

# U.S. Army Injury Surveillance Summary 2014



**ARMY PUBLIC HEALTH CENTER** (Provisional)

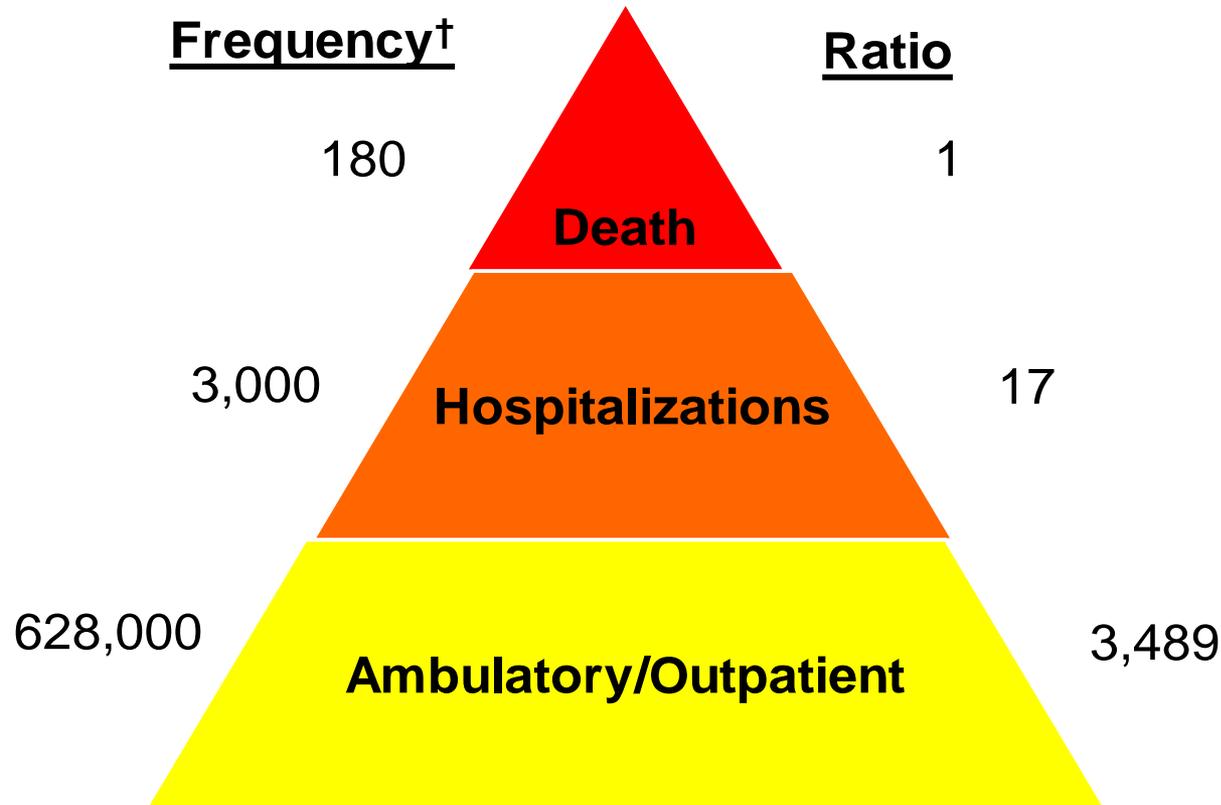
Epidemiology and Disease Surveillance Portfolio  
Injury Prevention Program

Website: <http://phc.amedd.army.mil/organization/hq/deds/Pages/InjuryPreventionProgram.aspx>  
Email: [usarmy.apg.medcom-phc.mbx.injuryprevention@mail.mil](mailto:usarmy.apg.medcom-phc.mbx.injuryprevention@mail.mil)

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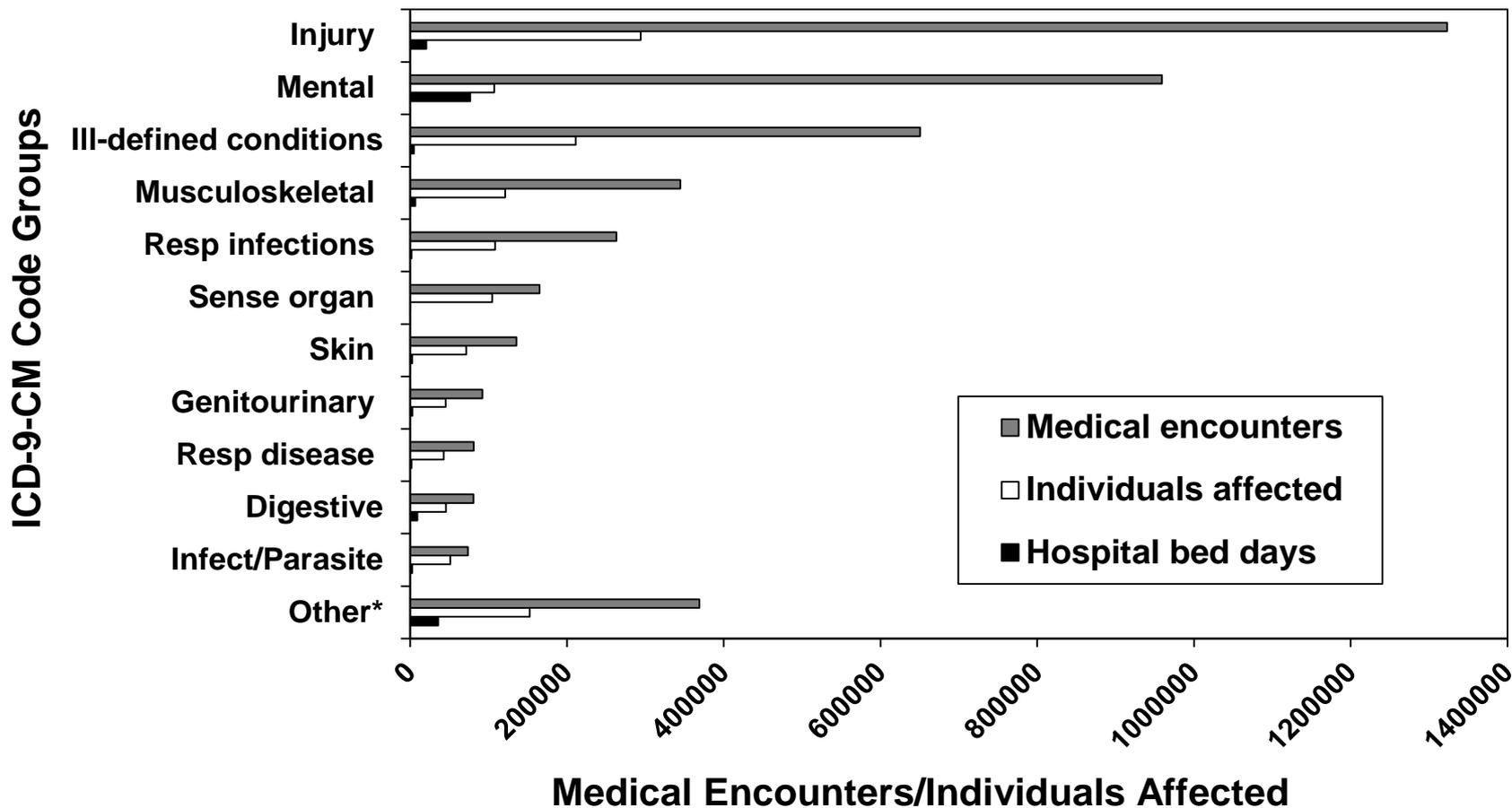
# Injury Pyramid, U.S. Army Active Duty, 2014



<sup>†</sup>Frequencies are rounded

Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program

# Relative Burden of Injuries and Diseases, U.S. Army Active Duty, 2014



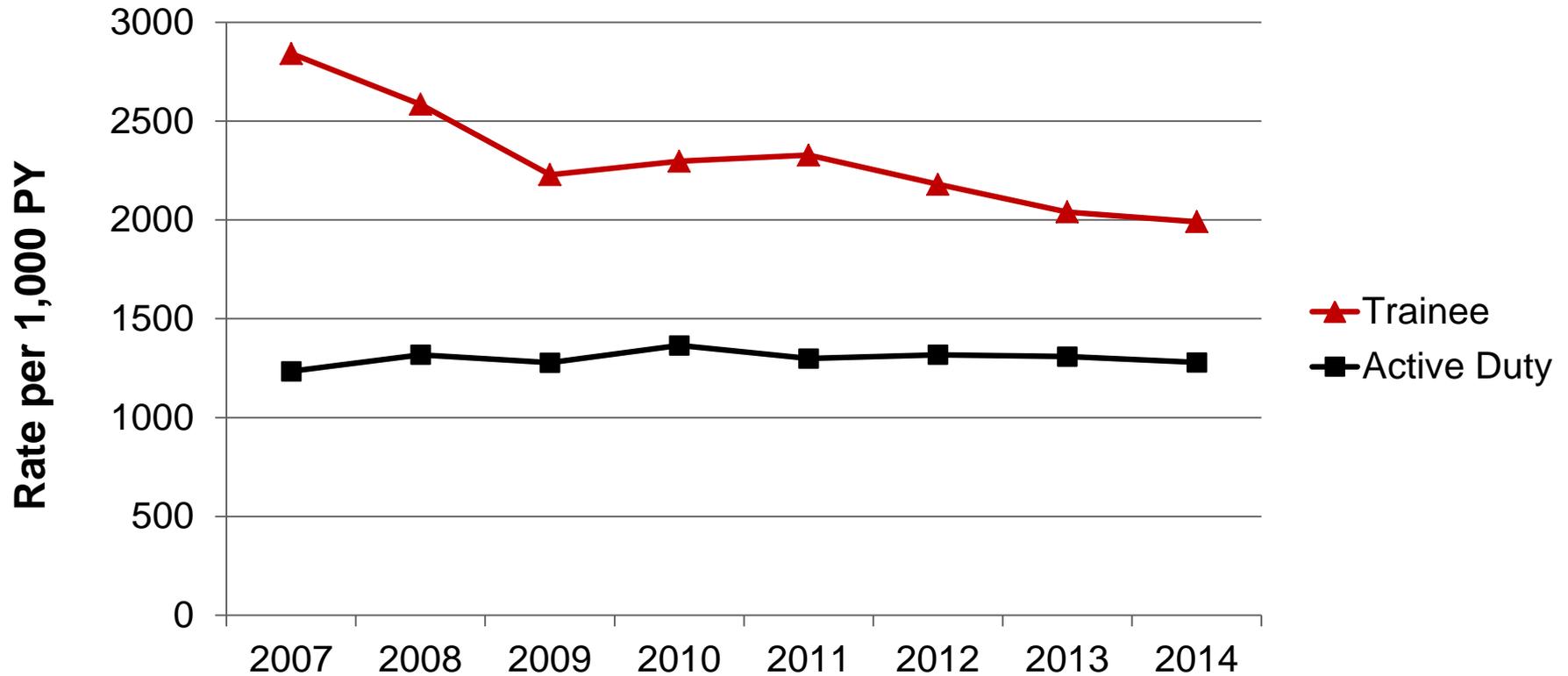
\*Includes all ICD-9-CM code groups with less than 80,000 medical encounters

Diagnosis group Injury contains both injury and injury-related musculoskeletal conditions

Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program



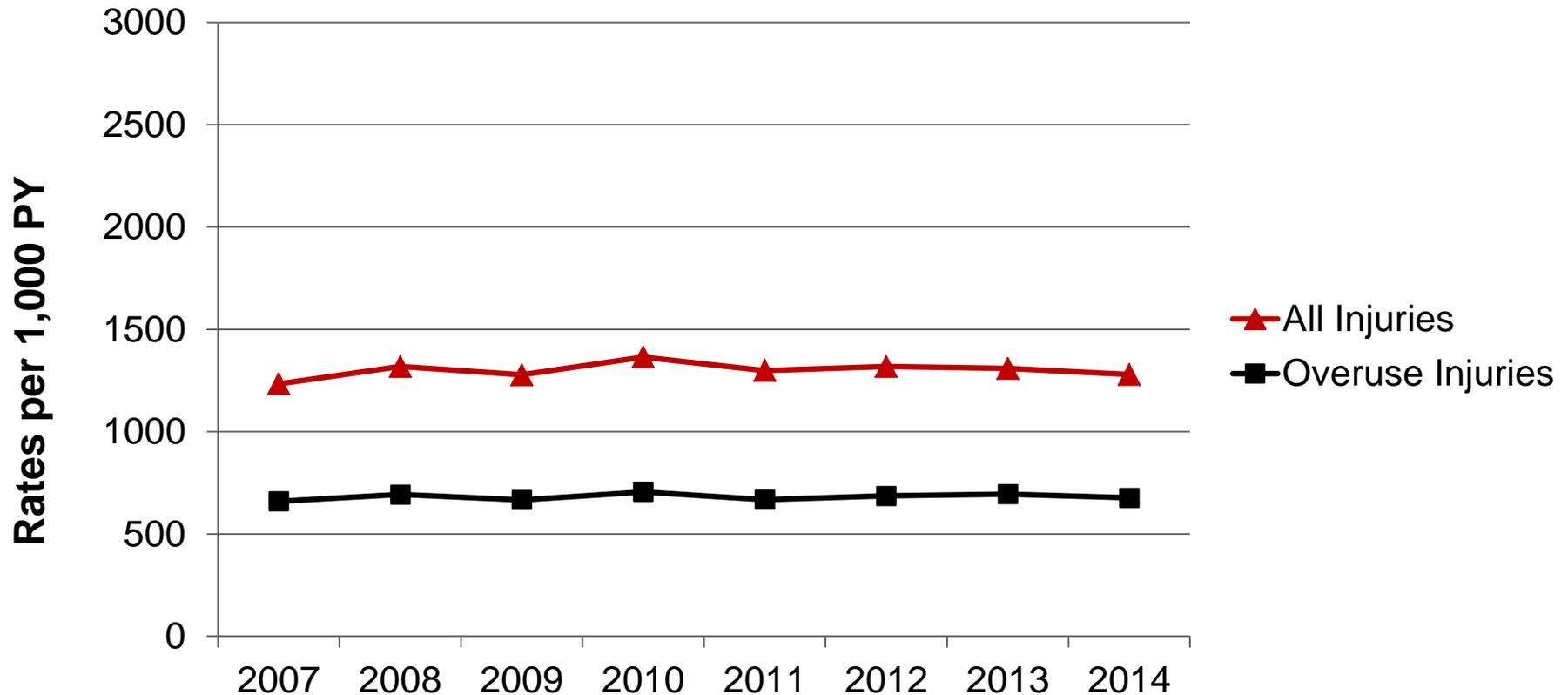
# U.S. Army Active Duty vs. Trainee Overall Injury Visit Rates, 2007-2014



Active Duty injury adjusted to remove deployed injury and deployed person-time  
Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program



# U.S. Army Active Duty Injury and Overuse Injury Visit Rates, 2007-2014

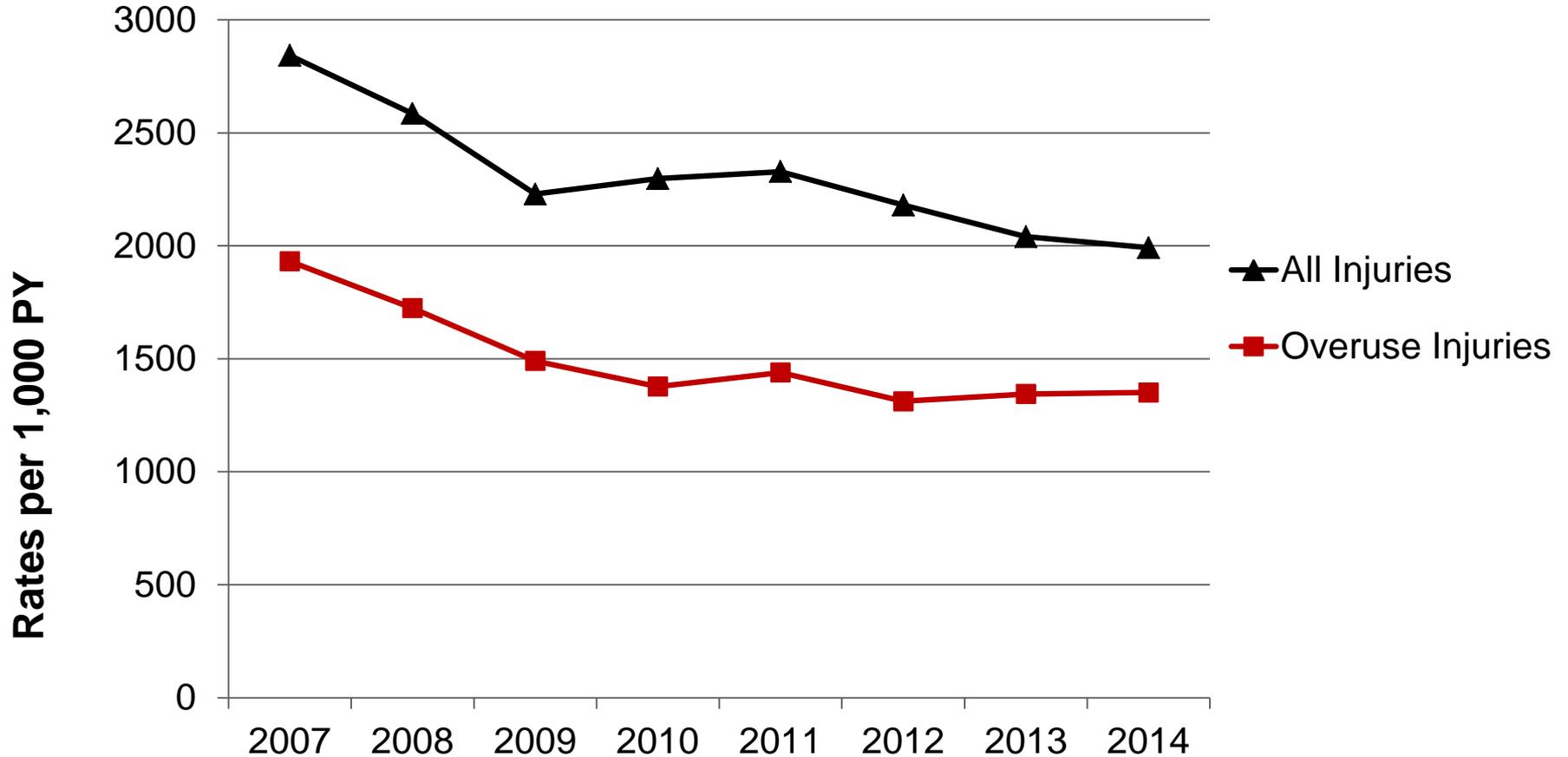


Active Duty injury adjusted to remove deployed injury and deployed person-time

Overuse injuries of the lower extremity

Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program

# U.S. Army Trainee Injury and Overuse Injury Visit Rates, 2007-2014



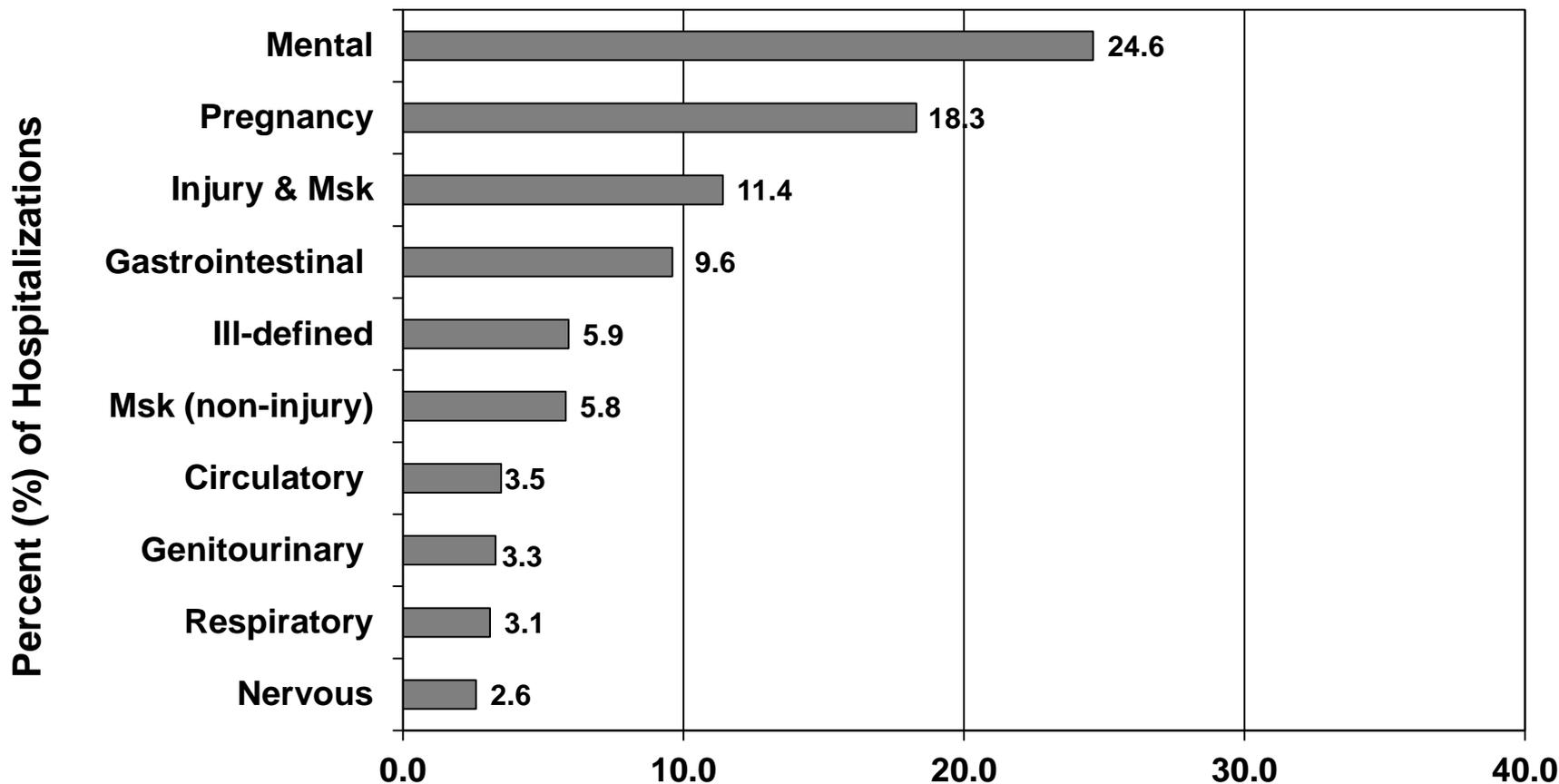
Overuse injury of the lower extremity

Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program



# Conditions Resulting in Hospitalization

## Top 10 ICD-9 Categories, U.S. Army Active Duty, 2014

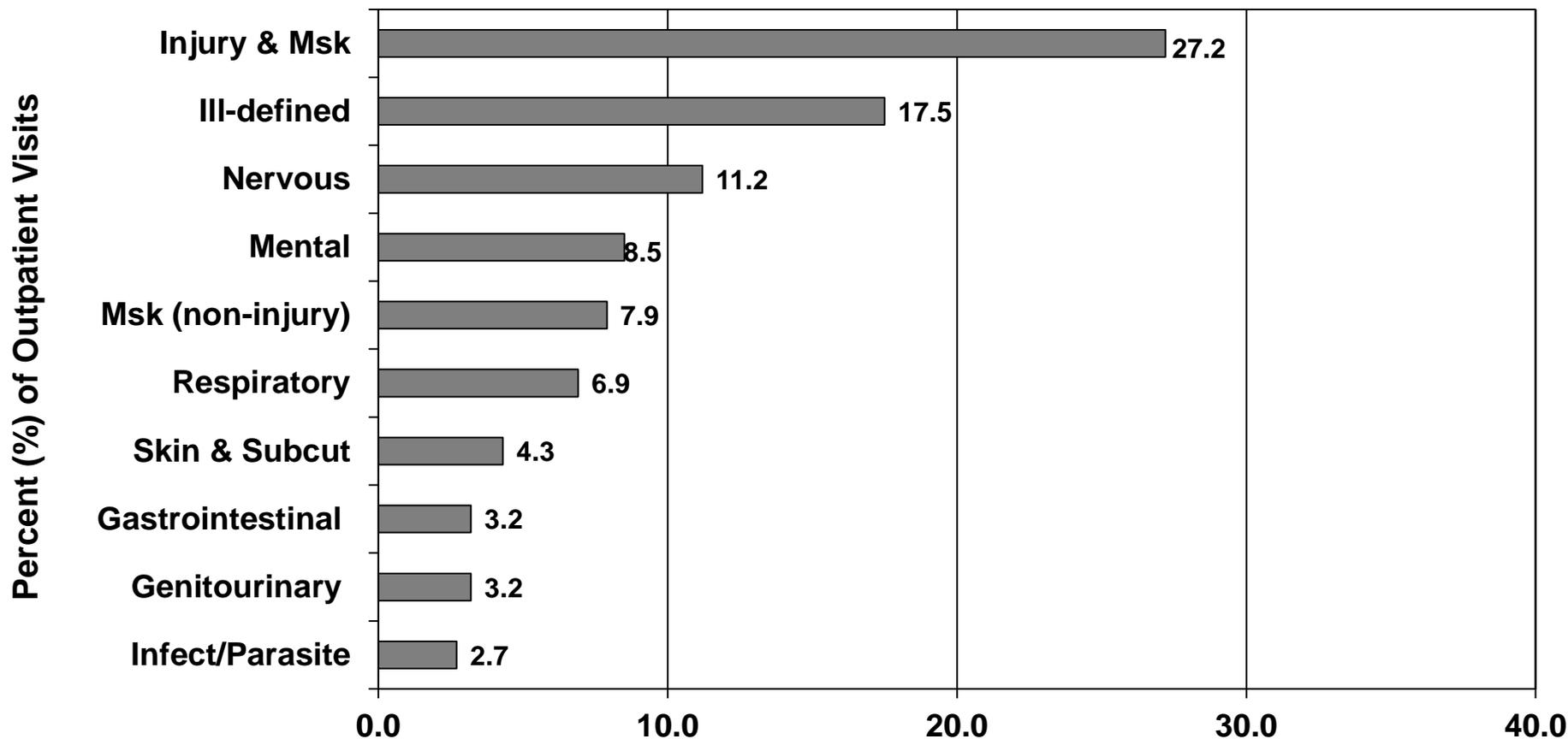


Total number of incident hospitalizations = 30,840

Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program



# Injuries vs. Illnesses Resulting in Outpatient Visits, Top 10 ICD-9 Categories, U.S. Army Active Duty, 2014

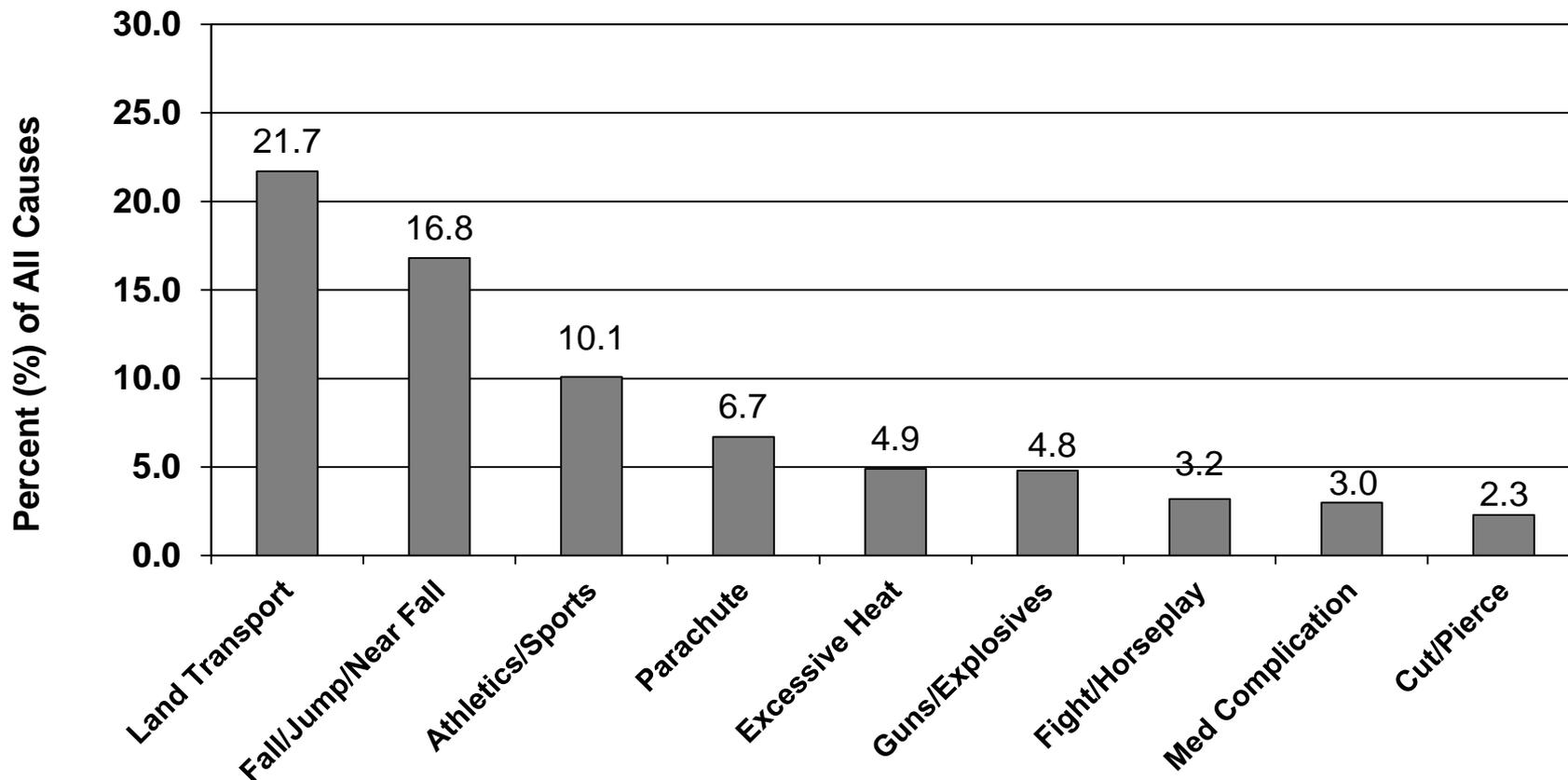


Total number of incident outpatient visits = 2,307,011

Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program



# Leading Causes of Unintentional Hospitalizations by Cause, U.S. Army Active Duty, 2014



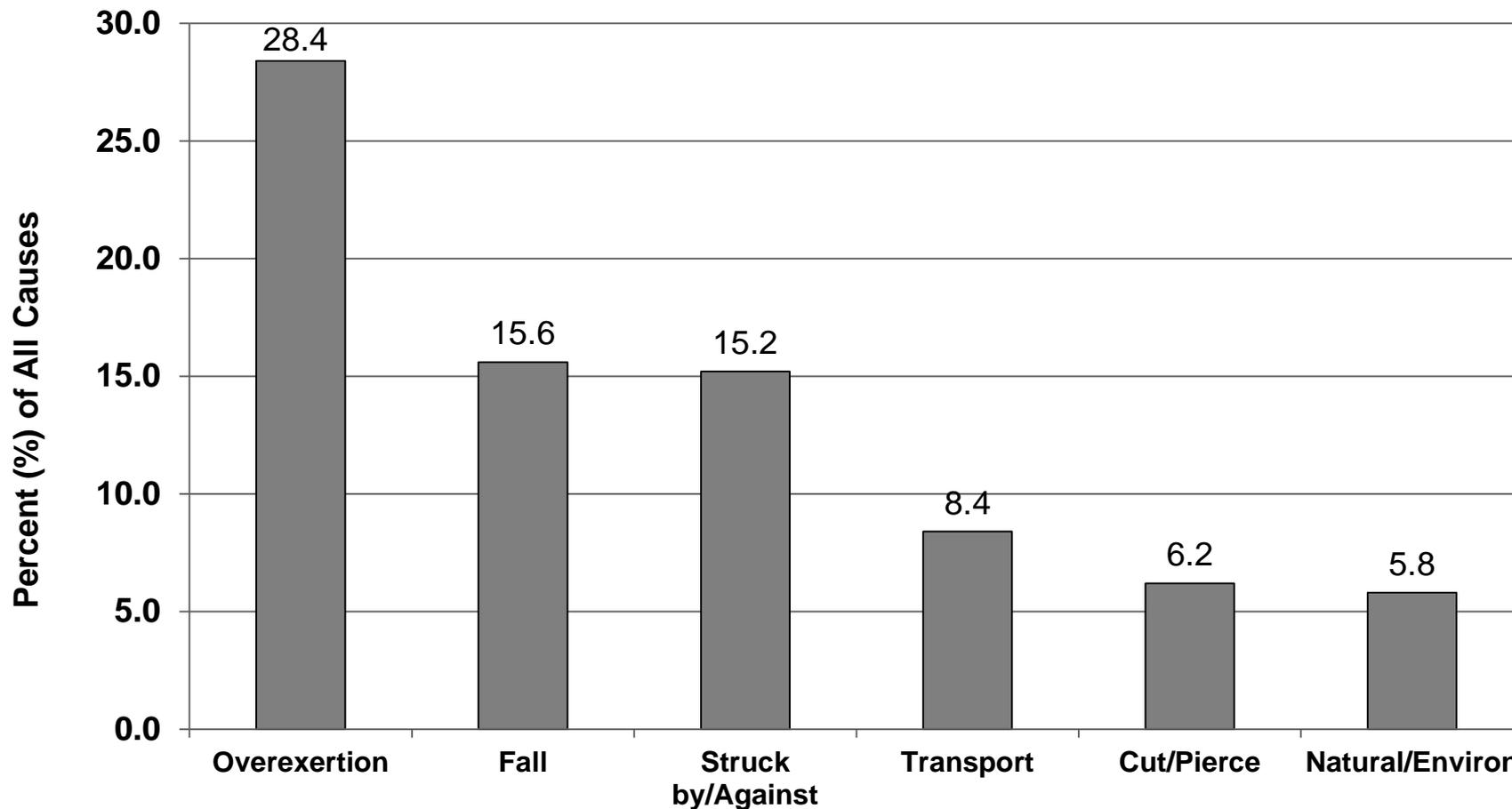
Total number of cause-coded unintentional injury hospitalizations = 963

Land transport includes both traffic and nontraffic related and military and nonmilitary related incidents

Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program



# Leading Causes of Unintentional Injury Outpatient Visits by Cause, U.S. Army Active Duty, 2014



Total number of cause-coded unintentional outpatient visits = 73,379

Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program



# Frequency of Acute Injuries by Location and Diagnosis (Barell Matrix) Hospitalizations, U.S. Army Active Duty, 2014



			DIAGNOSIS													Total	% by body region		
			Fracture	Dislocation	Sprains/ Strains	Internal	Open Wound	Amputations	Blood Vessel	Contusion/ Superficial	Crush	Burns	Nerves	Unspec	System-wide & late effects				
BODY REGION	Head and Neck	Traumatic Brain Injury (TBI)	Type 1 TBI	0	0	0	0	0	0	0	0	0	0	0	20	0	20	100%	
			Type 2 TBI	50	0	0	97	0	0	0	0	0	0	0	0	0	0		147
			Type 3 TBI	12	0	0	96	0	0	0	0	0	0	0	0	0	0		108
			TBI Unspec.	10	0	0	0	0	0	0	0	0	0	0	0	0	0		10
		Other Head, Face, Neck	Other head	0	0	0	0	14	0	0	0	0	0	0	0	0	0		14
			Face	135	1	0	0	15	0	0	0	0	3	0	0	0	0		154
			Eye	0	0	0	0	8	0	0	5	0	2	0	0	0	0		15
	Spine and Back	Spinal Cord (SCI)	Neck	1	0	0	0	7	0	0	0	0	1	0	0	0	9		
			Head, Face, Neck Unspec.	0	0	0	0	0	0	0	17	0	12	0	8	0	37		
			Cervical SCI	9	0	0	3	0	0	0	0	0	0	0	0	0	0		12
			Thoracic/Dorsal SCI	2	0	0	0	0	0	0	0	0	0	0	0	0	0		2
	Lumbar SCI		1	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
	Sacrum Coccyx SCI		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Vertebral Column (VCI)	Spine, Back Unspec. SCI	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2		
Cervical VCI		14	4	12	0	0	0	0	0	0	0	0	0	0	0	30			
Thoracic/Dorsal VCI		24	0	0	0	0	0	0	0	0	0	0	0	0	0	24			
Lumbar VCI		33	1	2	0	0	0	0	0	0	0	0	0	0	0	36			
Sacrum Coccyx VCI		7	0	0	0	0	0	0	0	0	0	0	0	0	0	7			
Spine, Back Unspec. VCI		3	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
Torso	Torso	Chest (thorax)	22	0	0	43	3	0	3	6	0	3	0	0	0	80			
		Abdomen	0	0	0	49	9	0	2	5	0	1	0	0	0	66			
		Pelvis, Urogenital	41	3	2	4	8	0	0	0	1	0	0	0	0	59			
		Trunk	0	0	0	0	1	0	0	9	1	0	0	6	0	17			
		Back, Buttock	0	0	2	0	3	0	0	6	0	2	0	0	0	13			
Extremities	Upper	Shoulder, Upper Arm	63	16	25	0	5	0	0	3	0	3	0	3	0	118			
		Forearm, Elbow	76	4	3	0	14	0	0	1	1	4	0	0	0	103			
		Wrist, Hand, Fingers	66	11	14	0	44	6	0	3	5	16	0	2	0	167			
		Other & Unspec.	0	0	0	0	4	0	1	2	0	2	6	6	0	21			
	Lower	Hip	19	3	12	0	0	0	0	3	0	0	0	0	0	37			
		Upper leg, Thigh	43	0	0	0	0	1	0	6	0	1	0	0	0	51			
		Knee	16	32	40	0	0	0	0	0	0	1	0	0	0	89			
		Lower leg, Ankle	290	1	28	0	0	1	0	4	1	2	0	0	0	327			
		Foot, toes	59	1	1	0	8	2	0	5	5	2	0	0	0	83			
		Other & Unspec.	1	0	20	0	27	0	6	3	0	2	0	10	0	69			
Unclass. by Site	Other, Unspecified	Other/Multiple	0	0	0	0	0	0	0	0	0	0	3	0	0	3			
		Unspec. Site	2	1	5	0	12	0	0	1	0	4	1	37	0	63			
System-wide & late effects			0	0	0	0	0	0	0	0	0	0	0	0	236	236			
Total			999	78	166	294	182	10	12	79	14	61	10	92	236	2,233			
% Total			44.7%	3.5%	7.4%	13.2%	8.2%	0.4%	0.5%	3.5%	0.6%	2.7%	0.4%	4.1%	10.6%	100%			

Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program



# Frequency of Acute Injuries by Location and Diagnosis (Barell Matrix) Outpatient Visits, U.S. Army Active Duty, 2014



			DIAGNOSIS													Total	% by body region		
			Fracture	Dislocation	Sprains/ Strains	Internal	Open Wound	Ampu- tations	Blood Vessel	Contusion/ Superficial	Crush	Burns	Nerves	Unspec	System- wide & late effects				
BODY REGION	Head and Neck	Traumatic Brain Injury (TBI)	Type 1 TBI	0	0	0	0	0	0	0	0	0	0	0	2,846	0	2,846	4.7%	
			Type 2 TBI	84	0	0	2,251	0	0	0	0	0	0	0	0	0	0		2,335
			Type 3 TBI	152	0	0	4,486	0	0	0	0	0	0	0	0	0	0		4,638
			TBI Unspec.	32	0	0	0	0	0	0	0	0	0	0	0	0	0		32
		Other Head, Face, Neck	Other head	0	0	0	0	1,101	0	0	0	0	7	32	0	0	0		1,140
			Face	1,132	56	33	0	3,000	0	0	0	0	47	0	0	0	0		4,268
			Eye	0	0	0	0	292	0	0	3,540	0	104	17	0	0	0		3,953
			Neck	4	0	2	0	57	0	0	0	12	22	7	0	0	0		104
	Head, Face, Neck Unspec.	0	0	0	0	0	0	15	2,773	10	87	3	1,245	0	0	4,133	6.5%		
	Spine and Back	Spinal Cord (SCI)	Cervical SCI	26	0	0	29	0	0	0	0	0	0	0	0	0	0		55
			Thoracic/Dorsal SCI	38	0	0	4	0	0	0	0	0	0	0	0	0	0		42
			Lumbar SCI	13	0	0	5	0	0	0	0	0	0	0	0	0	0		18
			Sacrum Coccyx SCI	3	0	0	6	0	0	0	0	0	0	0	0	0	0		9
			Spine, Back Unspec. SCI	5	0	0	51	0	0	0	0	0	0	0	0	0	0		56
Vertebral Column (VCI)		Cervical VCI	122	14	4,532	0	0	0	0	0	0	0	0	0	0	0	4,668		
		Thoracic/Dorsal VCI	213	1	1,619	0	0	0	0	0	0	0	0	0	0	0	1,833		
		Lumbar VCI	264	15	6,621	0	0	0	0	0	0	0	0	0	0	0	6,900		
		Sacrum Coccyx VCI	145	21	311	0	0	0	0	0	0	0	0	0	0	0	477		
		Spine, Back Unspec. VCI	68	1	0	0	0	0	0	0	0	0	0	0	0	0	69		
Torso	Torso	Chest (thorax)	583	41	1,575	177	89	0	9	1,259	0	24	1	0	0	3,758			
		Abdomen	0	0	0	191	112	0	8	160	0	20	19	0	0	0	510		
		Pelvis, Urogenital	256	28	3,696	61	188	0	9	115	6	17	3	0	0	0	4,379		
		Trunk	4	0	0	0	41	0	0	1,078	3	77	6	3,840	0	0	5,049		
		Back, Buttock	0	0	2,139	0	78	0	0	504	3	33	0	0	0	0	2,757		
Extremities	Upper	Shoulder, Upper Arm	899	1,927	15,451	0	212	7	0	966	6	37	0	2,189	0	21,694			
		Forearm, Elbow	1,127	108	891	0	690	10	0	629	17	170	0	0	0	3,642			
		Wrist, Hand, Fingers	5,695	626	5,848	0	7,248	117	0	4,384	526	491	0	1,784	0	26,719			
		Other & Unspec.	25	0	0	0	174	5	82	997	4	70	501	1,162	0	3,020			
	Lower	Hip	170	35	8,593	0	0	0	0	385	3	0	0	0	0	9,186			
		Upper leg, Thigh	200	0	0	0	0	44	0	239	5	34	0	0	0	522			
		Knee	166	3,843	3,942	0	0	0	0	1,305	3	9	0	0	0	9,268			
		Lower leg, Ankle	2,927	98	18,340	0	0	90	0	796	28	87	0	0	0	22,366			
		Foot, toes	3,501	144	2,570	0	1,203	22	0	5,064	189	77	0	0	0	12,770			
		Other & Unspec.	204	0	15,561	0	1,657	68	41	2,201	39	75	0	7,506	0	27,352			
Unclass. by Site	Other, Unspecified	Other/Multiple	14	0	0	0	0	0	2	0	0	1	192	0	0	209			
		Unspec. Site	359	51	4,971	119	1,070	0	11	5,277	53	469	111	1,357	0	13,848			
	System-wide & late effects	0	0	0	0	0	0	0	0	0	0	0	0	5,723	0	5,723			
Total			18,431	7,009	96,695	7,380	17,212	363	177	31,672	907	1,958	892	21,929	5,723	210,348	100%		
% Total			8.8%	3.3%	46.0%	3.5%	8.2%	0.2%	0.1%	15.1%	0.4%	0.9%	0.4%	10.4%	2.7%	100%			

Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program



# Frequency of Injury-related Musculoskeletal Conditions by Location and Diagnosis

## Hospitalizations, U.S. Army Active Duty, 2014



Injury Location				DIAGNOSIS							
				Inflammation and Pain (Overuse)	Joint Derangement	Joint Derangement with Neurological Involvement	Stress Fracture	Sprains/ Strains/ Rupture	Dislocation	Total	% by body region
<b>BODY REGION</b>	Vertebral Column	Cervical	13	190	85	0	0	0	288	59.1%	
		Thoracic/Dorsal	0	6	40	0	0	0	46		
		Lumbar	49	271	33	0	0	0	353		
		Sacrum, Coccyx	4	0	0	0	0	0	4		
		Spine, Back Unspecified	11	5	3	2	0	0	21		
	Extremities	Upper	Shoulder	61	40	0	0	5	7	113	11.6%
			Upper arm, Elbow	18	1	0	0	0	1	20	
			Forearm, Wrist	2	4	0	1	0	0	7	
			Hand	0	0	0	0	0	0	0	
		Lower	Pelvis, Hip, Thigh	48	32	0	2	1	1	84	26.3%
			Knee, Lower leg	52	46	0	6	71	4	179	
	Unclassified by Site	Others and Unspecified	Other specified/Multiple	2	1	0	1	1	0	5	3.0%
			Unspecified Site	21	0	8	2	0	0	31	
	Total			304	626	169	14	78	14	1,205	100%
	% Total			25.2	52.0	14.0	1.2	6.5	1.2		

Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program



# Frequency of Injury-related Musculoskeletal Conditions by Location and Diagnosis

## Outpatient Visits, U.S. Army Active Duty, 2014



Injury Location				DIAGNOSIS							
				Inflammation and Pain (Overuse)	Joint Derangement	Joint Derangement with Neurological Involvement	Stress Fracture	Sprains/ Strains/ Rupture	Dislocation	Total	% by body region
<b>BODY REGION</b>	Vertebral Column	Cervical	20,587	2,280	3,189	0	0	0	26,056	32.8%	
		Thoracic/Dorsal	0	421	4,378	0	0	0	4,799		
		Lumbar	73,862	9,577	2,646	0	0	0	86,085		
		Sacrum, Coccyx	3,848	0	0	0	0	0	3,848		
		Spine, Back Unspecified	11,994	1,021	129	74	0	0	13,218		
	Extremities	Upper	Shoulder	52,280	4,538	0	0	596	460	57,874	20.0%
			Upper arm, Elbow	8,553	117	0	1	0	5	8,676	
			Forearm, Wrist	9,881	397	0	13	0	6	10,297	
			Hand	4,413	105	0	0	187	10	4,715	
		Lower	Pelvis, Hip, Thigh	22,860	919	0	4	67	11	23,861	43.7%
			Knee, Lower leg	82,335	6,177	0	1,730	3,080	114	93,436	
			Ankle, Foot	57,215	3,647	0	372	131	39	61,404	
	Unclassified by Site	Others and Unspecified	Other specified/Multiple	1,201	42	0	68	83	7	1,401	3.5%
			Unspecified Site	10,469	74	1,501	796	78	3	12,921	
	Total			359,498	29,315	11,843	3,058	4,222	655	408,591	100%
	% Total			88.0	7.2	2.9	0.7	1.0	0.2		

Data source: Defense Medical Surveillance System, 2015; Prepared by Army Public Health Center, Injury Prevention Program



# Disclaimer



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