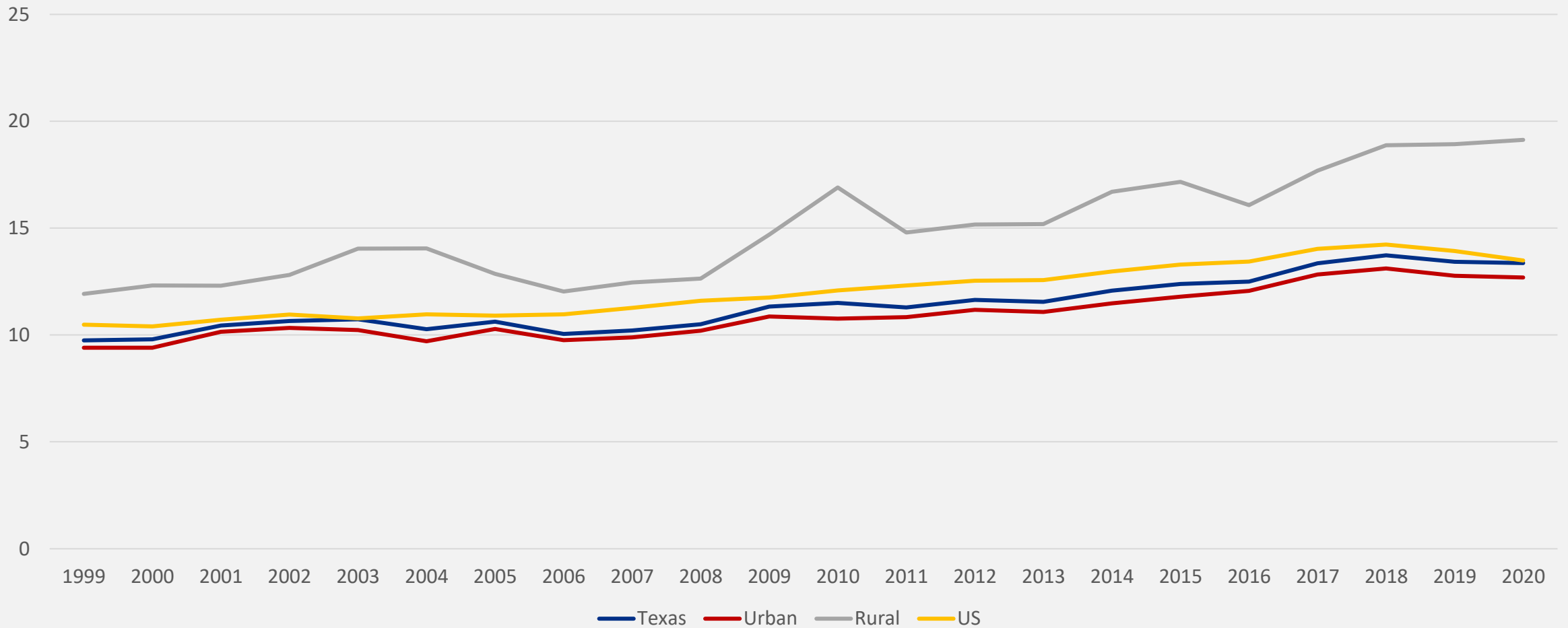
Motor Vehicle Traffic (MVT) Fatality Rates Over Time



Homicide Fatality Rates Over Time



Suicide Fatality Rates Over Time



Resources

- National Trauma Data Bank (NTDB) data dictionary - facs.org/quality-programs/trauma/tqp/center-programs/ntdb/ntds.
- NSW Institute of Trauma and Injury Management - aci.health.nsw.gov.au/get-involved/institute-of-trauma-and-injury-management.
- Coding is based on the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM).

Thank you!

Trauma Systems Data Request (Texas 2021)
and Injuries Over time (1999-2020)

August 19, 2022

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