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**NTDB**<sup>®</sup>  
NATIONAL TRAUMA DATA BANK

# National Trauma Data Bank 2011

## Pediatric Report

## ACKNOWLEDGMENTS

The American College of Surgeons Committee on Trauma wishes to thank the Centers for Disease Control and Prevention (CDC) for their support of the NTDB.



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# NTDB PEDIATRIC REPORT 2011

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## EDITOR'S NOTE

The Pediatric Report of the National Trauma Data Bank 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 5 million records. The 2011 Pediatric Report is based on 146,953 2010 admission year records from 692 facilities.

For the third year, we are including an expanded section on facility information. In addition to the usual information on hospital characteristics such as bed size and trauma level, we have now included information on registry inclusion criteria for participating hospitals. This information allows the reader to consider differences in case mix across hospitals while reading the report.

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 hope 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 <http://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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# FACILITY INFORMATION



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Table  
1

## Pediatric-Only Facilities by Trauma Level

LEVEL	NUMBER	PERCENT
I	23	82.14
II	5	17.86
Total	28	100.00

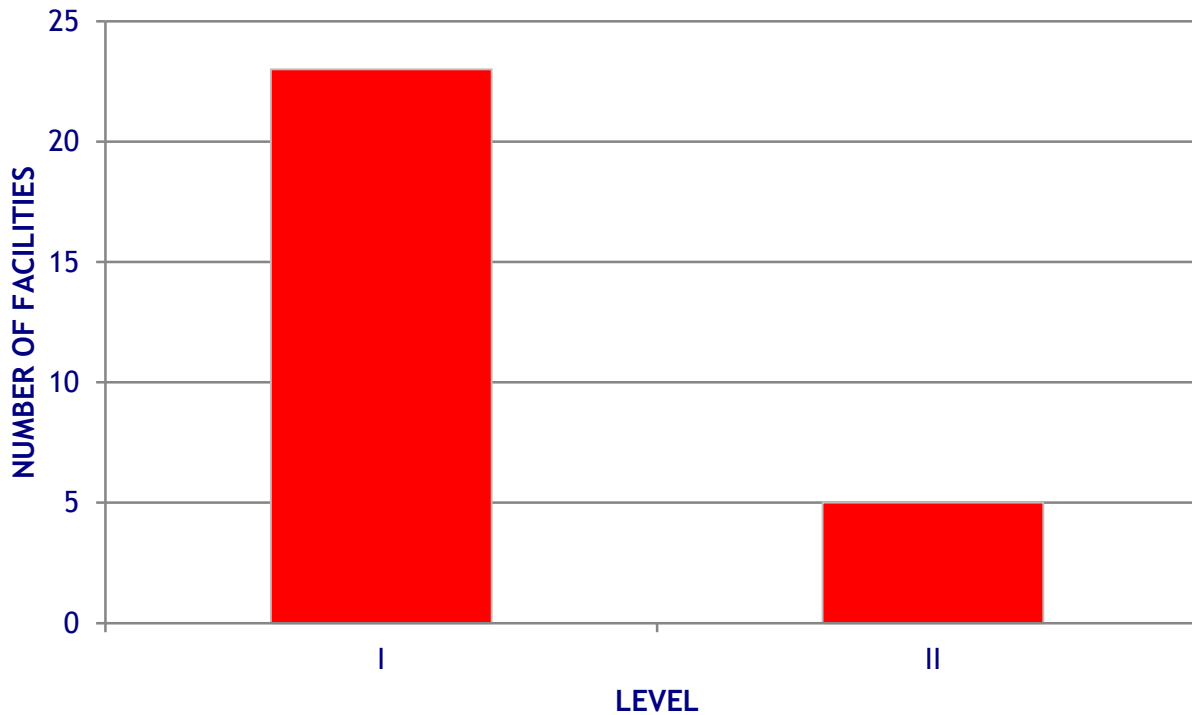


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Figure 1

## Pediatric-Only Facilities by Trauma Level



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Table  
2

## Facilities by Pediatric Hospital Association

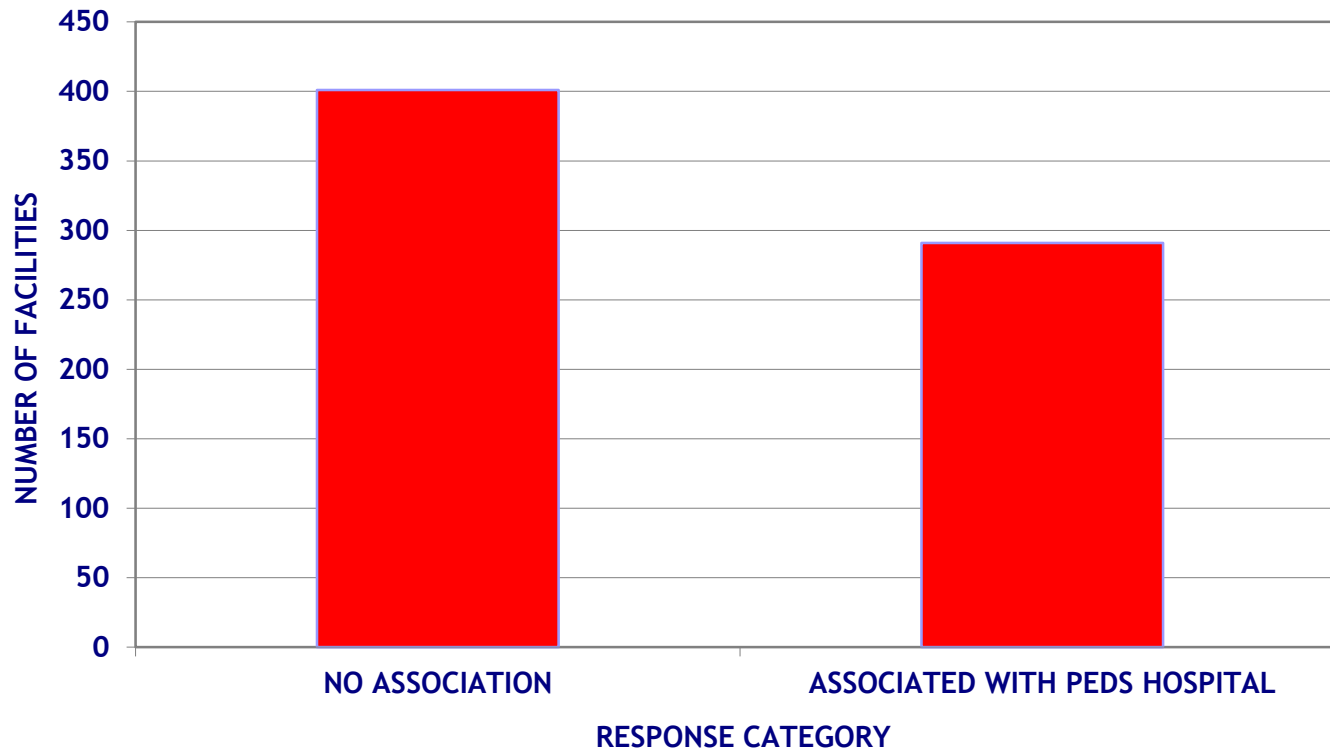
PEDIATRIC ASSOCIATION	NUMBER	PERCENT
NO ASSOCIATION	401	57.95
ASSOCIATED WITH PEDS HOSPITAL	291	42.05
Total	692	100.00





Figure 2

## Facilities by Pediatric Hospital Association



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Table  
3

## Facilities by Presence of Pediatric Ward

PEDIATRIC WARD	NUMBER	PERCENT
NO	227	32.80
YES	465	67.20
Total	692	100.00

This excludes five facilities with no pediatric patients (patients aged <20)

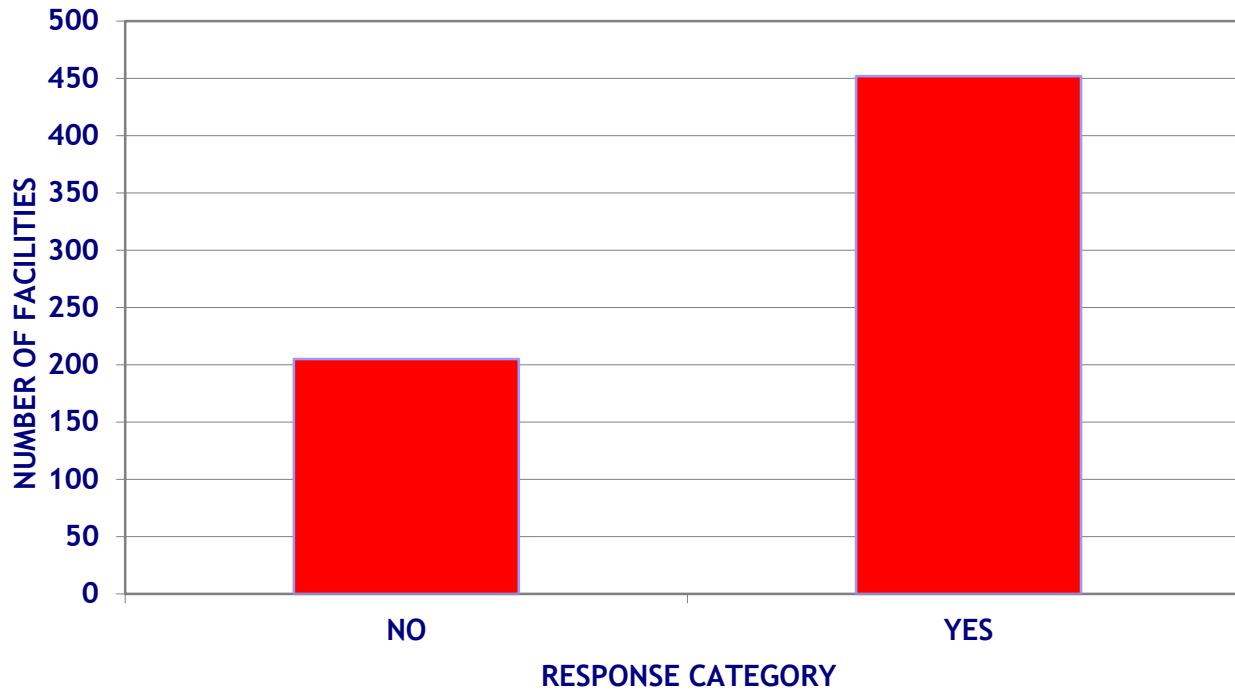


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Figure 3

## Facilities by Presence of Pediatric Ward



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Table  
4

## Facilities by Presence of Pediatric ICU

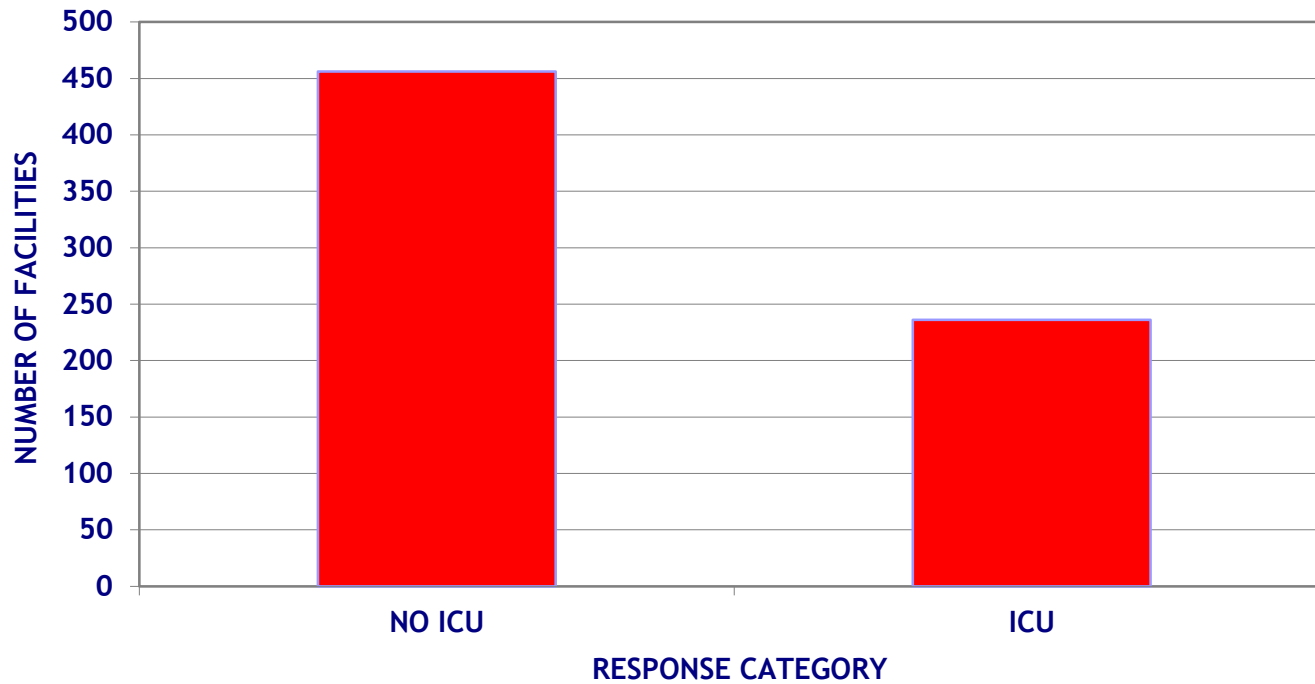
PEDIATRIC ICU	NUMBER	PERCENT
NO ICU	456	65.90
ICU	236	34.10
Total	692	100.00

This excludes five facilities with no pediatric patients (patients aged <20)



Figure  
4

## Facilities by Presence of Pediatric ICU



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Table  
5

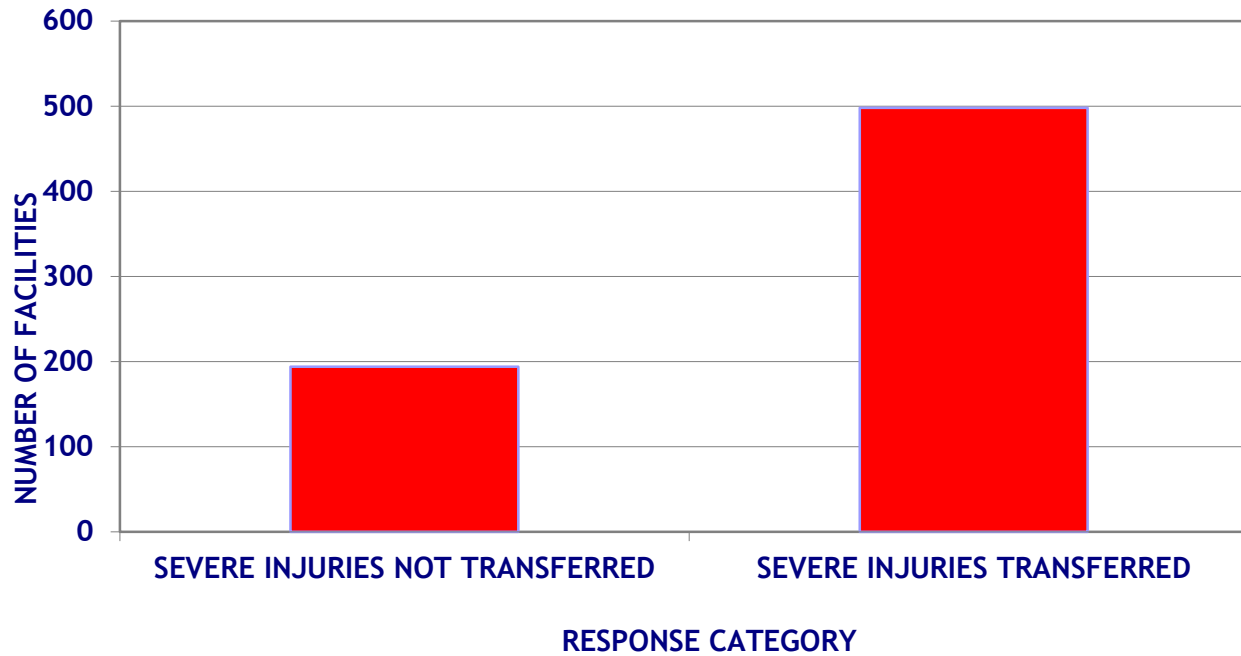
## Facilities by Pediatric Transfer Status

PEDIATRIC TRANSFER	NUMBER	PERCENT
SEVERE INJURIES NOT TRANSFERRED	194	28.03
SEVERE INJURIES TRANSFERRED	498	71.97
Total	692	100.00



Figure 5

## Facilities by Pediatric Transfer Status



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Table  
6

## Facilities by Pediatric Age Cutoff

AGE	NUMBER	PERCENT
11	1	0.14
12	14	2.02
13	13	1.88
14	128	18.50
15	121	17.49
16	97	14.02
17	118	17.05
18	115	16.62
19	3	0.43
20	2	0.29
21	35	5.06
None	45	6.50
Total	692	100.00

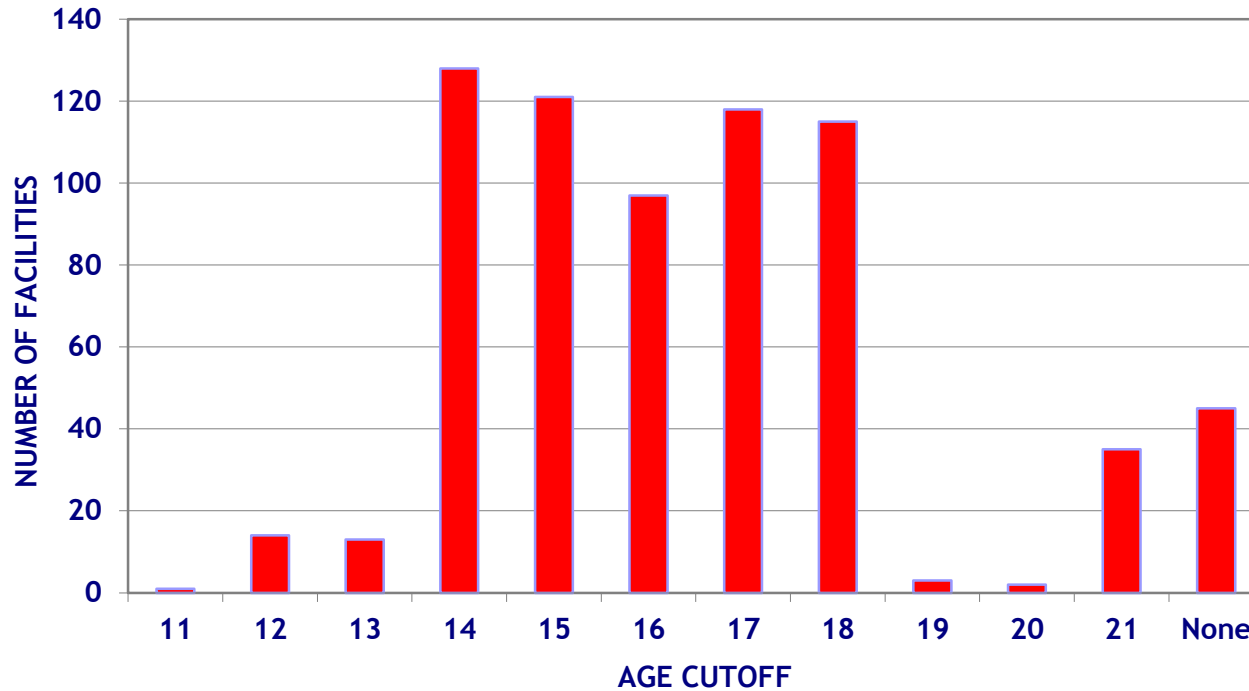
This excludes five facilities with no pediatric patients (patients aged <20)





Figure 6

## Facilities by Pediatric Age Cutoff



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This excludes five facilities with no pediatric patients (patients aged <20)

# DEMOGRAPHIC INFORMATION



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Table  
7

## Incidents and Case Fatality Rate by Age

AGE	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
< 1 year	9,175	6.24	200	2.18
1	7,301	4.97	144	1.97
2	7,029	4.78	134	1.91
3	6,120	4.16	86	1.41
4	5,627	3.83	62	1.10
5	5,551	3.78	42	0.76
6	5,600	3.81	39	0.70
7	4,960	3.38	37	0.75
8	4,609	3.14	41	0.89
9	4,500	3.06	39	0.87
10	4,720	3.21	33	0.70
11	4,957	3.37	43	0.87
12	5,580	3.80	44	0.79
13	6,257	4.26	65	1.04
14	7,474	5.09	105	1.40
15	8,302	5.65	154	1.85
16	10,267	6.99	255	2.48
17	11,795	8.03	363	3.08
18	13,236	9.01	432	3.26
19	13,893	9.45	472	3.40
Total	146,953	100.00	2,790	

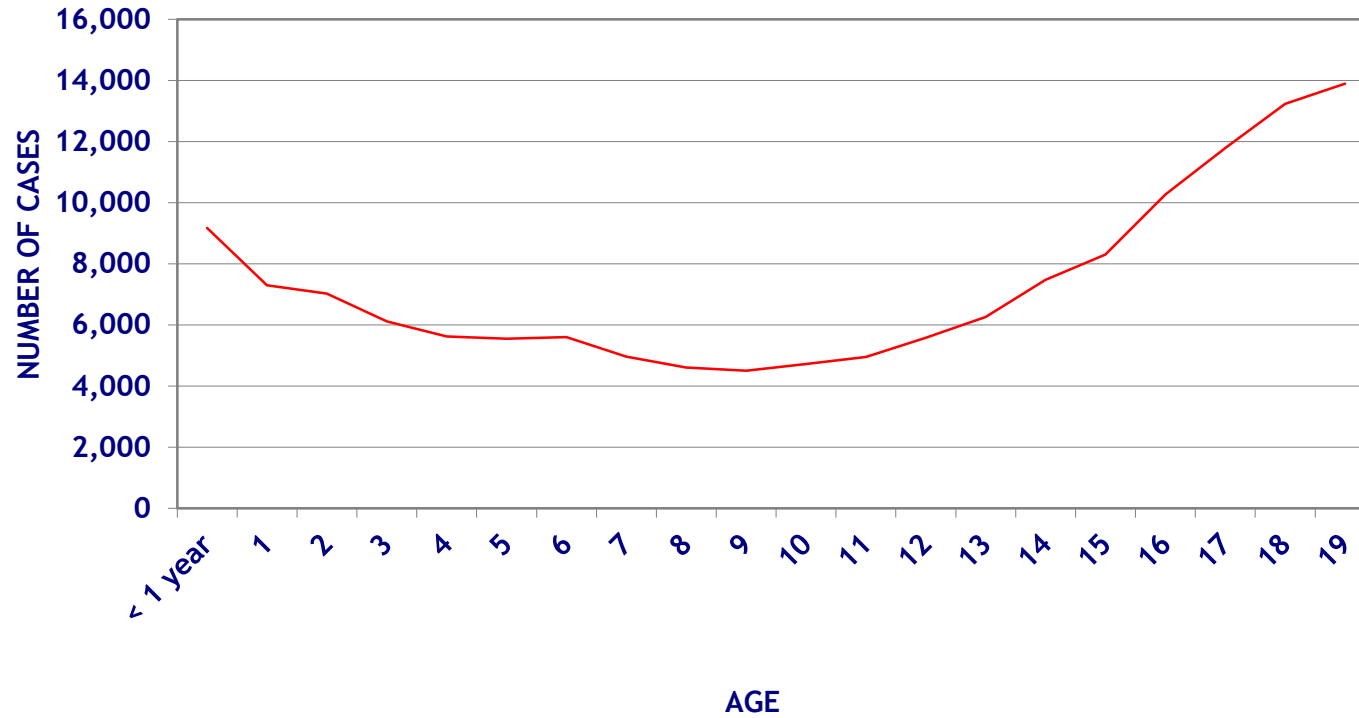


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Figure 7a

## Incidents by Age

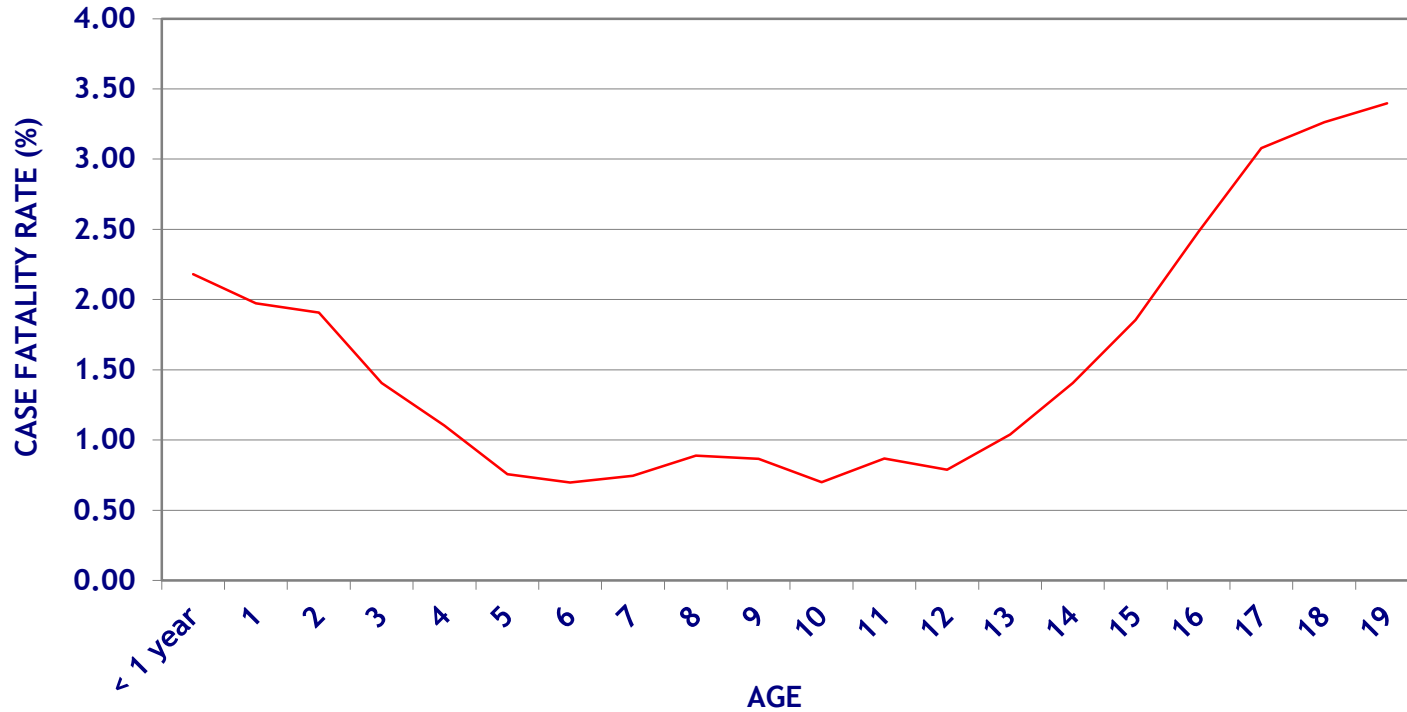


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Figure 7b

## Case Fatality Rate by Age



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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	3,952	5,214	78	121	1.97	2.32
1	3,050	4,248	60	84	1.97	1.98
2	2,797	4,223	55	79	1.97	1.87
3	2,403	3,714	39	47	1.62	1.27
4	2,289	3,331	19	43	0.83	1.29
5	2,239	3,308	13	29	0.58	0.88
6	2,238	3,356	12	27	0.54	0.80
7	2,023	2,934	15	22	0.74	0.75
8	1,821	2,780	12	29	0.66	1.04
9	1,638	2,861	14	25	0.85	0.87
10	1,657	3,062	10	23	0.60	0.75
11	1,574	3,382	14	29	0.89	0.86
12	1,601	3,973	13	31	0.81	0.78
13	1,613	4,640	20	45	1.24	0.97
14	1,919	5,549	35	70	1.82	1.26
15	2,206	6,092	34	120	1.54	1.97
16	2,951	7,312	51	204	1.73	2.79
17	3,338	8,454	58	305	1.74	3.61
18	3,733	9,502	90	342	2.41	3.60
19	3,724	10,165	91	381	2.44	3.75
Total	48,766	98,100	733	2,056		

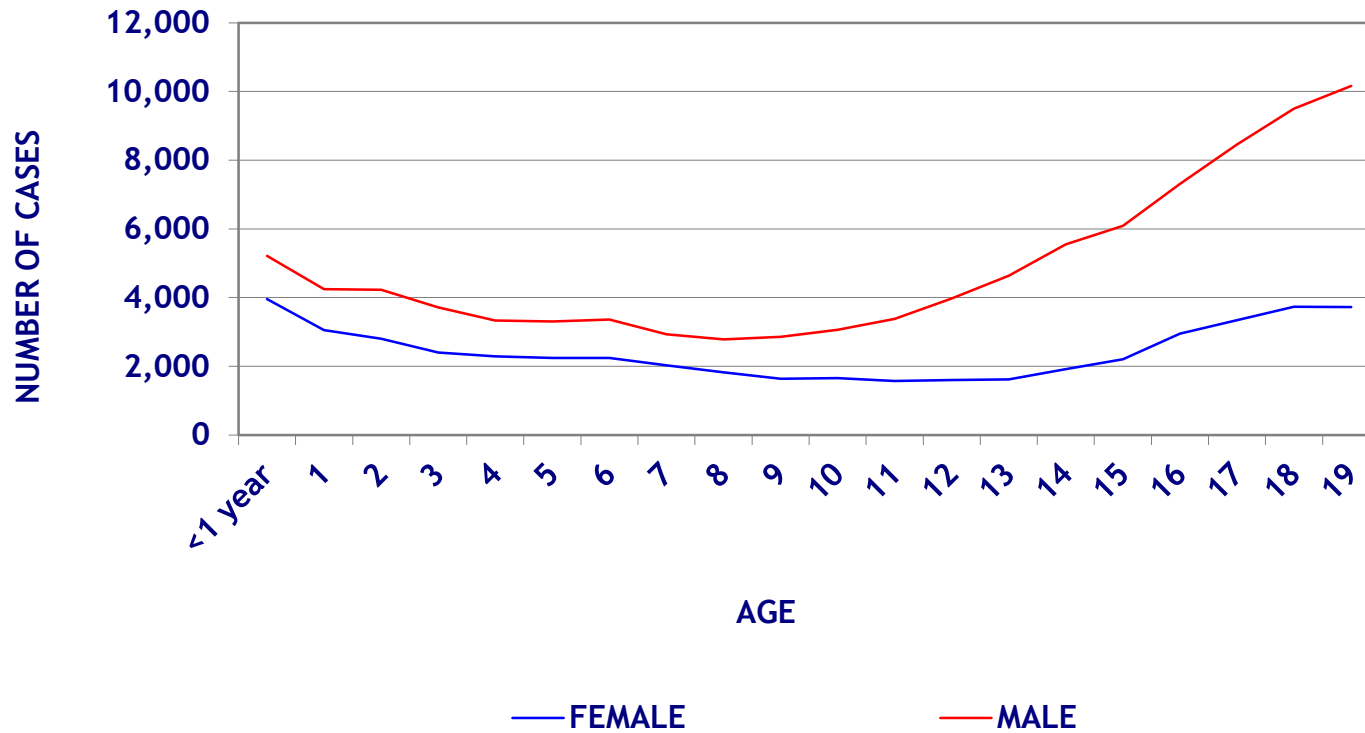


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Figure 8a

## Incidents by Age and Gender

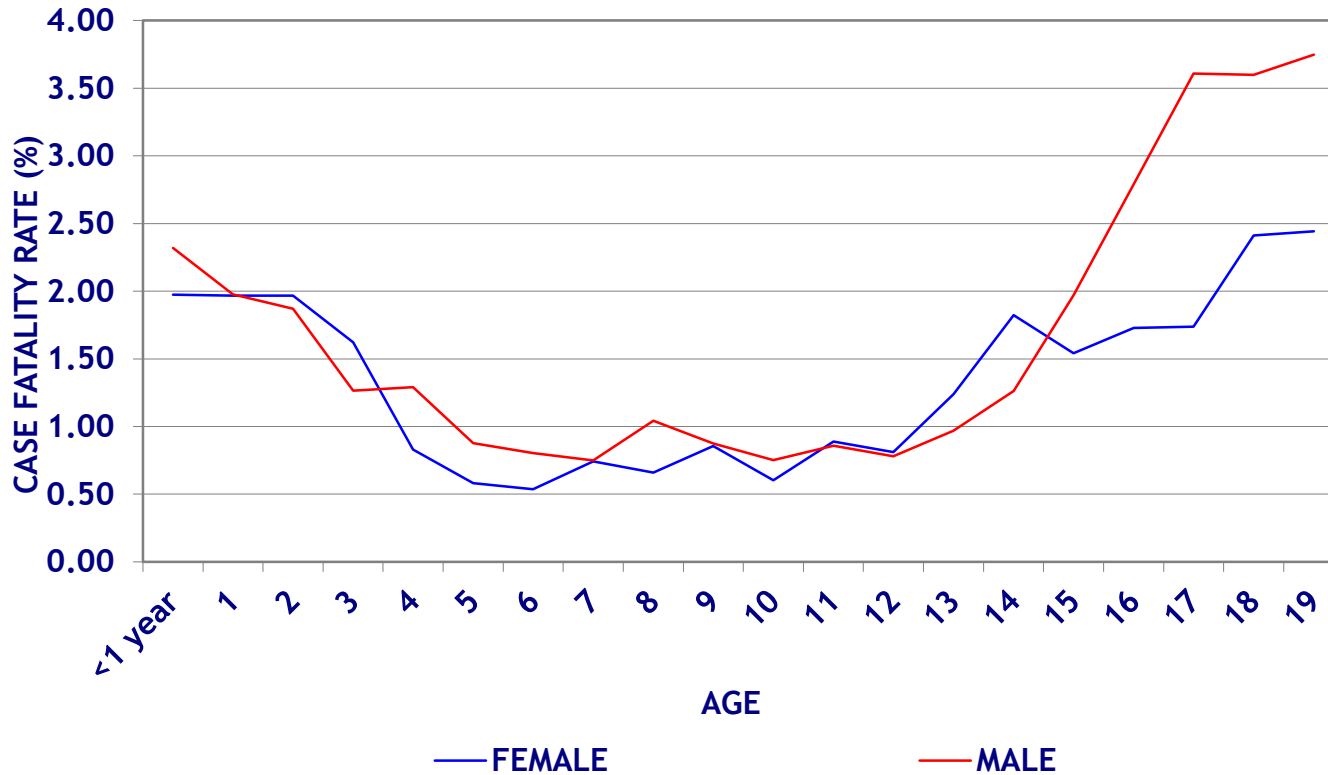


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Figure 8b

## Case Fatality Rate by Age and Gender



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Table  
9

## Alcohol Use

ALCOHOL USE	NUMBER	PERCENT
No (confirmed by test)	25,743	17.52
No (not tested)	86,427	58.81
Yes (confirmed by test [beyond legal limit])	3,910	2.66
Yes (confirmed by test [trace levels])	3,774	2.57
Not Applicable	4,687	3.19
NK/NR	22,412	15.25
Total	146,953	100.00

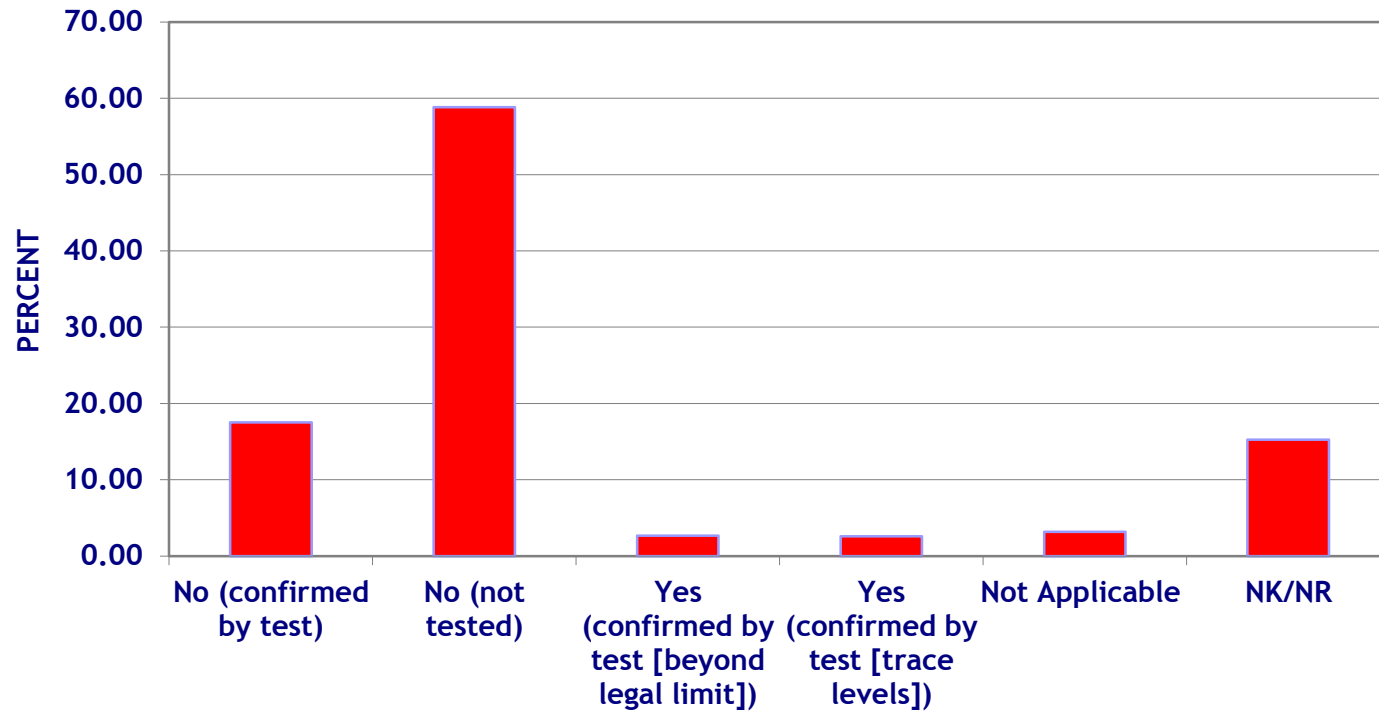


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Figure 9

## Alcohol Use



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Table  
10

## Drug Use

DRUG USE	NUMBER	PERCENT
No (confirmed by test)	10,720	7.29
No (not tested)	79,569	54.15
Yes (confirmed by test [illegal use drug])	7,941	5.40
Yes (confirmed by test [prescription drug])	1,732	1.18
Not Applicable	22,134	15.06
NK/NR	24,857	16.91
Total	146,953	100.00

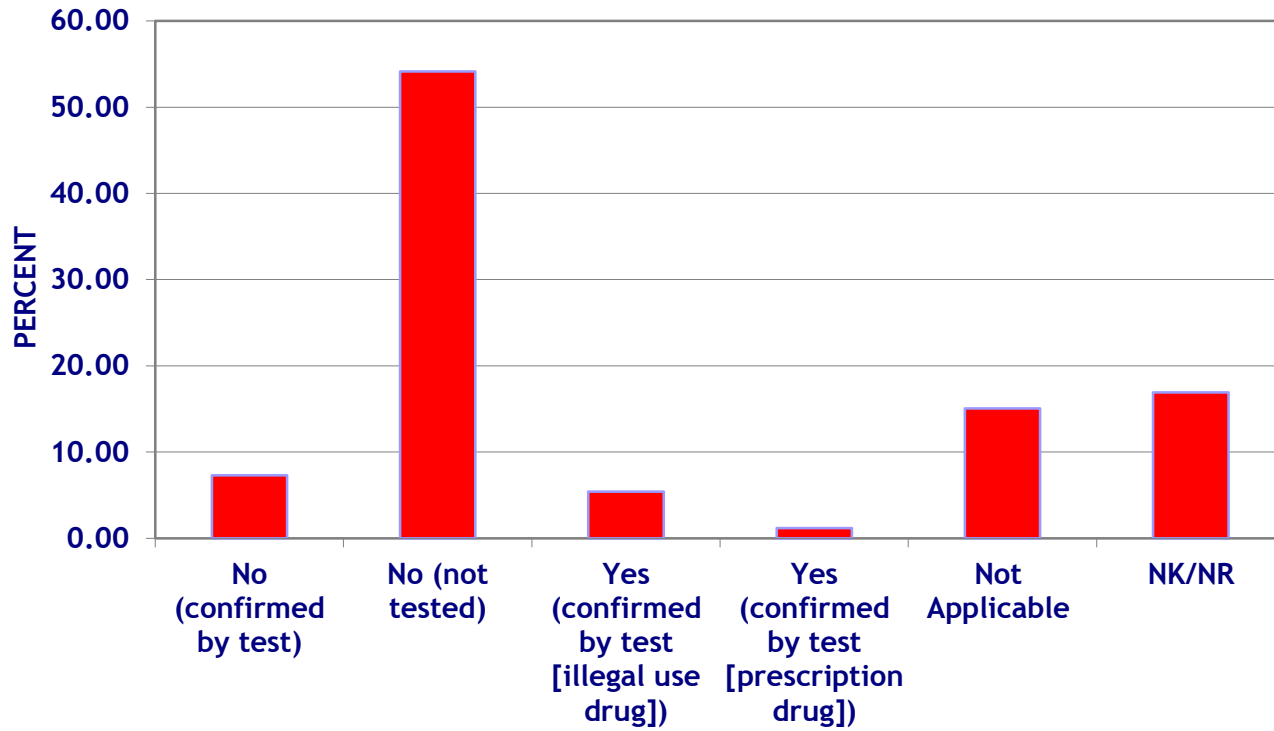


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Figure 10

## Drug Use



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Table  
11

## Primary Payment Source

PRIMARY PAYMENT SOURCE	NUMBER	PERCENT
Medicaid	45,824	31.18
Private/Commercial Insurance	44,731	30.44
Self Pay	14,206	9.67
Blue Cross/Blue Shield	11,819	8.04
No Fault Automobile	6,486	4.41
Other	5,742	3.91
Other Government	4,029	2.74
Not Billed (for any reason)	673	0.46
Workers Compensation	473	0.32
Medicare	404	0.27
Not Applicable	819	0.56
NK/NR	11,747	7.99
Total	146,953	100.00

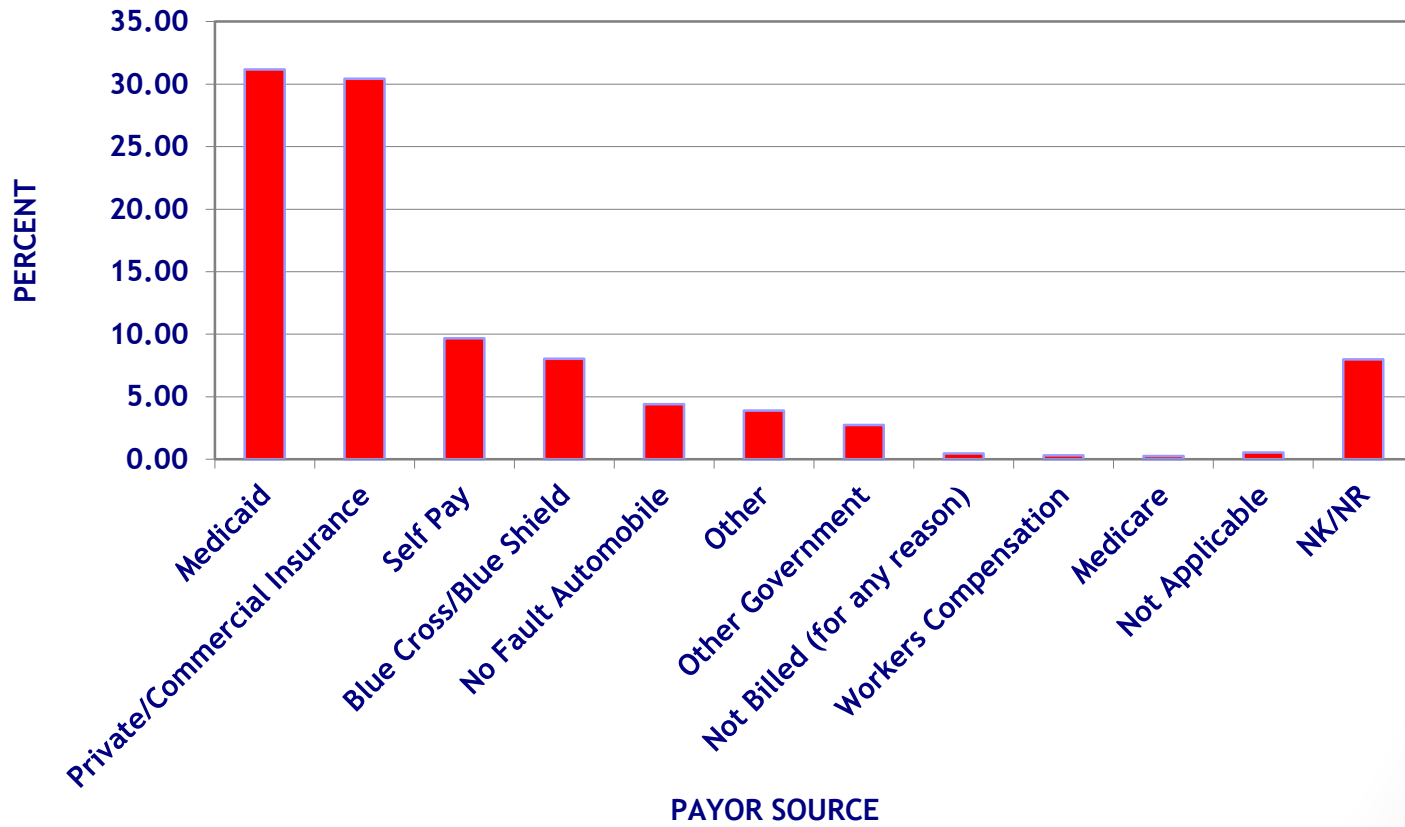


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Figure 11

## Primary Payment Source



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# INJURY CHARACTERISTICS



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Table  
12

## Incidents and Case Fatality Rate by Mechanism of Injury

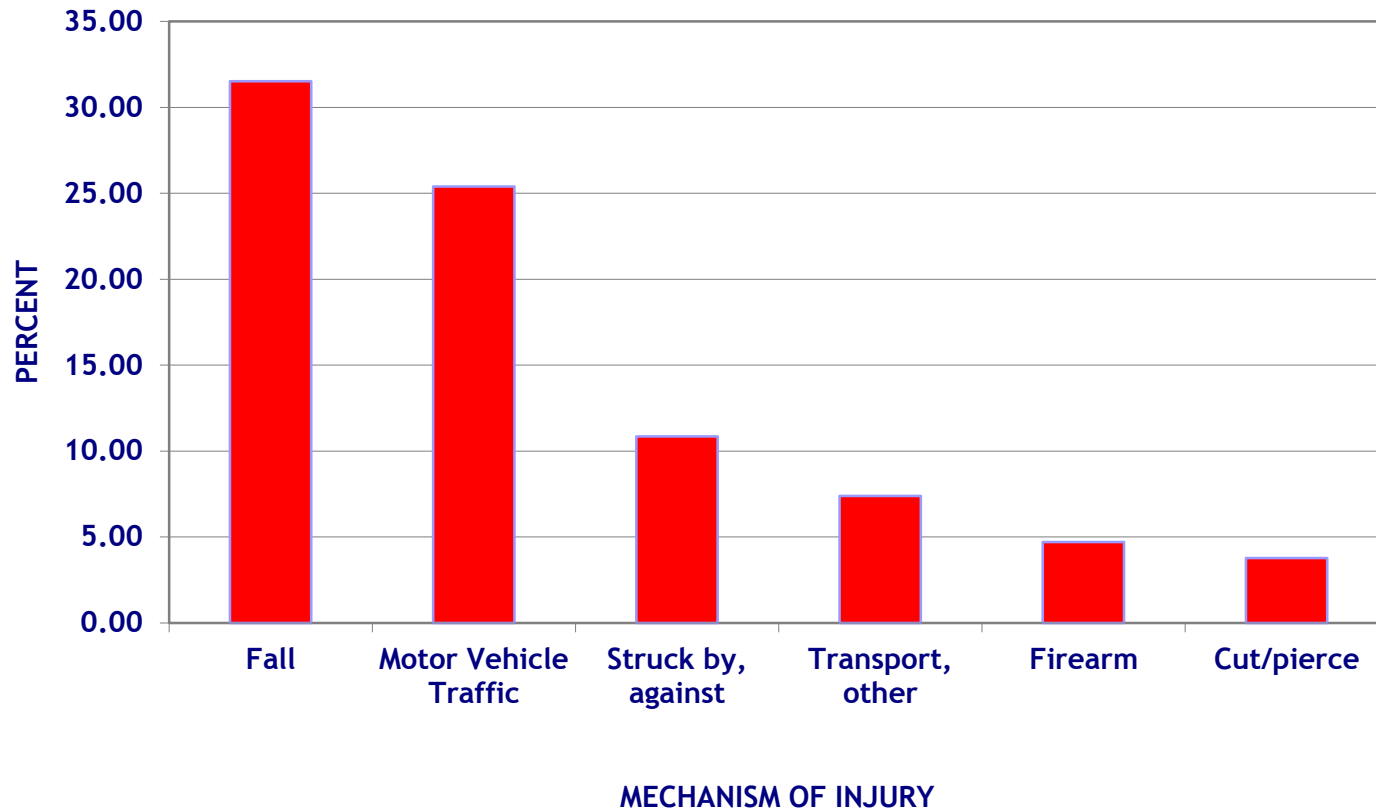
MECHANISM	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
Fall	46,312	31.51	100	0.22
Motor Vehicle Traffic	37,321	25.40	1,176	3.15
Struck by, against	15,945	10.85	68	0.43
Transport, other	10,853	7.39	129	1.19
Firearm	6,907	4.70	805	11.65
Cut/pierce	5,550	3.78	68	1.23
Pedal cyclist, other	5,250	3.57	11	0.21
Other specified and classifiable	4,873	3.32	249	5.11
Hot object/substance	4,229	2.88	5	0.12
Natural/environmental, Bites and stings	2,057	1.40	7	0.34
Unspecified	1,607	1.09	31	1.93
Fire/flame	1,578	1.07	28	1.77
Other specified, not elsewhere classifiable	870	0.59	5	0.57
Pedestrian, other	765	0.52	21	2.75
Overexertion	682	0.46	0	0.00
Natural/environmental, Other	662	0.45	4	0.60
Machinery	558	0.38	4	0.72
Suffocation	156	0.33	42	8.61
Drowning/submersion	140	0.11	24	15.38
Poisoning	99	0.10	1	0.71
NK/NR	488	0.07	11	11.11
Total	146,953	99.97	2,790	





Figure 12a

## Incidents and Case Fatality Rate by Mechanism of Injury

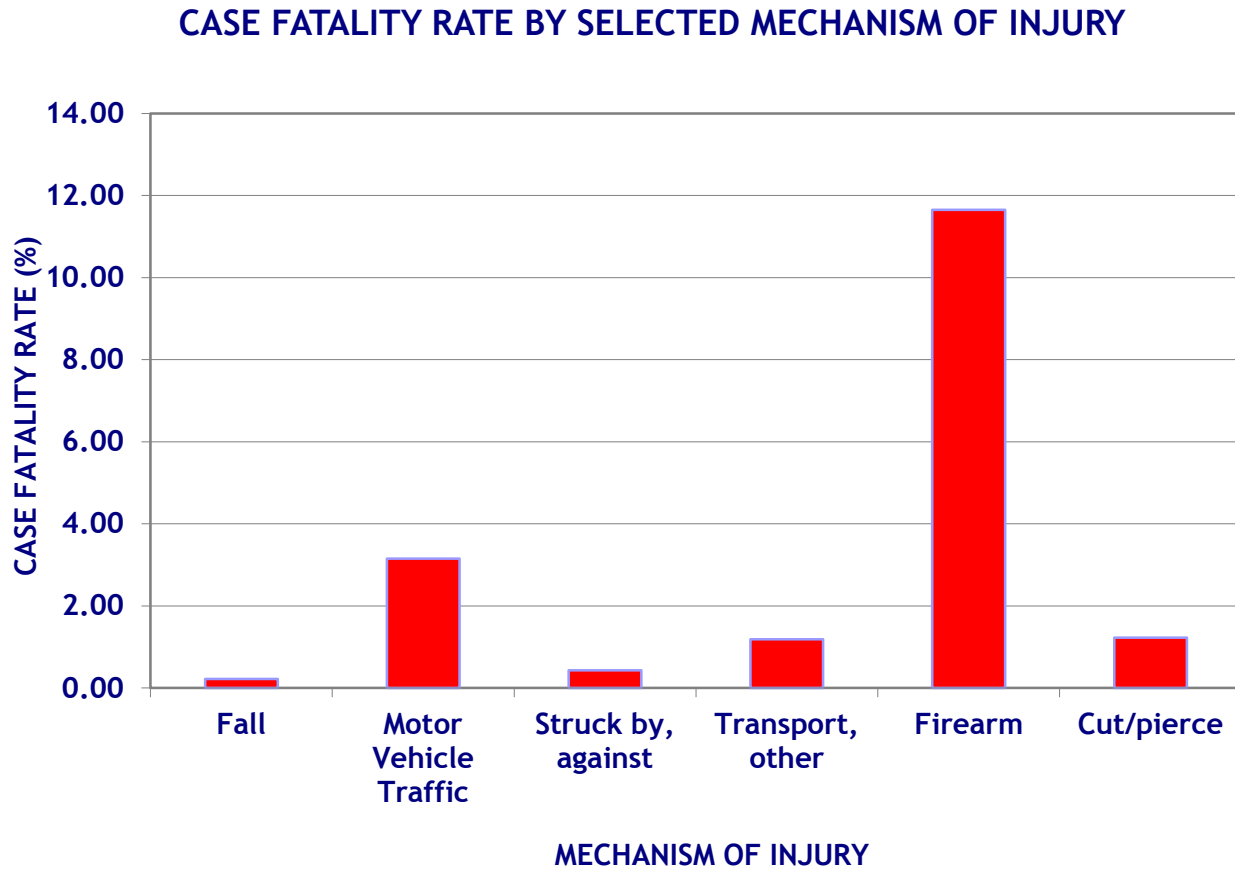


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Figure 12b

## Incidents and Case Fatality Rate by 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	5,093	451	382	37	33	46
1	3,221	674	426	59	23	113
2	3,547	872	608	121	33	132
3	3,066	899	524	172	49	142
4	2,901	904	439	214	33	118
5	2,946	897	403	268	28	108
6	2,971	907	415	321	28	105
7	2,419	830	409	329	41	92
8	1,989	917	413	350	35	94
9	1,684	933	443	423	41	100
10	1,716	991	543	476	51	101
11	1,681	987	618	593	51	109
12	1,758	1,119	843	703	99	124
13	1,896	1,219	1,054	798	139	163
14	1,901	1,721	1,287	1,026	274	234
15	1,688	2,247	1,481	1,006	513	389
16	1,527	3,801	1,510	1,035	884	514
17	1,441	4,848	1,582	979	1,220	758
18	1,436	6,017	1,253	958	1,588	933
19	1,431	6,087	1,312	985	1,744	1,175
Total	46,312	37,321	15,945	10,853	6,907	5,550

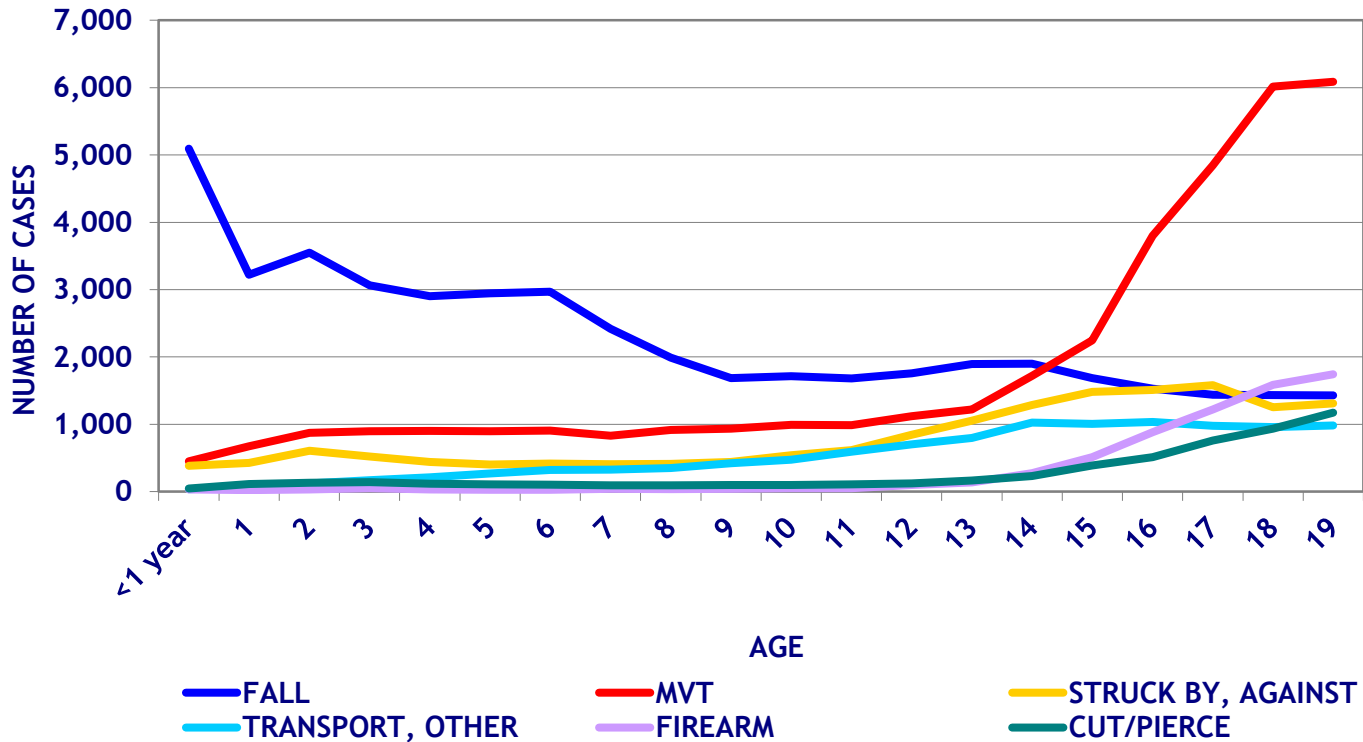


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Figure 13

## Selected Mechanism of Injury by Age



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Table  
14

## Case Fatality Rate by 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	0.24	9.31	1.31	2.70	21.21	2.17
1	0.28	8.46	1.41	1.69	13.04	0.00
2	0.28	5.50	1.81	0.83	21.21	0.76
3	0.23	3.56	1.34	0.00	14.29	0.00
4	0.14	2.77	1.14	0.93	18.18	0.85
5	0.10	2.45	0.50	0.00	14.29	0.00
6	0.03	2.87	0.24	0.00	14.29	0.00
7	0.00	3.01	0.49	0.61	7.32	1.09
8	0.20	1.96	0.24	2.00	11.43	2.13
9	0.00	2.36	0.68	1.18	9.76	0.00
10	0.12	1.92	0.00	0.84	5.88	0.99
11	0.06	2.13	0.32	1.35	1.96	0.00
12	0.06	2.14	0.24	0.43	9.09	0.00
13	0.21	2.13	0.38	1.00	14.39	0.00
14	0.26	2.50	0.16	0.88	12.41	0.85
15	0.30	2.71	0.07	1.19	12.48	1.29
16	0.26	3.08	0.13	1.74	10.41	1.36
17	0.56	3.32	0.25	1.33	12.30	0.92
18	0.56	3.19	0.16	1.57	11.78	1.61
19	0.84	3.20	0.46	2.03	11.24	2.13

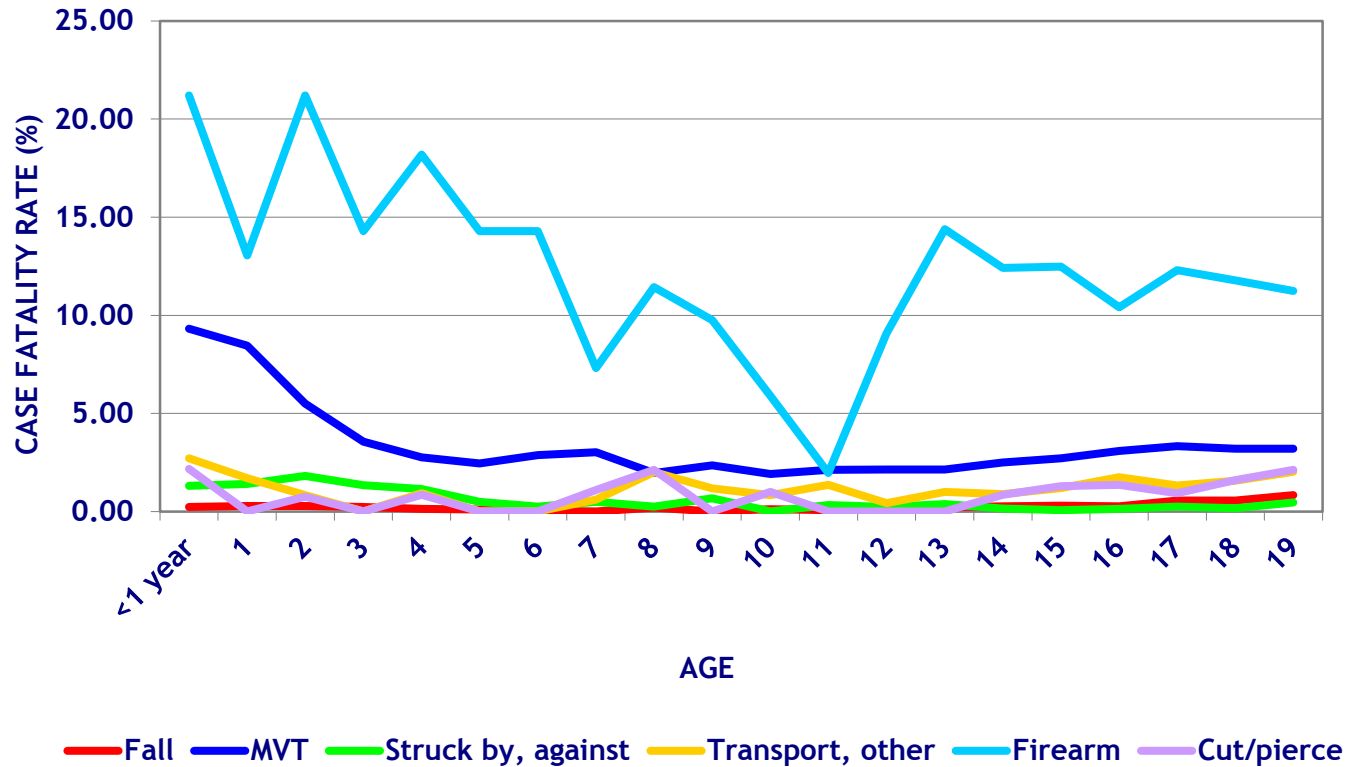


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Figure 14

## Case Fatality Rate by Mechanism of Injury and Age



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Table  
15

## Incidents and Case Fatality Rate by Mechanism of Injury and Gender

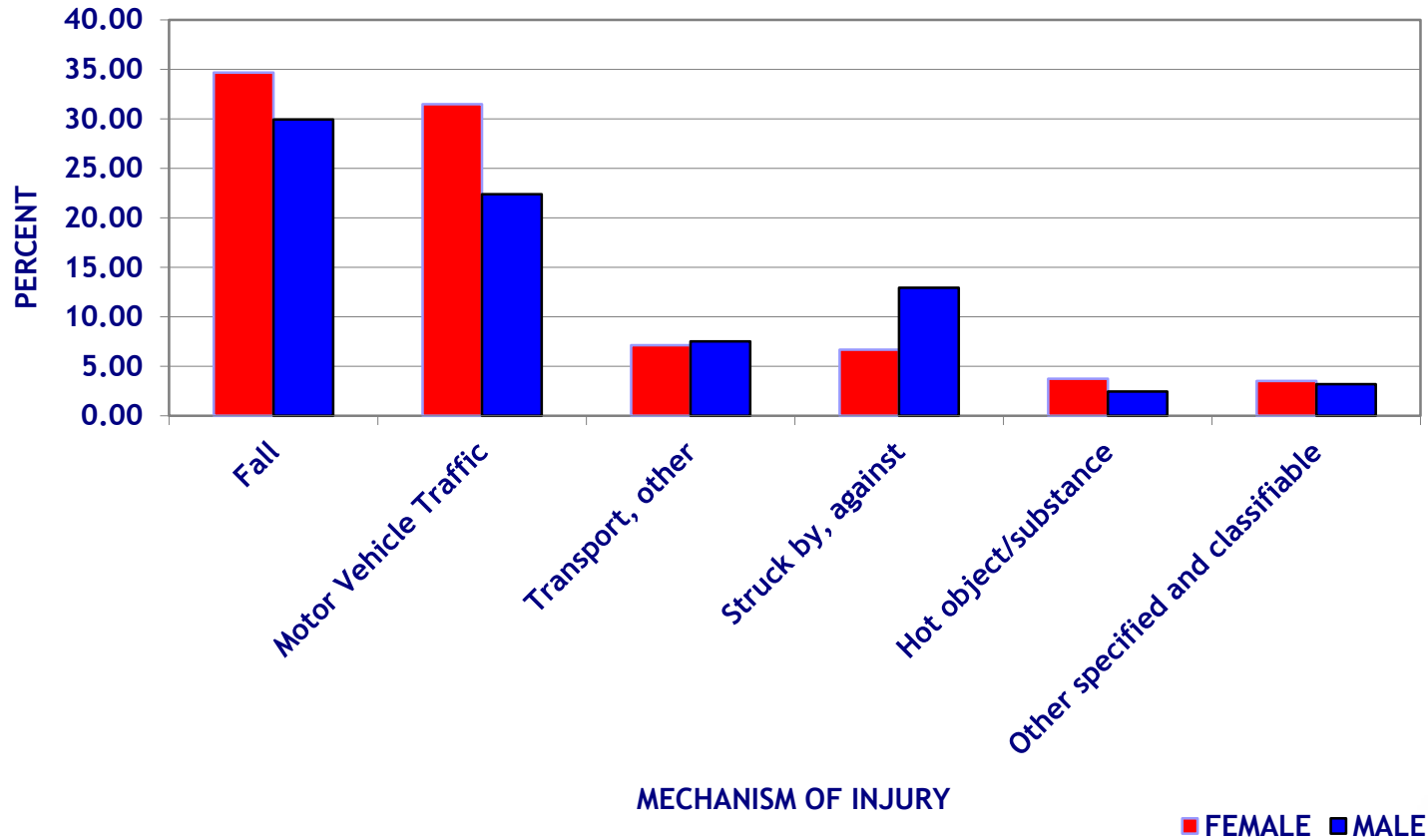
MECHANISM	PERCENT (FEMALE)	PERCENT (MALE)	CASE FATALITY RATE (FEMALE)	CASE FATALITY RATE (MALE)
Fall	34.67	29.94	0.14	0.26
Motor Vehicle Traffic	31.47	22.39	2.64	3.51
Transport, other	7.12	7.52	1.07	1.25
Struck by, against	6.68	12.92	0.52	0.40
Hot object/substance	3.74	2.45	0.11	0.12
Other specified and classifiable	3.53	3.21	5.75	4.74
Pedal Cyclist	2.47	4.12	0.25	0.20
Cut/Pierce	2.17	4.58	1.14	1.25
Natural/environmental, Bites and stings	1.84	1.18	0.45	0.26
Firearm	1.62	6.23	9.34	11.95
Unspecified	1.00	1.14	2.04	1.88
Fire/flame	0.83	1.19	3.19	1.28
Other specified, not elsewhere classifiable	0.52	0.63	0.40	0.65
Pedestrian, other	0.58	0.49	3.55	2.28
Natural/environmental, Other	0.58	0.39	1.06	0.26
Overexertion	0.41	0.49	0.00	0.00
Machinery	0.19	0.47	0.00	0.86
Drowning/submersion	0.08	0.10	8.11	20.39
Suffocation	0.10	0.11	25.00	27.78
Poisoning	0.08	0.06	0.00	1.64
NK/NR	0.28	0.35	2.90	2.02
Total	99.96	99.97		

Adverse effects have been removed from all mechanism tables, but are included in totals; therefore percentages do not equal 100.



Figure 15a

## Incidents and Case Fatality Rate by Mechanism of Injury and Gender



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Figure 15b

## Incidents and Case Fatality Rate by Mechanism of Injury and Gender

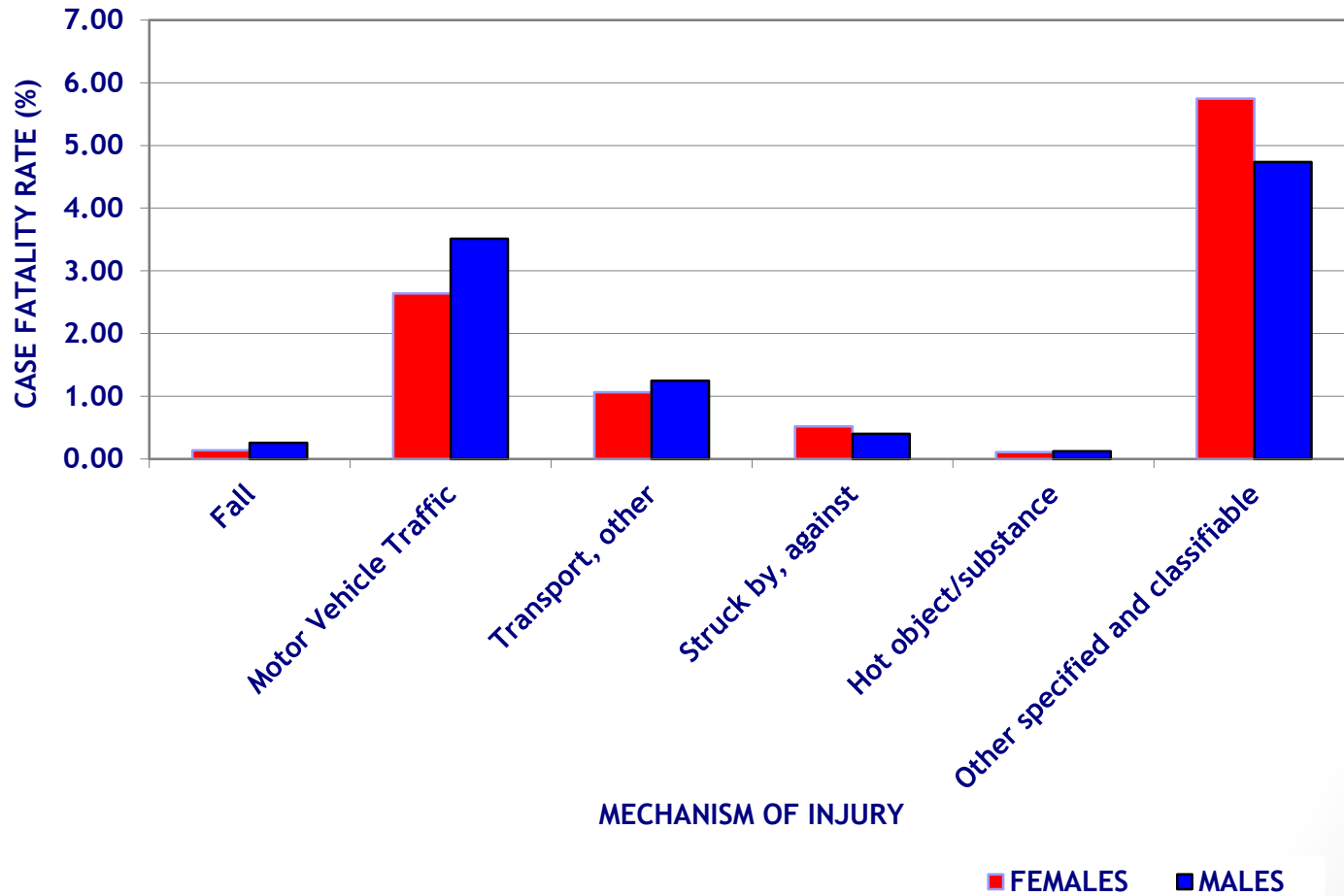


Table  
16

## Incidents by Comparative Injury Severity Scores

ISS	LOCAL ISS		AIS SUBMITTED		AIS 98 CROSSWALKED		AIS ICDMAP-90	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
1–8	84,626	57.59	81,734	55.62	82,336	56.03	91,231	62.08
9–15	37,375	25.43	36,115	24.58	35,936	24.45	23,716	16.14
16–24	12,766	8.69	11,897	8.10	15,497	10.55	16,292	11.09
>24	7,822	5.32	7,331	4.99	8,691	5.91	5,818	3.96
NK/NR	4,364	2.97	9,876	6.72	4,493	3.06	9,896	6.73
Total	146,953	100.00	146,953	100.00	146,953	100.00	146,953	100.00



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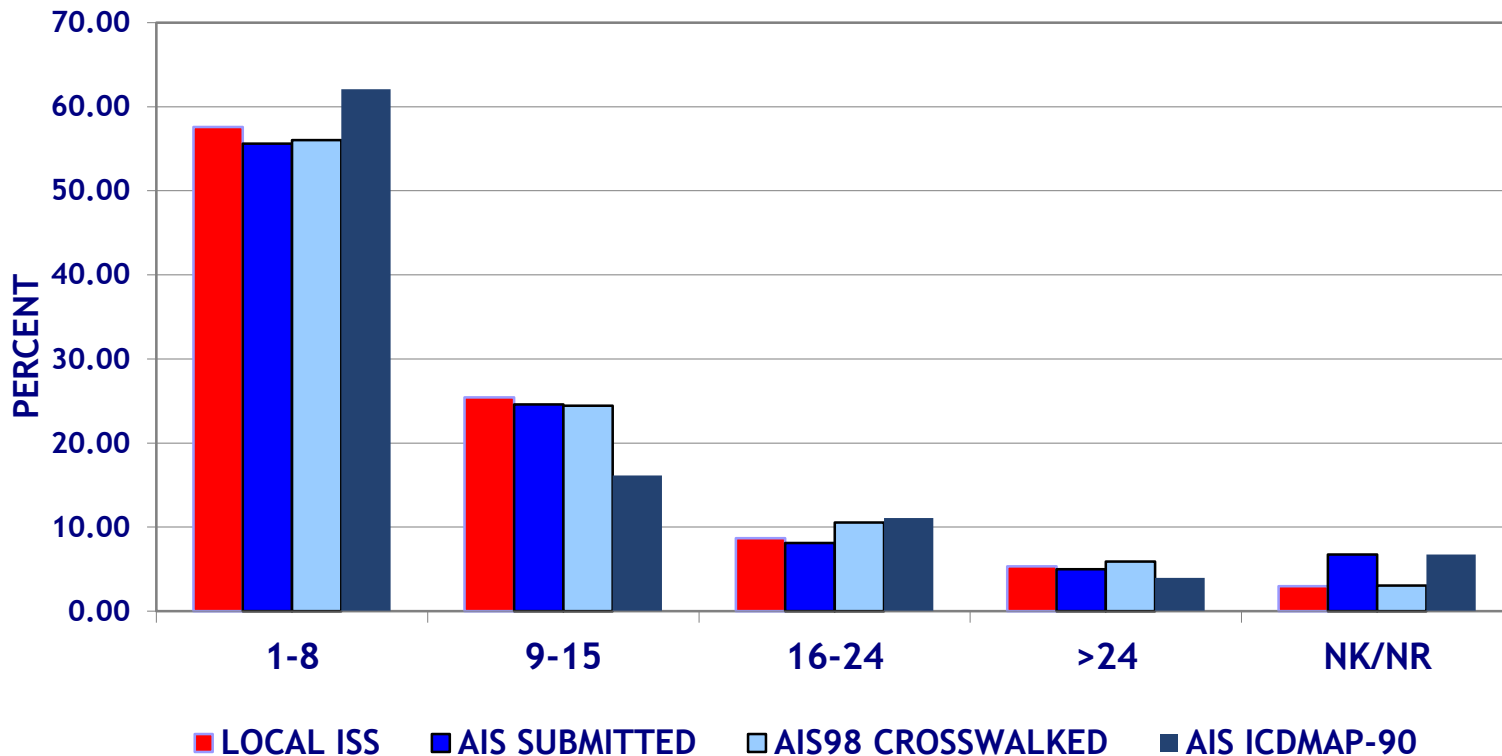
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ISS is calculated using AIS submitted by hospitals and then crosswalked to AIS98. If hospital does not submit AIS98 then ISS is based on AIS derived from ICDMAP-90.

Comparative Injury Severity score definitions can be found in Appendix B.

Figure 16

## Incidents by Comparative Injury Severity Scores



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ISS is 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.

Comparative Injury Severity score definitions can be found in Appendix B.

Table  
17

## Incidents and Case Fatality Rate by Injury Severity Score

ISS	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
1–8	82,336	56.03	196	0.24
9–15	35,936	24.45	252	0.70
16–24	15,497	10.55	332	2.14
>24	8,691	5.91	1,946	22.39
NK/NR	4,493	3.06	64	1.42
Total	146,953	100.00	2,790	



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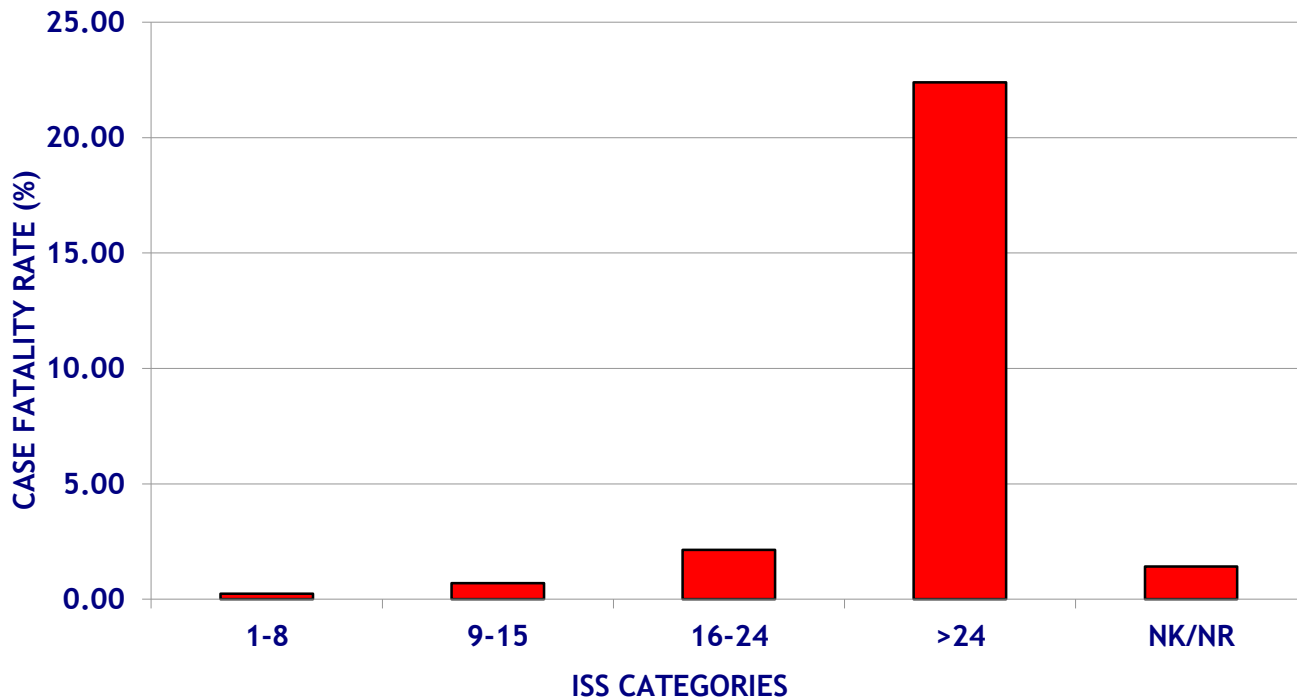
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ISS is calculated using AIS submitted by hospitals and then crosswalked to AIS98. If hospital does not submit AIS98 then ISS is based on AIS derived from ICDMAP-90.

Figure 17

## Incidents and Case Fatality Rate by Injury Severity Score



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ISS is 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.

Table  
18

## Incidents by Injury Severity Score and Age

	ISS 1–8	ISS 9–15	ISS 16–24	ISS >24	ISS NK/NR	Total
<1 year	3,845	2,210	1,967	651	502	9,175
1	4,437	1,459	668	316	421	7,301
2	3,920	1,750	541	270	548	7,029
3	3,688	1,390	474	220	348	6,120
4	3,442	1,309	446	191	239	5,627
5	3,528	1,297	410	160	156	5,551
6	3,528	1,351	420	131	170	5,600
7	3,107	1,209	382	110	152	4,960
8	2,823	1,121	361	154	150	4,609
9	2,696	1,095	394	166	149	4,500
10	2,760	1,248	383	151	178	4,720
11	2,935	1,201	441	185	195	4,957
12	3,232	1,546	470	232	100	5,580
13	3,600	1,729	557	245	126	6,257
14	4,239	1,980	725	382	148	7,474
15	4,754	2,039	844	523	142	8,302
16	5,551	2,486	1,194	868	168	10,267
17	6,300	2,817	1,406	1,089	183	11,795
18	6,813	3,289	1,645	1,296	193	13,236
19	7,138	3,410	1,769	1,351	225	13,893
Total	82,336	35,936	15,497	8,691	4,493	146,953



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ISS is 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.

Figure 18

## Incidents by Injury Severity Score and Age

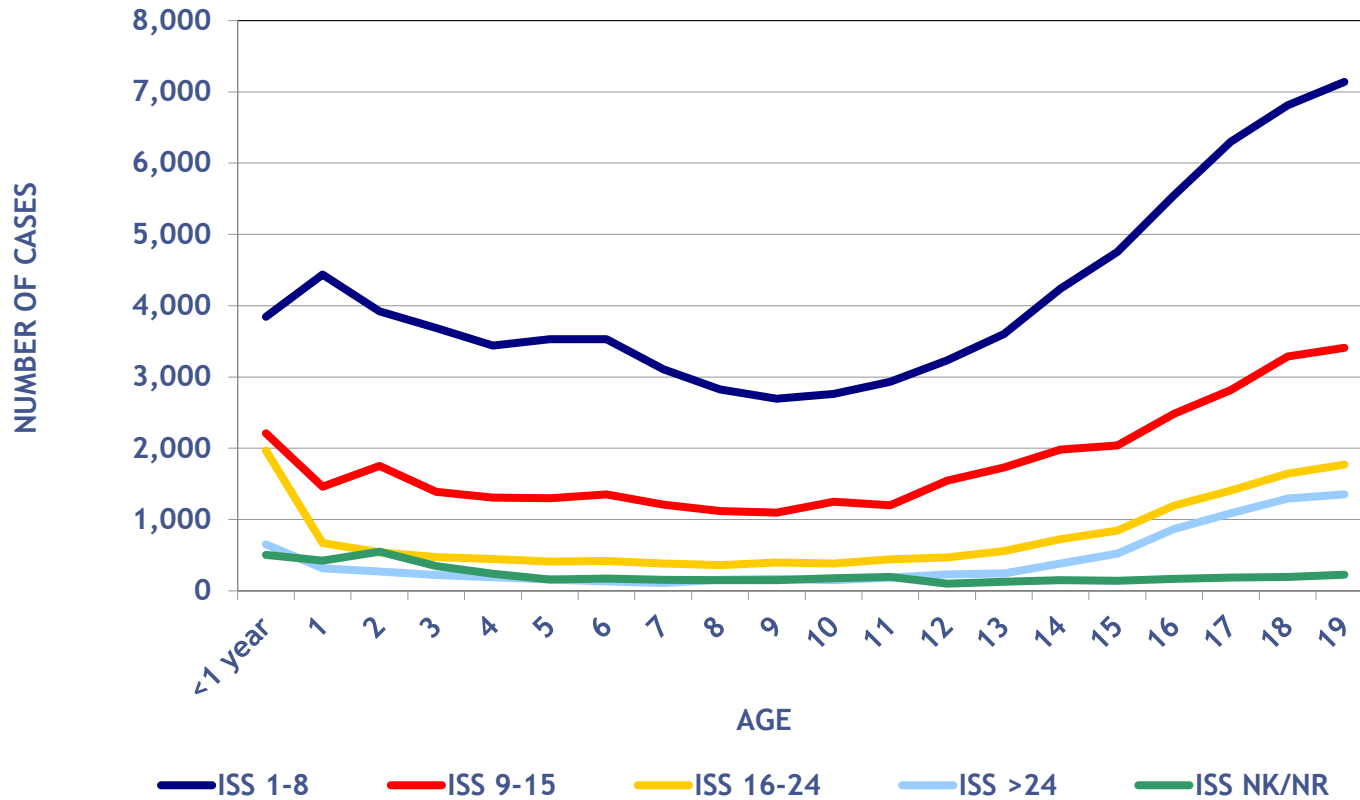


Table  
19

## Case Fatality Rate by Injury Severity Score 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	10	0.26	14	0.63	42	2.14	132	20.28	2	0.40
1	7	0.16	10	0.69	21	3.14	101	31.96	5	1.19
2	9	0.23	13	0.74	17	3.14	90	33.33	5	0.91
3	6	0.16	6	0.43	10	2.11	62	28.18	2	0.57
4	7	0.20	3	0.23	7	1.57	43	22.51	2	0.84
5	5	0.14	3	0.23	3	0.73	28	17.50	3	1.92
6	2	0.06	9	0.67	5	1.19	23	17.56	0	0.00
7	5	0.16	4	0.33	4	1.05	23	20.91	1	0.66
8	2	0.07	6	0.54	1	0.28	31	20.13	1	0.67
9	1	0.04	0	0.00	5	1.27	32	19.28	1	0.67
10	1	0.04	4	0.32	1	0.26	27	17.88	0	0.00
11	6	0.20	6	0.50	5	1.13	26	14.05	0	0.00
12	1	0.03	1	0.06	5	1.06	33	14.22	4	4.00
13	4	0.11	4	0.23	6	1.08	49	20.00	2	1.59
14	7	0.17	14	0.71	10	1.38	73	19.11	1	0.68
15	8	0.17	15	0.74	11	1.30	117	22.37	3	2.11
16	17	0.31	21	0.84	29	2.43	181	20.85	7	4.17
17	21	0.33	34	1.21	42	2.99	262	24.06	4	2.19
18	38	0.56	41	1.25	49	2.98	296	22.84	8	4.15
19	39	0.55	44	1.29	59	3.34	317	23.46	13	5.78
Total	196		252		332		1946		64	



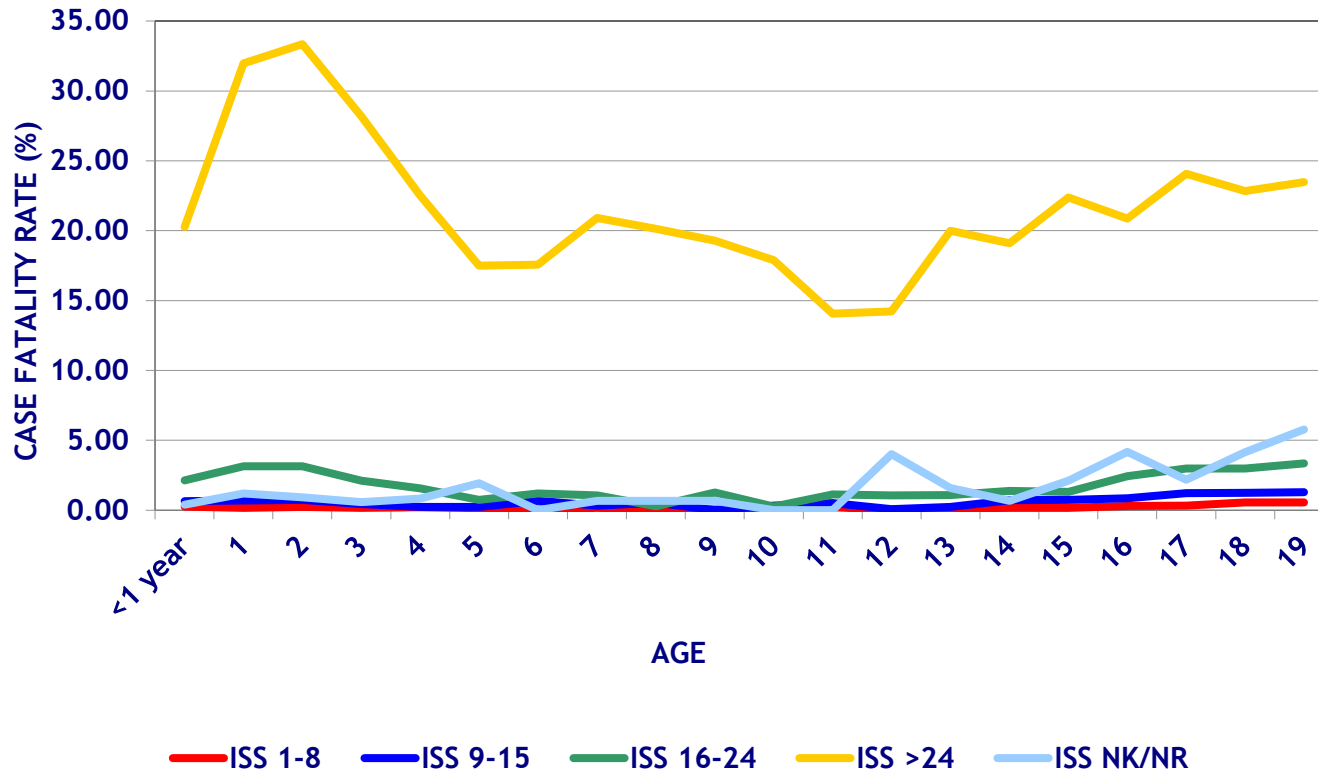
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ISS is calculated using AIS submitted by hospitals and then crosswalked to AIS98. If hospital does not submit AIS98 then ISS is based on AIS derived from ICDMAP-90.



Figure 19

## Case Fatality Rate by Injury Severity Score and Age



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ISS is 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.

Table  
20

## Incidents and Case Fatality Rate by Work-related Injuries

Work-related	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
Yes	125,626	85.49	2,409	1.92
No	736	0.50	5	0.68
Not Applicable	8,697	5.92	106	1.22
NK/NR	11,894	8.09	270	2.27
Total	146,953	100.00	2,790	

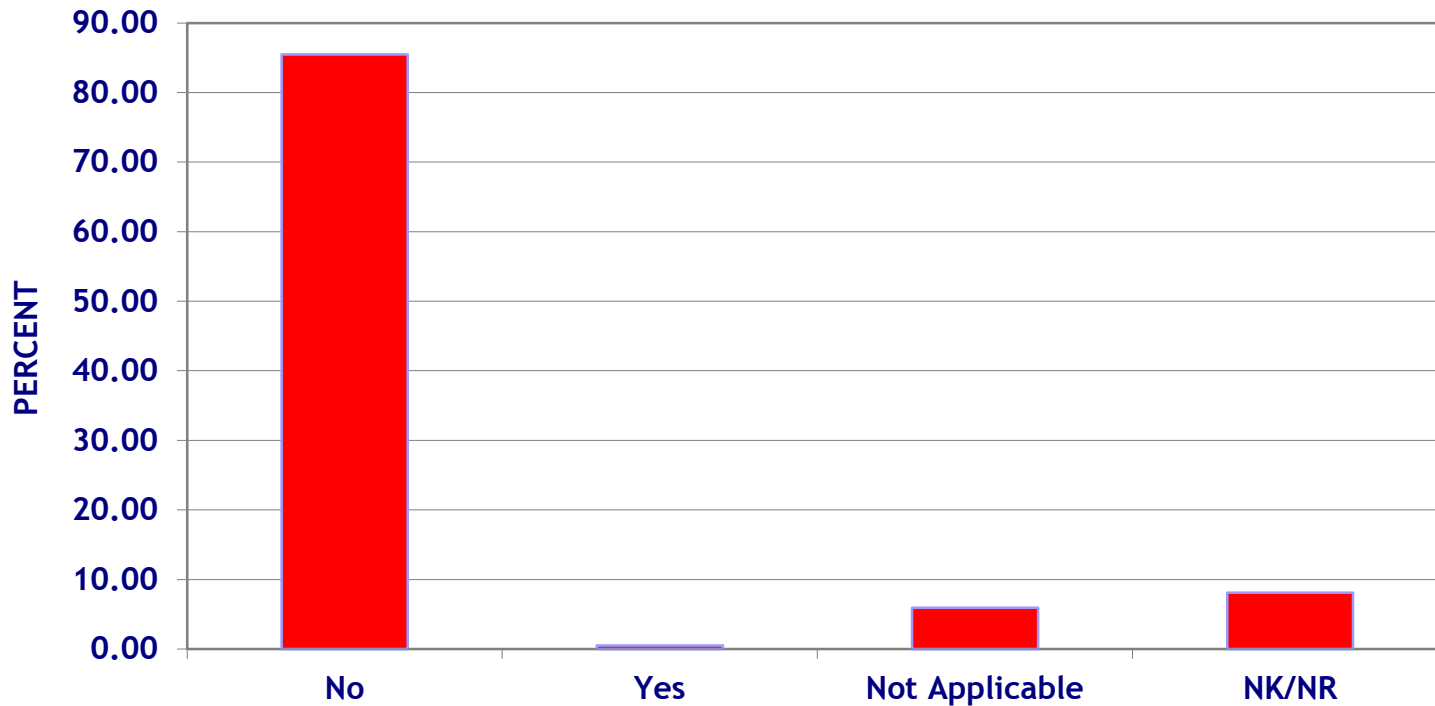


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Figure 20a

## Incidents by Work-Related Injuries

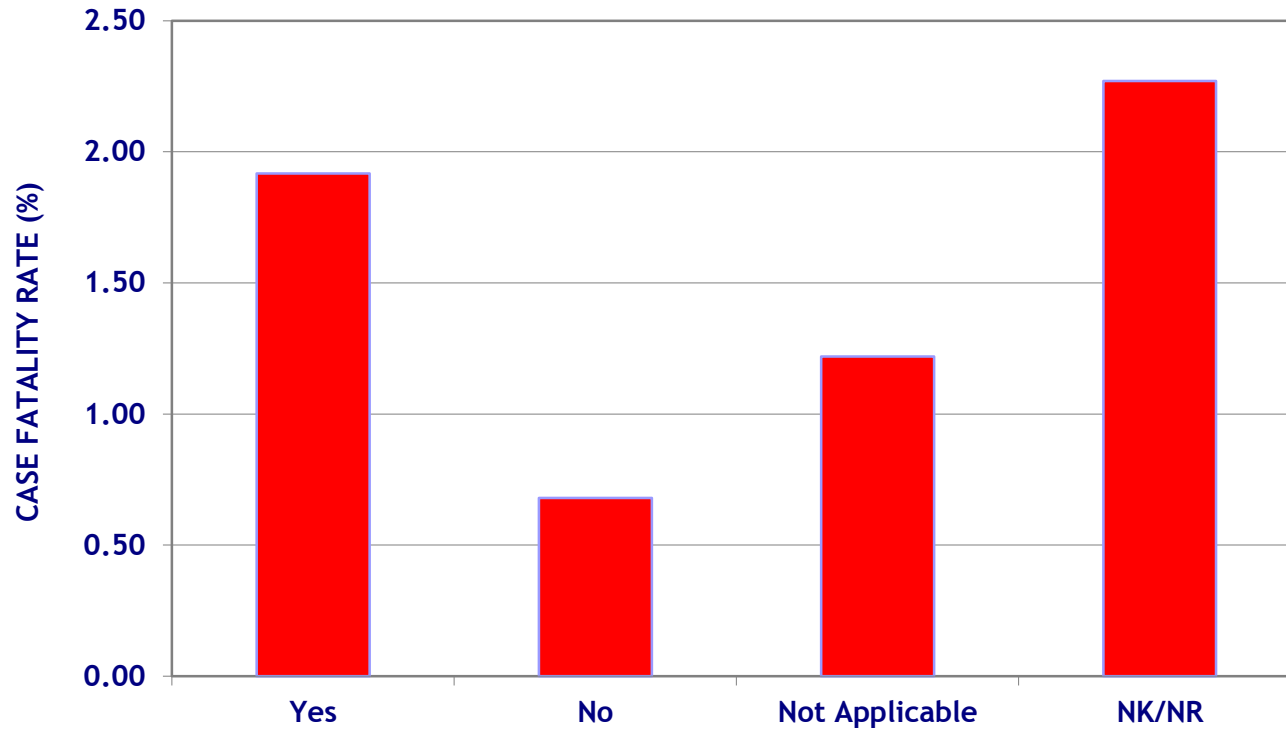


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Figure 20b

## Case Fatality Rate by Work-Related Injuries



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Table  
21

## Incidents and Case Fatality Rate by Intent

INTENT	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
Unintentional	128,765	87.62	1,630	1.27
Assault	15,404	10.48	920	5.97
Self-inflicted	1,145	0.78	148	12.93
Undetermined	992	0.68	70	7.06
Other	159	0.11	11	6.92
NK/NR	488	0.33	11	2.25
Total	146,953	100.00	2,790	

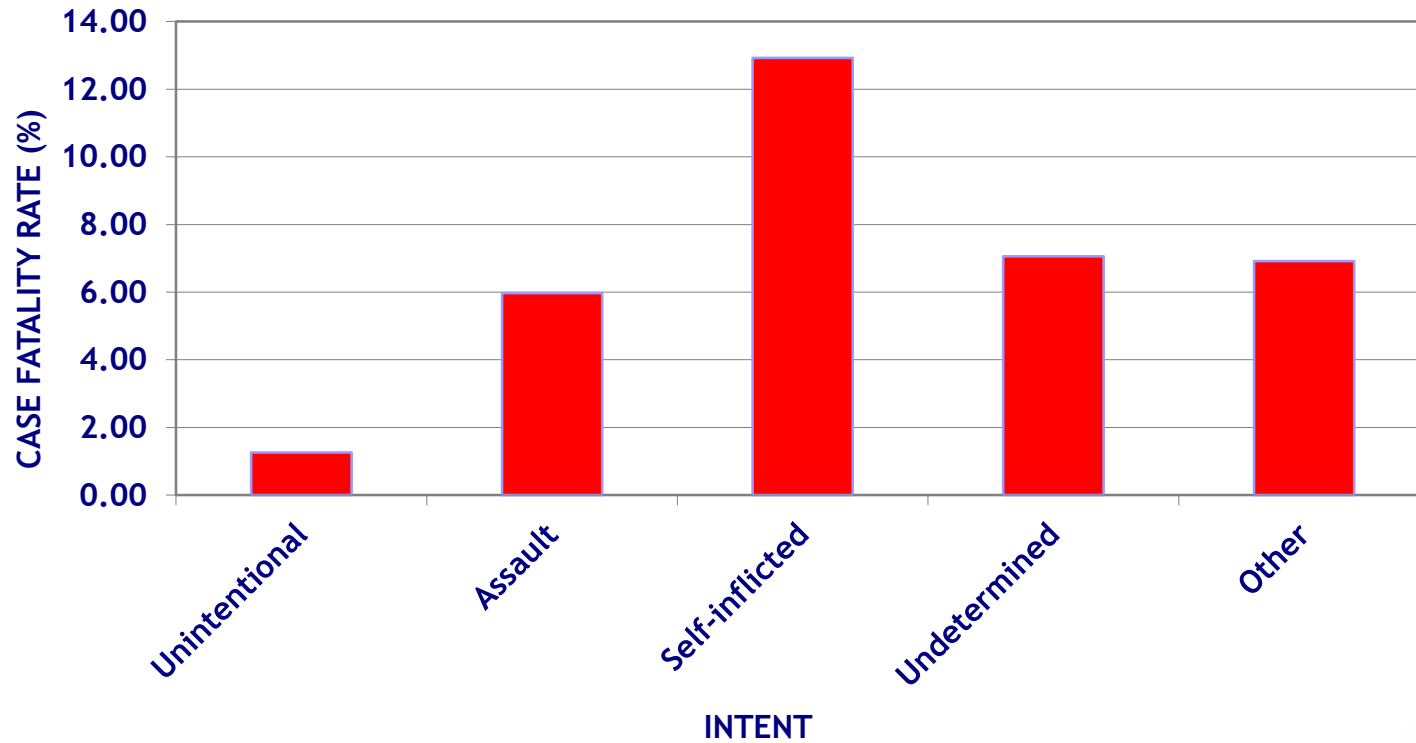


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Figure 21

## Case Fatality Rate by Intent



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Table  
22

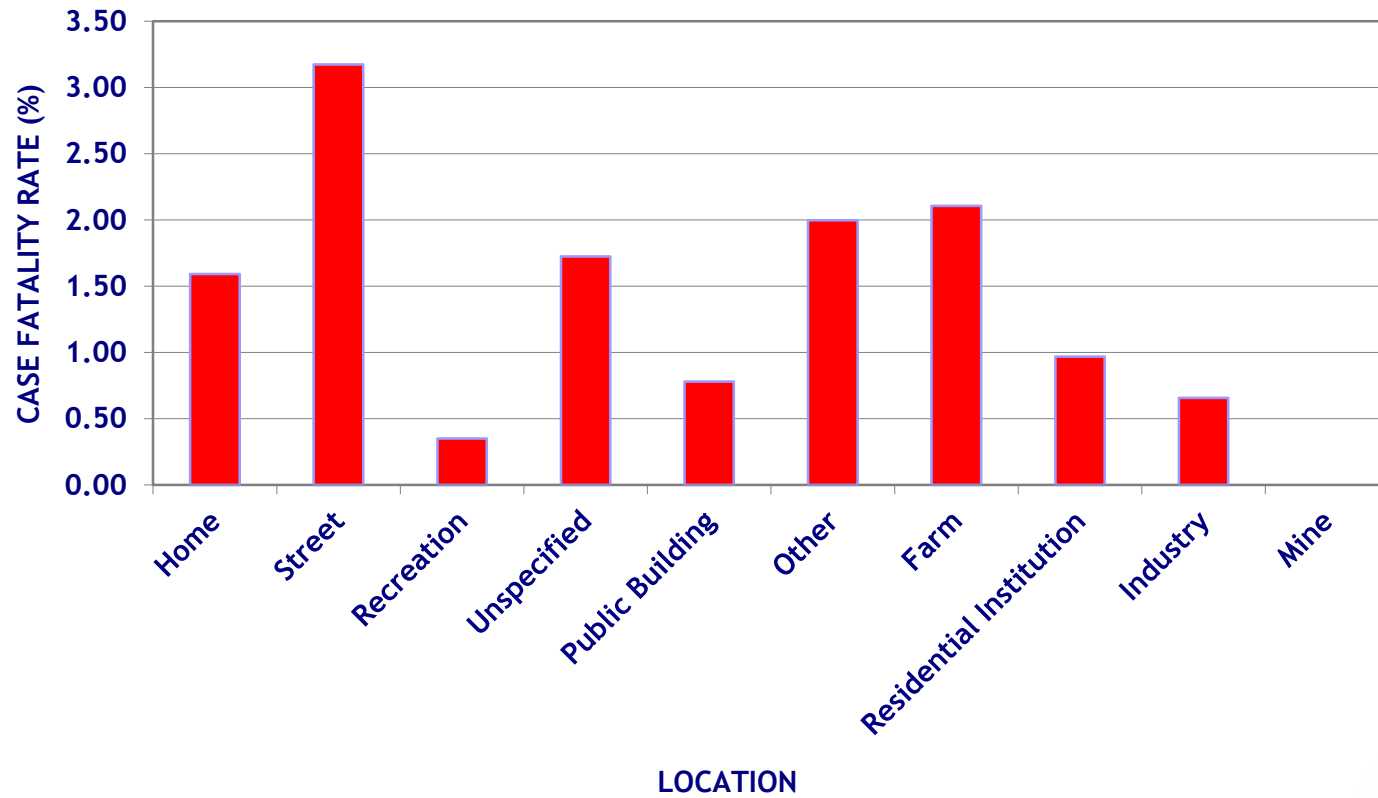
## Incidents and Case Fatality Rate by Location E-Code

LOCATION E-CODE DESCRIPTION	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
Home	46,672	31.76	743	1.59
Street	45,705	31.10	1,451	3.17
Recreation	21,380	14.55	75	0.35
Unspecified	10,952	7.45	189	1.73
Public Building	8,452	5.75	66	0.78
Other	6,605	4.49	132	2.00
Farm	997	0.68	21	2.11
Residential Institution	516	0.35	5	0.97
Industry	456	0.31	3	0.66
Mine	25	0.02	0	0.00
Not Applicable	79	0.05	2	2.53
NK/NR	5,114	3.48	103	2.01
Total	146,953	100.00	2,790	



Figure 22

## Case Fatality Rate by Location E-Code



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Table  
23

## Incidents by AIS Body Region

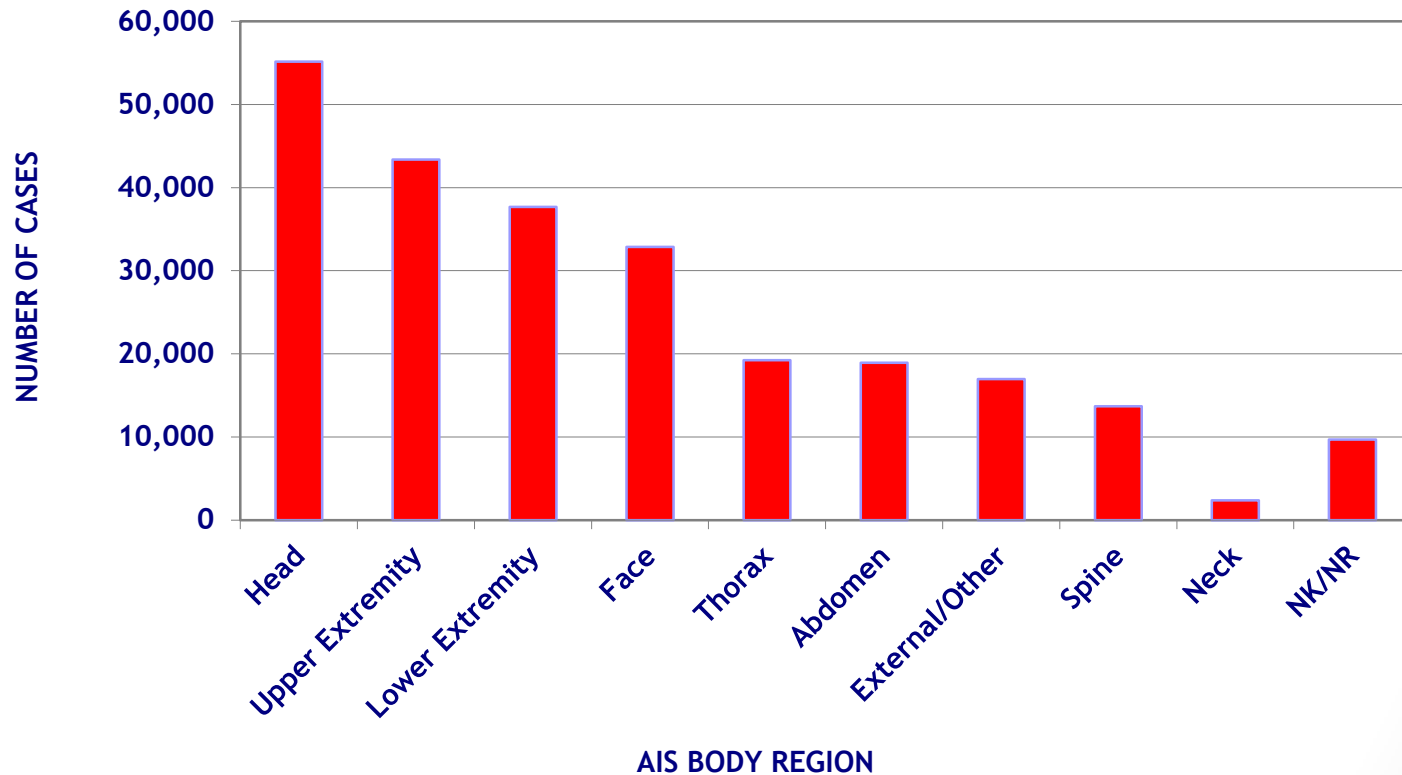
AIS BODY REGION	NUMBER	PERCENT
Head	55,173	37.54
Upper Extremity	43,384	29.52
Lower Extremity	37,688	25.65
Face	32,863	22.36
Thorax	19,229	13.09
Abdomen	18,937	12.89
External/Other	16,943	11.53
Spine	13,707	9.33
Neck	2,372	1.61
NK/NR	9,667	6.58
Total Incidents	146,953	

A patient can have injuries in multiple body regions.



Figure 23

## Incidents by AIS Body Region



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Table  
24

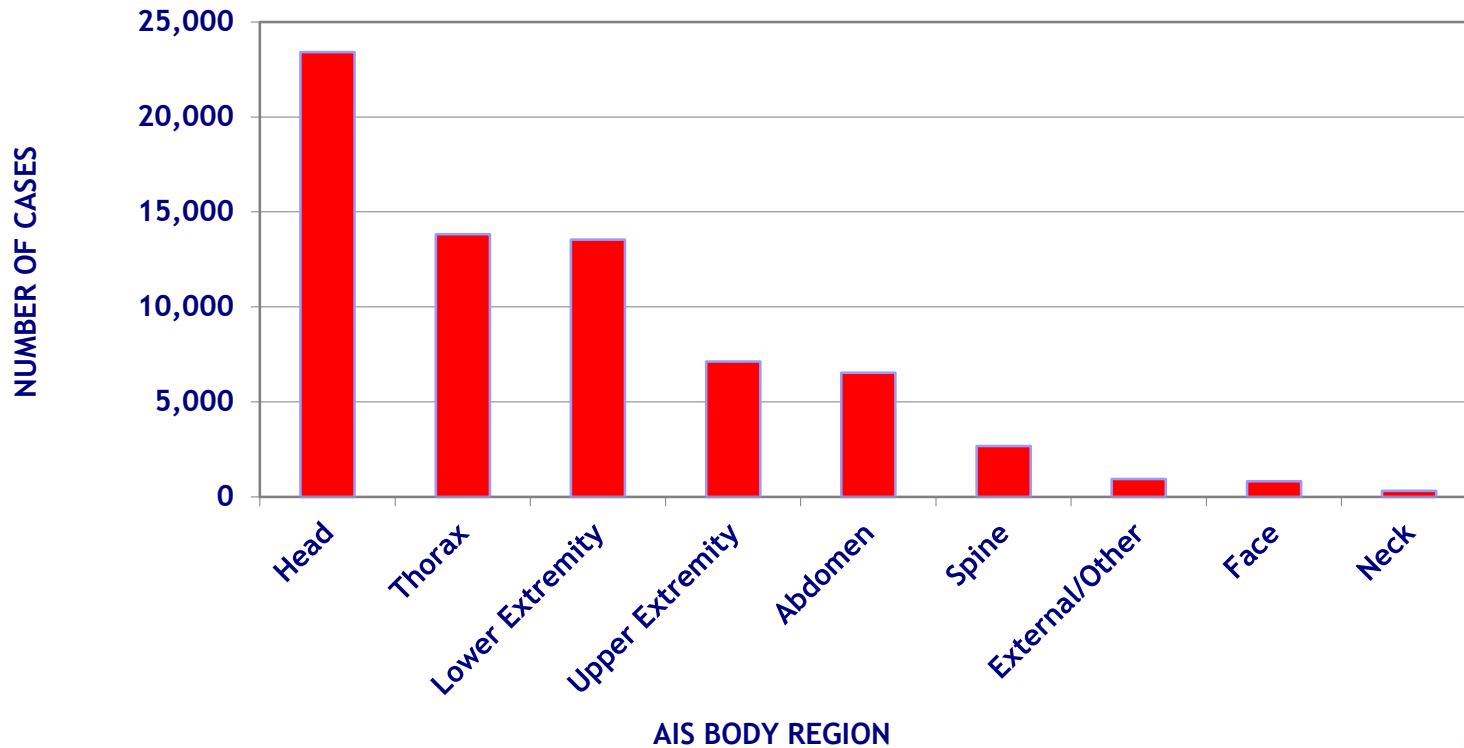
## Incidents and Case Fatality Rate with AIS $\geq$ 3 by AIS Body Region

AIS BODY REGION	NUMBER	DEATHS	CASE FATALITY RATE
Head	23,420	1,806	7.71
Thorax	13,821	1,287	9.31
Lower Extremity	13,549	360	2.66
Upper Extremity	7,122	80	1.12
Abdomen	6,541	506	7.74
Spine	2,680	192	7.16
External/Other	939	32	3.41
Face	822	70	8.52
Neck	316	65	20.57
Total Incidents/Deaths	146,953	2,790	



Figure 24a

## Incidents with AIS $\geq 3$ by AIS Body Region

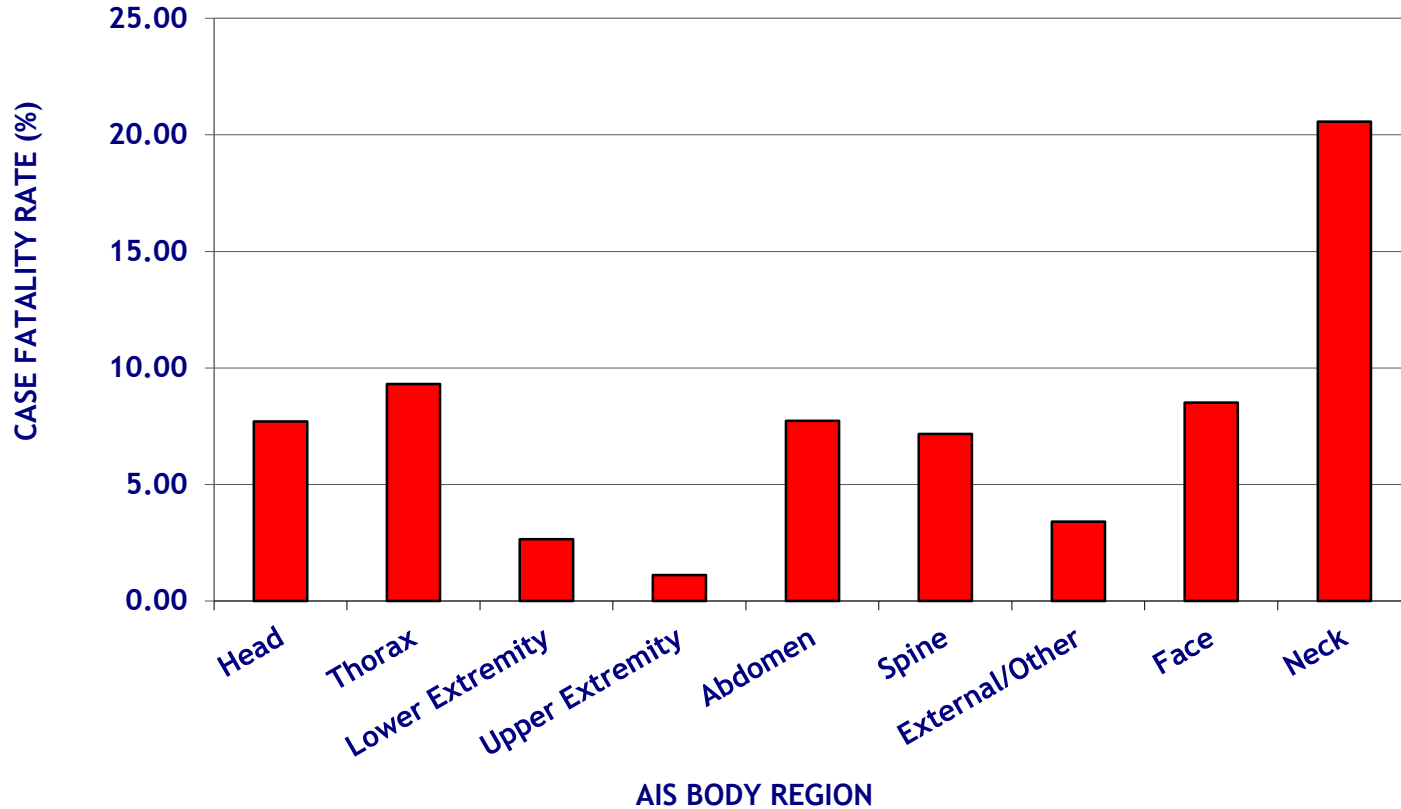


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Figure 24b

## Case Fatality Rate with AIS $\geq 3$ by AIS Body Region



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Table  
25

## Incidents and Case Fatality Rate by AIS Body Region

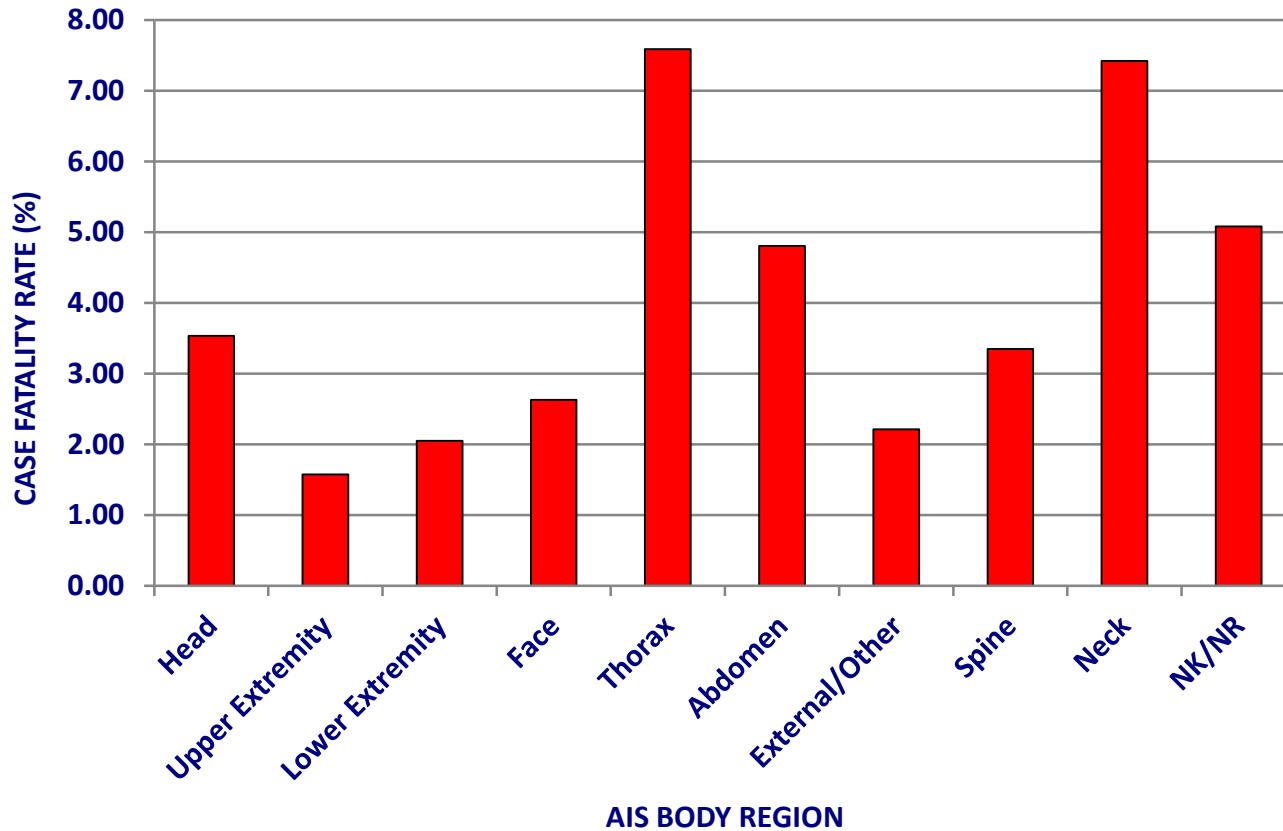
AIS BODY REGION	NUMBER	DEATHS	CASE FATALITY RATE
Head	55,173	1,950	3.53
Upper Extremity	43,384	683	1.57
Lower Extremity	37,688	773	2.05
Face	32,863	864	2.63
Thorax	19,229	1,459	7.59
Abdomen	18,937	910	4.81
External/Other	16,943	375	2.21
Spine	13,707	459	3.35
Neck	2,372	176	7.42
NK/NR	9,667	491	5.08
Total Incidents/Deaths	146,953	2,790	

A patient can have injuries in multiple body regions.



Table 25

## Case Fatality Rate by AIS Body Region



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Table  
26

## Incidents by Protective Devices

PROTECTIVE DEVICES	NUMBER	PERCENT
None	46,362	31.55
Lap Belt	11,552	7.86
Shoulder Belt	10,370	7.06
Helmet (e.g. bicycle, skiing, motorcycle)	8,276	5.63
Airbag Present	8,054	5.48
Child Restraint (booster seat, child car seat)	1,970	1.34
Protective Clothing (e.g., padded leather pants)	1,555	1.06
Protective Non-Clothing Gear (e.g., shin guard)	627	0.43
Other	595	0.40
Eye Protection	65	0.04
Personal Floatation Device	26	0.02
Not Applicable	52,942	36.03
Not Known/Not Recorded	21,305	14.50
Total Incidents	146,953	



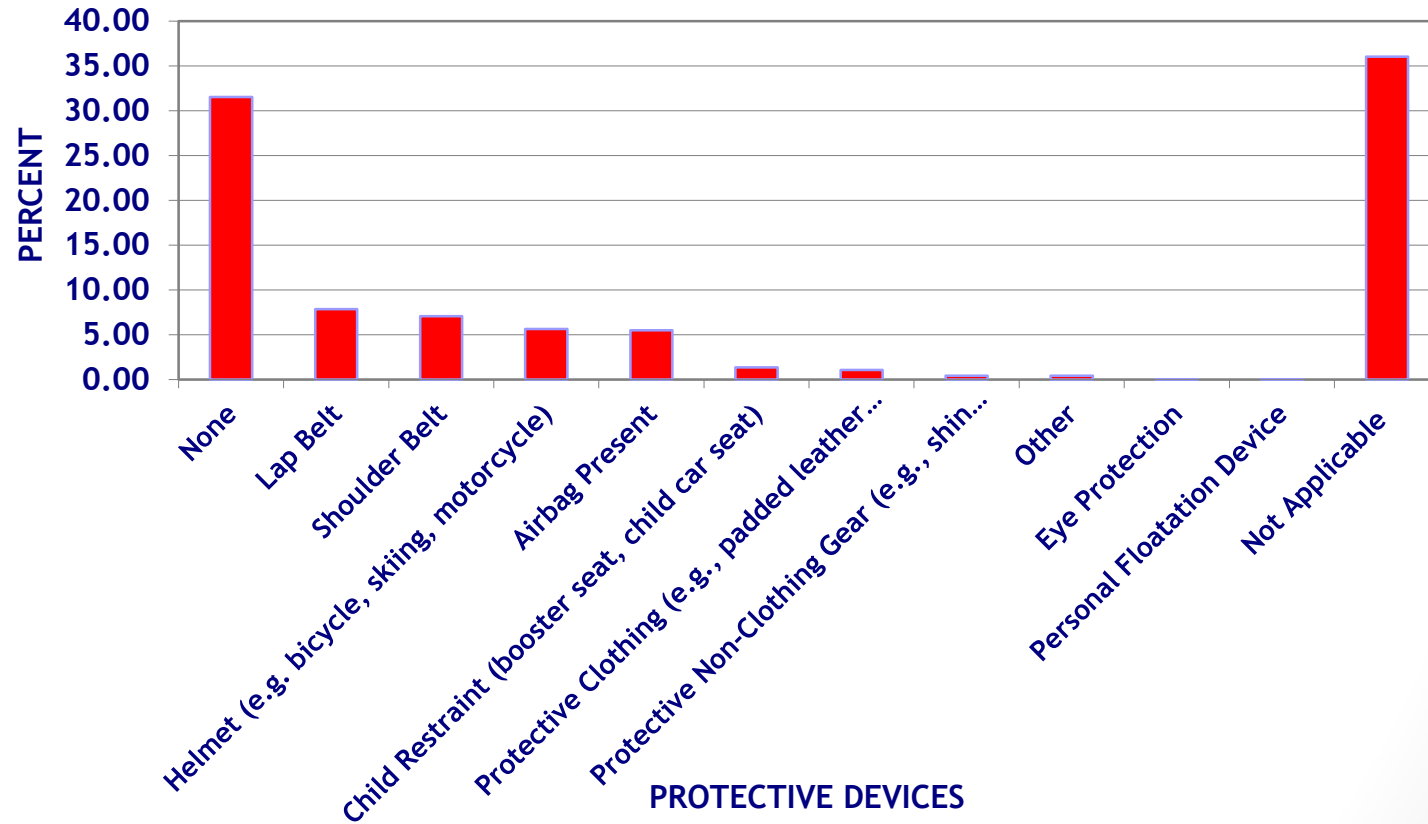
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Figure 26

## Incidents by Protective Devices



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# OUTCOMES INFORMATION



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Table  
27

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

MECHANISM	NUMBER	MEDIAN
Other specified and classifiable	1,568	66
Fire/flare	521	64
Transport, other	4,760	64
Natural/environmental, Other	241	62
Machinery	200	61
Hot object/substance	1,131	60
Natural/environmental, Bites and stings	576	58
Fall	13,489	55
Overexertion	188	55
Poisoning	38	55
Pedal cyclist, other	1,883	52
Drowning/submersion	78	50
Struck by, against	5,422	49
Unspecified	417	49
Pedestrian, other	369	48
Other specified, not elsewhere classifiable	270	46
Motor Vehicle Traffic	22,910	44
Suffocation	87	40
Cut/pierce	2,413	36
Firearm	3,967	30
NK/NR	249	34

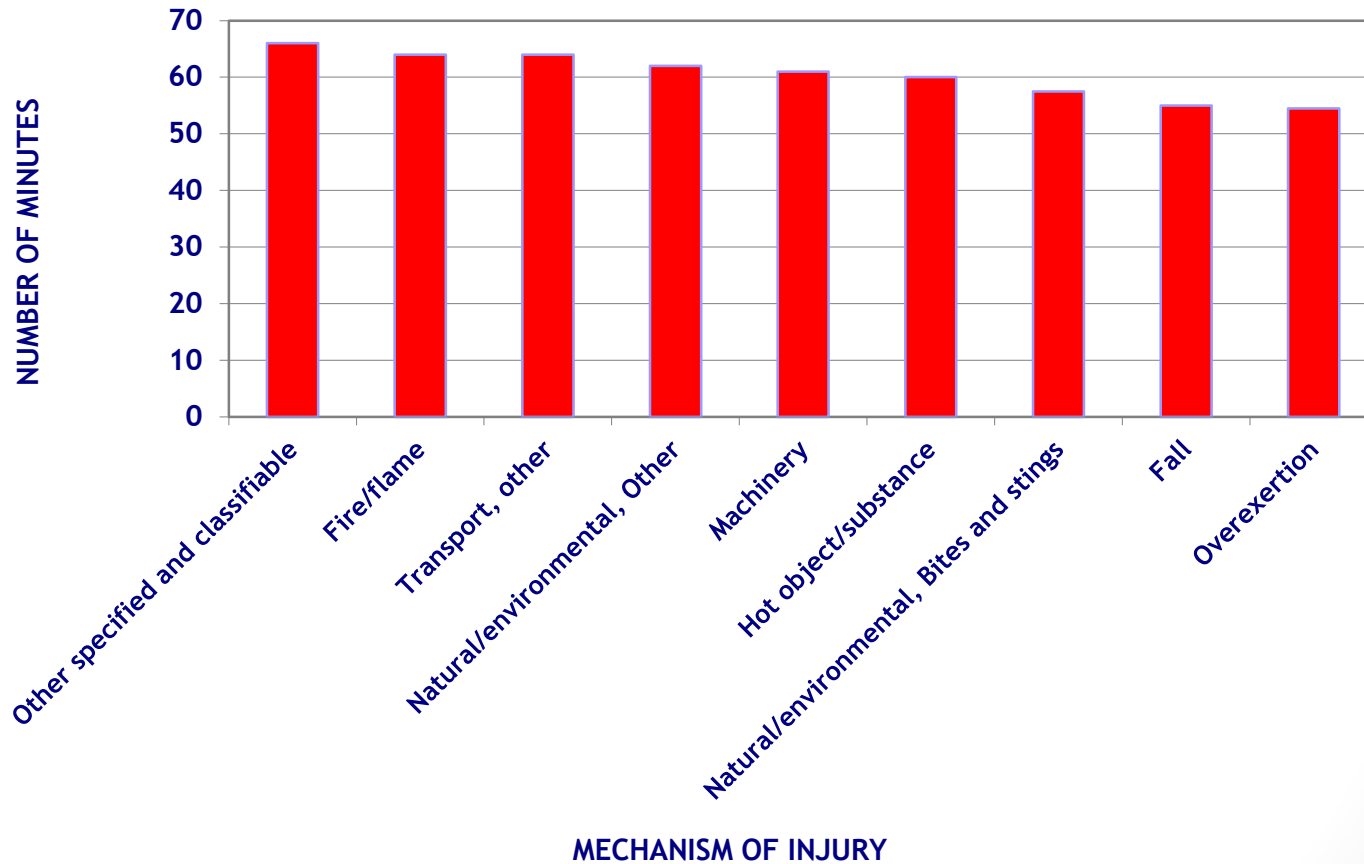


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Figure 27

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



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Table  
28

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

ISS	NUMBER	MEDIAN
1–8	30,634	47
9–15	15,594	53
16–24	7,571	54
>24	5,403	50
NK/NR	1,590	46



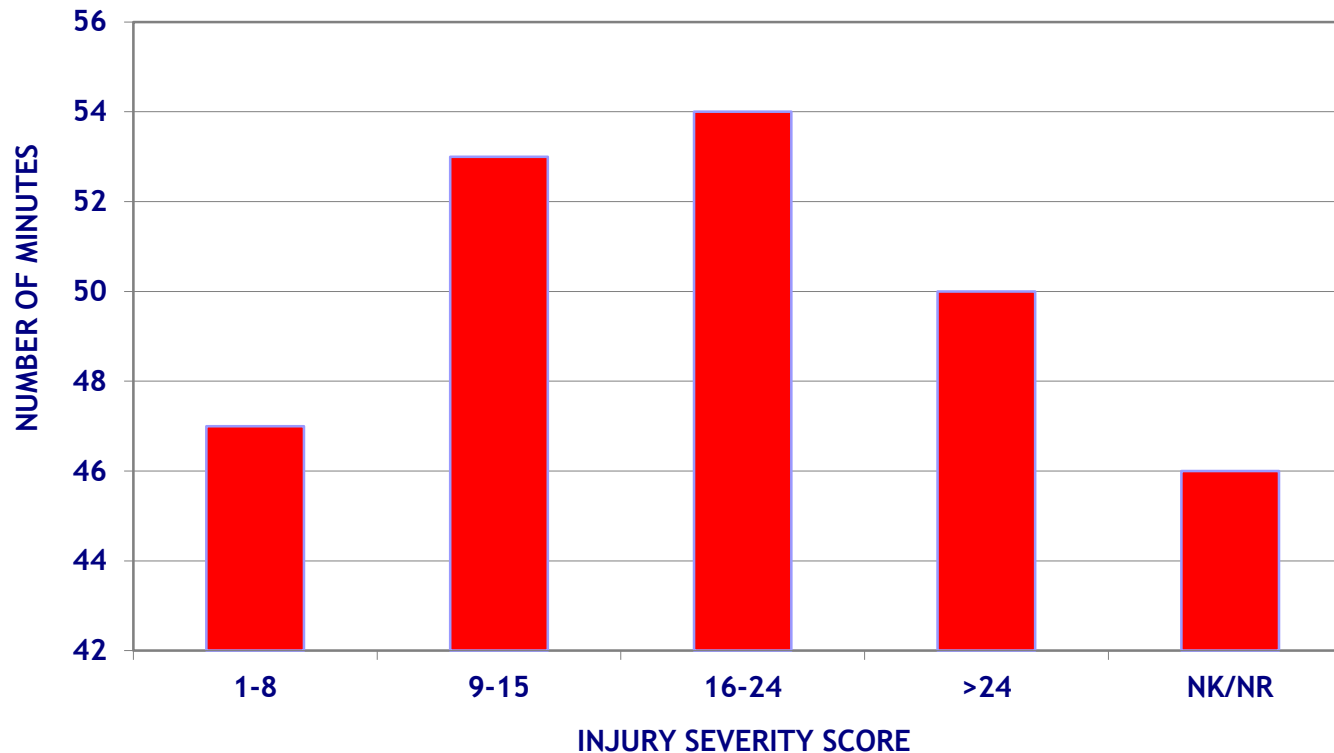
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ISS is calculated using AIS submitted by hospitals and then crosswalked to AIS98. If hospital does not submit AIS98 then ISS is based on AIS derived from ICDMAP-90.

Figure 28

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



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ISS is 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.

Table  
29

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

MECHANISM	NUMBER	MEDIAN
Poisoning	99	3
Cut/pierce	5,533	2
Fire/flame	1,574	2
Firearm	6,785	2
Hot object/substance	4,224	2
MVT	37,181	2
Machinery	556	2
Natural/environmental, Other	660	2
Other specified and classifiable	4,861	2
Other specified, not elsewhere classifiable	866	2
Overexertion	682	2
Pedestrian, other	761	2
Suffocation	153	2
Transport, other	10,832	2
Unspecified	1,602	2
Drowning/submersion	139	1
Fall	46,228	1
Natural/environmental, Bites and stings	2,055	1
Pedal cyclist, other	5,244	1
Struck by, against	15,902	1
NK/NR	483	1

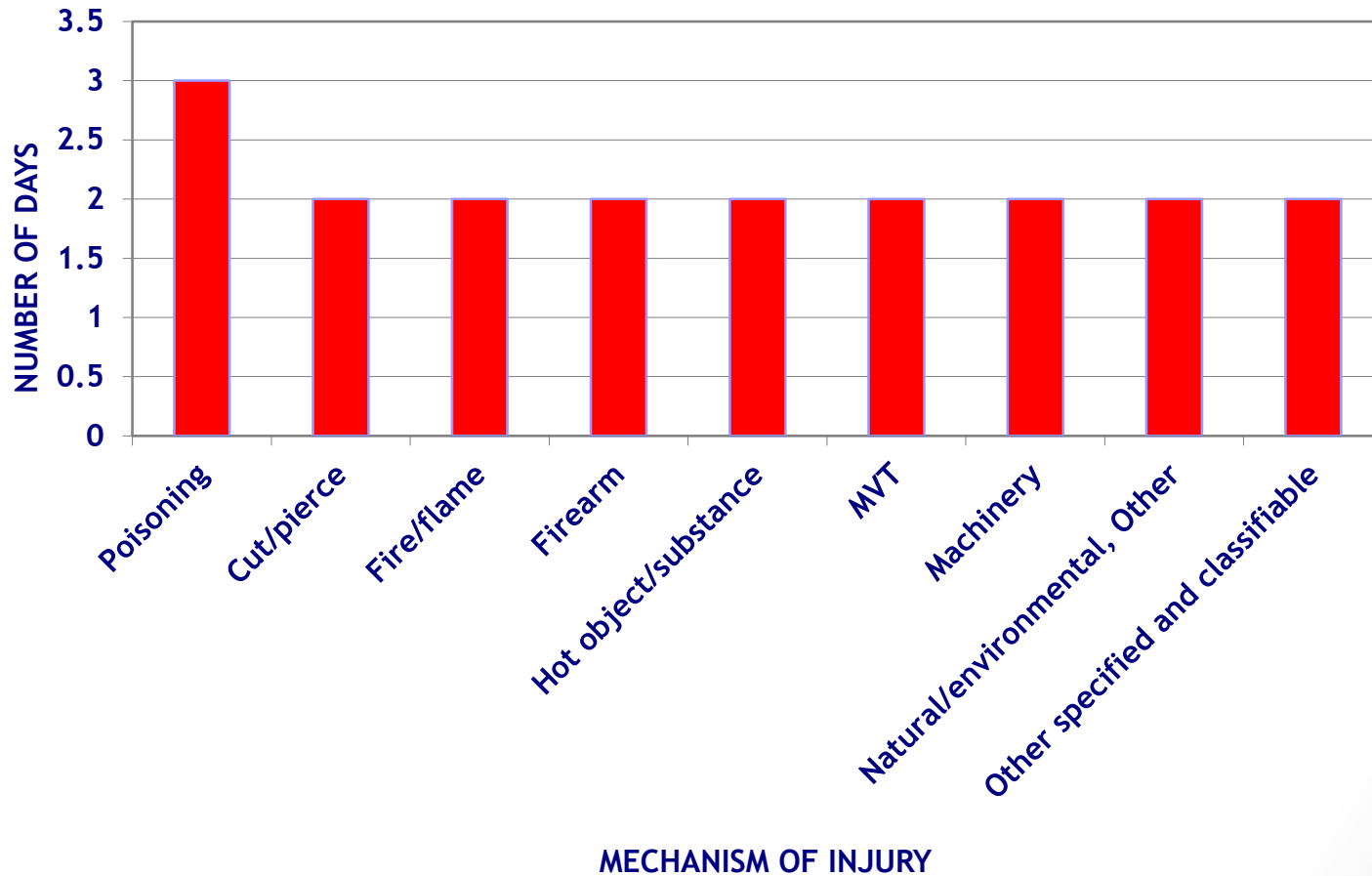


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Figure 29

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



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Table  
30

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

ISS	NUMBER	MEDIAN
1–8	82,098	1
9–15	35,881	2
16–24	15,456	3
>24	8,561	6
NK/NR	4,475	1



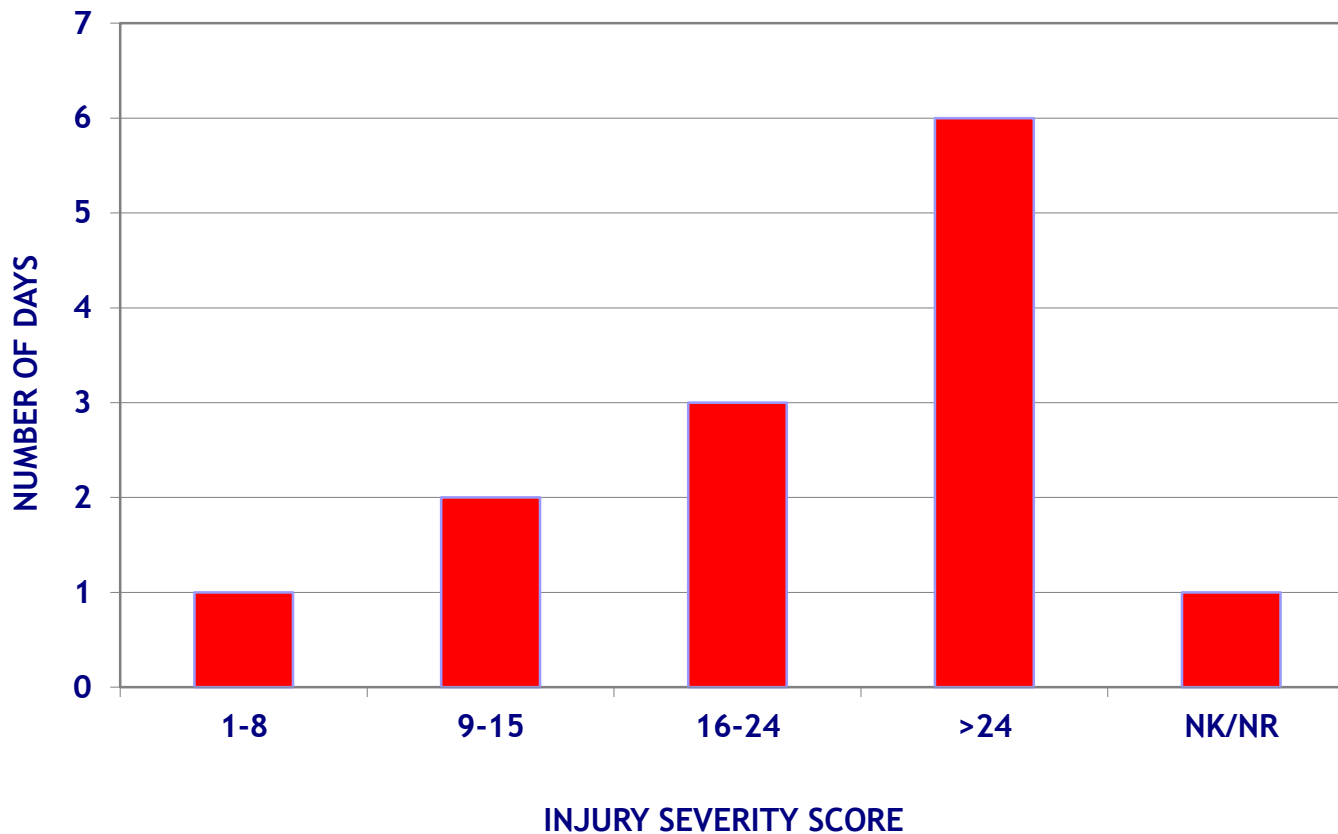
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ISS is calculated using AIS submitted by hospitals and then crosswalked to AIS98. If hospital does not submit AIS98 then ISS is based on AIS derived from ICDMAP-90.

Figure 30

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



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ISS is 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.

Table  
31

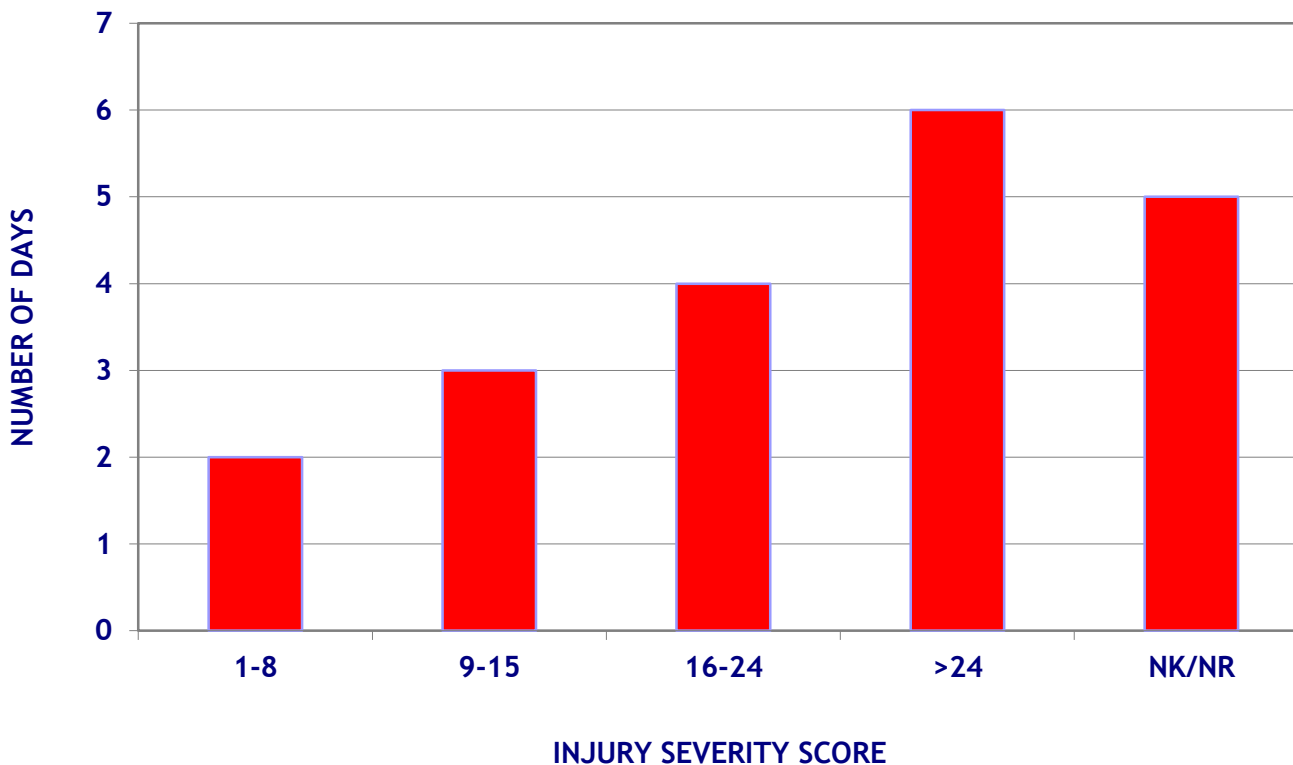
## Median Ventilator Days by Injury Severity Score

ISS	NUMBER	MEDIAN
1–8	611	2
9–15	832	3
16–24	1,609	4
>24	3,109	6
NK/NR	79	5



Figure 31

## Median Ventilator Days by Injury Severity Score



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ISS is 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.

Table  
32

## Median ICU Days by Mechanism of Injury

MECHANISM	NUMBER	MEDIAN
Drowning/submersion	38	7
Fire/flame	306	5
Firearm	1532	4
MVT	7461	4
Other specified and classifiable	1002	4
Poisoning	22	4
Suffocation	51	4
Unspecified	191	4
Cut/pierce	423	3
Hot object/substance	406	3
Machinery	44	3
Natural/environmental, Bites and stings	106	3
Natural/environmental, Other	122	3
Other specified, not elsewhere classifiable	83	3
Overexertion	8	3
Pedestrian, other	127	3
Transport, other	1528	3
Fall	2802	2
Pedal cyclist, other	468	2
Struck by, against	1212	2
NK/NR	90	2

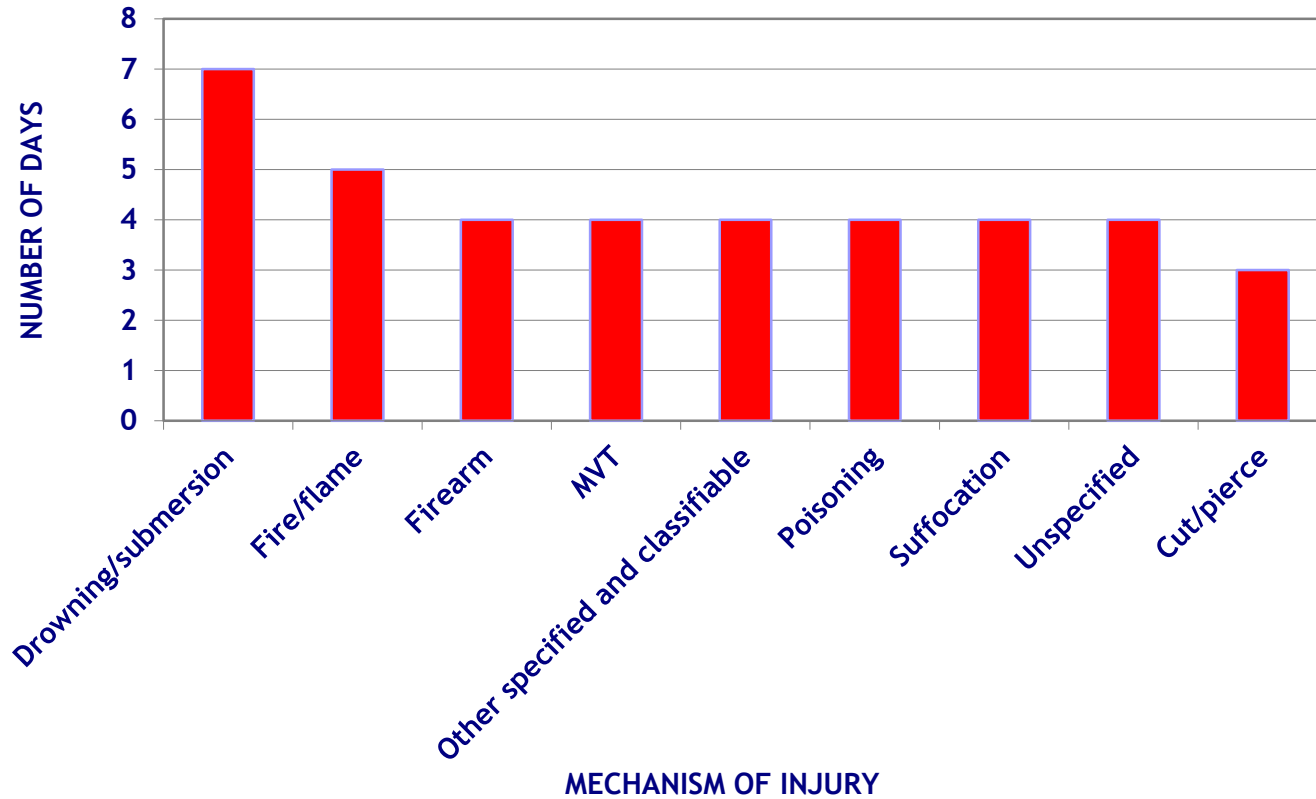


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Figure 32

## Median ICU Days by Mechanism of Injury



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Table  
33

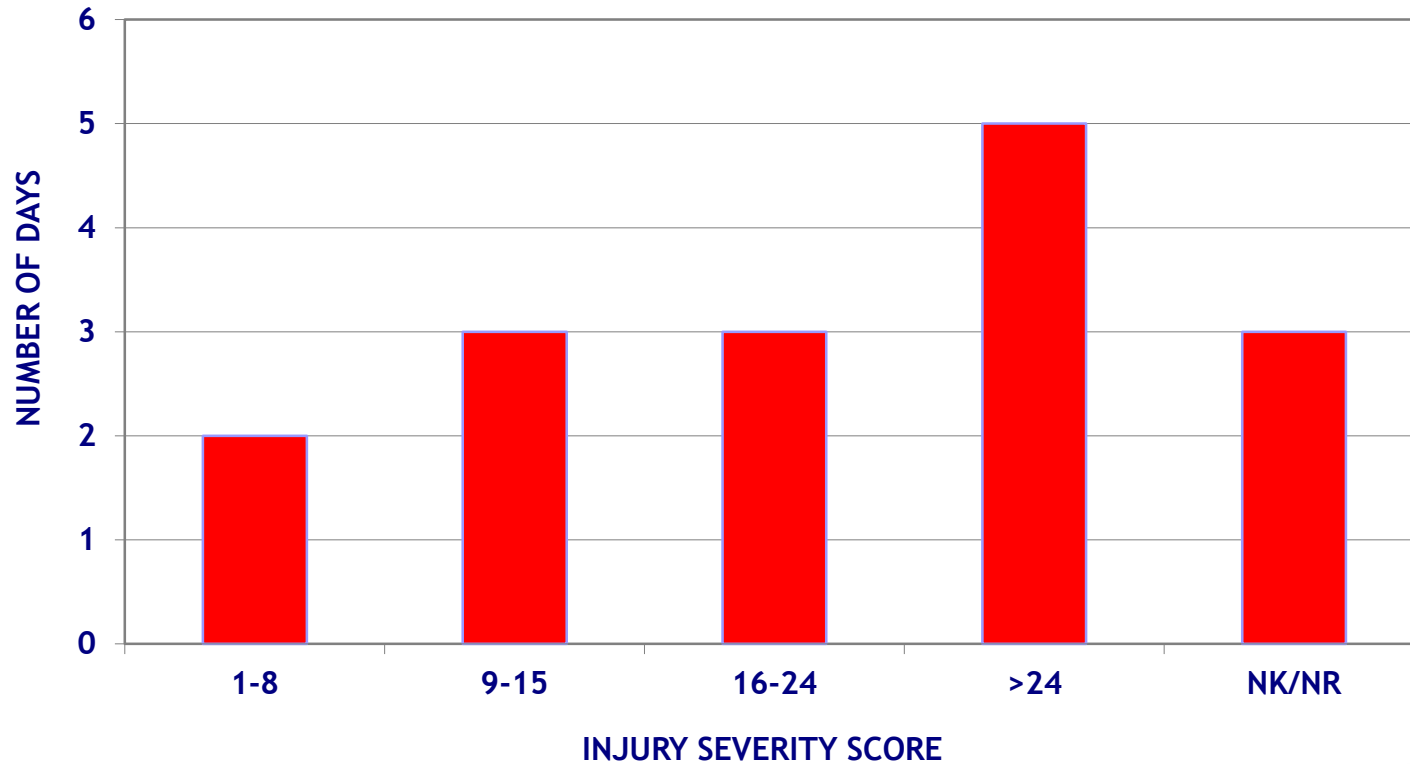
## Median ICU Days by Injury Severity Score

ISS	NUMBER	MEDIAN
1–8	2,777	2
9–15	4,147	3
16–24	5,649	3
>24	5,295	5
NK/NR	179	3



Figure 33

## Median ICU Days by Injury Severity Score



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Table  
34

## Incidents by ED Discharge Disposition

ED DISCHARGE DISPOSITION	NUMBER	PERCENT
Floor bed	60,979	41.50
Intensive Care Unit	24,016	16.34
Operating Room	19,116	13.01
Home without services	18,743	12.75
Transferred to another hospital	9,307	6.33
Telemetry/step-down unit	4,341	2.95
Observation unit	3,598	2.45
Died	1,106	0.75
Other (jail, institutional care facility, etc.)	489	0.33
Home with services	177	0.12
Left against medical advice	126	0.09
Not Applicable	3,396	2.31
NK/NR	1,559	1.06
Total	146,953	100.00

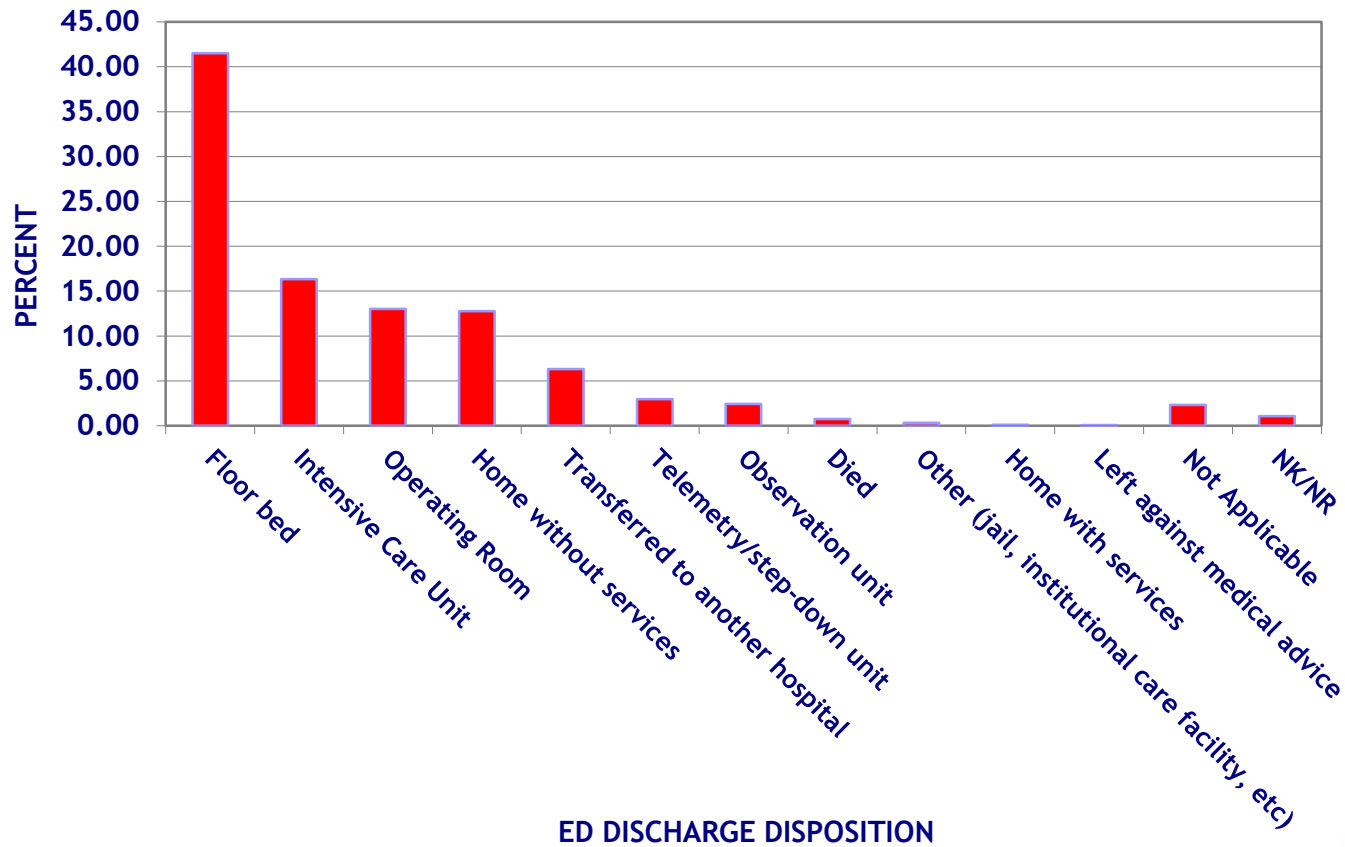


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Figure 34

## Incidents by ED Discharge Disposition



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Table  
35

## Reasons for Death in ED

DIED IN ED	NUMBER	PERCENT
DOA: Declared dead on arrival with minimal or no resuscitation attempt (no invasive procedures attempted)	222	7.96
Death after failed resuscitation attempt (failure to respond within 15 minutes)	307	11.00
Died in ED (other than failed resuscitation attempt)	577	20.68
All other in-hospital deaths	1,684	60.36
Total Deaths	2,790	100.00

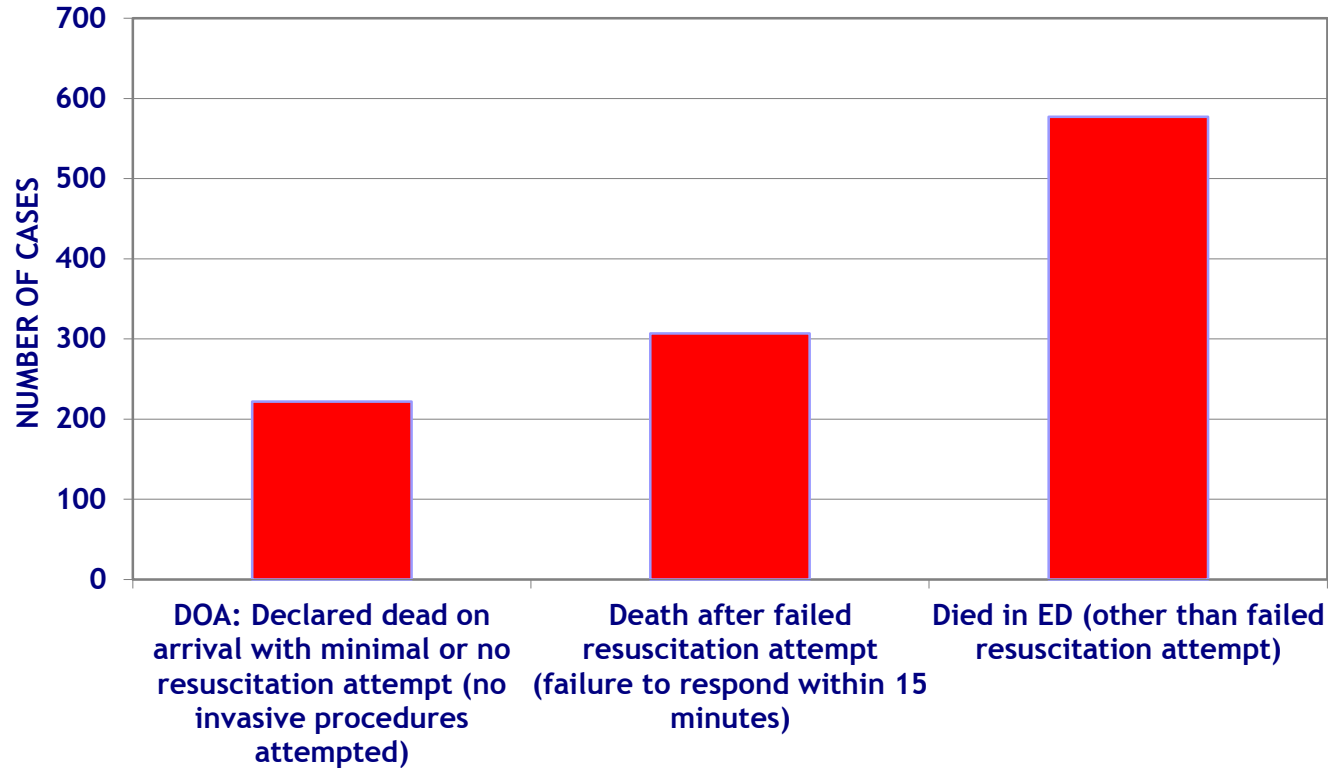


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Figure 35

## Reasons for Death in ED



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Table  
36

## Incidents by Hospital Discharge Disposition

HOSPITAL DISCHARGE DISPOSITION	NUMBER	PERCENT
Home with no home services	105,636	71.88
Transferred to another type of rehabilitation or long term care	3,442	2.34
Transferred to home under care of Home Health Agency	2,374	1.62
Expired	1,684	1.15
Transferred to another acute care hospital using EMS	1483	1.01
Transferred to an Intermediate Care Facility	961	0.65
Transferred to Skilled Nursing Facility	336	0.23
Left against medical advice	262	0.18
Transferred to hospice care	16	0.01
Not Applicable	30,321	20.63
NK/NR	438	0.30
Total	146,953	100.00

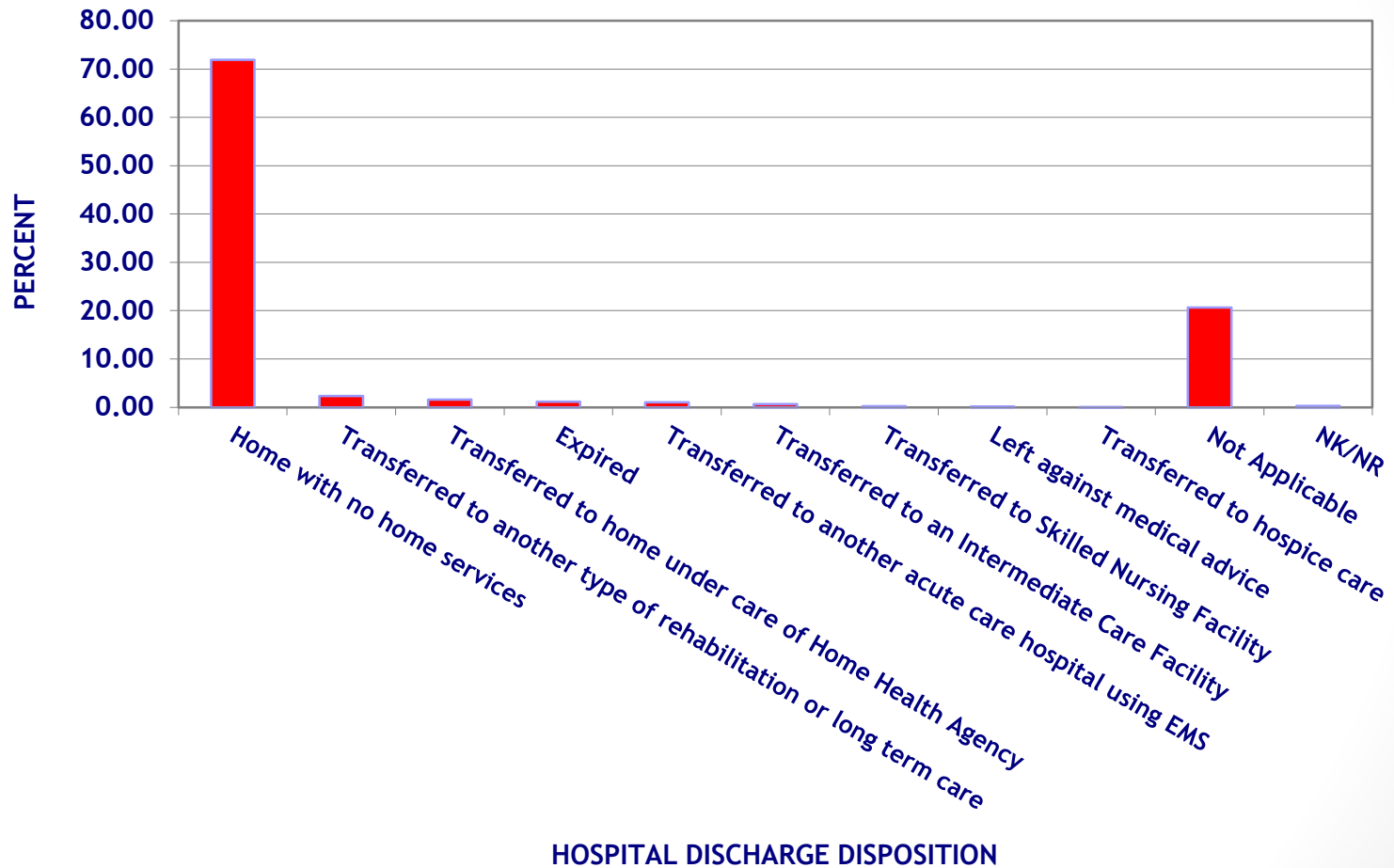


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Figure 36

## Incidents by Hospital Discharge Disposition



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# REGIONAL ANALYSIS



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Table  
37

## Incidents by Region

REGION	NUMBER	PERCENT
SOUTH	53,996	36.74
MIDWEST	40,773	27.75
WEST	29,478	20.06
NORTHEAST	22,706	15.45
Total	146,953	100.00



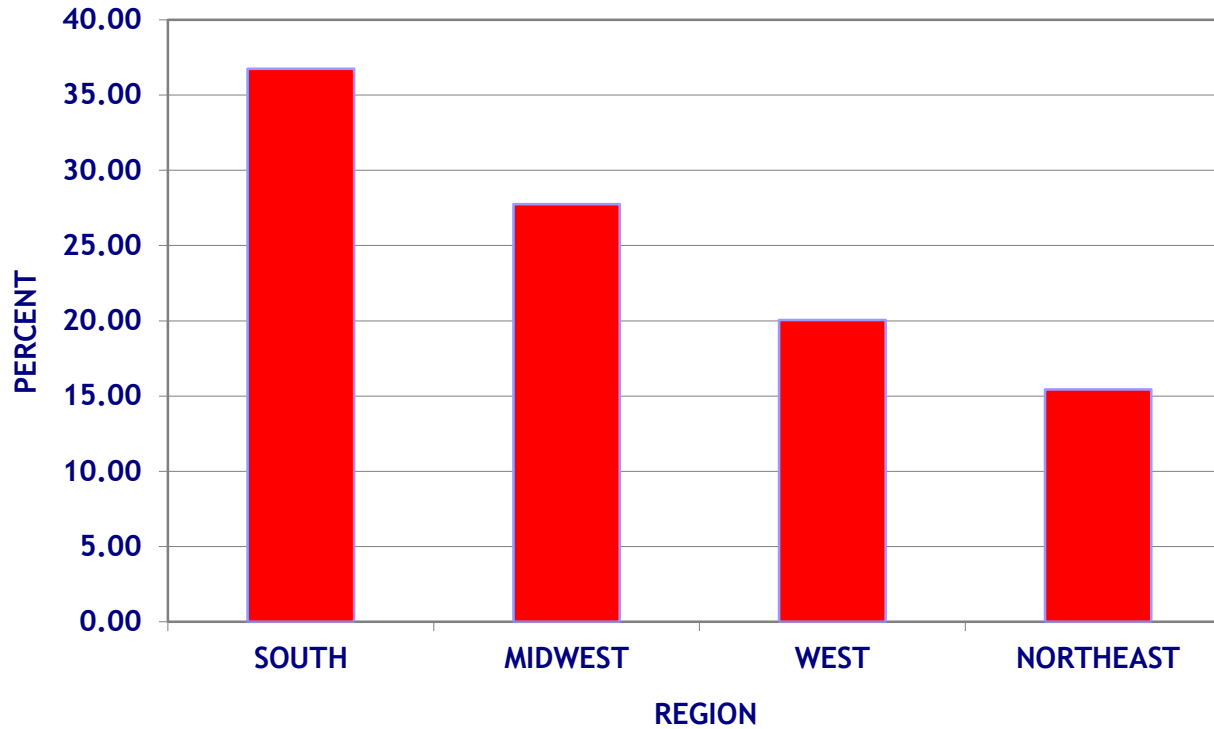
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Figure 37

## Incidents by Region



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Table  
38

## Case Fatality Rate by Region

REGION	NUMBER	DEATHS	CASE FATALITY RATE
SOUTH	53,996	1103	2.04
MIDWEST	40,773	747	1.83
WEST	29,478	571	1.94
NORTHEAST	22,706	369	1.63
Total	146,953	2790	

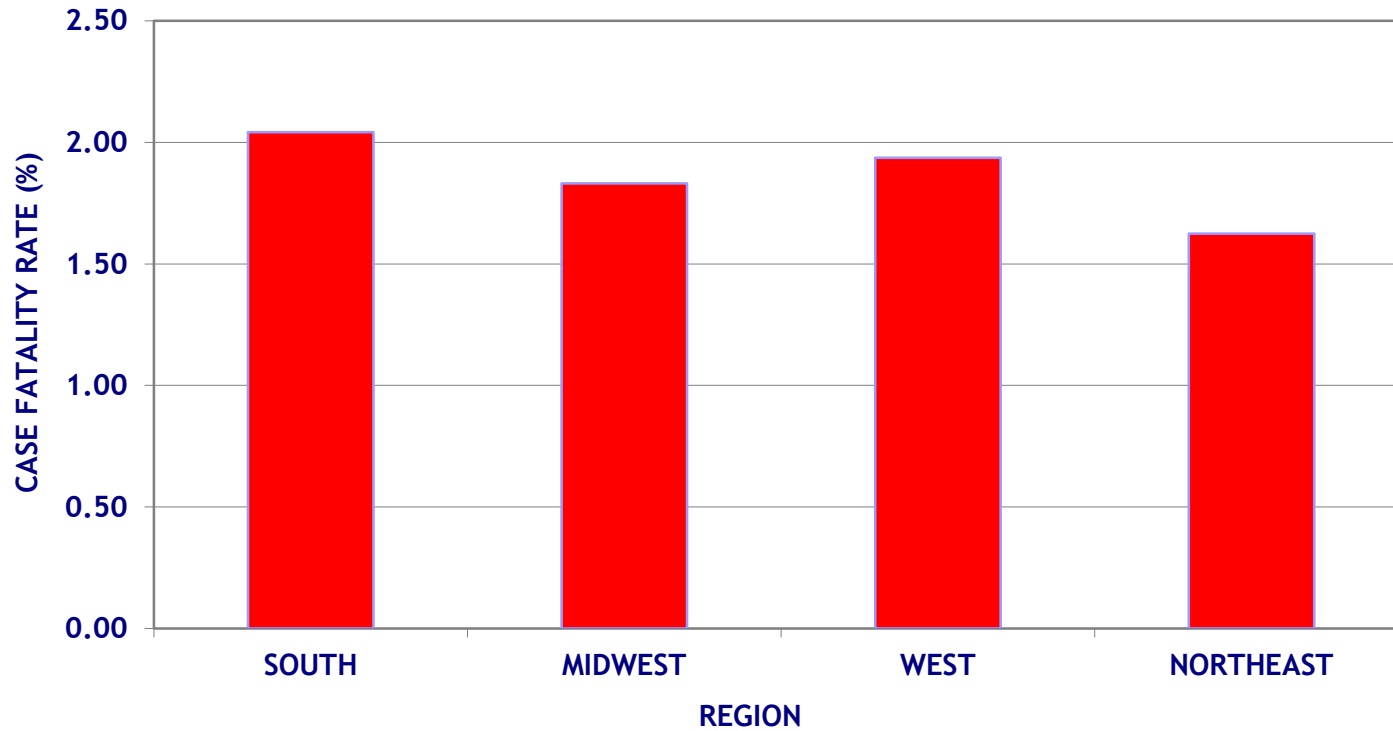


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Figure 38

## Case Fatality Rate by Region



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Table  
39

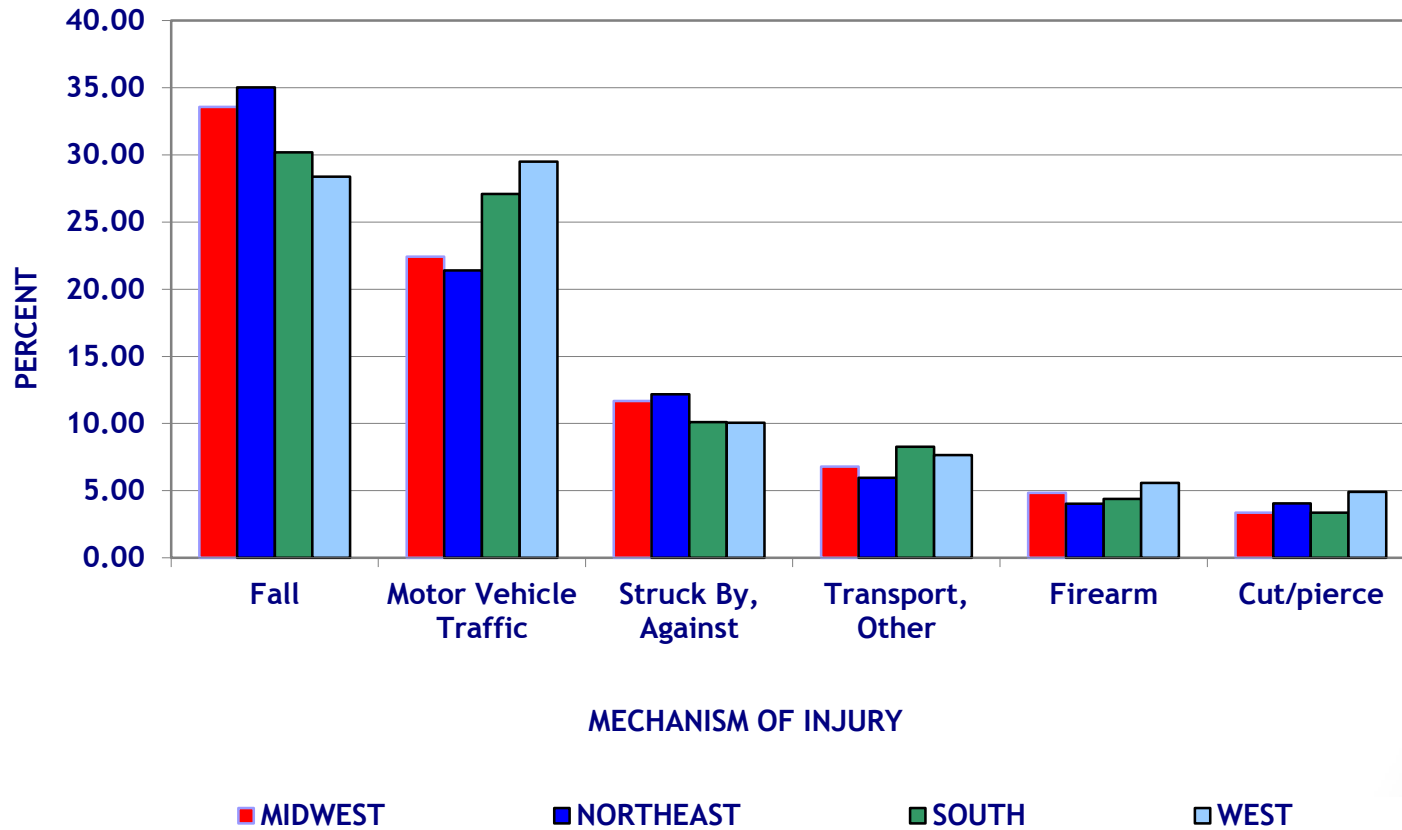
## Mechanism of Injury by Region

MECHANISM	NUMBER	MIDWEST PERCENT	NORTHEAST PERCENT	SOUTH PERCENT	WEST PERCENT
Fall	46,312	33.57	35.02	30.20	28.38
Motor Vehicle Traffic	37,321	22.42	21.40	27.09	29.49
Struck by, Against	15,945	11.67	12.17	10.11	10.05
Transport, Other	10,853	6.80	5.97	8.27	7.66
Firearm	6,907	4.85	4.04	4.38	5.58
Cut/pierce	5,550	3.35	4.05	3.37	4.90
Pedal Cyclist, Other	5,250	3.79	4.63	2.73	3.99
Other Specified and Classifiable	4,873	3.39	2.79	3.80	2.73
Hot Object/Substance	4,229	3.17	3.31	3.12	1.71
Natural/Environmental, Bites and Stings	2,057	1.48	1.07	1.75	0.90
Unspecified	1,607	1.09	1.32	1.16	0.80
Fire/Flame	1,578	1.26	1.00	1.19	0.66
Other Specified, Not Elsewhere Classifiable	870	0.65	0.65	0.59	0.47
Pedal Cyclist, Other	765	0.49	0.57	0.53	0.51
Overexertion	682	0.53	0.70	0.46	0.18
Natural/Environmental, Other	662	0.48	0.34	0.49	0.41
Machinery	558	0.50	0.35	0.34	0.32
Suffocation	156	0.13	0.07	0.11	0.11
Drowning	140	0.10	0.09	0.12	0.05
Poisoning	99	0.11	0.04	0.06	0.04
NK/NR	488	0.11	0.37	0.11	1.01
Total	146,953	99.94	99.96	99.97	99.99



Figure 39

## Selected Mechanism of Injury by Region



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Table  
40

## Injury Severity Score by Region

ISS	NUMBER	MIDWEST PERCENT	NORTHEAST PERCENT	SOUTH PERCENT	WEST PERCENT
1–8	82,336	51.23	56.12	54.80	56.03
9–15	35,936	28.09	25.38	23.02	24.45
16–24	15,497	11.24	10.44	12.11	10.55
>24	8,691	5.62	6.10	6.68	5.91
NK/NR	4,493	3.82	1.97	3.38	3.06
Total	146,953	100.00	100.00	100.00	100.00



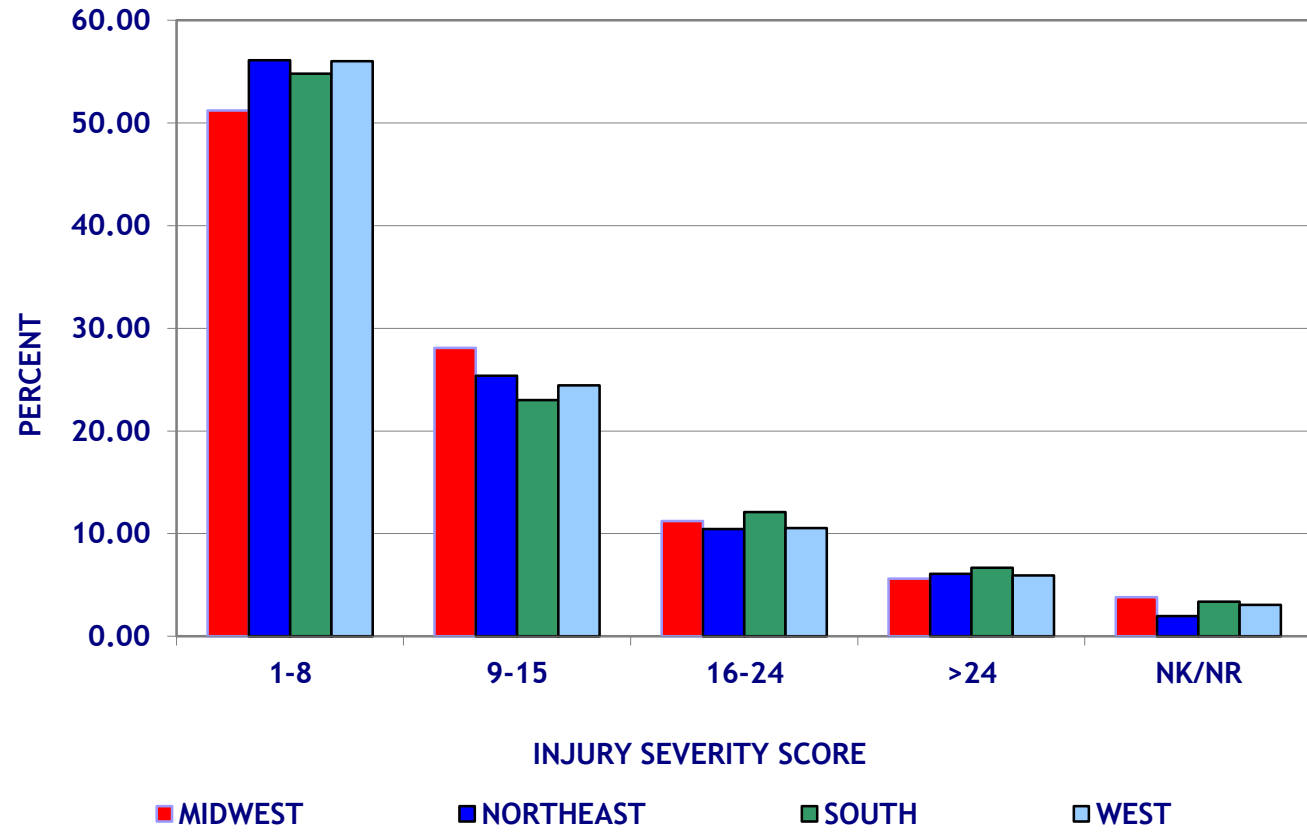
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ISS is calculated using AIS submitted by hospitals and then crosswalked to AIS98. If hospital does not submit AIS98 then ISS is based on AIS derived from ICDMAP-90.

Figure 40

## Injury Severity Score by Region



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ISS is 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.

Table  
41

## Incidents by Rurality

CATEGORY	NUMBER	PERCENT
Urban	68,303	78.93
Rural	9,703	11.21
Suburban	6,108	7.06
Wilderness	2,418	2.79
Total	86,532	78.93



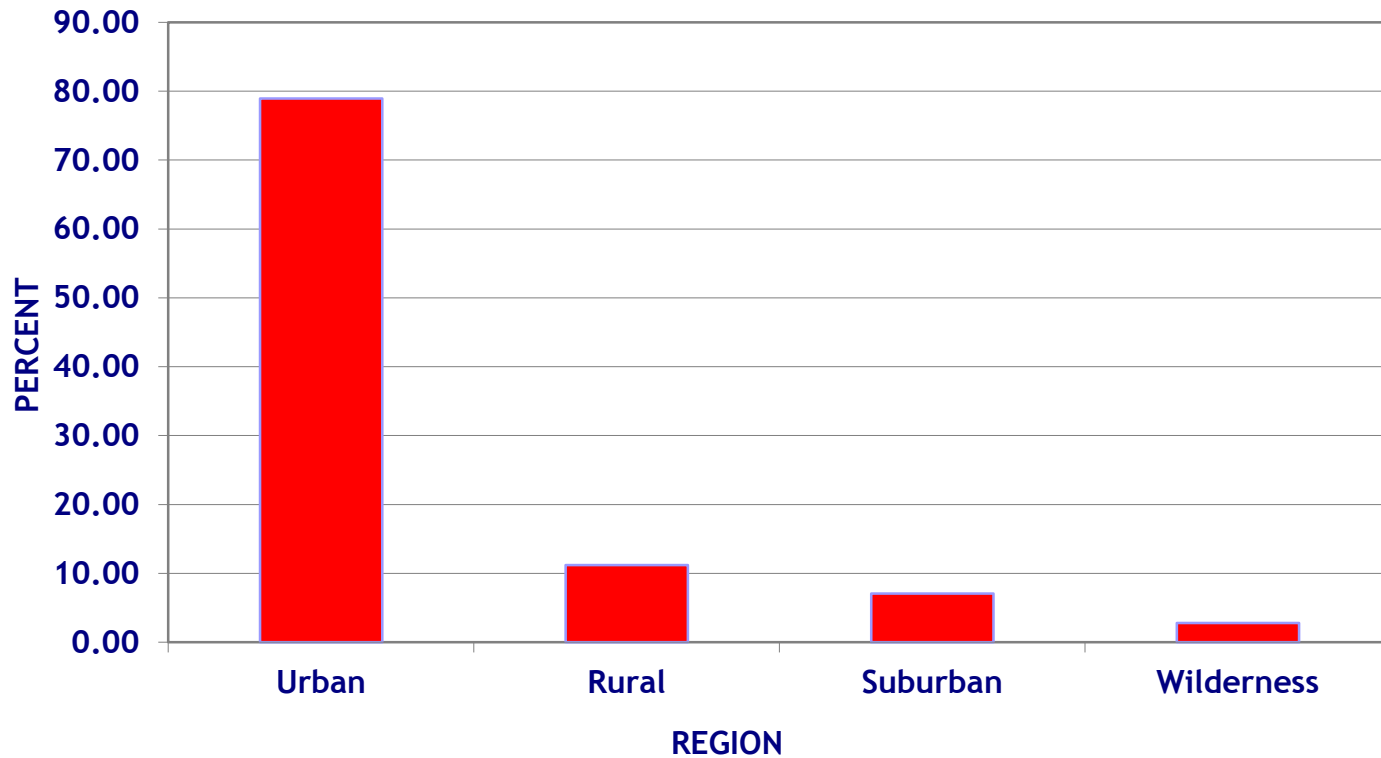
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Figure 41

## Incidents by Rurality



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Table  
42

## Case Fatality Rate by Rurality

CATEGORY	NUMBER	DEATHS	CASE FATALITY RATE
Urban	68,303	1,393	2.04
Rural	9,703	161	1.66
Suburban	6,108	120	1.96
Wilderness	2,418	48	1.99
Total	86,532	1,722	

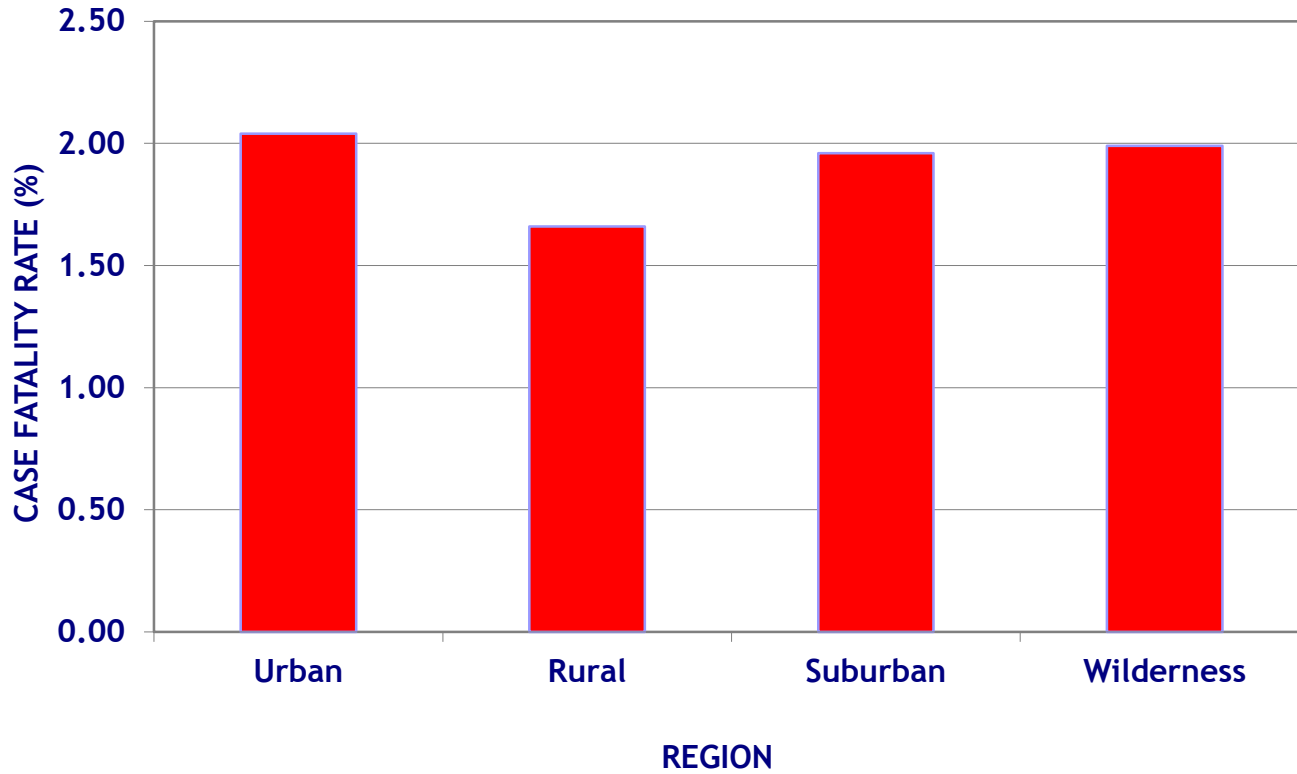


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Figure 42

## Case Fatality Rate by Rurality



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Table  
43

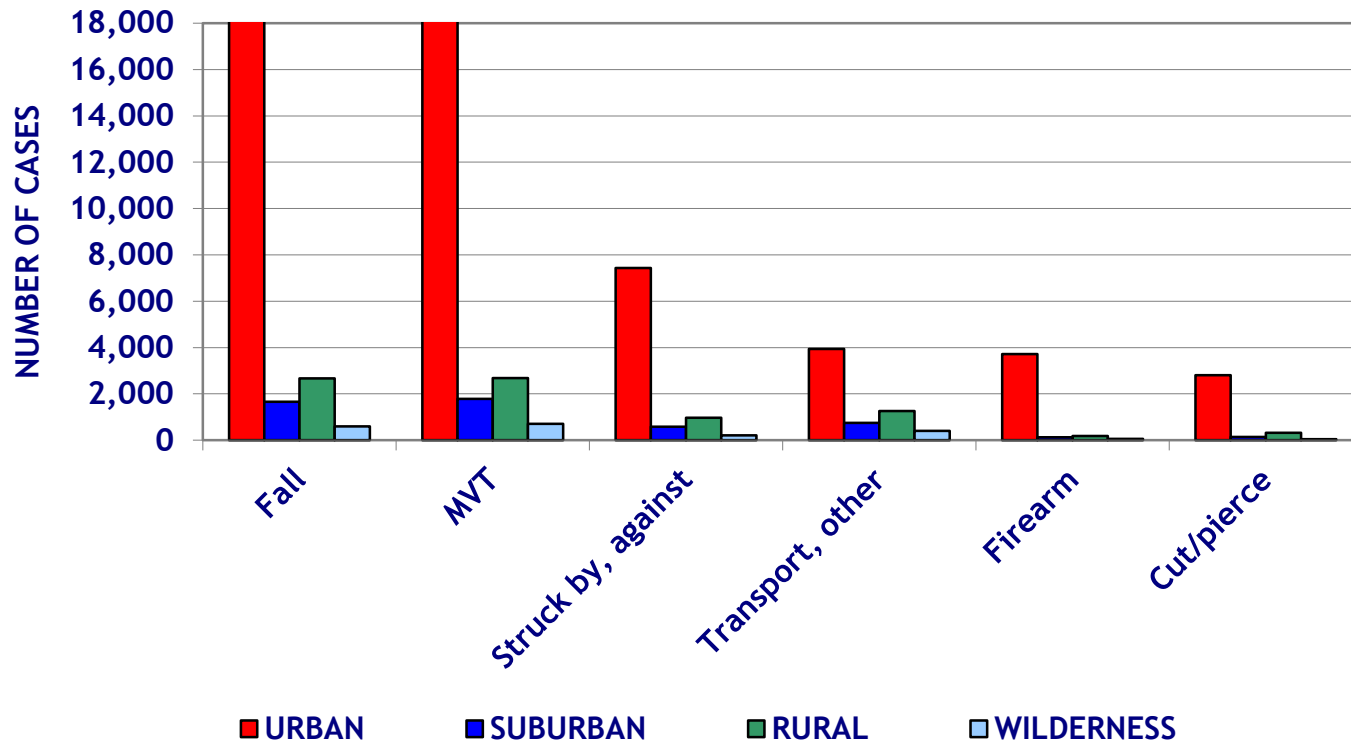
## Mechanism of Injury by Rurality

MECHANISM	NUMBER (URBAN)	PERCENT (URBAN)	NUMBER (SUBURBAN)	PERCENT (SUBURBAN)	NUMBER (RURAL)	PERCENT (RURAL)	NUMBER (WILDERNESS)	PERCENT (WILDERNESS)
Motor Vehicle Traffic	21,091	30.88	1,656	27.11	2,667	27.49	599	24.77
Fall	18,213	26.67	1,782	29.17	2,680	27.62	706	29.20
Struck by, against	7,428	10.88	586	9.59	975	10.05	214	8.85
Transport, other	3,945	5.78	745	12.20	1,267	13.06	407	16.83
Firearm	3,723	5.45	127	2.08	190	1.96	55	2.27
Cut/pierce	2,807	4.11	141	2.31	321	3.31	50	2.07
Pedal cyclist, other	2,450	3.59	182	2.98	220	2.27	65	2.69
Other specified and classifiable	2,230	3.26	224	3.67	416	4.29	72	2.98
Hot object/substance	2,076	3.04	205	3.36	238	2.45	40	1.65
Natural/environmental, Bites and stings	945	1.38	104	1.70	152	1.57	41	1.70
Unspecified	703	1.03	49	0.80	97	1.00	17	0.70
Fire/flame	629	0.92	107	1.75	136	1.40	40	1.65
Pedestrian, other	424	0.62	18	0.29	58	0.60	12	0.50
Other specified, not elsewhere classifiable	367	0.54	46	0.75	48	0.49	16	0.66
Overexertion	332	0.49	18	0.29	50	0.52	8	0.33
Natural/environmental, Other	239	0.35	49	0.80	73	0.75	33	1.36
Machinery	199	0.29	41	0.67	65	0.67	24	0.99
Suffocation	79	0.12	10	0.16	6	0.06	2	0.08
Drowning/submersion	68	0.10	8	0.13	12	0.12	4	0.17
Poisoning	37	0.05	4	0.07	7	0.07	7	0.29
NK/NR	298	0.44	5	0.08	24	0.25	6	0.25
Total	68,303	100	6,108	100	9,703	100	2,418	100.00



Figure 43

## Selected Mechanism of Injury by Rurality



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Table  
44

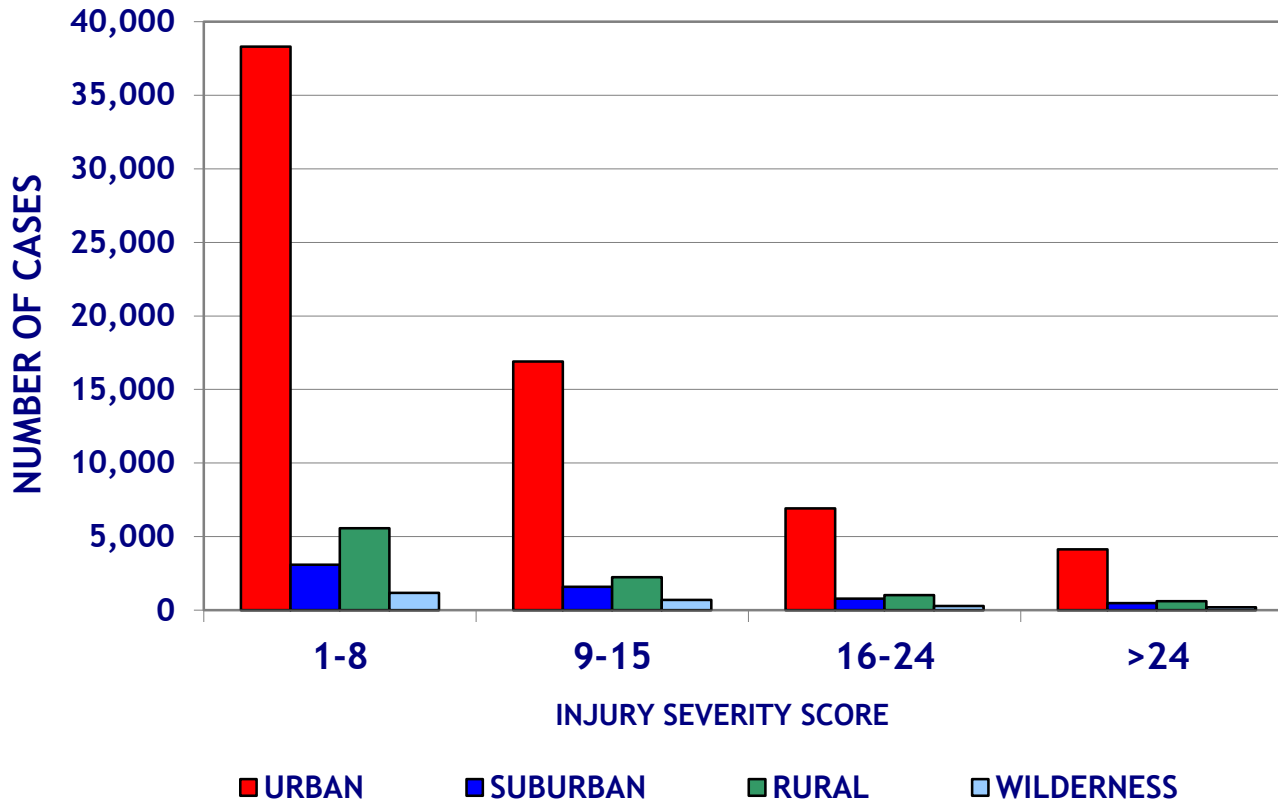
## Injury Severity Score by Rurality

ISS	NUMBER (URBAN)	PERCENT (URBAN)	NUMBER (SUBURBAN)	PERCENT (SUBURBAN)	NUMBER (RURAL)	PERCENT (RURAL)	NUMBER (WILDERNESS)	PERCENT (WILDERNESS)
1–8	38,304	56.08	3,085	50.51	5,563	57.33	1,178	48.72
9–15	16,898	24.74	1,597	26.15	2,253	23.22	709	29.32
16–24	6,926	10.14	795	13.02	1,029	10.60	292	12.08
>24	4,148	6.07	485	7.94	606	6.25	201	8.31
NK/NR	2,027	2.97	146	2.39	252	2.60	38	1.57
Total	68,303	100	6,108	100	9,703	100	2,418	100



Figure 44

## Injury Severity Score by Rurality



# COMPARATIVE ANALYSIS



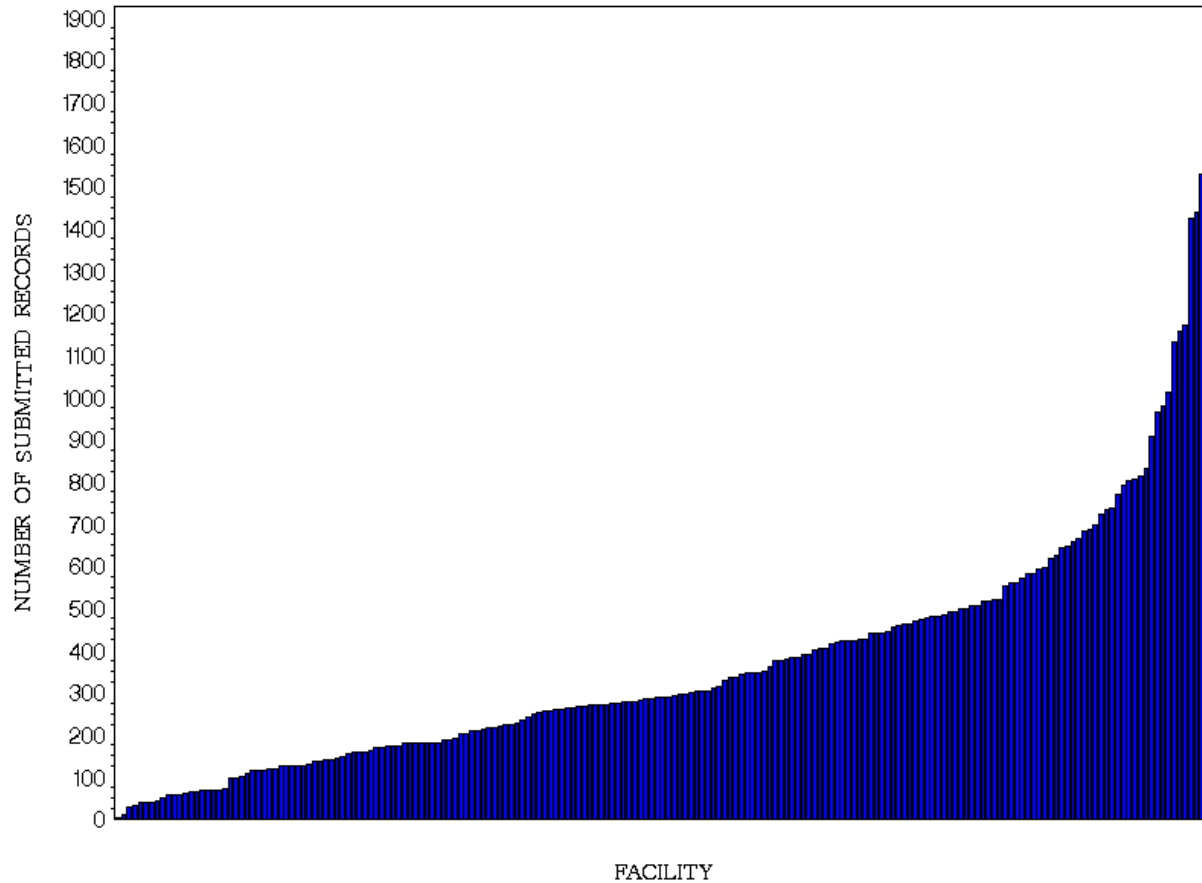
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Figure 45

## Number of Cases Submitted per Facility for Level I facilities with Pediatric Cases (N=196)



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.

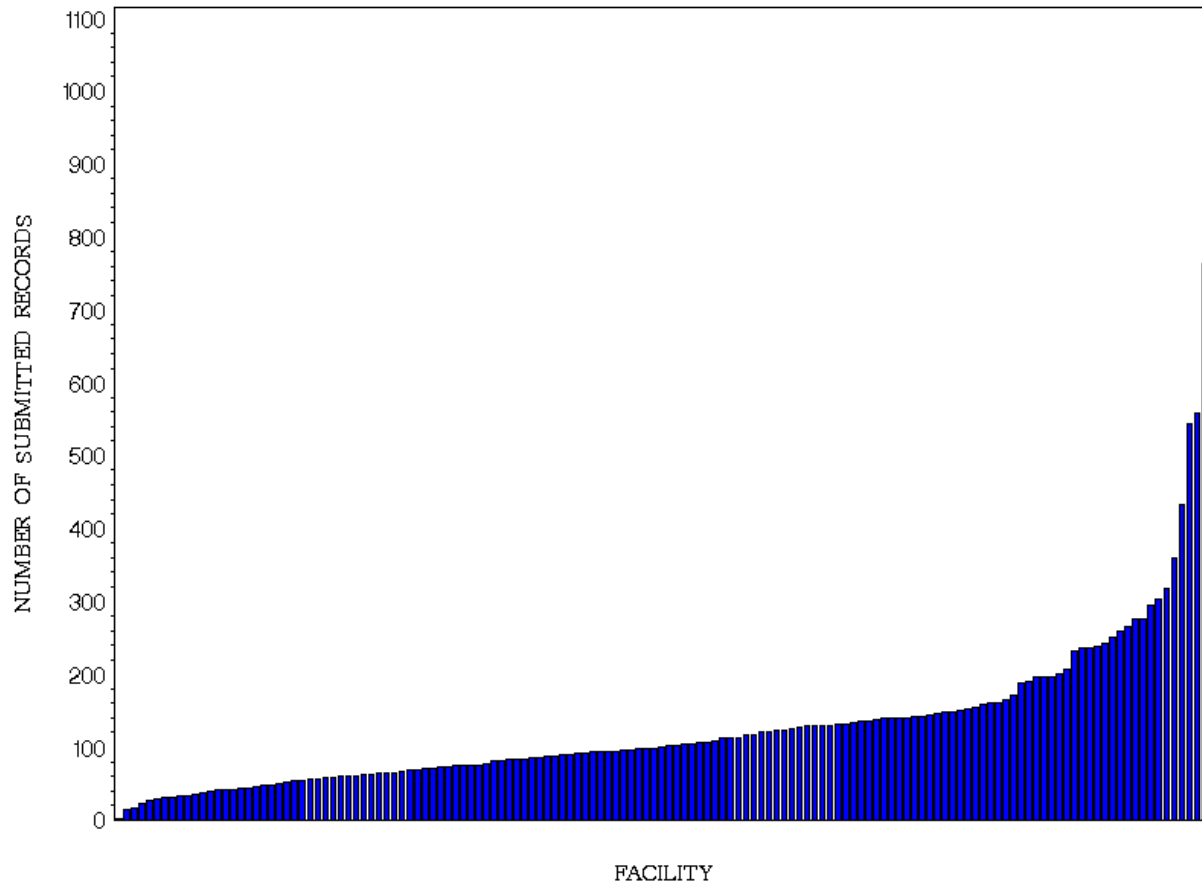


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Figure 46

## Number of Cases Submitted per Facility for Level II Facilities with Pediatric Cases (Bedsize $\leq 400$ , N=144)



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.

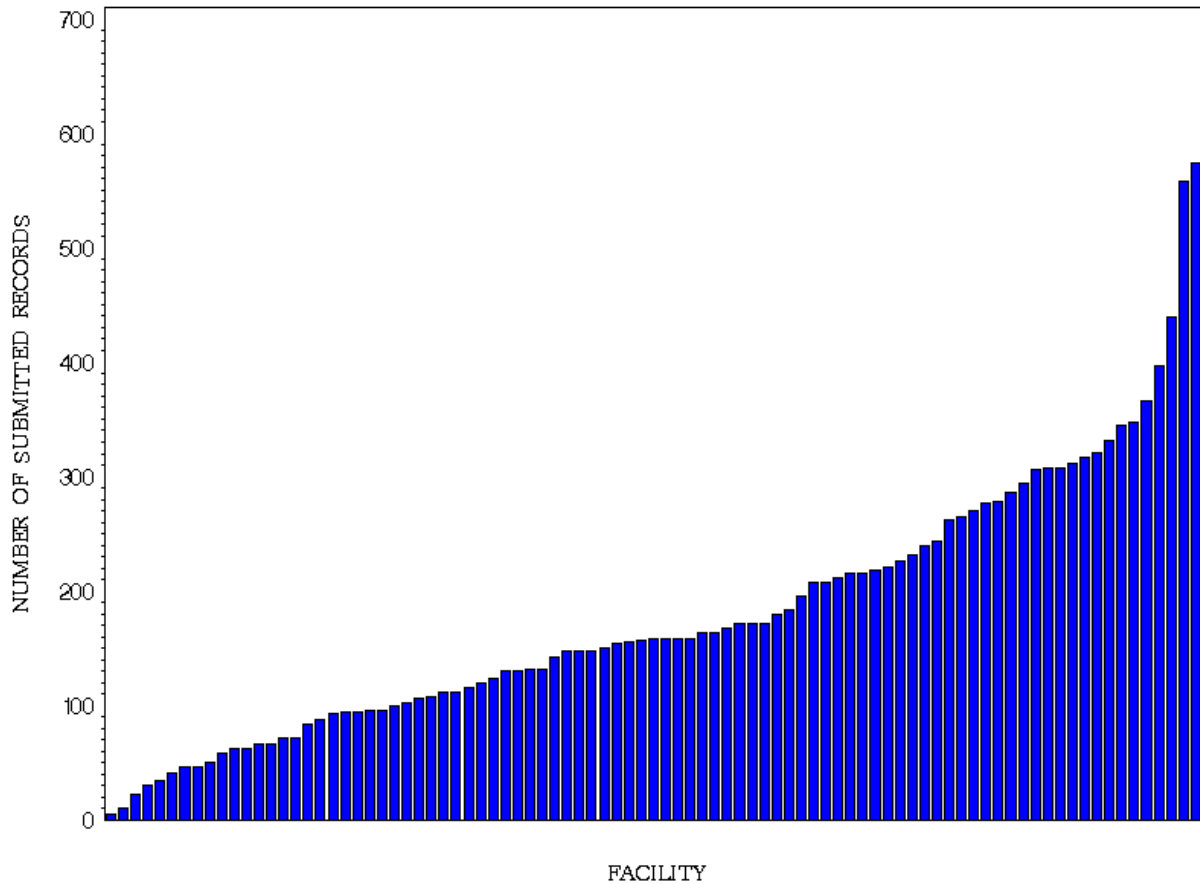


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Figure 47

## Number of Cases Submitted per Facility for Level II Facilities with Pediatric Cases (Bedsize > 400, N=90)



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.

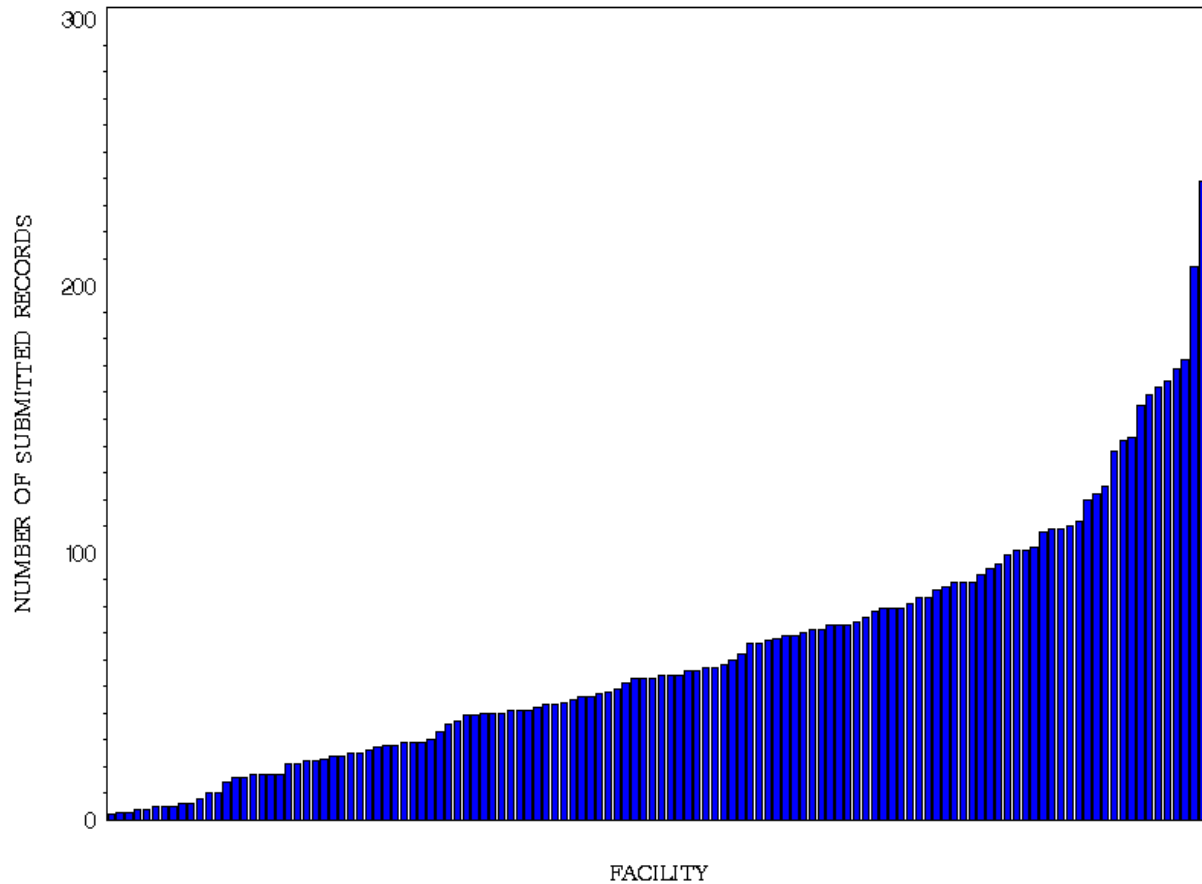


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Figure 48

## Number of Cases Submitted per Facility for Level III Facility with Pediatric Cases (N=125)



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.

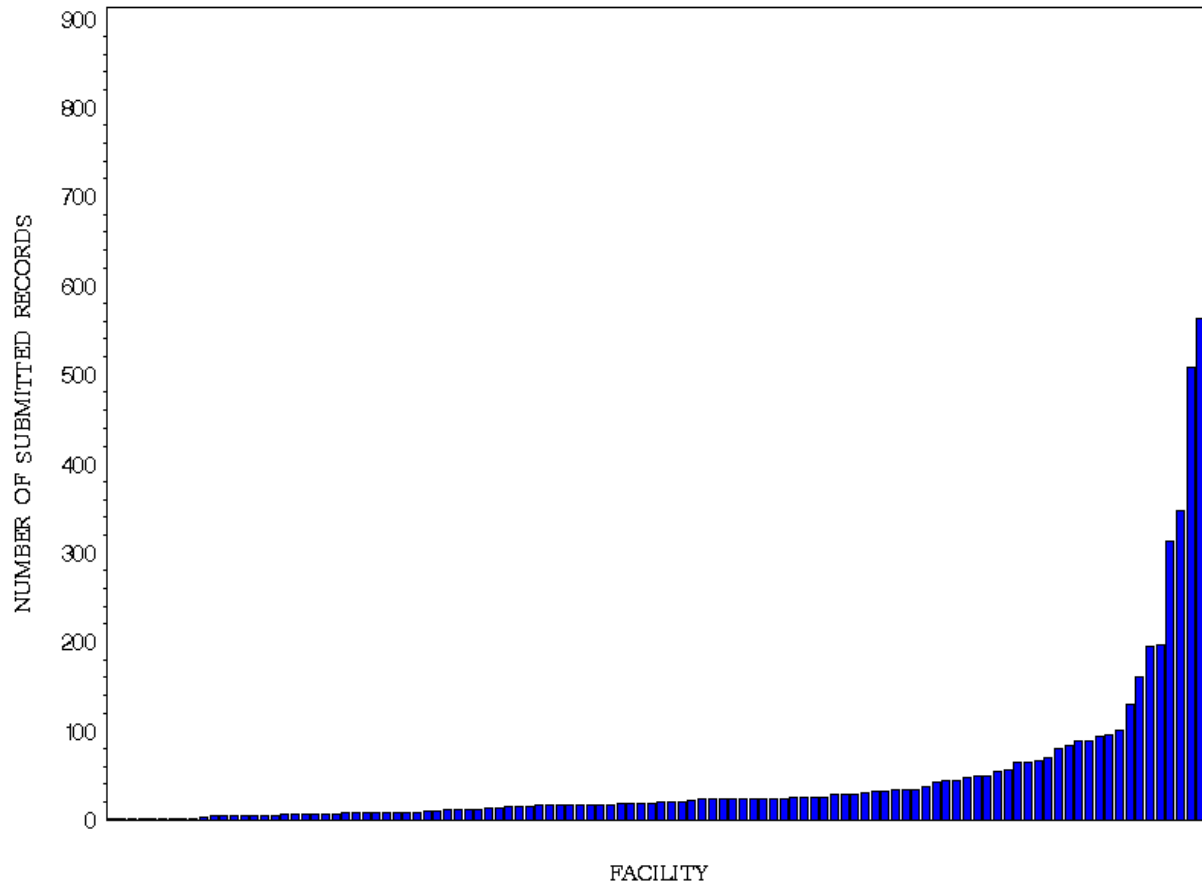


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Figure 49

## Number of Cases Submitted per Facility for Level IV, NA or other Facilities with Pediatric Cases (N=114)



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.

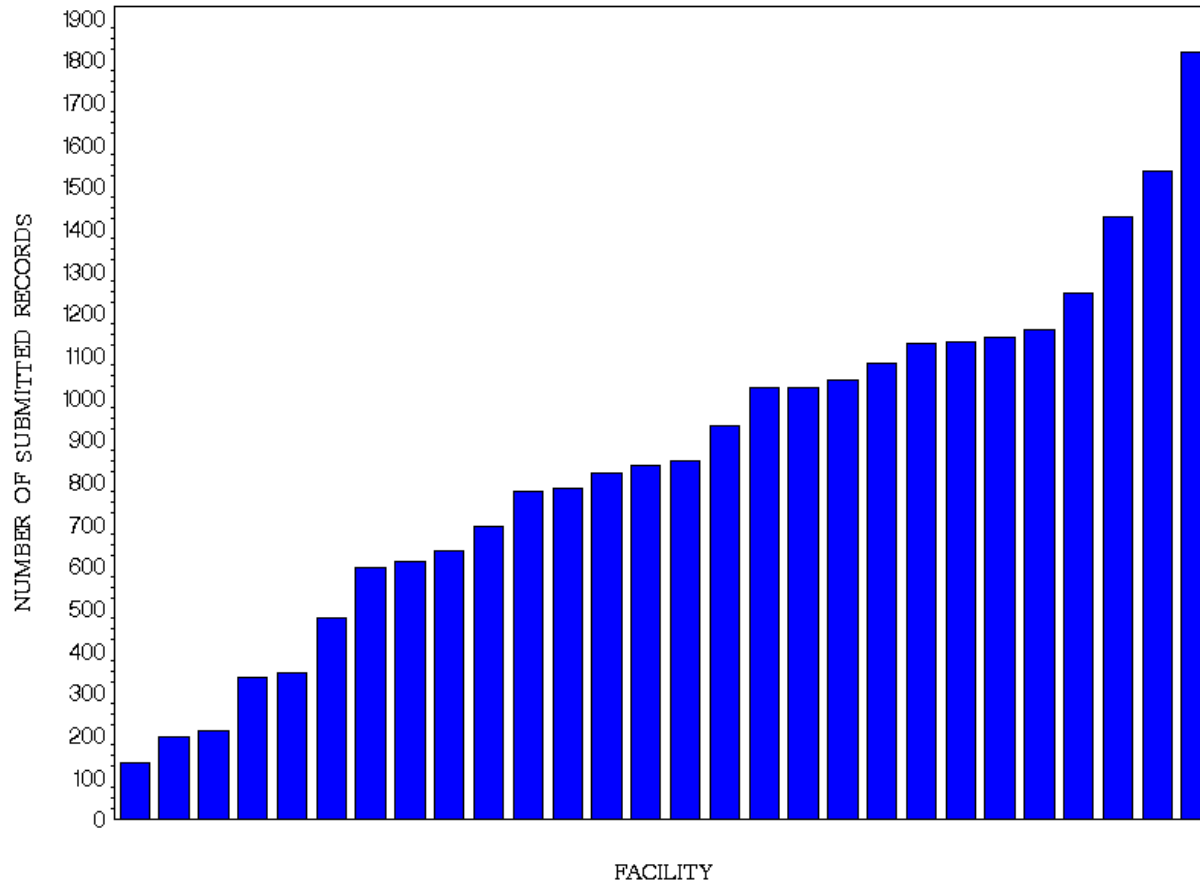


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Figure 50

## Number of Cases Submitted per Facility for Pediatric-Only Facilities (N=28)



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.

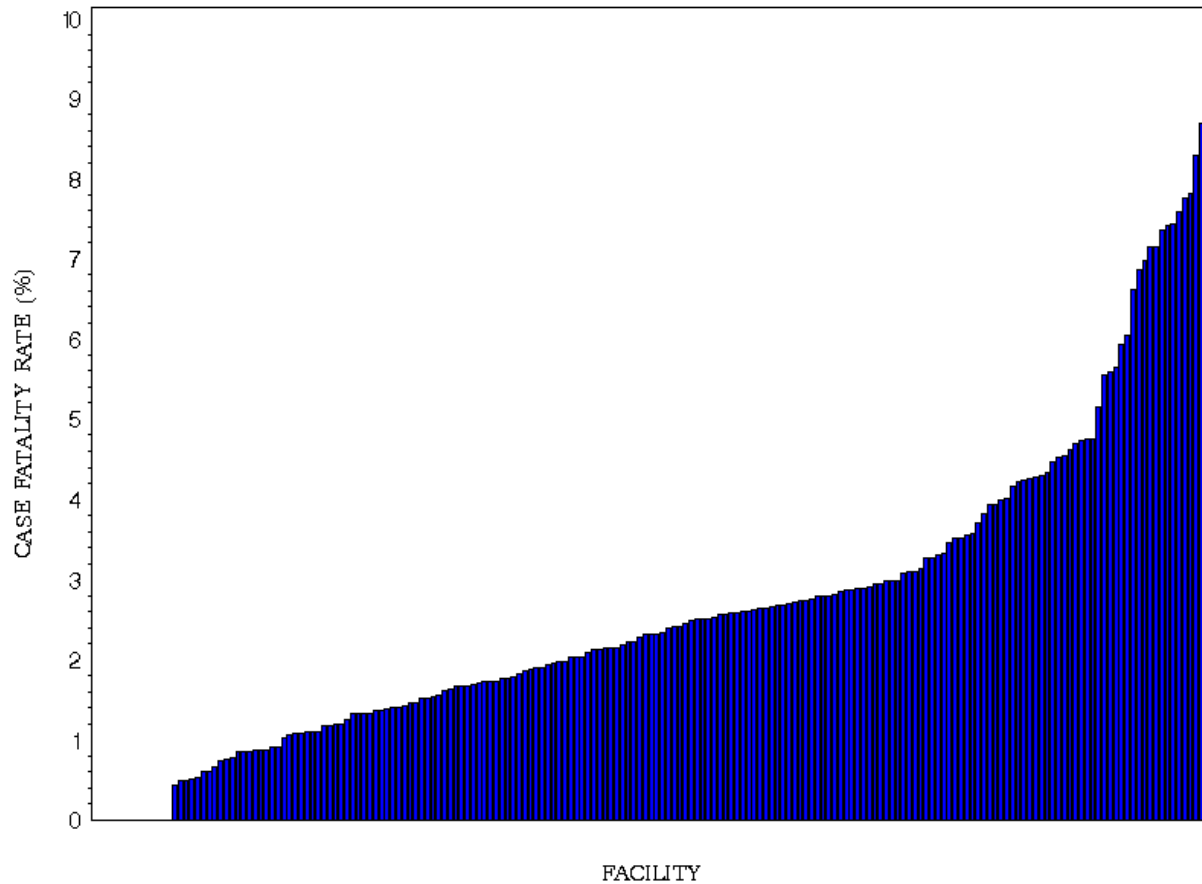


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Figure 51

## Case Fatality Rate per Facility for Level I Facilities with Pediatric Cases (N=196)



Fourteen out of 196 hospitals did not have any pediatric patients who died and are not visible in this graph.

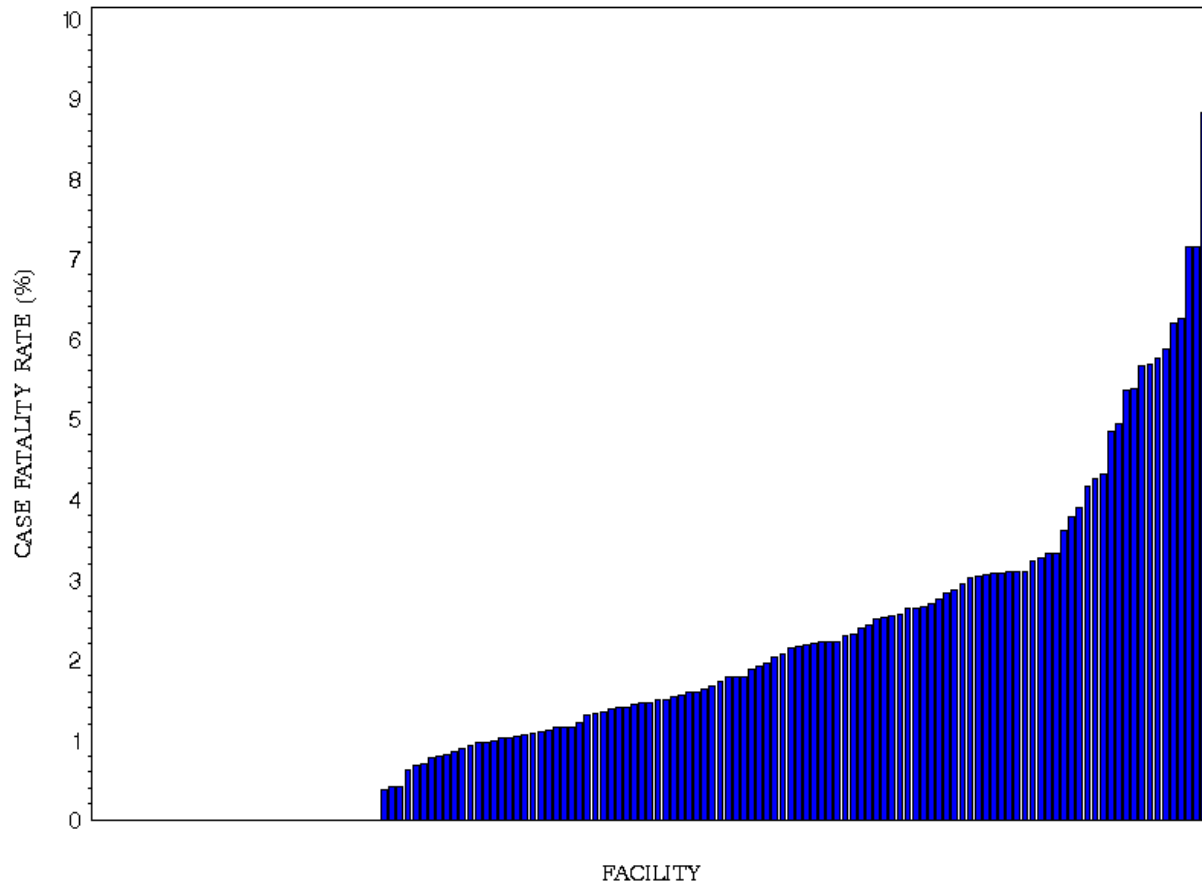


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Figure 52

## Case Fatality Rate per Facility for Level II Facilities with Pediatric Cases (Bedsize $\leq 400$ , N=144)



Thirty-seven out of 144 hospitals did not have any pediatric patients who died and are not visible in this graph.



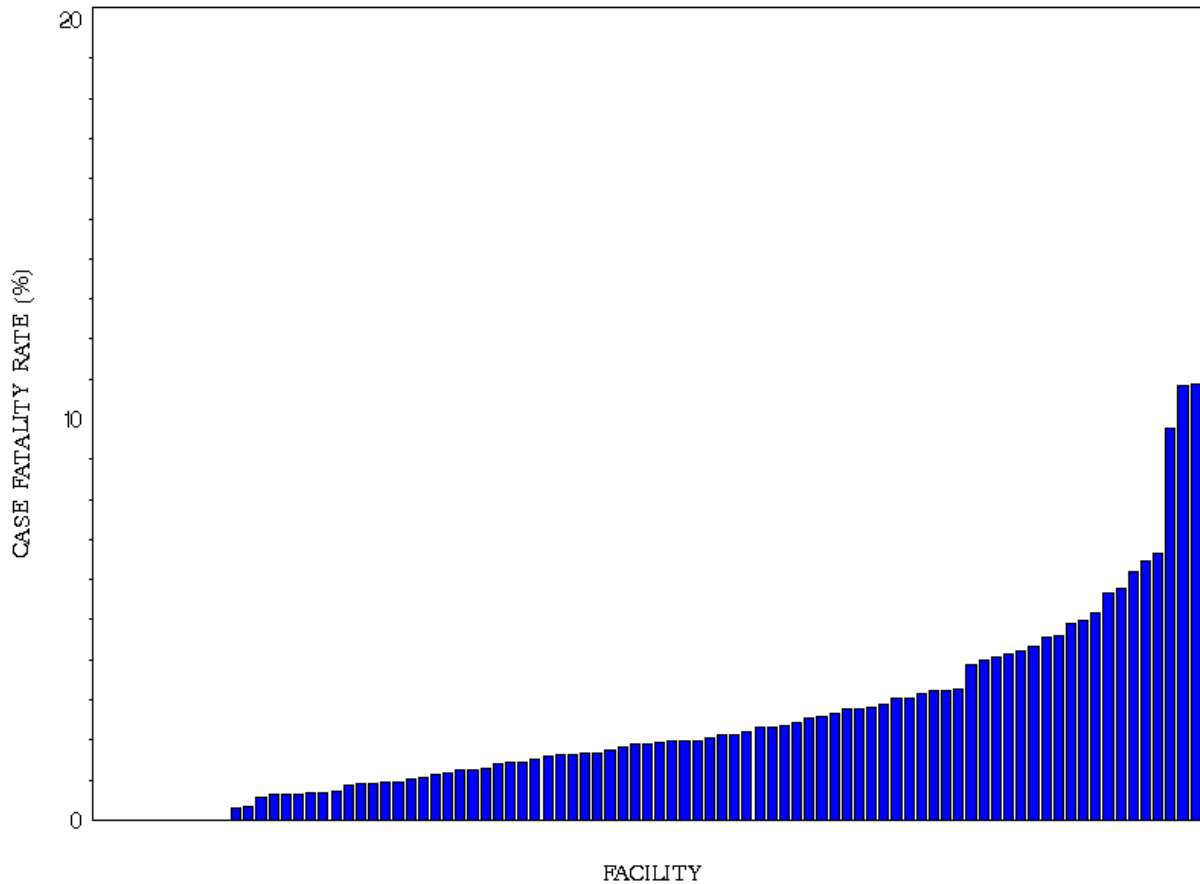
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Figure 53

## Case Fatality Rate per Facility for Level II Facilities with Pediatric Cases (Bedsize > 400 , N=90)



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

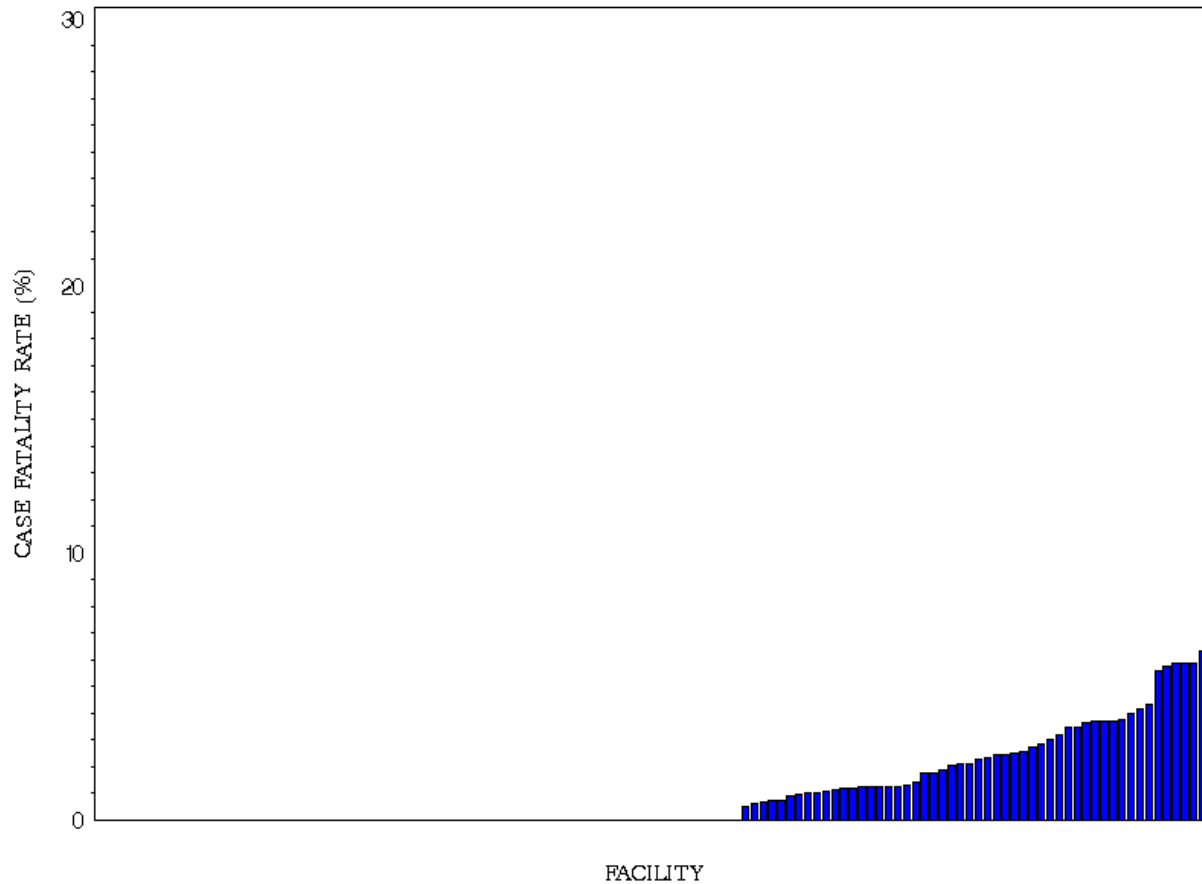


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Figure 54

## Case Fatality Rate per Facility for Level III Facilities with Pediatric Cases (N=125)



Seventy-two out of 125 hospitals did not have any pediatric patients who died and are not visible in this graph.

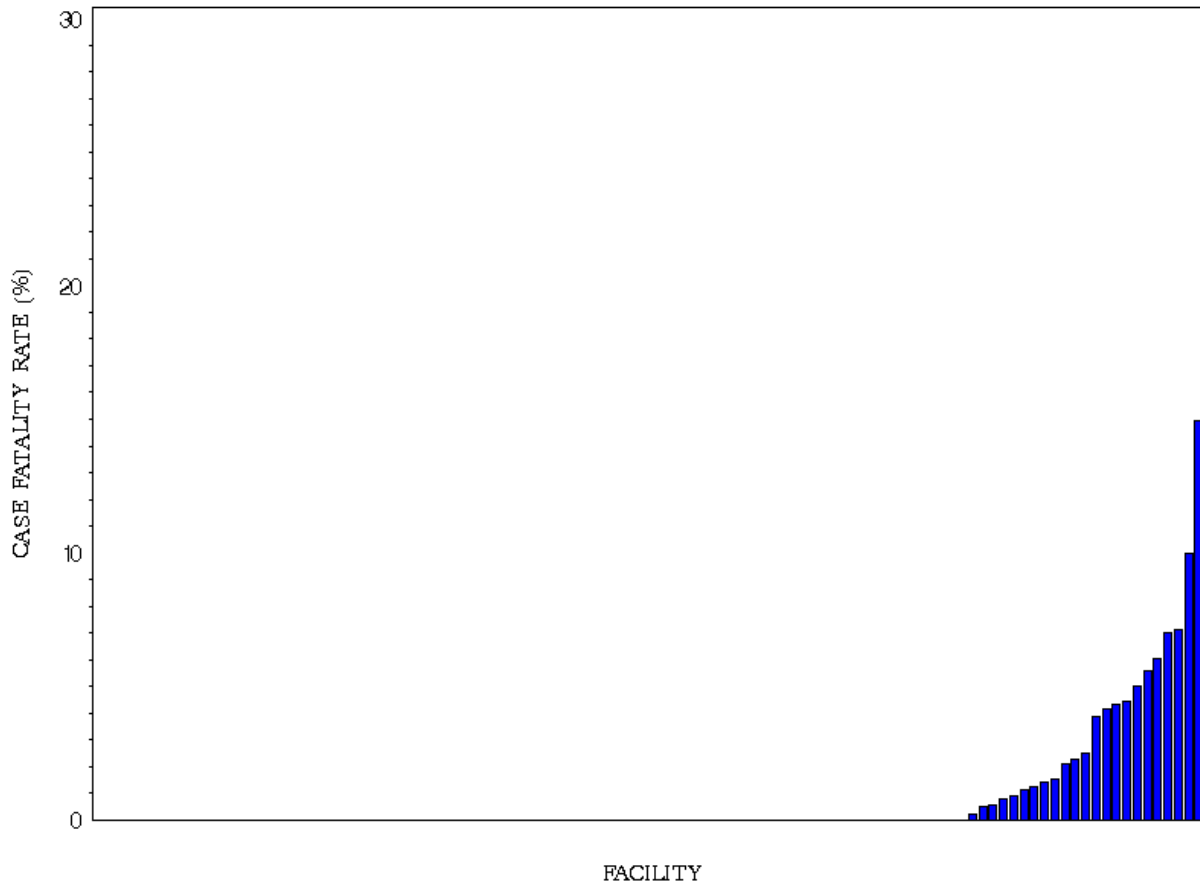


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Figure 55

## Case Fatality Rate per Facility for Level IV Facilities, NA or other Facilities with Pediatric Cases (N=114)



Eighty-five out of 114 hospitals did not have any pediatric patients who died and are not visible in this graph.

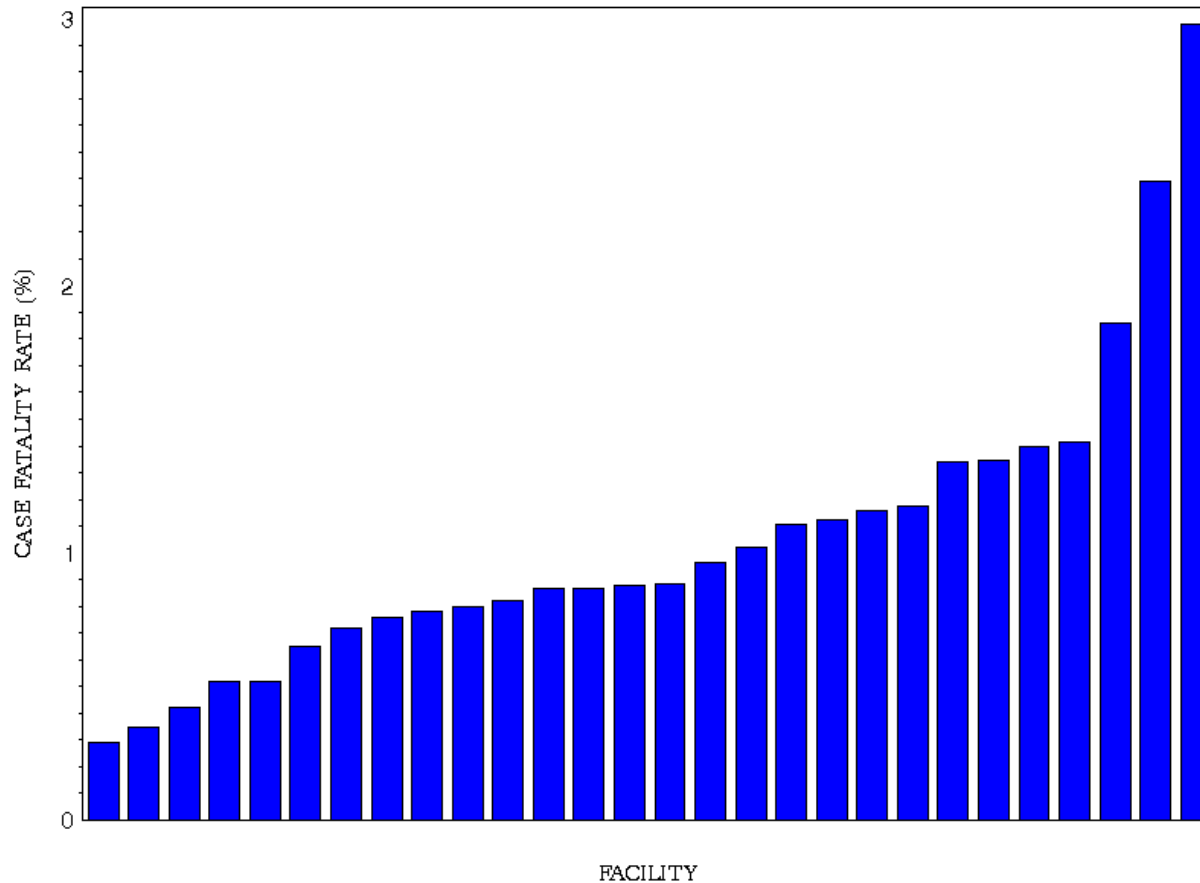


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Figure 56

## Case Fatality Rate per Facility for Pediatric-Only Facilities (N=28)



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.

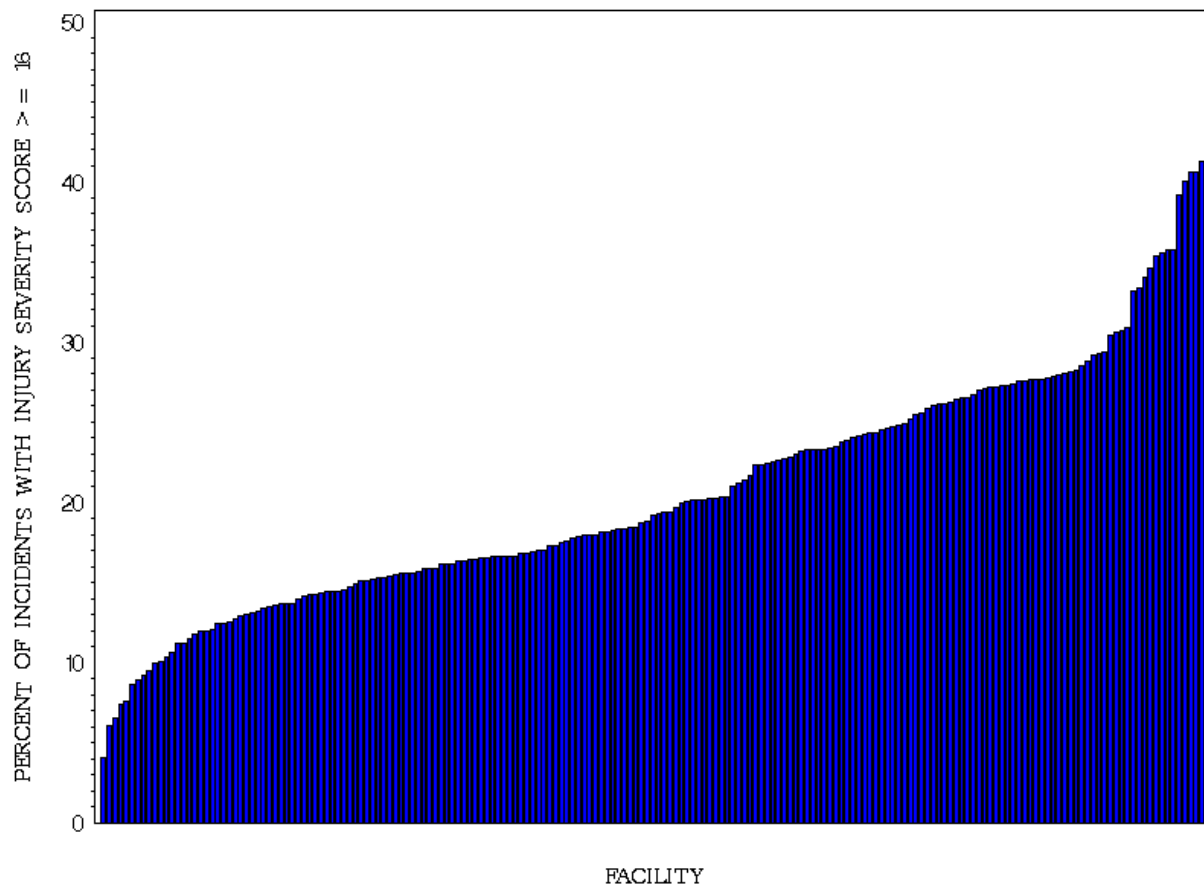


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Figure 57

## Percent of Incidents with Injury Severity Score $\geq 16$ for Level I Facilities with Pediatric Cases (N=196)



One out of 196 hospitals had no records with ISS  $\geq 16$ . This facility is omitted from the graph.

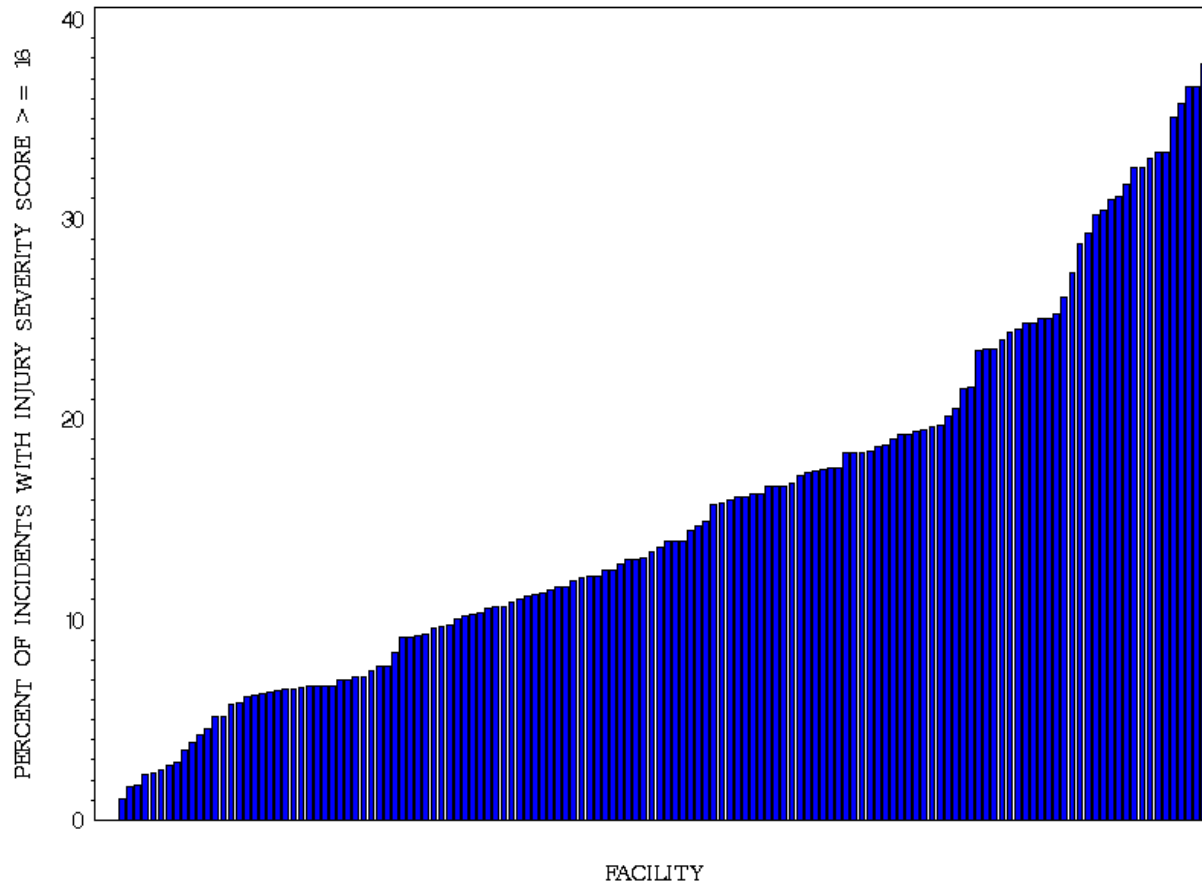


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ISS is calculated using AIS submitted by hospitals and then crosswalked to AIS98. If hospital does not submit AIS98 then ISS is based on AIS derived from ICDMAP-90.

Figure 58

## Percent of Incidents with Injury Severity Score $\geq 16$ for Level II Facilities with Pediatric Cases (Bedsize $\leq 400$ , N=144)

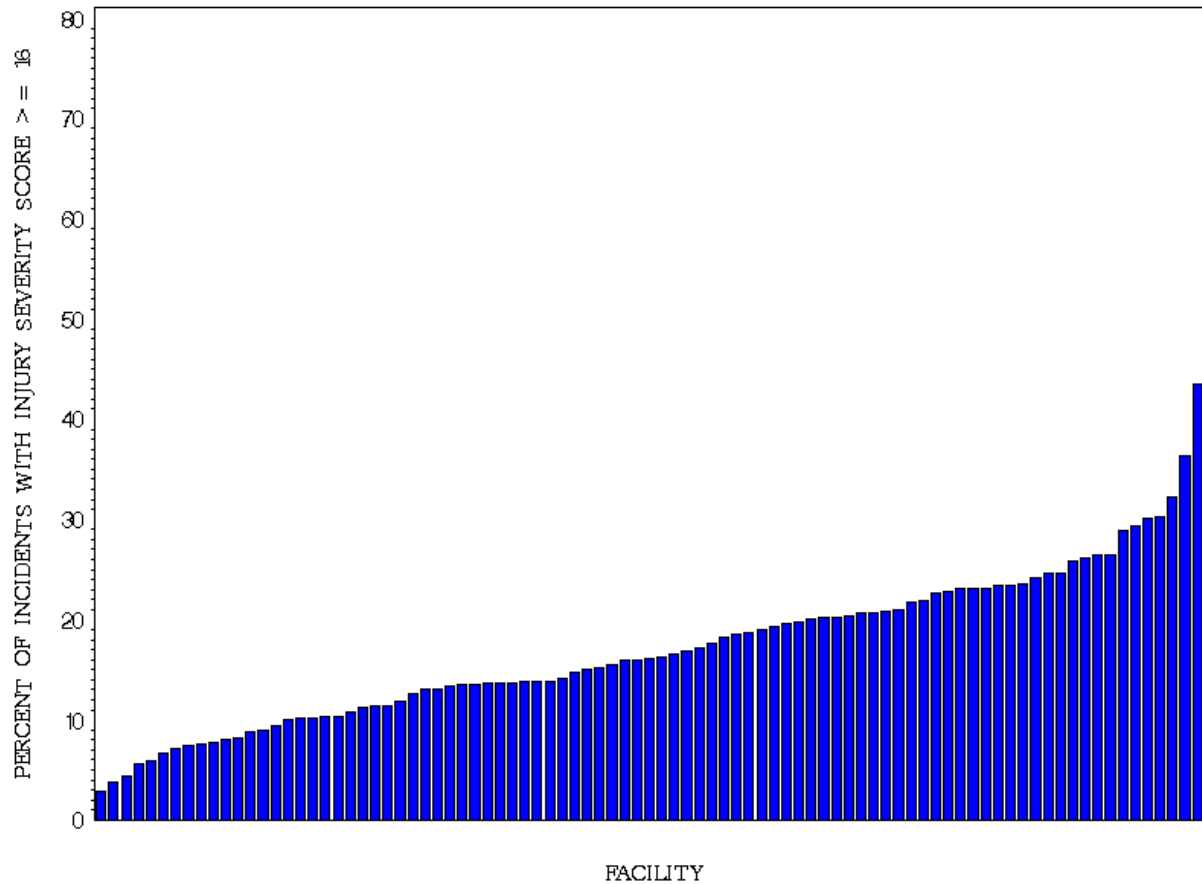


Three out of 144 hospitals had no records with ISS  $\geq 16$ . These facilities are omitted from the graph.



Figure 59

## Percent of Incidents with Injury Severity Score $\geq 16$ for Level II Facilities with Pediatric Cases (Bedsize > 400, N=90)



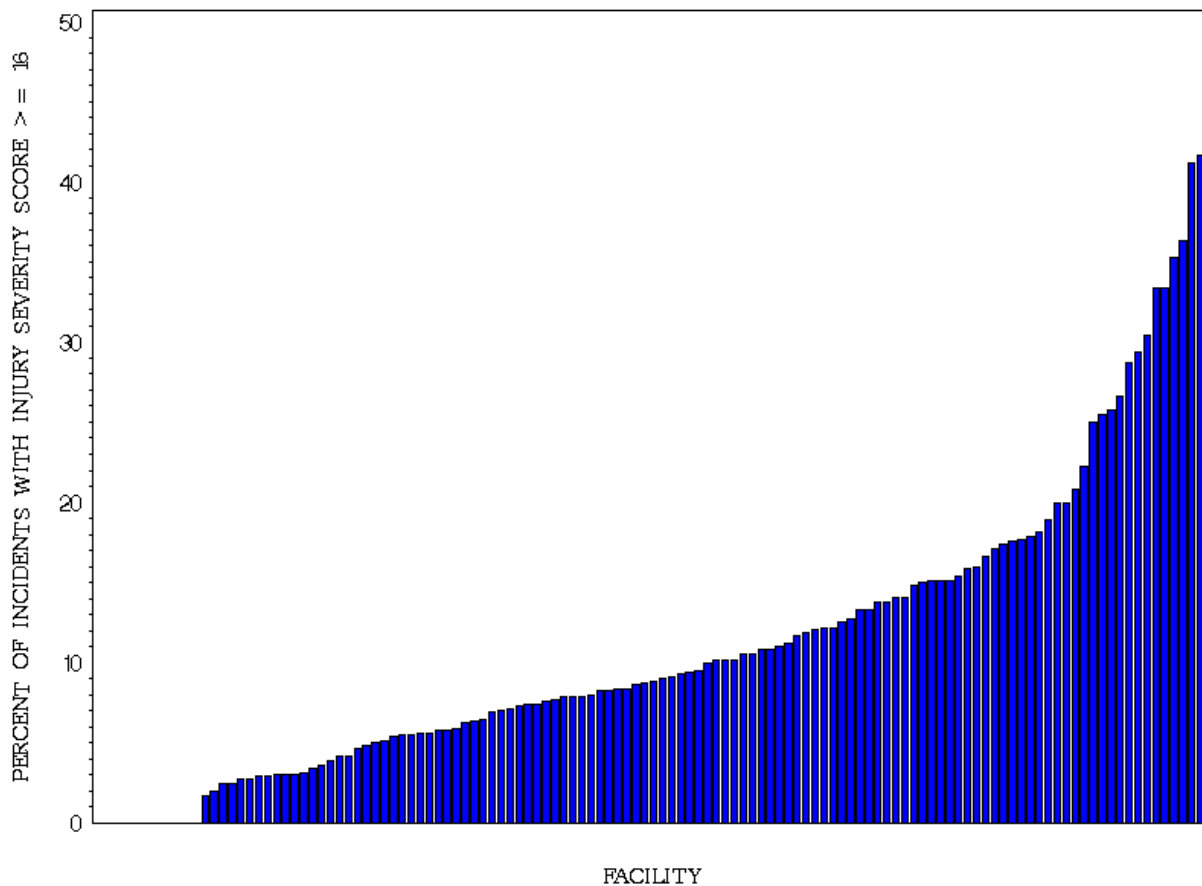
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ISS is calculated using AIS submitted by hospitals and then crosswalked to AIS98. If hospital does not submit AIS98 then ISS is based on AIS derived from ICDMAP-90.

Figure 60

## Percent of Incidents with Injury Severity Score $\geq 16$ for Level III Facilities with Pediatric Cases (N=125)



Twelve out of 125 hospitals had no records with ISS  $\geq 16$ . These facilities are omitted from the graph.



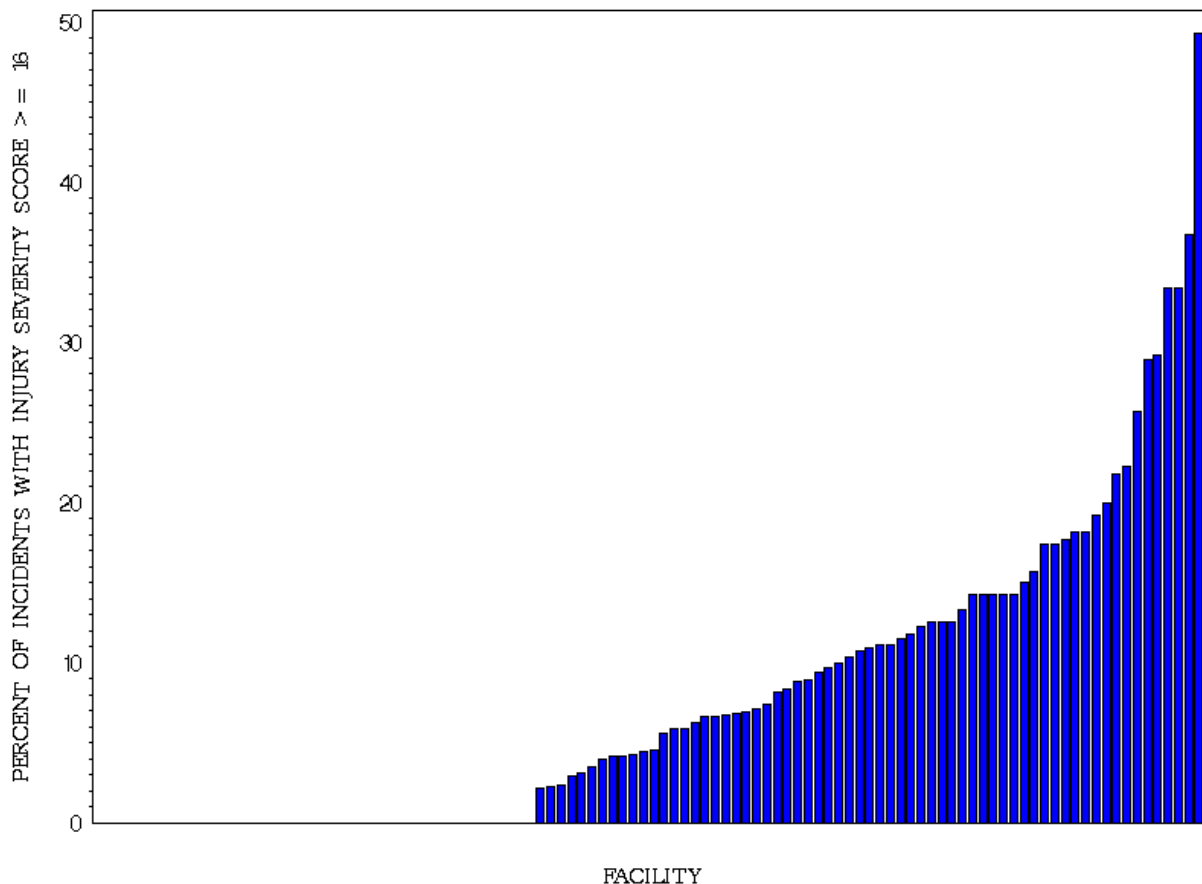
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ISS is calculated using AIS submitted by hospitals and then crosswalked to AIS98. If hospital does not submit AIS98 then ISS is based on AIS derived from ICDMAP-90.



Figure 61

## Percent of Incidents with Injury Severity Score $\geq 16$ for Level IV, NA or other Facilities with Pediatric Cases (N=114)

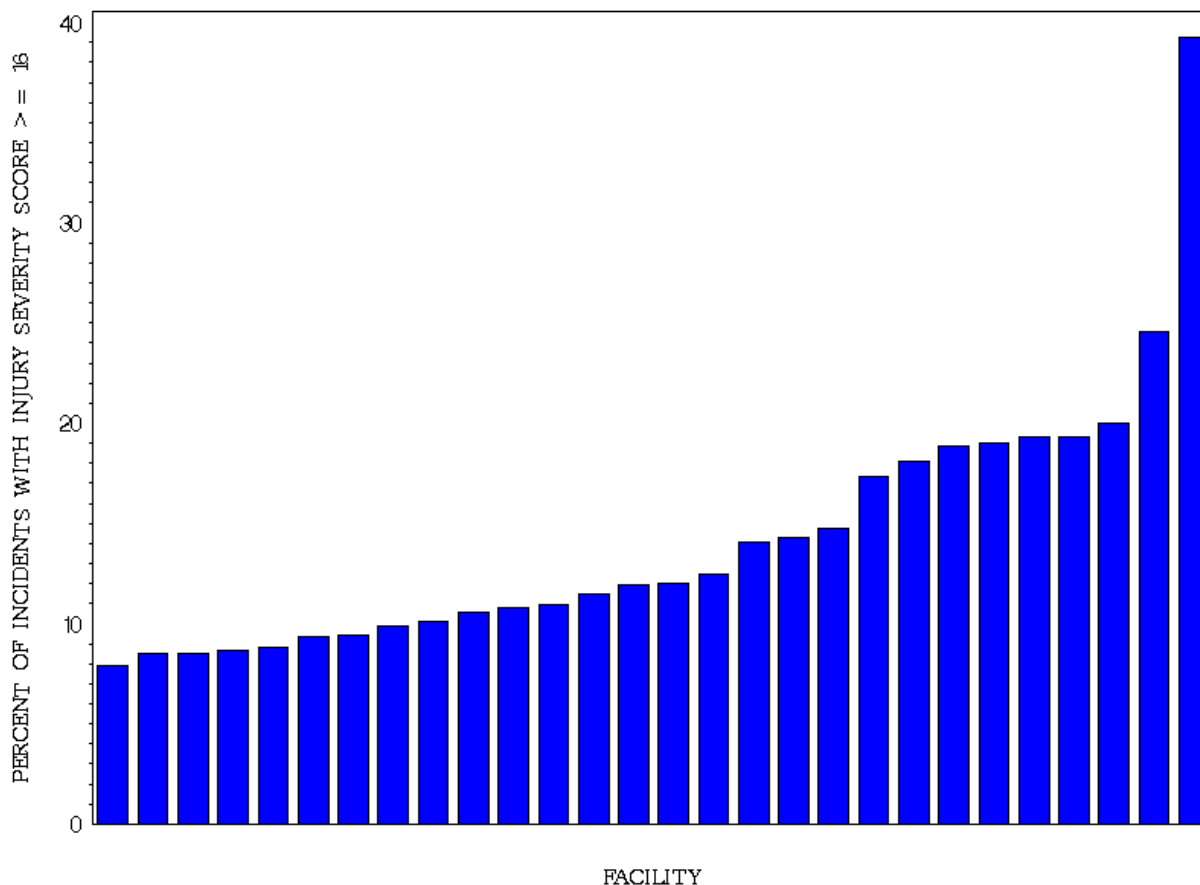


Forty-three out of 114 hospitals had no records with ISS  $\geq 16$ . These facilities are omitted from the graph.



Figure 62

## Percent of Incidents with Injury Severity Score $\geq 16$ for Pediatric-Only Facilities (N=28)



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.



# APPENDICES



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# APPENDIX A

## Definition of a Trauma Patient

---

### Definition of a Trauma Patient adopted by NATIONAL TRAUMA DATA BANK (NTDB)

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 MU.S.T 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)



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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 <sup>3</sup>	E890.0–E899, E924.0–.9	E958.1,.2,.7	E961, E968.0,.3, E979.3	E988.1,.2,.7	
Fire/flame <sup>3</sup>	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 <sup>3</sup>	E922.0–.3,.8,.9	E955.0–.4	E965.0–4, E979.4	E985.0–.4	E970
Machinery	E919 (.0–.9)				
Motor vehicle traffic <sup>2,3</sup>	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)				



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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
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 <sup>3</sup>	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 <sup>3,4</sup>	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 <sup>3</sup>	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



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## E–Code Grouping: Table Notes

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<sup>1</sup>Includes legal intervention (E970–E978) and operations of war (E990–E999).

<sup>2</sup>Three 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.

<sup>3</sup>Codes in bold are for morbidity coding only. For details see table 2.

<sup>4</sup>E849 (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–CME849 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.





## Resources

- [www.ntdb.org](http://www.ntdb.org) for more information about NTDB
- [www.ntdbdatacenter.com](http://www.ntdbdatacenter.com) to submit data to NTDB
- [www.ntdsdictionary.org](http://www.ntdsdictionary.org) for information on the data standard



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