

U.S. Army Injury Surveillance 2019 Summary



Clinical Public Health and Epidemiology Injury Prevention Program

Website: <https://phc.amedd.army.mil/topics/discond/ptsaip/Pages/default.aspx>
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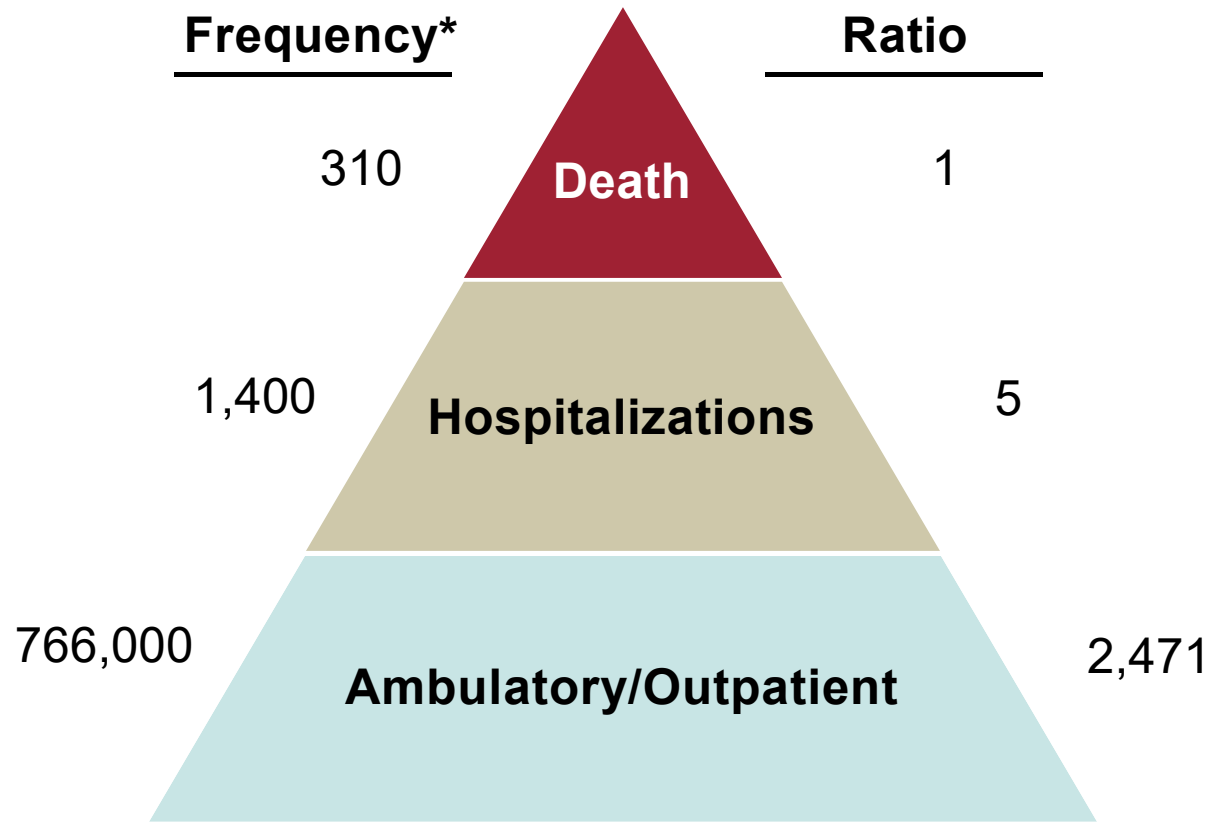
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- This document provides a summary of injury medical encounter surveillance data for Active Duty Soldiers from Calendar Year (CY) 2019
- Injuries are defined using the U.S. Army Public Health Center (APHC) Taxonomy of Injuries¹
- This summary highlights Army Active Duty injury rates and distribution of injuries resulting from the applied Taxonomy of Injuries
- For additional details about data contained in these slides, please see the associated Technical Information Paper²

¹APHC Public Health Information Paper (PHIP) No. 12-01-0717: A Taxonomy of Injuries for Public Health Monitoring & Reporting. December 2017. <https://apps.dtic.mil/sti/citations/AD1039481>

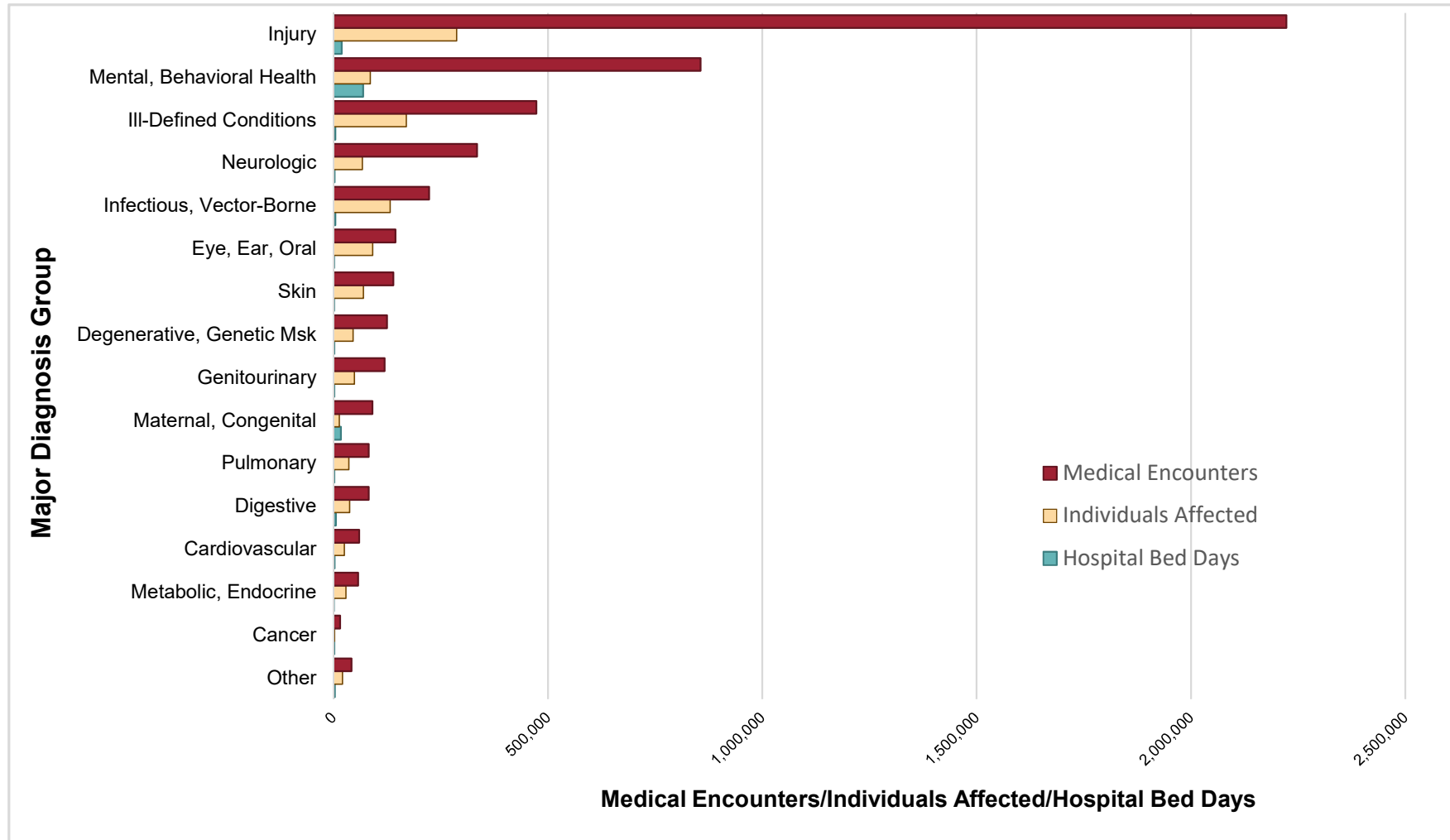
²APHC Technical Information Paper (TIP) No. 12-114-0121: Annual Injury Surveillance Report 2019 Summary. June 2021. <https://apps.dtic.mil/sti/citations/AD1136242>

Injury Pyramid U.S. Army Active Duty, 2019



*Frequencies are rounded and represent incident injury visits
 Data source: Military Health System Data Repository (MDR) and Armed Forces Medical Examiner System (AFMES); injuries defined using the APHC Taxonomy of Injuries
 Prepared by Army Public Health Center, Injury Prevention Program

Relative Burden of Injuries and Diseases U.S. Army Active Duty, 2019



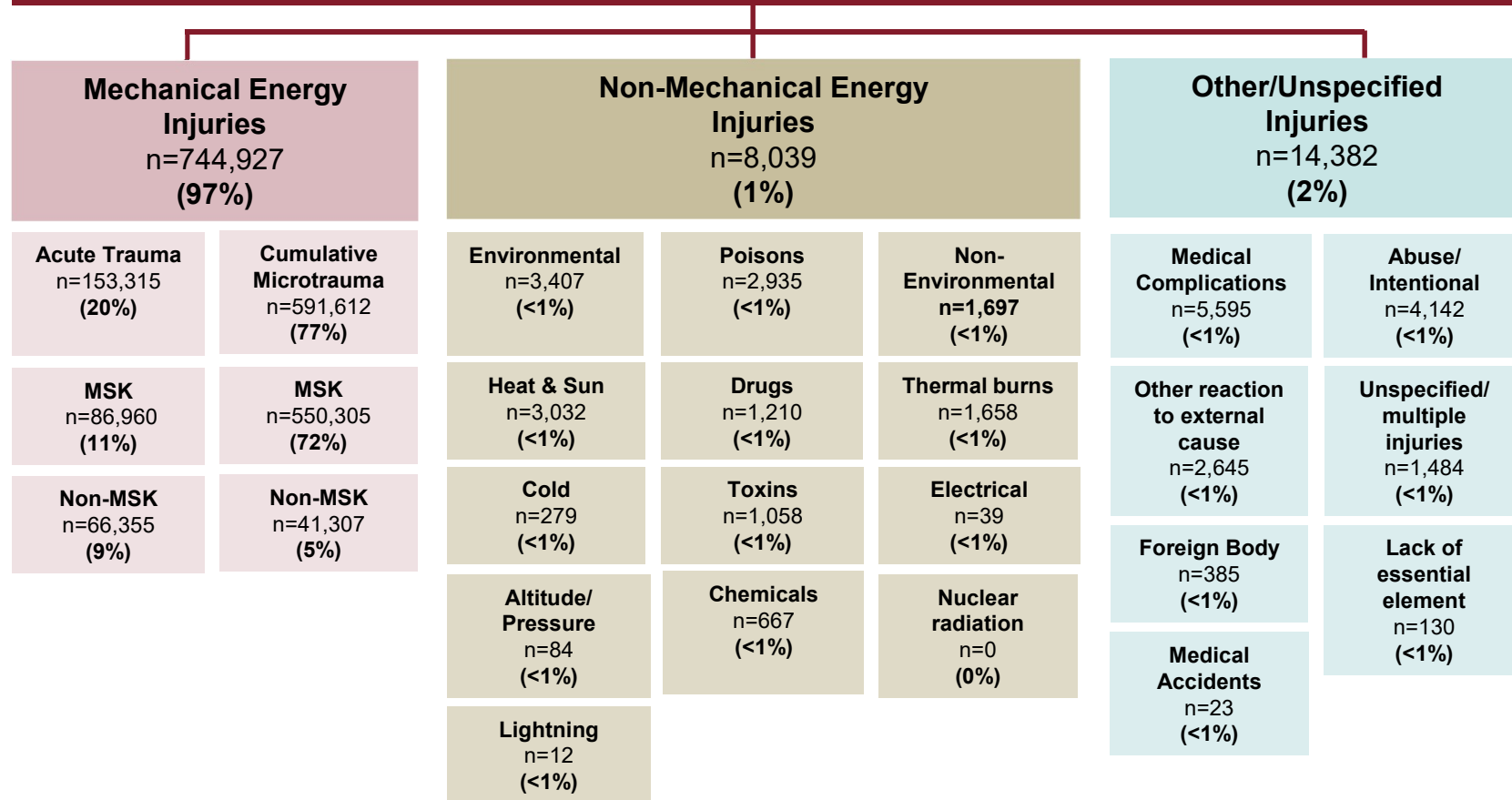
Diagnosis group "Other" includes adverse effects of drugs, blood disorders, and other neoplasms (not cancer) Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries
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Taxonomy Distribution of Injuries U.S. Army Active Duty, 2019



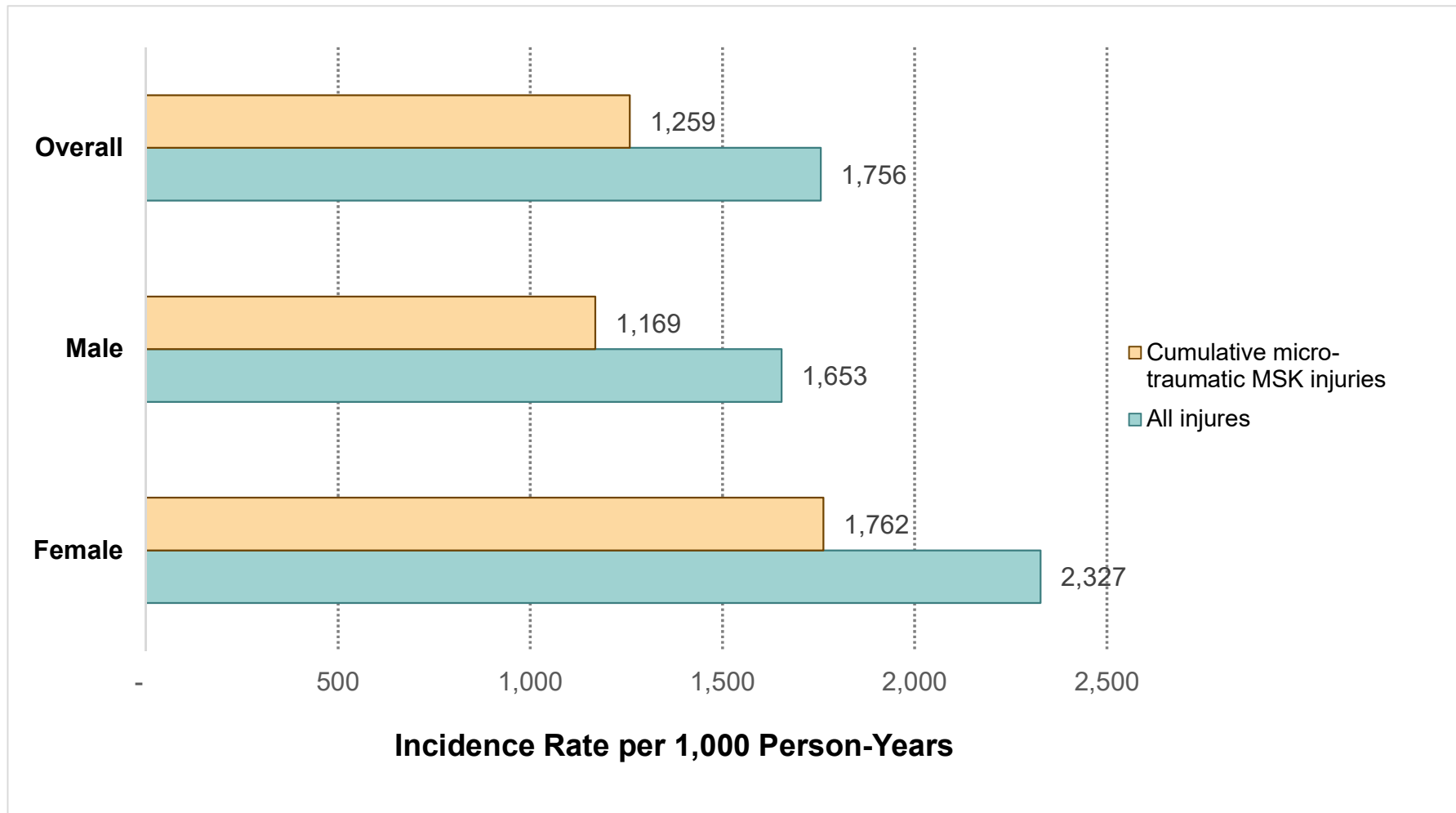
ALL ACTIVE DUTY ARMY INITIAL INJURIES, N = 767,348



† MSK = damage to tissue(s) of the musculoskeletal system i.e., bone, cartilage, muscle, tendon, fascia, joint, ligament, bursa, synovium
 Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries
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All Injury and Cumulative Micro-traumatic Musculoskeletal (MSK) Incident Injury Visit Rates by Sex U.S. Army Active Duty, 2019

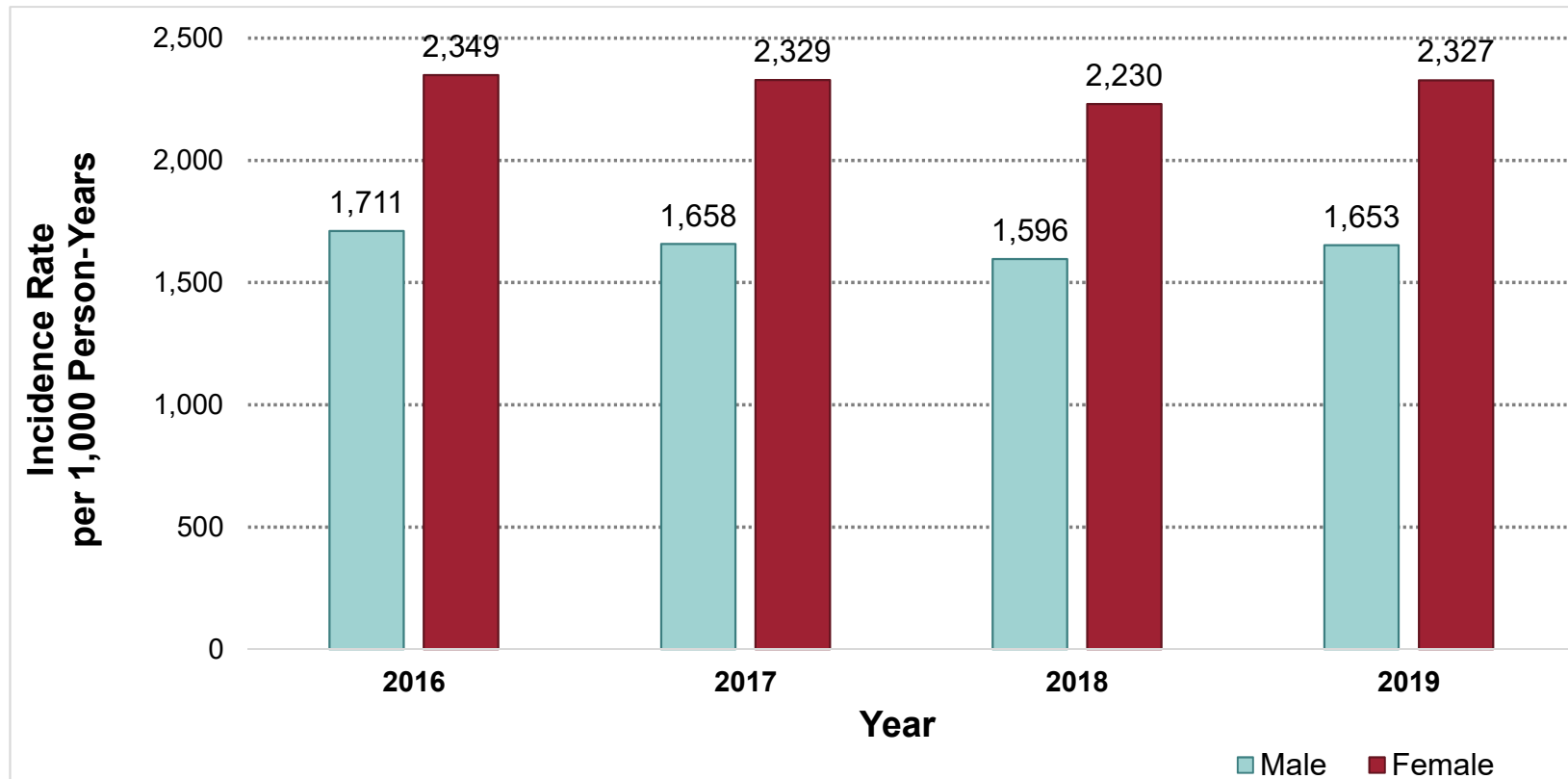


Rates for all injuries and cumulative micro-traumatic MSK injuries were both significantly higher among females ($p < 0.001$).

Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries

Prepared by Army Public Health Center, Injury Prevention Program

Incident Injury Visit Rates by Sex U.S. Army Active Duty, 2016-2019



The rates of incident injuries among female Army Soldiers were consistently and significantly higher than male Soldiers from 2016 to 2019 ($p < 0.001$).

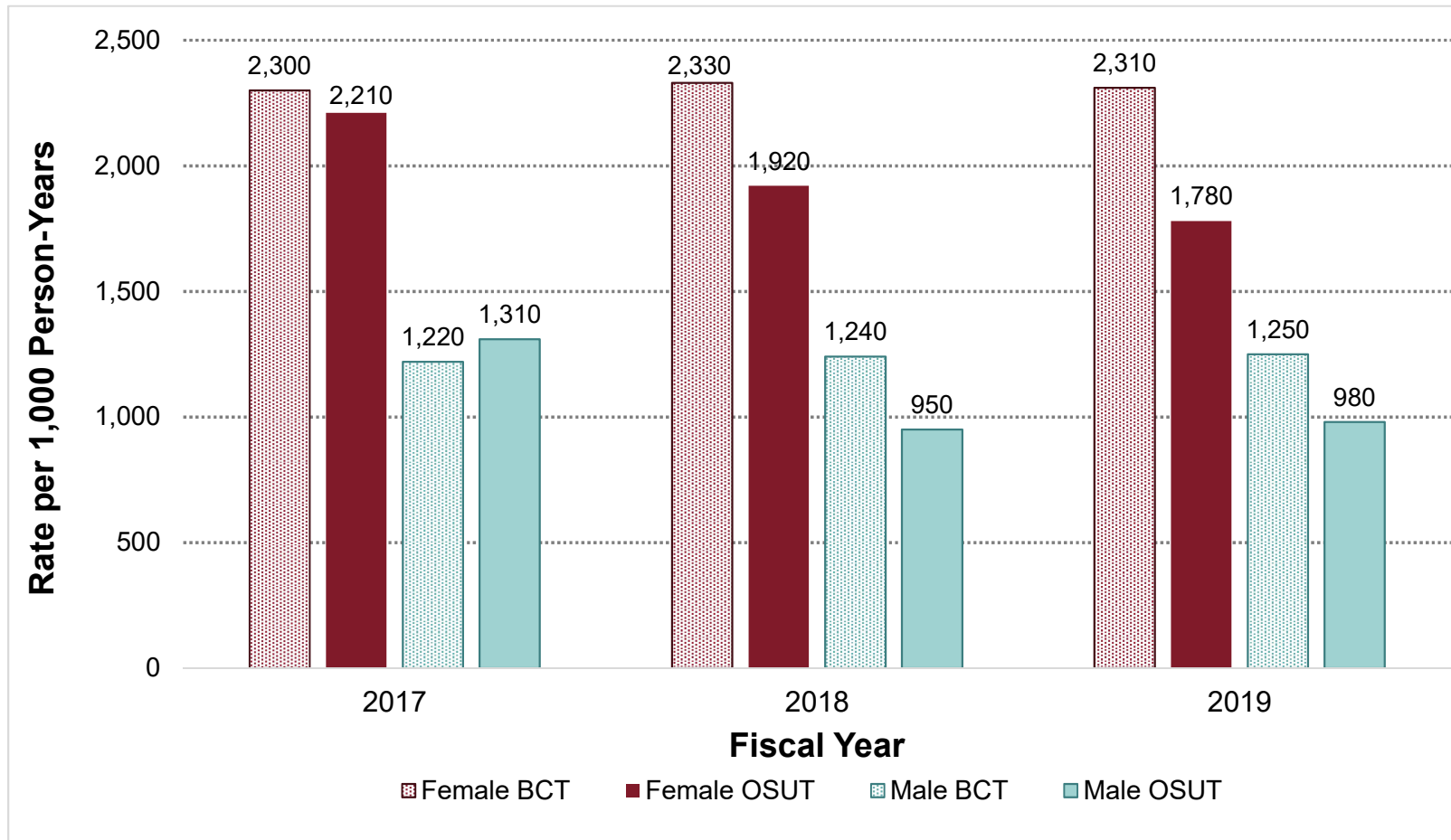
No significant changes in rates were observed for either gender 2016-2019 ($p > 0.05$).

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

Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries

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Incident Injury Visit Rates by Sex U.S. Army Trainees, FY2017-FY2019



Incident injury rates among female trainees in Basic Combat Training (BCT) and One Station Unit Training (OSUT) were significantly higher than male trainees from 2017-2019 ($p < 0.001$). In 2018 and 2019, injury rates during BCT were significantly higher than rates during OSUT for both males and females ($p < 0.001$). US Army Public Health Center. 2020. Public Health Report No. S.0047783-19 Injury Surveillance and Longitudinal Studies for Gender Integration in the Army: Fourth Annual Assessment, 2019.

Data source: Defense Medical Surveillance System (DMSS); injuries defined using the Army Public Health Center (APHC) Taxonomy of Injuries
Prepared by Army Public Health Center, Injury Prevention Program



Incident Mechanical Injuries by Body Region and Acute/Overuse* U.S. Army Active Duty, 2019



Body Region	Acute Traumatic (Trauma)	Cumulative Micro-traumatic (Overuse)	All
Lower Extremity	60,349 (39.4)	284,494 (48.1)	344,843 (46.3)
Spine & Back	8,944 (5.8)	168,963 (28.6)	177,907 (23.9)
Upper Extremity	49,148 (32.1)	112,064 (18.9)	161,212 (21.6)
Head, Face & Neck	25,506 (16.6)	16,906 (2.9)	42,412 (5.7)
Torso	8,566 (5.6)	816 (0.1)	9,382 (1.3)
Other	802 (0.5)	8,369 (1.4)	9,171 (1.2)
Total (%)	153,315 (100)	591,612 (100)	744,927 (100)

*In order of most frequently injured body region

Injuries defined using the APHC Injury Taxonomy; Acute traumatic (Trauma) and cumulative micro-traumatic (Overuse) injuries

Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries

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Incident Mechanical Injury Diagnoses by Body Region U.S. Army Active Duty, 2019



Diagnosis	Head, Face & Neck		Spine & Back		Torso		Upper Extremity		Lower Extremity		Other		Total	% Total
	Acute (ACT)	Cumulative (CMT)	ACT	CMT	ACT	CMT	ACT	CMT	ACT	CMT	ACT	CMT		
Msk Tissue Damage, Other	47	105	29	153552	51	2	3494	103607	7873	274172	133	8182	551,247	74.0%
Tissue Damage, Other	7929	16784	2048	0	1769	0	5514	0	4054	0	574	0	38,672	5.2%
Sprain/Joint Damage	16	0	1774	4	593	0	6202	629	22934	2698	68	24	34,942	4.7%
Nerve	40	0	19	15397	5	425	3868	3921	898	801	0	0	25,374	3.4%
Strain/Tear	2206	0	4063	0	2028	0	4932	3775	7337	4	27	1	24,373	3.3%
Contusion/Superficial	5032	17	0	0	2241	21	5744	118	6544	3823	0	0	23,540	3.2%
Fracture	1484	0	849	10	765	368	8682	14	7230	2996	0	162	22,560	3.0%
Open wound	3861	0	0	0	414	0	7616	0	2489	0	0	0	14,380	1.9%
Internal Organ & Blood Vessel	4824	0	118	0	642	0	69	0	23	0	0	0	5,676	0.8%
Dislocation	49	0	44	0	40	0	2188	0	702	0	0	0	3,023	0.4%
Crush	15	0	0	0	15	0	676	0	225	0	0	0	931	0.1%
Amputation	3	0	0	0	3	0	163	0	40	0	0	0	209	<0.1%
Total	25,503	16,906	8,944	168,963	8,563	816	48,985	112,064	60,309	284,494	802	8,369	744,927	100.0
% Total	3.3%	2.2%	1.2%	22.0%	1.1%	0.1%	6.4%	14.6%	7.9%	37.1%	0.1%	1.1%		100.0

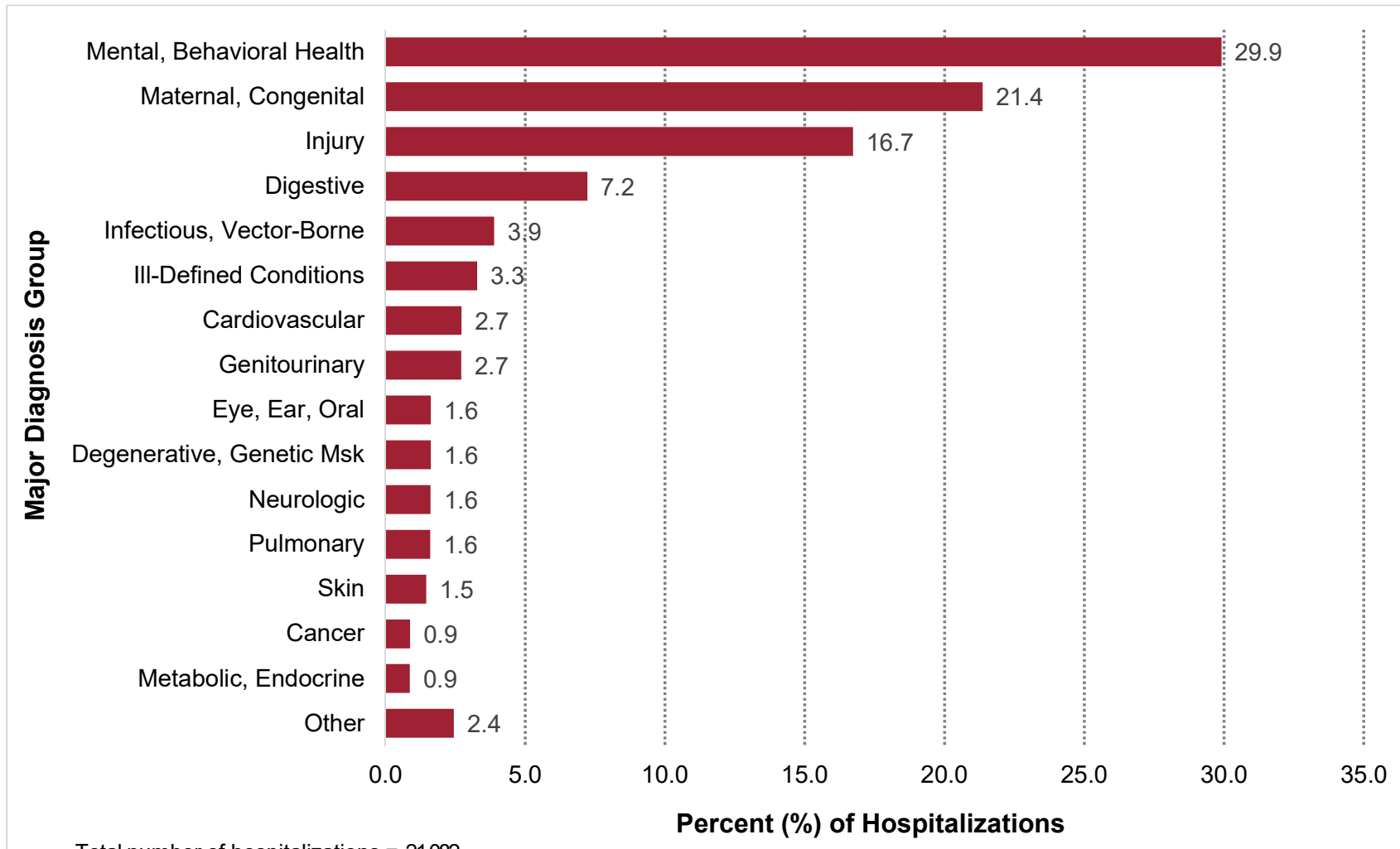
Injuries defined using the APHC Injury Taxonomy; Acute traumatic (Trauma) and cumulative micro-traumatic (Overuse) injuries

Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries

Prepared by Army Public Health Center, Injury Prevention Program



Major Diagnosis Groups Resulting in Hospitalizations U.S. Army Active Duty, 2019



Total number of hospitalizations = 21,082

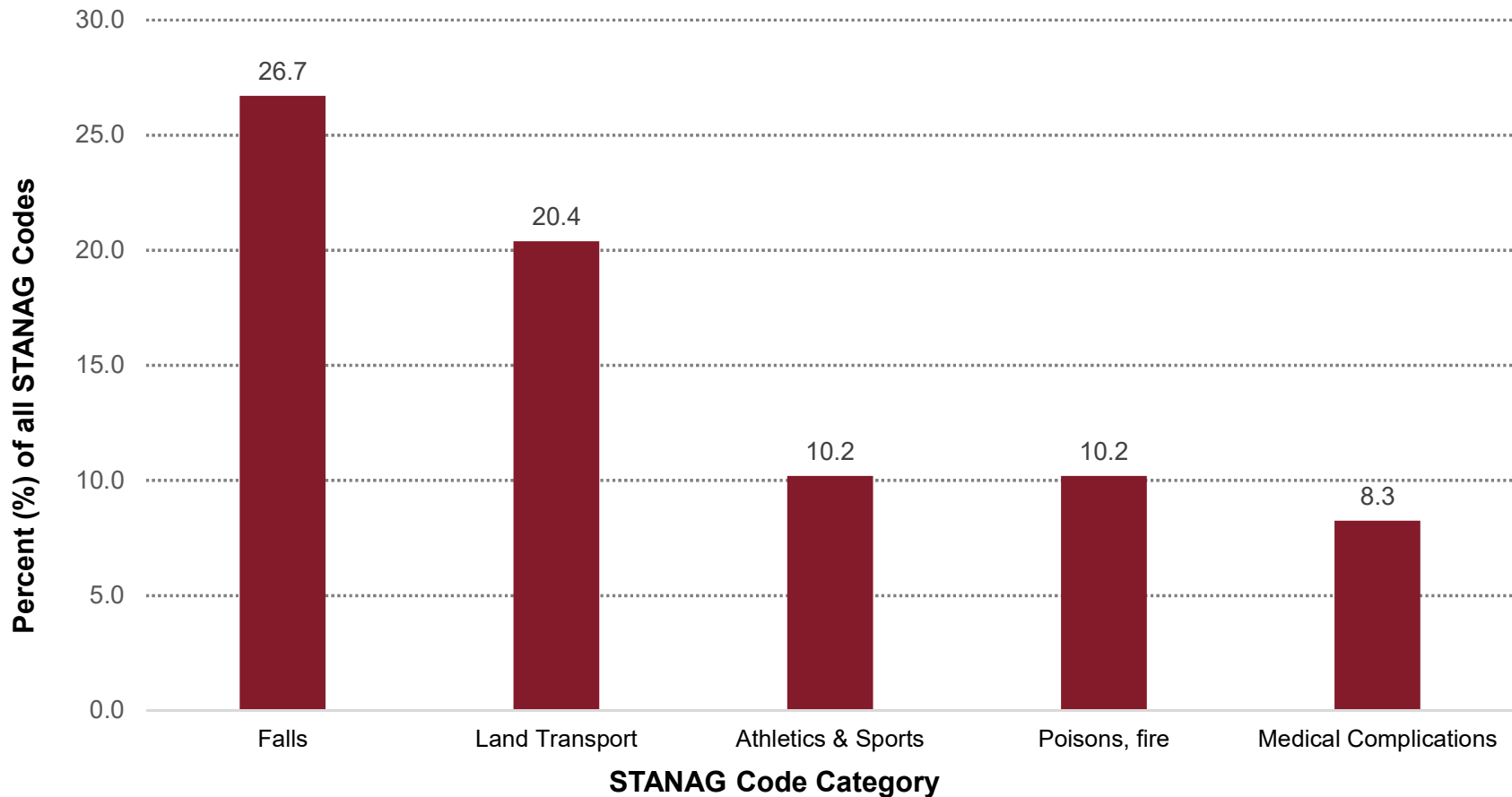
Diagnosis group "Other" includes adverse effects of drugs, blood disorders, and other neoplasms (not cancer)

Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries

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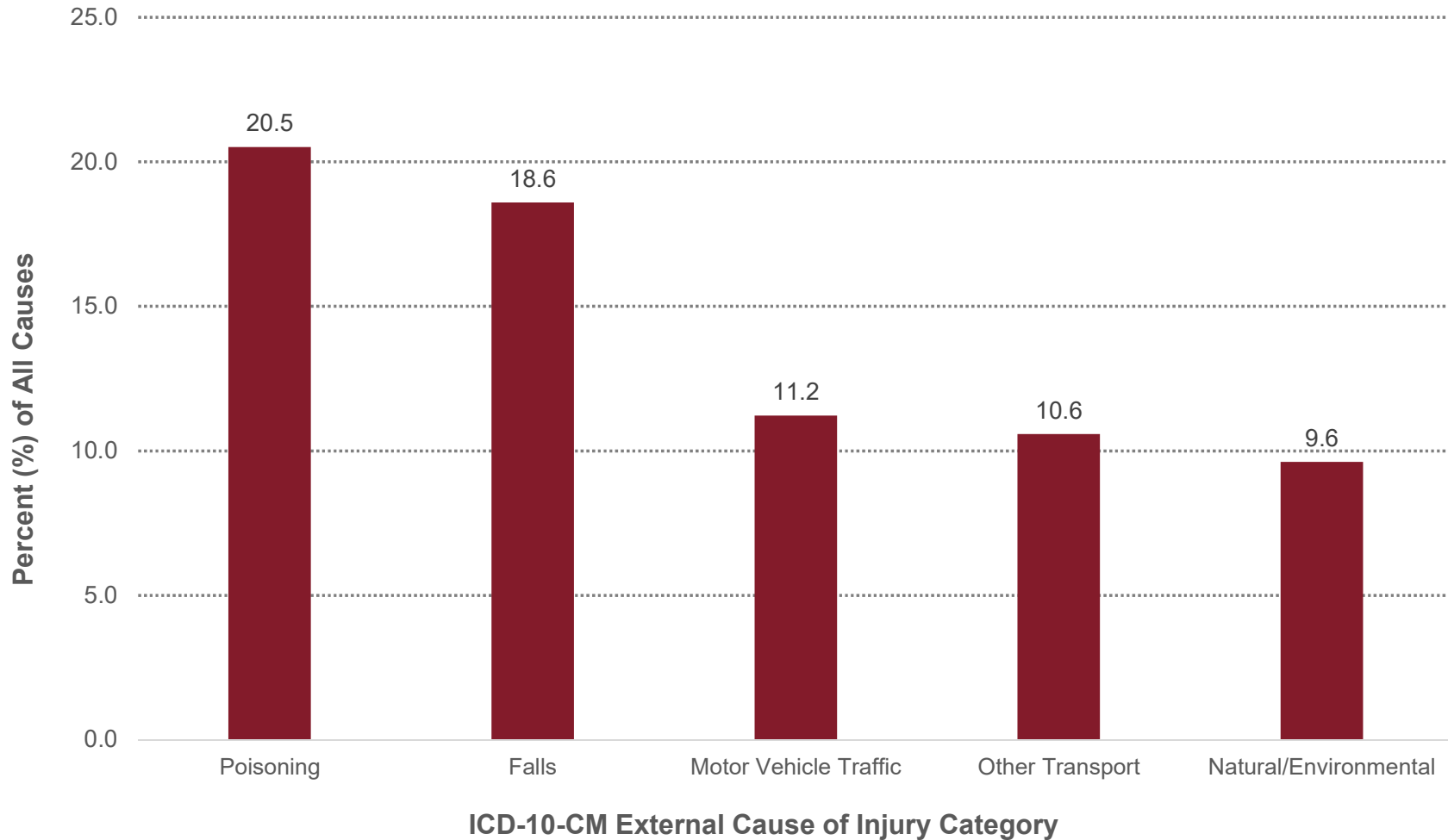
Leading Standardized Agreement (STANAG) Cause Codes for Injury Hospitalizations U.S. Army Active Duty, 2019



Total number of STANAG-coded injury hospitalizations = 206; may not be representative of the distribution of causes for all injuries
Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries
Prepared by Army Public Health Center, Injury Prevention Program



Leading Causes of Unintentional Injury Hospitalizations U.S. Army Active Duty, 2019



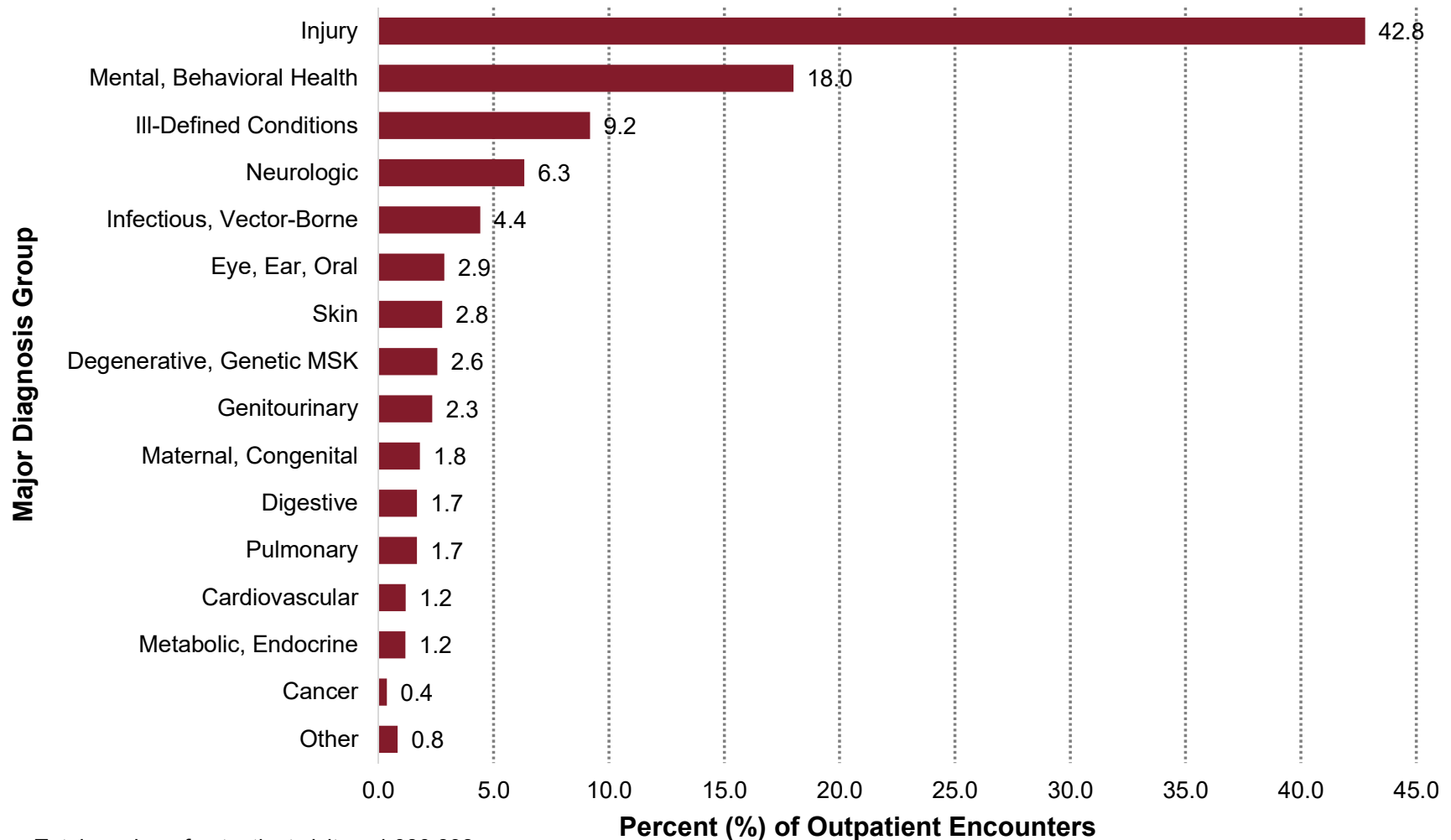
Total number of cause-coded unintentional injury hospitalizations = 312 (22%); may not be representative of the distribution of causes for all injuries

Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries

Prepared by Army Public Health Center, Injury Prevention Program



Major Diagnosis Groups Resulting in Outpatient Visits U.S. Army Active Duty, 2019



Total number of outpatient visits = 4,080,898

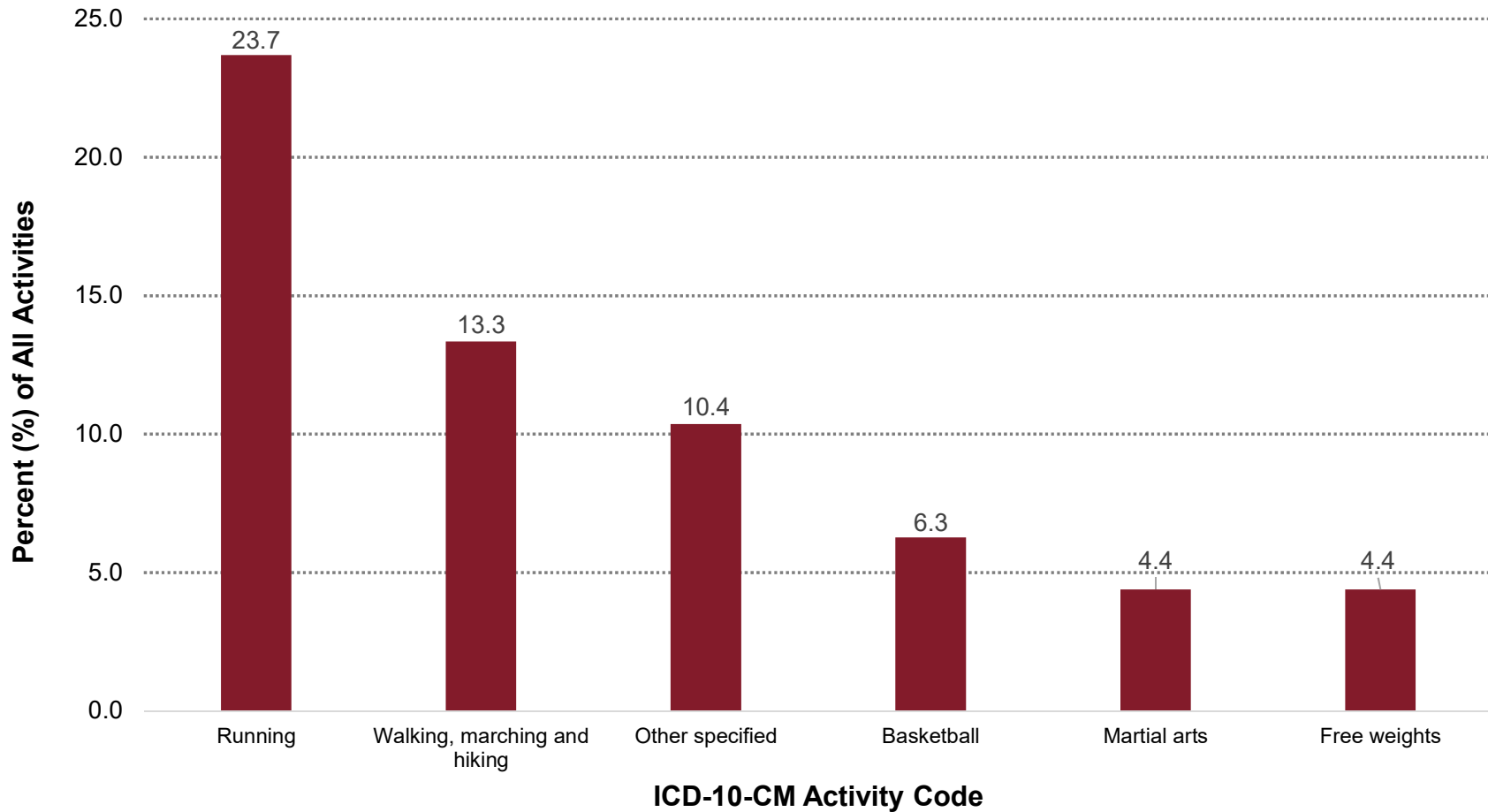
Diagnosis group "Other" includes adverse effects of drugs, blood disorders, and other neoplasms (not cancer)

Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries

Prepared by Army Public Health Center, Injury Prevention Program



Leading Activities Associated with Unintentional Injuries U.S. Army Active Duty, 2019



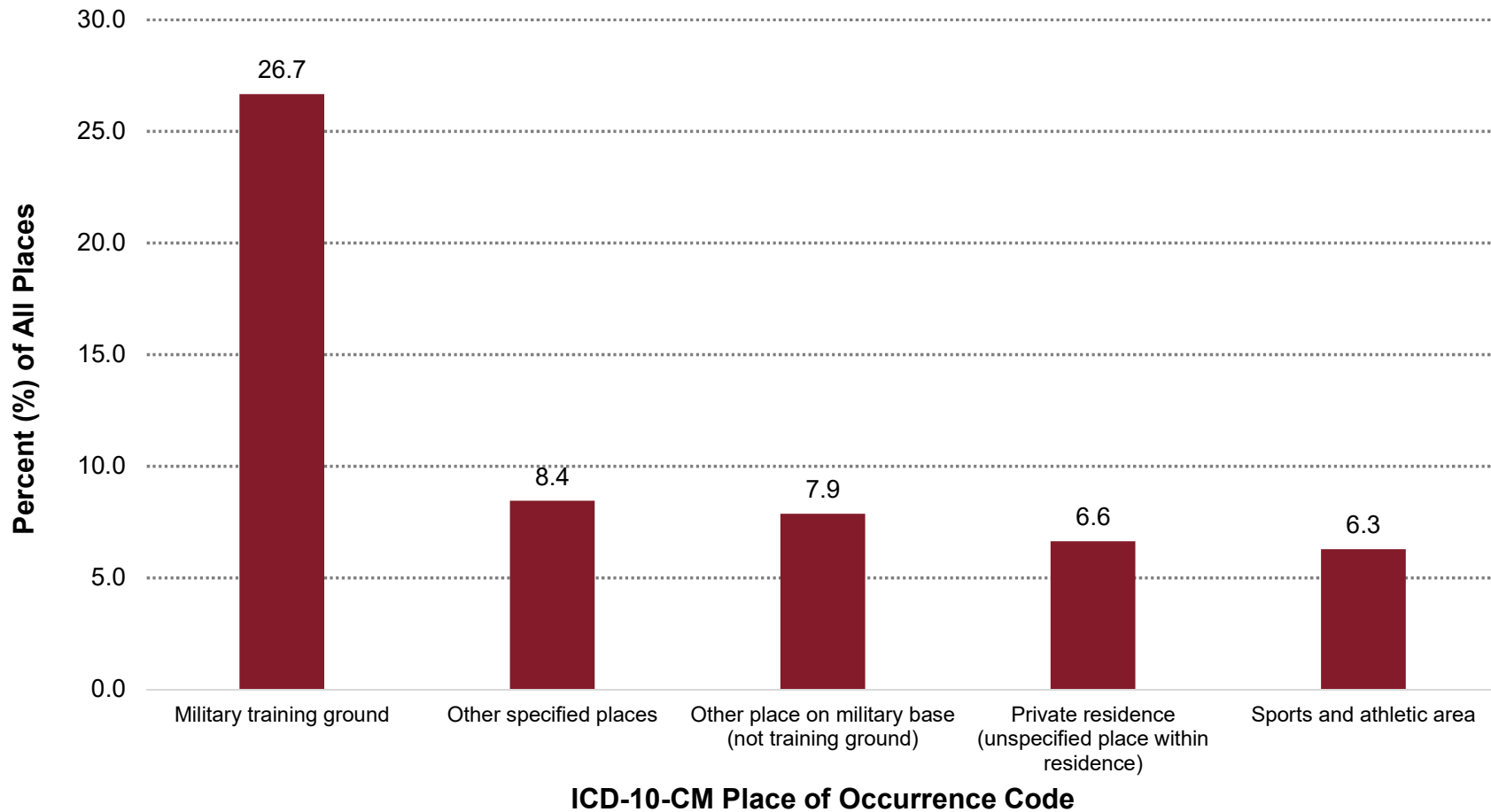
Total number of unintentional outpatient encounters with place of occurrence codes = 38,278 (5%); may not be representative of the distribution of activities for all injuries

Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries

Prepared by Army Public Health Center, Injury Prevention Program



Leading Places Associated with Unintentional Injuries U.S. Army Active Duty, 2019



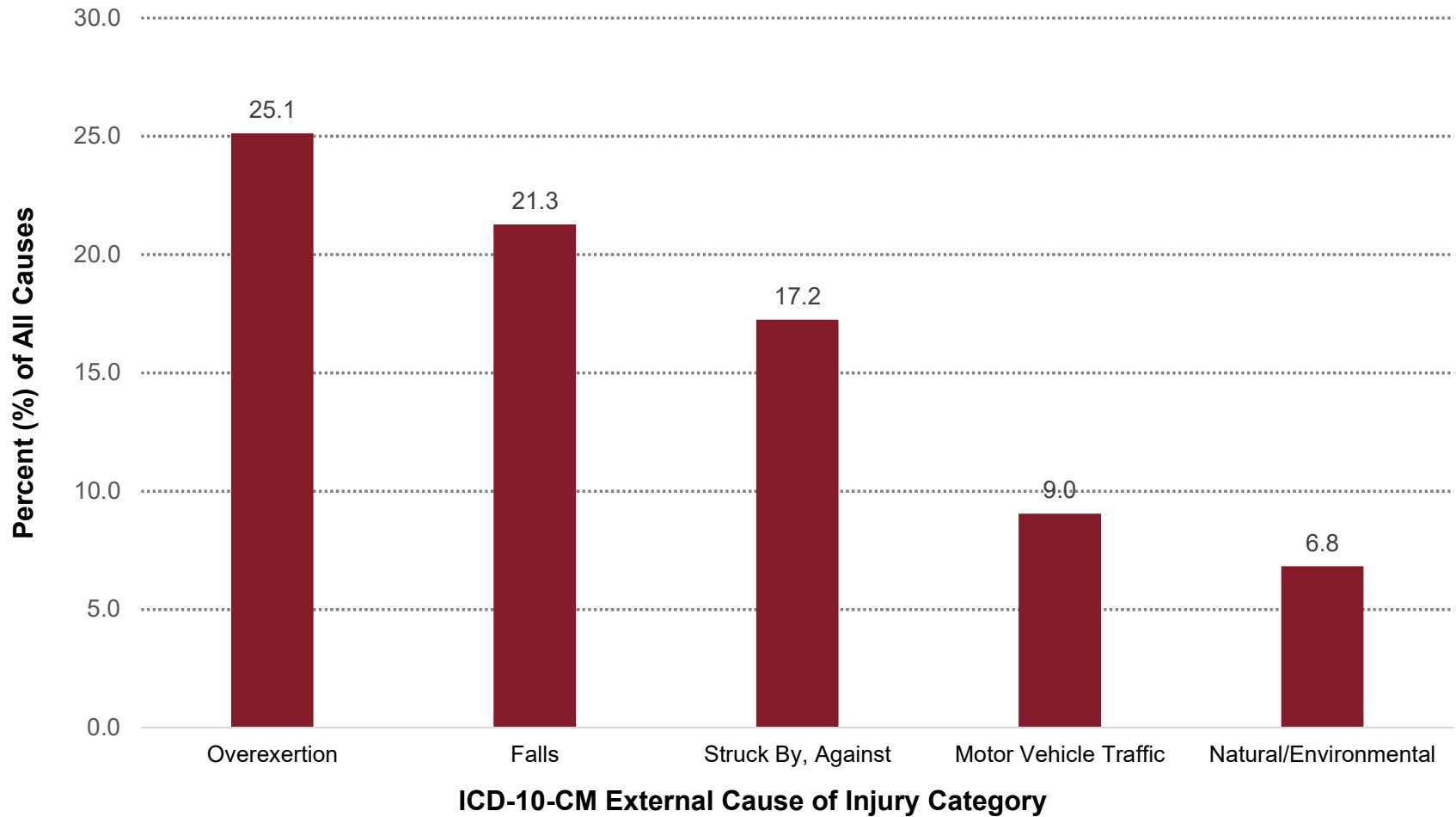
Total number of unintentional outpatient encounters with place of occurrence codes = 22,007 (3%); may not be representative of the distribution of places for all injuries

Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries

Prepared by Army Public Health Center, Injury Prevention Program



Leading External Causes of Unintentional Injury Outpatient Visits, U.S. Army Active Duty, 2019



Total number of cause-coded unintentional injury outpatient initial visits = 70,802 (9%); may not be representative of the distribution of causes for all injuries

Data source: Military Health System Data Repository (MDR); injuries defined using the APHC Taxonomy of Injuries

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Points of Contact



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Additional details and interpretation are available in an accompanying 2019 Technical Information Paper. See <https://phc.amedd.army.mil/news/Pages/PeriodicPublications.aspx>; select Active Duty Army Injury Surveillance Summary.