

Emergency department visits for work-related injuries among 18- to 24-year-olds

Table 1. Summary of All ED Visits

N = Number of Visits

% = Percent of Visits

		All Visits			
		N	%	Visits per 10,000 FTEs	95% CI
Total		44,023	100	324.5	322-328
Age	18	3,428	7.8	341.6	330-353
	19	5,216	11.8	475.2	463-488
	20	6,227	14.1	382.0	373-392
	21	6,616	15.0	362.9	354-372
	22	7,281	16.5	326.5	320-334
	23	7,612	17.3	269.2	263-275
	24	7,643	17.4	258.8	253-265
Gender⁺	Male	29,027	65.9	458.6	454-464
	Female	14,995	34.1	207.2	204-211
Race & Ethnicity	White, non-Hispanic	34,215	77.7	317.8	314-321
	Hispanic	4,879	11.1	347.8	338-358
	Black, non-Hispanic	2,504	5.7	301.6	290-313
	Other	1,740	4.0	281.3	268-295
Year of Hospital Visit⁺	2007	11,225	25.5	390.1	383-397
	2008	9,734	22.1	342.8	336-350
	2009	7,795	17.7	278.1	272-284
	2010	7,724	17.5	313.3	306-320
	2011	7,545	17.1	292.5	286-299

(continued on next page)

Source: Emergency Discharge Data, for 1 Jan 2007 through 31 Dec 2011, Massachusetts Center for Health Information and Analysis.

Counts not shown and rates not calculated for cells with less than 11 cases based on the CHIA rules pertaining to confidentiality.

Numbers may not add to total due to missing information.

An ED visit for an injury is defined as any case having an ICD-9-CM Nature of Injury Code of 800-999 in the primary diagnosis field.

Attribution of work-relatedness is based on designation of Workers' Compensation Insurance as expected payer.

Injuries per 10,000 FTE calculated as number of injury / FTE*10,000; FTEs=total hours per year / 2000.

Total hours worked for Massachusetts residents obtained from Current Population Survey, Bureau of Labor Statistics, Jan 2007 through Dec 2011.

⁺Difference is significant based on 95% confidence intervals; however, the standard error of the denominator was not taken into account when calculating confidence intervals.

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Table 1. Summary of All ED Visits

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		All Visits			
		N	%	Visits per 10,000 FTEs	95% CI
Nature of Injury	Open wounds	16,859	38.3	124.3	122-126
	Sprains	9,234	21.0	68.1	67-70
	Superficial/Contusions	8,202	18.6	60.5	59-62
	Burns	2,203	5.0	16.2	15-17
	Fractures	1,800	4.1	13.3	12-14
	Crushing	568	1.3	4.2	3-5
	Internal organ	494	1.1	3.6	3-4
	Dislocations	310	0.7	2.3	2-3
	Amputations	172	0.4	1.3	1-2
	Other ^a	1,739	4.0	12.8	12-13
	Unspecified & Missing	2,442	5.5	18.0	17-19
External Cause of Injury	Cut/pierce	12,822	29.1	94.5	93-96
	Struck by/against	7,278	16.5	53.7	52-55
	Overexertion	6,001	13.6	44.2	43-45
	Falls	4,460	10.1	32.9	32-34
	Fire/burn	2,225	5.1	16.4	16-17
	Machinery	1,490	3.4	11.0	10-12
	Motor vehicle	1,032	2.3	7.6	7-8
	Natural/environmental	1,028	2.3	7.6	7-8
	Poisoning	236	0.5	1.7	1.5-2
	Other transportation	148	0.3	0.8	0.6-0.9
	Other ^b	5,063	11.5	37.3	36-38
	Unspecified & Missing	2,240	5.1	16.5	16-17

(a) Other includes blood vessel injuries, nerve injuries, and system wide and late effect injuries.

(b) Other includes drowning, suffocation, firearm, other specified, and not elsewhere specified.

Nature of Injury and Body Region groupings are based on Barell Injury Matrix, Barell et al., *Inj Prev*, 2002 Jun;8(2):91-96.

External Cause of Injury groupings are based on 'ICD-9 Framework for Presenting Injury Mortality Data,' MMWR Recommendations and Reports, August 29, 1997, Volume 46/NORR-14.

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Table 2. Nature of Injury by Gender and Race & Ethnicity

N = Number of Visits
% = Percent of Visits

		Gender				Race & Ethnicity							
		Males		Females		White non-Hispanic		Hispanic		Black non-Hispanic		Other	
		N	%	N	%	N	%	N	%	N	%	N	%
Total		29,027	65.9	14,995	34.1	34,215	77.7	4,879	11.1	2,504	5.7	1,740	4.0
Nature of Injury	Open wounds	12,311	42.4	4,548	30.3	13,265	38.8	1,868	38.3	764	30.5	697	40.1
	Sprains	5,324	18.3	3,910	26.1	7,080	20.7	1,075	22.0	637	25.4	325	18.7
	Superficial/contusions	4,936	17.0	3,265	21.8	6,320	18.5	830	17.0	578	23.1	339	19.5
	Burns	1,191	4.1	1,012	6.7	1,674	4.9	293	6.0	115	4.6	86	4.9
	Fractures	1,372	4.7	428	2.9	1,377	4.0	242	5.0	80	3.2	71	4.1
	Crushing	450	1.6	118	0.8	416	1.2	85	1.7	30	1.2	27	1.6
	Internal organ	292	1.0	202	1.3	423	1.2	36	0.7	14	0.6	13	0.7
	Dislocations	226	0.8	84	0.6	247	0.7	20	0.4	24	1.0	12	0.7
	Amputations	143	0.5	29	0.2	104	0.3	37	0.8	15	0.6	15	0.9
	Other^a	1,358	4.7	381	2.5	1,450	4.2	128	2.6	65	2.6	63	3.6
Unspecified & Missing	1,424	4.9	1,018	6.8	1,859	5.4	265	5.4	182	7.1	92	5.3	

Source: Emergency Discharge Data, for 1 Jan 2007 through 31 Dec 2011, Massachusetts Center for Health Information and Analysis.

(a) Other includes blood vessel injuries, nerve injuries, and system wide and late effect injuries.

Counts not shown for cells with less than 11 cases based on the CHIA rules pertaining to confidentiality. Numbers may not add to total due to missing information.

An ED visit for an injury is defined as any case having an ICD-9-CM Nature of Injury Code of 800-999 in the primary diagnosis field.

Attribution of work-relatedness is based on designation of Workers' Compensation Insurance as expected payer.

Nature of Injury and Body Region groupings are based on Barelly Injury Matrix, Barelly et al., *Inj Prev*, 2002 Jun;8(2):91-96.

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Table 3. Nature of Injury by Age

N = Number of Visits
% = Percent of Visits

		Age													
		18		19		20		21		22		23		24	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Total		3,428	7.8	5,216	11.8	6,227	14.1	6,616	15.0	7,281	16.5	7,612	17.3	7,643	17.4
Nature of Injury	Open Wounds	1,645	48.0	2,265	43.4	2,526	40.6	2,482	37.5	2,641	36.3	2,666	35.0	2,634	34.5
	Sprains	475	13.9	931	17.8	1,222	19.6	1,408	21.3	1,613	22.2	1,772	23.3	1,813	23.7
	Superficial/Contusions	552	16.1	878	16.8	1,144	18.4	1,264	19.1	1,359	18.7	1,507	19.8	1,498	19.6
	Burns	252	7.4	339	6.5	336	5.4	321	4.9	356	4.9	298	3.9	301	3.9
	Fractures	123	3.6	207	4.0	246	4.0	258	3.9	292	4.0	320	4.2	354	4.6
	Crushing	42	1.2	61	1.2	100	1.6	90	1.4	107	1.5	82	1.1	86	1.1
	Internal Organ	57	1.7	52	1.0	63	1.0	78	1.2	96	1.3	76	1.0	72	0.9
	Dislocations	18	0.5	35	0.7	37	0.6	49	0.7	54	0.7	57	0.7	60	0.8
	Amputations	23	0.7	15	0.3	24	0.4	30	0.5	34	0.5	22	0.3	24	0.3
	Other^a	98	2.9	183	3.5	209	3.4	277	4.2	282	3.9	346	4.5	344	4.5
	Unspecified & Missing	143	4.2	250	4.8	320	5.1	359	5.4	447	6.1	466	6.1	457	6.0

Source: Emergency Discharge Data, for 1 Jan 2007 through 31 Dec 2011, Massachusetts Center for Health Information and Analysis.

(a) Other includes blood vessel injuries, nerve injuries, and system wide and late effect injuries.

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Nature of Injury and Body Region groupings are based on Barell Injury Matrix, Barell et al., *Inj Prev*, 2002 Jun;8(2):91-96.

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Table 4. Nature of Injury by Body Part

N = Number of Visits
% = Percent of Visits

	Total	Visits	
		N	%
	44,023	100	
Open Wounds	16,859	38.3	
Extremities	15,369	91.1	
Head & neck	1,414	8.4	
Sprains	9,234	21.0	
Extremities	5,096	55.2	
Spine & Back	3,020	32.7	
Torso	883	9.6	
Superficial/contusions	8,202	18.6	
Extremities	5,366	65.4	
Head & neck	1,910	23.3	
Torso	802	9.8	
Burns	2,203	5.0	
Extremities	1,806	82.0	
Head & neck	303	13.8	
Torso	79	3.4	
Fractures	1,800	4.1	
Extremities	1,627	90.4	
Head & neck	108	6.0	
Other^a	1,739	4.0	
Crushing	568	1.3	
Extremities	566	99.6	
Internal Organ	494	1.1	
Head & neck*	487	98.6	
Dislocations	310	0.7	
Extremities	308	99.4	
Amputations	172	0.4	
Extremities	172	100	
Unspecified & Missing	2,442	5.5	
Extremities	1,134	46.4	
Head & neck	968	39.6	
Torso	165	6.8	

Source: Emergency Discharge Data, for 1 Jan 2007 through 31 Dec 2011, Massachusetts Center for Health Information and Analysis

(a) Other includes blood vessel injuries and nerve injuries, system wide and late effect injuries.

* 472 of these injuries are concussions.

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Table 5. External Cause of Injury

N = Number of Visits
% = Percent of Visits

		Visits	
		N	%
Total		44,023	100
External Cause of Injury	Cut/pierce	12,822	29.1
	Struck by/against	7,278	16.5
	Overexertion	6,001	13.6
	Falls	4,460	10.1
	Fall to same level	1,977	44.3
	Fall to lower level	369	8.3
	Fall from stairs	399	8.9
	Fall from ladder	332	7.4
	Fall from building	34	0.8
	Fall into opening	34	0.8
	Fall to same level w/person	13	0.3
	Other falls	1,302	29.2
	Fire/burn	2,225	5.1
	Burn	2,076	93.3
	Fire	149	6.7
	Machinery	1,490	3.4
	Motor vehicle	1,032	2.3
	Driver/passenger motor vehicle	846	82.0
	Pedestrian	80	7.8
	Unspecified Person	77	7.5
	Natural/environmental	1,028	2.3
	Sting, non-poisonous	724	70.4
	Sting, poisonous	195	19.0
	Poisoning	236	0.5
	Other Transportation	148	0.3
	Other transportation	108	73.0
	Pedestrian, non motor vehicle	22	14.9
	Pedal cyclist, non motor vehicle	18	12.2
	Other^a	5,063	11.5
	Unspecified & Missing	2,240	5.1

Source: Emergency Discharge Data, for 1 Jan 2007 through 31 Dec 2011, Massachusetts Center for Health Information and Analysis.

(a) Other includes drowning, suffocation, firearm other specified, and not elsewhere specified

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Table 6. Visits Distributed by Month

N = Number of Visits
% = Percent of Visits

		Visits	
		N	%
Month of Injury	January	3,269	7.4
	February	2,914	6.6
	March	3,210	7.3
	April	3,344	7.6
	May	3,751	8.5
	June	4,381	10.0
	July	4,764	10.8
	August	4,540	10.3
	September	3,710	8.4
	October	3,758	8.5
	November	3,270	7.4
	December	3,112	7.1

Source: Emergency Discharge Data, for 1 Jan 2007 through 31 Dec 2011, Massachusetts Center for Health Information and Analysis. Counts not shown for cells with less than 11 cases based on the CHIA rules pertaining to confidentiality.

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