

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

Massachusetts
2010- 2014

Table 1. Summary of All ED Visits

		All Visits			
		Number of visits	Percent of Visits	Visits per 10,000 FTEs	95% CI
Total		35,058	100	265.0	262-268
Age	18	2,391	6.8	280.5	269-292
	19	3,892	11.1	345.3	335-356
	20	4,748	13.5	274.1	266-282
	21	5,275	15.0	282.1	275-290
	22	5,941	16.9	279.7	273-287
	23	6,368	18.2	274.3	268-281
	24	6,443	18.4	201.2	196-206
Gender⁺	Male	22,612	64.5	354.0	350-359
	Female	12,445	35.5	181.9	179-185
Race & Ethnicity⁺	White only, non-Hispanic	26,119	74.5	269.4	266-273
	Hispanic	4,867	13.9	245.9	239-253
	Black only, non-Hispanic	2,294	6.5	331.6	318-345
	Asian only, non-Hispanic	445	1.3	68.7	62-75
	Multi-racial	212	0.6	52.5	45-60
Year of Hospital Visit	2010	7,724	22.0	313.3	306-320
	2011	7,545	21.5	292.5	286-299
	2012	7,127	20.3	260.1	254-266
	2013	6,505	18.6	242.7	237-249
	2014	6,157	17.6	222.7	217-228

(continued on next page)

Notes:

- Source: Emergency Discharge Data, for 1 Jan 2010 through 31 Dec 2014, 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. Percentages may not add to 100 due to rounding error.
- 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 2010 through Dec 2014.

⁺Difference is significant for all comparisons/groups 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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		All Visits			
		Number of Visits	Percent of Visits	Visits per 10,000 FTEs	95% CI
Nature of Injury	Open wounds	14,316	40.8	108.2	106-110
	Sprains	6,389	18.2	48.3	47-50
	Superficial/Contusions	6,113	17.4	46.2	45-47
	Burns	1,999	5.7	15.1	14-16
	Fractures	1,404	4.0	10.6	10-11
	Internal organ	606	1.7	4.6	4.2-4.9
	Crushing	450	1.3	3.4	3.1-3.7
	Dislocations	236	0.7	1.8	1.6-2.0
	Amputations	141	0.4	1.1	0.09-1.2
	Other ^a	1,200	3.4	9.1	8.6-9.6
	Unspecified & Missing	2,204	6.3	16.7	16-17
External Cause of Injury	Cut/pierce	10,802	30.8	81.6	80-83
	Struck by/against	5,860	16.7	44.3	43-45
	Overexertion	3,921	11.2	29.6	29-31
	Falls	3,118	8.9	23.6	23-24
	Fire/burn	1,932	5.5	14.6	14-15
	Machinery	1,068	3.0	8.1	8-9
	Motor vehicle	872	2.5	6.6	6-7
	Natural/environmental	855	2.4	6.5	6-7
	Poisoning	142	0.4	1.1	0.9-1.2
	Other transportation	103	0.3	0.8	0.6-0.9
	Other ^b	3,897	11.1	29.5	29-30
	Unspecified & Missing	2,488	7.1	18.8	18-20

Notes:

- 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.

(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.

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

		Gender				Race & Ethnicity							
		Males		Females		White only, non-Hispanic		Hispanic		Black only, non-Hispanic		Other, non-Hispanic	
		Number of Visits	Percent of Visits	Number of Visits	Percent of Visits	Number of Visits	Percent of Visits	Number of Visits	Percent of Visits	Number of Visits	Percent of Visits	Number of Visits	Percent of Visits
Total		22,612	100	12,445	100	26,119	100	4,867	100	2,294	100	686	100
Nature of Injury	Open wounds	10,308	45.6	4,008	32.2	10,820	41.4	2,013	41.4	754	32.9	287	41.8
	Sprains	3,601	15.9	2,788	22.4	4,636	17.7	931	19.1	558	24.3	96	14.0
	Superficial/contusions	3,519	15.6	2,594	20.8	4,520	17.3	785	16.1	488	21.3	124	18.1
	Burns	1,092	4.8	906	7.3	1,454	5.6	312	6.4	116	5.1	42	6.1
	Fractures	1,054	4.7	350	2.8	1,052	4.0	216	4.4	65	2.8	23	3.4
	Crushing	349	1.5	101	0.8	327	1.3	64	1.3	38	1.7	b	
	Internal organ	321	1.4	285	2.3	506	1.9	51	1.0	28	1.2	11	1.6
	Dislocations	168	0.7	68	0.5	173	0.7	26	0.5	20	0.9	b	
	Amputations	125	0.6	16	0.1	86	0.3	34	0.7	b		b	
	Other^a	910	4.0	290	2.3	938	3.6	120	2.5	52	2.3	27	3.9
Unspecified & Missing		1,165	5.2	1,039	8.3	1,607	6.2	315	6.5	b		52	7.6

Notes:

- Source: Emergency Discharge Data, for 1 Jan 2010 through 31 Dec 2014, Massachusetts Center for Health Information and Analysis.
- 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 Barell Injury Matrix, Barell et al., *Inj Prev*, 2002 Jun;8(2):91-96.

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

(b) 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.

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Table 3. Nature of Injury by Age

		Age													
		18		19		20		21		22		23		24	
		Number of Visits	Percent of Visits	Number of Visits	Percent of Visits	Number of Visits	Percent of Visits	Number of Visits	Percent of Visits	Number of Visits	Percent of Visits	Number of Visits	Percent of Visits	Number of Visits	Percent of Visits
Total		2,391	100	3,892	100	4,748	100	5,275	100	5,941	100	6,368	100	6,443	100
Nature of Injury	Open Wounds	1,132	47.3	1,782	45.8	2,121	44.7	2,100	39.8	2,379	40.0	2,463	38.7	2,339	36.3
	Sprains	297	12.4	564	14.5	802	16.9	966	18.3	1,099	18.5	1,272	20.0	1,389	21.6
	Superficial/ Contusions	364	15.2	605	15.5	763	16.1	941	17.8	1,079	18.2	1,154	18.1	1,207	18.7
	Burns	217	9.1	316	8.1	291	6.1	305	5.8	312	5.3	270	4.2	288	4.5
	Fractures	80	3.3	140	3.6	192	4.0	200	3.8	232	3.9	279	4.4	281	4.4
	Internal Organ	48	2.0	66	1.7	83	1.7	83	1.6	101	1.7	113	1.8	112	1.7
	Crushing	25	1.0	61	1.6	70	1.5	76	1.4	74	1.2	78	1.2	66	1.0
	Dislocations	17	0.7	26	0.7	29	0.6	47	0.9	39	0.7	34	0.5	44	0.7
	Amputations	15	0.6	12	0.3	22	0.5	25	0.5	23	0.4	21	0.3	23	0.4
	Other ^a	75	3.1	121	3.1	135	2.8	192	3.6	201	3.4	235	3.7	241	3.7
Unspecified & Missing		121	5.1	199	5.1	240	5.1	340	6.4	402	6.8	449	7.1	453	7.0

Notes:

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- 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 Barell Injury Matrix, Barell et al., *Inj Prev*, 2002 Jun;8(2):91-96.

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

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Table 4. Nature of Injury by Body Part

	Total	Visits	
		Number of Visits	Percent of Visits
	35,058	100	
Open Wounds	14,316	40.8	
Extremities	13,104	91.5	
Head & neck	1,131	7.9	
Sprains	6,389	18.2	
Extremities	3,704	58.0	
Spine & Back	1,849	28.9	
Torso	683	10.7	
Superficial/contusions	6,113	17.4	
Extremities	3,960	64.8	
Head & neck	1,471	24.1	
Torso	578	9.5	
Burns	1,999	5.7	
Extremities	1,638	81.9	
Head & neck	290	14.5	
Torso	55	2.8	
Fractures	1,404	4.0	
Extremities	1,272	90.6	
Head & neck	85	6.1	
Internal Organ	606	1.7	
Head & neck*	600	99.0	
Crushing	450	1.3	
Extremities	448	99.6	
Dislocations	236	0.7	
Extremities	235	99.6	
Amputations	141	0.4	
Extremities	141	100	
Other^a	1,200	3.4	
Unspecified & Missing	2,204	6.3	
Head & Neck	1,032	46.8	
Extremities	897	40.7	
Torso	130	5.9	

Notes:

- Source: Emergency Discharge Data, for 1 Jan 2010 through 31 Dec 2014, Massachusetts Center for Health Information and Analysis
- Other includes blood vessel injuries and nerve injuries, system wide and late effect injuries.
- 590 of these injuries are concussions.
- Counts not shown for cells with less than 11 cases based on CHIA rules pertaining to confidentiality. Numbers may not add to total due to missing information. Not all subcategories shown for each nature of injury category.
- 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 Barell Injury Matrix, Barell et al., *Inj Prev*, 2002 Jun;8(2):91-96.

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Table 5. External Cause of Injury

		Visits	
		Number of Visits	Percent of Visits
External Cause of Injury	Total	35,058	100
	Cut/pierce	10,802	30.8
	Struck by/against	5,860	16.7
	Overexertion	3,921	11.2
	Falls	3,118	8.9
	Fall to same level	1,422	45.6
	Fall from stairs	291	9.3
	Fall from ladder	254	8.1
	Fall to lower level	214	6.9
	Fall from opening	28	0.9
	Fall from building	18	0.6
	Other falls	891	28.6
	Fire/burn	1,932	5.5
	Burn	1,820	94.2
	Fire	112	5.8
	Machinery	1,068	3.0
	Motor vehicle	872	2.5
	Driver/passenger motor vehicle	725	83.1
	Pedestrian	66	7.6
	Unspecified Person	59	6.8
	Natural/environmental	855	2.4
	Sting, non-poisonous	610	71.3
	Sting, poisonous	146	17.1
	Poisoning	142	0.4
	Other Transportation	103	0.3
	Other transportation	80	77.7
	Pedestrian, non motor vehicle	14	13.6
	Other ^a	3,897	11.1
	Unspecified & Missing	2,488	7.1

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Table 6. Visits Distributed by Month

		Visits	
		Number of Visits	Percent of Visits
Total		35,058	100
Month of Injury	January	2,450	7.0
	February	2,305	6.6
	March	2,511	7.2
	April	2,632	7.5
	May	3,108	8.9
	June	3,439	9.8
	July	3,809	10.9
	August	3,664	10.5
	September	2,972	8.5
	October	3,054	8.7
	November	2,625	7.5
	December	2,489	7.1

Notes:

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