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NTDB[®]
NATIONAL TRAUMA DATA BANK

National Trauma Data Bank 2016

Pediatric Annual Report

NTDB PEDIATRIC REPORT 2016

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EDITOR'S NOTE

The Pediatric Report of the National Trauma Data Bank (NTDB) is an updated analysis of the largest aggregation of U.S./Canadian trauma registry data ever assembled. In total, the NTDB now contains more than 7 million records. The 2016 Pediatric Report is based on 141,051 2015 admission year records from 744 facilities. This report includes patients aged <20 from all submitting trauma centers regardless of pediatric verification/designation status.

In the interest of capturing a better picture of deaths in the NTDB, any patients who have been recorded as “Discharged to Hospice” have now been counted as deaths.

The mission of the American College of Surgeons Committee on Trauma (ACS COT) is to develop and implement meaningful programs for trauma care. In keeping with this mission, the NTDB is committed to being the principal national repository for trauma center registry data. The purpose of this report is to inform the medical community, the public, and decision makers about a wide variety of issues that characterize the current state of care for injured persons. It has implications in many areas, including epidemiology, injury control, research, education, acute care, and resource allocation.

The NTDB Committee would like to thank all of the trauma centers that contributed data and hopes that this report will attract new participants. The National Trauma Data Bank Pediatric Report is available on the ACS website as a PowerPoint PDF at www.ntdb.org. In addition, information is available on our website about how to obtain NTDB data for more detailed study.

Many dedicated individuals on the ACS COT, as well as at trauma centers, have contributed to the early development of the NTDB and its rapid growth in recent years. Building on these achievements, our goals in the coming years include improving data quality, updating analytic methods, and enabling more useful inter-hospital comparisons. These efforts will be reflected in future NTDB reports to participating hospitals as well as in the Pediatric Reports.



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EDITOR'S NOTE, CONT'D

To cite figures used from the NTDB Pediatric Report, please specify the title of the report, year, and the name of the figure in the following format:

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FACILITY INFORMATION



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Table
1

Pediatric-Only Facilities by Trauma Level

LEVEL	NUMBER	PERCENT
I	30	83.33
II	6	16.67
Total	36	100



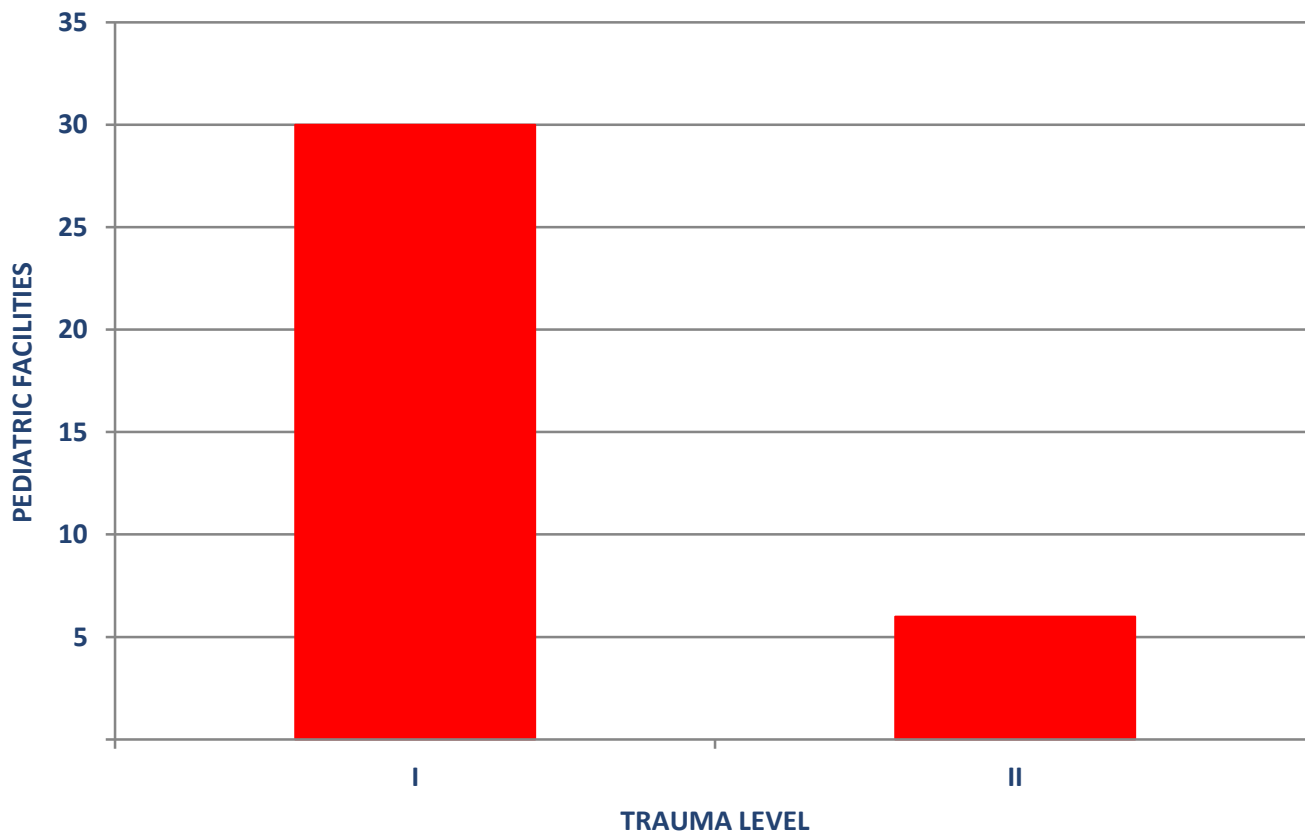
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Figure 1

Pediatric-Only Facilities by Trauma Level



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Table
2

Facilities by Pediatric Hospital Association

PEDIATRIC ASSOCIATION	NUMBER	PERCENT
No Association	439	59.01
Associated with Pediatric Hospital	305	40.99
Total	744	100

This report table excludes three facilities with no pediatric patients (patients aged <20).



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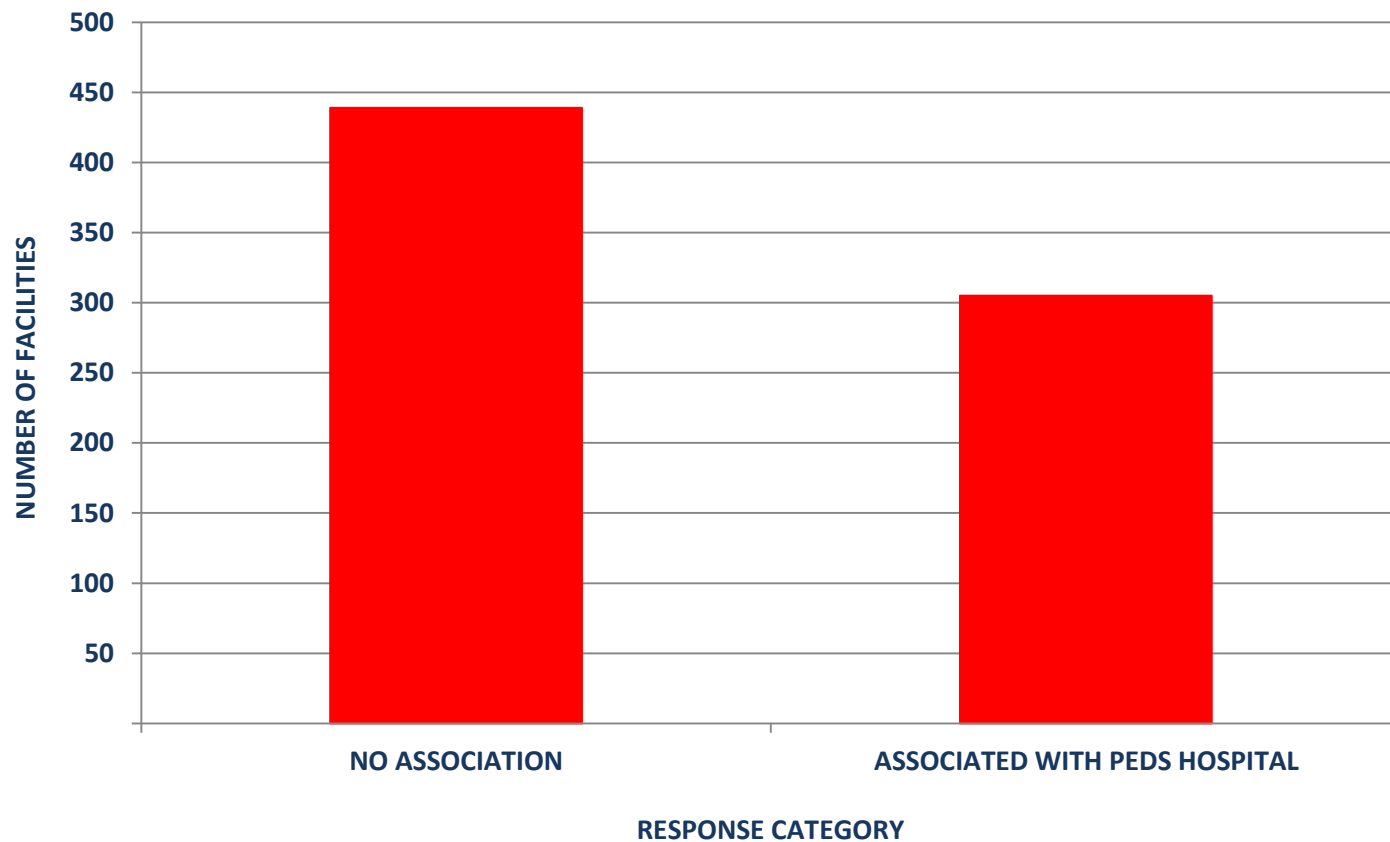
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Figure 2

Facilities by Pediatric Hospital Association



This report table excludes three facilities with no pediatric patients (patients aged <20).



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Table
3

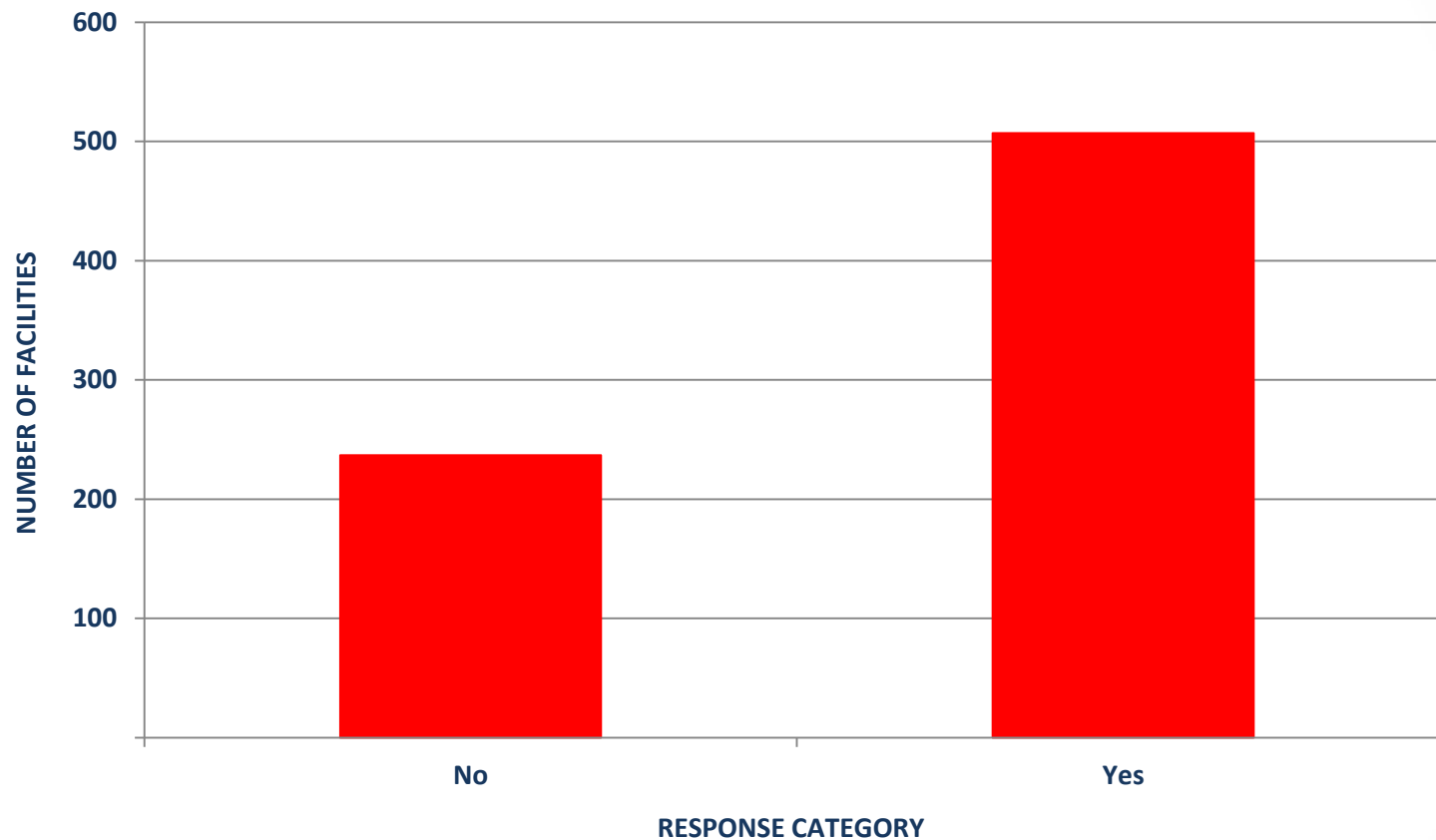
Facilities by Presence of Pediatric Ward

PEDIATRIC WARD	NUMBER	PERCENT
No	237	31.85
Yes	507	68.15
Total	744	100

This report table excludes three facilities with no pediatric patients (patients aged <20).

Figure 3

Facilities by Presence of Pediatric Ward



This report table excludes three facilities with no pediatric patients (patients aged <20).



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Table
4

Facilities by Presence of Pediatric ICU

PEDIATRIC ICU	NUMBER	PERCENT
No ICU	490	65.86
ICU	254	34.14
Total	744	100

This report table excludes three facilities with no pediatric patients (patients aged <20).



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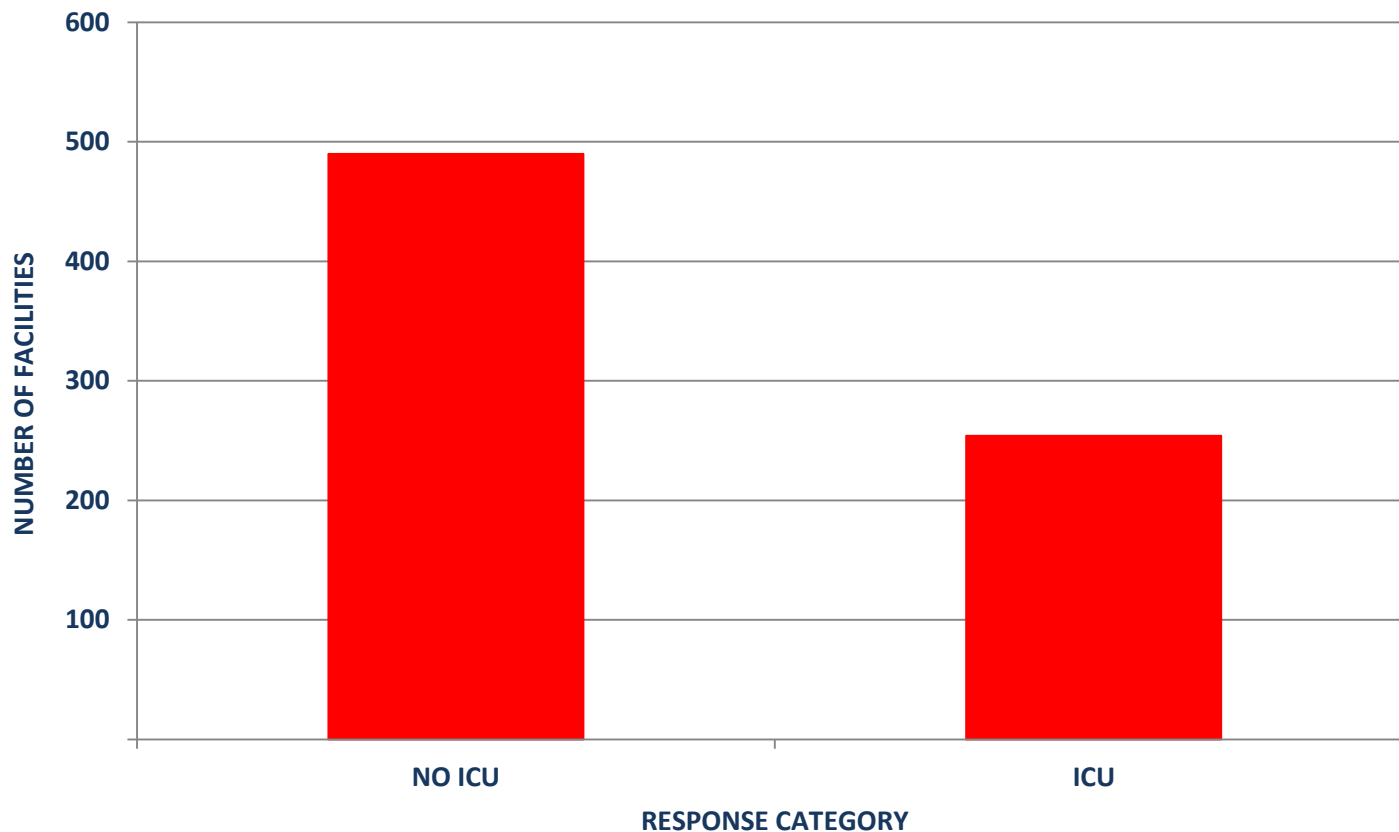
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Figure 4

Facilities by Presence of Pediatric ICU



This report table excludes three facilities with no pediatric patients (patients aged <20).



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Table
5

Facilities by Pediatric Transfer Status

PEDIATRIC TRANSFER	NUMBER	PERCENT
Severe Injuries Not Transferred	201	27.02
Severe Injuries Transferred	543	72.98
Total	744	100

This report table excludes three facilities with no pediatric patients (patients aged <20).



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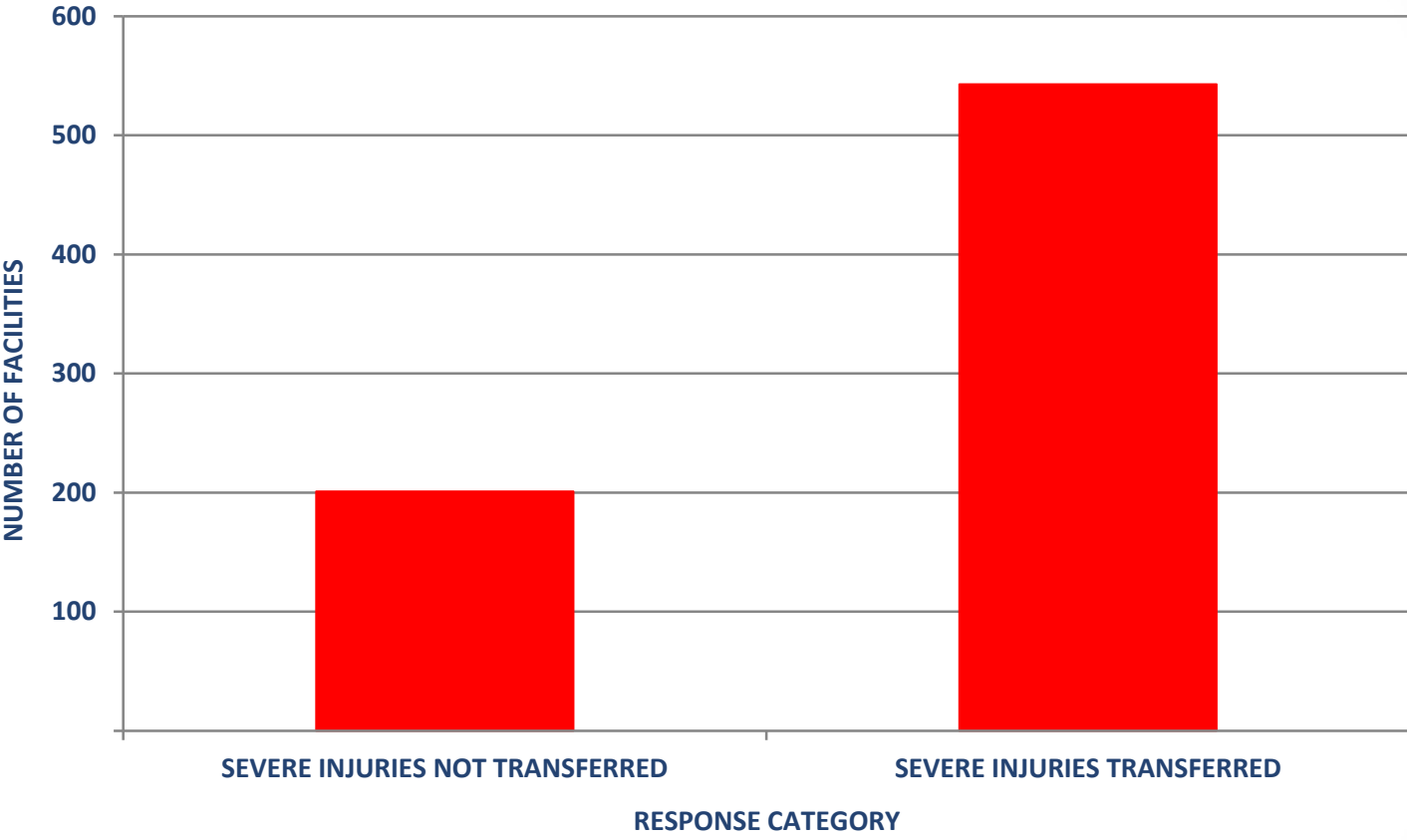
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Figure 5

Facilities by Pediatric Transfer Status



This report table excludes three facilities with no pediatric patients (patients aged <20).

Table
6

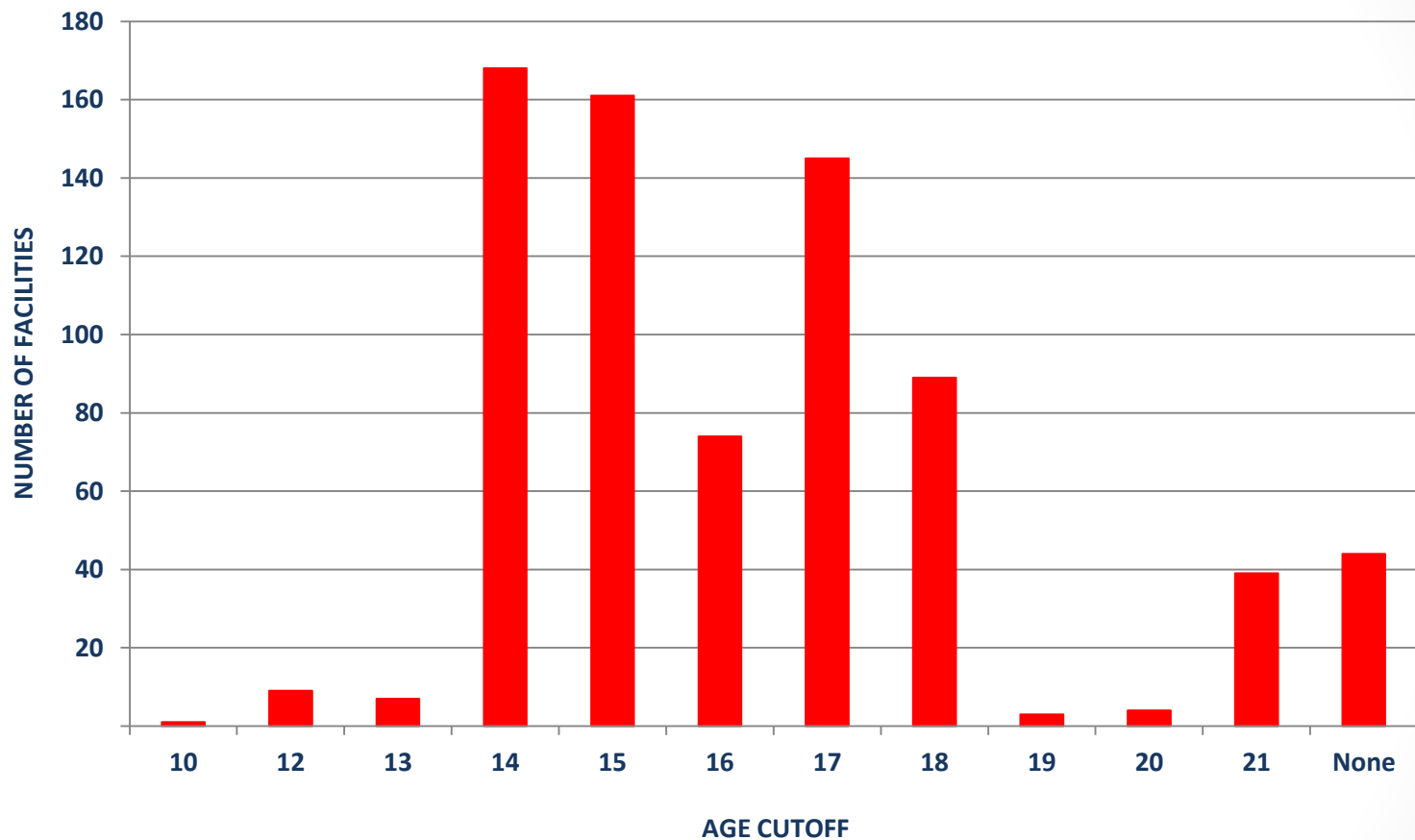
Facilities by Pediatric Age Cutoff

AGE	NUMBER	PERCENT
10	1	0.13
12	9	1.21
13	7	0.94
14	168	22.58
15	161	21.64
16	74	9.95
17	145	19.49
18	89	11.96
19	3	0.40
20	4	0.54
21	39	5.24
None	44	5.91
Total	744	100

This report table excludes three facilities with no pediatric patients (patients aged <20).

Figure 6

Facilities by Pediatric Age Cutoff



This report table excludes three facilities with no pediatric patients (patients aged <20).



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DEMOGRAPHIC INFORMATION



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Table
7

Incidents and Case Fatality Rate by Age

AGE	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
<1 year	9,275	6.58	203	2.19
1	6,867	4.87	154	2.24
2	6,444	4.57	143	2.22
3	5,777	4.10	138	2.39
4	5,646	4.00	105	1.86
5	6,289	4.46	132	2.10
6	6,186	4.39	148	2.39
7	5,772	4.09	106	1.84
8	5,109	3.62	116	2.27
9	4,738	3.36	116	2.45
10	4,687	3.32	90	1.92
11	4,769	3.38	101	2.12
12	5,351	3.79	117	2.19
13	6,074	4.31	110	1.81
14	7,184	5.09	141	1.96
15	7,945	5.63	181	2.28
16	8,793	6.23	241	2.74
17	10,444	7.40	316	3.03
18	11,411	8.09	365	3.20
19	12,290	8.71	438	3.56
Total	141,051	100	3,461	2.45



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Figure 7A

Incidents by Age

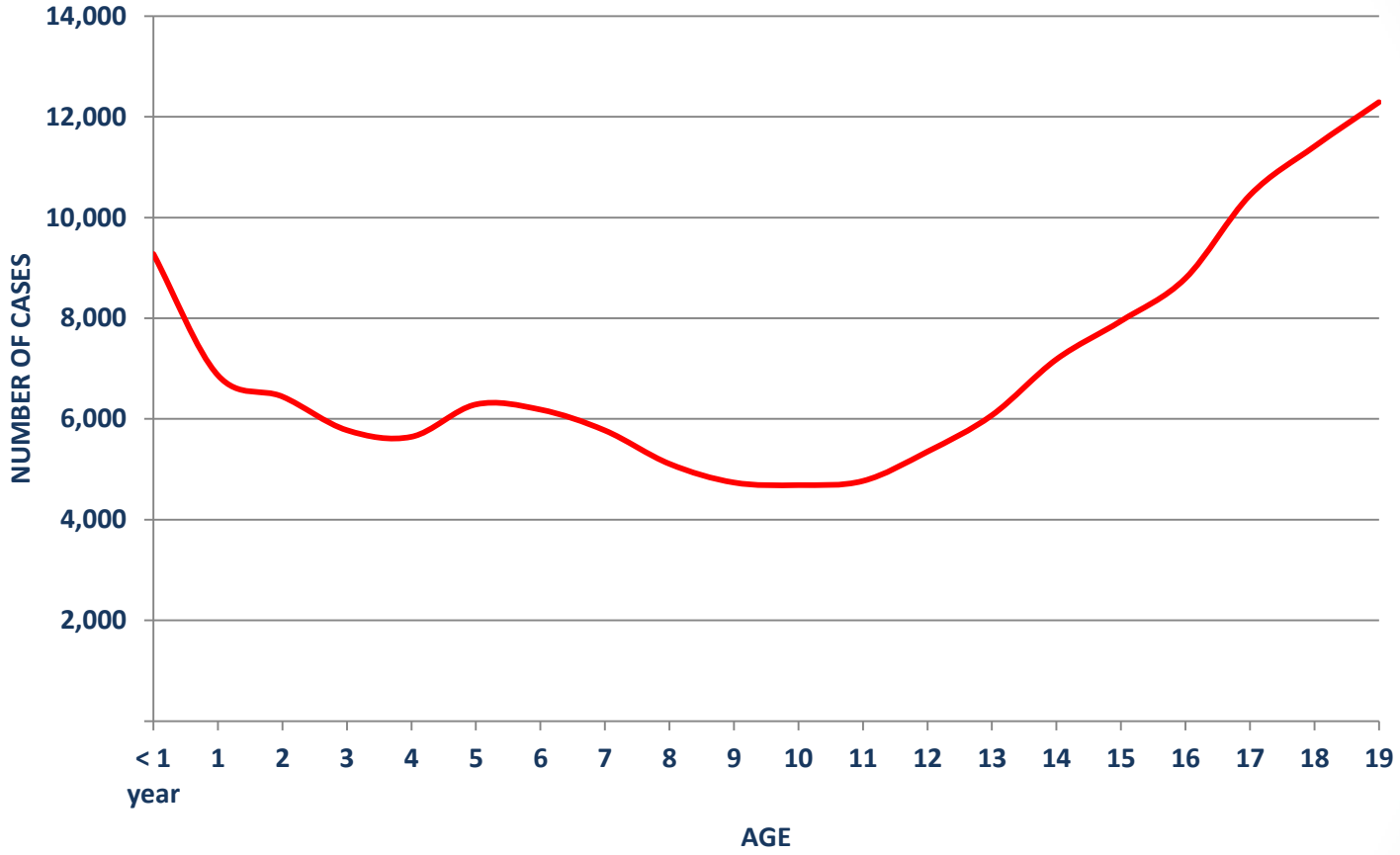


Figure 7B

Case Fatality Rate by Age

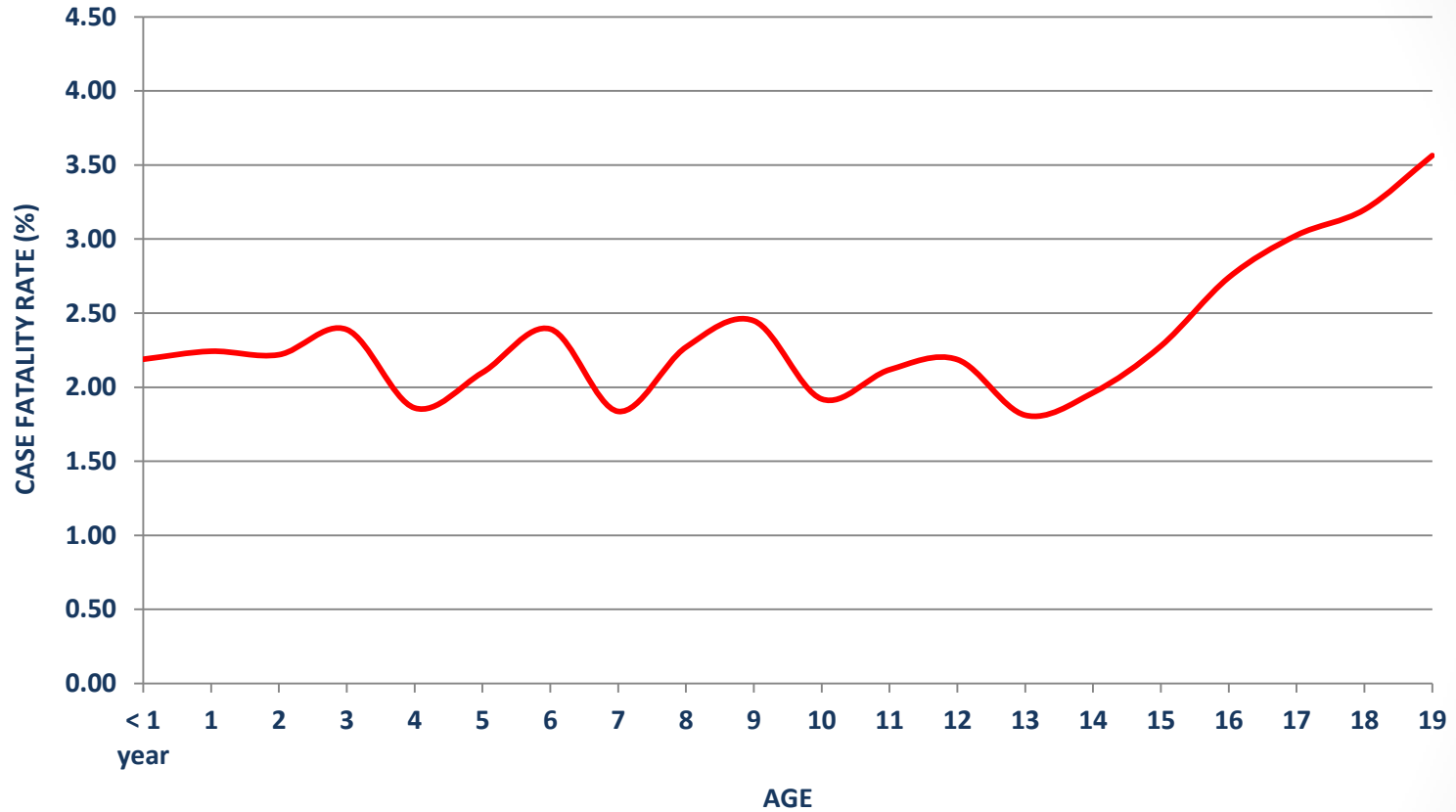


Table
8

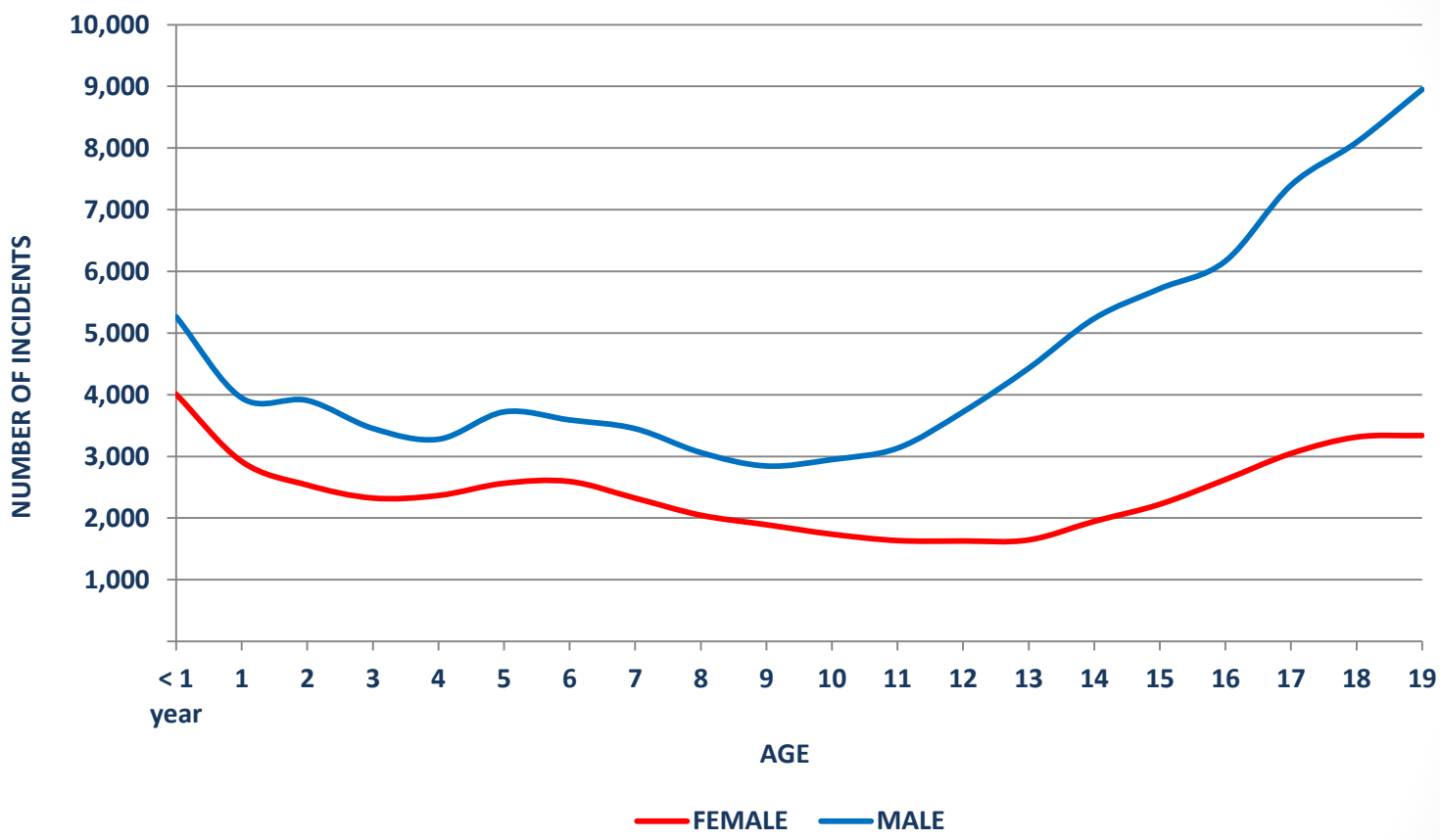
Incidents and Case Fatality Rate by Age and Gender

AGE	NUMBER (FEMALE)	NUMBER (MALE)	DEATHS (FEMALE)	DEATHS (MALE)	CASE FATALITY RATE (FEMALE)	CASE FATALITY RATE (MALE)
<1 year	4,007	5,264	86	117	2.15	2.22
1	2,917	3,947	56	98	1.92	2.48
2	2,535	3,907	42	101	1.66	2.59
3	2,324	3,453	52	86	2.24	2.49
4	2,366	3,278	41	64	1.73	1.95
5	2,564	3,722	60	72	2.34	1.93
6	2,593	3,591	63	85	2.43	2.37
7	2,323	3,449	46	60	1.98	1.74
8	2,046	3,062	41	75	2.00	2.45
9	1,892	2,844	35	81	1.85	2.85
10	1,738	2,949	34	56	1.96	1.90
11	1,635	3,133	17	84	1.04	2.68
12	1,628	3,722	39	78	2.40	2.10
13	1,645	4,429	32	78	1.95	1.76
14	1,946	5,236	34	107	1.75	2.04
15	2,224	5,720	38	143	1.71	2.50
16	2,624	6,167	60	180	2.29	2.92
17	3,047	7,397	70	246	2.30	3.33
18	3,313	8,093	66	298	1.99	3.68
19	3,338	8,950	96	342	2.88	3.82
Total	48,705	92,313	1,008	2,451	2.07	2.66



Figure 8A

Incidents by Age and Gender



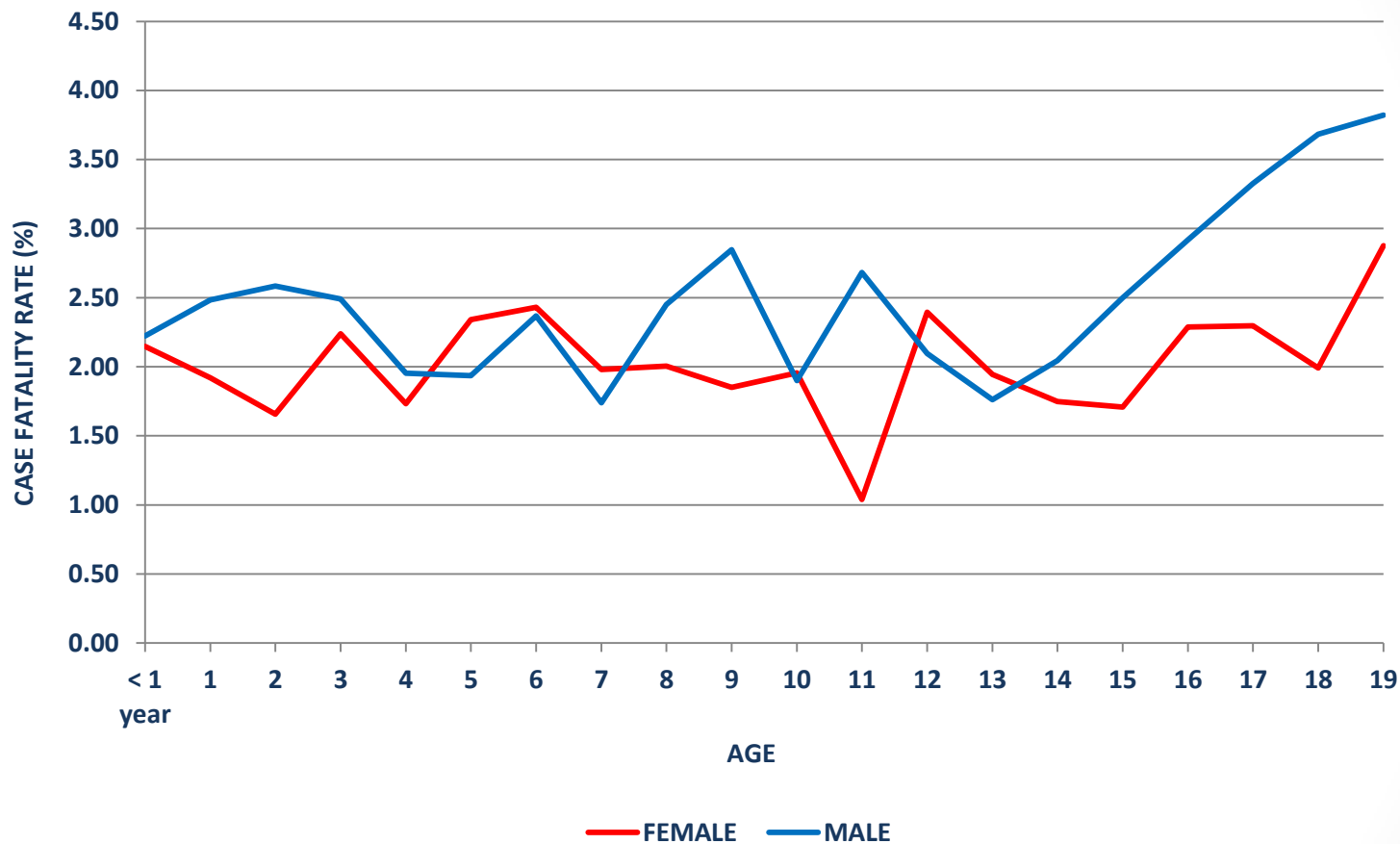
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Figure 8B

Case Fatality Rate by Age and Gender



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Table
9

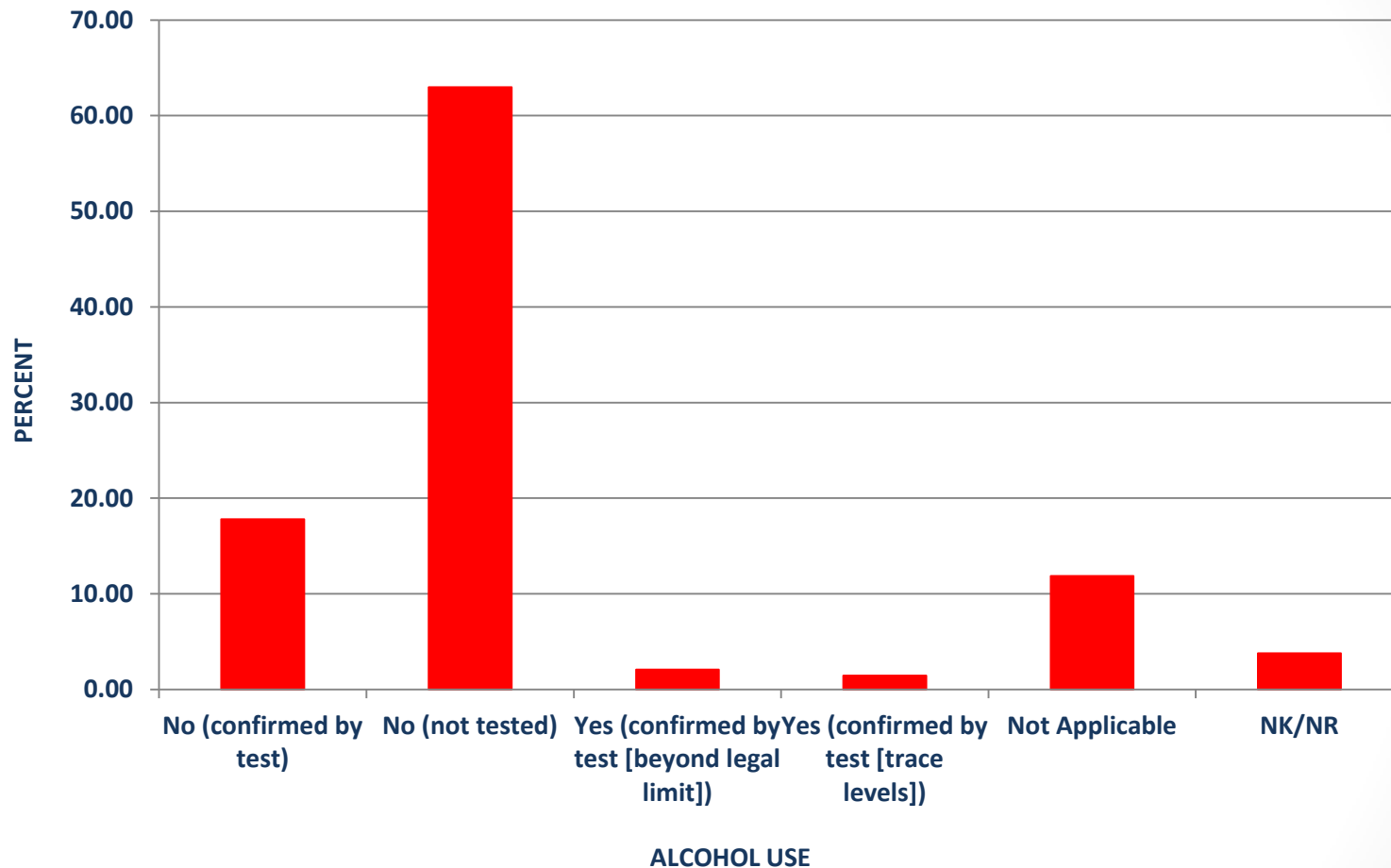
Alcohol Use

ALCOHOL USE	NUMBER	PERCENT
No (confirmed by test)	25,109	17.80
No (not tested)	88,850	62.99
Yes (confirmed by test [beyond legal limit])	2,953	2.09
Yes (confirmed by test [trace levels])	2,066	1.46
Not Applicable	16,725	11.86
NK/NR	5,348	3.79
Total	141,051	100



Figure 9

Alcohol Use



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Table
10

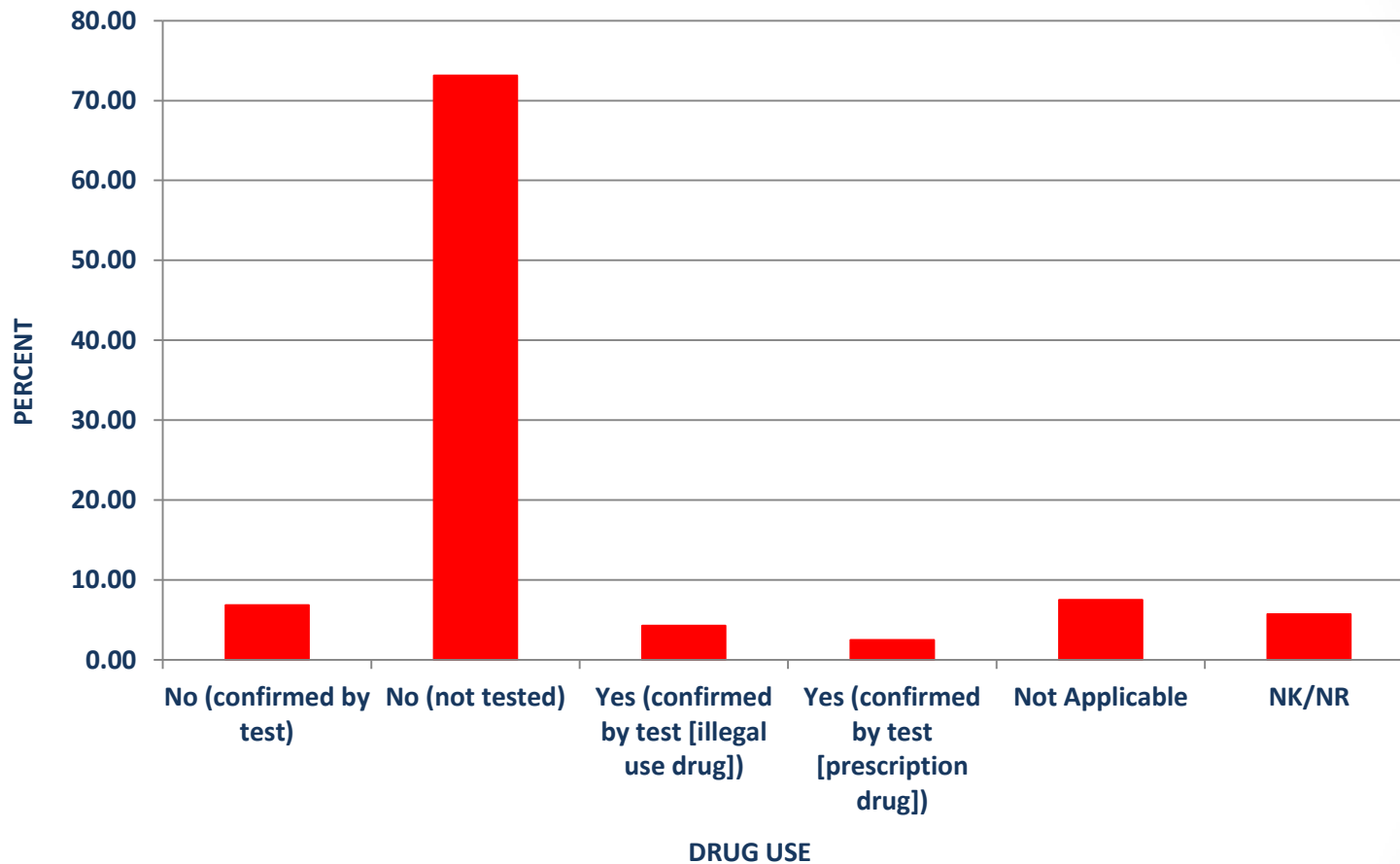
Drug Use

DRUG USE	NUMBER	PERCENT
No (confirmed by test)	9,661	6.85
No (not tested)	103,184	73.15
Yes (confirmed by test [illegal drug use])	6,031	4.28
Yes (confirmed by test [prescription drug])	3,519	2.49
Not Applicable	10,574	7.50
NK/NR	8,082	5.73
Total	141,051	100



Figure 10

Drug Use



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Table
11

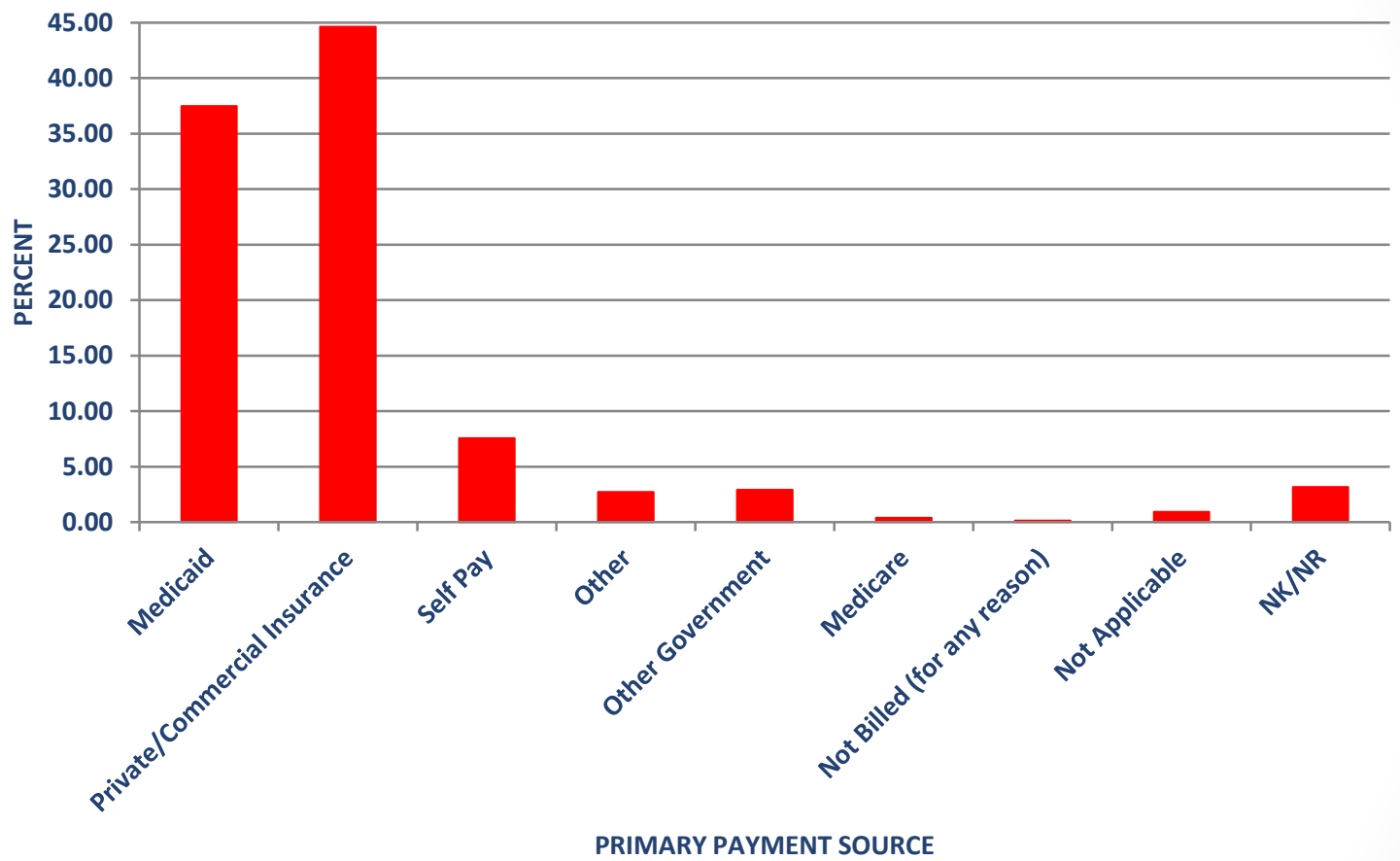
Primary Payment Source

PRIMARY PAYMENT SOURCE	NUMBER	PERCENT
Medicaid	52,881	37.49
Private/Commercial Insurance	62,957	44.63
Self Pay	10,685	7.58
Other	3,826	2.71
Other Government	4,105	2.91
Medicare	577	0.41
Not Billed (for any reason)	218	0.15
Not Applicable	1,316	0.93
NK/NR	4,486	3.18
Total	141,051	100.00



Figure 11

Primary Payment Source



INJURY CHARACTERISTICS



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Table
12

Incidents and Case Fatality Rate by Mechanism of Injury

MECHANISM	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
Fall	48,108	34.11	704	1.46
Motor Vehicle Traffic	33,434	23.70	1,065	3.19
Struck by, against	13,880	9.84	187	1.35
Transport, other	9,924	7.04	143	1.44
Firearm	6,211	4.40	695	11.19
Pedal cyclist, other	4,478	3.17	48	1.07
Other specified and classifiable	4,987	3.54	230	4.61
Cut/pierce	4,546	3.22	71	1.56
Hot object/substance	4,144	2.94	4	0.10
Natural/environmental, Bites and stings	2,802	1.99	40	1.43
Unspecified	1,451	1.03	46	3.17
Fire/flame	1,286	0.91	39	3.03
Other specified, not elsewhere classifiable	806	0.57	23	2.85
Overexertion	819	0.58	4	0.49
Natural/environmental, Other	566	0.40	3	0.53
Pedestrian, other	709	0.50	29	4.09
Machinery	586	0.42	4	0.68
Poisoning	90	0.06	0	0.00
Suffocation	210	0.15	61	29.05
Drowning/submersion	125	0.09	36	28.80
Adverse effects, medical care	11	0.01	0	0.00
Adverse effects, drugs	5	0.00	0	0.00
NK/NR	1,873	1.33	29	1.55
Total	141,051	100.00	3,461	2.45



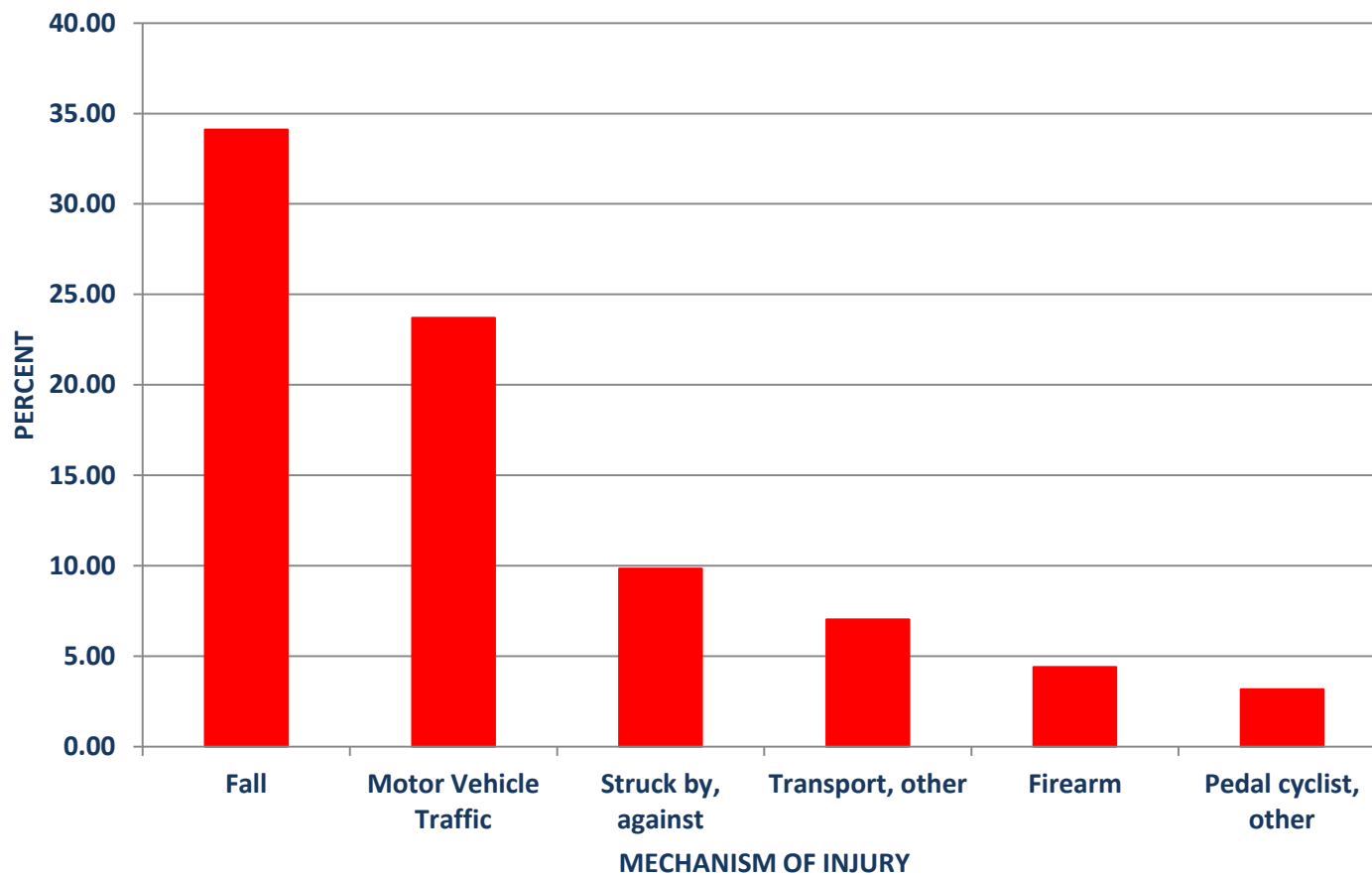
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Figure 12A

Incidents by Selected Mechanism of Injury



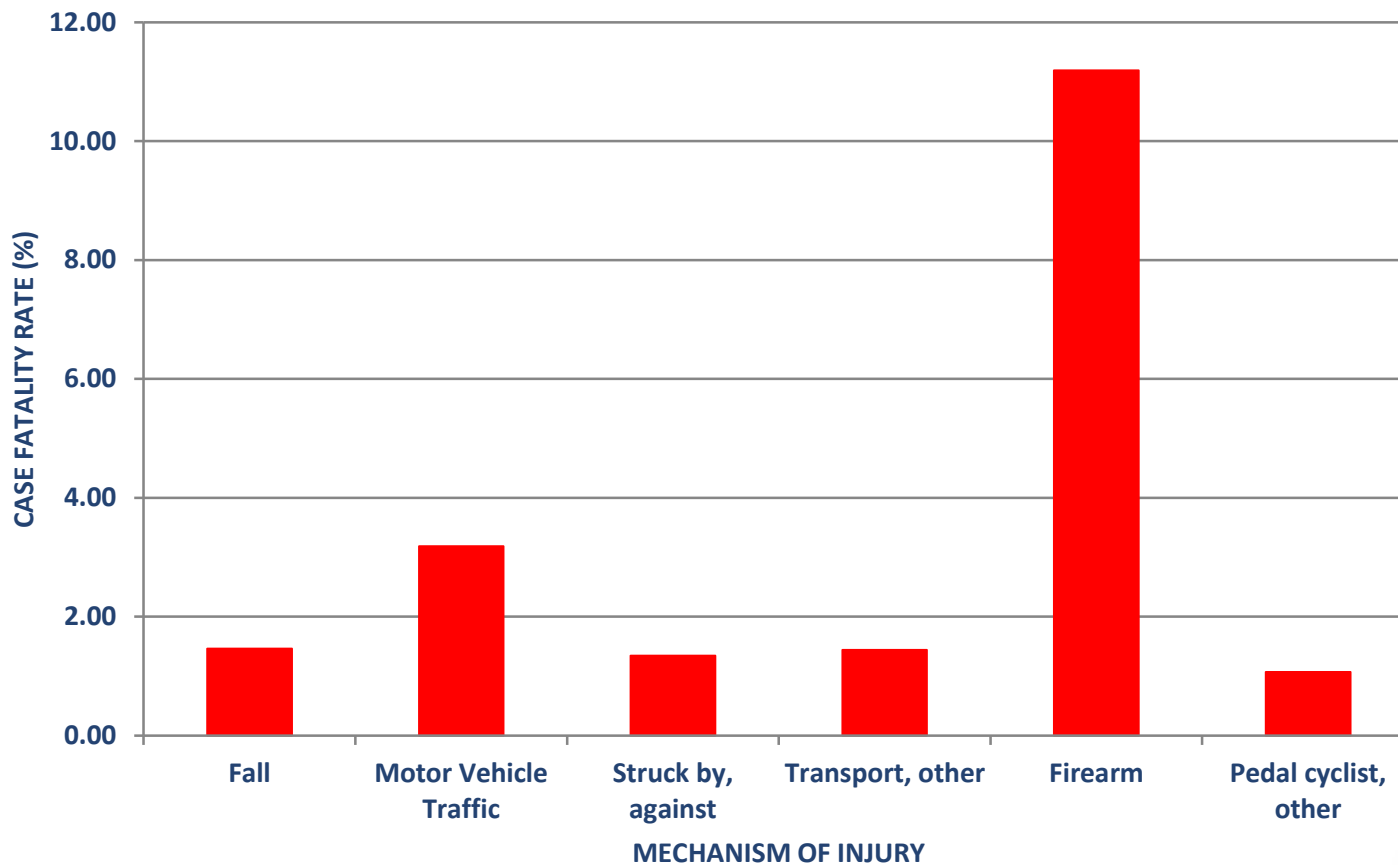
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Figure 12B

Case Fatality Rate by Selected Mechanism of Injury



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Table
13

Selected Mechanism of Injury by Age

AGE	FALL	MVT	STRUCK BY, AGAINST	TRANSPORT, OTHER	FIREARM	CUT/PIERCE
<1 year	5,018	454	339	47	32	34
1	2,898	541	425	55	33	91
2	3,381	732	521	114	56	133
3	2,953	805	430	155	58	123
4	2,993	838	381	194	47	114
5	3,588	880	369	250	39	129
6	3,498	921	380	291	30	115
7	2,964	913	377	347	37	126
8	2,283	938	420	321	48	96
9	1,929	924	449	366	38	97
10	1,798	876	510	405	56	124
11	1,810	871	538	477	59	98
12	1,861	1,033	719	587	82	129
13	1,887	1,152	948	767	153	165
14	1,980	1,483	1,225	882	286	260
15	1,717	2,053	1,344	973	500	315
16	1,401	3,051	1,264	966	714	418
17	1,393	4,281	1,301	905	1,017	559
18	1,336	5,099	982	918	1,367	634
19	1,420	5,589	958	904	1,559	786
Total	48,108	33,434	13,880	9,924	6,211	4,546



Figure 13

Incidents by Selected Mechanism of Injury by Age

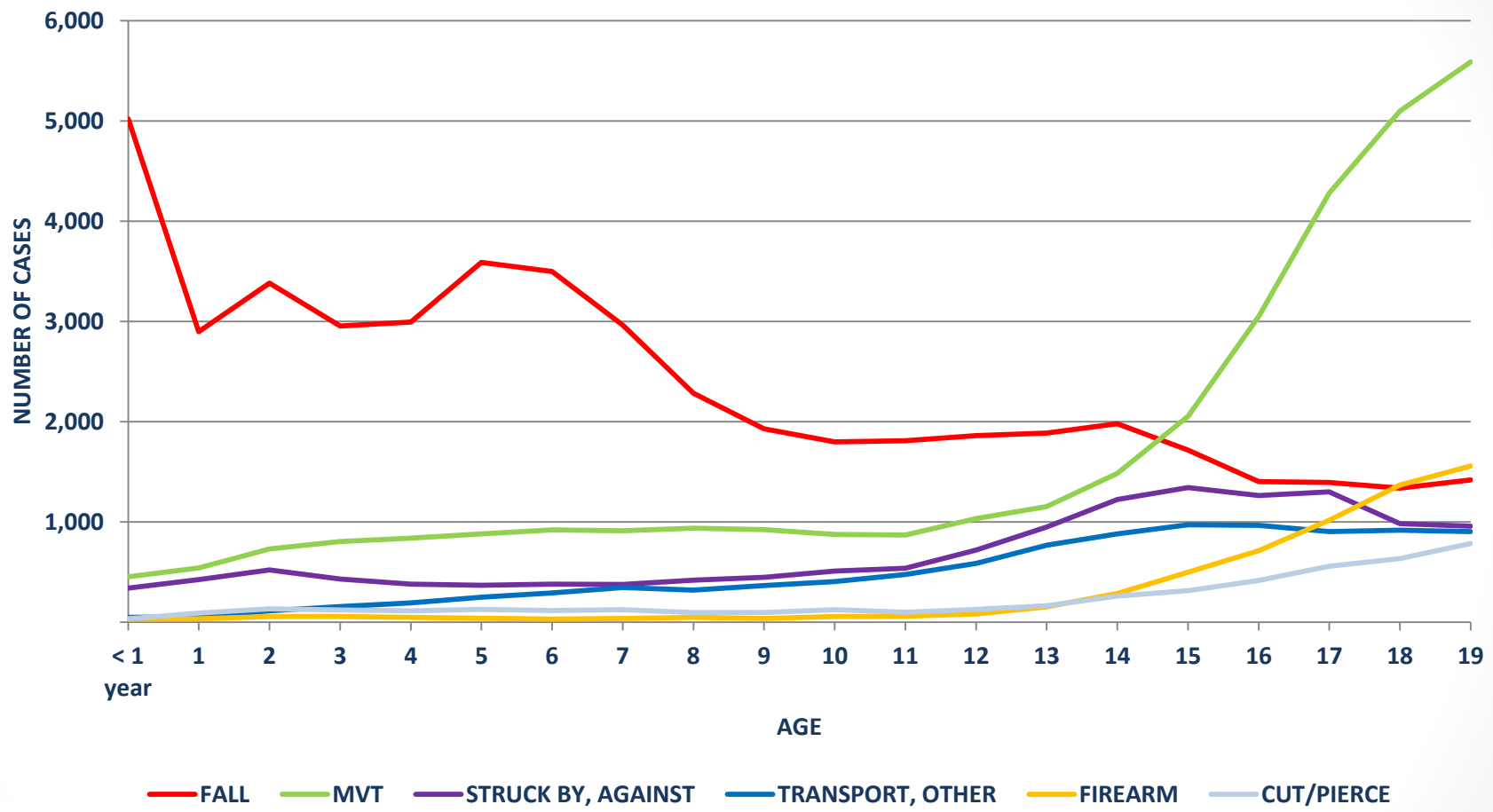


Table
14

Case Fatality Rate by Selected Mechanism of Injury and Age

AGE	FALL CASE FATALITY RATE	MVT CASE FATALITY RATE	STRUCK BY, AGAINST CASE FATALITY RATE	TRANSPORT, OTHER CASE FATALITY RATE	FIREARM CASE FATALITY RATE	CUT/PIERCE CASE FATALITY RATE
<1 year	0.30	6.61	1.47	0.00	25.00	0.00
1	0.93	7.95	2.59	1.82	18.18	1.10
2	1.18	4.37	1.34	0.88	8.93	2.26
3	1.63	4.35	1.86	2.58	13.79	0.81
4	1.47	3.34	1.31	0.52	10.64	1.75
5	1.37	3.86	2.17	1.20	20.51	0.00
6	2.43	3.69	1.32	1.37	16.67	2.61
7	1.86	2.41	2.39	0.58	8.11	2.38
8	2.67	2.77	3.33	0.62	4.17	1.04
9	2.80	3.46	2.45	1.09	7.89	1.03
10	1.89	2.51	1.76	1.73	8.93	0.81
11	2.10	2.41	1.49	1.26	11.86	1.02
12	1.93	2.61	3.20	1.70	3.66	0.78
13	1.22	1.91	1.69	1.17	11.11	1.82
14	0.86	2.63	1.14	1.13	12.24	1.54
15	1.11	2.73	0.74	1.75	11.20	1.59
16	1.14	2.72	0.87	1.66	12.61	2.15
17	1.15	3.34	0.69	1.10	10.03	2.15
18	0.60	3.08	0.10	2.07	10.97	1.10
19	1.34	3.20	0.31	1.88	11.35	1.65
Total	1.46	3.19	1.35	1.44	11.19	1.56



Figure 14

Case Fatality Rate by Selected Mechanism of Injury by Age

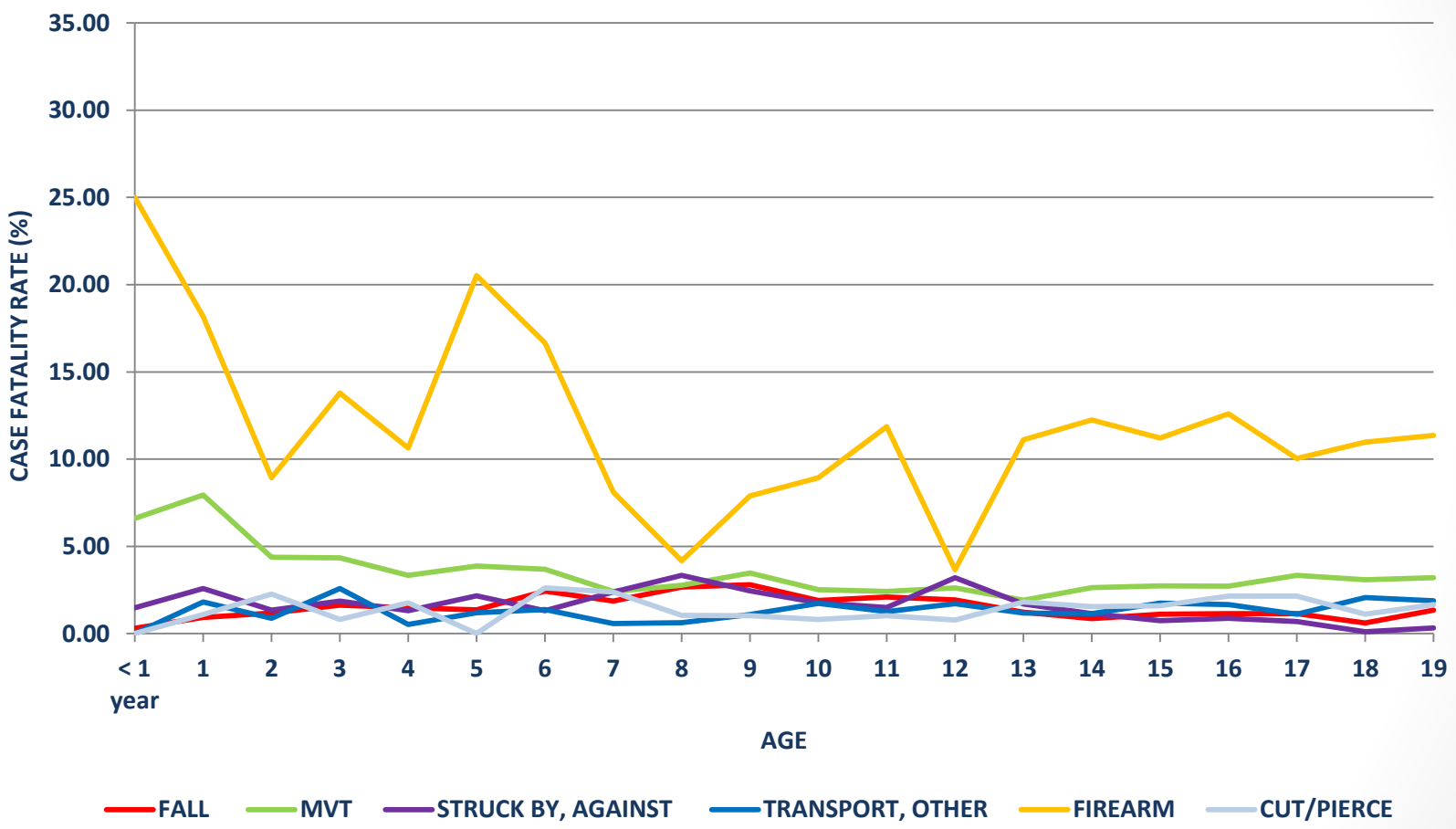


Table
15

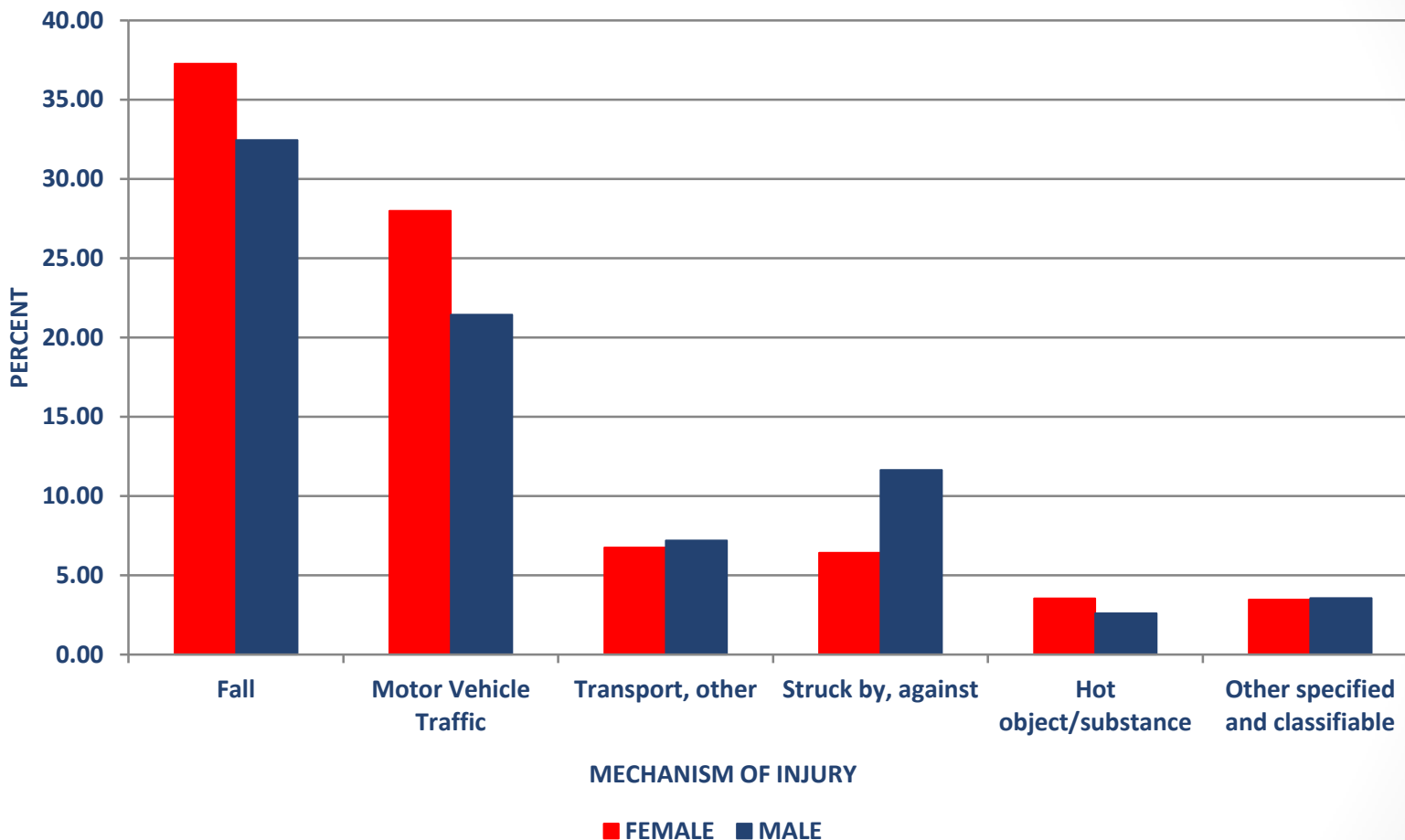
Incidents and Case Fatality Rate by Mechanism of Injury and Gender

MECHANISM	PERCENT (FEMALE)	PERCENT (MALE)	CASE FATALITY RATE (FEMALE)	CASE FATALITY RATE (MALE)
Fall	37.26	32.44	1.17	1.64
Motor Vehicle Traffic	27.98	21.44	2.89	3.39
Transport, other	6.75	7.19	1.19	1.57
Struck by, against	6.42	11.64	1.92	1.18
Hot object/substance	3.55	2.61	0.12	0.08
Other specified and classifiable	3.48	3.57	4.78	4.52
NK/NR	1.25	1.37	0.99	1.82
Natural/environmental, Bites and stings	2.52	1.71	0.73	1.97
Pedal cyclist, other	2.31	3.63	0.98	1.10
Cut/pierce	2.39	3.66	1.12	1.71
Firearm	1.61	5.88	10.73	11.24
Unspecified	1.11	0.99	3.51	2.97
Fire/flame	0.77	0.99	4.55	2.41
Other specified, not elsewhere classifiable	0.53	0.59	3.10	2.74
Natural/environmental, Other	0.49	0.35	0.83	0.31
Overexertion	0.51	0.62	0.80	0.35
Pedestrian, other	0.52	0.49	3.15	4.62
Poisoning	0.09	0.05	0.00	.
Machinery	0.18	0.54	0.00	0.80
Suffocation	0.16	0.14	30.77	28.03
Drowning/submersion	0.10	0.08	33.33	25.97
Adverse effects, medical care	0.00	0.01	0.00	.
Adverse effects, drugs	0.00	0.00	0.00	.



Figure 15A

Incidents by Mechanism of Injury and Gender



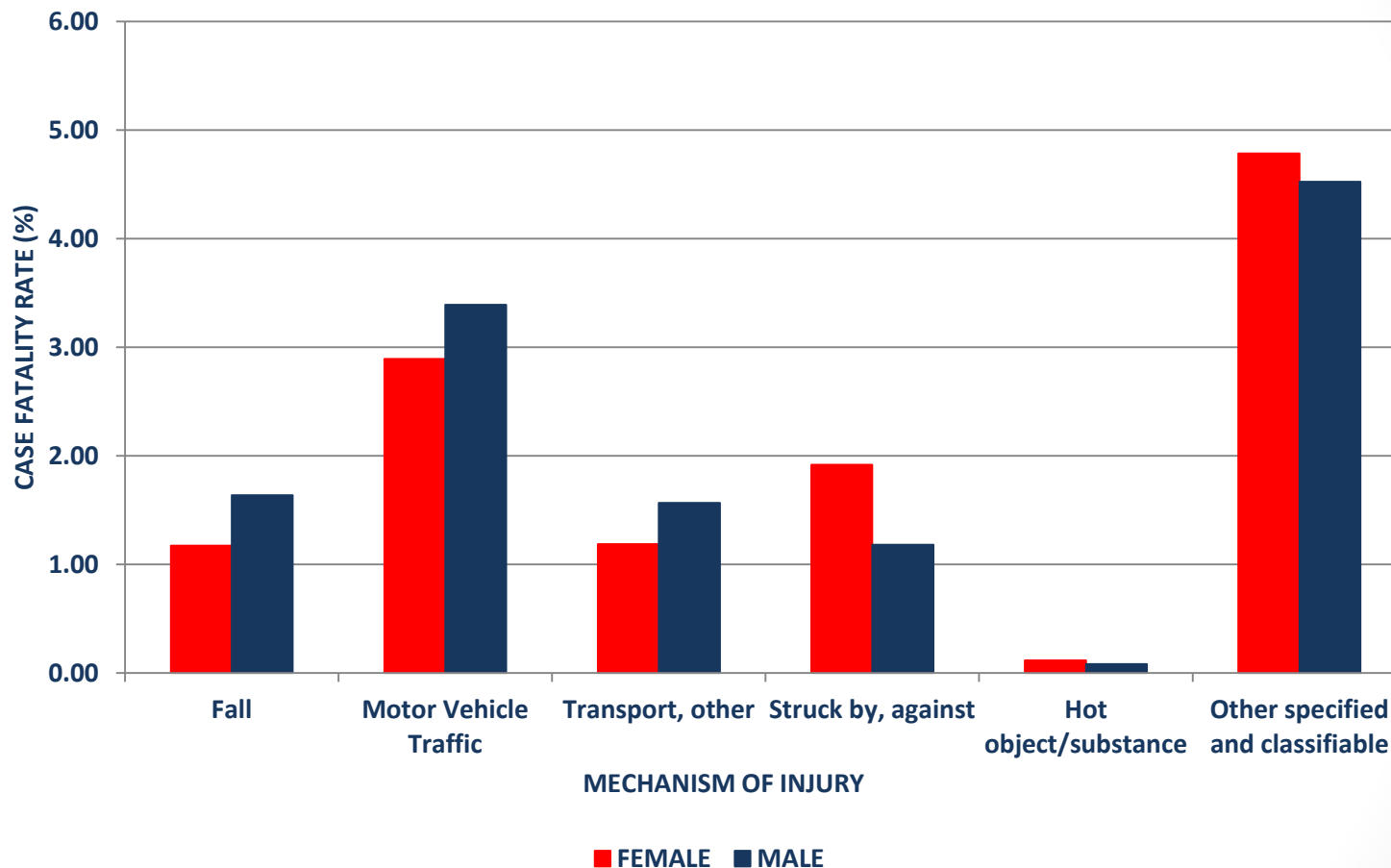
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Figure 15B

Case Fatality Rate by Mechanism of Injury and Gender



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Table
16

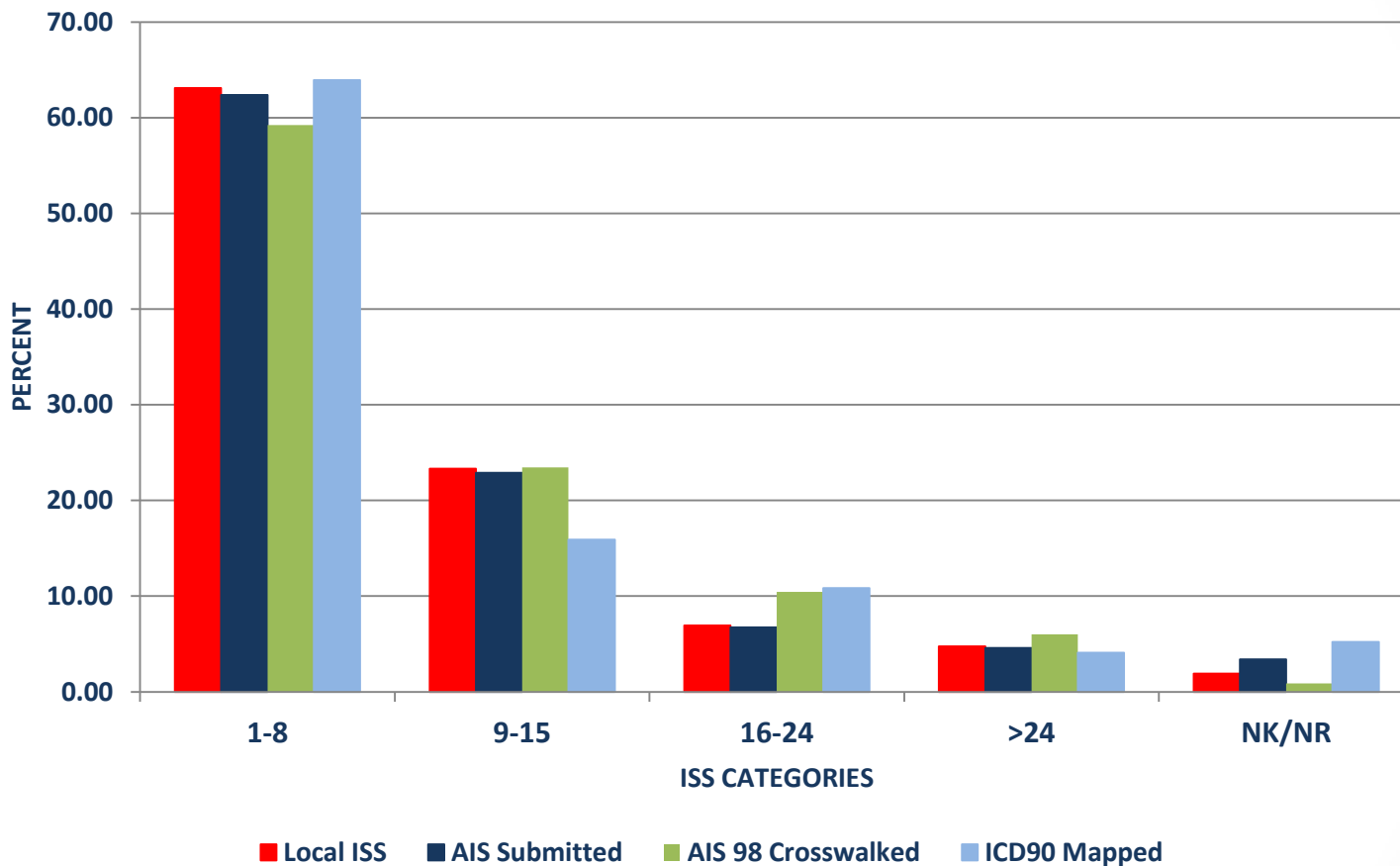
Incidents by Comparative Injury Severity Scores (ISS)

ISS	LOCAL ISS		SUBMITTED ISS		AIS98 CROSSWALKED ISS		ICD90 MAPPED	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
1-8	89,014	63.11	87,970	62.37	83,555	59.24	90,194	63.94
9-15	32,895	23.32	32,276	22.88	33,071	23.45	22,443	15.91
16-24	9,765	6.92	9,519	6.75	14,738	10.45	15,299	10.85
>24	6,691	4.74	6,484	4.60	8,462	6.00	5,756	4.08
NK/NR	2,686	1.90	4,802	3.40	1,225	0.87	7,359	5.22
Total	141,051	100	141,051	100	141,051	100	141,051	100



Figure 16

Incidents by Comparative Injury Severity Scores (ISS)



Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.



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Table
17

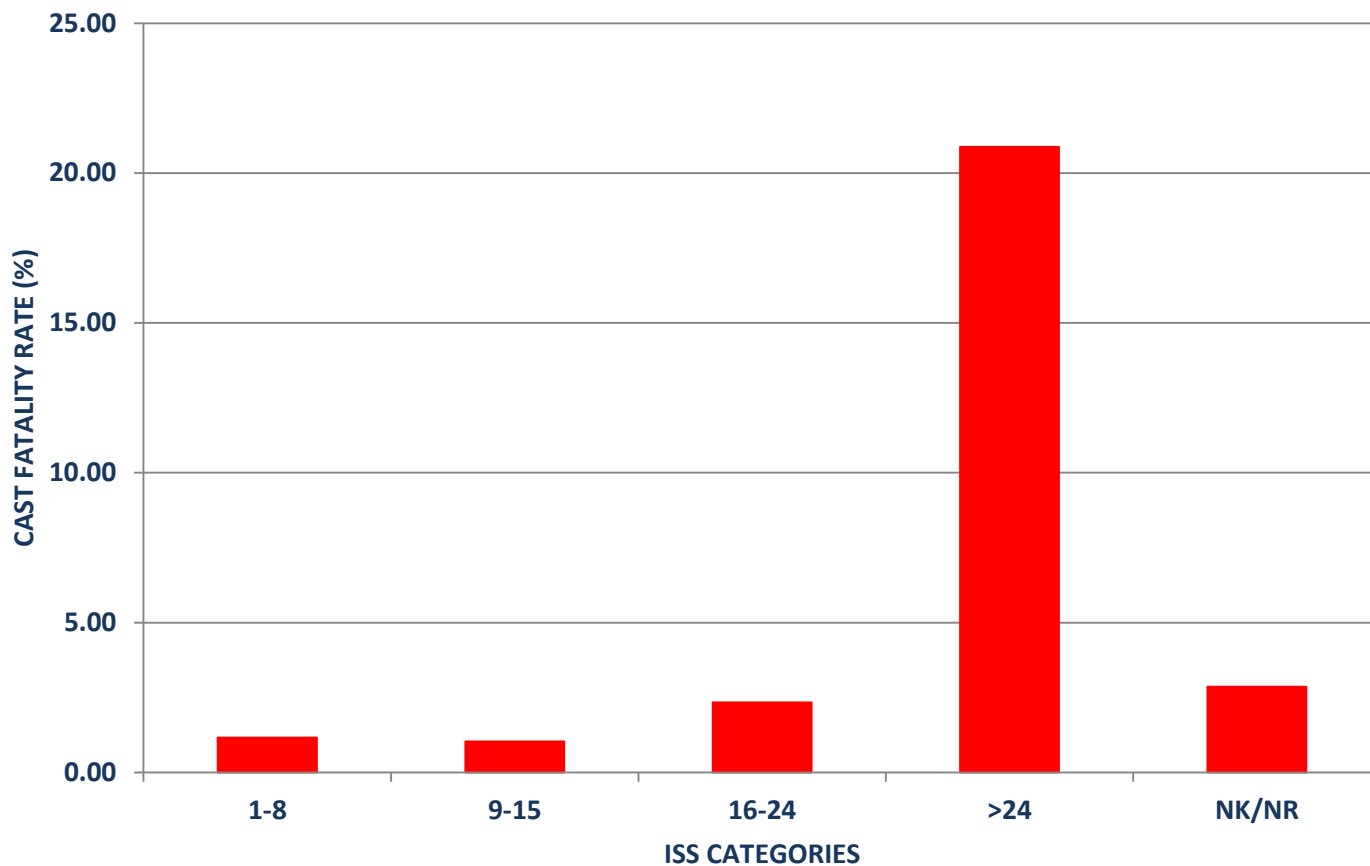
Incidents and Case Fatality Rate by Injury Severity Score (ISS)

ISS	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
1-8	83,555	59.24	973	1.16
9-15	33,071	23.45	342	1.03
16-24	14,738	10.45	345	2.34
>24	8,462	6.00	1,766	20.87
NK/NR	1,225	0.87	35	2.86
Total	141,051	100	3,461	2.45



Figure 17

Case Fatality Rate by Injury Severity Score (ISS)



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Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.

Table
18

Incidents by Injury Severity Score (ISS) and Age

AGE	ISS 1-8	ISS 9-15	ISS 16-24	ISS >24	ISS NK/NR	Total
<1 year	3,930	2,268	2,294	644	139	9,275
1	4,510	1,361	589	296	111	6,867
2	3,751	1,819	516	252	106	6,444
3	3,762	1,242	469	227	77	5,777
4	3,915	1,064	414	187	66	5,646
5	4,545	1,102	406	179	57	6,289
6	4,514	1,074	380	166	52	6,186
7	4,090	1,090	372	171	49	5,772
8	3,495	1,071	318	185	40	5,109
9	3,155	1,009	361	181	32	4,738
10	3,077	1,084	338	148	40	4,687
11	3,077	1,100	375	177	40	4,769
12	3,341	1,346	407	208	49	5,351
13	3,761	1,443	545	283	42	6,074
14	4,284	1,820	647	391	42	7,184
15	4,525	1,944	873	562	41	7,945
16	4,722	2,240	1,051	725	55	8,793
17	5,421	2,702	1,288	964	69	10,444
18	5,644	3,046	1,499	1,167	55	11,411
19	6,036	3,246	1,596	1,349	63	12,290
Total	83,555	33,071	14,738	8,462	1,225	141,051

Injury Severity Score tables are generated using AIS98 Crosswalked ISS.
Injury Severity Score definitions can be found in Appendix B.



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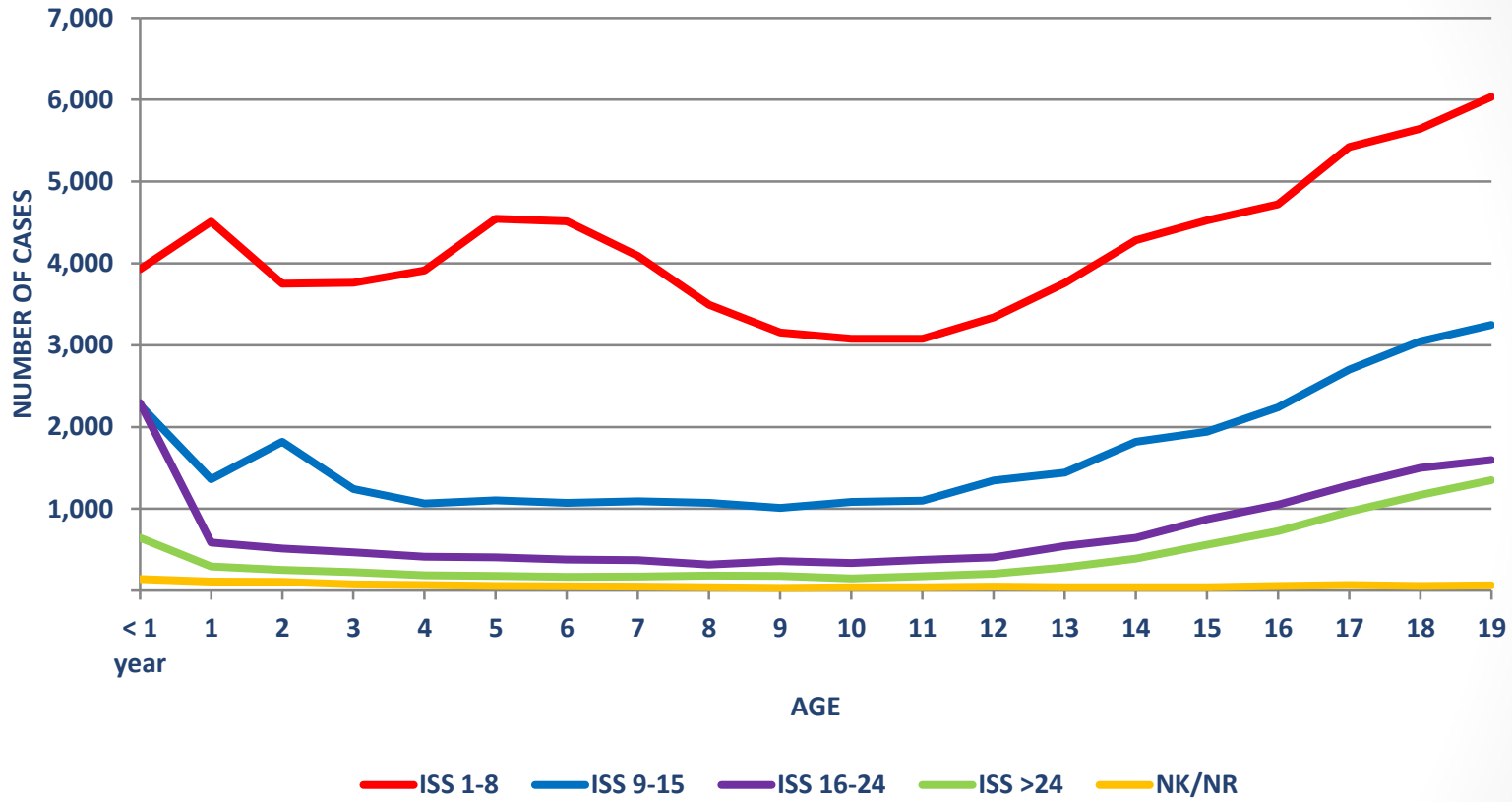
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Figure 18

Incidents by Injury Severity Score (ISS) and Age



Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.

Table
19

Case Fatality Rate by Injury Severity Score (ISS) and Age

AGE	ISS 1-8 DEATHS	ISS 1-8 CASE FATALITY RATE	ISS 9-15 DEATHS	ISS 9-15 CASE FATALITY RATE	ISS 16-24 DEATHS	ISS 16-24 CASE FATALITY RATE	ISS >24 DEATHS	ISS >24 CASE FATALITY RATE	ISS NK/NR DEATHS	ISS NK/NR CASE FATALITY RATE
<1 year	20	0.51	22	0.97	50	2.18	109	16.93	109	1.44
1	30	0.67	17	1.25	25	4.24	80	27.03	80	1.80
2	34	0.91	16	0.88	22	4.26	67	26.59	67	3.77
3	51	1.36	20	1.61	9	1.92	56	24.67	56	2.60
4	46	1.17	10	0.94	9	2.17	40	21.39	40	0.00
5	68	1.50	11	1.00	7	1.72	43	24.02	43	5.26
6	95	2.10	13	1.21	4	1.05	35	21.08	35	1.92
7	66	1.61	5	0.46	5	1.34	29	16.96	29	2.04
8	80	2.29	7	0.65	2	0.63	27	14.59	27	0.00
9	61	1.93	9	0.89	6	1.66	40	22.10	40	0.00
10	51	1.66	11	1.01	5	1.48	23	15.54	23	0.00
11	59	1.92	11	1.00	4	1.07	27	15.25	27	0.00
12	65	1.95	15	1.11	4	0.98	33	15.87	33	0.00
13	52	1.38	10	0.69	7	1.28	40	14.13	40	2.38
14	37	0.86	21	1.15	9	1.39	71	18.16	71	7.14
15	39	0.86	20	1.03	20	2.29	101	17.97	101	2.44
16	31	0.66	23	1.03	20	1.90	164	22.62	164	5.45
17	25	0.46	33	1.22	33	2.56	220	22.82	220	7.25
18	31	0.55	31	1.02	43	2.87	255	21.85	255	9.09
19	32	0.53	37	1.14	61	3.82	306	22.68	306	3.17
Total	973	1.16	342	1.03	345	2.34	1,766	20.87	1,766	2.86

Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.



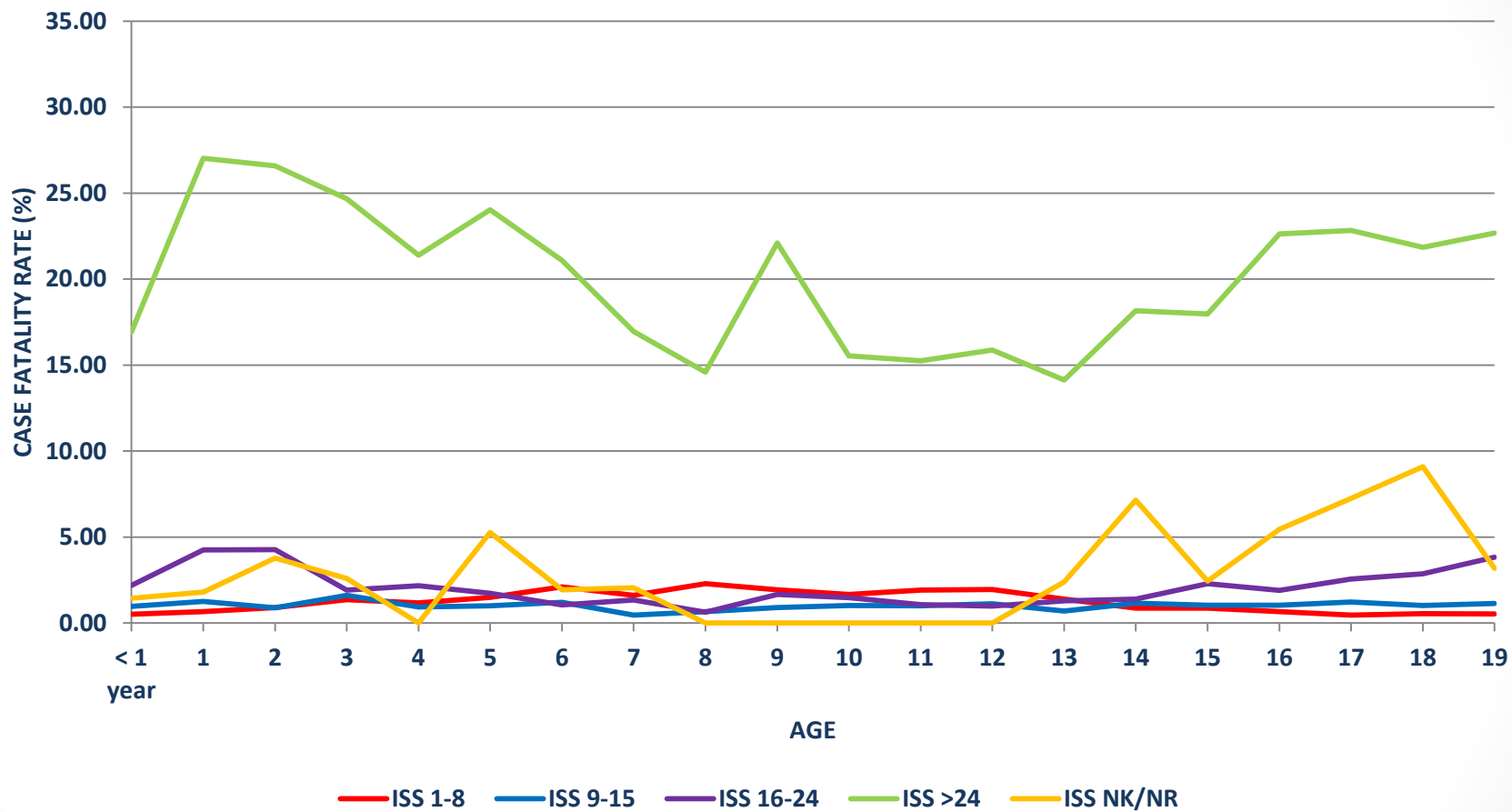
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Figure 19

Case Fatality Rate by Injury Severity Score and Age



Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.

Table
20

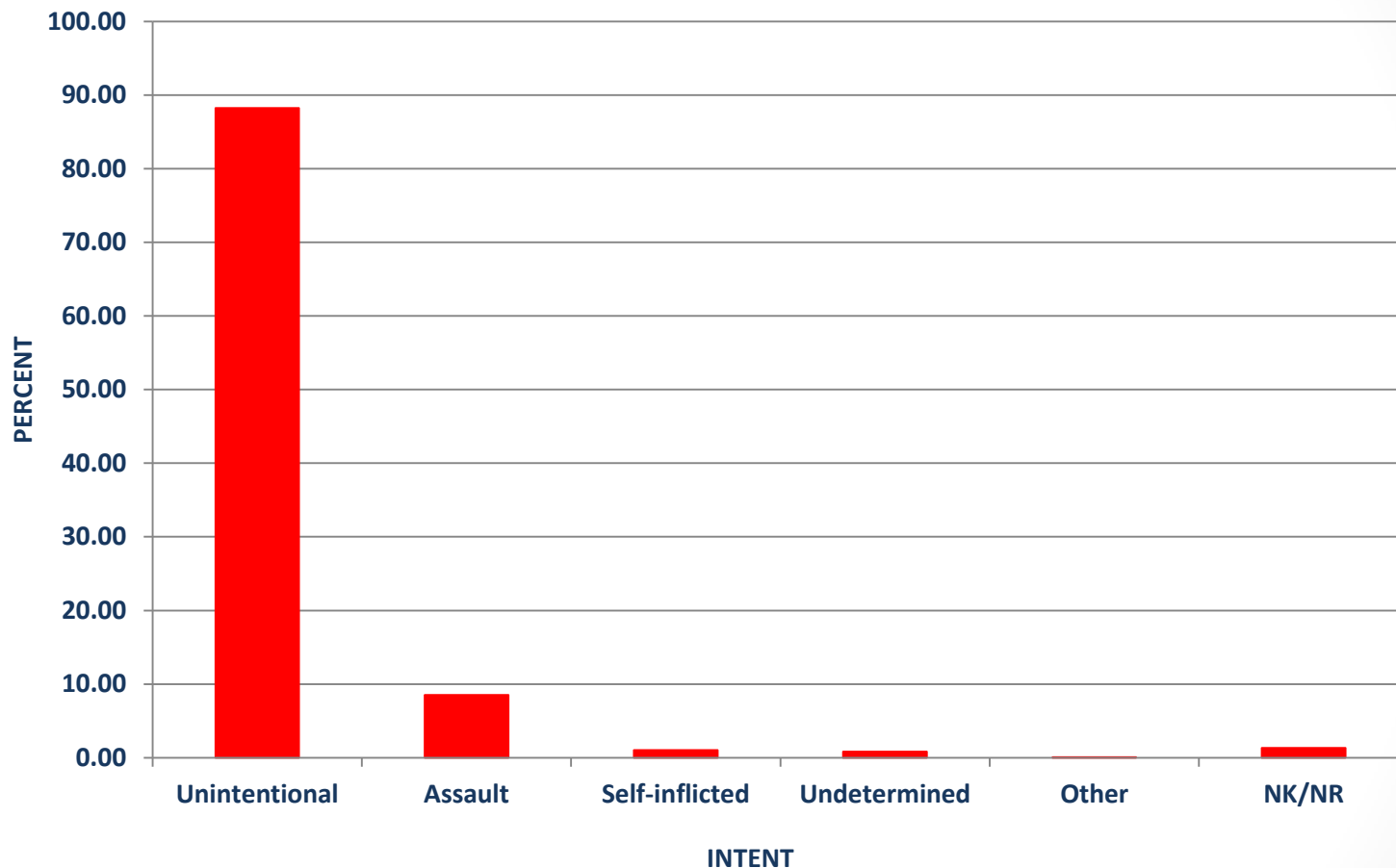
Incidents and Case Fatality Rate by Intent

INTENT	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
Unintentional	124,426	88.21	2,387	1.92
Assault	12,010	8.51	752	6.26
Self-inflicted	1,443	1.02	224	15.52
Undetermined	1,197	0.85	57	4.76
Other	102	0.07	12	11.76
NK/NR	1,873	1.33	29	1.55
Total	141,051	100	3,461	2.45



Figure 20A

Incidents by Intent



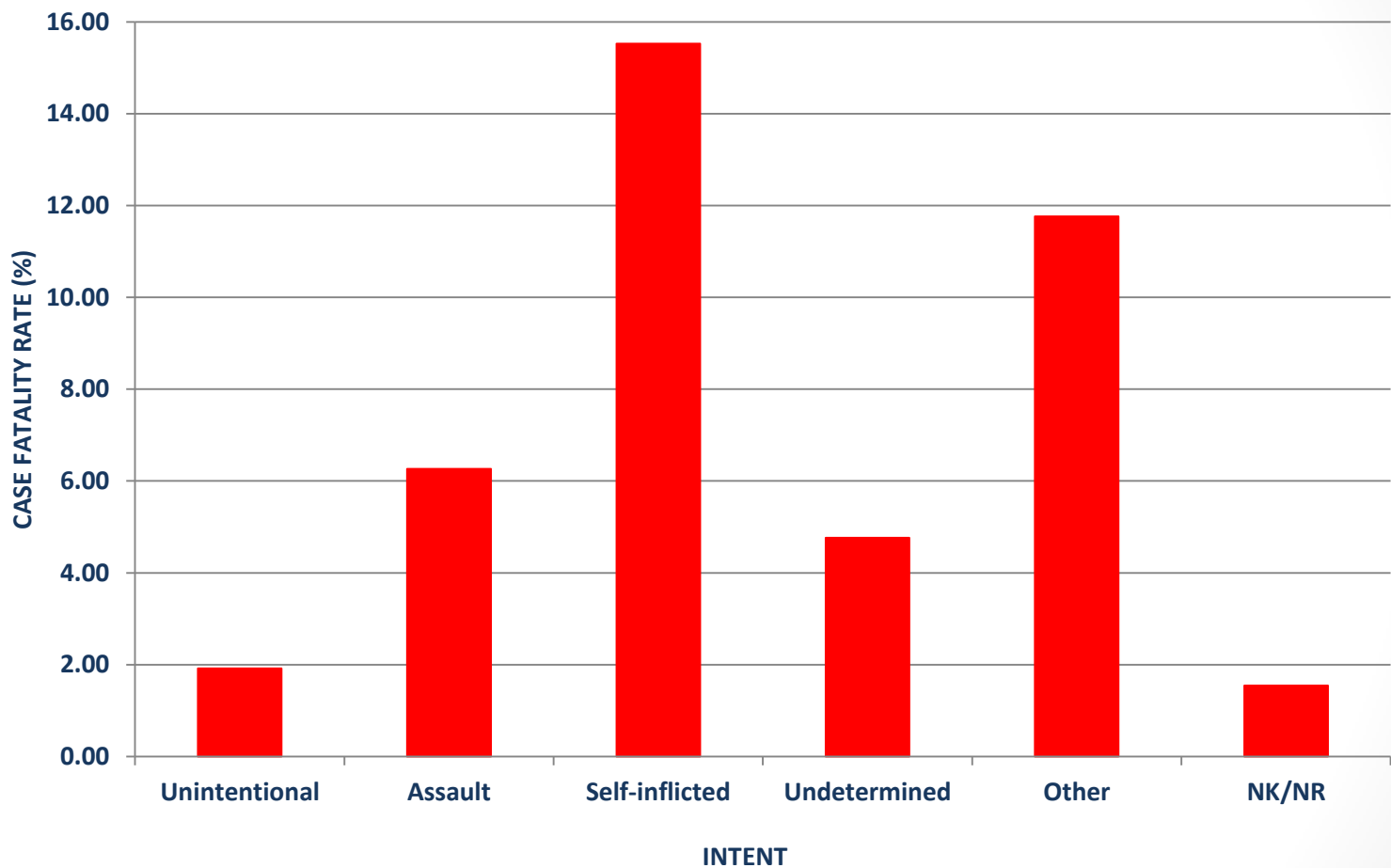
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Figure 20B

Case Fatality Rate by Intent



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Table
21

Incidents and Case Fatality Rate by Location E-Code

LOCATION E-CODE DESCRIPTION	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
Home	47,431	33.63	1,214	2.56
Street	42,172	29.90	1,380	3.27
Recreation	22,566	16.00	252	1.12
Unspecified	9,462	6.71	158	1.67
Public Building	8,671	6.15	229	2.64
Other	5,552	3.94	129	2.32
Farm	933	0.66	16	1.71
Industry	616	0.44	10	1.62
Residential Institution	491	0.35	17	3.46
Mine	22	0.02	5	22.73
Not Applicable	113	0.08	1	0.88
NK/NR	3,022	2.14	50	1.65
Total	141,051	100.00	3,461	2.45



Figure 21

Case Fatality Rate by Location E-Code

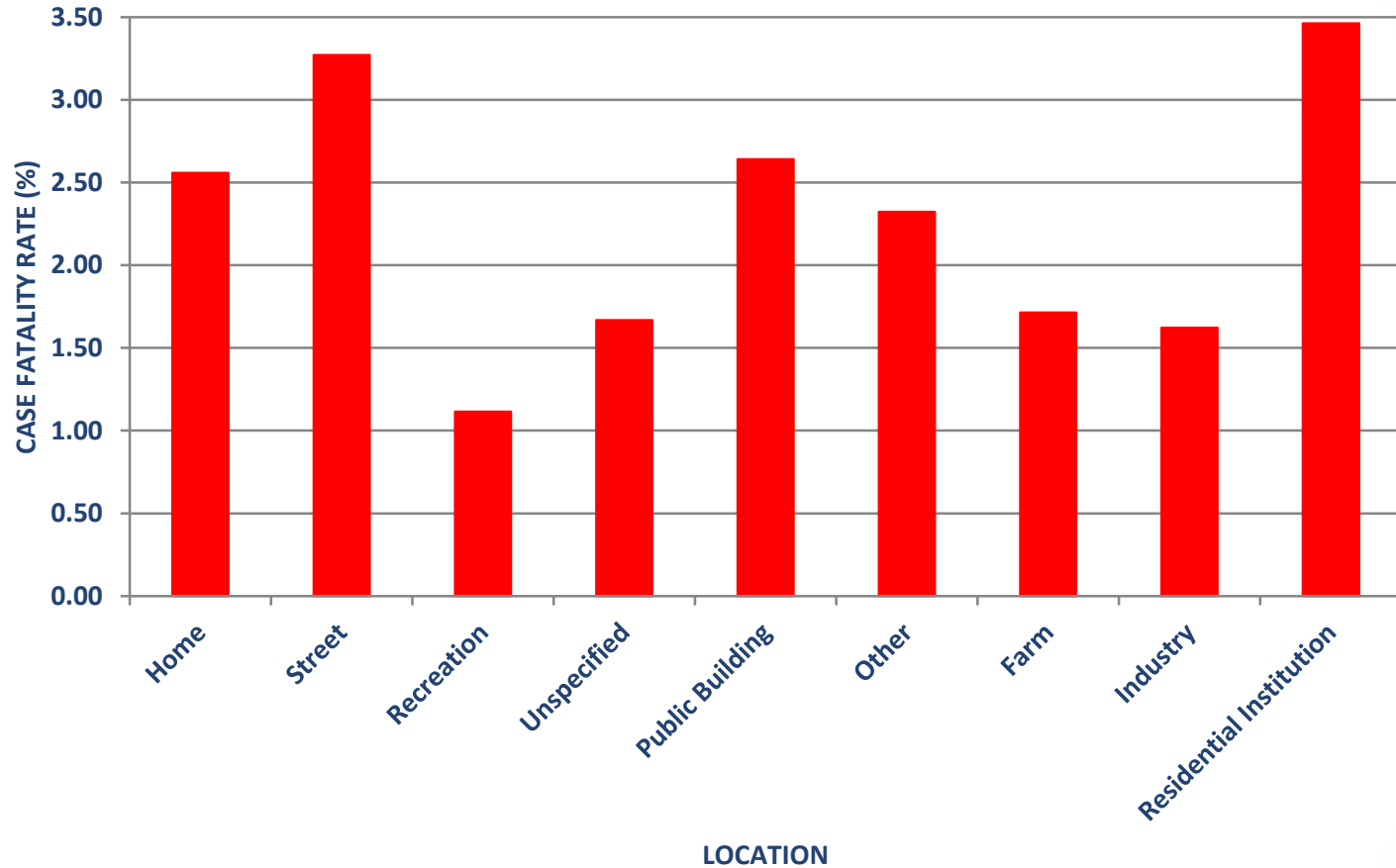


Table
22

Incidents and Case Fatality Rate by AIS Body Region

AIS BODY REGION	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
Head	50,589	35.87	1,893	3.74
Upper Extremity	49,433	35.05	1,456	2.95
Lower Extremity	42,552	30.17	996	2.34
Face	34,267	24.29	1,051	3.07
Thorax	19,654	13.93	1,431	7.28
Abdomen	18,201	12.90	910	5.00
External/Other	16,786	11.90	507	3.02
Spine	12,413	8.80	485	3.91
Neck	3,106	2.20	210	6.76
NK/NR	968	0.69	21	2.17



Figure 22A

Incidents by AIS Body Region

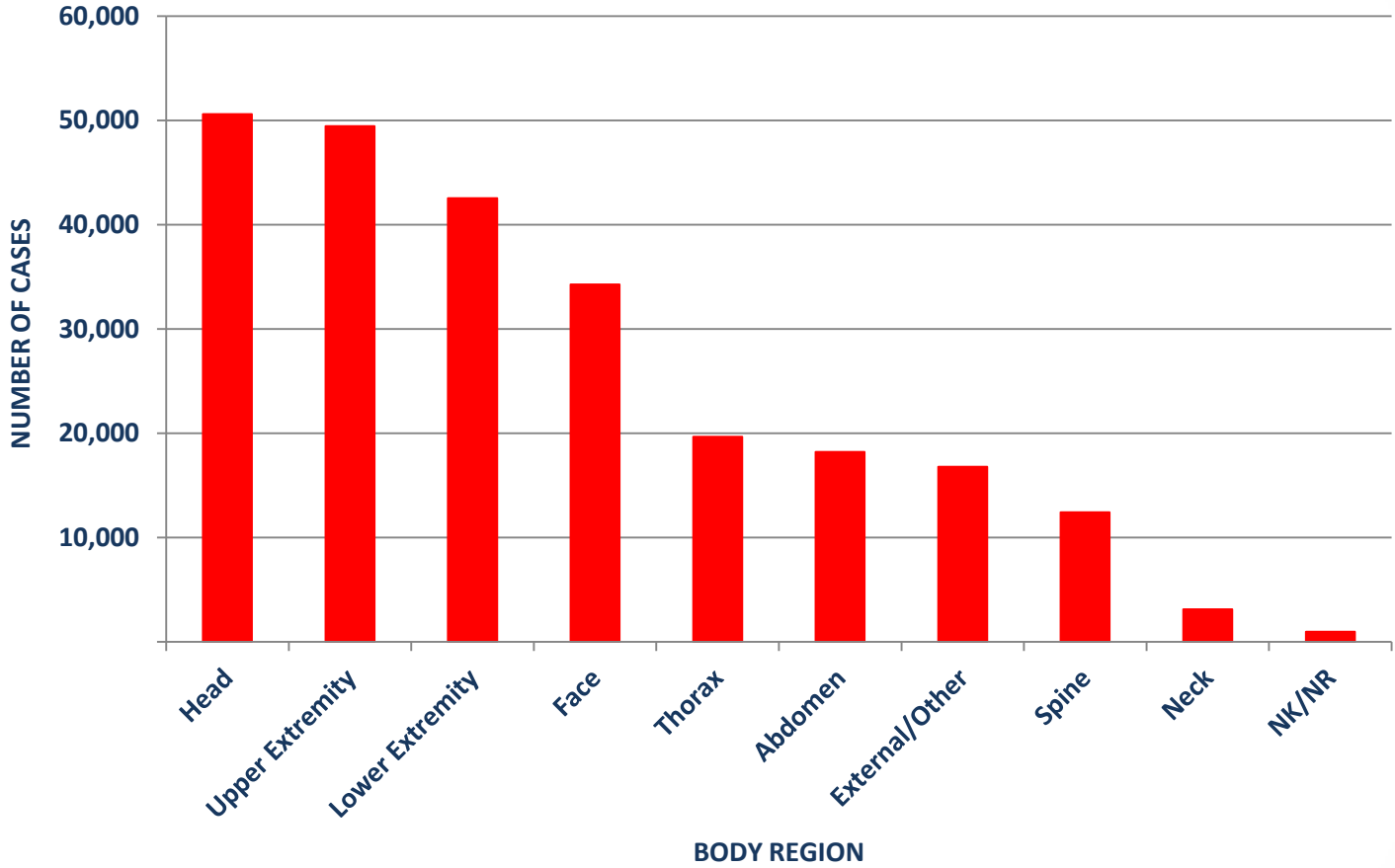
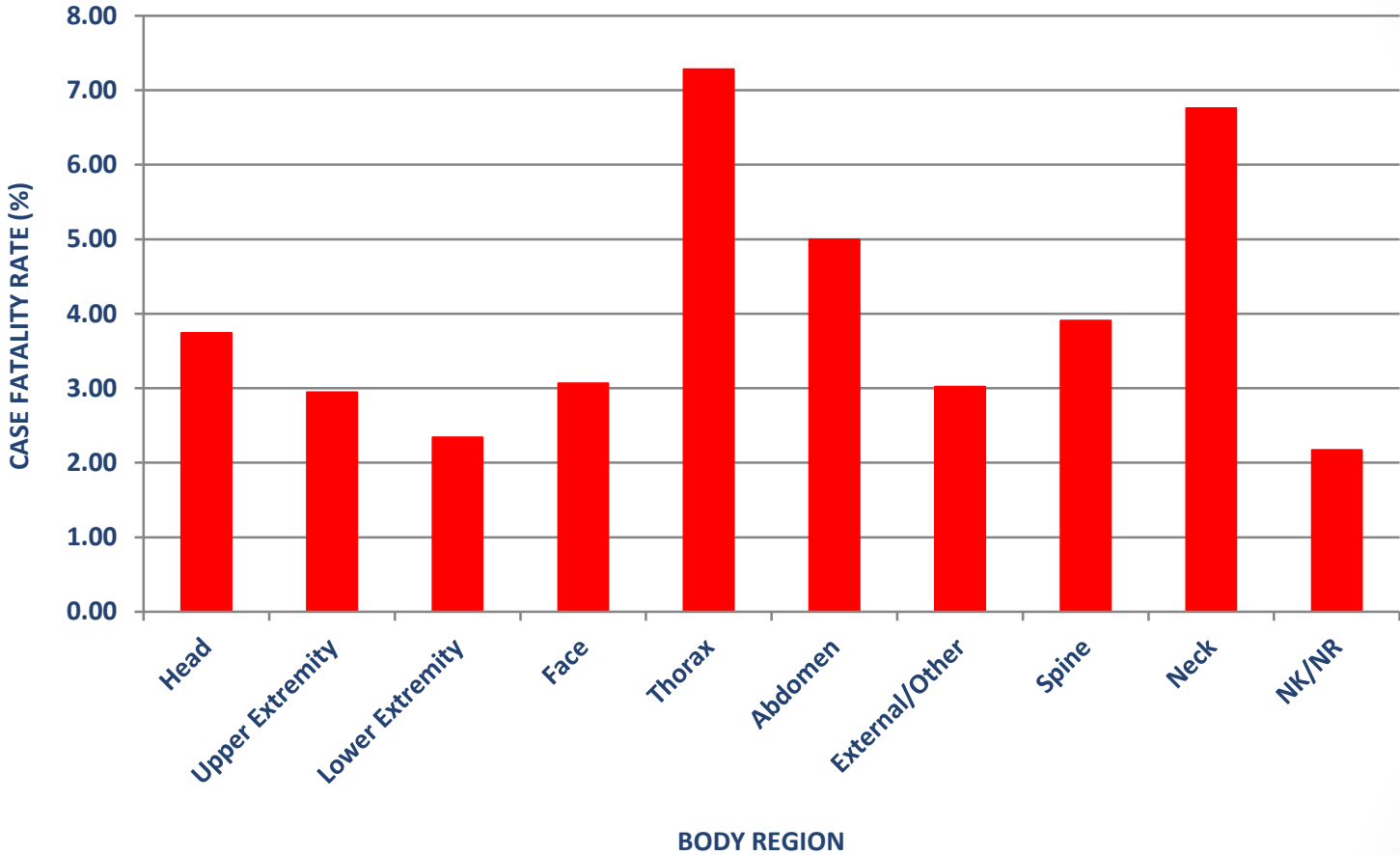


Figure 22B

Case Fatality Rate by AIS Body Region



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Table
23

Incidents and Case Fatality Rate with AIS \geq 3 by AIS Body Region

AIS BODY REGION	NUMBER	DEATHS	CASE FATALITY RATE
Head	21,373	1,707	7.99
Lower Extremity	14,857	386	2.60
Thorax	13,408	1,239	9.24
Abdomen	6,188	481	7.77
Upper Extremity	4,222	92	2.18
Spine	2,770	200	7.22
External/Other	710	37	5.21
Face	393	57	14.50
Neck	401	55	13.72

A patient can have injuries in multiple body regions.



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Figure 23A

Incidents with AIS ≥ 3 by AIS Body Region

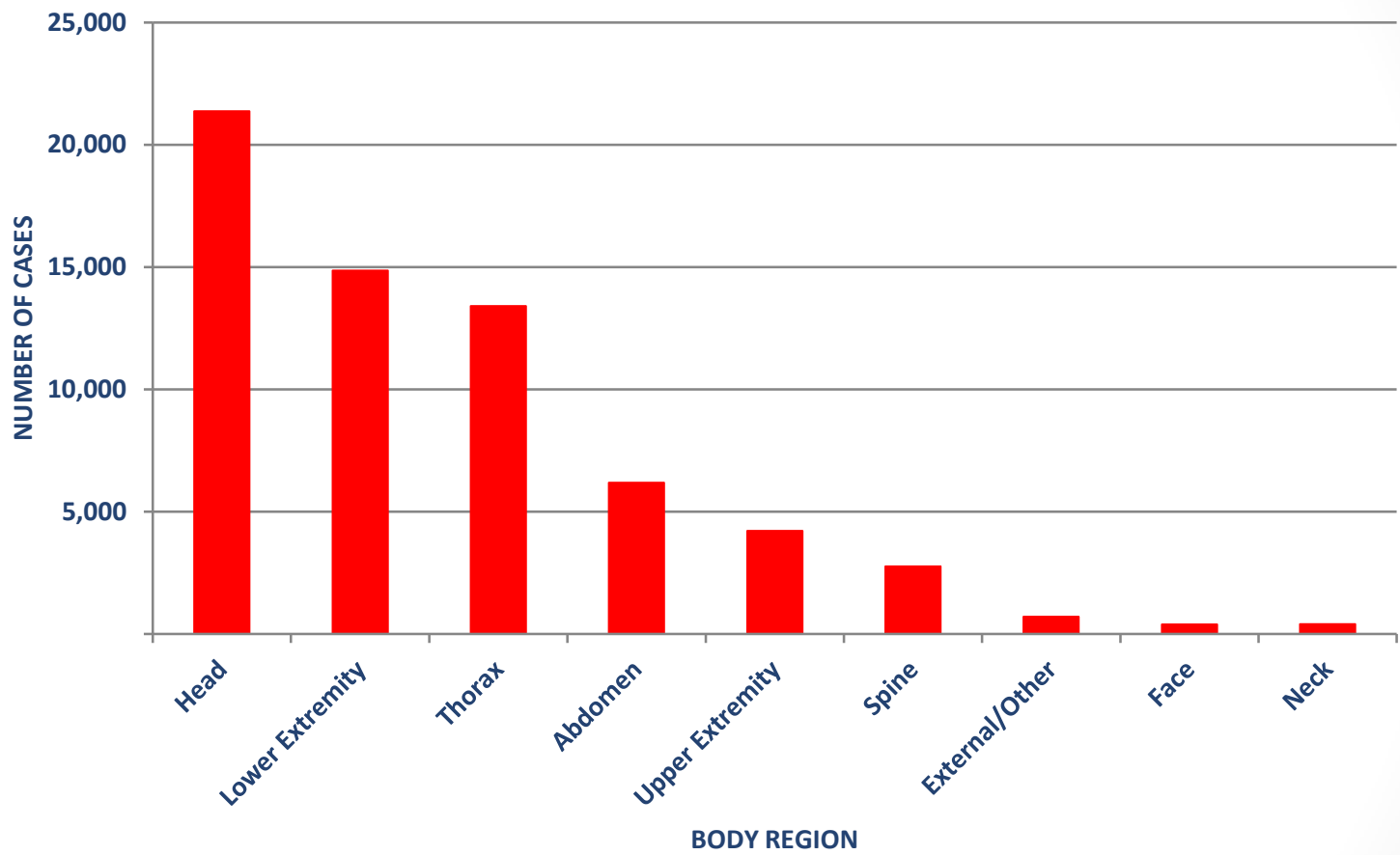


Figure 23B

Case Fatality Rate with AIS ≥ 3 by AIS Body Region

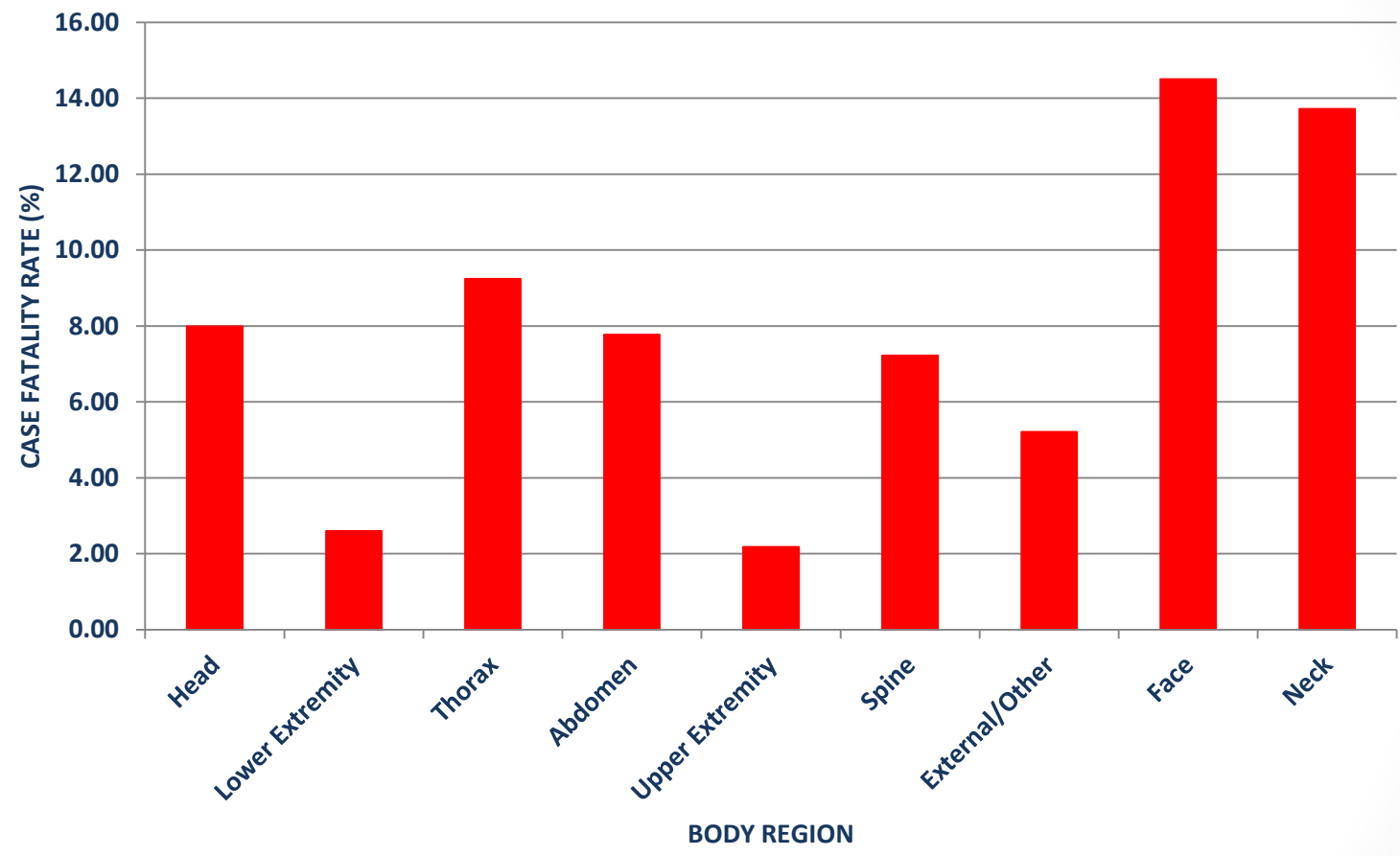


Table
24

Incidents by Protective Devices

PROTECTIVE DEVICES	NUMBER	PERCENT
None	106,299	75.36
Airbag Present	37,971	26.92
Lap Belt	12,274	8.70
Shoulder Belt	9,477	6.72
Helmet (e.g. bicycle, skiing, motorcycle)	8,028	5.69
Child Restraint (booster seat or child car seat)	2,183	1.55
Protective Clothing (e.g., padded leather pants)	1,503	1.07
Protective Non-Clothing Gear (e.g., shin guards)	1,276	0.90
Other	373	0.26
Eye Protection	115	0.08
Personal Floatation Device	57	0.04
Not Applicable	5,613	3.98
NK/NR	106,299	75.36

A patient can have multiple protective devices.



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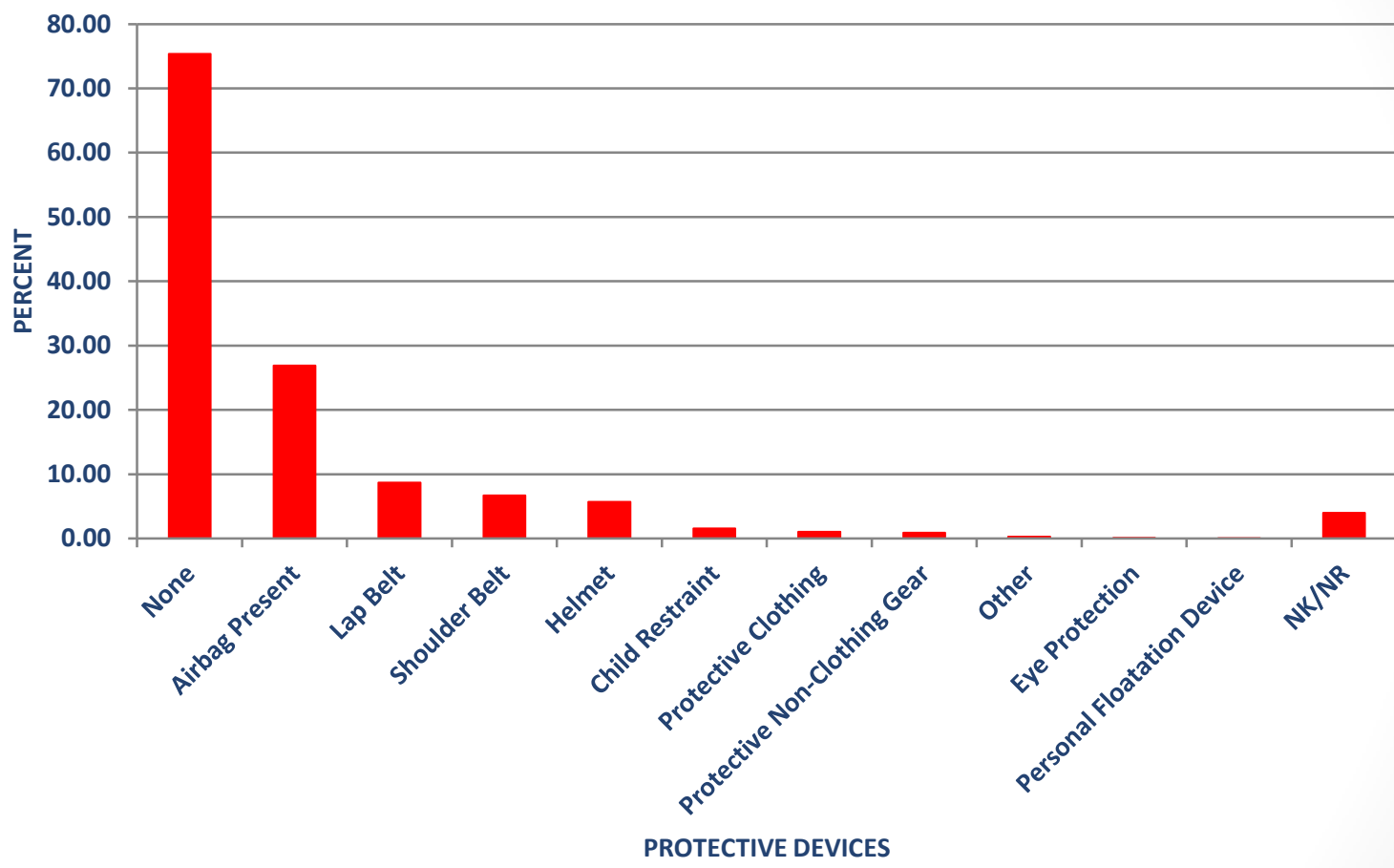
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Figure 24

Incidents by Protective Devices



OUTCOMES INFORMATION



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Table
25

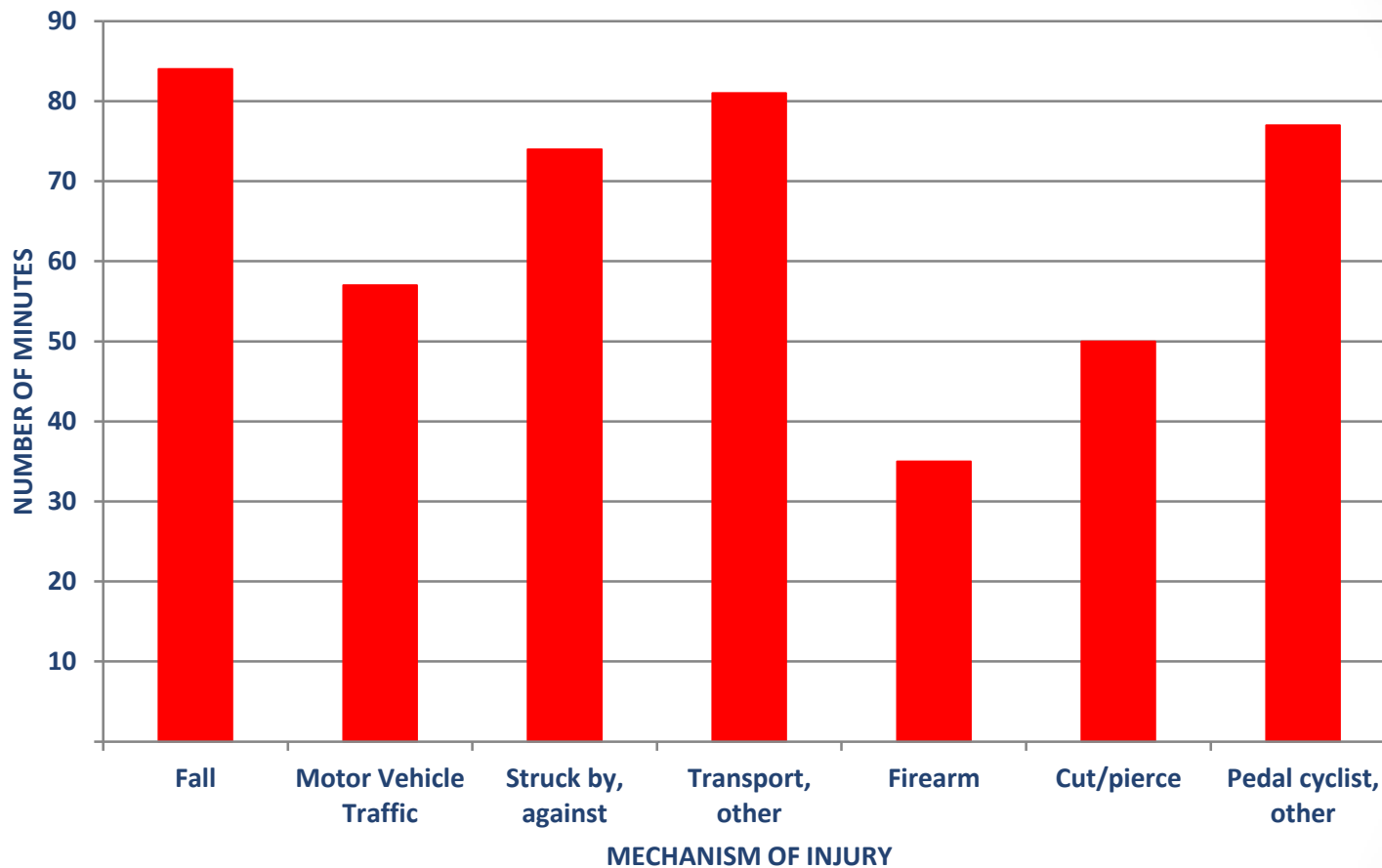
Median Prehospital Time (in Minutes) by Mechanism of Injury

MECHANISM	NUMBER	MEDIAN
Fall	25,093	84
MVT	28,722	57
Struck by, against	8,173	74
Transport, other	7,041	81
Firearm	4,711	35
Cut/pierce	2,926	50
Pedal cyclist, other	2,652	77
Other specified and classifiable	2,848	96
NK/NR	1,301	73
Hot object/substance	2,199	116
Natural/environmental, Bites and stings	1,516	89
Fire/flame	804	111
Unspecified	632	85
Pedestrian, other	542	60
Other specified, not elsewhere classifiable	395	69
Natural/environmental, Other	367	92
Machinery	388	80
Overexertion	389	81
Poisoning	56	66
Suffocation	167	60
Drowning/submersion	110	61
Adverse effects, medical care	4	137
Adverse effects, drugs	1	78



Figure 25

Median Prehospital Time (in Minutes) by Selected Mechanism of Injury



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Table
26

Median Total Prehospital Time (in Minutes) by Injury Severity Score (ISS)

ISS	NUMBER	MEDIAN
1-8	48,309	69
9-15	23,729	72
16-24	11,002	69
>24	7,283	62
NK/NR	714	55

Injury Severity Score tables are generated using AIS98 Crosswalked ISS.
Injury Severity Score definitions can be found in Appendix B.



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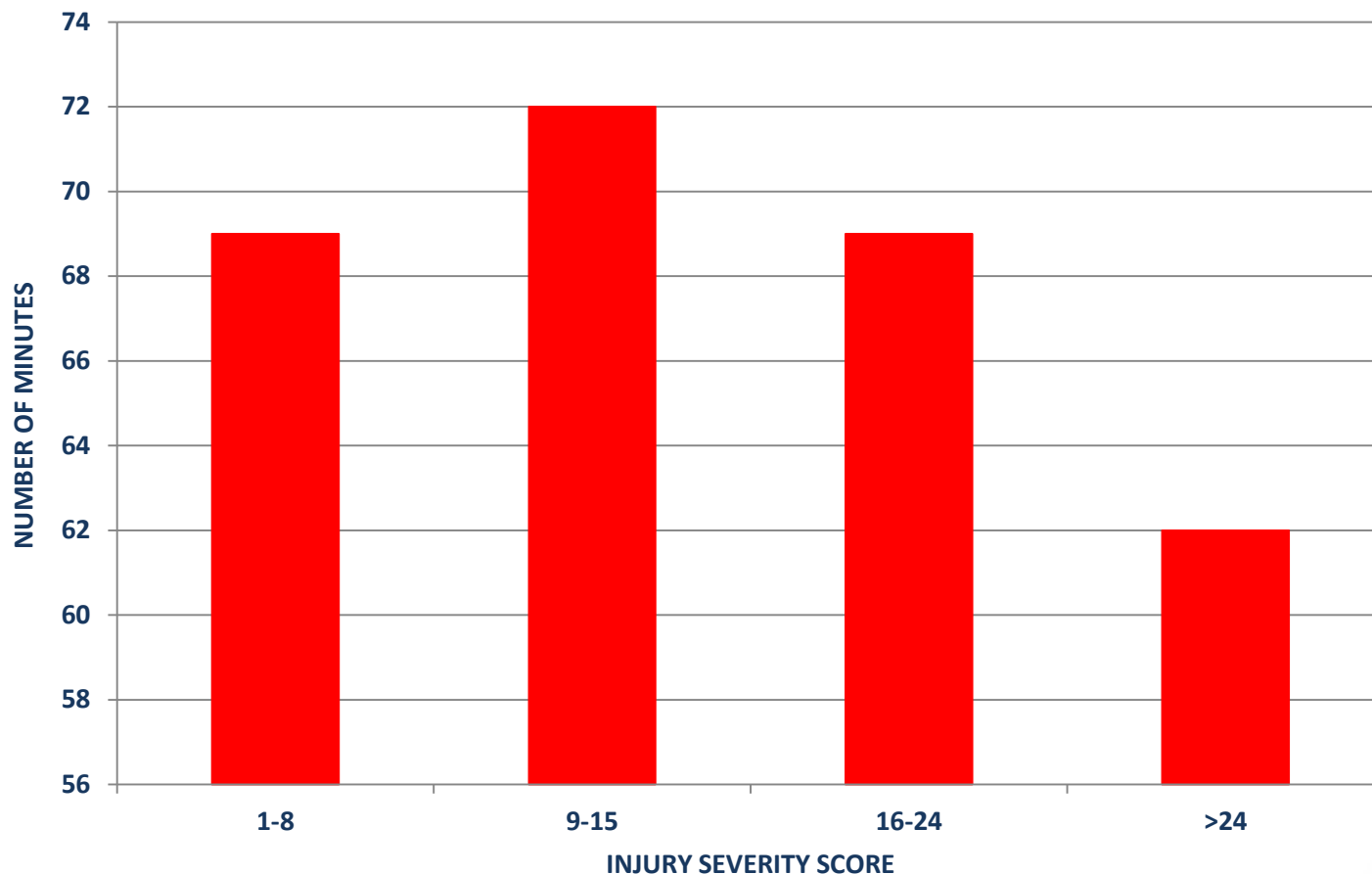
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Figure 26

Median Total Prehospital Time (in Minutes) by Injury Severity Score (ISS)



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Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.

Table
27

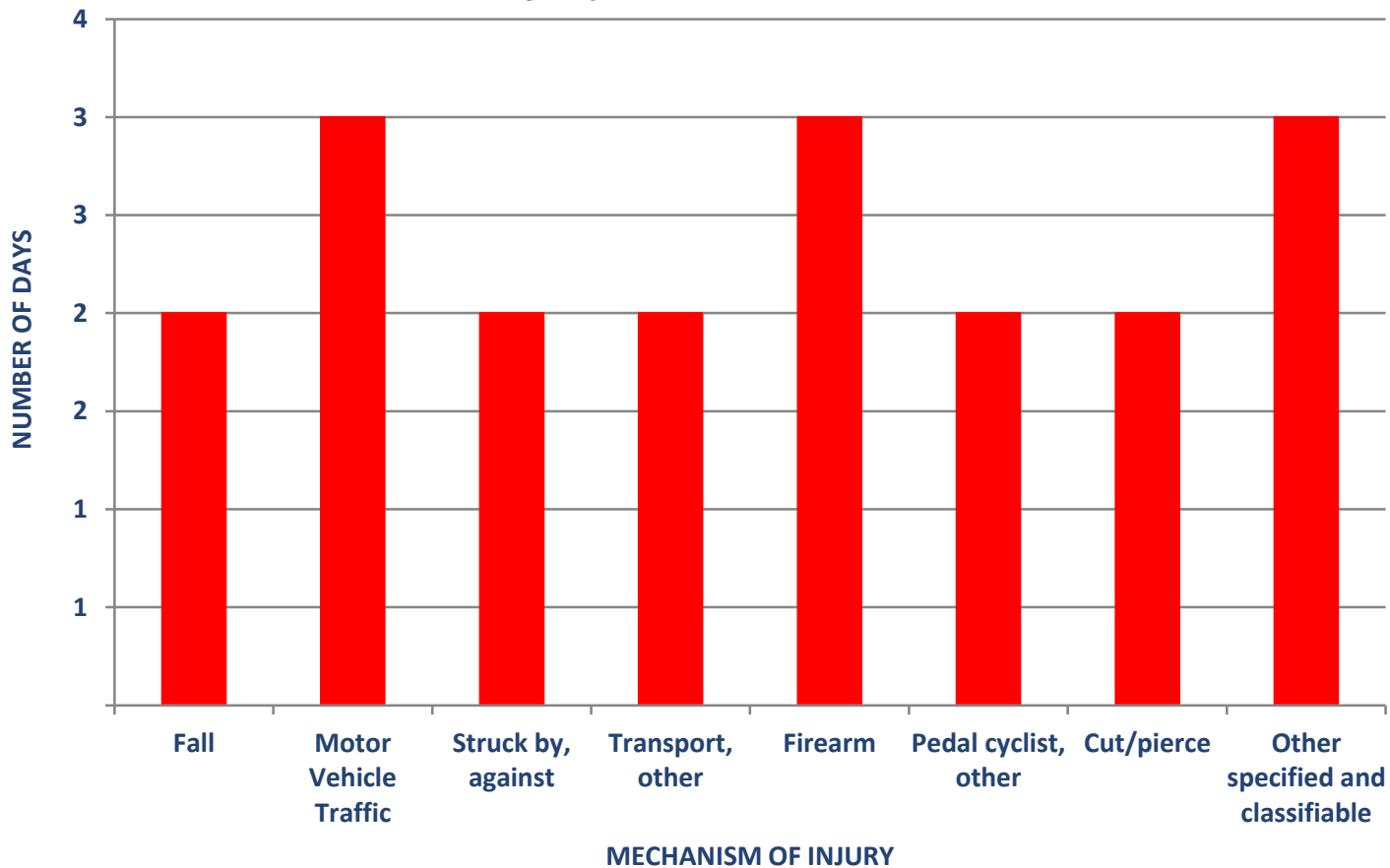
Median Length of Stay (LOS) in Days by Mechanism of Injury

MECHANISM	NUMBER	MEDIAN
Fall	48,056	2
MVT	33,404	3
Struck by, against	13,873	2
Transport, other	9,912	2
Firearm	6,203	3
Pedal cyclist, other	4,472	2
Cut/pierce	4,539	2
Other specified and classifiable	4,984	3
Hot object/substance	4,137	2
NK/NR	1,873	2
Natural/environmental, Bites and stings	2,796	2
Unspecified	1,450	2
Fire/flame	1,286	2
Other specified, not elsewhere classifiable	805	2
Overexertion	819	2
Natural/environmental, Other	566	2
Pedestrian, other	708	2
Machinery	586	2
Poisoning	90	2
Suffocation	210	2
Drowning/submersion	125	2
Adverse effects, medical care	11	4
Adverse effects, drugs	5	2



Figure 27

Median Length of Stay (LOS) in Days by Selected Mechanism of Injury



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Table
28

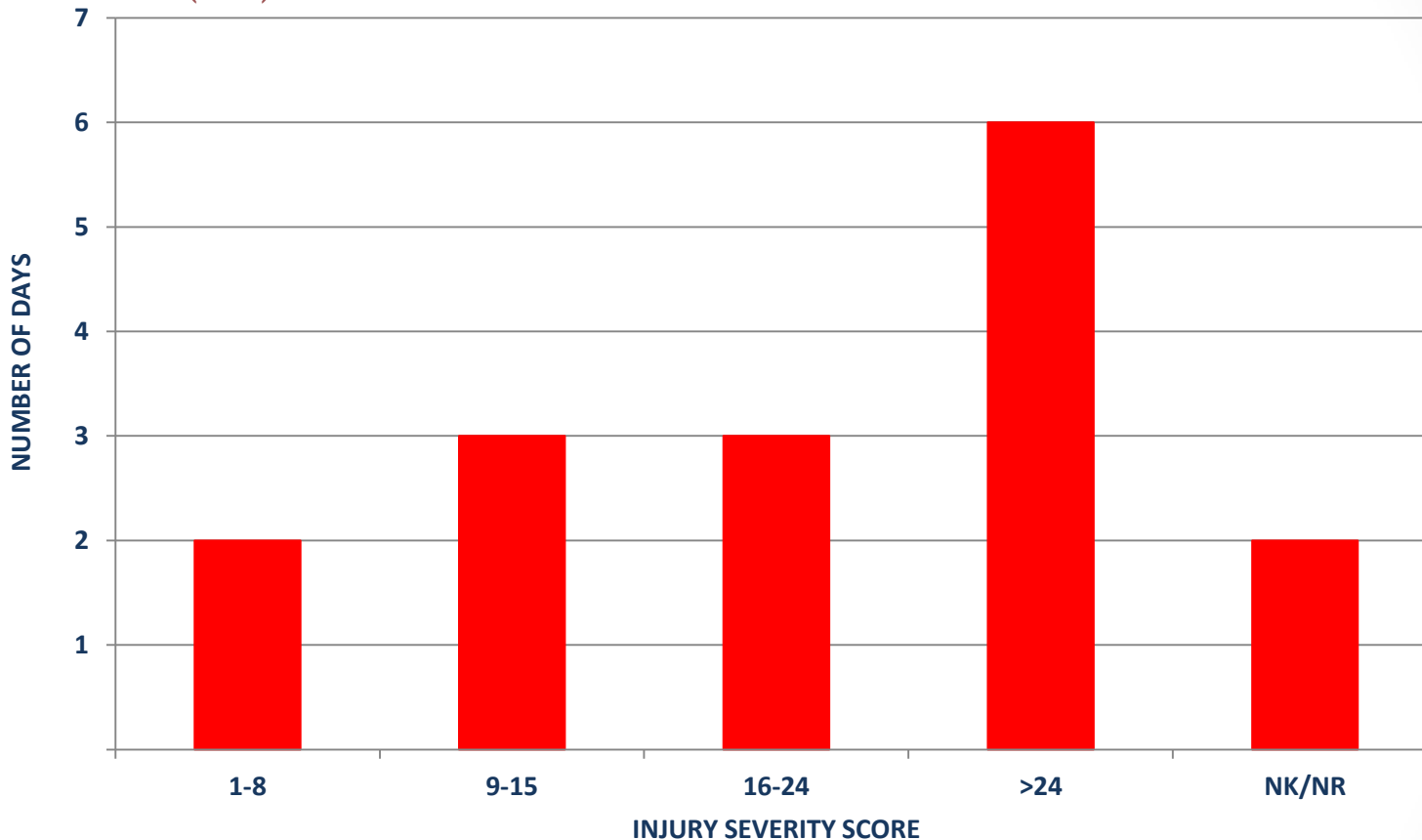
Median Length of Stay (LOS) in Days by Injury Severity Score (ISS)

ISS	NUMBER	MEDIAN
1-8	83,462	2
9-15	33,045	3
16-24	14,725	3
>24	8,456	6
NK/NR	1,222	2



Figure 28

Median Length of Stay (LOS) in Days by Injury Severity Score (ISS)



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Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.

Table
29

Median Ventilator Days by Mechanism of Injury

MECHANISM	NUMBER	MEDIAN
MVT	3,180	4
Firearm	785	3
Fall	594	3
Other specified and classifiable	469	5
Struck by, against	254	3
Cut/pierce	115	2
Fire/flame	96	7
Transport, other	460	3
Unspecified	94	4
NK/NR	66	4
Suffocation	78	4
Pedal cyclist, other	72	3
Pedestrian, other	46	4
Drowning/submersion	45	4
Other specified, not elsewhere classifiable	46	3
Natural/environmental, Bites and stings	30	3
Hot object/substance	29	6
Natural/environmental, Other	24	3
Machinery	17	3
Poisoning	8	2
Adverse effects, medical care	1	11
Adverse effects, drugs	1	9

In patients with ventilator days > 0.



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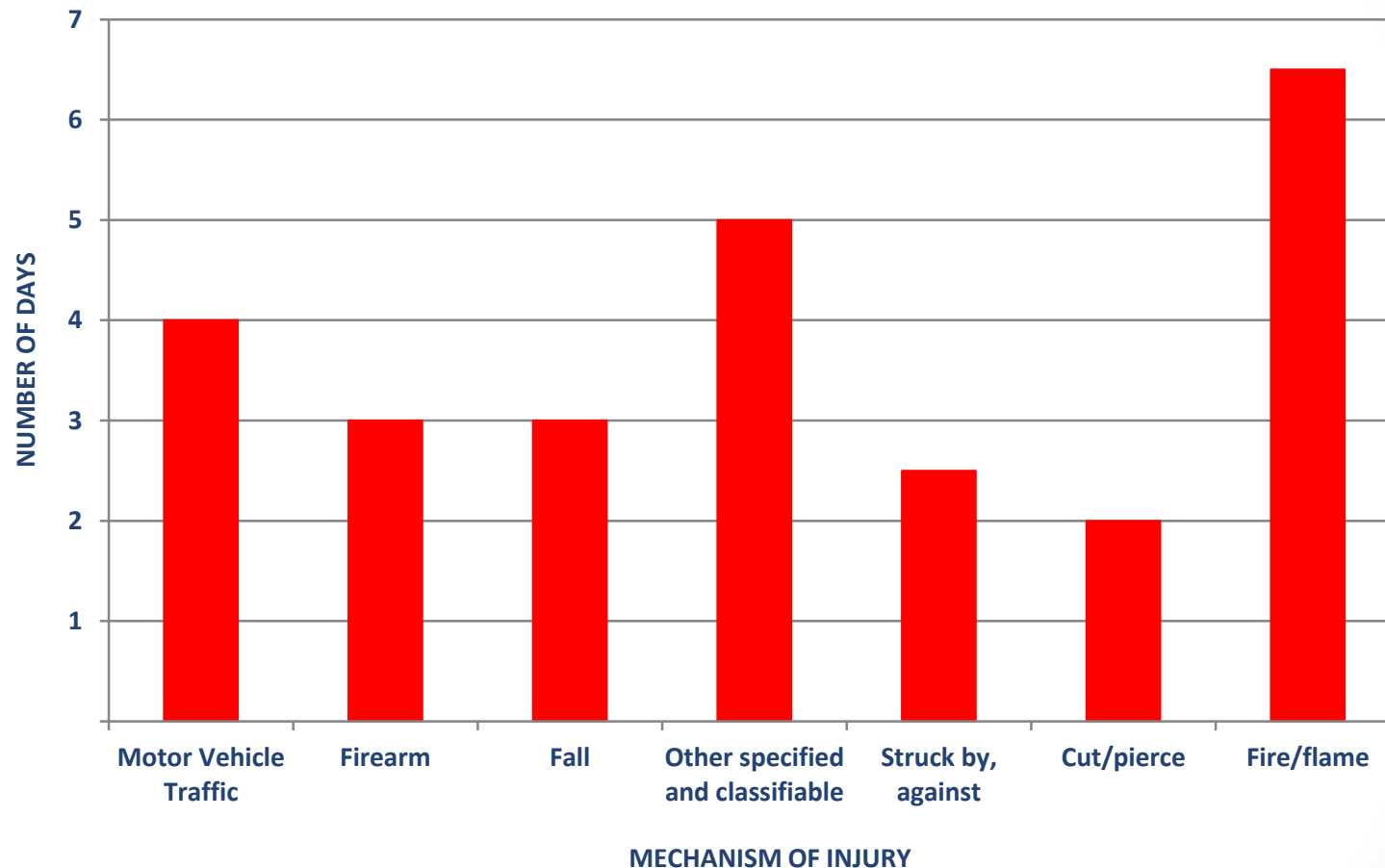
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Figure 29

Median Ventilator Days by Selected Mechanism of Injury



In patients with ventilator days > 0.



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Table
30

Median Ventilator Days by Injury Severity Score (ISS)

ISS	NUMBER	MEDIAN
1-8	482	2
9-15	825	2
16-24	1,649	3
>24	3,527	5
NK/NR	27	3

Injury Severity Score tables are generated using AIS98 Crosswalked ISS.
Injury Severity Score definitions can be found in Appendix B.
In patients with ventilator days > 0.



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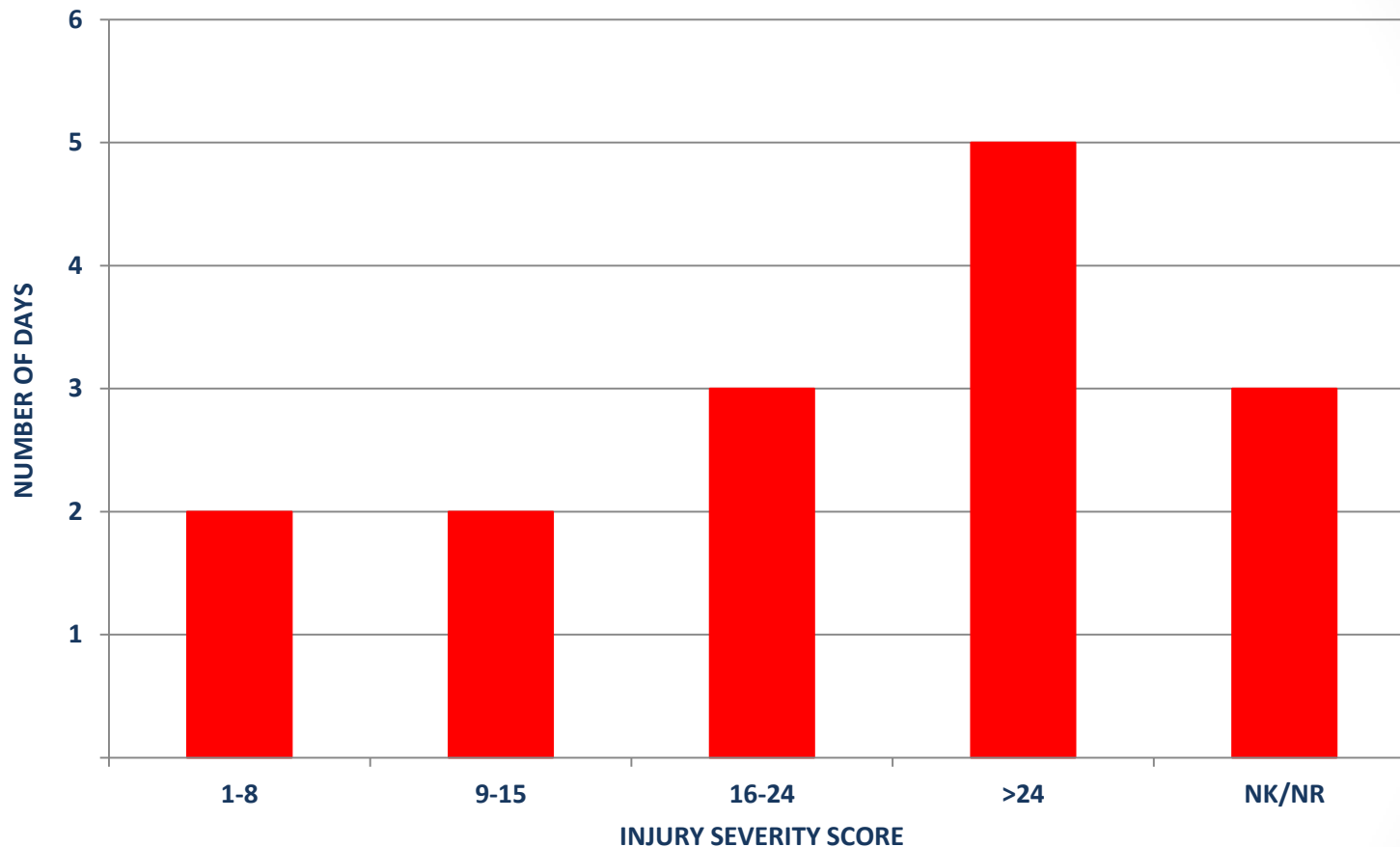
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Figure 30

Median Ventilator Days by Injury Severity Score (ISS)



Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B. In patients with ventilator days > 0.



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Table
31

Median ICU Days by Mechanism of Injury

MECHANISM	NUMBER	MEDIAN
MVT	7,753	3
Fall	3,951	2
Transport, other	1,611	3
Firearm	1,588	4
Struck by, against	1,365	2
Other specified and classifiable	1,030	4
Pedal cyclist, other	494	2
Hot object/substance	359	3
Cut/pierce	429	3
Unspecified	263	3
NK/NR	175	3
Fire/flame	225	6
Natural/environmental, Bites and stings	181	2
Natural/environmental, Other	118	3
Pedestrian, other	142	3
Other specified, not elsewhere classifiable	116	3
Suffocation	93	4
Machinery	61	3
Drowning/submersion	51	5
Poisoning	17	3
Overexertion	14	3
Adverse effects, medical care	4	4
Adverse effects, drugs	1	7

In patients with ICU days > 0.



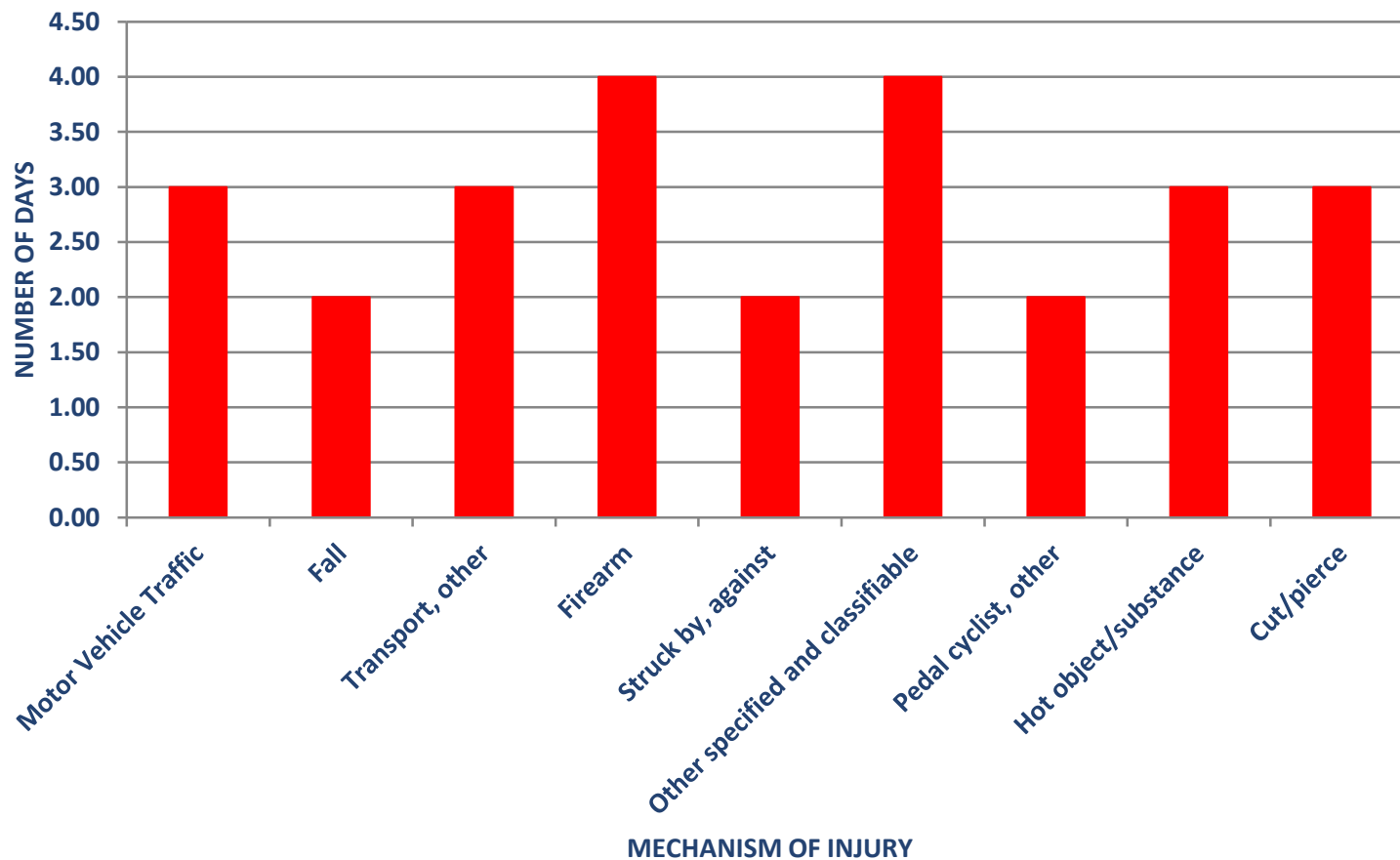
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Figure 31

Median ICU Days by Selected Mechanism of Injury



In patients with ICU days > 0.



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Table
32

Median ICU Days by Injury Severity Score (ISS)

ISS	NUMBER	MEDIAN
1-8	3,424	2
9-15	4,497	3
16-24	6,319	3
>24	5,725	5
NK/NR	76	3

Injury Severity Score tables are generated using AIS98 Crosswalked ISS.
Injury Severity Score definitions can be found in Appendix B.
In patients with ICU days > 0.



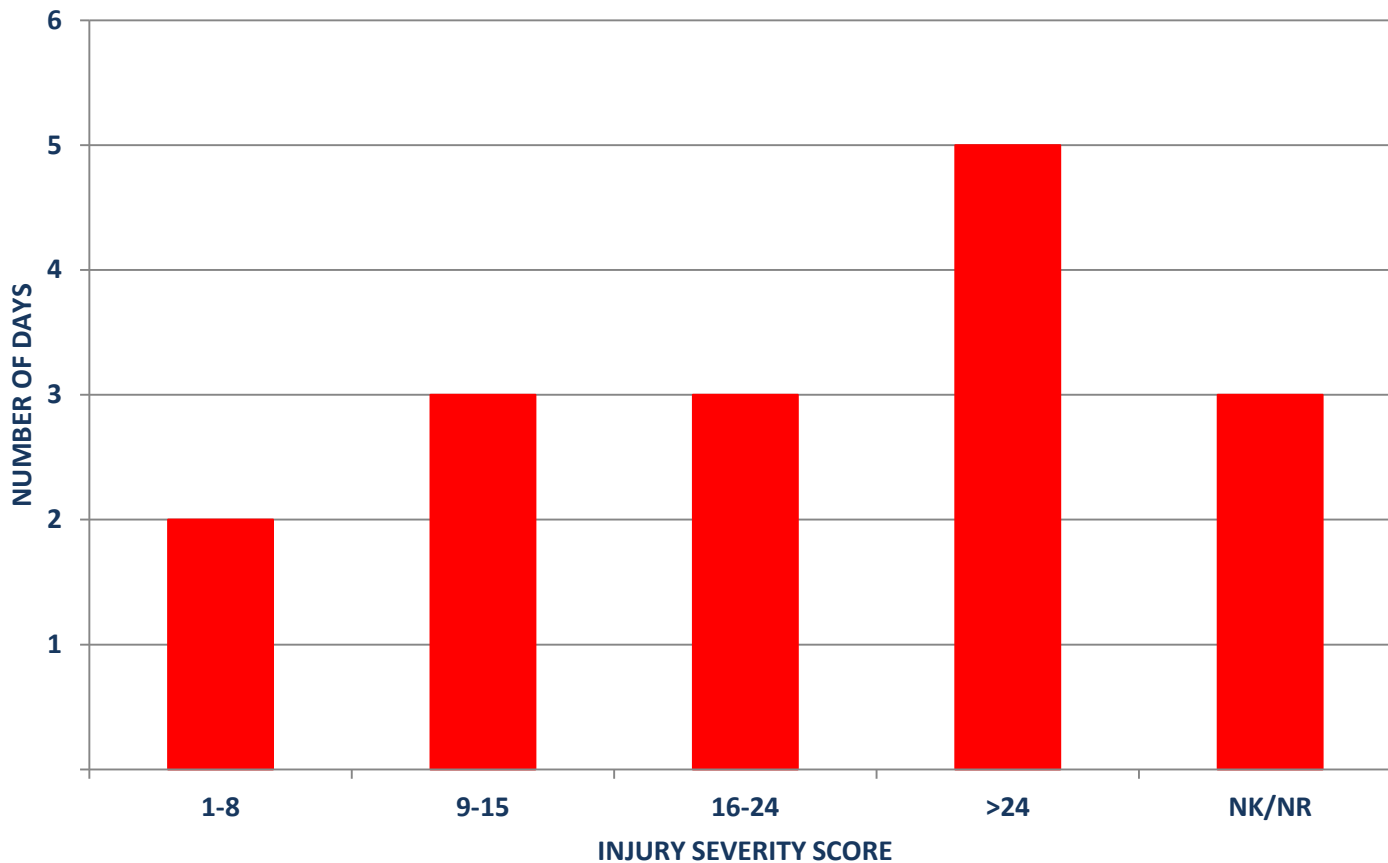
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Figure 32

Median ICU Days by Injury Severity Score (ISS)



Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.

In patients with ICU days > 0.



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Table
33

Incidents by ED Discharge Disposition

ED DISCHARGE DISPOSITION	NUMBER	PERCENT
Floor bed (general admission, non-specialty unit bed)	55,750	39.52
Intensive Care Unit (ICU)	19,862	14.08
Operating Room	18,828	13.35
Home without services	17,837	12.65
Transferred to another hospital	11,402	8.08
Observation unit (unit that provides < 24 hour stays)	4,734	3.36
Telemetry/step-down unit (less acuity than ICU)	4,257	3.02
Not Applicable	3,815	2.70
NK/NR	1,659	1.18
Deceased/Expired	1,870	1.33
Other (jail, institutional care facility, mental health, etc)	613	0.43
Home with services	320	0.23
Left against medical advice	104	0.07
Total	141,051	100



Figure 33

Incidents by ED Discharge Disposition

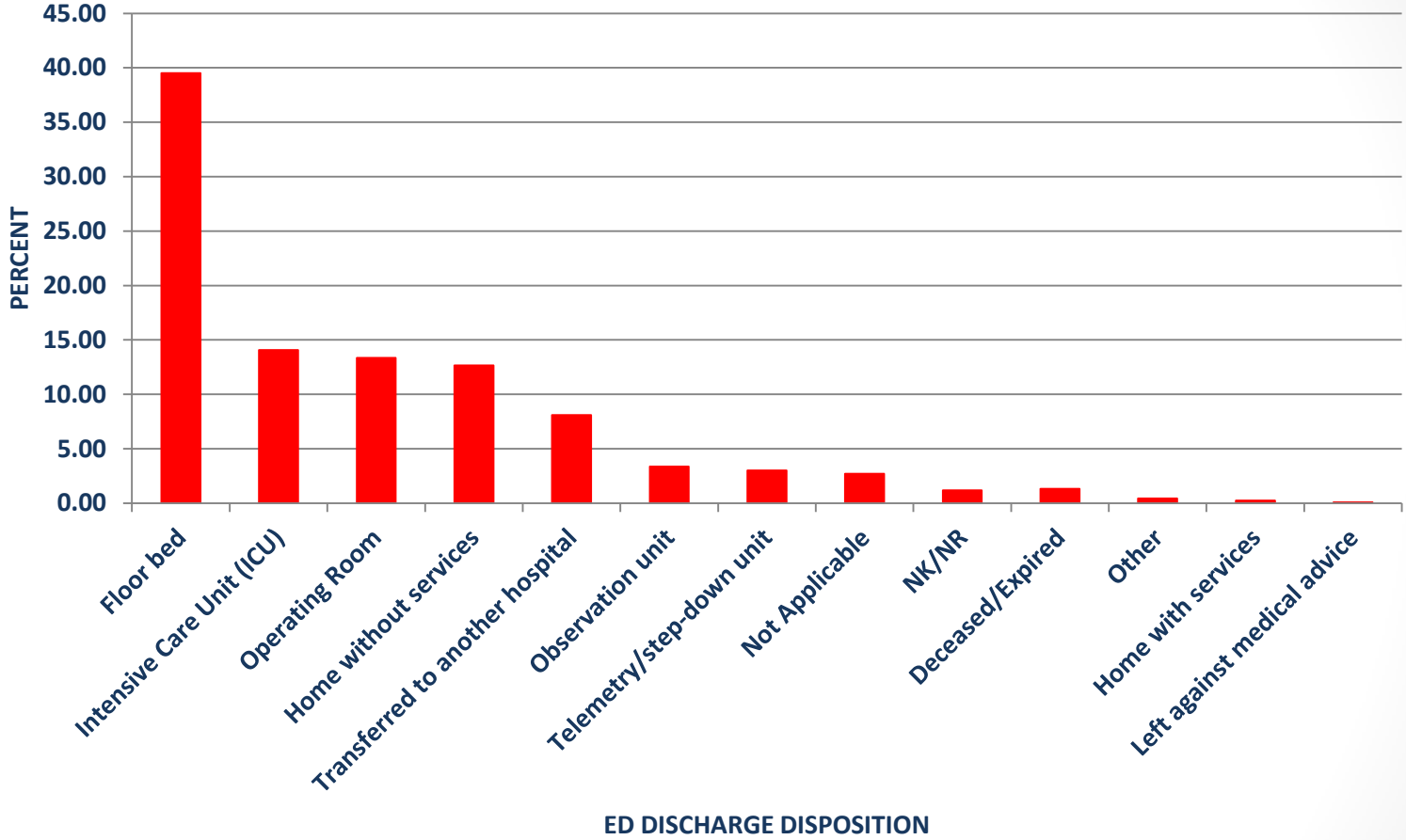


Table
34

Signs of Life

SIGNS OF LIFE	NUMBER	PERCENT
Arrived with no signs of life	1,013	0.72
Arrived with signs of life	140,037	99.28
Total	141,050	100

Indication of whether patient arrived at ED/hospital with signs of life.



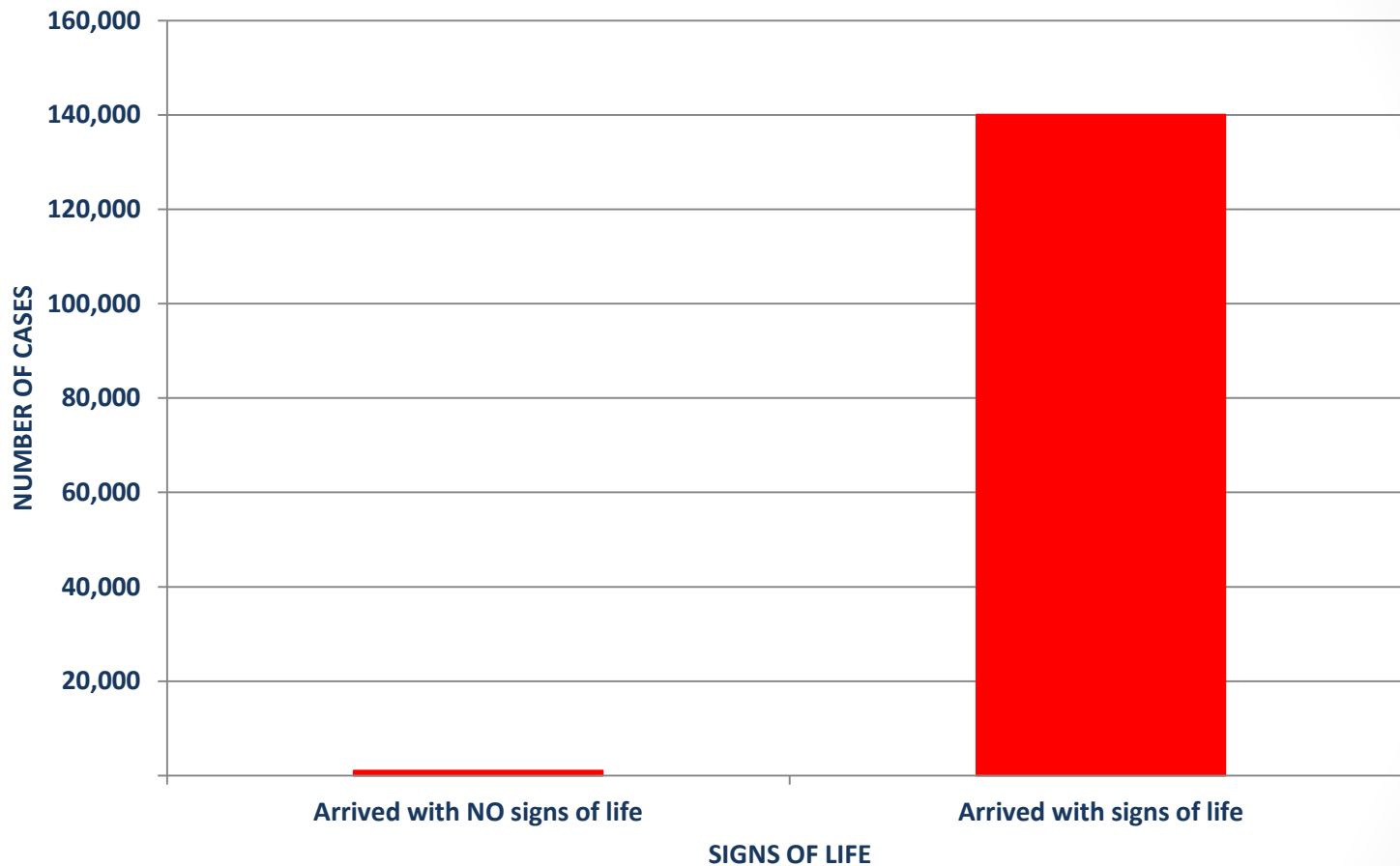
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Figure 34

Signs of Life



Indication of whether patient arrived at ED/hospital with signs of life.



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Table
35

Incidents by Hospital Discharge Disposition

HOSPITAL DISCHARGE DISPOSITION	NUMBER	PERCENT
Discharged to home or self-care (routine discharge)	97,411	69.06
Not Applicable	32,146	22.79
Discharged/Transferred to inpatient rehab or designated unit	3,330	2.36
Discharge/Transferred to home under care of organized home health service	2,983	2.11
Discharged/Transferred to a short-term general hospital for inpatient care	1,242	0.88
Deceased/Expired	1,569	1.11
Discharged/Transferred to another type of institution not defined elsewhere	526	0.37
Left against medical advice or discontinued care	391	0.28
Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital	514	0.36
Discharged/Transferred to Skilled Nursing Facility	270	0.19
Discharged/Transferred to court/law enforcement	427	0.30
Discharged/Transferred to an Intermediate Care Facility (ICF)	95	0.07
Discharged/Transferred to Long Term Care Hospital	105	0.07
Discharged/Transferred to hospice care	22	0.02
NK/NR	20	0.01
Total	141,051	100.00



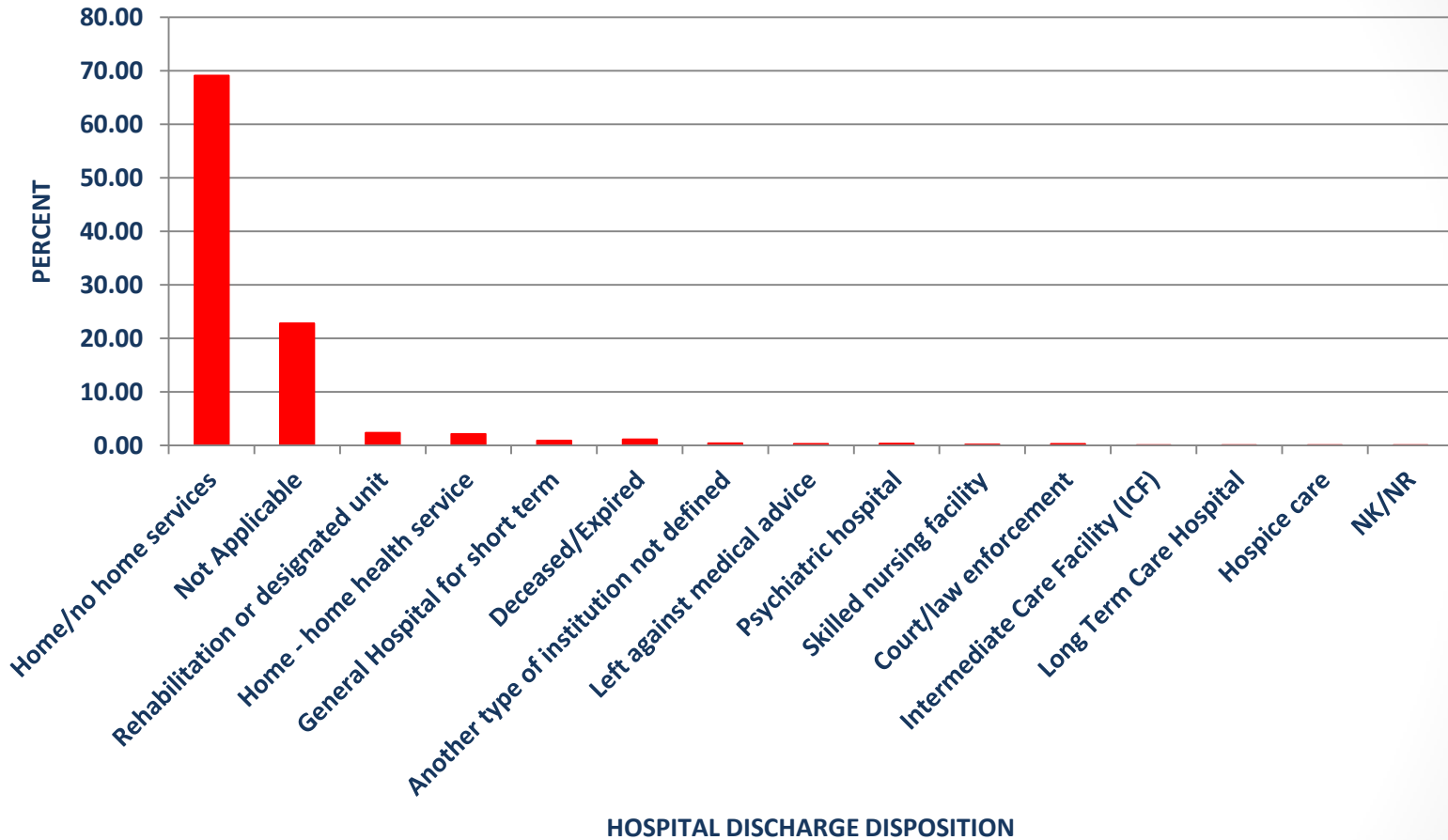
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Figure 35

Incidents by Hospital Discharge Disposition



REGIONAL ANALYSIS



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Table
36

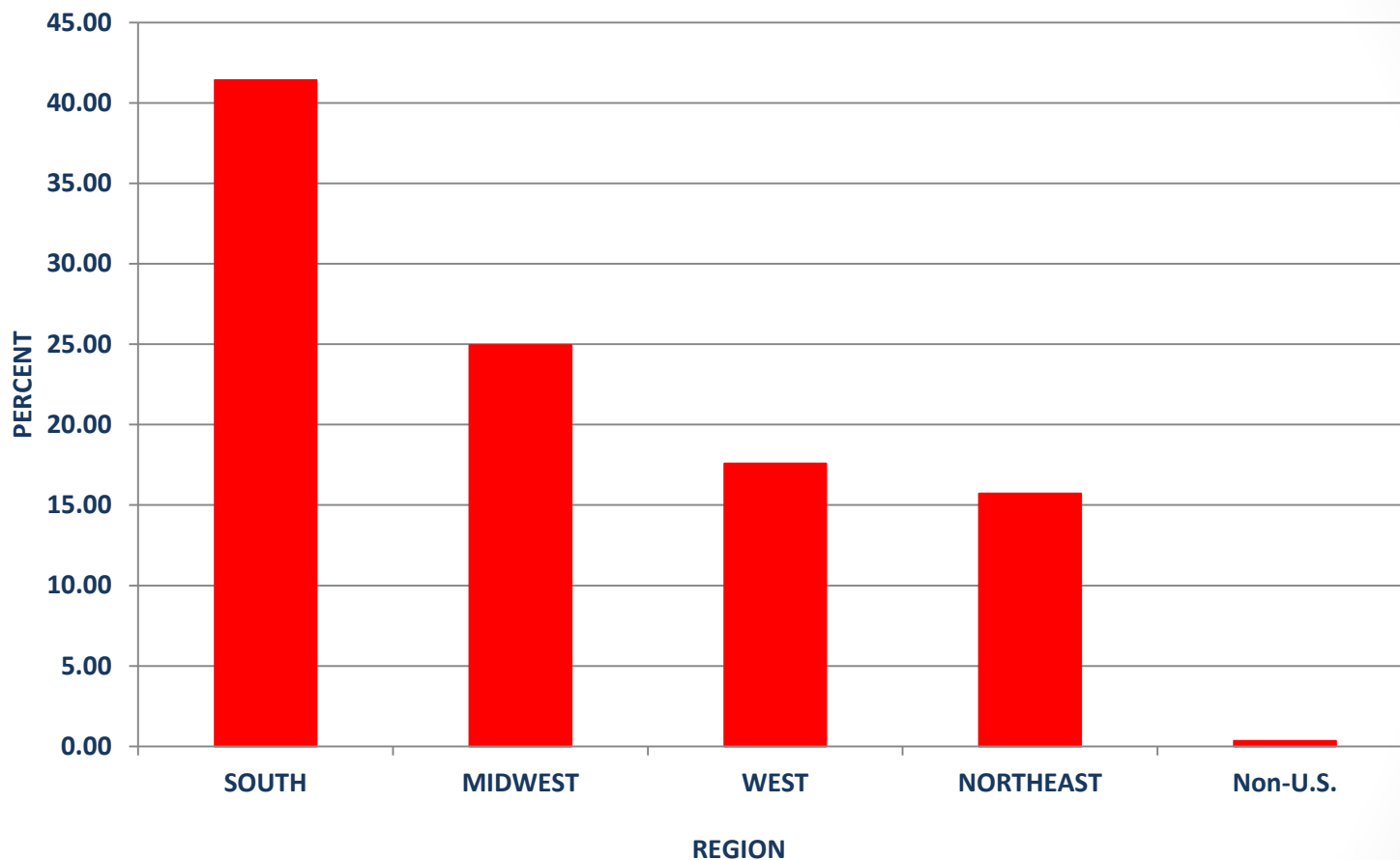
Incidents by Region

REGION	NUMBER	PERCENT
South	58,417	41.42
Midwest	35,181	24.94
West	24,797	17.58
Northeast	22,179	15.72
Non-U.S.	477	0.34
Total	141,051	100



Figure 36

Incidents by Region



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Table
37

Case Fatality Rate by Region

REGION	NUMBER	DEATHS	CASE FATALITY RATE
South	58,417	2,129	3.64
Midwest	35,181	566	1.61
West	24,797	424	1.71
Northeast	22,179	323	1.46
Non-U.S.	477	19	3.98
Total	141,051	3,461	2.45



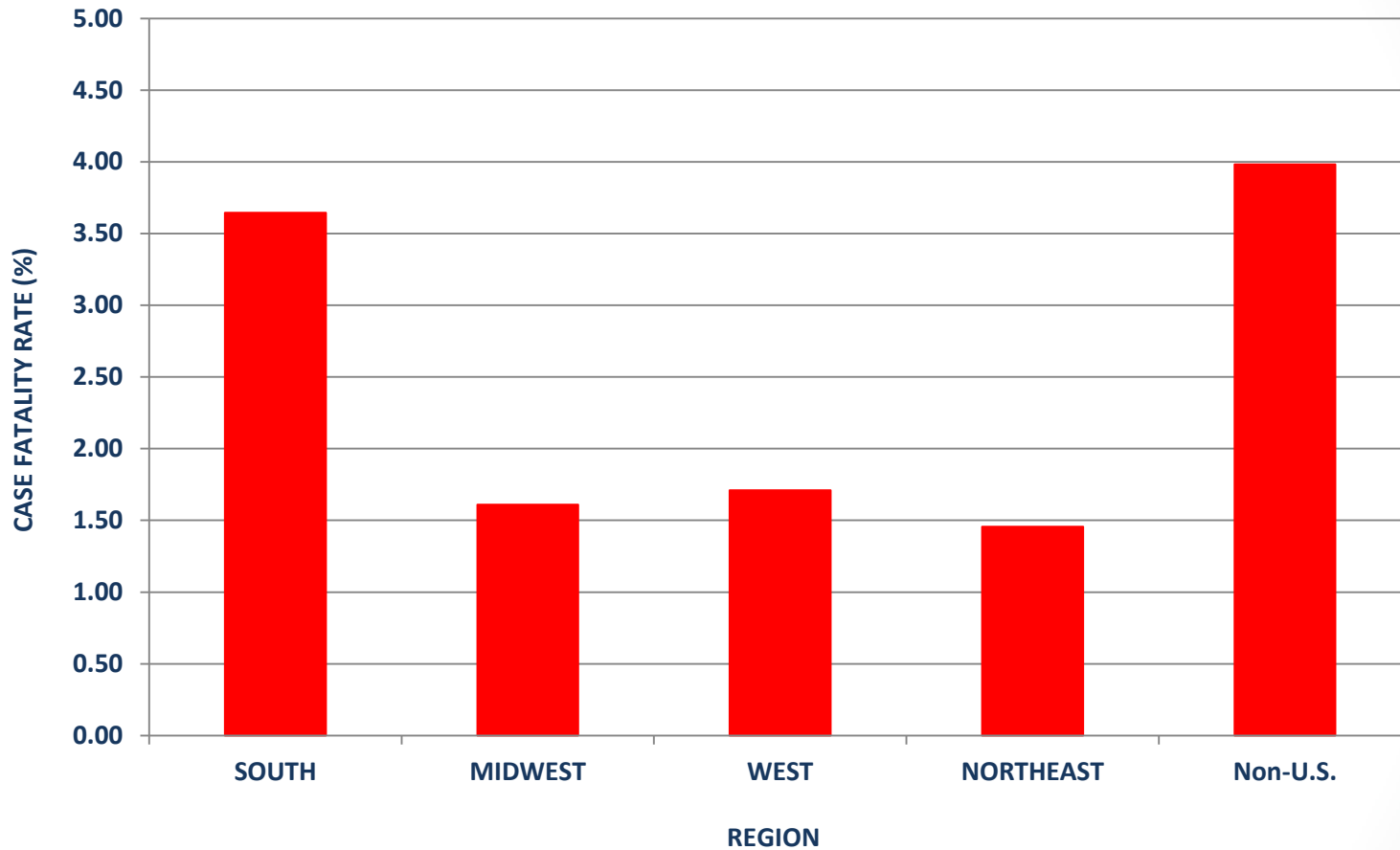
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Figure 37

Case Fatality Rate by Region



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Table
38

Mechanism of Injury by Region

MECHANISM	NUMBER	MIDWEST PERCENT	NORTHEAST PERCENT	SOUTH PERCENT	WEST PERCENT	NON-U.S. PERCENT
Fall	48,108	34.67	38.25	32.65	33.26	22.01
Motor Vehicle Traffic	33,434	20.20	19.23	25.75	27.37	48.64
Struck by, against Transport, other	13,880	9.80	11.98	9.59	8.65	5.24
Firearm	9,924	6.44	5.48	7.66	7.77	8.39
Pedal cyclist, other	6,211	3.75	3.58	5.14	4.38	2.10
Other specified and classifiable	4,478	3.42	3.89	2.44	3.98	0.63
Cut/pierce	4,987	3.73	3.32	3.69	3.15	0.42
Hot object/substance	4,546	3.26	3.73	2.90	3.37	8.60
NK/NR	4,144	3.20	3.62	3.14	1.52	0.42
Natural/environmental, Bites and stings	1,873	4.02	0.27	0.21	1.10	0.63
Unspecified	2,802	2.09	1.66	2.31	1.40	0.00
Fire/flame	1,451	1.11	1.12	0.96	1.00	1.05
Other specified, not elsewhere classifiable	1,286	1.16	0.83	0.92	0.62	0.42
Overexertion	806	0.63	0.69	0.50	0.56	0.21
Natural/environmental, Other	819	0.67	0.83	0.56	0.28	0.00
Pedestrian, other	566	0.43	0.24	0.43	0.43	0.42
Machinery	709	0.44	0.60	0.48	0.57	0.21
Poisoning	586	0.62	0.34	0.36	0.33	0.00
Suffocation	90	0.09	0.04	0.05	0.09	0.00
Drowning/submersion	210	0.16	0.22	0.13	0.10	0.63
Adverse effects, medical care	125	0.07	0.09	0.11	0.05	0.00
Adverse effects, drugs	11	0.01	0.01	0.00	0.01	0.00
Total	5	0.01	0.00	0.00	0.00	0.00
	141,051	100	100	100	100	100



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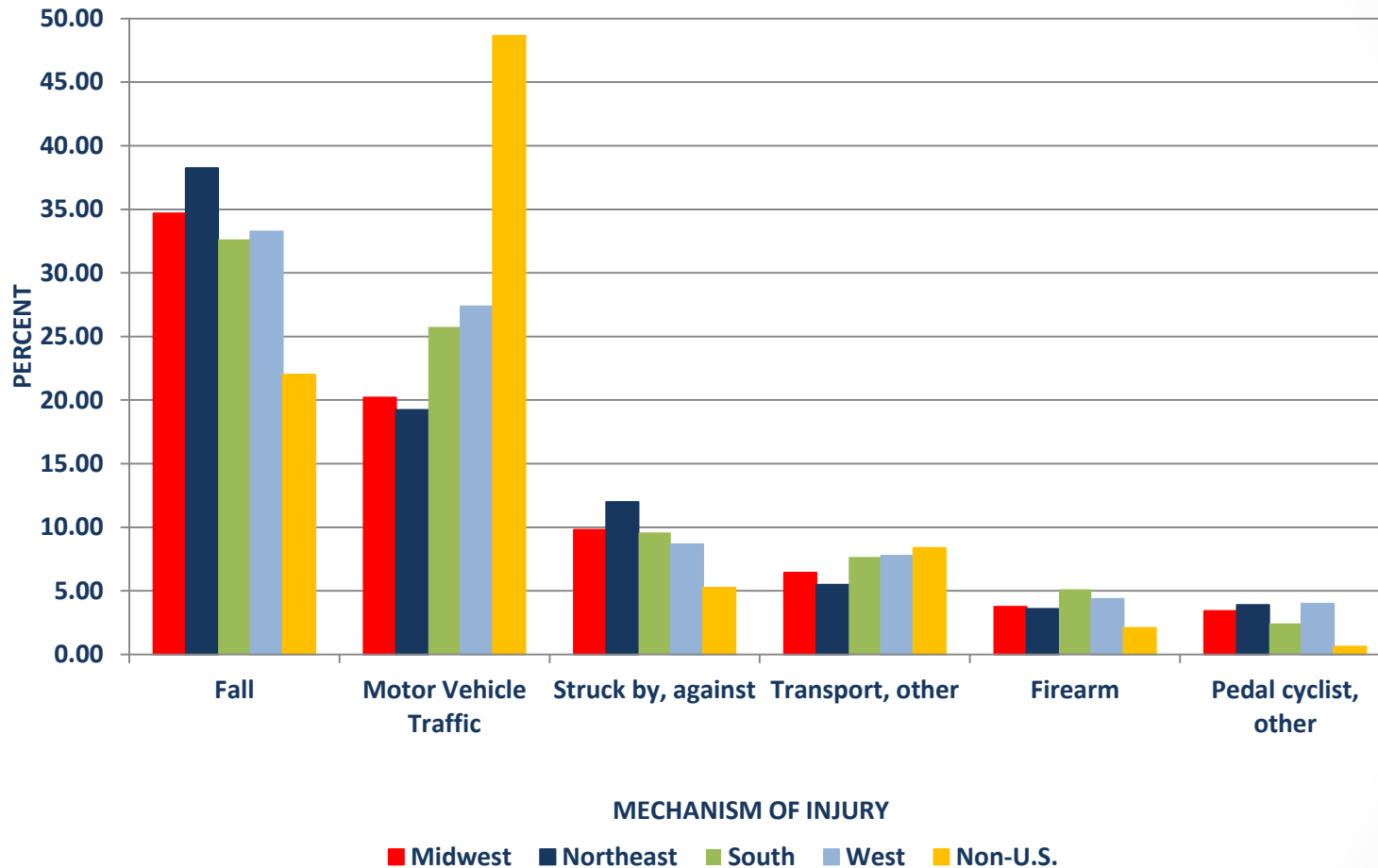
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Figure 38

Selected Mechanism of Injury by Region



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Table
39

Injury Severity Score (ISS) by Region

ISS	NUMBER	MIDWEST PERCENT	NORTHEAST PERCENT	SOUTH PERCENT	WEST PERCENT	NON-U.S. PERCENT
1-8	83,555	63.77	59.21	59.19	53.66	22.43
9-15	33,071	21.67	25.31	23.34	24.51	25.58
16-24	14,738	9.00	9.69	10.44	12.90	25.79
>24	8,462	5.01	4.93	6.39	7.09	24.95
NK/NR	1,225	0.55	0.86	0.65	1.83	1.26
Total	141,051	100	100	100	100	100

Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.



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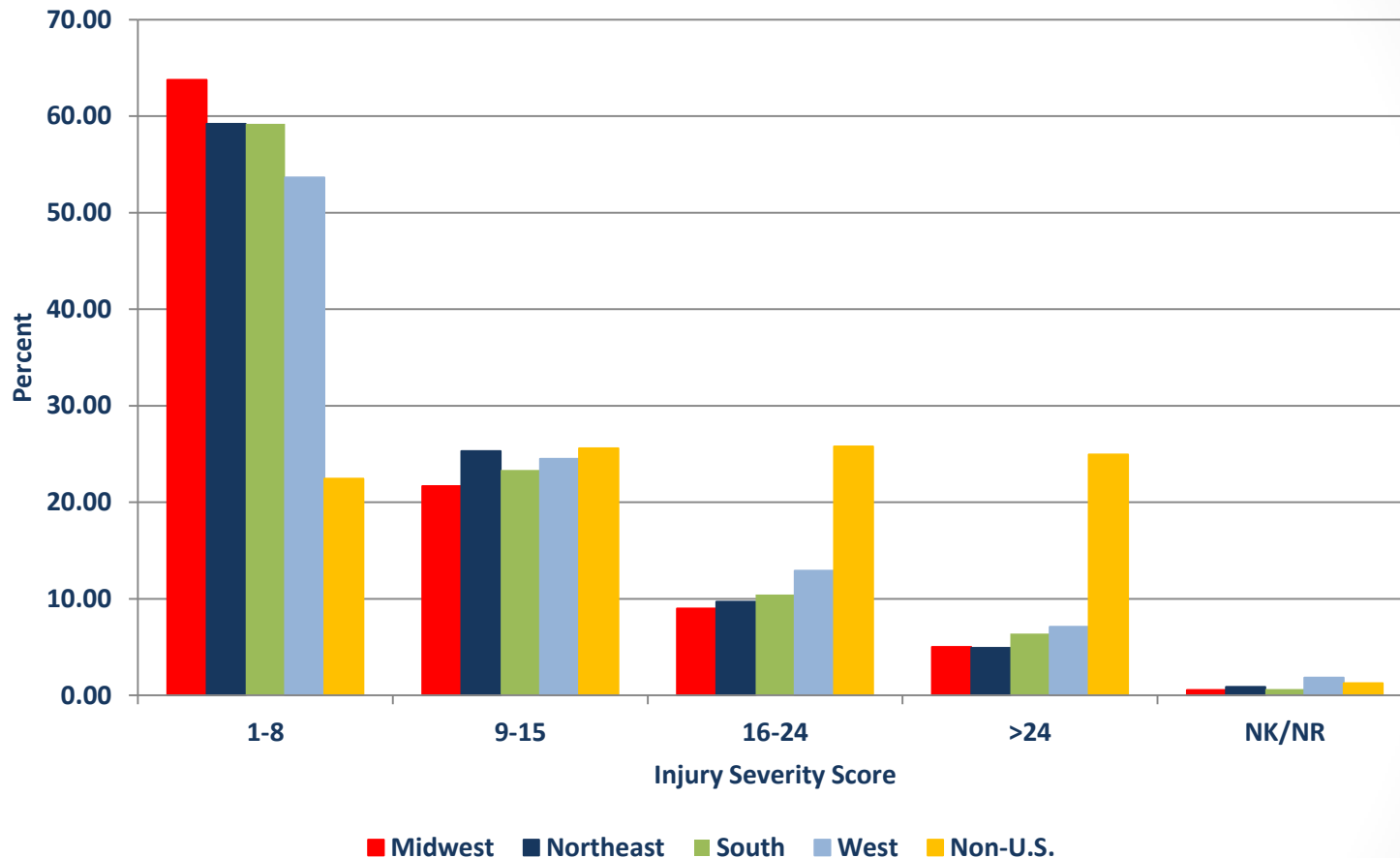
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Figure 39

Injury Severity Score (ISS) by Region



Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.



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Table
40

Incidents by Rurality

CATEGORY	NUMBER	PERCENT
Urban	63,061	79.75
Suburban	5,838	7.38
Rural	8,037	10.16
Wilderness	2,141	2.71
Total	79,077	100

All rurality tables are determined by Urban Influence Codes that are developed by the Office of Management and Budget. Urban influence codes only apply to incidents and are not available for every record in the NTDB.



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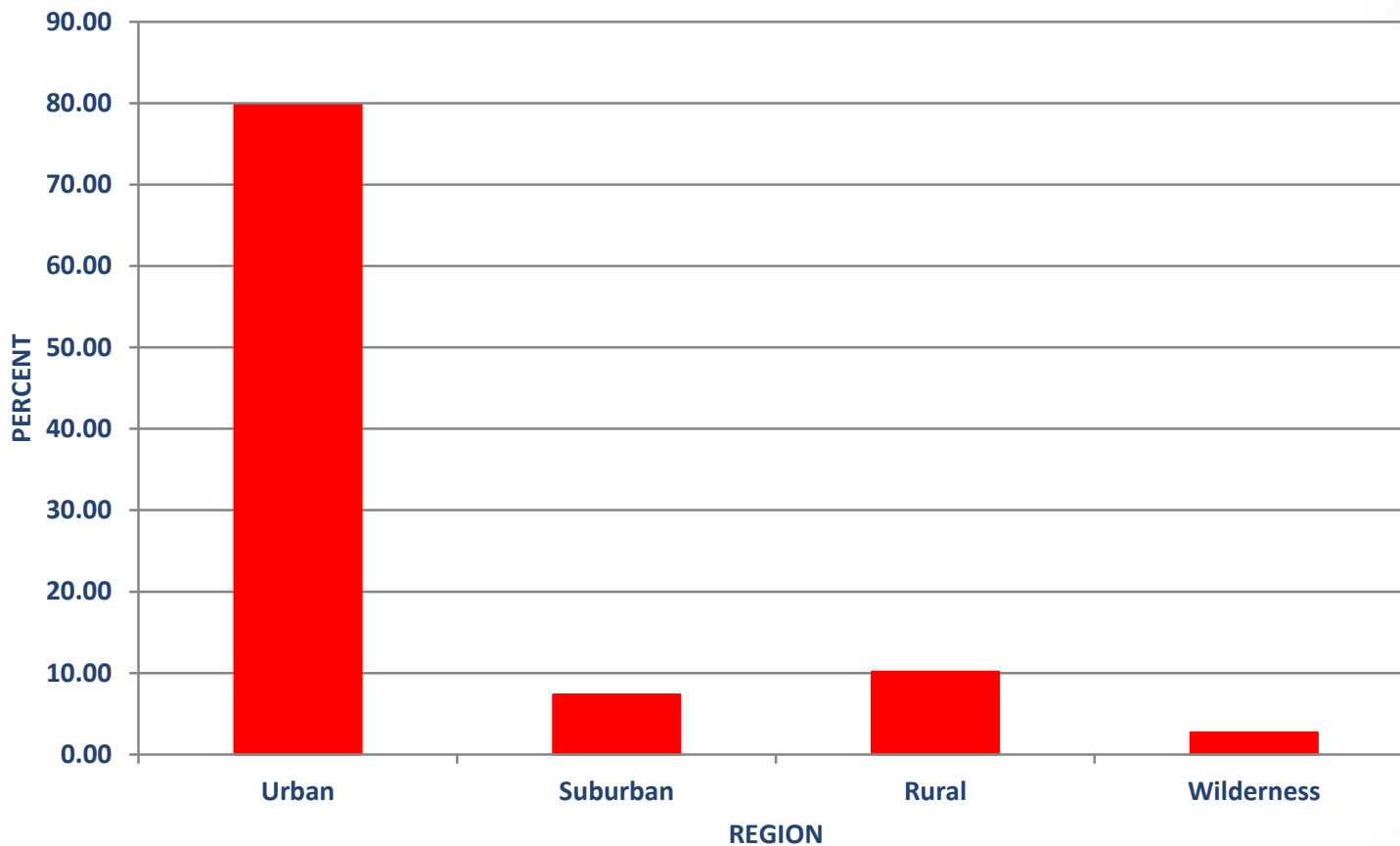
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Figure 40

Incidents by Rurality



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All rurality tables are determined by Urban Influence Codes that are developed by the Office of Management and Budget. Urban influence codes only apply to incidents and are not available for every record in the NTDB.

Table
41

Case Fatality Rate by Rurality

CATEGORY	NUMBER	DEATHS	CASE FATALITY RATE
Urban	63,061	2,140	3.39
Suburban	5,838	143	2.45
Rural	8,037	170	2.12
Wilderness	2,141	28	1.31
Total	79,077	2,481	3.14

All rurality tables are determined by Urban Influence Codes that are developed by the Office of Management and Budget. Urban influence codes only apply to incidents and are not available for every record in the NTDB.



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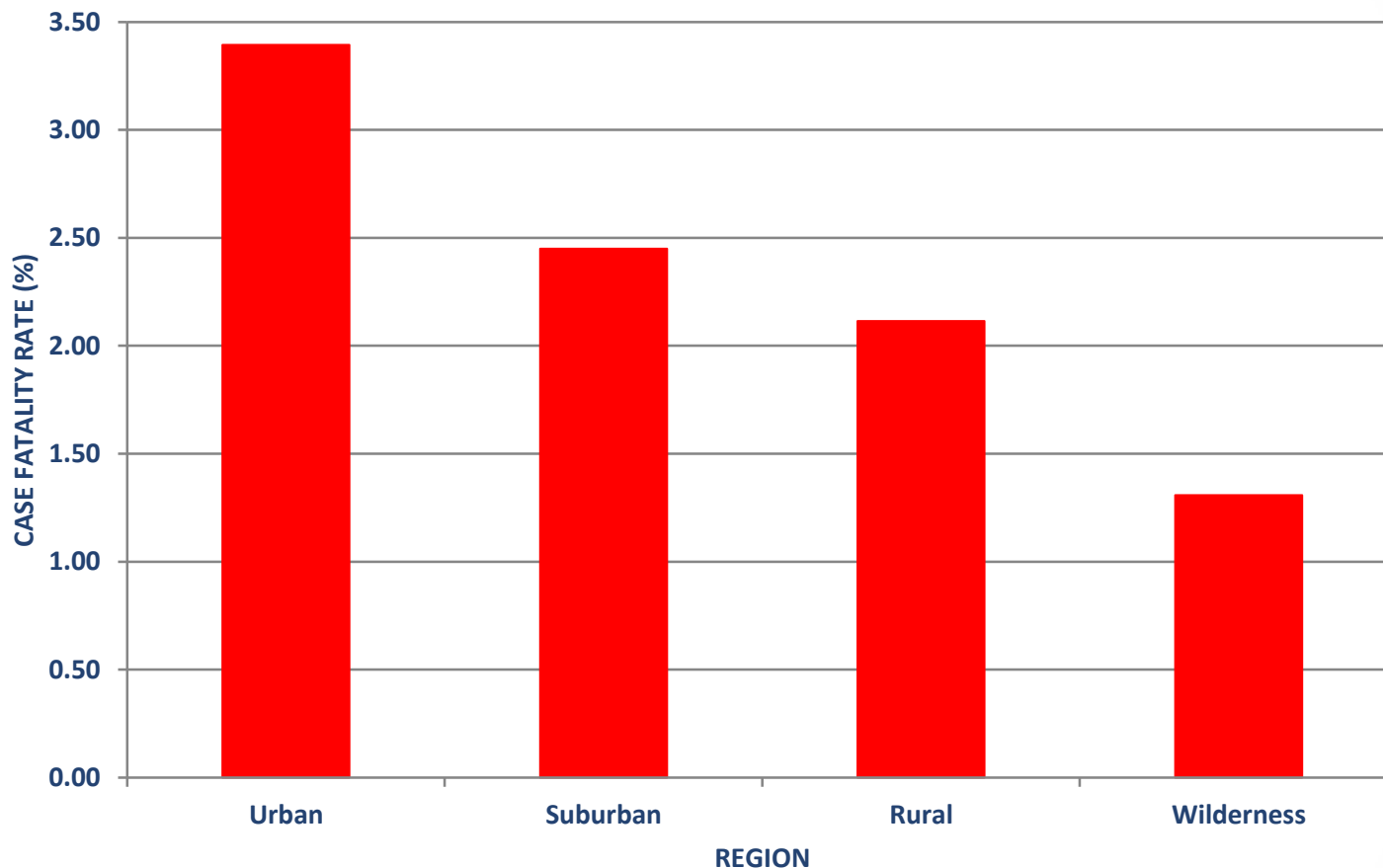
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Figure 41

Case Fatality Rate by Rurality



All rurality tables are determined by Urban Influence Codes that are developed by the Office of Management and Budget. Urban influence codes only apply to incidents and are not available for every record in the NTDB.



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Table
42

Mechanism of Injury by Rurality

MECHANISM	NUMBER (URBAN)	PERCENT (URBAN)	NUMBER (SUBURBAN)	PERCENT (SUBURBAN)	NUMBER (RURAL)	PERCENT (RURAL)	NUMBER (WILDERNESS)	PERCENT (WILDERNESS)
Fall	21,285	33.75	1,729	29.62	2,313	28.78	619	28.91
Motor Vehicle Traffic	15,233	24.16	1,560	26.72	1,987	24.72	520	24.29
Struck by, against	6,211	9.85	538	9.22	734	9.13	179	8.36
Transport, other	3,635	5.76	677	11.60	1,076	13.39	365	17.05
Firearm	3,313	5.25	155	2.66	181	2.25	42	1.96
NK/NR	863	1.37	73	1.25	208	2.59	23	1.07
Cut/pierce	2,180	3.46	120	2.06	194	2.41	44	2.06
Hot object/substance	2,040	3.23	152	2.60	197	2.45	28	1.31
Other specified and classifiable	2,333	3.70	248	4.25	336	4.18	85	3.97
Pedal cyclist, other	1,940	3.08	163	2.79	209	2.60	84	3.92
Natural/environmental, Bites and stings	1,249	1.98	131	2.24	196	2.44	48	2.24
Fire/flare	532	0.84	73	1.25	107	1.33	29	1.35
Unspecified	608	0.96	45	0.77	48	0.60	12	0.56
Other specified, not elsewhere classifiable	344	0.55	22	0.38	32	0.40	11	0.51
Overexertion	362	0.57	26	0.45	40	0.50	8	0.37
Pedestrian, other	356	0.56	25	0.43	52	0.65	5	0.23
Natural/environmental, Other	187	0.30	38	0.65	56	0.70	14	0.65
Machinery	183	0.29	42	0.72	49	0.61	16	0.75
Poisoning	44	0.07	3	0.05	3	0.04	5	0.23
Suffocation	108	0.17	15	0.26	7	0.09	0	0.00
Drowning/submersion	51	0.08	3	0.05	11	0.14	4	0.19
Adverse effects, medical care	3	0.00	0	0.00	0	0.00	0	0.00
Adverse effects, drugs	1	0.00	0	0.00	1	0.01	0	0.00
Total	63,061	100	5,838	100	8,037	100	2,141	100

All rurality tables are determined by Urban Influence Codes that are developed by the Office of Management and Budget. Urban influence codes only apply to incidents and are not available for every record in the NTDB.



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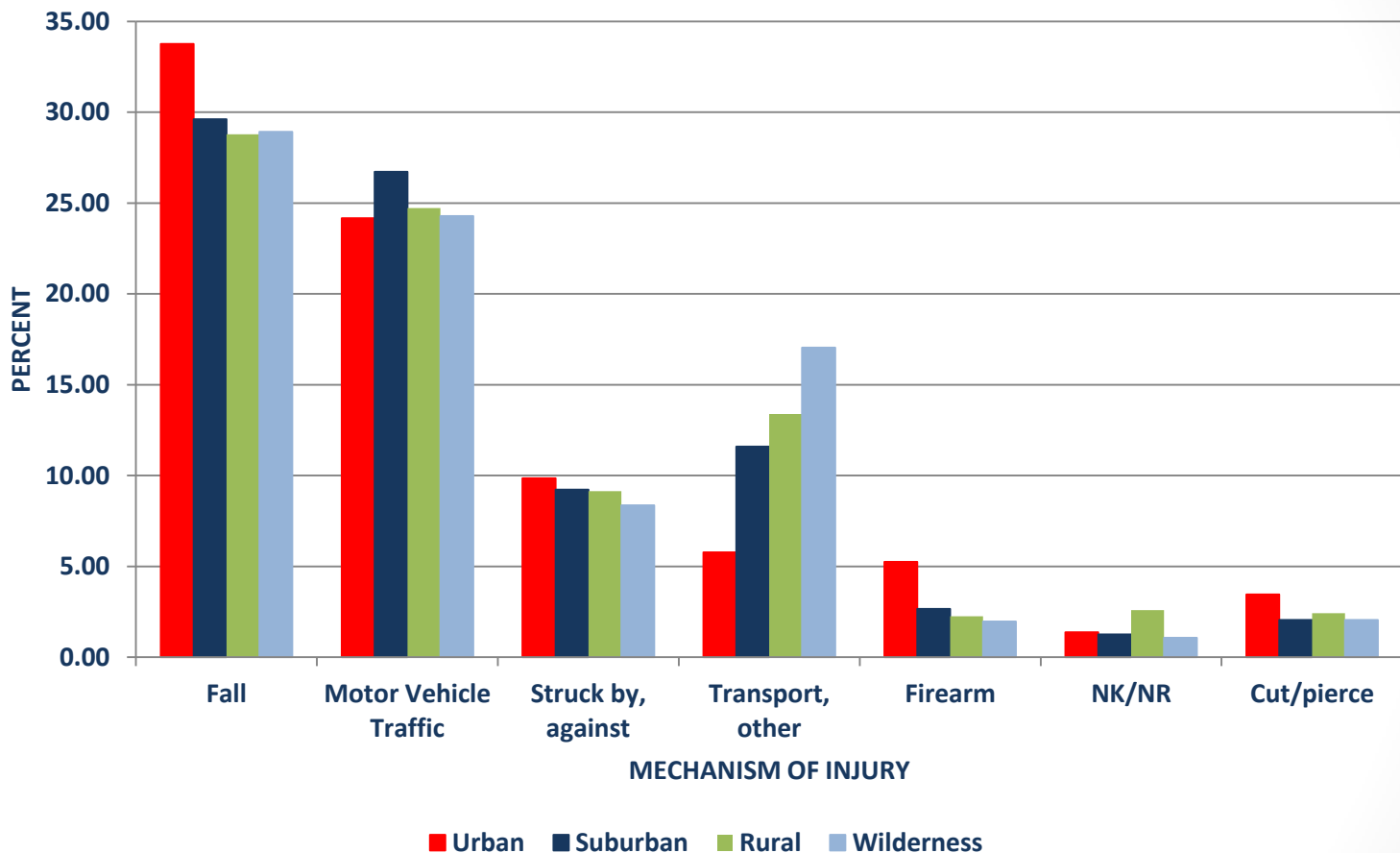
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Figure 42

Selected Mechanism of Injury by Rurality



All rurality tables are determined by Urban Influence Codes that are developed by the Office of Management and Budget. Urban influence codes only apply to incidents and are not available for every record in the NTDB.



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Table
43

Injury Severity Score (ISS) by Rurality

ISS	NUMBER (URBAN)	PERCENT (URBAN)	NUMBER (SUBURBAN)	PERCENT (SUBURBAN)	NUMBER (RURAL)	PERCENT (RURAL)	NUMBER (WILDERNESS)	PERCENT (WILDERNESS)
1-8	38,056	60.35	3,128	53.58	4,469	55.61	1,177	54.97
9-15	14,546	23.07	1,521	26.05	2,032	25.28	549	25.64
16-24	6,360	10.09	739	12.66	929	11.56	246	11.49
>24	3,799	6.02	424	7.26	572	7.12	160	7.47
NK/NR	300	0.48	26	0.45	35	0.44	9	0.42
Total	63,061	100	5,838	100	8,037	100	2,141	100

Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.

All rurality tables are determined by Urban Influence Codes that are developed by the Office of Management and Budget. Urban influence codes only apply to incidents and are not available for every record in the NTDB.



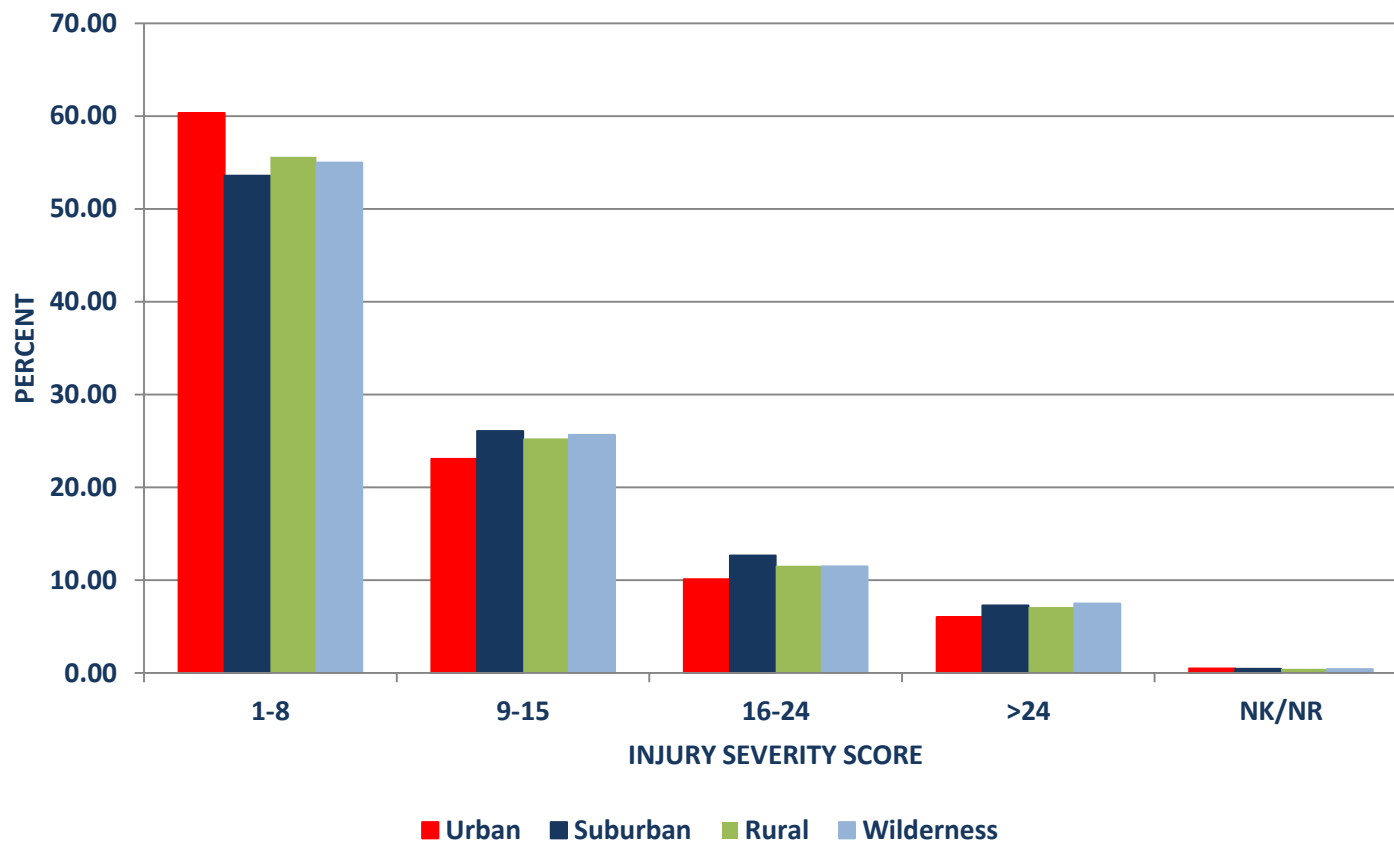
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Figure 43

Injury Severity Score (ISS) by Rurality



Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.

All rurality tables are determined by Urban Influence Codes that are developed by the Office of Management and Budget. Urban influence codes only apply to incidents and are not available for every record in the NTDB.



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COMPARATIVE ANALYSIS



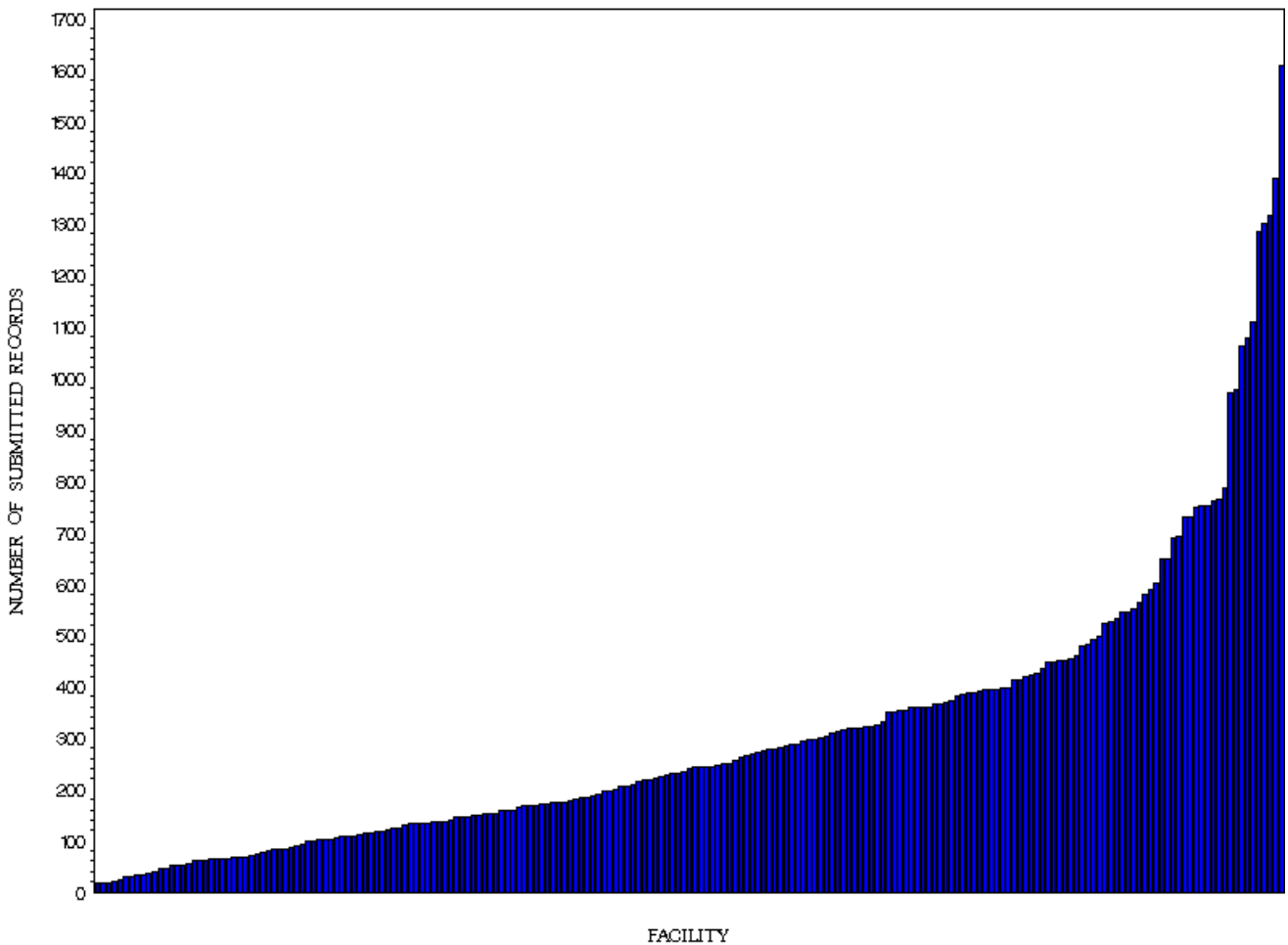
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Figure 44

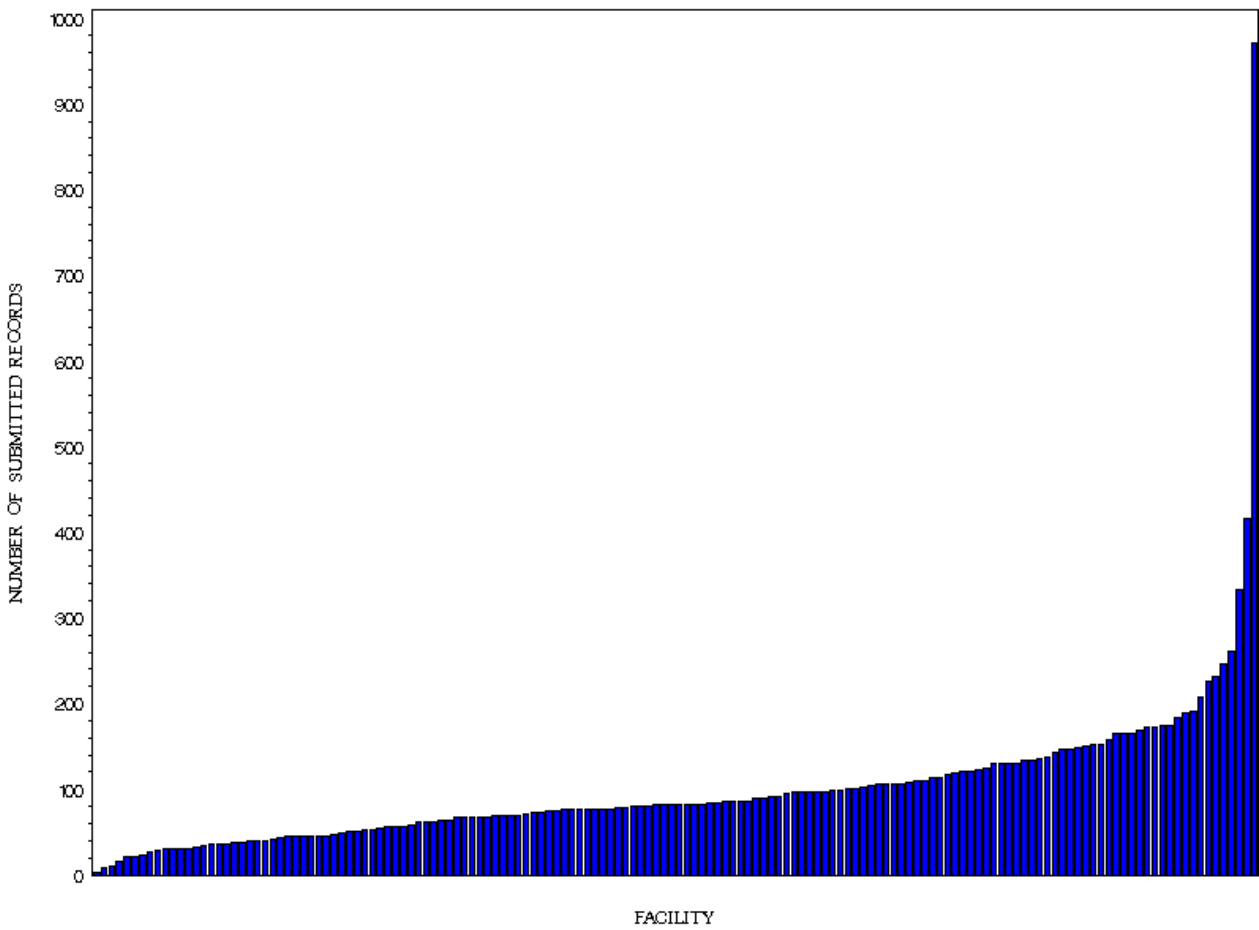
Number of Cases Submitted per Facility for Level I Facilities with Pediatric Cases (N=209)



Only cases with valid trauma diagnosis code per the NTDB criteria are included in the analysis. Trauma level is based on ACS verification and state designation.

Figure 45

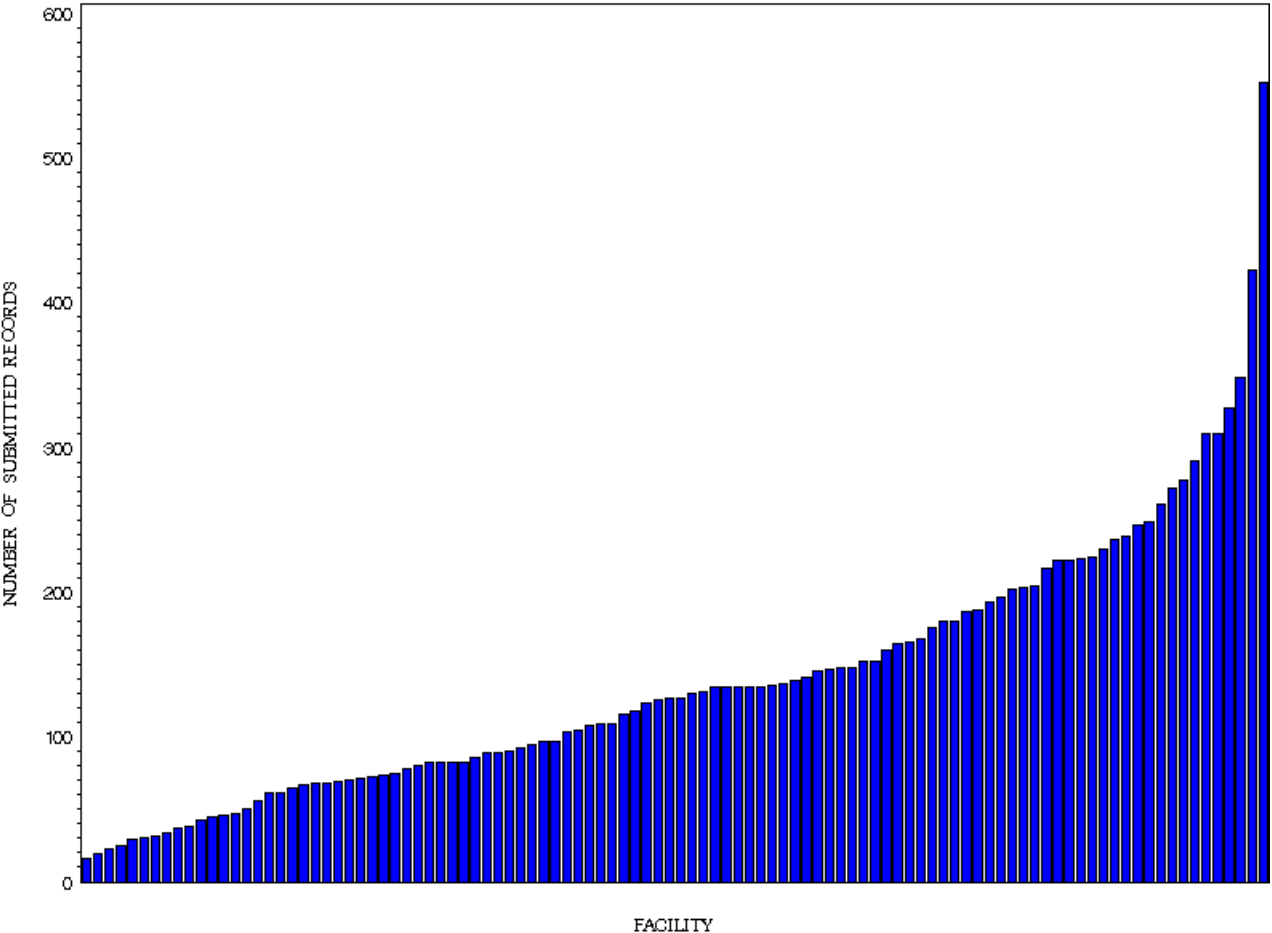
Number of Cases Submitted per Facility for Level II Facilities with Pediatric Cases (Bedsizes ≤ 400 , N=152)



Only cases with valid trauma diagnosis code per the NTDB criteria are included in the analysis. Trauma level is based on ACS verification and state designation.

Figure 46

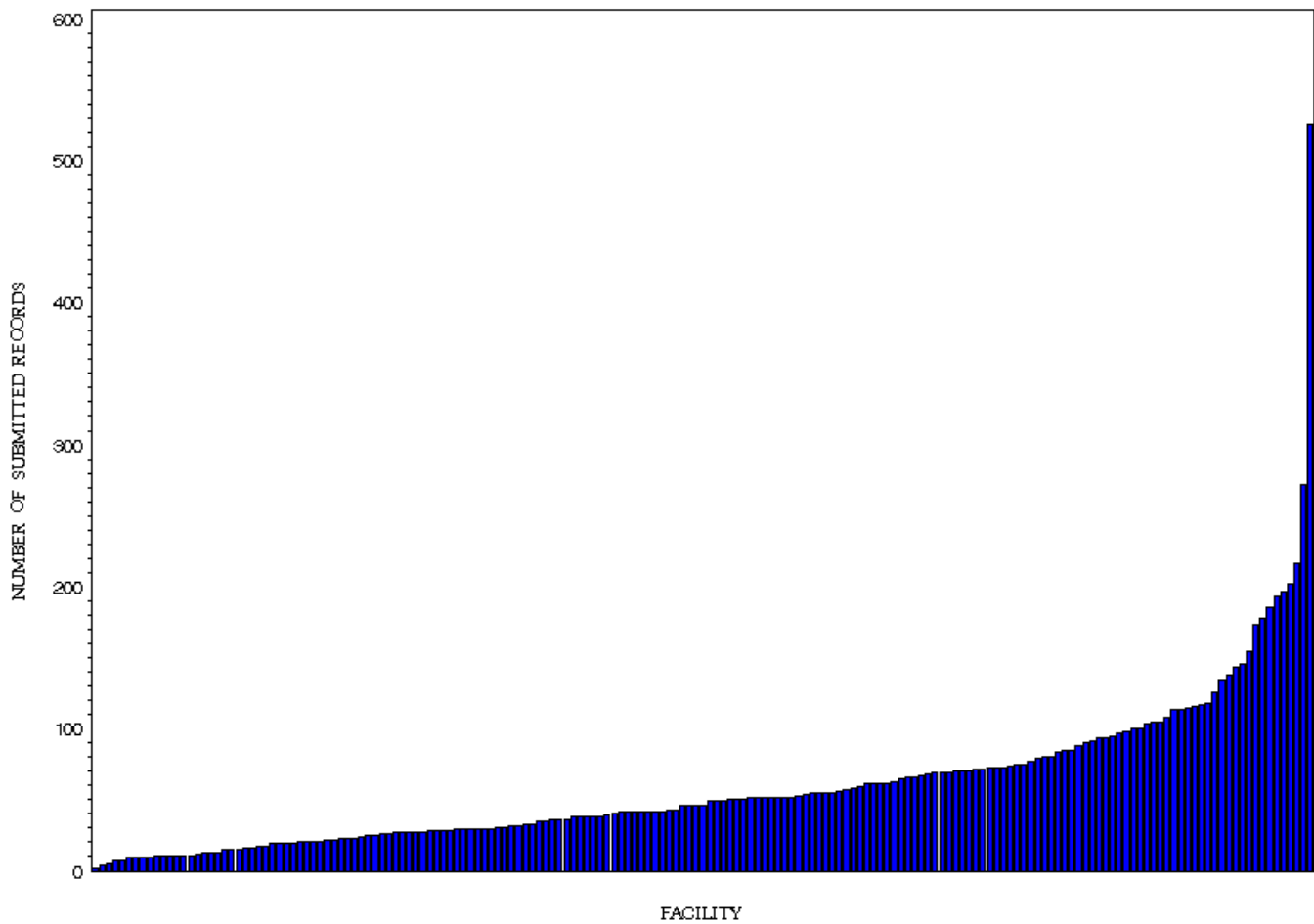
Number of Cases Submitted per Facility for Level II Facilities with Pediatric Cases (Bedsized > 400, N=104)



Only cases with valid trauma diagnosis code per the NTDB criteria are included in the analysis. Trauma level is based on ACS verification and state designation.

Figure 47

Number of Cases Submitted per Facility for Level III Facility with Pediatric Cases (N=179)



Only cases with valid trauma diagnosis code per the NTDB criteria are included in the analysis. Trauma level is based on ACS verification and state designation.



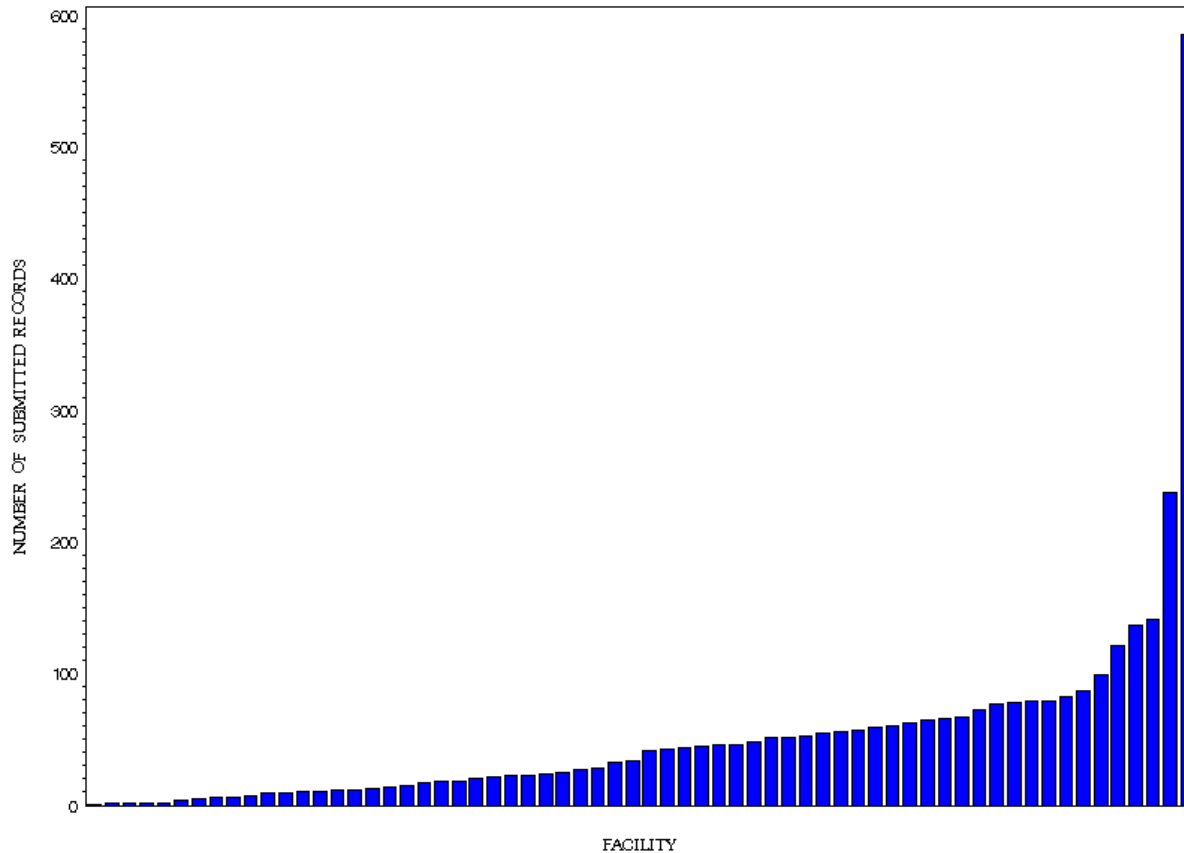
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Figure 48

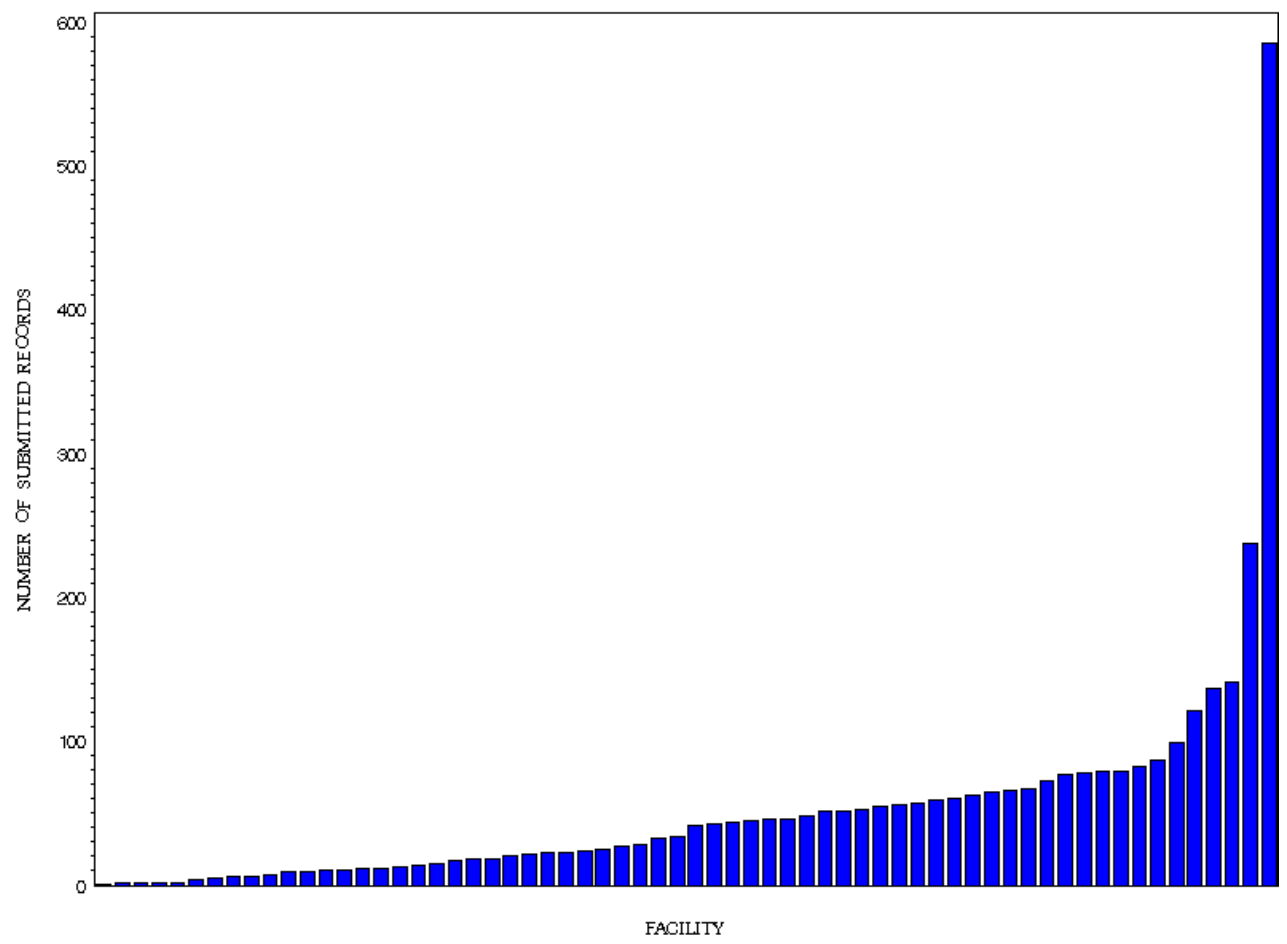
Number of Cases Submitted per Facility for Level IV, NA, or Other Facilities with Pediatric Cases (N=64)



Only cases with valid trauma diagnosis code per the NTDB criteria are included in the analysis. Trauma level is based on ACS verification and state designation.

Figure 49

Number of Cases Submitted per Facility for Pediatric-Only Facilities (N=36)

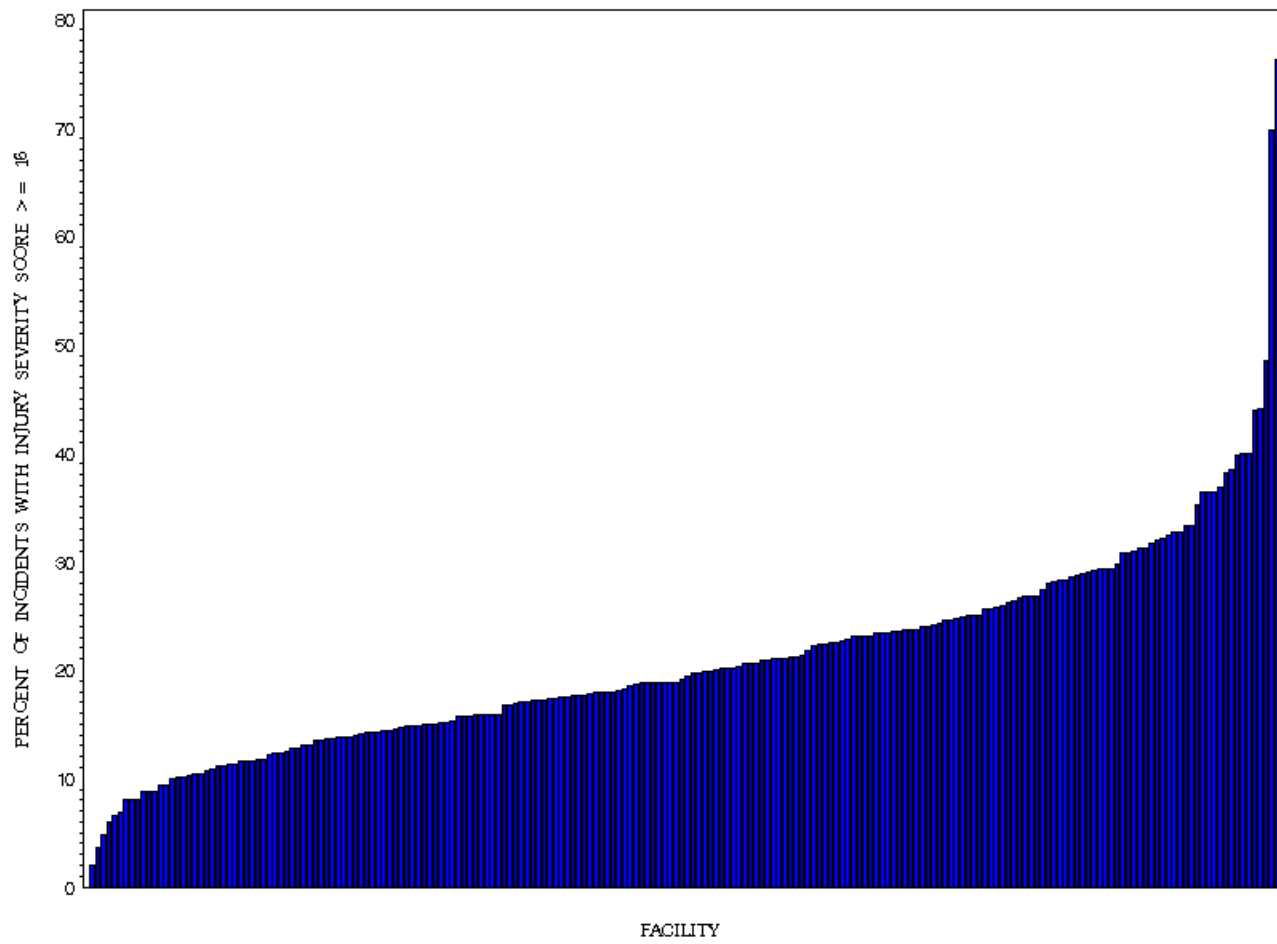


Only cases with valid trauma diagnosis code per the NTDB criteria are included in the analysis. Trauma level is based on ACS verification and state designation.



Figure 50

Percent of Incidents with Injury Severity Score (ISS) ≥ 16 for Level I Facilities with Pediatric Cases (N=209)



One out of 209 hospitals had no records with ISS ≥ 16 . These facilities are omitted from the graph.

Figure 51

Percent of Incidents with Injury Severity Score (ISS) ≥ 16 for Level II Facilities with Pediatric Cases (Bedsize ≤ 400 , N=152)

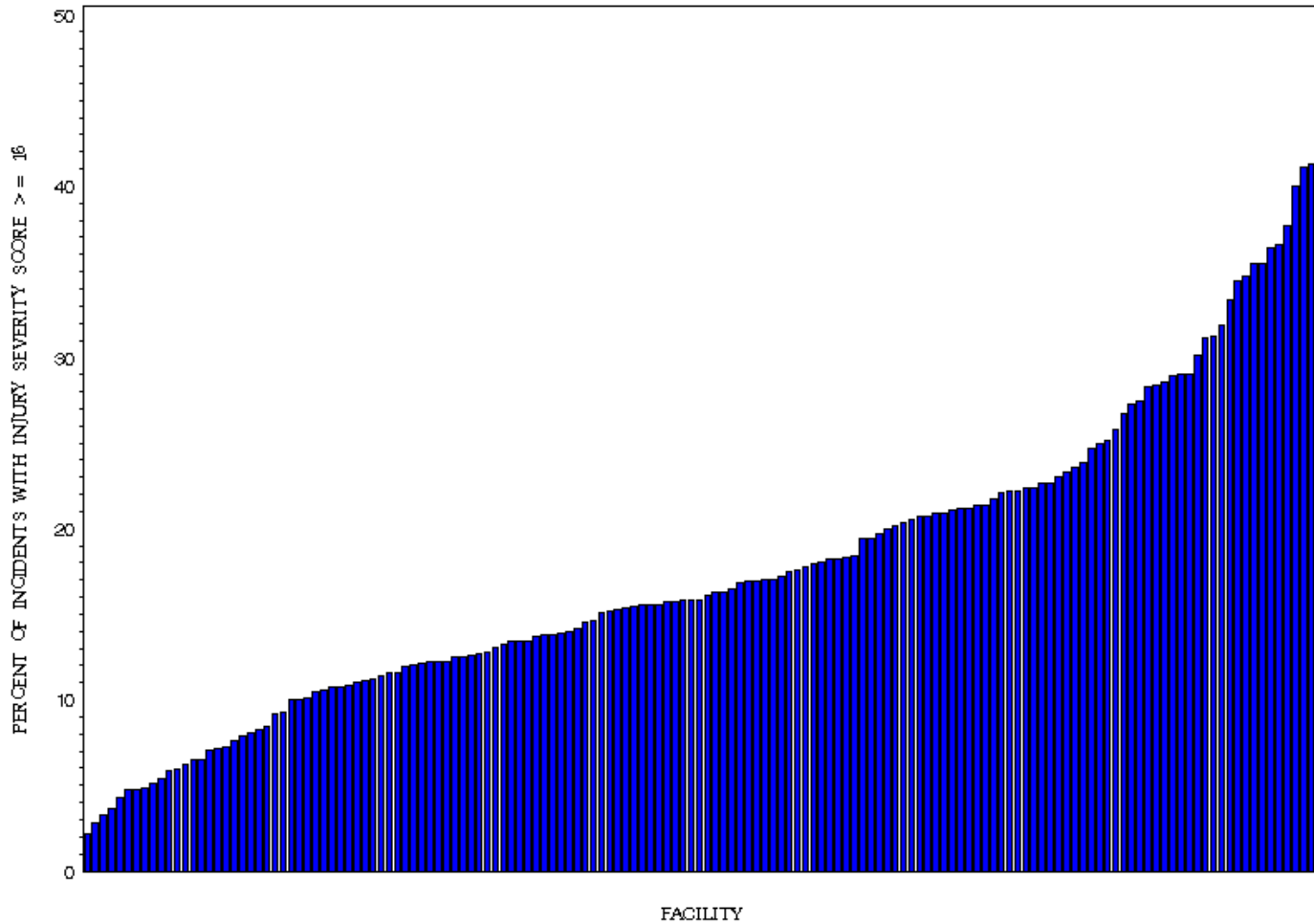
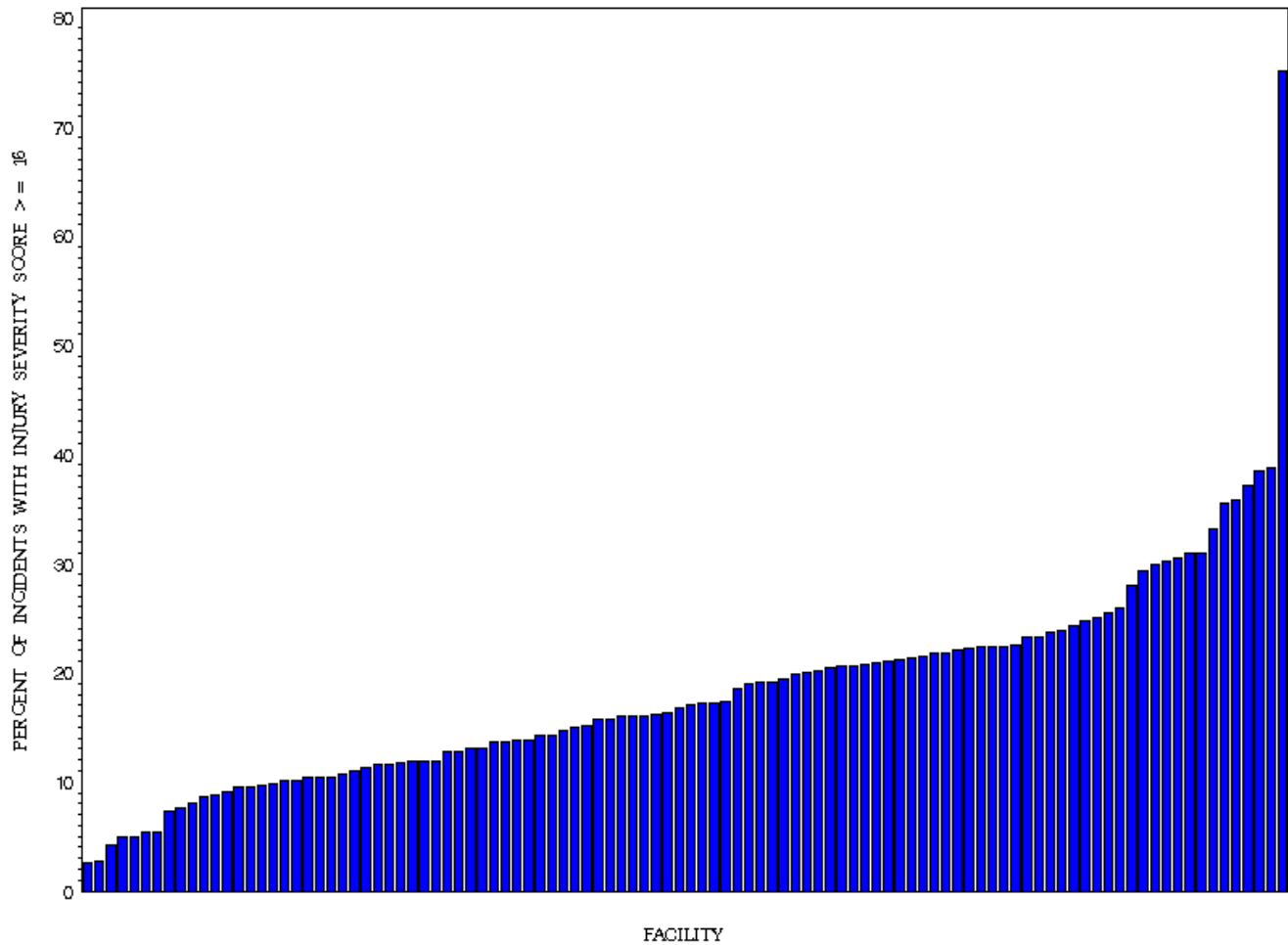


Figure 52

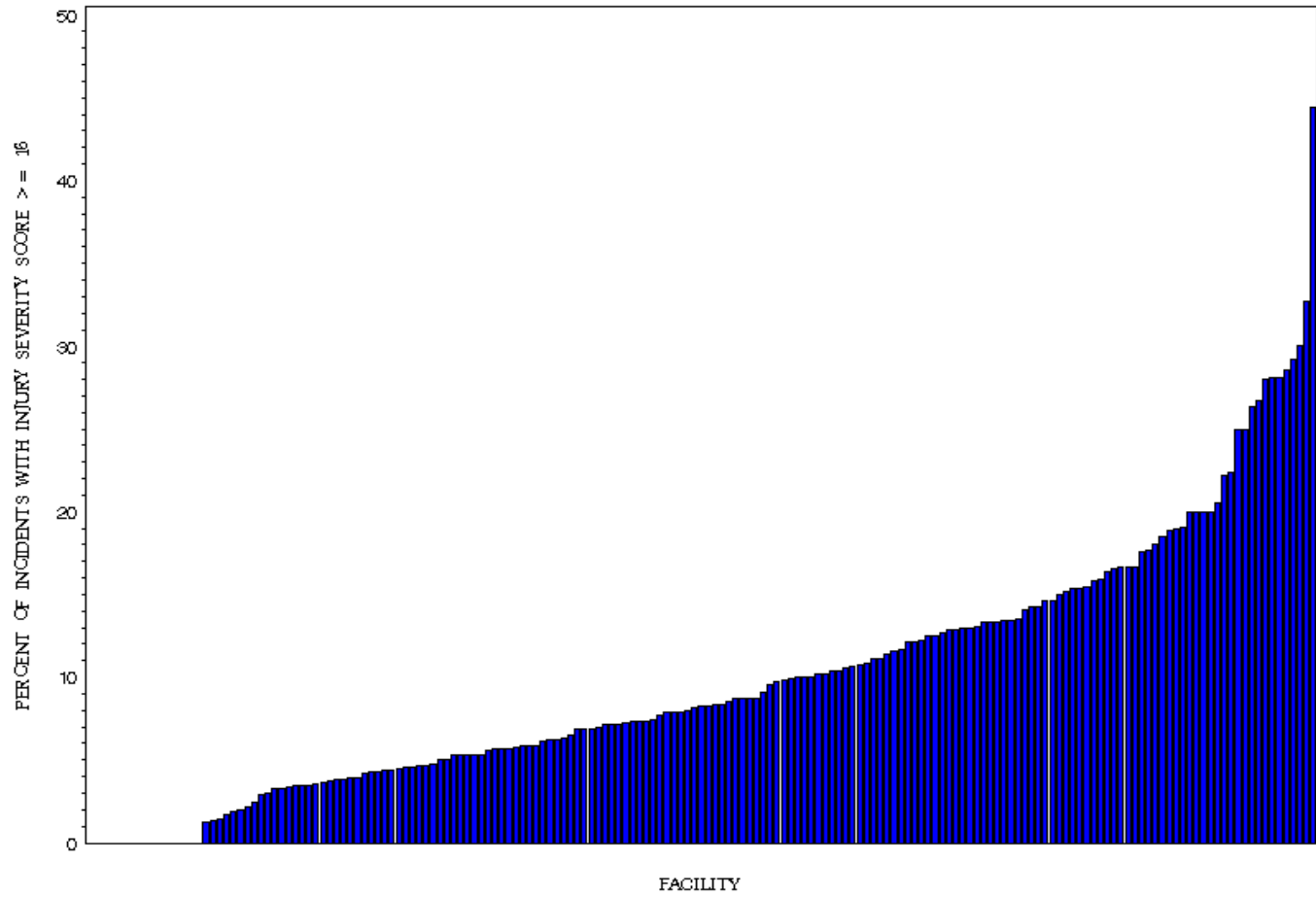
Percent of Incidents with Injury Severity Score (ISS) ≥ 16 for Level II Facilities with Pediatric Cases (Bedsize > 400, N=104)



Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.

Figure 53

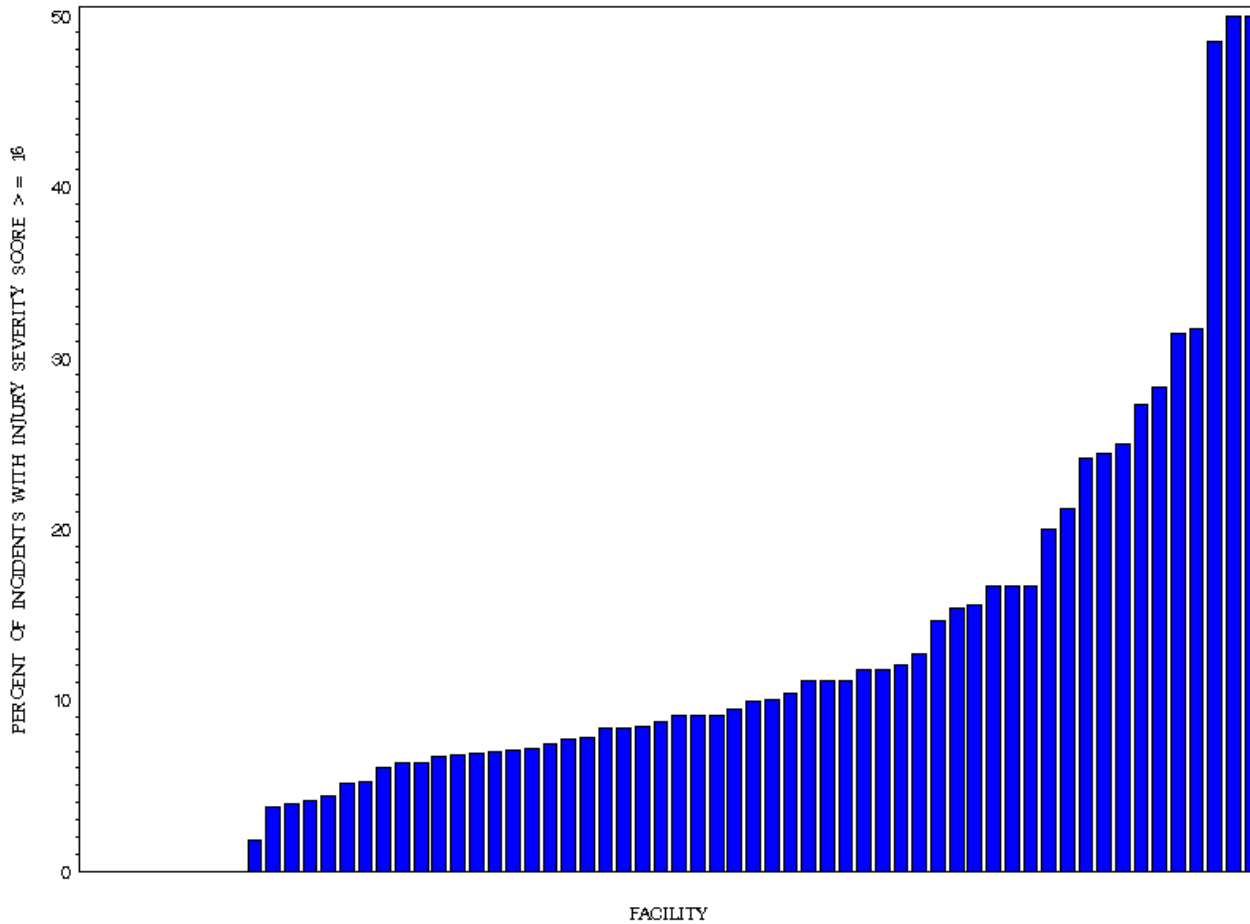
Percent of Incidents with Injury Severity Score (ISS) ≥ 16 for Level III Facilities with Pediatric Cases (N=166)



Seventeen out of 179 hospitals had no records with ISS ≥ 16 . These facilities are omitted from the graph.

Figure 54

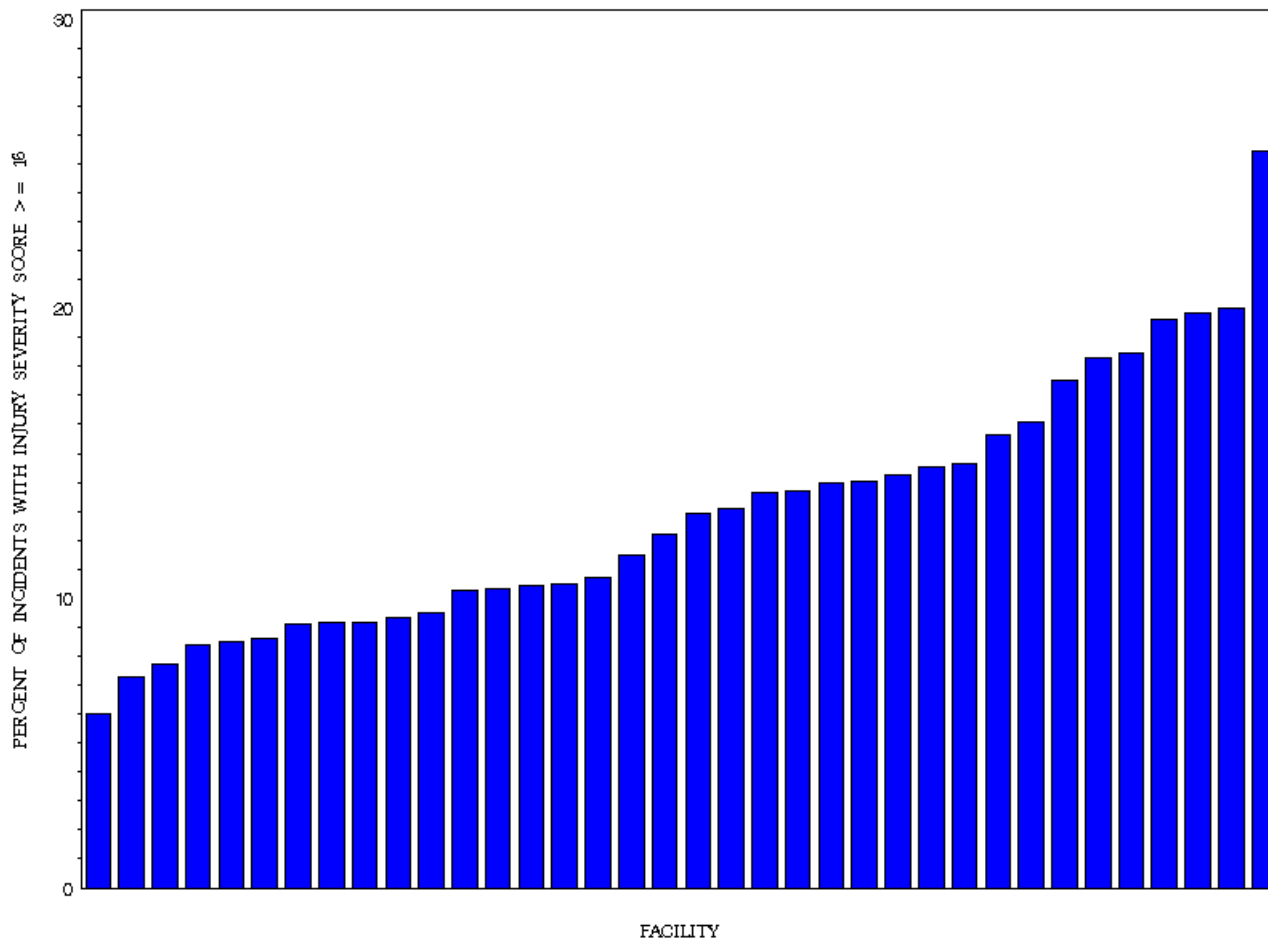
Percent of Incidents with Injury Severity Score (ISS) ≥ 16 for Level IV, NA, or Other Facilities with Pediatric Cases (N=64)



Nine out of 64 hospitals had no records with ISS ≥ 16 . These facilities are omitted from the graph.

Figure 55

Percent of Incidents with Injury Severity Score (ISS) ≥ 16 for Pediatric-Only Facilities (N=36)



Only cases with valid trauma diagnosis code per the NTDB criteria are included in the analysis. Trauma level is based on ACS verification and state designation.



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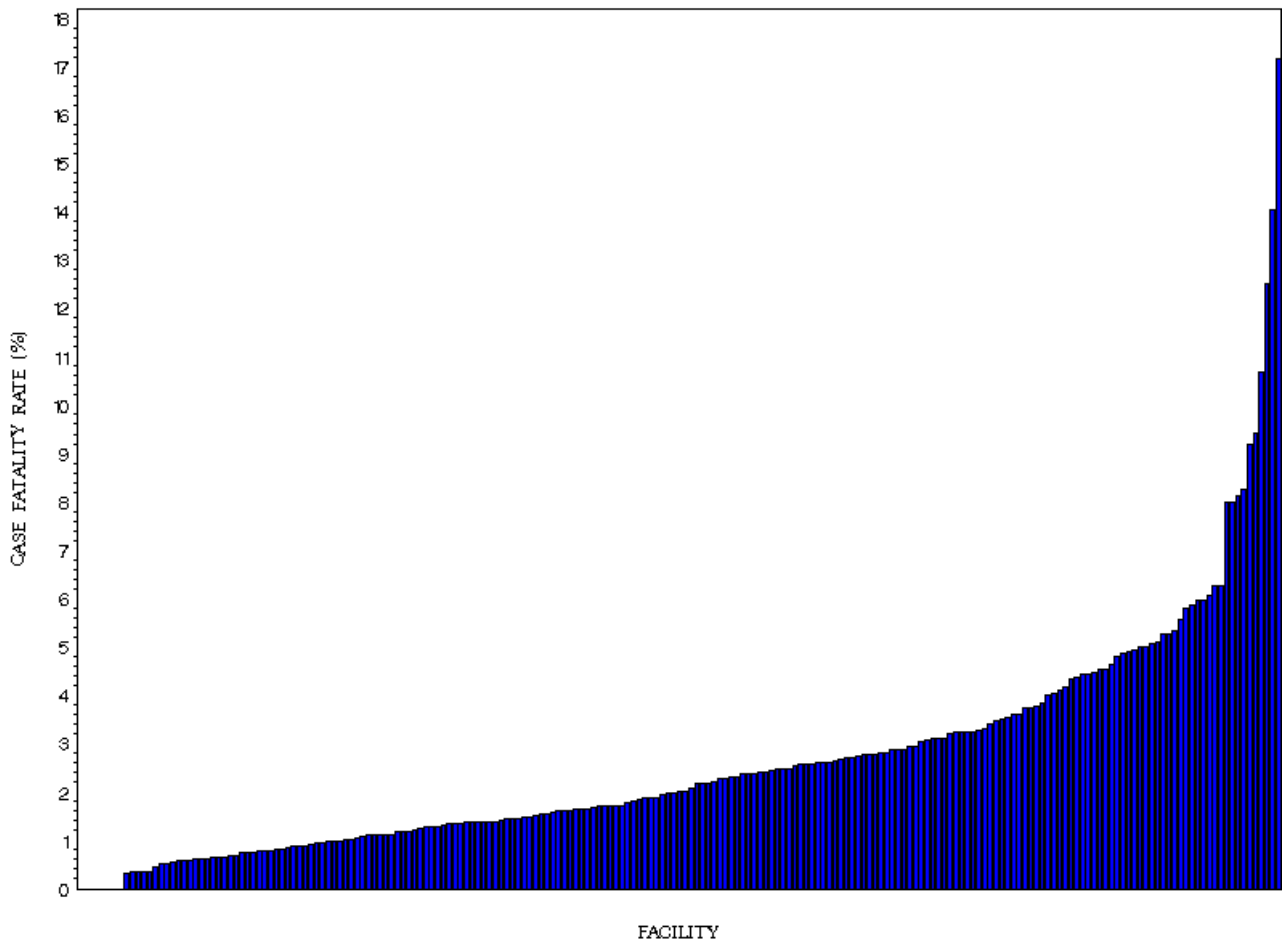
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Injury Severity Score tables are generated using AIS98 Crosswalked ISS. Injury Severity Score definitions can be found in Appendix B.

Figure 56

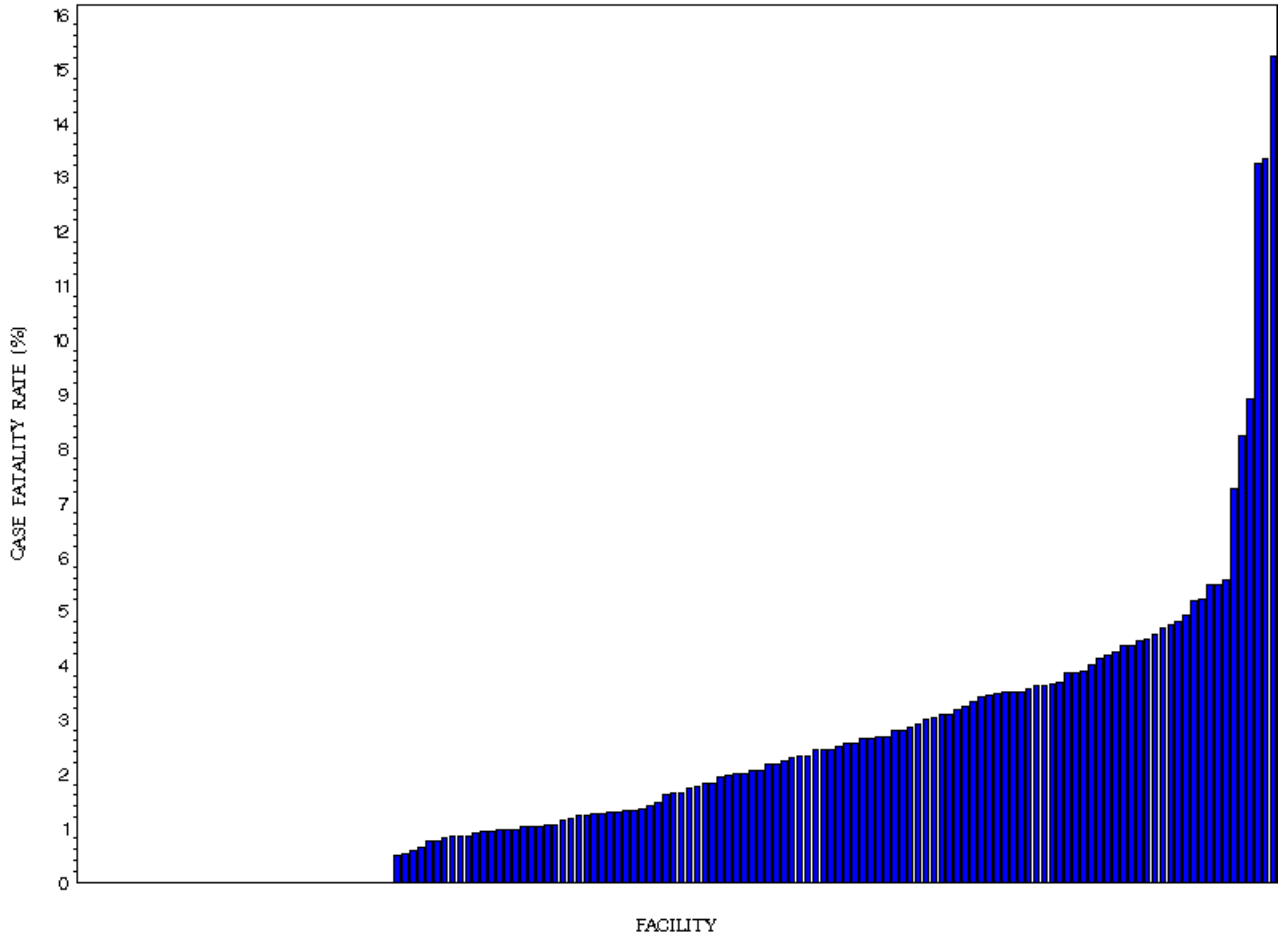
Case Fatality Rate per Facility for Level I Facilities with Pediatric Cases (N=209)



Eight out of 209 hospitals did not have any pediatric patients who died and are not visible in this graph.

Figure 57

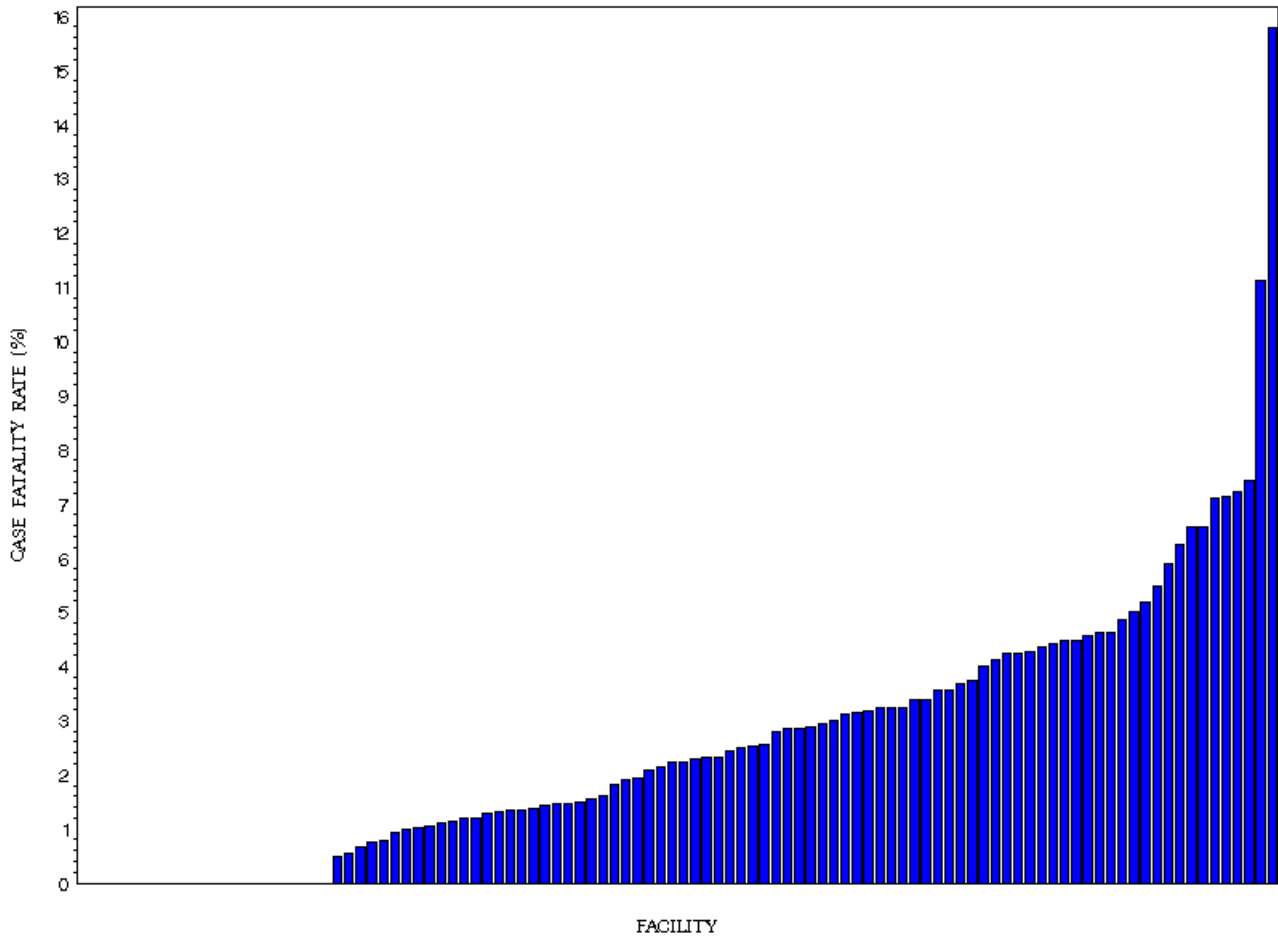
Case Fatality Rate per Facility for Level II Facilities with Pediatric Cases (Bedsize ≤ 400, N=152)



Forty out of 152 hospitals did not have any pediatric patients who died and are not visible in this graph.

Figure 58

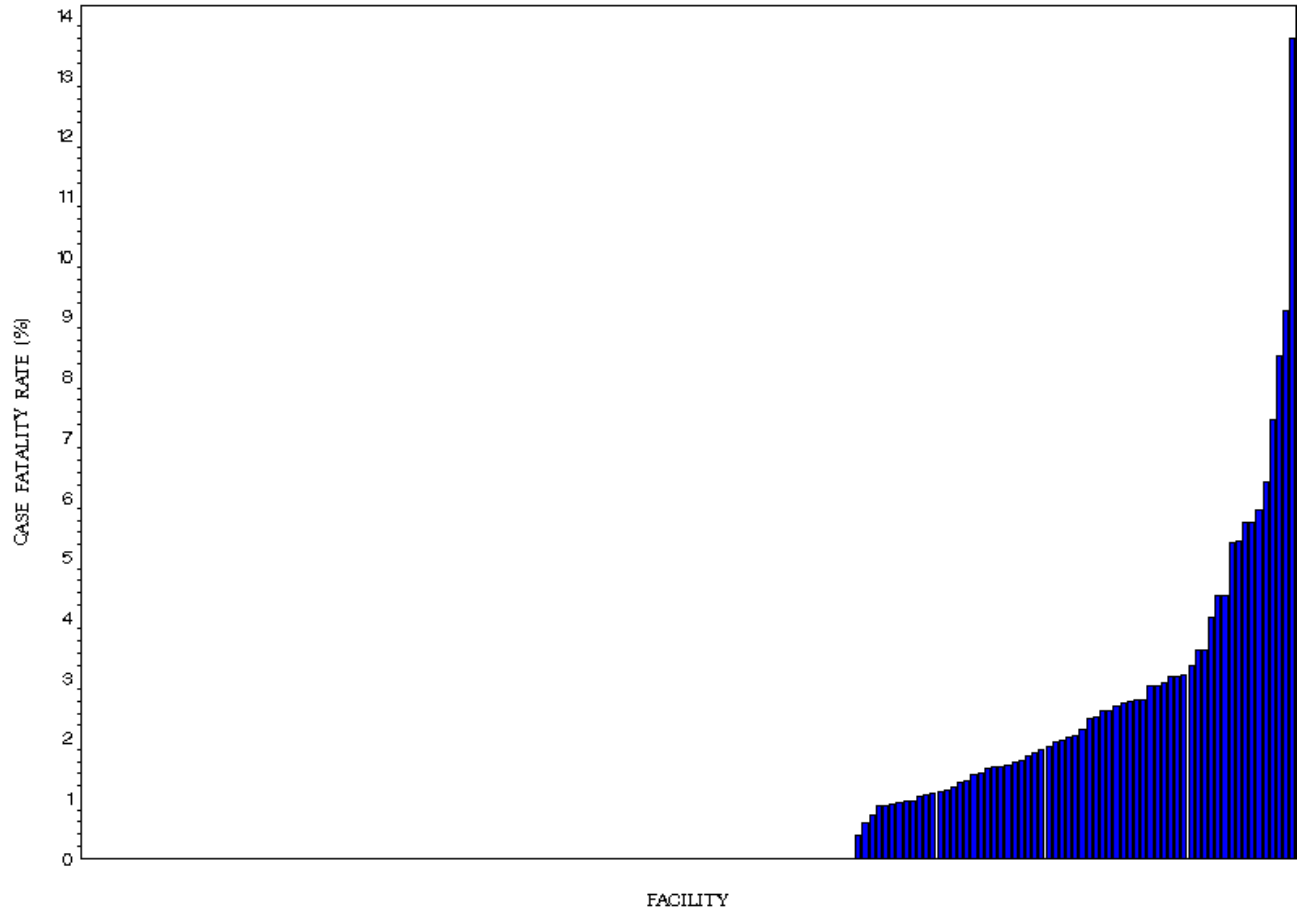
Case Fatality Rate per Facility for Level II Facilities with Pediatric Cases (Bedsize > 400, N=104)



Twenty-two out of 104 hospitals did not have any pediatric patients who died and are not visible in this graph.

Figure 59

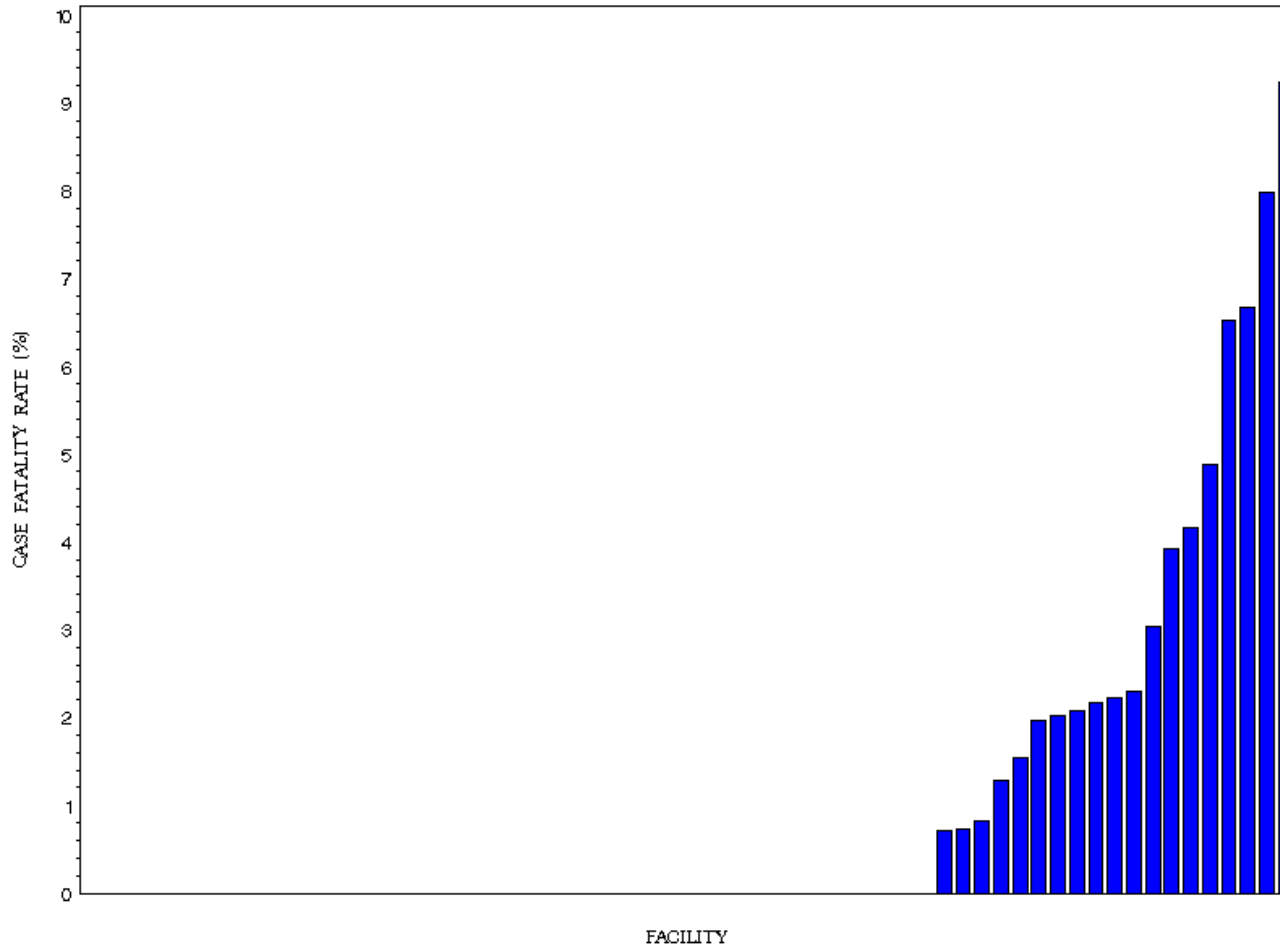
Case Fatality Rate per Facility for Level III Facilities with Pediatric Cases (N=179)



One hundred fourteen out of 179 hospitals did not have any pediatric patients who died and are not visible in this graph.

Figure 60

Case Fatality Rate per Facility for Level IV Facilities, NA, or other Facilities with Pediatric Cases (N=64)

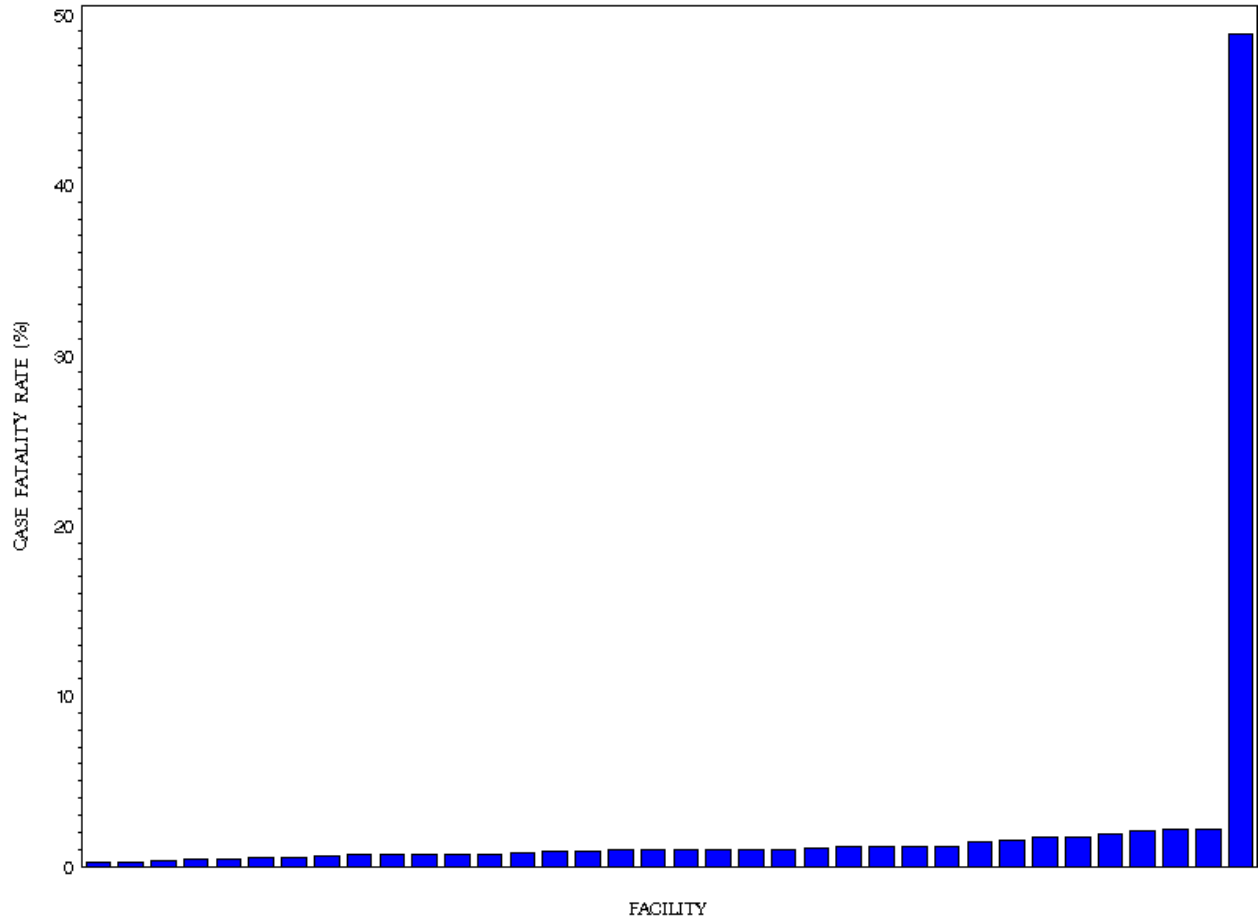


Forty-five out of 64 hospitals did not have any pediatric patients who died and are not visible in this graph.



Figure 61

Case Fatality Rate per Facility for Pediatric-Only Facilities (N=36)



Only cases with valid trauma diagnosis code per the NTDB criteria are included in the analysis. Pediatric-only facilities is based on trauma level and is based on ACS verification and state designation.



APPENDICES



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APPENDIX A

Definition of a Trauma Patient

Definition of a Trauma Patient Adopted by the NATIONAL TRAUMA DATA BANK®

At least one of the following injury diagnostic codes defined
in the International Classification of Diseases, Ninth
Revision, Clinical Modification

ICD-9-CM:

800-959.9

Excluding the following isolated injuries:

- 905-909.9 (late effects of injury)
- 910-924.9 (superficial injuries, including blisters, contusions, abrasions, and insect bites)
- 930-939.9 (foreign bodies)

**AND MUST INCLUDE ONE OF THE FOLLOWING IN
ADDITION TO (ICD-9-CM 800-959.9):**

- Hospital admission as defined by your trauma registry inclusion criteria; **OR**
- Patient transfer via EMS transport (including air ambulance) from one hospital to another hospital; **OR**
- Death resulting from the traumatic injury (independent of hospital admission or hospital transfer status)

ICD-10-CM:

S00-S99, T07, T14, T20-T28, T30-T32 and T79.A1-T79.A9

Excluding the following isolated injuries:

- S00, S10, S20, S30, S40, S50, S60, S70, S80, S90

**AND MUST INCLUDE ONE OF THE FOLLOWING IN
ADDITION TO THE CODES LISTED ABOVE:**

- Hospital admission as defined by your trauma registry inclusion criteria; **OR**
- Patient transfer via EMS transport (including air ambulance) from one hospital to another hospital; **OR**
- Death resulting from the traumatic injury (independent of hospital admission or hospital transfer status)



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APPENDIX B

Comparative Injury Severity Score (ISS) Definitions

Local ISS: Injury Severity Scores as submitted by the facility.

AIS Submitted: Injury Severity Scores as calculated by the NTDB from AIS codes submitted by the facility.

AIS98 Crosswalked: Injury Severity Scores as calculated using AIS submitted by hospitals and then crosswalked to AIS98. If hospital does not submit AIS98 then ISS is based on AIS derived from ICDMAP-90.

AIS ICDMAP-90: Injury Severity Scores as calculated by the NTDB using ICD-9-CM diagnosis codes that are mapped to AIS90 codes using ICDMAP-90 software.



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APPENDIX C

E-Code Grouping: Recommended Framework for E-Code Groupings for Presenting Injury Mortality and Morbidity Data

Mechanism/Cause	Manner/Intent				
	Unintentional	Self-Inflicted	Assault	Undetermined	Other
Cut/pierce	E920.0-.9	E956	E966	E986	E974
Drowning/ submersion	E830.0-.9, E832.0-.9, E910.0-.9	E954	E964	E984	
Fall	E880.0-E886.9, E888	E957.0-.9	E968.1	E987.0-.9	
Fire/burn ³	E890.0-E899, E924.0-.9	E958.1,.2,.7	E961, E968.0,.3, E979.3	E988.1,.2,.7	
Fire/flame ³	E890.0-E899	E958.1	E968.0, E979.3	E988.1	
Hot object/ substance	E924.0-.9	E958.2,.7	E961,E968.3	E988.2,37	
Firearm ³	E922.0-.3,.8,.9	E955.0-.4	E965.0-4, E979.4	E985.0-.4	E970
Machinery	E919 (.0-.9)				
Motor vehicle traffic ^{2,3}	E810-E819 (.0-.9)	E958.5	E968.5	E988.5	
Occupant	E810.-E819 (.0,.1)				
Motorcyclist	E810-E819 (.2,.3)				
Pedal cyclist	E810-E819 (.6)				
Pedestrian	E810-E819 (.7)				
Unspecified	E810-E819 (.9)				
Pedal cyclist, other	E800-E807 (.3) E820-E825 (.6), E826.1,.9 E827-E829(.1)				
Pedestrian, other	E800-E807(.2) E820-E825(.7) E826-E829(.0)				

APPENDIX C

E-Code Grouping: Recommended Framework for E-Code Groupings for Presenting Injury Mortality and Morbidity Data

Mechanism/Cause	Manner/Intent				
	Unintentional	Self-Inflicted	Assault	Undetermined	Other
Transport, other	E800-E807 (.0,.1,.8,.9) E820-E825 (.0-.5,.8,.9) E826.2-.8 E827-E829 (.2-.9) E831.0-.9, E833.0-E845.9	E958.6		E988.6	
Natural/environmental	E900.00-E909, E928.0-.2	E958.3		E958.3	
Bites/stings ³	E905.0-.6,.9 E906.0-.4,.5,.9				
Overexertion	E927				
Poisoning	E850.0-E869.9	E950.0-E952.9	E962.0-.9, E979.6,.7	E980.0-E982.9	E972
Struck by, against	E916-E917.9		E960.0; E968.2		E973, E975
Suffocation	E911-E913.9	E953.0-.9	E963	E983.0-.9	
Other specified and classifiable ^{3,4}	E846-E848, E914-E915 E918, E921.0-39, E922.4,.5 E923.0-.9, E925.0-E926.9 E928(.3-.5), E929.0-.5	E9555,.6,.7,.9 E958.0,.4	E960.1,E965.5-.9 E967.0-.9, E968.4,.6,.7 E979 (.0-.2,.5,.8,.9)	E985.5,.6,.7 E988.0,.4	E971, E978 E990-E994, E996 E997.0-.2
Unspecified	E887. E928.9, E929.9	E958.9	E968.9	E988.9	E976, E997.9
All Injury ³	E800-E869, E880-E929	E950-E959	E960-E969, E979, E999.1	E980-E989	E970-E978, E990- E999.0
Adverse effects					E870-E879 E930.0-E949.9
Medical care					E870-E879
Drugs					E930.0-E949.9
All external causes					E800-E999

APPENDIX C

E-Code Grouping: Table Notes

¹Includes legal intervention (E970-E978) and operations of war (E990-E999).

²Three 4th-digit codes (.4 [occupant of streetcar], .5 [rider of animal], .8 [other specified person]) are not presented separately because of small numbers. However, because they are included in the overall Motor vehicle traffic category, the sum of these categories can be derived by subtraction.

³Codes in bold are for morbidity coding only. For details see Table 2.

⁴E849 (place of occurrence) has been excluded from the matrix. For mortality coding, an ICD-9 E849 code does not exist. For morbidity coding, an ICD-9-CM E849 code should never be first-listed E-code and should only appear as an additional code to specify the place of occurrence of the injury incident.

Note: ICD-9 E codes for coding underlying cause of death apply to injury-related death data from 1979 through 1998. Then there is a new ICD-10 external cause of injury matrix that applies to death data from 1999 and after. This can be found on the National Center for Health Statistics website at <http://www.cdc.gov/nchs/about/otheract/ice/projects.htm>.

Reference MM WR 1997; 46:1-30. Updated last time in 2009.



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Resources

- www.ntdb.org for more information about NTDB
- www.ntdbdatacenter.com to submit data to NTDB
- www.facs.org/quality-programs/trauma/ntdb/ntds for information on the data standard



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