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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

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Office of Injury Prevention Manager

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/Trauma Registries (EMS/TR) 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, EMS/TR pulled and cleaned 2021 trauma variables.
- In 2021, EMS/TR received a total of **153,135** unique patient records.
- Per epidemiology best practice, EMS/TR suppressed data when there were less than 5 records to protect identifiable data, noted with a “*”.

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



Mechanism of Injury (MOI) – Shock versus No Shock

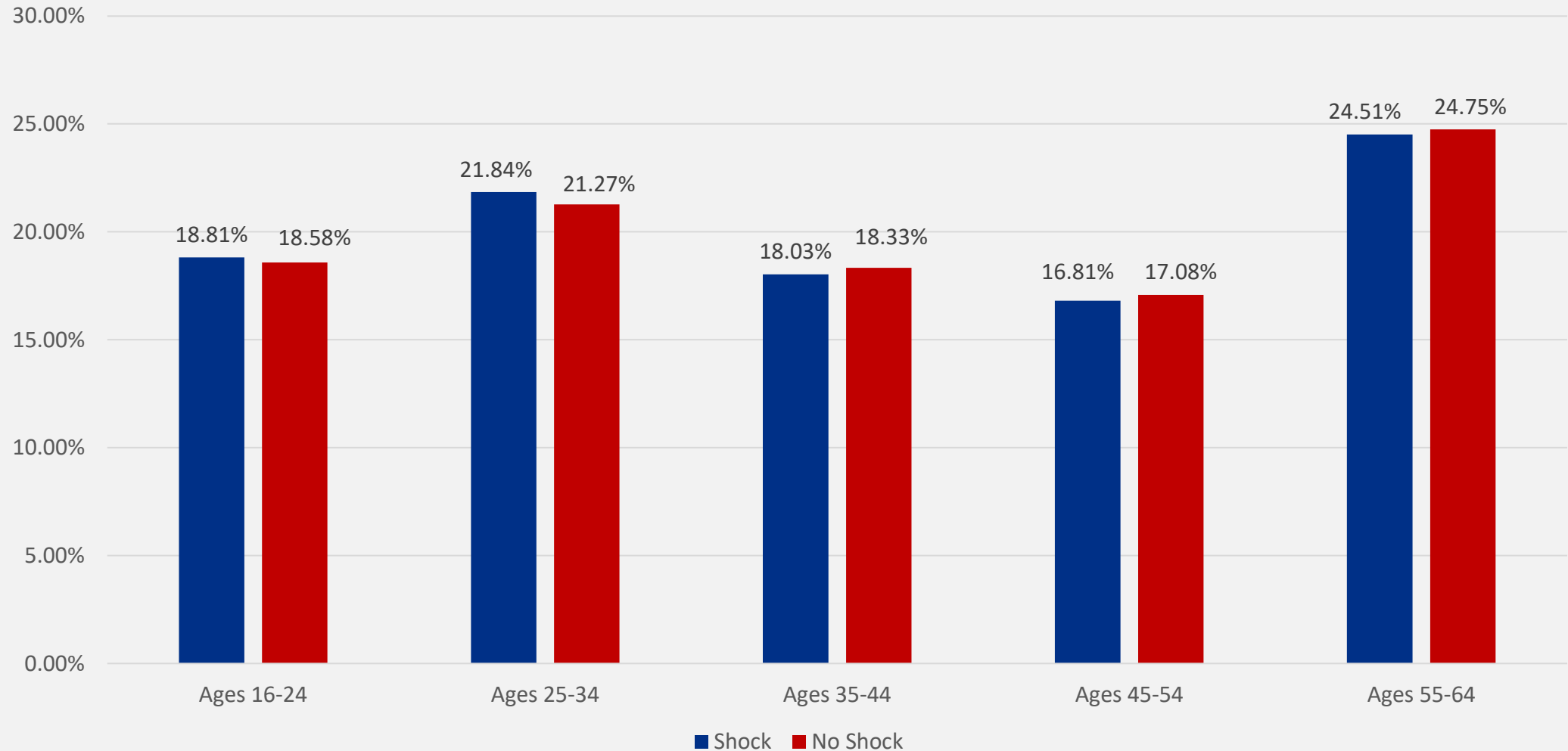
Shock patients – 4,194; No shock patients – 76,024

MOI	Shock	No Shock
Firearm	22.03%	7.84%
Fall	21.48%	30.59%
Motor Vehicle Traffic (MVT) - Occupant	21.48%	21.26%
Cut / Pierce	6.94%	6.74%
MVT - Motorcyclist	5.10%	4.60%
MVT - Pedestrian	4.98%	2.53%
Struck By / Against	4.74%	9.05%
Not Applicable	1.93%	0.98%
Motor Vehicle (MV) - Non-Traffic	1.88%	3.18%
Other*	9.44%	13.23%

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

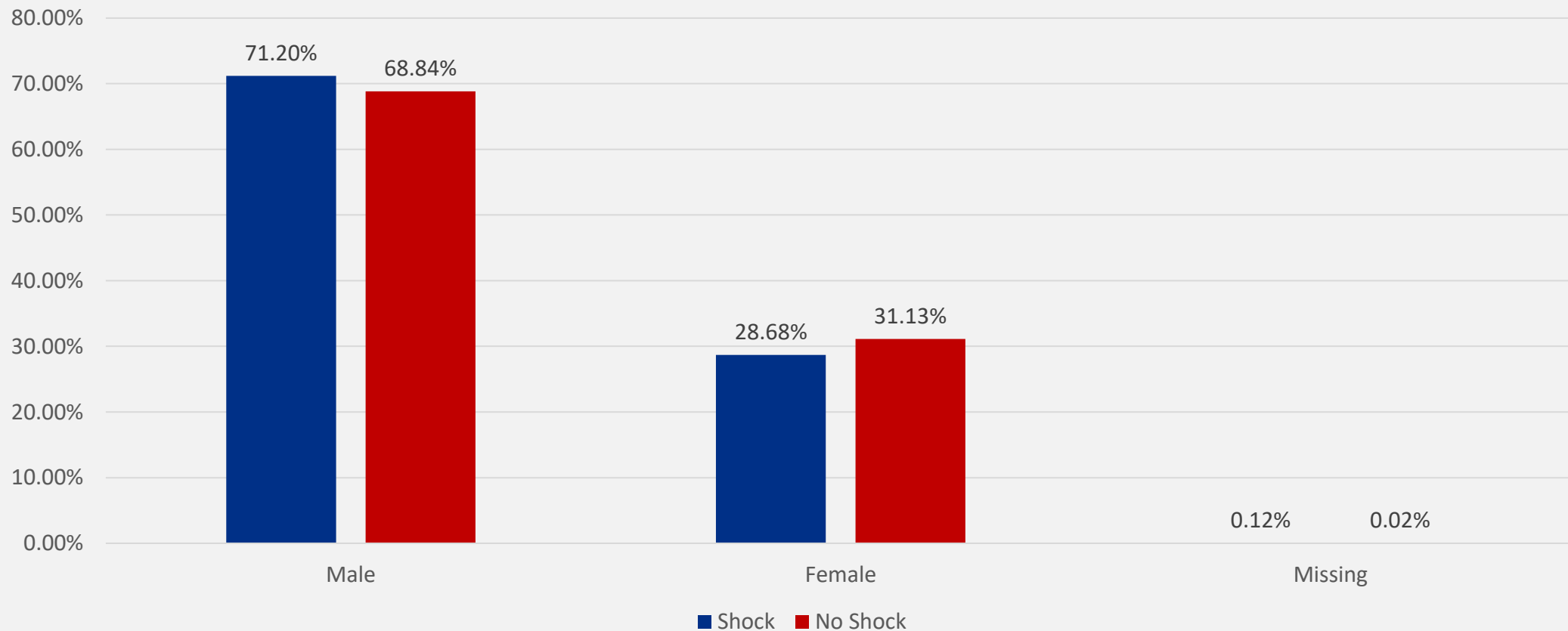
Patient's Age – Shock versus No Shock

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



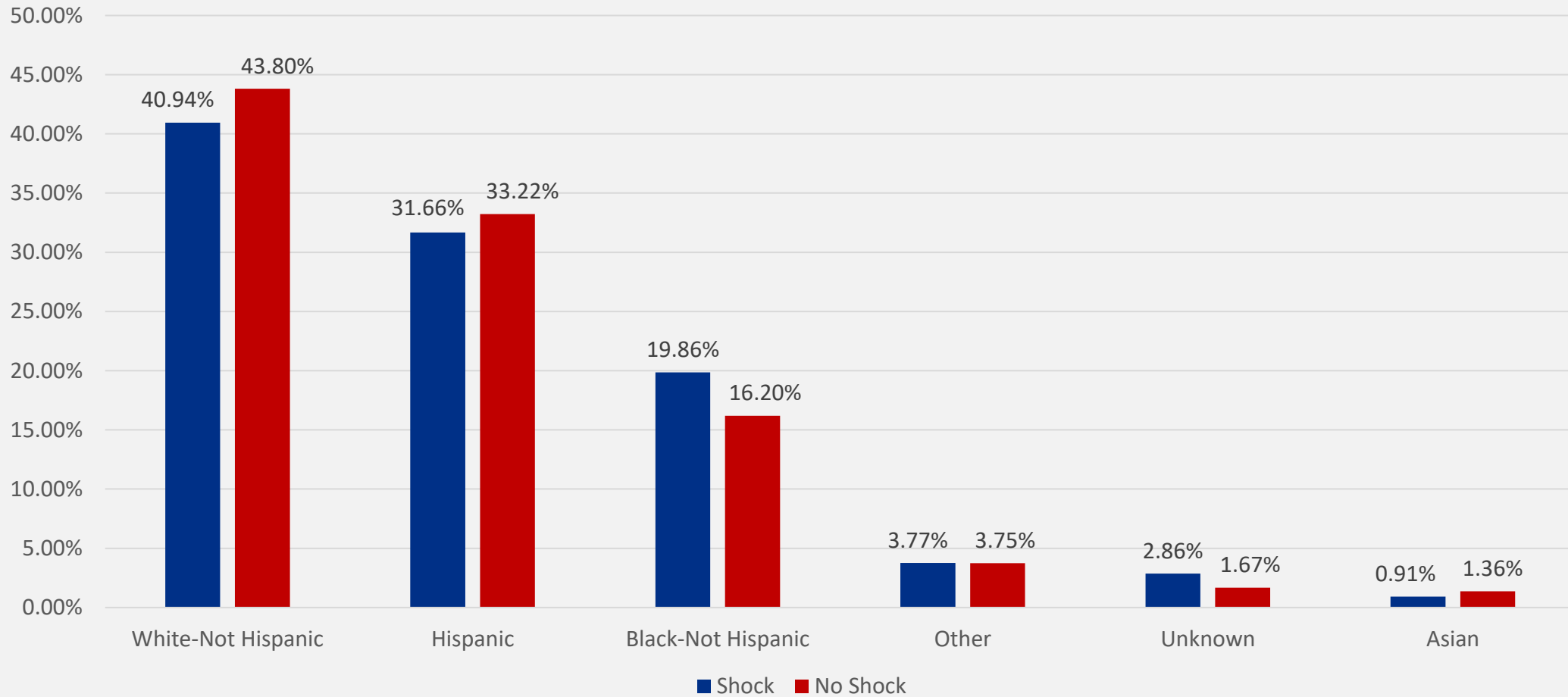
Patient's Gender – Shock versus No Shock

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	8.63%	6.57%
Other	0.83%	0.22%
Fixed-Wing Ambulance	0.33%	0.28%
Not Known / Not Recorded	0.26%	0.17%
Police	0.21%	0.56%
Missing	0.64%	0.07%

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%	1.61%
Operating Room	19.50%	13.00%
Floor Bed	17.05%	35.36%
Intensive Care Unit (ICU)	15.64%	13.89%
Transferred to Another Hospital	9.06%	15.41%
Not Applicable	4.24%	1.94%
Telemetry / Step down unit	4.15%	6.72%
Home without services	2.46%	7.72%
Observation unit (unit that provides < 24 hour stays)	1.50%	3.60%
Left Against Medical Advice	0.17%	0.32%
Other (jail, institutional care, mental health)	*	0.36%
Home with services	*	0.02%
Missing	0.79%	0.05%

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	8.89%	1.80%
Discharged / Transferred to inpatient rehab or designated unit	5.44%	4.81%
Discharged / Transferred home under home health care	4.22%	4.27%
Discharged / Transferred to Skilled Nursing Facility	3.12%	2.73%
Left against medical advice	1.65%	1.55%
Discharged / Transferred to a short-term general hospital	1.38%	0.68%
Discharged / Transferred to a Long-Term Care Hospital	1.14%	0.45%
Discharged to court / Law Enforcement (LE)	1.03%	1.34%
Discharged to hospice care	0.64%	0.24%
Discharged to psychiatric hospital	0.52%	0.57%

N/A is reported if ED disposition is left against medical advice, deceased, discharged home or self-care, hospice, court/ law enforcement, or inpatient rehab.

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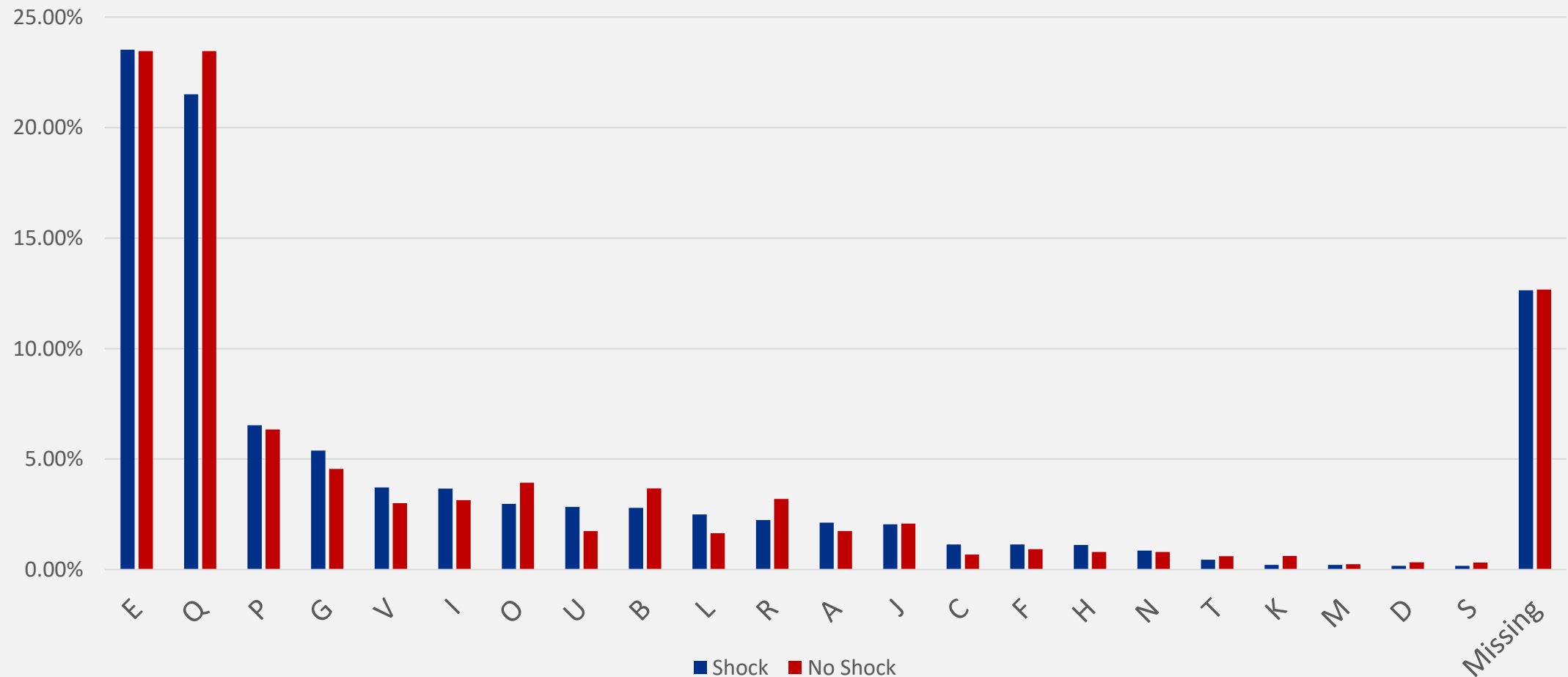
Hospital Designation – Shock versus No Shock

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	8.56%	9.56%
Trauma Center Level 3	21.72%	21.63%
Trauma Center Level 4	14.33%	13.74%
Hospital	5.39%	4.68%
STEMI (ST-elevation myocardial infarction) Center	0.26%	0.15%
Pediatric Center	*	0.08%
Rural Access Hospital	0.00%	0.01%
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

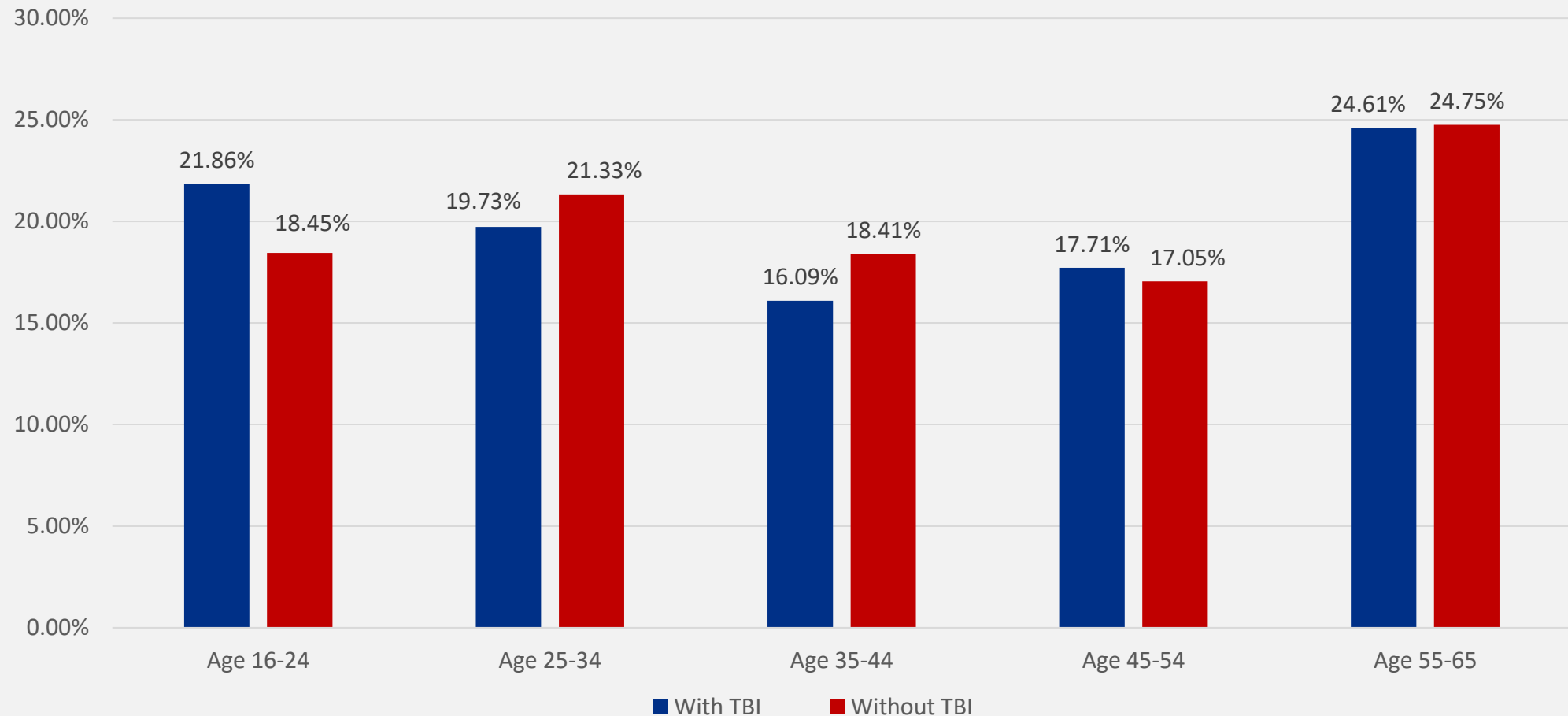
TBI patients – 2,722; Patients without TBI – 73,302

MOI	With TBI	Without TBI
Fall	39.09%	30.27%
MVT - Occupant Struck By / Against	21.20%	21.26%
Firearm	12.78%	8.91%
MVT - Motorcyclist	8.96%	7.80%
MV – Non-Traffic	3.75%	4.63%
MVT - Pedestrian	3.20%	3.18%
Other Land Transport	2.46%	2.53%
Not Applicable	1.29%	1.12%
Cut / Pierce	1.25%	0.97%
Other*	1.18%	6.94%
	4.84%	10.80%

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

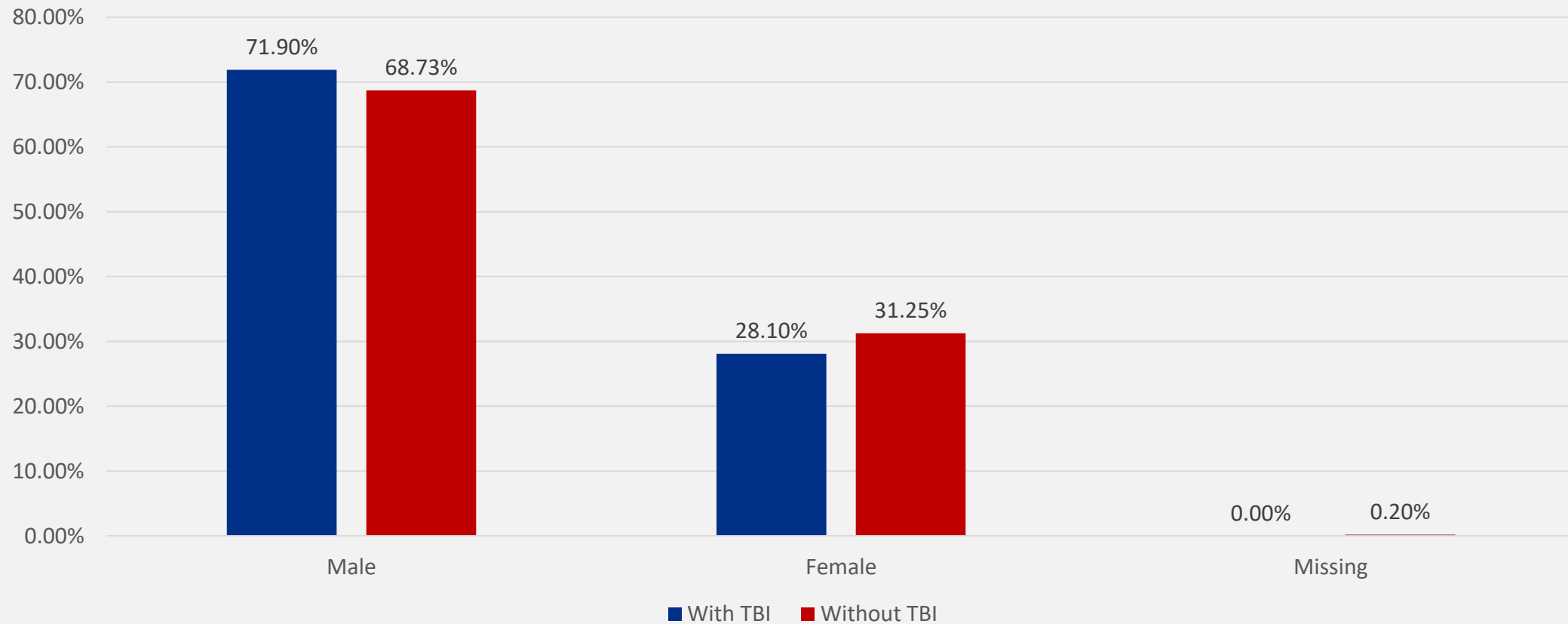
Patient's Age – TBI versus Without TBI

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



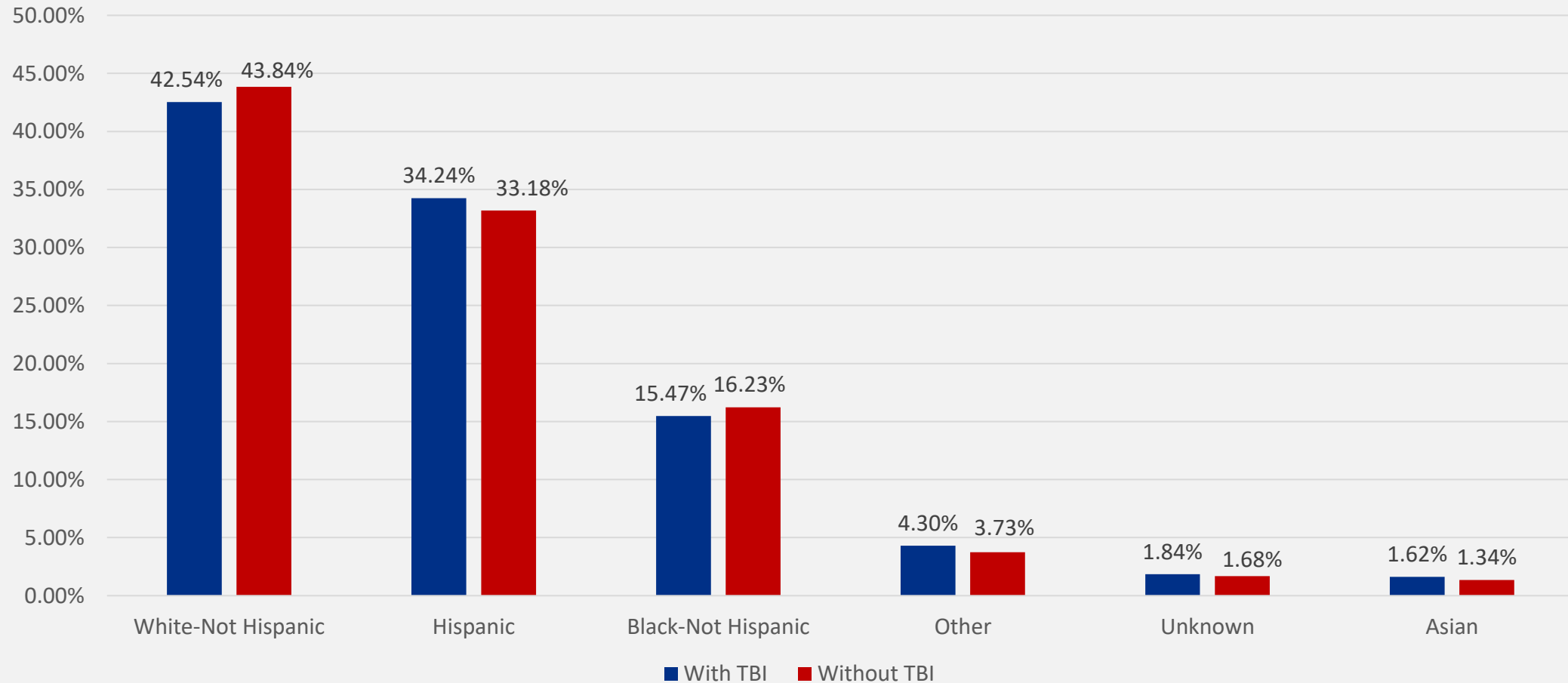
Patient' Gender – TBI versus Without TBI

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	7.86%	6.52%
Police	0.37%	0.57%
Fixed-wing Ambulance	0.29%	0.28%
Not Known / Not Recorded	0.18%	0.17%
Other	*	0.23%
Missing	0.00%	0.07%

ED Disposition – TBI versus Without TBI

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

ED Disposition	With TBI	Without TBI
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)	6.83%	6.71%
Home without services	6.47%	7.77%
Operating Room	6.17%	13.25%
Deceased / Expired	4.41%	1.51%
Observation unit (unit that provides < 24 hour stays)	3.20%	3.62%
Not Applicable	2.20%	1.93%
Left against medical advice	0.48%	0.32%
Other (jail, institutional care, mental health, etc.)	0.33%	0.36%
Home with Services	*	0.02%
Missing	*	0.05%

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	6.25%	1.64%
Discharged / Transferred to inpatient rehab or designated unit	5.51%	4.79%
Discharged / Transferred to home under care of organized home health	2.53%	4.33%
Left against medical advice	2.46%	1.51%
Discharged / Transferred to Skilled Nursing Facility	1.58%	2.77%
Discharged / Transferred to court / LE	0.81%	1.36%
Discharged / Transferred to Long Term Care Hospital	0.70%	0.44%
Discharged / Transferred to a short-term general hospital	0.62%	0.68%
Discharged to hospice care	0.55%	0.23%
Discharged to a psychiatric hospital	0.51%	0.57%

N/A is reported if ED disposition is left against medical advice, deceased, discharged home or self-care, hospice, court/ law enforcement, or inpatient rehab.

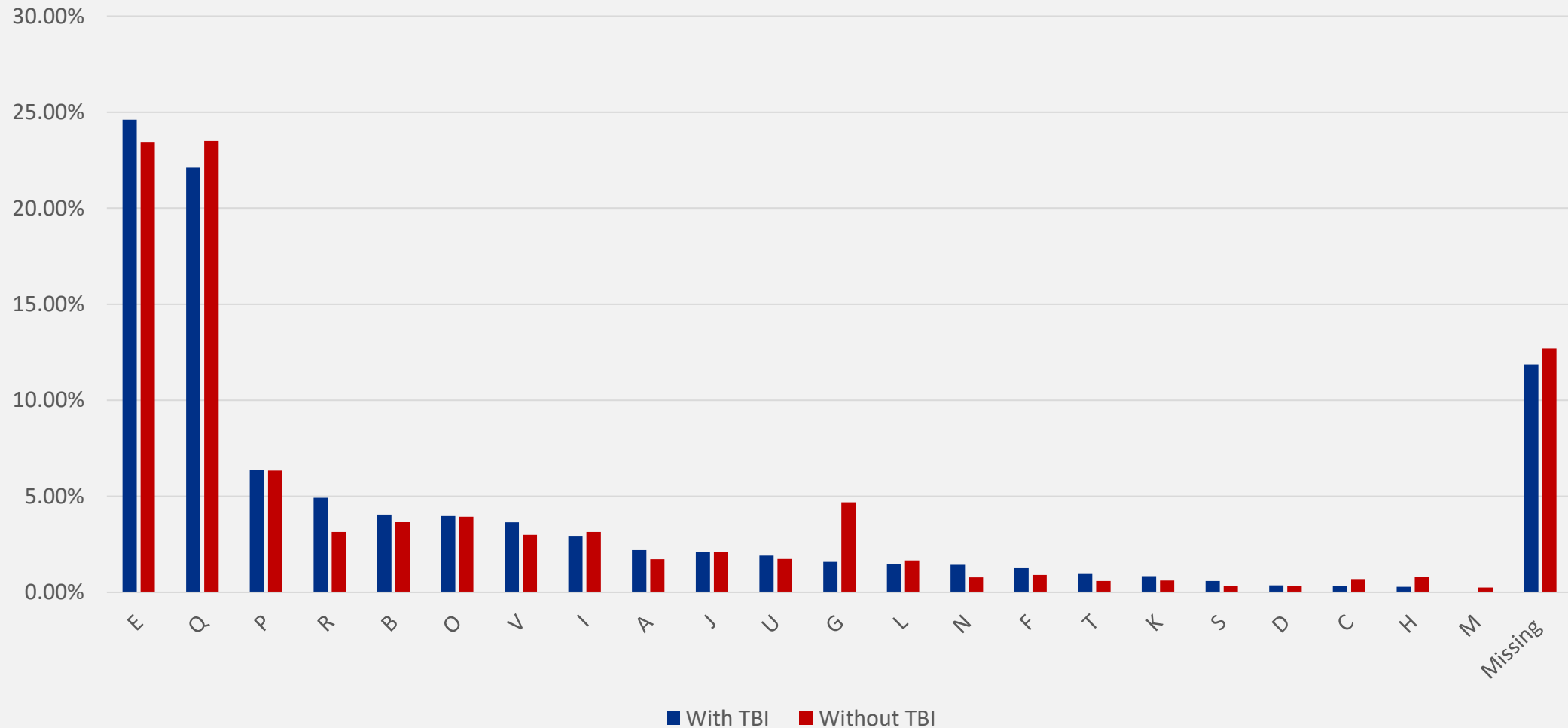
Hospital Designation – TBI versus Without TBI

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	7.38%	9.64%
Trauma Center Level 3	24.72%	21.51%
Trauma Center Level 4	15.43%	13.67%
Hospital	4.85%	4.67%
STEMI Center	*	0.15%
Pediatric Center	*	0.08%
Rural Access Hospital	0.00%	0.01%
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

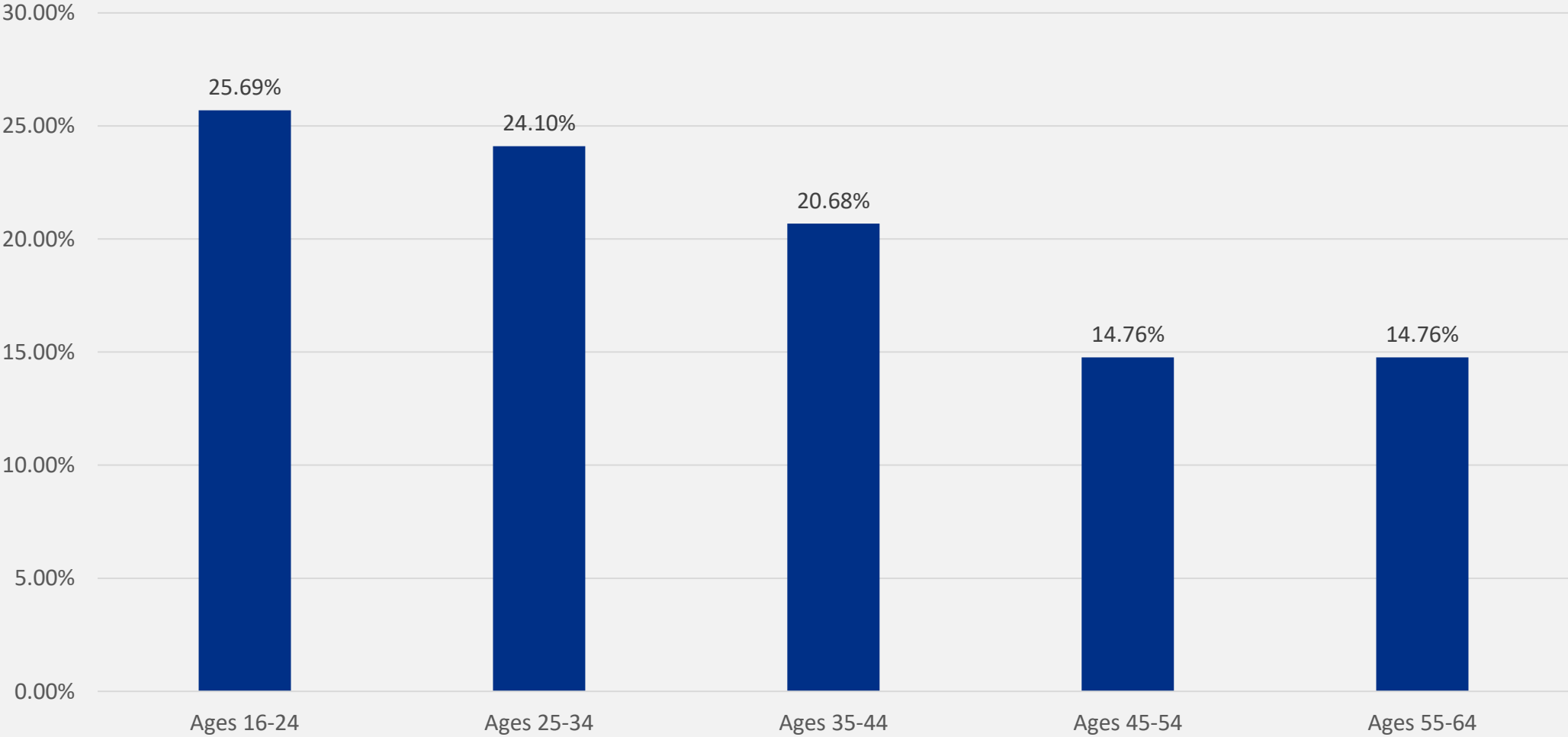
Lower extremity fractures – 1,199

MOI	Percent
Firearm	37.20%
Fall	23.69%
MVT - Occupant	10.76%
MVT - Motorcyclist	4.50%
Cut / Pierce	4.42%
Struck By / Against	4.00%
MVT - Pedestrian	3.34%
MV Non-Traffic	3.17%
Other*	8.92%

*Other includes other land transport, machinery, bites and stings, pedal cyclist, overexertion, environmental, etc.

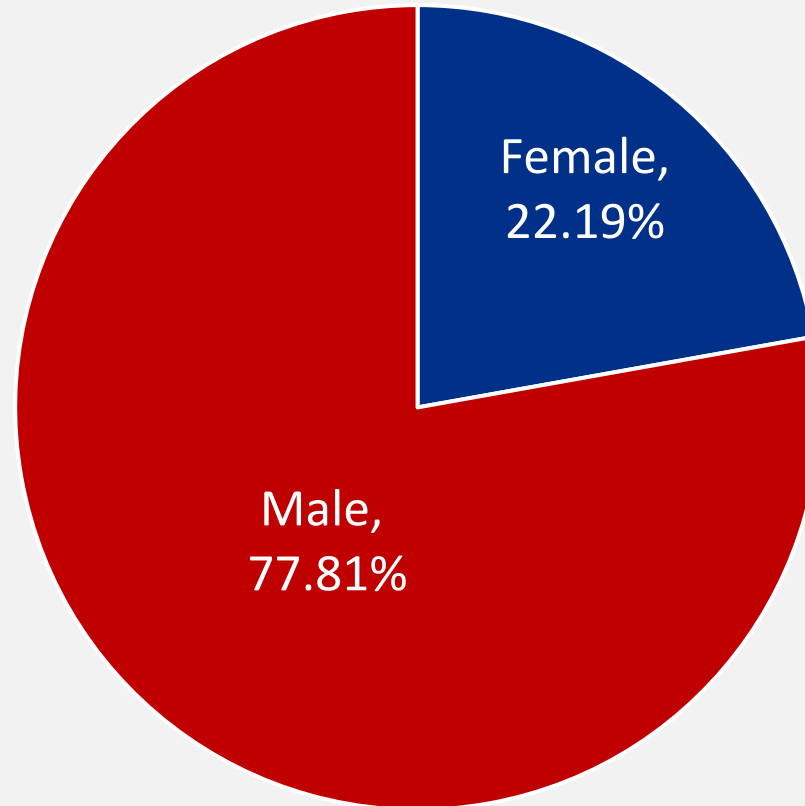
Patient's Age – Lower Extremity Fractures

Lower extremity fractures – 1,199



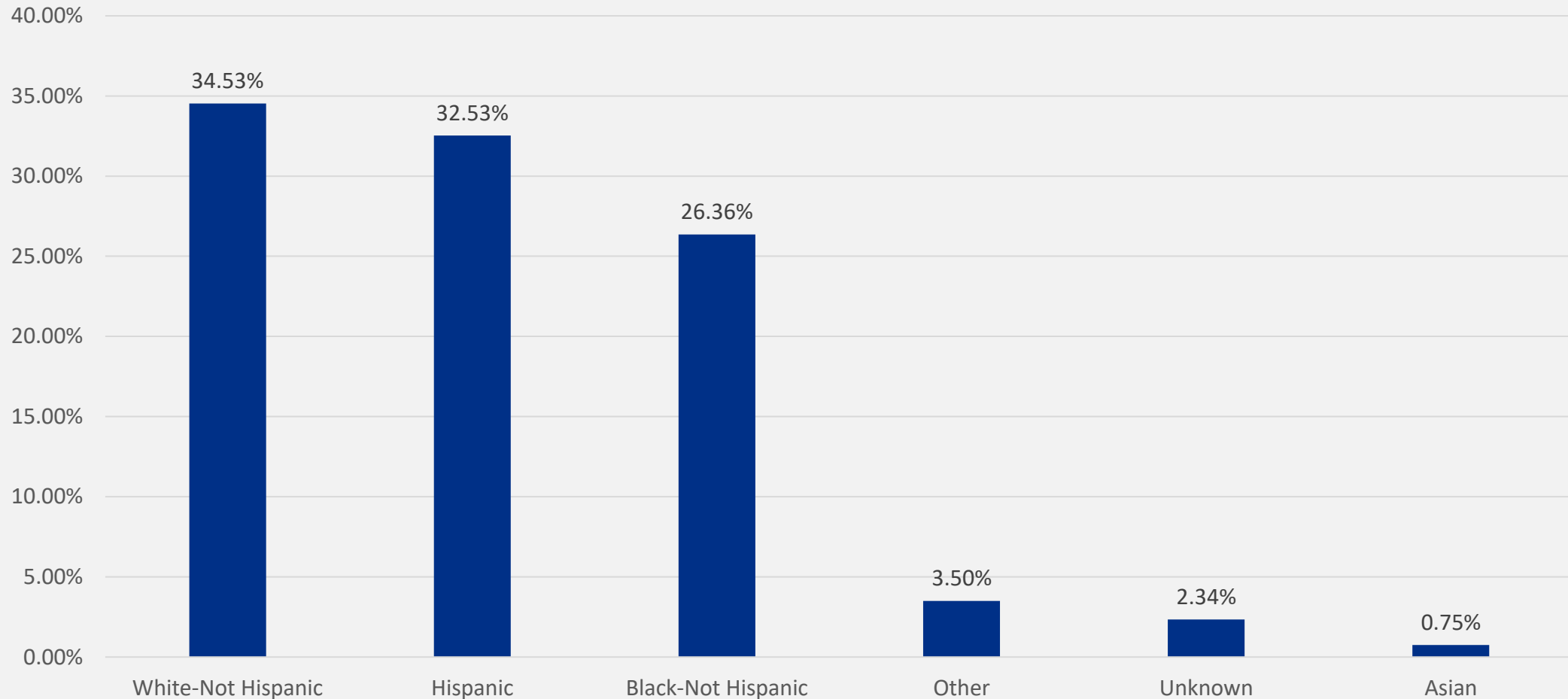
Patient's Gender – Lower Extremity Fractures

Lower extremity fractures – 1,199



Patient's Race and Ethnicity – Lower Extremity Fractures

Lower extremity fractures – 1,199



Transport – Lower Extremity Fractures

Lower extremity fractures – 1,199

Transport	Percent
Ground Ambulance	72.64%
Private / Public Vehicle / Walk in	19.68%
Helicopter Ambulance	6.76%
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	8.59%
Telemetry / Step down unit	6.26%
ICU	4.34%
Observation Unit	2.17%
Deceased / expired	1.33%
Home without services	1.00%
Not Applicable	0.75%

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	6.09%
Discharged / Transferred to inpatient rehab or designated unit	4.00%
Discharged / Transferred to Skilled Nursing Facility	2.42%
Left against medical advice	2.00%
Discharged to court / LE	1.92%
Deceased / expired	0.50%
Discharged / Transferred to a Long-Term Care Hospital	*
Discharged / Transferred to a short-term general hospital	*

N/A is reported if ED disposition is left against medical advice, deceased, discharged home or self-care, hospice, court/ law enforcement, or inpatient rehab.

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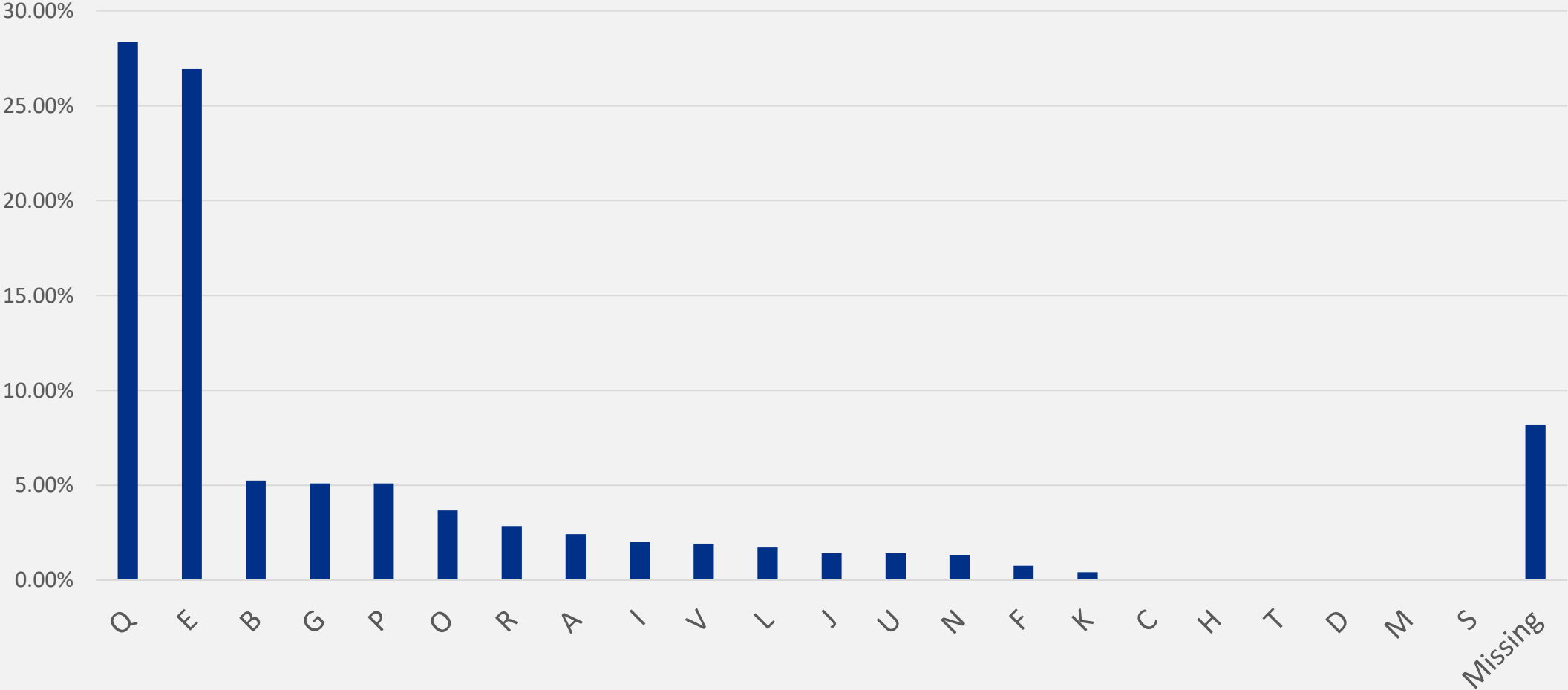
Hospital Designation – Lower Extremity Fractures

Lower extremity fractures – 1,199

Hospital Designation	Percent
Trauma Center Level 1	39.70%
Trauma Center Level 2	10.93%
Trauma Center Level 3	22.85%
Trauma Center Level 4	8.92%
Hospital	3.25%
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	0.80%
Police / LE	0.55%
Not Known / Recorded	0.34%
Other	0.17%
Fixed-Wing Ambulance	*
Missing	0.13%

Trauma Type – Level 4 Trauma Centers

Level 4 Trauma Center patients – 10,444

Trauma	Percent
Blunt	29.92%
Penetrating	4.65%
Other	1.91%
Burn	1.38%
Not Recorded	10.98%
Not Applicable	0.09%
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	5.71%
ICU	5.27%
Telemetry / Step down unit	4.59%
Home without services	2.78%
N/A	2.59%
Deceased / expired	1.72%
Observation Unit	1.70%
Other	0.60%
Left against medical advice	0.11%
Home with services	0.05%
Missing	0.20%

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

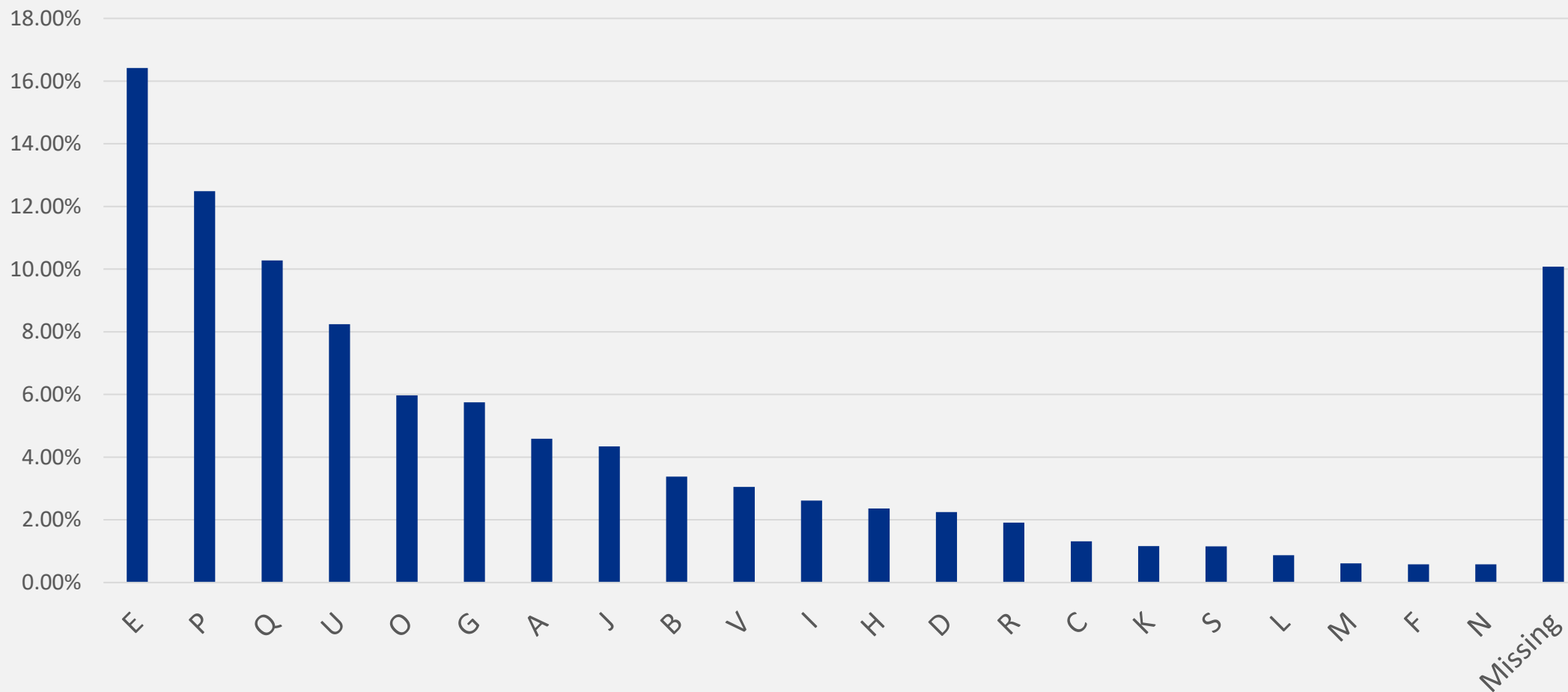
ISS	Percent
0	9.21%
1-8	57.54%
9-15	25.65%
16-24	4.63%
≥ 25	2.97%

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

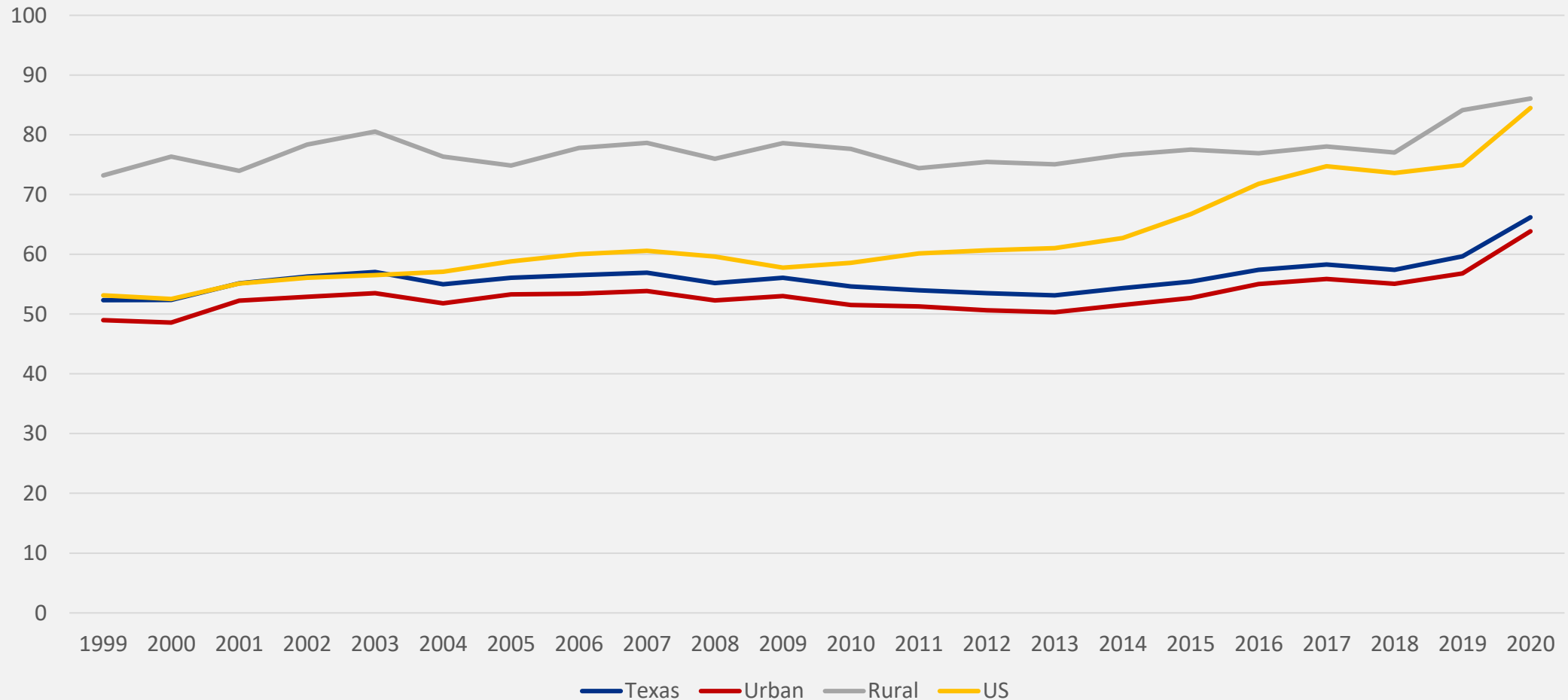
Rates per 100,000



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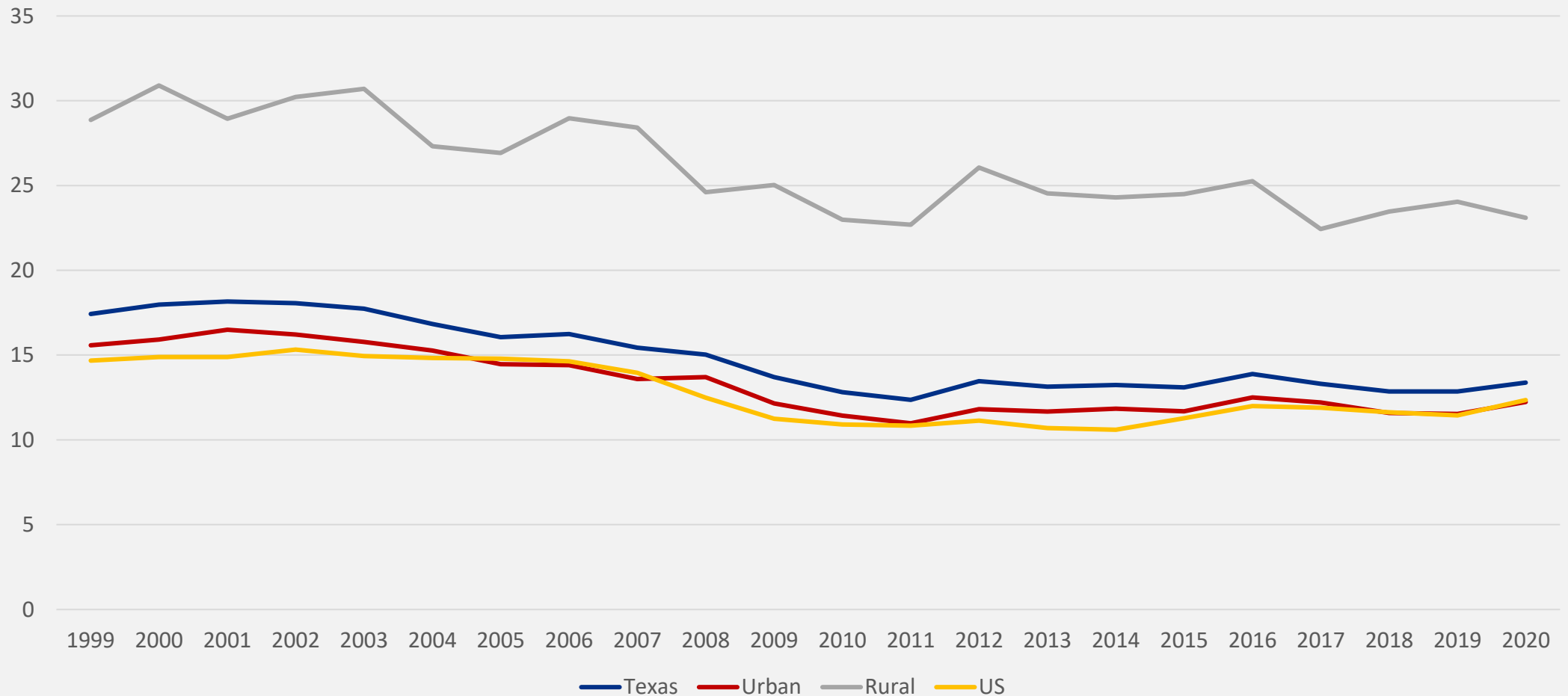
Injury Fatality Rates Over Time



Source: WISQARS

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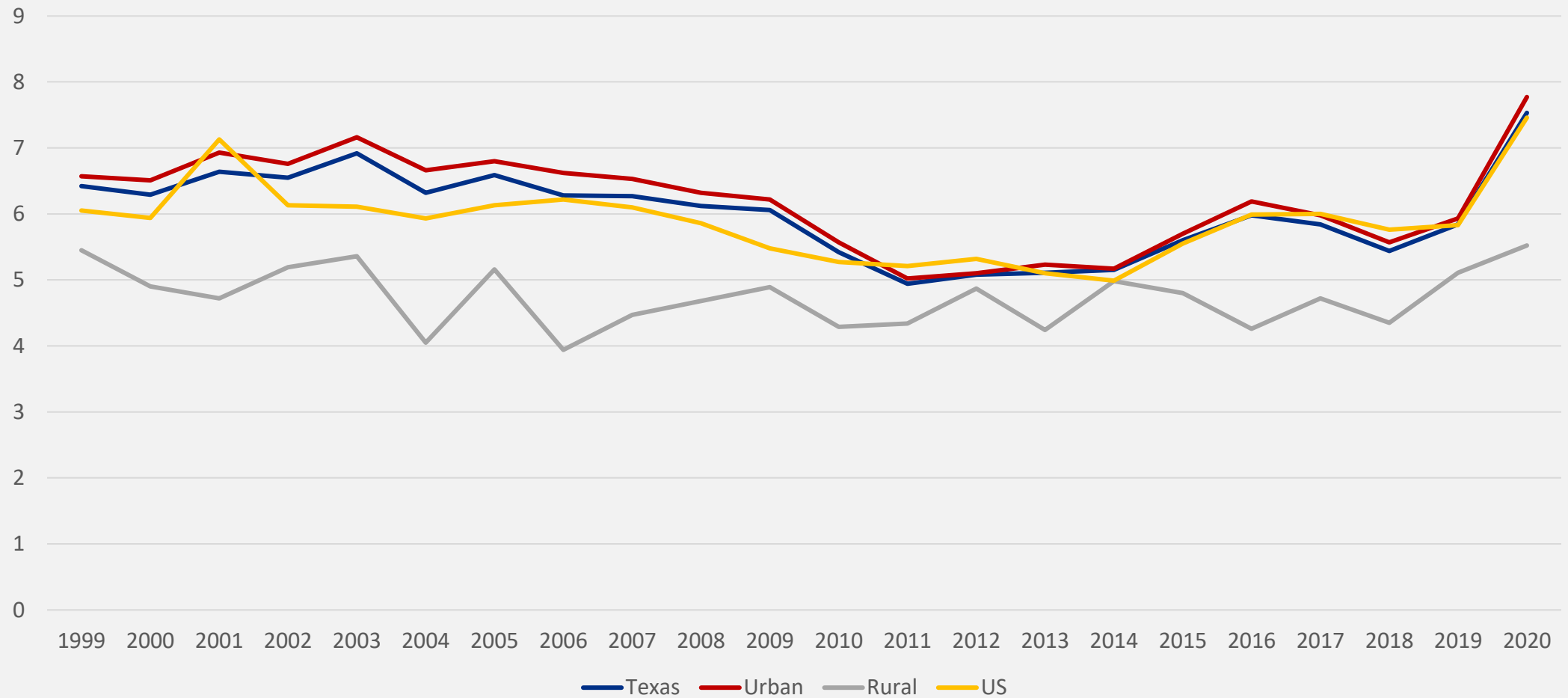
Motor Vehicle Traffic (MVT) Fatality Rates Over Time



Source: WISQARS

08/19/2022

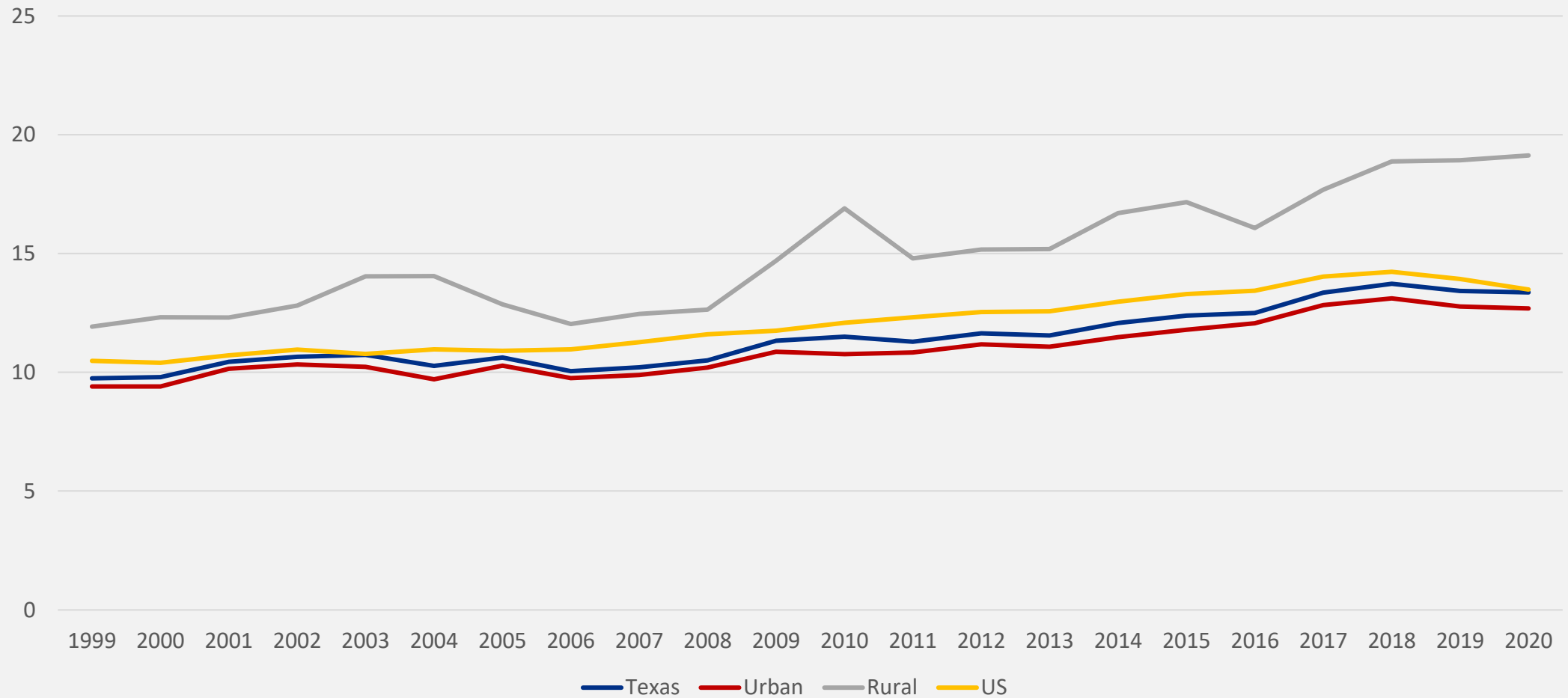
Homicide Fatality Rates Over Time



Source: WISQARS

08/19/2022

Suicide Fatality Rates Over Time



Source: WISQARS

08/19/2022

Resources

- National Trauma Data Bank (NTDB) data dictionary - [facs.org/quality-programs/trauma/tqp/center-programs/ntdb/ntds](https://www.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).
- Web-Based Injury Statistics Query and Reporting System - [WISQARS \(Web-based Injury Statistics Query and Reporting System\) | Injury Center | CDC](https://www.cdc.gov/wisqars/)

Thank you!

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

August 19, 2022

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