

2026
DEFENSE HEALTH INFORMATION
TECHNOLOGY SYMPOSIUM

AUGUST 11-13, 2026
HYATT REGENCY NEW ORLEANS
NEW ORLEANS, LA

Transforming Military Injury Cause Coding: Solutions for Readiness & Prevention

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Agenda

- 1** Impact of Service Member injuries on medical readiness
- 2** Injury Cause Coding in the military electronic health record (EHR):
Pilot program & Subgroup results
- 3** Capability requirements development & Injury Cause Coding application
- 4** Injury Cause Coding next steps

Disclaimer

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Speaker Introduction (1 of 2)

Michelle Chervak, PhD, MPH

Defense Centers for Public Health-Aberdeen, *Military Injury Prevention Division Chief*

Dr. Chervak supports military public health, with work ranging from injury field investigations and program evaluations to development of data-informed military prevention priorities. She manages strategic injury initiatives, including co-chairing the Defense Safety Oversight Council (DSOC) Military Injuries Working Group. Contributions include over 80 scientific manuscripts.

CherylAnn Kraft, RN, BSN, RM, CPM

Capability Requirements Management Division, *Capability Portfolio Manager*

Ms. Kraft is a certified Capability Portfolio Manager, Nurse Consultant, Requirements Manager and AI Engineer for the Defense Health Agency with 30+ years of nursing experience, including service as a Nurse Corps Officer. A Marymount graduate, she excels in critical care, trauma, immunizations, and healthcare innovation, advancing military and civilian healthcare systems.

Speaker Introduction (2 of 2)

Esther Dada, MPH

Defense Centers for Public Health-Aberdeen, *Injury Prevention Division Epidemiologist*

Ms. Dada investigates military injuries to inform Department of Defense injury prevention programs and policy. She supports the Defense Safety Oversight Council Military Injury Working Group's initiatives including the evaluation of medical injury cause coding pilot to improve external cause coding in military electronic health records.

Jerilyn Smith, MPH

Defense Centers for Public Health-Aberdeen, *Injury Prevention Branch Epidemiologist*

Ms. Smith investigates military injury risk factors and outcomes, with a focus on hazards among trainees prior to and during Initial Entry Training. She supports injury prevention initiatives, including coordination and participation in efforts related to the Military Injuries Working Group Medical Cause Coding Priorities Subgroup.

Learning Objectives

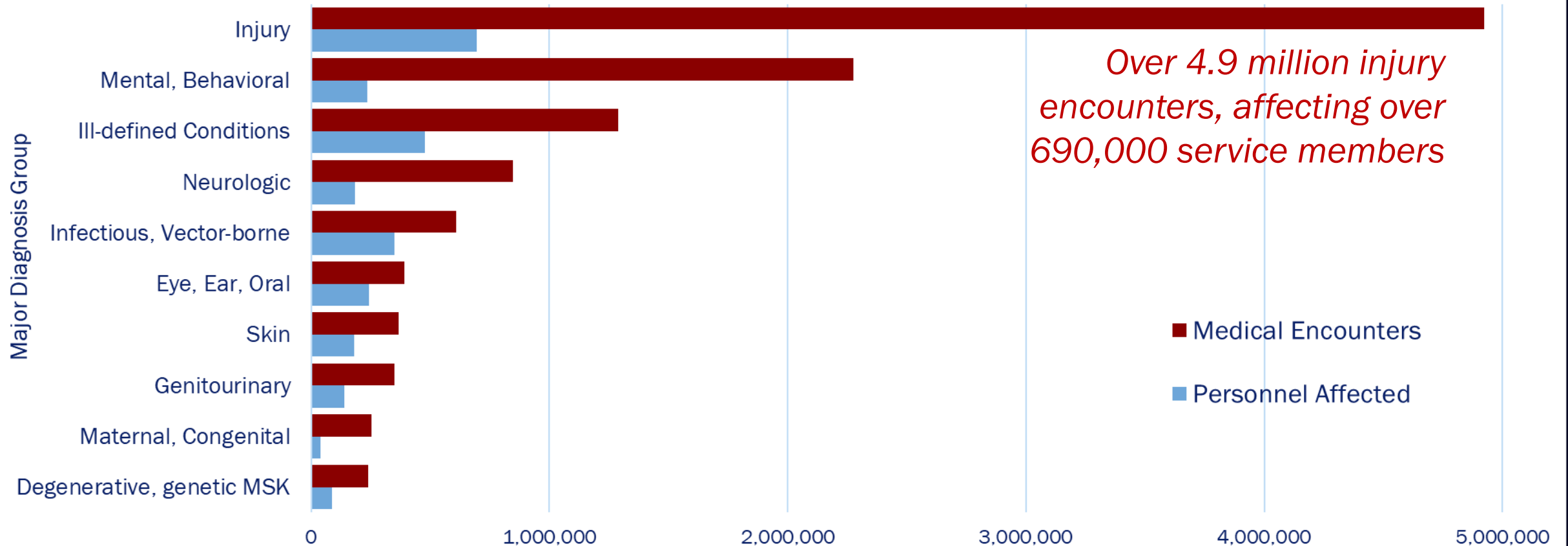
- 1** Illustrate the importance of injuries to medical readiness.
- 2** Describe the challenges of injury cause coding in the military electronic health record.
- 3** Identify the governance and policy frameworks that support the development and implementation of the military injury cause coding capability.
- 4** Discuss lessons learned and best practices for managing large-scale health IT projects in a military context.

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Impact of Injuries on Medical Readiness

Healthcare Utilization by Diagnosis Group (Top 10)

U.S. Active-duty Service Members, 2021



MSK = Damage to tissue(s) of the musculoskeletal system (i.e., bone, cartilage, muscle, tendon, fascia, joint, ligament, bursa, or synovium).

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

Prepared by DCPH-A Injury Prevention, dha.apg.Pub-Health-A.mbx.injuryprevention@health.mil

Cost of Injuries U.S. Active-duty Service Members

Total cost of injuries : ~\$7 billion

Cost by category:

- **Limited Duty: \$5.66 billion**
- Direct medical: \$1.25 billion
- Lost Duty: \$0.14 billion

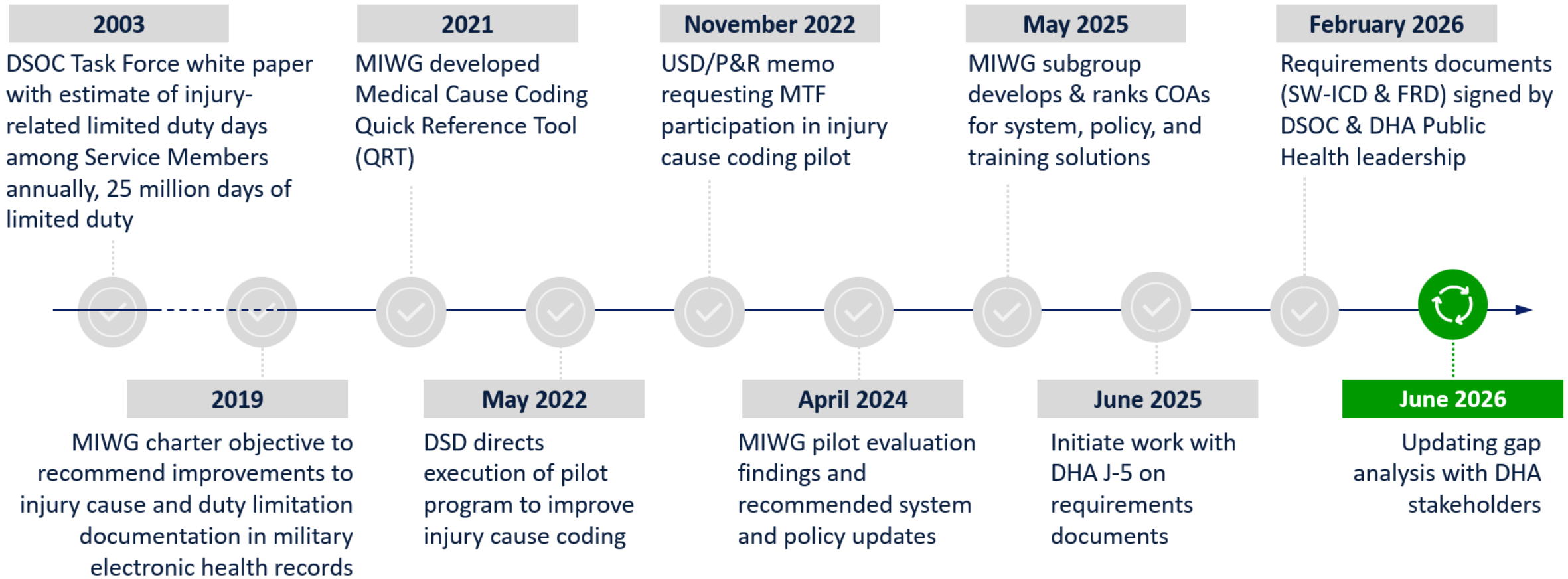
2019 data; Prepared by DCPH-A Injury Prevention for Defense Safety Oversight Council (DSOC)
Military Injuries Working Group (MIWG)

Problem: Underreporting of Injury Causes in Medical Records

2021 Injury Outpatient Encounters,
U.S. Active-duty Service Members (DSOC MIWG analysis):

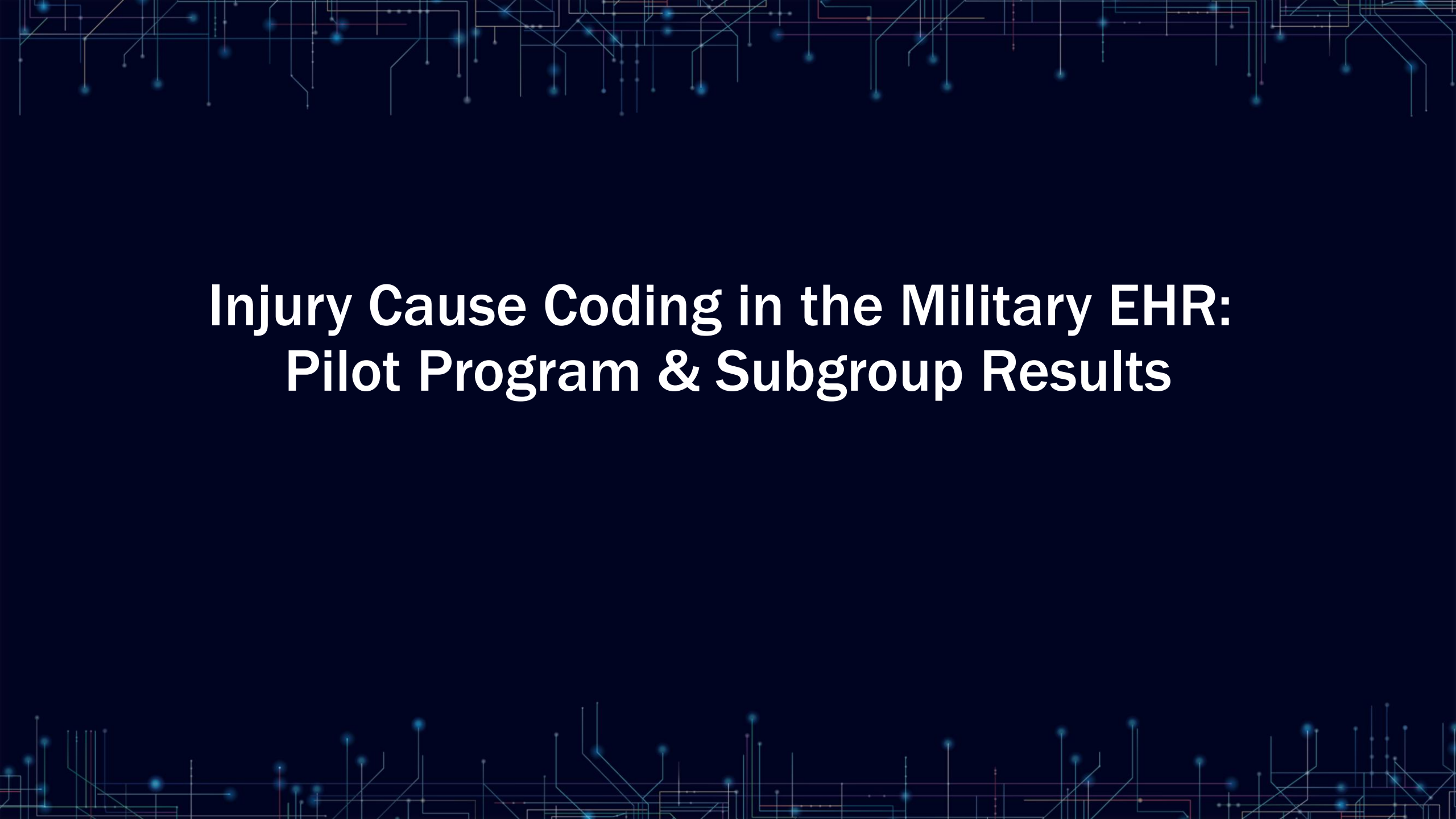
- 7% with **Mechanism** ICD-10-CM code
- 3% with **Activity** ICD-10-CM code
- 2% with **Place of Occurrence** ICD-10-CM code

DSOC Focus Area: Military Injury Cause Coding



Expected Outcome

Improved cause coding allows stakeholders to identify and prioritize prevention targets and monitor and evaluate mitigation strategies, improving force readiness and upholding commitments to care for those who volunteer to serve.

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Injury Cause Coding in the Military EHR: Pilot Program & Subgroup Results

2023 Pilot Objective and Task

May 2022: DSD-chaired Deputy's Workforce Council directs execution of pilot program to improve injury cause coding

Objective: *"Improve the quality and quantity of external cause codes in military injury electronic health records without overburdening those responsible for documenting military injuries."* - November 2022 USD/P&R memo

Task: Develop, implement, and evaluate a pilot program to improve cause-coding of injury encounter medical records, including DSOC Military Injury Working Group's Quick Reference Tool (QRT) at six selected pilot sites. (Responsible: MIWG & DHA Medical Affairs)

Problem: Over 7,500 ICD-10-CM external cause-of-injury codes available

Solution: 2-page QRT containing <90 specific codes

Outcome: Pilot evaluation and recommendations

Injury Cause Coding QRT Snapshot

UNINTENTIONAL INJURY

Mechanism codes example

	X50.0XX	Overexertion from strenuous movement or load
Overexertion ^c	X50.1XX	Overexertion from prolonged static or awkward postures
	X50.3XX	Overexertion from repetitive movements (Overuse)

Activity codes example

Military training and operational activities	Y93.02	Running <i>(includes personal or with unit, distance, or sprints)</i>
	Y93.01	Walking, marching and hiking <i>(includes military Ruck Marching , patrolling, land navigation)</i>
	Y93.B3	Free weights used for strength exercising
	Y93.B2	Push-ups, pull-ups, sit-ups <i>(includes military PT non-running, unit or individual)</i>
	Y93.A5	Obstacle courses
	Y93.75	Martial arts <i>(includes military COMBATIVES training)</i>
	Y93.33	BASE jumping <i>(do not use for parachuting - see Cause codes)</i>
	Y93.39	Climbing, rappelling, and jumping off <i>(includes natural or man-made objects)</i>
	Y93.H1	Activity, digging, shoveling and raking <i>(includes for sand bags, trenches, fox holes)</i>
	Y93.19	Activity, other involving water and watercraft <i>(includes shipboard activities)</i>
	Y93.B9	Other activity involving muscle strengthening <i>(exercise machine, military lifting task)</i>
	Y93.A9	Other activity involving cardiorespiratory conditioning <i>(exercise machine, aerobic task)</i>

Place of occurrence codes example

Military Property	Y92.39	Indoor athletic or recreation area
	Y92.328	Outdoor athletic/ parade field or recreation area
	Y92.84	Other outdoor training area (NOT athletic/parade field or recreation area)
	Y92.133	Barracks/military living facility
	Y92.488	Roadway
	Y92.138	Other military facility (motor pool, medical clinic, shooting range, industrial/construction site, etc.)

Key Findings – Clinician Focus Groups & Coder Interviews

Personnel

- Cause coding is time-consuming
- Coders understaffed
- Limited interaction between coders and providers

Policy

- MTF cause coding policies are unclear
- Templates not routinely used
- No cause code metrics

Training

- Clinicians uncertain how to cause codes in EHR
- Cause coding practices vary by clinic
- Incomplete clinical notes limit code assignment by coders

Material and Software

- MHS GENESIS coding inefficiencies
- Coding causes in EHR, including code selection, is unclear

Communication and Leadership Issues

- Providers unaware of benefits or impacts of cause coding
- Providers believe causes do not inform treatment

Percent Change in Injury Cause Coding in Targeted Clinics, Pre- to Post-Implementation by Pilot Site

Pilot Site	Percent of Cause Coded Injuries		Percent Change
	Pre-Implementation	Post-Implementation	
AHLTA Pilot Sites	18.1	19.7	9.0
GENESIS Pilot Sites	5.2	7.1	35.1

NOTES:

Based on injury medical encounters as defined by the Taxonomy of Injuries; incident injuries defined as first occurrence of injury using 60-day gap in care rule.

Data Source: MHS Direct Care Data; Prepared by: Injury Prevention Branch, Defense Centers for Public Health (DCPH)—Aberdeen & EpiData Center (EDC), DCPH — Portsmouth

Pilot Evaluation Findings: Medical Encounter Analysis

Changes in Cause Coding at Pilot Sites:

- All GENESIS and AHLTA sites improved cause coding (range: 5% to 97%)
- Post-implementation cause coding 3% to 21%
- AHLTA (20%) higher than GENESIS (7%)

Conclusions:

- Pilot slightly improved cause coding, but proportions of cause-coded injuries remained small
- Alternative system (AHLTA) facilitated cause coding compared to GENESIS

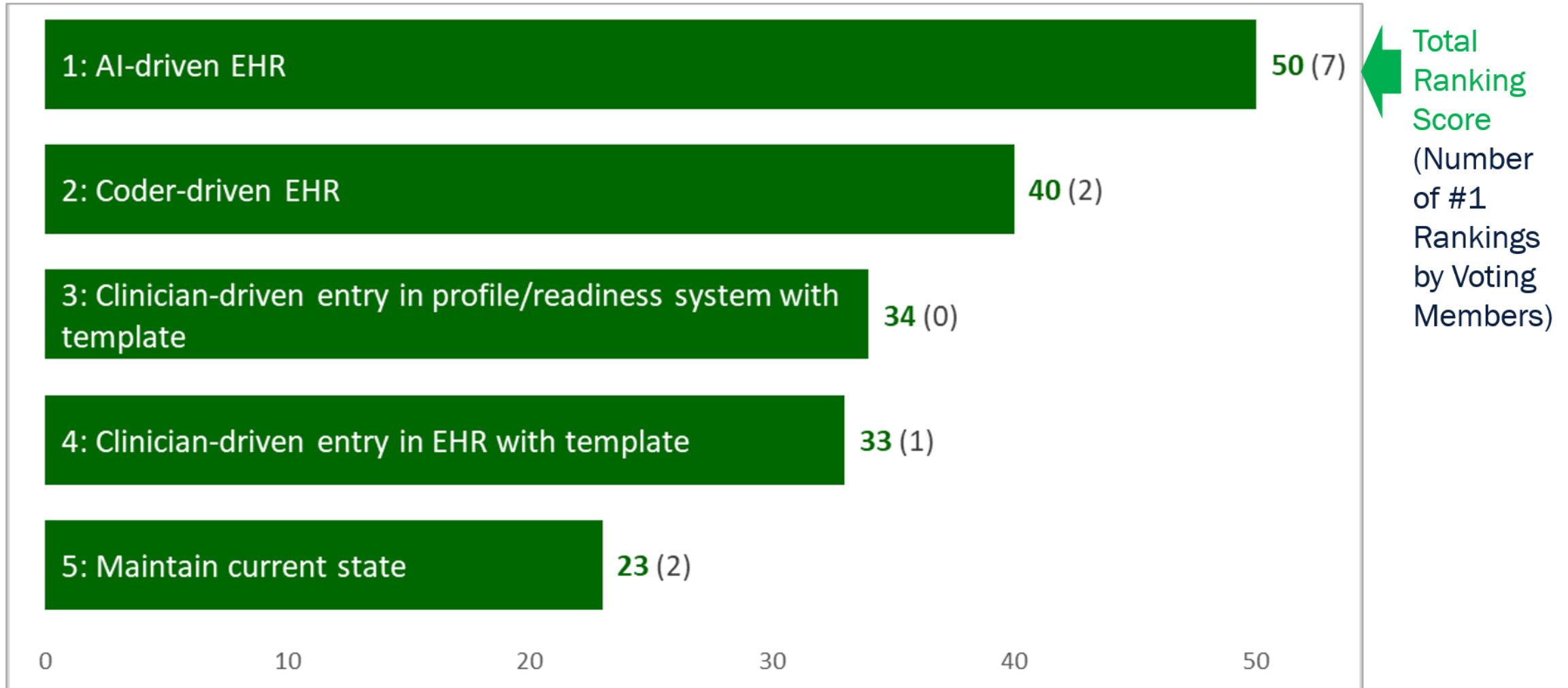
★ System changes, policy, and training are needed

★ Pilot extension is not recommended at this time

2025 Military Injuries Working Group (MIWG) Subgroup

- ODASW(Readiness) tasker
 - Identified multidisciplinary members (health informatics, clinical, policy, research, public health)
 - Representation from each Service and DoW
- Subgroup meetings: August 2024-January 2025
- Task: Review pilot results and receive briefings on Service readiness systems. Develop and rank courses of action related to:
 - Systems
 - Policy
 - Training

Subgroup Courses of Action (COA) Ranking Systems



Notes: COAs ranked from 5 (most favorable) to 1 (least favorable). Total Ranking Score reflects the sum of rankings by Voting Members. Higher score indicates a more favorable COA. Number of #1 Rankings by Voting Members reflects the number of Voting Members who identified the COA as the most favorable.

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Capability Requirements Development & Injury Cause Coding Application

Capability Requirements Development for ICC Initiative

What we did...

“Requirements are the foundation of any project. Without a solid foundation, the project will eventually crumble.”

–Unknown



Capability and Requirements Development Overview (1 of 3)

Initial Project Assignment

A project is assigned and initial review is conducted. A team of Functionals and SMEs are assigned to support the initiative.

Service
Request
Received

Assigned CAMD
Service Request

Meet with AO
Representative:
Functional
Identification

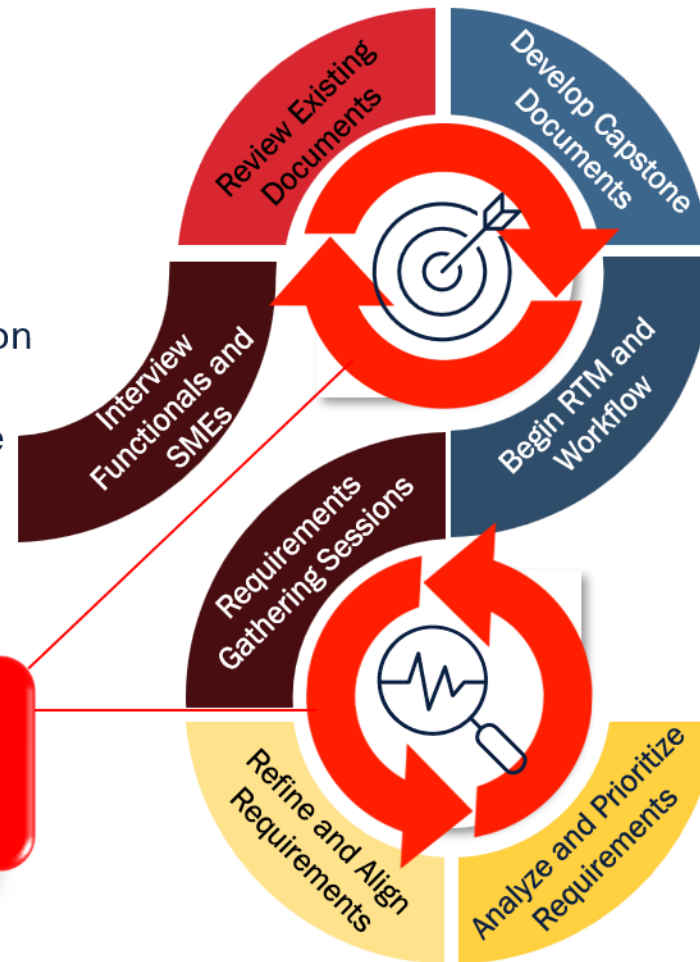
CPM Conducts
Environmental Scan:
Requirements and
HLG

Capability and Requirements Development Overview (2 of 3)

Document Review/ Development

Conduct a thorough review of existing documents. This research will help to identify whether existing documentation can be **modernized** to meet current needs or if **new** documents need to be created. (CONOPS, CNS, FRD, etc.)

A churn may occur as items are discovered and stakeholders make change



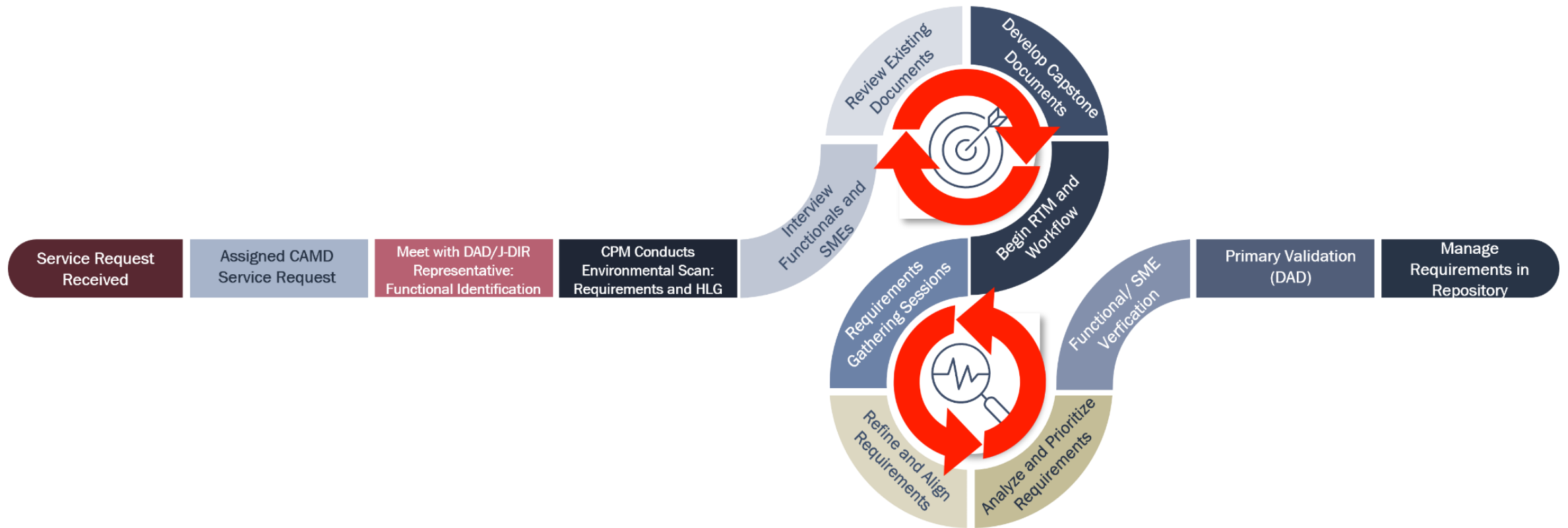
Requirements Development

Work with team of Functionals and SMEs to gather and develop requirements. Utilize existing documentation (CONOPS, Policies, Mandates) to assist in the creation of a draft RTM.

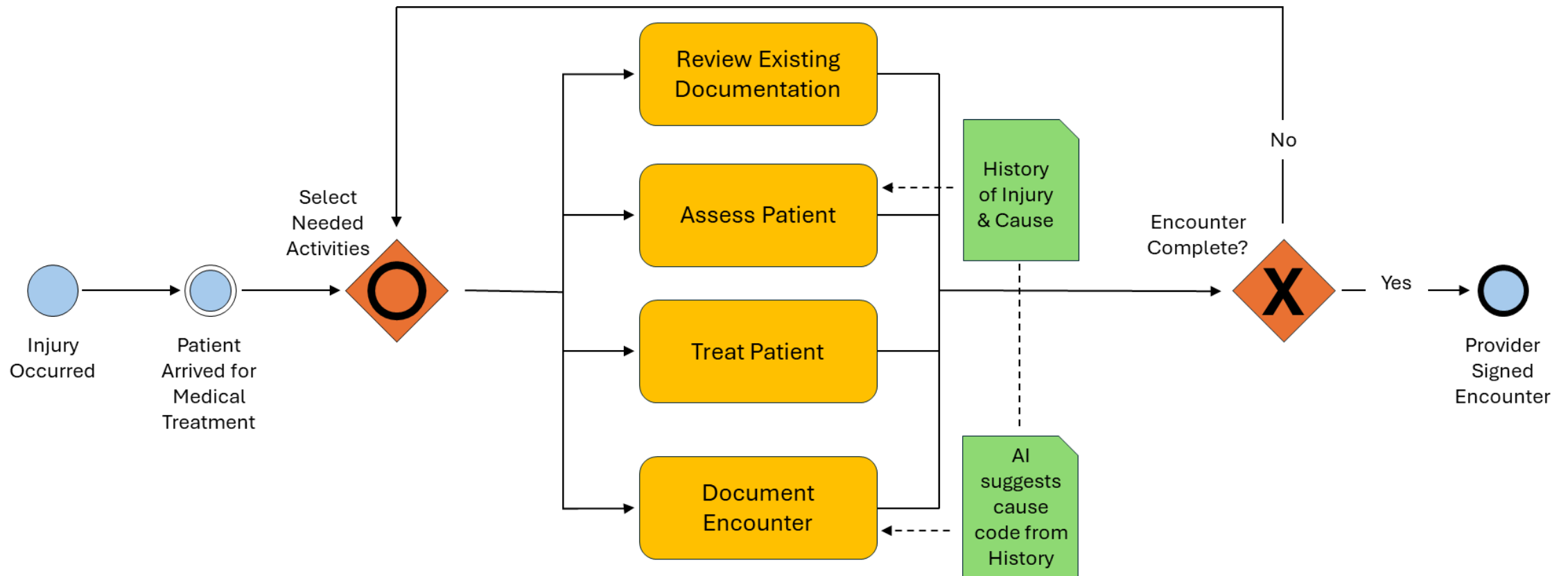
Analyze and Prioritize

Establish the need to decompose the requirements into a more refined list and establish the priority of each requirement (Must, Should, etc.)

Capability and Requirements Development Overview (3 of 3)



AI-Enabled Injury Cause Code Workflow



AI-Enabled Cause Code Example

Physician prompts (questions for patient): How did this injury occur? What were you doing when you were injured? What exacerbates the pain or injury?

Patient Notes:

Patient injured left index finger caught between two plates while bench pressing during PT in base fitness center.

Select Mechanism ICD-10-CM Code:

- X50.1XX- Caught, crushed, jammed, or pinched between moving objects

Select Activity ICD-10-CM Code:

- Y93.B1- Activity, Exercise Machines Primarily for Muscle Strengthening

Select Place ICD-10-CM Code:

- Y92.84 -Military training ground

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Injury Cause Coding Next Steps

Ongoing: Gap Analysis

- Weekly meetings starting June 2026
- Purpose: Re-examine courses of action, risks, and opportunities
- Contributors:
 - Health Informatics
 - Medical Coding
 - JOMIS
 - J-8
 - J-5

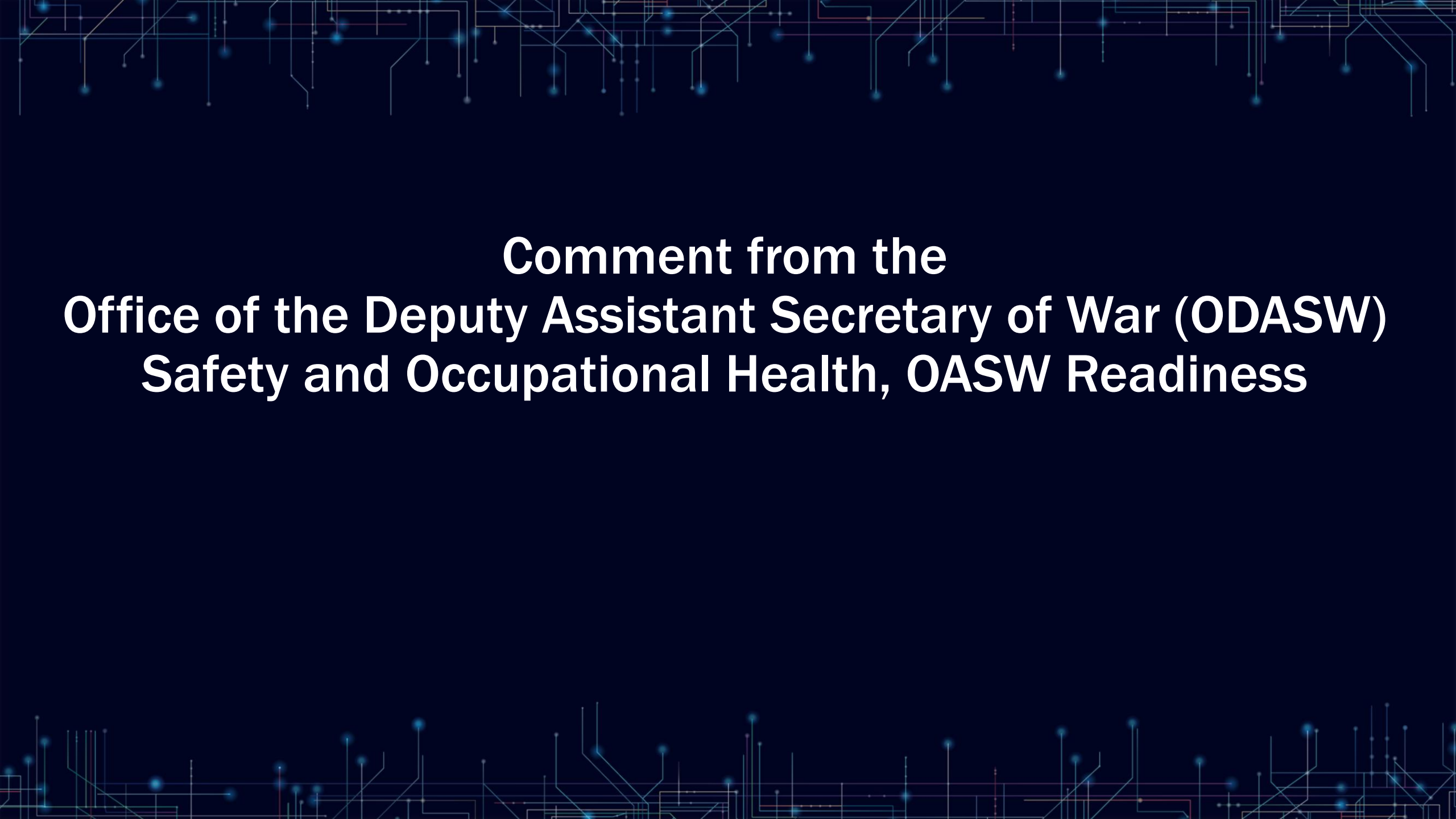
Summary – Injury Cause Coding Initiative

- Addressing critical medical readiness gap
- Encompasses input from multi-disciplinary teams
- Capitalizes on AI capabilities & MHS innovation
- Delivers data for enterprise decision-making, in support of readiness & prevention

Enhanced EHR Documentation and Essential Analytics for Readiness & Prevention

Injury Cause Coding supports –

- *Safety & Occupational Health:* Inform mitigation priorities, enable monitoring of programs & policies
- *Public Health & Research:* Improve surveillance, enhance program & policy evaluation, facilitate intervention trials and prevention efforts.
- *Clinicians:* Improved longitudinal health record
- *Service Members:* Continuity of care & benefits adjudication
- *Commanders and Leaders:* Enhance warfighter readiness

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Comment from the Office of the Deputy Assistant Secretary of War (ODASW) Safety and Occupational Health, OASW Readiness

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Questions?



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Supplemental Slides

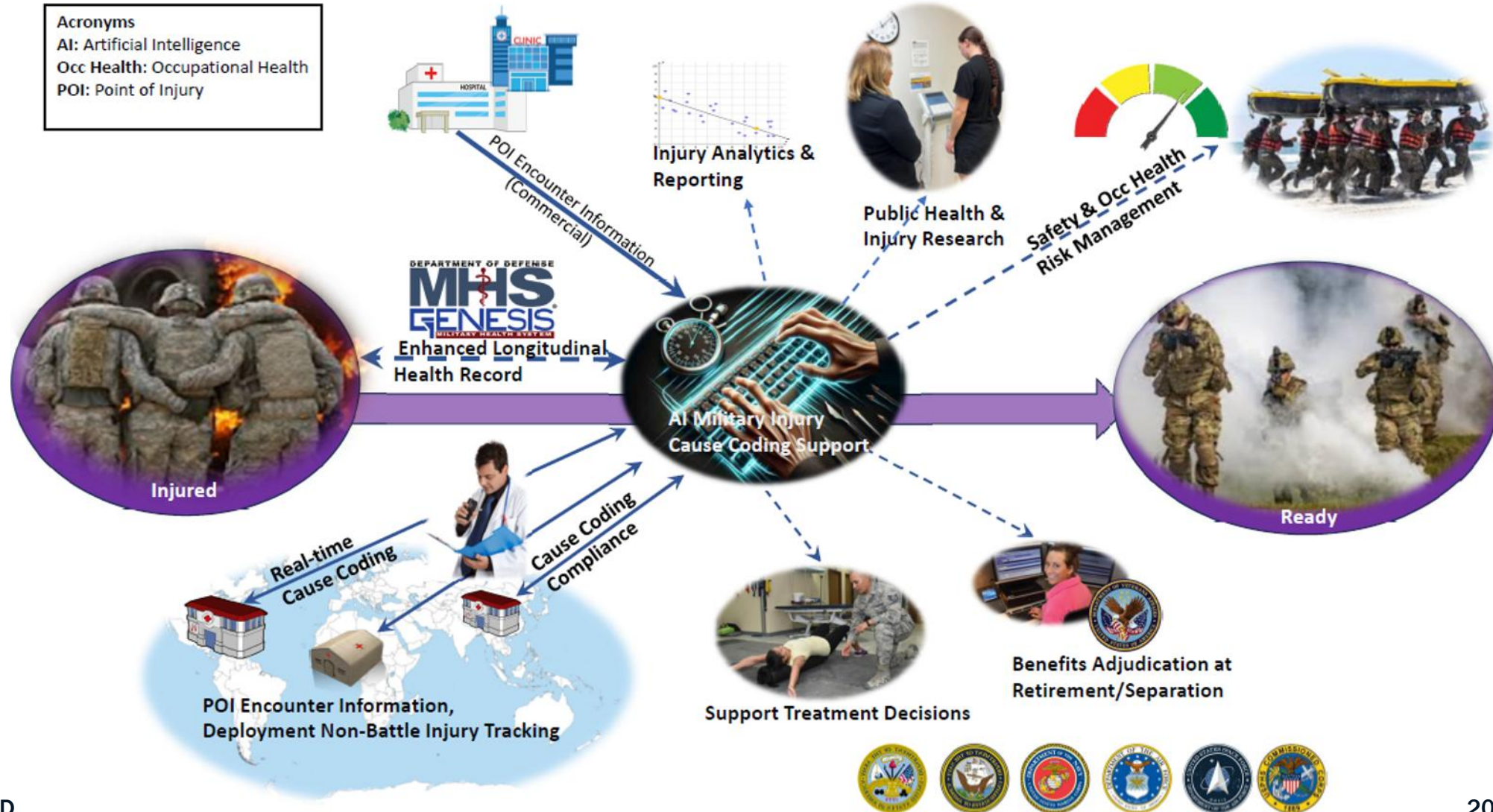


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High Level Operational Concept Graphic (OV-1)

Acronyms

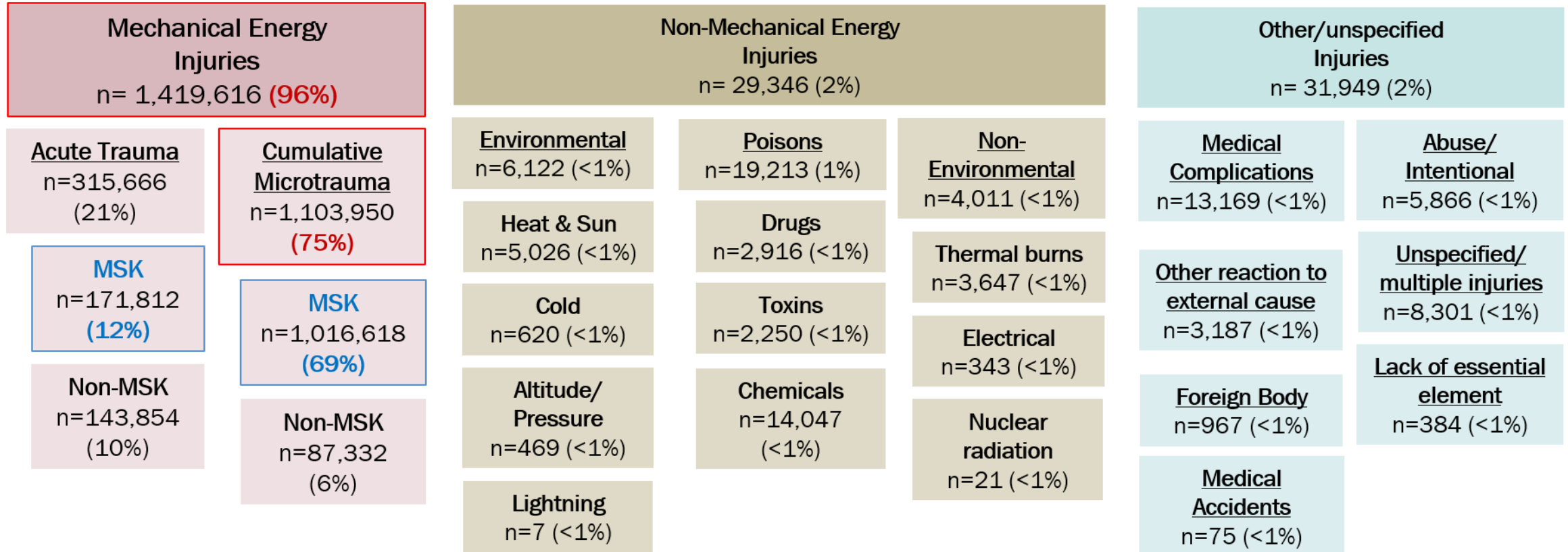
AI: Artificial Intelligence
Occ Health: Occupational Health
POI: Point of Injury



Distribution of Injuries

U.S. Active-duty Service Members, 2021

Unique (Incident) Injuries, N = 1,480,911



Data source: Military Health System Data Repository (MDR); Injuries defined using the Taxonomy of Injuries, <https://www.dtic.mil/search/AD1344114>
 Prepared by DCPH-A Injury Prevention, email: dha.apg.Pub-Health-A.mbx.injuryprevention@health.mil

Pilot Evaluation: Cause Coding of New Injuries by ICD Type

ICD Type	New Injury Medical Encounters		Percent of Cause Coded Injuries
	N	%	
S or T (Acute)	7,811	19.6%	36.6%
M (Cumulative microtrauma)	30,262	75.8%	3.4%
Other	1,852	4.6%	4.0%
Total	39,925	100%	9.9%

NOTES:

Injury medical encounters are as defined by the Taxonomy of Injuries; incident injuries defined as first occurrence of injury using 60-day gap in care rule.

Data Source: MHS Direct Care Data; Prepared by: Injury Prevention Branch, Defense Centers for Public Health (DCPH)—Aberdeen and EpiData Center (EDC), DCPH — Portsmouth

Activities Associated with Injury by Service

U.S. Active-duty Service Members, 2021

