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14. ABSTRACT This FY 2022 Update, is the fourth update to the original APHC Public Health Information Paper (PHIP) report: 1) Original report: <i>A Taxonomy of Injuries for Public Health Monitoring and Reporting</i> (with Addendum 1, Body Regions and Injury Types. Addendum 2, Fiscal Year 2018 Update). APHC PHIP 12-01-0717. Dec 2017. https://apps.dtic.mil/docs/citations/AD1039481 2) FY 2019 Update is available at https://apps.dtic.mil/docs/citations/AD1064894 3) FY 2020 Update is available at https://apps.dtic.mil/sti/citations/AD1084570 4) FY 2021 Update is available at https://apps.dtic.mil/sti/citations/AD1112319 The injury taxonomy standardizes definitions of different injury categories based on causal energy sources (i.e., mechanical energy, environmental (heat, cold), poisoning, chemical, etc.). Injuries are operationalized with over 13,000 specific medical diagnostic codes (International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM)). Each year, the Centers for Disease Control and Prevention (CDC) updates the ICD-10-CM codes. This FY22 update documents the changes to the APHC injury codes and incidence methodology based on both the CDC's annual update and a review with the Force Safety and Occupational Health (FSOH) Office of the Office of the Under Secretary of Defense for Personnel and Readiness (OUSD (P&R)). The FSOH office is responsible for the Department of Defense Force Risk Reduction (FR2) system that provides injury metrics to Services' safety community.											
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October 2021



**FY22 UPDATE:
PUBLIC HEALTH INFORMATION PAPER NO. 12-01-0717
A TAXONOMY OF INJURIES FOR PUBLIC HEALTH
MONITORING AND REPORTING**

1 REFERENCES

Appendix A provides the references cited.

2 PURPOSE

This document is the annual update to the original 2017 report [Reference 1] that established the Army Public Health Center (APHC) definition and taxonomic classification of injuries. Specifically, this document reflects updates to the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis codes that are identified as injuries, assigns Burden of Illness and Injury categorizations for all new ICD-10-CM diagnosis codes, and updates any other information discussed in the original report.

3 BACKGROUND

3.1 APHC Injury definition and diagnosis codes.

The APHC defines injury as bodily damage caused by the instantaneous or gradual transfer of mechanical, chemical, electrical, radiological energy to the body or the restricted transfer of an essential element such as oxygen [References 1-3]. Medical outcomes include damage caused by acute trauma, overuse, poisonings, extreme temperatures, or other environmental or man-made hazards.

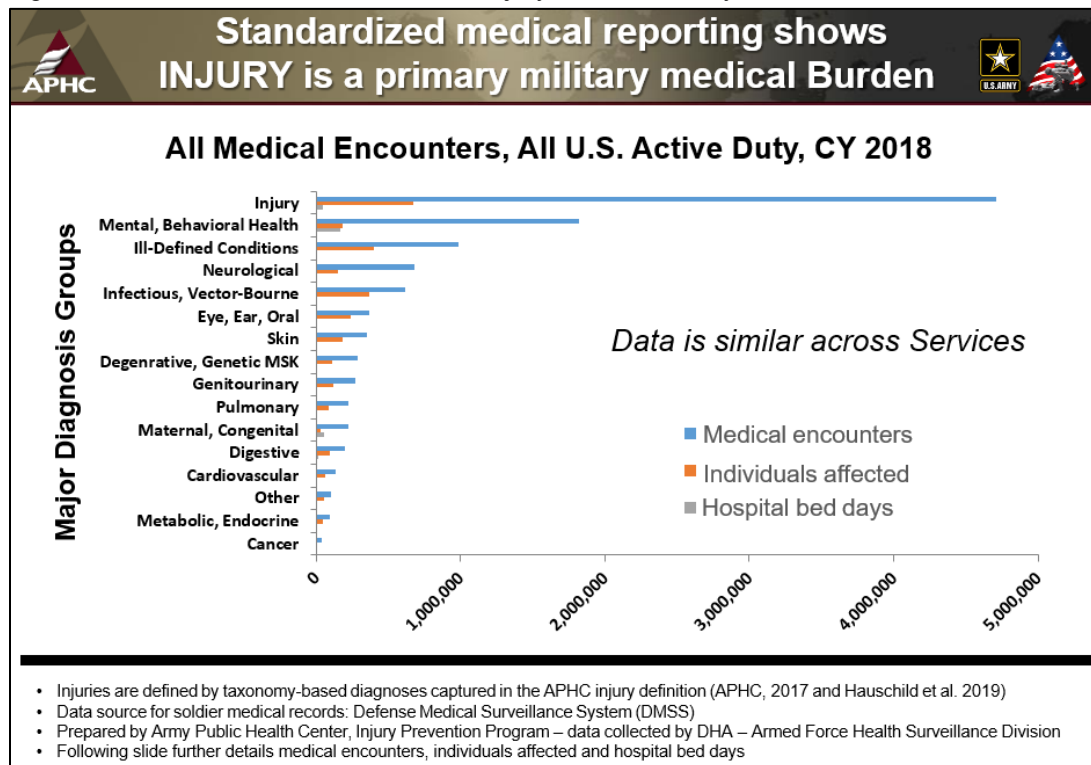
The APHC uses the injury taxonomy to categorize injury epidemiologic data based on the causal form and source of external energy. Applicable ICD-10-CM injury diagnosis codes are obtained from Service Members' electronic health records. Each ICD-10-CM injury diagnosis is linked to a single energy type (e.g., mechanical (acute trauma and cumulative micro-trauma), environmental (heat/light, cold), poisoning, or other). The APHC injury taxonomy also aligns all ICD-10-CM injury diagnosis codes with a standardized list of body regions and injury types adapted from existing matrices [Addendum 1 in Reference 1].

All diagnoses, including injuries, are grouped by the APHC into 16 Burden of Illness and Injury categories (described in Appendix B) which are further sub-categorized [References 4 through 8]. As shown for Calendar Year (CY) 2018 in Figure 1, injuries among Active Duty Service Members, as defined by the APHC injury taxonomy, have historically had the largest medical burden in terms of medical encounters and Soldiers affected than any other condition.

Each year, the APHC updates the ICD-10-CM codes that operationalize its injury taxonomy and burden categories to capture annual additions, deletions, or modifications determined by the World Health

Organization (WHO) and Centers for Disease Control and Prevention (CDC) [Reference 9]. The APHC published the original taxonomy report in 2017 [Reference 1], and three updates [References 5 - 7].

Figure 1. Medical Burden of Illness and Injury, All Active Duty Members, CY18*



- Source: Image is an extracted slide from MIWG briefing, 2 September 2021

3.2 DoD review of APHC injury diagnosis codes and surveillance methodology

The APHC injury terminology and taxonomic categories have been endorsed by the Military Injury Working Group (MIWG) of the Defense Safety Oversight Council (DSOC). The MIWG, which includes representatives from each Service and the Defense Health Agency, is seeking DSOC endorsement of the terminology to update the Department of Defense (DoD) Dictionary of Military and Associated Terms. Figure 2 depicts the MIWG-approved terms and definitions. Figure 3 summarizes CY18 medical data for Active Duty Service Members in all Services, when applying the APHC injury ICD-10-CM codes, associated injury taxonomy categories, and surveillance methodology described in the original APHC injury taxonomy report [Reference 1].

The MIWG injury definition updates the DoD definition document in the 2002 DoD Military Injury Metrics Work Group White Paper [Reference 10]. The 2002 DoD Work Group (WG) established a DoD case definition of injury for purposes of medical surveillance and military injury reporting metrics and included a list of associated ICD-9-CM codes. The definition and codes included *“traumatic cases identifiable as to time, place, and specific event or incident and cumulative trauma cases (e.g., stress fractures, tendonitis, carpal tunnel syndrome) that occur as a result of continued and repeated exposure to physiologic or biomechanical stresses in military injury metrics.”* The 2002 WG noted that injuries include *“nonfatal traumatic wounds or other conditions of the body caused by external force or exposure (i.e., heat or cold injury) or non-traumatic physiological harm or loss of capacity caused by continued or repeated neuro-*

MSK stress or strain” and that injuries “may occur in garrison, field, or deployed environments; on or off-duty; and may or may not result in lost work time (hospitalizations, quarters, convalescent leave) or limited duty.”

As part of the DSOC review of the MIWG/APHC injury definition, the MIWG was asked by the Office of the Under Secretary of Defense for Personnel and Readiness (OUSD (P&R)) to compare the APHC injury taxonomy list of ICD-10-CM injury codes with the list of codes used in the Department of Defense Force Risk Reduction System (FR2) [Reference 11]. The FR2, a data-driven web-based application which provides injury metrics to Services’ safety community, is managed by the OUSD (P&R) Force Safety and Occupational Health (FSOH) office [Reference 12].

The ICD-10-CM injury codes used by OUSD (P&R) FSOH office for the FR2 analyses was based on the CDC’s list of injury codes. Specifically, the FR2 list of ICD-10-CM codes was derived using the CDC’s General Equivalency Mappings approach to crosswalk ICD-9-CM codes that were classified by body region and injury type using the 2015 Injury Mortality Diagnosis Matrix [Reference 13].

Despite differences in the development of the two lists of diagnosis codes, the OUSD (P&R) FSOH office and APHC used a majority of the same ICD-10-CM injury codes in their surveillance definitions. However, it was noted that even small differences in the number codes can lead to substantial differences in the resulting identified incident injuries. For example, CDC’s identified injury codes do not include cumulative micro-traumatic (overuse) injuries from Chapter 13. Though cumulative micro-traumatic injury diagnosis codes in ICD-10-CM Chapter 13 (M-codes e.g., M545 Low back pain, M222 Patellofemoral disorder, etc.) only comprise about 7% of the >13,000 diagnosis codes included in the APHC injury taxonomy, they represent over two-thirds of all the injuries experienced by Active Duty Soldiers each year [Reference 2]. The inclusion of these overuse injury codes in the injury taxonomy is consistent with the 2002 DoD injury surveillance guidance [Reference 10].

Also as noted in the initial APHC taxonomy report, the use of a cross-walk for the conversion from ICD-9-CM to ICD-10-CM in 2015 did not adequately capture the injuries of interest to the military, especially cumulative micro-traumatic injuries [References 1, 2, 10]. As summarized in Table B-1, the broad injury definition also includes some diagnoses from other ICD-10-CM chapters, like nerve injuries (Chapter 6 G-codes), eye and ear injuries (Chapter 7 H-codes), skin injuries like burns and reactions to chemicals/poisons (Chapter 12 L-codes), and injuries during pregnancy (Chapter 15 O-codes).

In addition to the review of the MIWG/APHC ICD-10-CM codes, the OUSD (P&R) FSOH office described methodological differences in case definitions for new injury encounters, and suggested a revised incidence rule that identifies incident injuries using the APHC injury taxonomy categorizations. Coincidentally, the need for this modification had also recently been noted by APHC [Reference 3]. This update document therefore summarizes updates to the APHC injury codes resulting from the OUSD (P&R) FSOH office review, as well as preliminary modifications to the APHC incidence rule methodology.

Figure 2. MIWG recommended injury definition and related terms



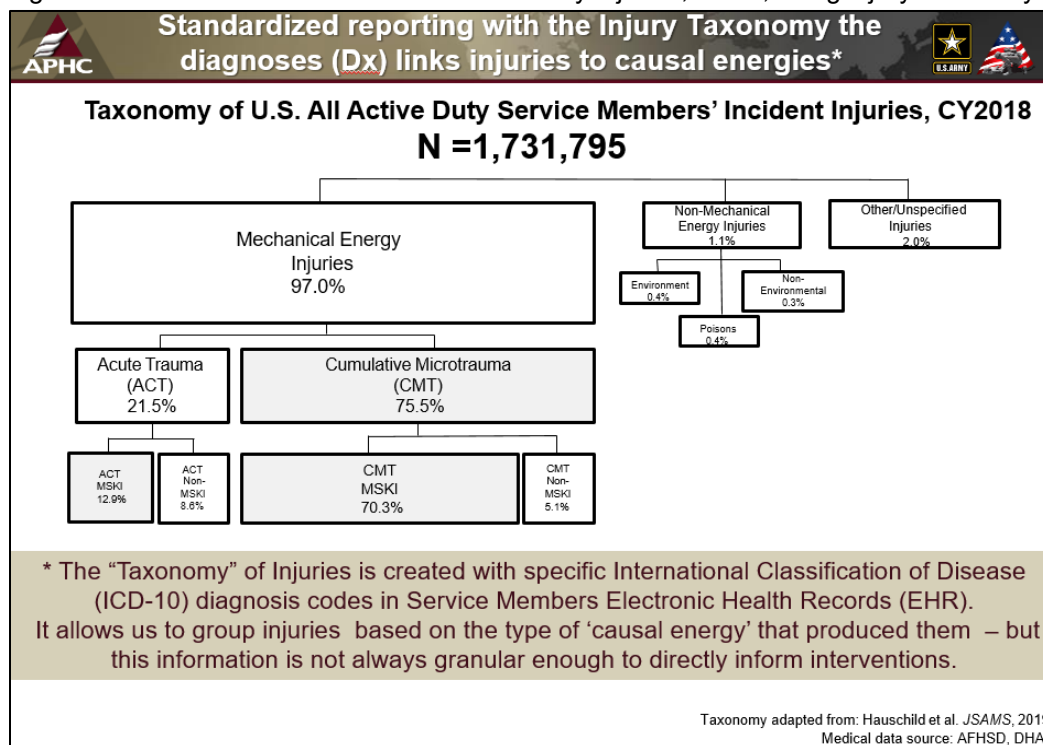
 MIWG Definitions for Injury & Related Terms 	
GOAL: Update the “Injury” definition and add related terms (alphabetized) in the “DoD Dictionary of Military and Associated Terms”	
Injury	Bodily damage caused by the instantaneous or gradual transfer of an external mechanical, thermal, chemical, electrical, radiological energy or the restricted transfer of an essential element such as oxygen from sources including trauma, overuse, poisonings, extreme temperatures, and other environmental or man-made hazards. [See <i>acute injury</i> ; <i>cumulative microtraumatic injury</i>]
Additional (related) terms	
Acute injury	Traumatic body damage caused a single high intensity transfer of energy, such as a fracture, wound, sprain, strain, dislocation, concussion, burn, or acoustic trauma.
Cumulative microtraumatic injury	Accumulated body damage caused by the repeated low intensity transfer of energy from body impact, overuse, and or vibration, such as stress fractures, runner’s knee, Achilles tendonitis, carpal tunnel syndrome, noise-induced hearing loss, and non-specific low back pain
Long term injury-related effect	Chronic conditions attributed to a prior external energy transfer that may resolve or reoccur after many months or years or become permanent, such as post traumatic osteoarthritis, spinal stenosis, renal damage from heat stroke [See chronic condition]
Chronic condition	A persistent or irreversible disease, illness, or long term injury-related effect.
Public health	Efforts to prevent injury, illness, and disease, prolong life, and promote health at a population level through monitoring and surveillance, investigating health problems, informing and educating the population, mobilizing partnerships to solve problems, developing policies, enforcing health and safety laws, linking individuals to health services, ensuring a competent public health workforce, evaluating service effectiveness, and researching new insights and solutions.

Figure 3. MIWG demonstration of All Active Duty Injuries, CY18, using injury taxonomy structure



Sources: Images for Figures 2 and 3 are extracted slides from MIWG briefing, 2 September 2021

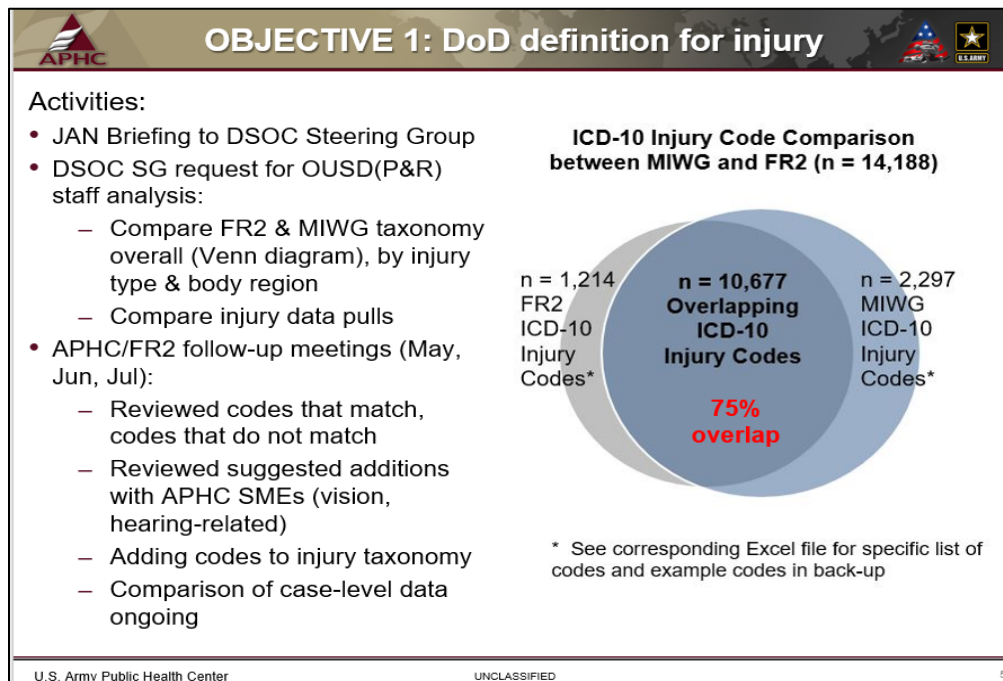
4 METHODS

4.1 Updating diagnosis codes.

The primary APHC SMEs for reviewing ICD-10-CM diagnosis codes included representatives of the Clinical Public Health and Epidemiology Directorate (VDH) and the Injury Prevention Branch (IPB; ASR, MCC). This year, because additional eye injury and ear injury/hearing loss diagnosis codes were proposed for inclusion in the APHC injury taxonomy by OUSD (P&R) FSOH, the chief medical providers from the APHC Tri-Service Vision Conservation and Readiness Branch (TSVCR; LTC Terryl L. Aitken) and the APHC Army Hearing Conservation and Readiness Branch (AHCRRB, LTC John A. Merkley) were also consulted. As described by the original report, decisions reflected the assumption that more times than not (greater than 50% of the time), a provider's use of that diagnosis code would reflect an injury that resulted from an external energy source, as defined by the APHC taxonomy.

- New FY22 CDC and WHO Diagnosis Codes. Newly introduced ICD-10-CM diagnosis codes, effective for Fiscal Year 2022 (FY22) were obtained from the Centers for Disease Control and Prevention (CDC) [Reference 9] and aligned with the APHC's previously existing code list [Reference 7]. This is the sixth update by the CDC since the ICD-10-CM codes became a requirement for U.S. medical practice on October 1, 2015. Codes that met the original definition of injury were categorized by causal energy types, injury types, and body regions, in accordance with methodology and definitions described in the original taxonomy report [Reference 1]. All new codes, injury and non-injury, were also aligned with Burden of Illness and Injury categories and sub-categories. Categories for new FY22 ICD-10-CM codes were selected based on previous categorization of "parent codes," where new codes were assigned to the same category as existing similar codes for consistency.
- Comparison of Injury Taxonomy Codes to FR2-recommended Injury Codes. The SMEs from the OUSD (P&R) FSOH office reviewed the MIWG/APHC injury taxonomy codes listed in the FY21 master Excel injury taxonomy list. The initial comparison indicated about 75% overlap in included ICD-10-CM codes (Figure 4). After reviewing the APHC rationale and criteria for inclusion of injury codes in the initial taxonomy report [Reference 1], the FSOH accepted the addition of all injury codes used by the APHC that had not previously been used in FR2 analyses.

Figure 4. Summary of MIWG and FSOH review of Injury ICD-10-CM Codes



Sources: Image for Figure 4 is extracted slide from MIWG briefing, 2 September 2021

- After several reviews and discussions among APHC and FSOH SMEs, the APHC SMEs concurred with the addition of several ICD-10-CM diagnosis codes to the official injury ICD-10-CM code list (which had not been previously captured in the MIWG/APHC list of codes). These diagnoses included conditions associated with tissue damage to the eye and hearing loss; tissue damage caused by radiation; dermatitis caused by contact; as well as some pregnancy and poisoning conditions resulting from external energy sources. The determination as to whether these diagnoses should be captured as injuries was based on assessment of the injury definition criteria in the initial report and the review of similar “sister” or “parent codes.” When included as an injury, each diagnosis was also assigned taxonomy categories for external energy type, injury type, and body regions in accordance with prior criteria and existing parent or sister codes. Energy categories for the added codes included mechanical non-musculoskeletal (H-codes, for eye and hearing), acute non-musculoskeletal conditions, and non-mechanical radiological and poisoning. Diagnosis codes that were added to the APHC injury taxonomy based on the recommendation of FSOH SMEs are listed in Appendix D, Table D-1.
- It was noted that there was over 99% agreement between the FR2 body regions assignments to diagnosis codes when compared to those of the standardized APHC taxonomy code list. Discrepancies in injury type between the two methodologies were primarily due to differing structures and ambiguity of the ICD-10-CM codes. The APHC injury taxonomy retained the structure for assignment of body regions and injury types as described in Addendum 2 of the original report [Reference 1].

- The discussions between APHC and FSOH SMEs also provided clarifications as to medical conditions that were excluded as injuries. As an example, conditions associated with genetic/age-related causes, such as “pathological fractures,” are not injuries, per the injury definition requirement for injuries to originate from an external energy source [Reference 1]. Though some conditions recommended by the FSOH office were already captured by the APHC as long term effects (LTE) associated with a prior injury, there were also new codes from the FR2 list that were added to the APHC list of LTE. Appendix D, Table D-2, contains the LTE code additions that resulted from the FR2 analysis.

4.2 APHC Revised Injury Incidence Rule Methodology

Under ICD-9-CM, a 60-day incidence rule was recommended to eliminate follow-up visits from surveillance of incident injuries [Reference 10]. This was implemented in Army injury surveillance through a “gap-in-care rule” in which encounters for the same Soldier with the same primary diagnosis within 60 days are considered to be follow-up encounters for the same injury and therefore are not reflected in the incident injury rate [Reference 1]. However, when incident Soldier injury rates increased following the implementation of ICD-10-CM in October 2015 and the concurrent adoption of the taxonomic injury definition in 2017 [References 1-3], resulting data explorations revealed that some injuries may be captured more than once by this methodology.

Applying the 60-day gap-in-care rule to each individual diagnosis code only correctly identifies follow-up visits if the exact same diagnosis code is used by the provider(s) for each visit. Unfortunately, with over 40,000 highly specific ICD-10-CM injury diagnosis codes [Reference 14], it is probable that different diagnosis codes will be assigned for the same injury and as a result follow-up visits will not be identified in these cases.

To more precisely define incident injuries, the APHC IPB and Defense Health Agency (DHA) Army Satellite developed a revised incidence rule that will be applied to Army injury surveillance beginning in October 2021. This incidence rule will continue to be applied as a 60-day gap-in-care rule, but will now identify follow-up injuries as those belonging to the same taxonomy categories for injury type and specific body region (“body region 2”). This methodology is similar to the Injury Diagnosis Matrix (IDM) methodology used by the Centers for Disease Control and Prevention (CDC) National Center for Health Statistics (NHCS) [Reference 15].

5 RESULTS & FINDINGS

5.1 New FY22 injury diagnosis codes.

The new, revised, and deactivated ICD-10-CM codes are updated in the APHC’s master Injury Taxonomy Excel® spreadsheet (October 2021) along with corresponding injury categories, sub-categories, body regions, and injury types. These codes include:

- The FY22 CDC ICD-10-CM update included a total of 297 code changes: 204 new codes, 54 revised codes and 39 deactivated codes; there were 22 new diagnosis codes for injury.
- The ICD-10-CM codes added based on recommendations from FSOH SMEs (304 new injury codes and 277 LTEs).

Table 1 summarizes the new CDC codes meeting the APHC injury definition.

Appendix D contains the additional injury codes (Table D-1) and the LTE codes (Table D-2) that resulted from the FSOH recommendations and FR2 analysis.

5.2 APHC Revised Injury Incidence Rule Methodology

To investigate the impacts of this new incidence rule, both the original and revised incidence rules were applied to injury encounters among Active Duty Army Soldiers during CY18. As an example of the practical differences in capturing incident injuries, Table 2 shows two encounters for the same Soldier, less than one month apart. The diagnoses given at the two visits were different, but both indicate joint damage to the right knee, and with no further information it is reasonable to assume these visits were related to the same injury. Under the original incidence rule, these two encounters would be captured as two different injuries. Using the revised incidence rule and case definition, the second encounter is considered a follow-up visit. As with the original rule, if two visits do not meet these criteria (matching BOTH injury type and body region categories), they will be still counted as separate injuries using the revised rule.

As an additional consideration, non-specific diagnosis codes for pain (examples: M545 Low back pain, M25561 Pain in right knee) are continually the leading diagnoses among Army populations [References 1-2]. It is suspected that providers may use these codes when they do not have enough information to diagnose a more specific condition. However, if the Soldier is then seen for a follow-up visit and given a more specific diagnosis, it is most accurate for injury surveillance to capture the more specific injury type. Therefore, the revised case definition also considers whether pain diagnoses are associated with a more specific diagnosis for the same Soldier (pain may be the original diagnosis or a follow-up diagnosis). If the injured body region is the same and the visit is within 60-days of a more specific diagnosis, all associated visits will be captured as the same injury and assigned the most specific injury type category and body region. An example is shown in Table 3. The specific diagnosis codes used for this pain rule are listed in Appendix E.

Table 1. Incident Injury ICD-10-CM Codes added to Injury Taxonomy, per CDC/WHO updates, effective October 2021

Energy category	ICD-10-CM Diagnosis Codes added to Taxonomy	Justification
MECHANICAL- Acute Non-MSK	S06A0X* Traumatic brain compression without herniation S06A1X* Traumatic brain compression with herniation	Consistent with categorization for other traumatic brain injuries
MECHANICAL- Cumulative MSK	M5450 Low back pain, unspecified M5451 Vertebrogenic low back pain M5459 Other low back pain	Consistent with categorization for other low back pain injuries
NON-ENVIRONMENTAL- Poisoning, Chemicals	L24A0 Irritant contact dermatitis due to friction or contact with body fluids L24A1 Irritant contact dermatitis due to saliva L24A2 Irritant contact dermatitis due to fecal, urinary or dual incontinence L24A9 Irritant contact dermatitis due friction or contact with other specified body fluids L24B0 Irritant contact dermatitis related to unspecified stoma or fistula L24B1 Irritant contact dermatitis related to digestive stoma or fistula L24B2 Irritant contact dermatitis related to respiratory stoma or fistula L24B3 Irritant contact dermatitis related to fecal or urinary stoma or fistula	Consistent with categorization for other poisonings
NON-ENVIRONMENTAL- Poisoning, Drugs	T04711* Poisoning by cannabis, accidental (unintentional) T04712* Poisoning by cannabis, self-harm T04713* Poisoning by cannabis, assault T04714* Poisoning by cannabis, undetermined T04721* Poisoning by synthetic cannabinoids, accidental T04722* Poisoning by synthetic cannabinoids, self-harm T04723* Poisoning by synthetic cannabinoids, assault T04724* Poisoning by synthetic cannabinoids, undetermined	Consistent with categorization for other poisonings
OTHER- Medical Complications	T8082X* Complication of immune effector cellular therapy	Consistent with categorization for other medical complications
All follow-up encounters and sequelae for injury codes are included in injury burden; these would not be included in incidence reporting [per Reference1]		

Table 2. Comparison of case definitions; example: ICD-10 codes with same injury taxonomy categories

Name	Encounter Date	ICD-10-CM primary diagnosis	Taxonomy Injury Type category	Taxonomy Body Region category	Original case definition identification	Revised case definition identification
Soldier X	19-Nov-18	M2391 Unspecified internal derangement of right knee	SPRAIN/ JOINT DAMAGE	KNEE	Incident injury visit	Incident injury visit
Soldier X	6-Dec-18	S83271A Complex tear of lateral meniscus, current injury, right knee, initial encounter	SPRAIN/ JOINT DAMAGE	KNEE	Incident injury visit	Follow-up injury visit
Resulting incident injury count					2	1

Table 3. Comparison of case definitions; example: pain diagnosis

Name	Encounter Date	ICD-10-CM primary diagnosis	Taxonomy Injury Type category	Taxonomy Body Region category	Original case definition identification	Revised case definition identification
Soldier Y	30-Jan-18	M25552 Pain in left hip	MSK TISSUE DAMAGE, OTHER	HIP	Incident injury visit	Incident injury visit, Injury Type re-categorized as Fracture
Soldier Y	31-Jan-18	M84359A Stress fracture, hip, unspecified, initial encounter for fracture	FRACTURE	HIP	Incident injury visit	Follow-up injury visit
Resulting incident injury count					2	1

A comparison of resulting Active Duty incident injury encounters under the original and revised incidence rules for CY18 is shown in Table 4. Because more encounters were identified as follow-up injuries using the revised incident rule, the total number of identified incident injuries was reduced by 17%.

Consequently, injury rates were also reduced by 17% (1,822 injuries per 1,000 person-years, now 1,516 injuries per 1,000 person-years). The distribution of injury types did not change significantly. The greatest impact was seen with the number of incident injuries categorized as 'MSK Tissue Damage, Other' by the re-categorization of pain diagnoses when applicable.

Table 4. Comparison of incident injury counts by Injury Type, Army Active Duty, CY18

Injury Type	Case Definition			
	Original		Revised	
	n	%	n	%
FRACTURE	27,168	3.5	15,371	2.3
DISLOCATION	4,300	0.5	2,513	0.4
SPRAIN/JOINT DAMAGE	55,126	7.0	33,716	5.2
STRAIN/TEAR	30,954	3.9	23,518	3.6
MSK TISSUE DAMAGE, OTHER	523,958	66.6	456,437	69.8
AMPUTATION	227	0.0	136	0.0
CRUSH	1,013	0.1	749	0.1
INTERNAL ORGAN & BLOOD VESSEL	6,326	0.8	5,305	0.8
OPEN WOUND	16,032	2.0	13,648	2.1
BURN	1,845	0.2	1,530	0.2
CORROSION	161	0.0	156	0.0
NERVE	30,104	3.8	22,859	3.5
CONTUSION/SUPERFICIAL	27,874	3.5	24,212	3.7
TISSUE DAMAGE, OTHER	42,132	5.4	36,550	5.6
OTHER - HEAT/SUN	3,272	0.4	2,886	0.4
OTHER - COLD	416	0.1	369	0.1
OTHER - LIGHTNING	27	0.0	23	0.0
OTHER - ELECTRICITY	31	0.0	31	0.0
OTHER - EXHAUSTION	120	0.0	119	0.0
OTHER - DROWNING	7	0.0	7	0.0
OTHER - ASPHYXIATION	60	0.0	55	0.0
OTHER - DEPRIVATION	1	0.0	1	0.0
OTHER - FOREIGN BODY	399	0.1	324	0.0
OTHER - MEDICAL COMP	5,857	0.7	5,496	0.8
OTHER - MEDICAL ACCI	14	0.0	14	0.0
OTHER - TRAUMA	5,973	0.8	5,354	0.8
OTHER - UNSPECIFIED	2,910	0.4	2,880	0.4
TOTAL	786,307	100.0	654,259	100.0

6 CONCLUSIONS AND RECOMMENDATIONS

The FY22 master APHC injury taxonomy Excel® spreadsheet, updated to reflect the new ICD-10-CM diagnosis codes and APHC injury surveillance categories as described in this document, is available upon request. This updated taxonomy code list is necessary for evaluating medical encounter data after the most recent ICD-10-CM update, effective October 1, 2021. All ICD-10-CM records used after 1 October 2015 are included in this master updated list. Additionally, routine Army injury surveillance will now utilize the revised incidence rule methodology.

Appendix A

References

1. APHC. Public Health Information Paper (PHIP) No. 12-01-0717: *A Taxonomy of Injuries for Public Health Monitoring & Reporting*. Updated December 2017. Aberdeen Proving Ground, MD.
<http://www.dtic.mil/docs/citations/AD1039481>
2. Hauschild VD, Schuh-Renner A, Lee T, Richardson M, Hauret K, and Jones BH. Using causal energy categories to report the distribution of injuries in an active population: an approach used by the U.S. Army. *JSAMS*. 22(2019):997-1003. [https://www.jsams.org/article/S1440-2440\(19\)30099-4/abstract](https://www.jsams.org/article/S1440-2440(19)30099-4/abstract).
3. Schuh-Renner A, Inscore MC, Hauschild VD, Jones BH, and Canham-Chervak, M. Impacts of ICD-10-CM on U.S. Army Injury Surveillance. *AJPM*. 61(1):e47-e52.
[https://www.ajpmonline.org/article/S0749-3797\(21\)00183-5/abstract](https://www.ajpmonline.org/article/S0749-3797(21)00183-5/abstract)
4. APHC. Technical Information Paper (TIP) No. 12-114-0121: Army Injury Surveillance Report 2019 Summary. 2021. Aberdeen Proving Ground, MD. <https://apps.dtic.mil/sti/citations/AD1136242>
5. APHC Fiscal Year (FY) 2019 UPDATE: A Taxonomy of Injuries for Public Health Monitoring and Reporting. Public Health Information Paper (PHIP) No.12-01-0717. Prepared by Hauschild VD, Schuh-Renner A, McCabe AK, Jones BH. December 2018. DTIC AD1064894
<https://apps.dtic.mil/docs/citations/AD1064894>
6. APHC Fiscal Year (FY) 2020 UPDATE: A Taxonomy of Injuries for Public Health Monitoring and Reporting. Public Health Information Paper (PHIP) No.12-01-0717. Prepared by Hauschild VD, Schuh-Renner A, Chervak M, Jones BH. November 2019.
<https://apps.dtic.mil/sti/citations/AD1084570>
7. APHC Fiscal Year (FY) 2021 UPDATE: A Taxonomy of Injuries for Public Health Monitoring and Reporting. Public Health Information Paper (PHIP) No.12-01-0717. Prepared by Hauschild VD, Schuh-Renner A, Chervak M, Jones BH. November 2020.
<https://apps.dtic.mil/sti/citations/AD1112319>
8. APHC. 2021. Health of the Force, 2020.
<https://phc.amedd.army.mil/PHC%20Resource%20Library/2020-hof-web.pdf>
9. CDC. 2021. FY 2022 International Classification of Disease – Version 10 – Clinical Modifications (ICD-10-CM.update). <https://www.cdc.gov/nchs/icd/icd10cm.htm> Accessed September 2021.
10. Defense Military Injury Metrics Working Group. DoD Military Injury Metrics Working Group White Paper. 2002.
<http://www.ergoworkinggroup.org/ewgweb/SubPages/ProgramTools/Metrics/MilitaryInjuryMetricsWhitepaperNov02rev.pdf>
11. DoD Defense Safety Oversight Council Steering Group (DSOC SG); Meeting Proceedings for January 21, 2021
12. FR2: <https://fr2.safety.army.mil/Reports/Pages/default.aspx>
13. CDC 2015 injury matrix: https://www.cdc.gov/nchs/injury/injury_matrices.htm
14. Hedegaard H, Johnson RL, Warner M, Chen LH, Annett JL. Proposed Framework for Presenting Injury Data Using the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes. *Natl Health Stat Report*. 2016(89):1–20.
<https://stacks.cdc.gov/view/cdc/83789>.

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15. Hedegaard H, Johnson RL, Garnett MF, Thomas KE. The 2020 International Classification of Diseases, 10th Revision, Clinical Modification Injury Diagnosis Framework for Categorizing Injuries by Body Region and Nature of Injury. Natl Health Stat Report, 2020(150):1-26.
<https://stacks.cdc.gov/view/cdc/100035>.

Appendix B

Medical Diagnosis Categories for Characterizing the Burden of Illness and Injury

Table B-1. APHC Burden of Injuries and Disease Category descriptions, as of October 2021

APHC Categories (16)	ICD-10-CM Chapters	Notes
Injury	3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19	Tissue damage resulting from external energy - Primarily includes codes from chapter 19 (Injury S and T codes); though only 7% are Chapter 13 M-codes (cumulative MSK diagnoses), these cumulative MSK injuries make up approximately 65% of Active Duty personnel injuries [Injuries are further defined in Reference 1].
Mental, Behavioral	5	Mental health conditions – Includes substance abuse, psychosis, sleep disorder (no deaths/suicides)
Ill-defined Conditions	18	'Signs and symptoms' - Includes abnormal clinical diagnostics and signs, symptoms
Neurological	6	Neurologic and headaches - Includes nervous system conditions, epilepsy
Eye, ear, oral	7, 8, 11, 13	Sense organ and oral - Includes eye condition (non-injury), hearing (non-injury), and oral (non-injuries) such as cavities and periodontal disease
Skin	12	Skin – includes skin diseases and allergic reactions on the skin (not infectious disease or contact dermatitis caused by poisons or chemicals)
Degenerative, Genetic MSK	13	Musculoskeletal (MSK) disorders and chronic/genetic conditions not associated with injury (e.g., arthritis, arthropathies)
Infectious, Vector-borne	1, 6, 7, 10, 16	Respiratory and parasitic causes infections - includes infections (influenza, mumps), bacterial, pathogens (e.g., Lyme disease, malaria)
Pulmonary	10	Non-communicable or chronic condition (e.g., asthma, COPD)
Maternal, Congenital	15, 16, 17	Maternal, Perinatal, and Congenital - includes pregnancy and delivery, miscarriage, congenital birth defects
Genitourinary	14	Genitourinary- Includes male and female genital conditions, menstrual disorders
Digestive	11	Digestive - Includes appendicitis, peptic ulcer, liver cirrhosis
Metabolic, Endocrine	3, 4	Metabolic/immune, Endocrine, Nutritional – includes diabetes, immunodeficiencies, autoimmune syndromes
Cardiovascular	9	Cardiovascular - includes heart disease, cerebrovascular disease
Cancer	2	Malignant neoplasms - Includes leukemia, sarcomas, carcinomas
Other	2, 3, various chapters	Non-malignant neoplasms and blood conditions – includes anemias and hereditary and nonhereditary blood; Various chapters for non-injury post-procedural effects and effects from under-dosing

Appendix C

Burden of Illness and Injury Categorizations for New CDC/WHO FY22 ICD-10-CM Codes

Table C-1. Burden of Illness and Injury Categorizations for New CDC/WHO FY22 ICD-10-CM Codes

FY22 ICD-10-CM Code	Description	Burden Category	Burden Subcategory
A7982	Anaplasmosis [A. phagocytophilum]	Infectious, Vector-borne	All other infectious and parasitic diseases
C563	Malignant neoplasm of bilateral ovaries	Cancer	Ovary cancer
C7963	Secondary malignant neoplasm of bilateral ovaries	Cancer	All other malignant neoplasms
C847A	Anaplastic large cell lymphoma, ALK-negative, breast	Cancer	Lymphoma and multiple myeloma
D5521	Anemia due to pyruvate kinase deficiency	Other	Blood - other anemia
D5529	Anemia due to other disorders of glycolytic enzymes	Other	Blood - other anemia
D75838	Other thrombocytosis	Other	Blood - other disorder
D75839	Thrombocytosis, unspecified	Other	Blood - other disorder
D8944	Hereditary alpha tryptasemia	Metabolic, Endocrine	Immunity disorders
E75244	Niemann-Pick disease type A/B	Metabolic, Endocrine	Lipoid metabolism disorders
F32A	Depression, unspecified	Mental, Behavioral	Mood disorder
F78A1	SYNGAP1-related intellectual disability	Mental, Behavioral	All other mental disorders
F78A9	Other genetic related intellectual disability	Mental, Behavioral	All other mental disorders
G0482	Acute flaccid myelitis	Neurologic	All other neurologic conditions
G4486	Cervicogenic headache	Neurologic	Headache
G9200	Immune effector cell-associated neurotoxicity syndrome, grade unspecified	Neurologic	All other neurologic conditions
G9201	Immune effector cell-associated neurotoxicity syndrome, grade 1	Neurologic	All other neurologic conditions
G9202	Immune effector cell-associated neurotoxicity syndrome, grade 2	Neurologic	All other neurologic conditions
G9203	Immune effector cell-associated neurotoxicity syndrome, grade 3	Neurologic	All other neurologic conditions
G9204	Immune effector cell-associated neurotoxicity syndrome, grade 4	Neurologic	All other neurologic conditions
G9205	Immune effector cell-associated neurotoxicity syndrome, grade 5	Neurologic	All other neurologic conditions
G928	Other toxic encephalopathy	Neurologic	All other neurologic conditions
G929	Unspecified toxic encephalopathy	Neurologic	All other neurologic conditions
I5A	Non-ischemic myocardial injury (non-traumatic)	Cardiovascular	All other cardiovascular diseases
K2281	Esophageal polyp	Digestive	Esophagus disease
K2282	Esophagogastric junction polyp	Digestive	Esophagus disease
K2289	Other specified disease of esophagus	Digestive	Esophagus disease
K31A0	Gastric intestinal metaplasia, unspecified	Digestive	All other digestive diseases
K31A11	Gastric intestinal metaplasia without dysplasia, involving the antrum	Digestive	All other digestive diseases
K31A12	Gastric intestinal metaplasia without dysplasia, involving the body (corpus)	Digestive	All other digestive diseases

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K31A13	Gastric intestinal metaplasia without dysplasia, involving the fundus	Digestive	All other digestive diseases
K31A14	Gastric intestinal metaplasia without dysplasia, involving the cardia	Digestive	All other digestive diseases
K31A15	Gastric intestinal metaplasia without dysplasia, involving multiple sites	Digestive	All other digestive diseases
K31A19	Gastric intestinal metaplasia without dysplasia, unsp site	Digestive	All other digestive diseases
K31A21	Gastric intestinal metaplasia without dysplasia, unspecified site	Digestive	All other digestive diseases
K31A22	Gastric intestinal metaplasia with high grade dysplasia	Digestive	All other digestive diseases
K31A29	Gastric intestinal metaplasia with dysplasia, unspecified	Digestive	All other digestive diseases
L24A0	Irritant contact dermatitis due to friction or contact with body fluids	Injury	Poisons - chemicals
L24A1	Irritant contact dermatitis due to saliva	Injury	Poisons - chemicals
L24A2	Irritant contact dermatitis due to fecal, urinary or dual incontinence	Injury	Poisons - chemicals
L24A9	Irritant contact dermatitis due friction or contact with other specified body fluids	Injury	Poisons - chemicals
L24B0	Irritant contact dermatitis related to unspecified stoma or fistula	Injury	Poisons - chemicals
L24B1	Irritant contact dermatitis related to digestive stoma or fistula	Injury	Poisons - chemicals
L24B2	Irritant contact dermatitis related to respiratory stoma or fistula	Injury	Poisons - chemicals
L24B3	Irritant contact dermatitis related to fecal or urinary stoma or fistula	Injury	Poisons - chemicals
M3110	Thrombotic microangiopathy, unspecified	Cardiovascular	All other cardiovascular diseases
M3111	Hematopoietic stem cell txplantation-assoc throm microangiopathy	Cardiovascular	All other cardiovascular diseases
M3119	Other thrombotic microangiopathy	Cardiovascular	All other cardiovascular diseases
M3505	Sjogren syndrome with inflammatory arthritis	Degenerative, genetic MSK	Other genetic/degenerative musculoskeletal disorder
M3506	Sjogren syndrome with peripheral nervous system involvement	Degenerative, genetic MSK	Other genetic/degenerative musculoskeletal disorder
M3507	Sjogren syndrome with central nervous system involvement	Degenerative, genetic MSK	Other genetic/degenerative musculoskeletal disorder
M3508	Sjogren syndrome with gastrointestinal involvement	Degenerative, genetic MSK	Other genetic/degenerative musculoskeletal disorder
M350A	Sjogren syndrome with glomerular disease	Degenerative, genetic MSK	Other genetic/degenerative musculoskeletal disorder
M350B	Sjogren syndrome with vasculitis	Degenerative, genetic MSK	Other genetic/degenerative musculoskeletal disorder
M350C	Sjogren syndrome with dental involvement	Degenerative, genetic MSK	Other genetic/degenerative musculoskeletal disorder
M45A0	Non-radiographic axial spondyloarthritis of unspecified sites in spine	Degenerative, genetic MSK	Genetic/degenerative disorder of the back or spine
M45A1	Non-radiographic axial spondyloarthritis of occipito-atlanto-axial region	Degenerative, genetic MSK	Genetic/degenerative disorder of the back or spine
M45A2	Non-radiographic axial spondyloarthritis of cervical region	Degenerative, genetic MSK	Genetic/degenerative disorder of the back or spine
M45A3	Non-radiographic axial spondyloarthritis of cervicothoracic region	Degenerative, genetic MSK	Genetic/degenerative disorder of the back or spine
M45A4	Non-radiographic axial spondyloarthritis of thoracic region	Degenerative, genetic MSK	Genetic/degenerative disorder of the back or spine

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M45A5	Non-radiographic axial spondyloarthritis of thoracolumbar region	Degenerative, genetic MSK	Genetic/degenerative disorder of the back or spine
M45A6	Non-radiographic axial spondyloarthritis of lumbar region	Degenerative, genetic MSK	Genetic/degenerative disorder of the back or spine
M45A7	Non-radiographic axial spondyloarthritis of lumbosacral region	Degenerative, genetic MSK	Genetic/degenerative disorder of the back or spine
M45A8	Non-radiographic axial spondyloarthritis of sacral and sacrococcygeal region	Degenerative, genetic MSK	Genetic/degenerative disorder of the back or spine
M45AB	Non-radiographic axial spondyloarthritis of multiple sites in spine	Degenerative, genetic MSK	Genetic/degenerative disorder of the back or spine
M5450	Low back pain, unspecified	Injury	Mechanical - cumulative musculoskeletal
M5451	Vertebrogenic low back pain	Injury	Mechanical - cumulative musculoskeletal
M5459	Other low back pain	Injury	Mechanical - cumulative musculoskeletal
P0082	Newborn affected by (positive) maternal group B streptococcus (GBS) colonization	Maternal, Congenital	All other perinatal anomalies
P091	Abnormal findings on neonatal screening for inborn errors of metabolism	III-defined Conditions	All other signs and symptoms
P092	Abnormal findings on neonatal screening for congenital endocrine disease	III-defined Conditions	All other signs and symptoms
P093	Abnormal findings on neonatal screening for congenital hematologic disorders	III-defined Conditions	All other signs and symptoms
P094	Abnormal findings on neonatal screening for cystic fibrosis	III-defined Conditions	All other signs and symptoms
P095	Abnormal findings on neonatal screening for critical congenital heart disease	III-defined Conditions	All other signs and symptoms
P096	Abnormal findings on neonatal screening for neonatal hearing loss	III-defined Conditions	All other signs and symptoms
P098	Other abnormal findings on neonatal screening	III-defined Conditions	All other signs and symptoms
P099	Abnormal findings on neonatal screening, unspecified	III-defined Conditions	All other signs and symptoms
R051	Acute cough	III-defined Conditions	Respiratory and chest
R052	Subacute cough	III-defined Conditions	Respiratory and chest
R053	Chronic cough	III-defined Conditions	Respiratory and chest
R054	Cough syncope	III-defined Conditions	Respiratory and chest
R058	Other specified cough	III-defined Conditions	Respiratory and chest
R059	Cough, unspecified	III-defined Conditions	Respiratory and chest
R3581	Nocturnal polyuria	III-defined Conditions	All other signs and symptoms
R3589	Other polyuria	III-defined Conditions	All other signs and symptoms
R4588	Nonsuicidal self-harm	III-defined Conditions	All other signs and symptoms
R6330	Feeding difficulties, unspecified	III-defined Conditions	All other signs and symptoms
R6331	Pediatric feeding disorder, acute	III-defined Conditions	All other signs and symptoms
R6332	Pediatric feeding disorder, chronic	III-defined Conditions	All other signs and symptoms
R6339	Other feeding difficulties	III-defined Conditions	All other signs and symptoms
R7983	Abnormal findings of blood amino-acid level	III-defined Conditions	All other signs and symptoms
S06A0XA	Traumatic brain compression without herniation, initial encounter	Injury	Mechanical - acute non-musculoskeletal

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S06A0XD	Traumatic brain compression without herniation, subsequent encounter	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
S06A0XS	Traumatic brain compression without herniation, sequela	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
S06A1XA	Traumatic brain compression with herniation, initial encounter	Injury	Mechanical - acute non-musculoskeletal
S06A1XD	Traumatic brain compression with herniation, subsequent encounter	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
S06A1XS	Traumatic brain compression with herniation, sequela	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40711A	Poisoning by cannabis, accidental (unintentional), initial encounter	Injury	Poisons - drugs
T40711D	Poisoning by cannabis, accidental (unintentional), subsequent encounter	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40711S	Poisoning by cannabis, accidental (unintentional), sequela	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40712A	Poisoning by cannabis, self-harm, initial encounter	Injury	Poisons - drugs
T40712D	Poisoning by cannabis, self-harm, subsequent encounter	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40712S	Poisoning by cannabis, intentional self-harm, sequela	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40713A	Poisoning by cannabis, assault, initial encounter	Injury	Poisons - drugs
T40713D	Poisoning by cannabis, assault, subsequent encounter	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40713S	Poisoning by cannabis, assault, sequela	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40714A	Poisoning by cannabis, undetermined, initial encounter	Injury	Poisons - drugs
T40714D	Poisoning by cannabis, undetermined, subsequent encounter	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40714S	Poisoning by cannabis, undetermined, sequela	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40715A	Adverse effect of cannabis, initial encounter	Other	Non-injury medical complication
T40715D	Adverse effect of cannabis, subsequent encounter	Other	Non-injury medical complication
T40715S	Adverse effect of cannabis, sequela	Other	Non-injury medical complication
T40716A	Underdosing of cannabis, initial encounter	Other	Non-injury medical complication
T40716D	Underdosing of cannabis, subsequent encounter	Other	Non-injury medical complication
T40716S	Underdosing of cannabis, sequela	Other	Non-injury medical complication
T40721A	Poisoning by synthetic cannabinoids, accidental, initial encounter	Injury	Poisons - drugs

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T40721D	Poisoning by synthetic cannabinoids, accidental, subsequent encounter	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40721S	Poisoning by synthetic cannabinoids, accidental, sequela	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40722A	Poisoning by synthetic cannabinoids, self-harm, initial encounter	Injury	Poisons - drugs
T40722D	Poisoning by synthetic cannabinoids, self-harm, subsequent encounter	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40722S	Poisoning by synthetic cannabinoids, self-harm, sequela	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40723A	Poisoning by synthetic cannabinoids, assault, initial encounter	Injury	Poisons - drugs
T40723D	Poisoning by synthetic cannabinoids, assault, subsequent encounter	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40723S	Poisoning by synthetic cannabinoids, assault, sequela	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40724A	Poisoning by synthetic cannabinoids, undetermined, initial encounter	Injury	Poisons - drugs
T40724D	Poisoning by synthetic cannabinoids, undetermined, subsequent encounter	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40724S	Poisoning by synthetic cannabinoids, undetermined, sequela	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T40725A	Adverse effect of synthetic cannabinoids, initial encounter	Other	Non-injury medical complication
T40725D	Adverse effect of synthetic cannabinoids, subsequent encounter	Other	Non-injury medical complication
T40725S	Adverse effect of synthetic cannabinoids, sequela	Other	Non-injury medical complication
T40726A	Underdosing of synthetic cannabinoids, initial encounter	Other	Non-injury medical complication
T40726D	Underdosing of synthetic cannabinoids, subsequent encounter	Other	Non-injury medical complication
T40726S	Underdosing of synthetic cannabinoids, sequela	Other	Non-injury medical complication
T8082XA	Complication of immune effector cellular therapy, initial encounter	Injury	Other injury - operative/medical complication
T8082XD	Complication of immune effector cellular therapy, subsequent encounter	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
T8082XS	Complication of immune effector cellular therapy, sequela	Injury	Subsequent and sequela injury encounters, and long-term effects of injury
U099	Post COVID-19 condition, unspecified	Infectious, Vector-borne	All other infectious and parasitic diseases

Appendix D

Assignment of Additional ICD-10-CM Injury Codes and LTE codes Determined from FR2 Analysis

Table D-1. Injury ICD-10-CM Codes added to Injury Taxonomy based on recommendations of FSOH SMEs, August 2021

Energy category	ICD-10-CM Diagnosis Codes added to Taxonomy	Justification
MECHANICAL – Acute MSK	M7580 Other shoulder lesions, unspecified shoulder M7581 Other shoulder lesions, right shoulder M7582 Other shoulder lesions, left shoulder M7590 Shoulder lesion, unspecified, unspecified shoulder M7591 Shoulder lesion, unspecified, right shoulder M7592 Shoulder lesion, unspecified, left shoulder M9980 Other biomechanical lesions of head region M9981 Other biomechanical lesions of cervical region M9982 Other biomechanical lesions of thoracic region M9983 Other biomechanical lesions of lumbar region M9984 Other biomechanical lesions of sacral region M9985 Other biomechanical lesions of pelvic region M9986 Other biomechanical lesions of lower extremity M9987 Other biomechanical lesions of upper extremity M9988 Other biomechanical lesions of rib cage M9989 Other biomechanical lesions of abdomen and other regions M999 Biomechanical lesion, unspecified	Consistent with categorization for other musculoskeletal lesions
MECHANICAL- Acute Non-MSK	H1130 Conjunctival hemorrhage, unspecified eye H1131 Conjunctival hemorrhage, right eye H1132 Conjunctival hemorrhage, left eye H1133 Conjunctival hemorrhage, bilateral H18331 Rupture in Descemet's membrane, right eye H18332 Rupture in Descemet's membrane, left eye H18333 Rupture in Descemet's membrane, bilateral H18339 Rupture in Descemet's membrane, unspecified eye H20041 Secondary noninfectious iridocyclitis, right eye H20042 Secondary noninfectious iridocyclitis, left eye H20043 Secondary noninfectious iridocyclitis, bilateral H20049 Secondary noninfectious iridocyclitis, unspecified eye H21551 Recession of chamber angle, right eye H21552 Recession of chamber angle, left eye H21553 Recession of chamber angle, bilateral H21559 Recession of chamber angle, unspecified eye H31301 Unspecified choroidal hemorrhage, right eye H31302 Unspecified choroidal hemorrhage, left eye H31303 Unspecified choroidal hemorrhage, bilateral H31309 Unspecified choroidal hemorrhage, unspecified eye H3131 Expulsive choroidal hemorrhage H3141 Hemorrhagic choroidal detachment H31411 Hemorrhagic choroidal detachment, right eye H31412 Hemorrhagic choroidal detachment, left eye H31413 Hemorrhagic choroidal detachment, bilateral	Consistent with categorization for other traumatic eye and ear injuries, and other acute injuries

	<p>H31419 Hemorrhagic choroidal detachment, unspecified eye</p> <p>H33001 Unspecified retinal detachment with retinal break, right eye</p> <p>H33002 Unspecified retinal detachment with retinal break, left eye</p> <p>H33003 Unspecified retinal detachment with retinal break, bilateral</p> <p>H33009 Unspecified retinal detachment with retinal break, unspecified eye</p> <p>H33011 Retinal detachment with single break, right eye</p> <p>H33012 Retinal detachment with single break, left eye</p> <p>H33013 Retinal detachment with single break, bilateral</p> <p>H33019 Retinal detachment with single break, unspecified eye</p> <p>H33021 Retinal detachment with multiple breaks, right eye</p> <p>H33022 Retinal detachment with multiple breaks, left eye</p> <p>H33023 Retinal detachment with multiple breaks, bilateral</p> <p>H33029 Retinal detachment with multiple breaks, unspecified eye</p> <p>H33051 Total retinal detachment, right eye</p> <p>H33052 Total retinal detachment, left eye</p> <p>H33053 Total retinal detachment, bilateral</p> <p>H33059 Total retinal detachment, unspecified eye</p> <p>H33301 Unspecified retinal break, right eye</p> <p>H33302 Unspecified retinal break, left eye</p> <p>H33303 Unspecified retinal break, bilateral</p> <p>H33309 Unspecified retinal break, unspecified eye</p> <p>H4300 Vitreous prolapse, unspecified eye</p> <p>H4301 Vitreous prolapse, right eye</p> <p>H4302 Vitreous prolapse, left eye</p> <p>H4303 Vitreous prolapse, bilateral</p> <p>H61121 Hematoma of pinna, right ear</p> <p>H61122 Hematoma of pinna, left ear</p> <p>H61123 Hematoma of pinna, bilateral</p> <p>H61129 Hematoma of pinna, unspecified ear</p> <p>H61311 Acquired stenosis of right external ear canal secondary to trauma</p> <p>H61312 Acquired stenosis of left external ear canal secondary to trauma</p> <p>H61313 Acquired stenosis of external ear canal secondary to trauma, bilateral</p> <p>H61319 Acquired stenosis of external ear canal secondary to trauma, unspecified ear</p> <p>H7200 Central perforation of tympanic membrane, unspecified ear</p> <p>H7201 Central perforation of tympanic membrane, right ear</p> <p>H7202 Central perforation of tympanic membrane, left ear</p> <p>H7203 Central perforation of tympanic membrane, bilateral</p> <p>H7210 Attic perforation of tympanic membrane, unspecified ear</p> <p>H7211 Attic perforation of tympanic membrane, right ear</p> <p>H7212 Attic perforation of tympanic membrane, left ear</p> <p>H7213 Attic perforation of tympanic membrane, bilateral</p> <p>H722X1 Other marginal perforations of tympanic membrane, right ear</p> <p>H722X2 Other marginal perforations of tympanic membrane, left ear</p> <p>H722X3 Other marginal perforations of tympanic membrane, bilateral</p> <p>H722X9 Other marginal perforations of tympanic membrane, unspecified ear</p>	
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	H72811 Multiple perforations of tympanic membrane, right ear H72812 Multiple perforations of tympanic membrane, left ear H72813 Multiple perforations of tympanic membrane, bilateral H72819 Multiple perforations of tympanic membrane, unspecified ear H72281 Total perforations of tympanic membrane, right ear H72282 Total perforations of tympanic membrane, left ear H72283 Total perforations of tympanic membrane, bilateral H72289 Total perforations of tympanic membrane, unspecified ear H7290 Unspecified perforation of tympanic membrane, unspecified ear H7291 Unspecified perforation of tympanic membrane, right ear H7292 Unspecified perforation of tympanic membrane, left ear H7293 Unspecified perforation of tympanic membrane, bilateral H9220 Otorrhagia, unspecified ear H9221 Otorrhagia, right ear H9222 Otorrhagia, left ear H9223 Otorrhagia, bilateral H92341 Temporary auditory threshold shift, right ear H92342 Temporary auditory threshold shift, left ear H92343 Temporary auditory threshold shift, bilateral H92349 Temporary auditory threshold shift, unspecified ear J45990 Exercise induced bronchospasm K0381 Cracked tooth K062 Gingival and edentulous alveolar ridge lesions associated with trauma K223 Perforation of esophagus N35028 Other post-traumatic urethral stricture, female N4831 Priapism due to trauma	
MECHANICAL- Cumulative MSK	M62830 Muscle spasm of back M62831 Muscle spasm of calf M62838 Other muscle spasm	Consistent with categorization for similar injuries
ENVIRONMENTAL – Thermal/Heat	L502 Urticaria due to cold and heat L505 Cholinergic urticarial L563 Solar urticarial L564 Polymorphous light eruption L568 Other specified acute skin changes due to ultraviolet radiation L569 Acute skin change due to ultraviolet radiation, unspecified	Consistent with categorization for other heat injuries
NON-ENVIRONMENTAL- Poisoning, Chemicals	H10211 Acute toxic conjunctivitis, right eye H10212 Acute toxic conjunctivitis, left eye H10213 Acute toxic conjunctivitis, bilateral H10219 Acute toxic conjunctivitis, unspecified eye J708 Respiratory conditions due to other specified external agents J709 Respiratory conditions due to unspecified external agent L240 Irritant contact dermatitis due to detergents L241 Irritant contact dermatitis due to oils and greases L242 Irritant contact dermatitis due to solvents	Consistent with categorization for other poisonings

	<p> L245 Irritant contact dermatitis due to other chemical products L248 Irritant contact dermatitis due to other agents L2481 Irritant contact dermatitis due to metals L2489 Irritant contact dermatitis due to other agents L249 Irritant contact dermatitis, unspecified cause L25 Unspecified contact dermatitis L250 Unspecified contact dermatitis due to cosmetics L252 Unspecified contact dermatitis due to dyes L253 Unspecified contact dermatitis due to other chemical products L254 Unspecified contact dermatitis due to food in contact with skin L255 Unspecified contact dermatitis due to plants, except food L258 Unspecified contact dermatitis due to other agents L259 Unspecified contact dermatitis, unspecified cause M1010 Lead-induced gout, unspecified site M10111 Lead-induced gout, right shoulder M10112 Lead-induced gout, left shoulder M10119 Lead-induced gout, unspecified shoulder M10121 Lead-induced gout, right elbow M10122 Lead-induced gout, left elbow M10129 Lead-induced gout, unspecified elbow M10131 Lead-induced gout, right wrist M10132 Lead-induced gout, left wrist M10139 Lead-induced gout, unspecified wrist M10141 Lead-induced gout, right hand M10142 Lead-induced gout, left hand M10149 Lead-induced gout, unspecified hand M10151 Lead-induced gout, right hip M10152 Lead-induced gout, left hip M10159 Lead-induced gout, unspecified hip M10161 Lead-induced gout, right knee M10162 Lead-induced gout, left knee M10169 Lead-induced gout, unspecified knee M10171 Lead-induced gout, right ankle and foot M10172 Lead-induced gout, left ankle and foot M10179 Lead-induced gout, unspecified ankle and foot M1018 Lead-induced gout, vertebrae M1019 Lead-induced gout, multiple sites </p>	
<p>NON-ENVIRONMENTAL- Poisoning, Drugs</p>	<p> D642 Secondary sideroblastic anemia due to drugs and toxins I952 Hypotension due to drugs K521 Toxic gastroenteritis and colitis L251 Unspecified contact dermatitis due to drugs in contact with skin L270 Generalized skin eruption due to drugs and medicaments taken internally L271 Localized skin eruption due to drugs and medicaments taken internally L560 Drug phototoxic response L562 Photocontact dermatitis [berloque dermatitis] </p>	<p>Consistent with categorization for other poisonings</p>

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	M1020 Drug-induced gout, unspecified site M10211 Drug-induced gout, right shoulder M10212 Drug-induced gout, left shoulder M10219 Drug-induced gout, unspecified shoulder M10221 Drug-induced gout, right elbow M10222 Drug-induced gout, left elbow M10229 Drug-induced gout, unspecified elbow M10231 Drug-induced gout, right wrist M10232 Drug-induced gout, left wrist M10239 Drug-induced gout, unspecified wrist M10241 Drug-induced gout, right hand M10242 Drug-induced gout, left hand M10249 Drug-induced gout, unspecified hand M10251 Drug-induced gout, right hip M10252 Drug-induced gout, left hip M10259 Drug-induced gout, unspecified hip M10261 Drug-induced gout, right knee M10262 Drug-induced gout, left knee M10269 Drug-induced gout, unspecified knee M10271 Drug-induced gout, right ankle and foot M10272 Drug-induced gout, left ankle and foot M10279 Drug-induced gout, unspecified ankle and foot M1028 Drug-induced gout, vertebrae M1029 Drug-induced gout, multiple sites N4833 Priapism, drug-induced O293X1 Toxic reaction to local anesthesia during pregnancy, first trimester O293X2 Toxic reaction to local anesthesia during pregnancy, second trimester O293X3 Toxic reaction to local anesthesia during pregnancy, third trimester O293X9 Toxic reaction to local anesthesia during pregnancy, unspecified trimester O744 Toxic reaction to local anesthesia during labor and delivery	
NON-ENVIRONMENTAL – Nuclear/Radiation	J700 Acute pulmonary manifestations due to radiation L1233 Oral mucositis (ulcerative) due to radiation K520 Gastroenteritis and colitis due to radiation L580 Acute radiodermatitis	Consistent with categorization for other radiation injuries
OTHER – Abuse/Intentional	O9A311 Physical abuse complicating pregnancy, first trimester O9A312 Physical abuse complicating pregnancy, second trimester O9A313 Physical abuse complicating pregnancy, third trimester O9A319 Physical abuse complicating pregnancy, unspecified trimester O9A32 Physical abuse complicating childbirth O9A33 Physical abuse complicating the puerperium O9A411 Sexual abuse complicating pregnancy, first trimester O9A412 Sexual abuse complicating pregnancy, second trimester O9A413 Sexual abuse complicating pregnancy, third trimester O9A419 Sexual abuse complicating pregnancy, unspecified trimester	Consistent with categorization for other physical and sexual abuse injuries

	<p>O9A42 Sexual abuse complicating childbirth</p> <p>O9A43 Sexual abuse complicating the puerperium</p>	
<p>OTHER- Medical Complications</p>	<p>J954 Chemical pneumonitis due to anesthesia</p> <p>O29011 Aspiration pneumonitis due to anesthesia during pregnancy, first trimester</p> <p>O29012 Aspiration pneumonitis due to anesthesia during pregnancy, second trimester</p> <p>O29013 Aspiration pneumonitis due to anesthesia during pregnancy, third trimester</p> <p>O29019 Aspiration pneumonitis due to anesthesia during pregnancy, unspecified trimester</p> <p>O29021 Pressure collapse of lung due to anesthesia during pregnancy, first trimester</p> <p>O29022 Pressure collapse of lung due to anesthesia during pregnancy, second trimester</p> <p>O29023 Pressure collapse of lung due to anesthesia during pregnancy, third trimester</p> <p>O29029 Pressure collapse of lung due to anesthesia during pregnancy, unspecified trimester</p> <p>O29031 Other pulmonary complications of anesthesia during pregnancy, first trimester</p> <p>O29032 Other pulmonary complications of anesthesia during pregnancy, second trimester</p> <p>O29033 Other pulmonary complications of anesthesia during pregnancy, third trimester</p> <p>O29039 Other pulmonary complications of anesthesia during pregnancy, unspecified trimester</p> <p>O29111 Cardiac arrest due to anesthesia during pregnancy, first trimester</p> <p>O29112 Cardiac arrest due to anesthesia during pregnancy, second trimester</p> <p>O29113 Cardiac arrest due to anesthesia during pregnancy, third trimester</p> <p>O29119 Cardiac arrest due to anesthesia during pregnancy, unspecified trimester</p> <p>O29121 Cardiac failure due to anesthesia during pregnancy, first trimester</p> <p>O29122 Cardiac failure due to anesthesia during pregnancy, second trimester</p> <p>O29123 Cardiac failure due to anesthesia during pregnancy, third trimester</p> <p>O29129 Cardiac failure due to anesthesia during pregnancy, unspecified trimester</p> <p>O29191 Other cardiac complications of anesthesia during pregnancy, first trimester</p> <p>O29192 Other cardiac complications of anesthesia during pregnancy, second trimester</p> <p>O29193 Other cardiac complications of anesthesia during pregnancy, third trimester</p> <p>O29199 Other cardiac complications of anesthesia during pregnancy, unspecified trimester</p> <p>O29211 Cerebral anoxia due to anesthesia during pregnancy, first trimester</p> <p>O29212 Cerebral anoxia due to anesthesia during pregnancy, second trimester</p> <p>O29213 Cerebral anoxia due to anesthesia during pregnancy, third trimester</p> <p>O29219 Cerebral anoxia due to anesthesia during pregnancy, unspecified trimester</p> <p>O29291 Other central nervous system complications of anesthesia during pregnancy, first trimester</p> <p>O29292 Other central nervous system complications of anesthesia during pregnancy, second trimester</p> <p>O29293 Other central nervous system complications of anesthesia during pregnancy, third trimester</p> <p>O29299 Other central nervous system complications of anesthesia during pregnancy, unspecified trimester</p>	<p>Consistent with categorization for other medical complications</p>

	<p>O2940 Spinal and epidural anesthesia induced headache during pregnancy, unspecified trimester</p> <p>O2941 Spinal and epidural anesthesia induced headache during pregnancy, first trimester</p> <p>O2942 Spinal and epidural anesthesia induced headache during pregnancy, second trimester</p> <p>O2943 Spinal and epidural anesthesia induced headache during pregnancy, third trimester</p> <p>O295X1 Other complications of spinal and epidural anesthesia during pregnancy, first trimester</p> <p>O295X2 Other complications of spinal and epidural anesthesia during pregnancy, second trimester</p> <p>O295X3 Other complications of spinal and epidural anesthesia during pregnancy, third trimester</p> <p>O295X9 Other complications of spinal and epidural anesthesia during pregnancy, unspecified trimester</p> <p>O2960 Failed or difficult intubation for anesthesia during pregnancy, unspecified trimester</p> <p>O2961 Failed or difficult intubation for anesthesia during pregnancy, first trimester</p> <p>O2962 Failed or difficult intubation for anesthesia during pregnancy, second trimester</p> <p>O2963 Failed or difficult intubation for anesthesia during pregnancy, third trimester</p> <p>O298X1 Other complications of anesthesia during pregnancy, first trimester</p> <p>O298X2 Other complications of anesthesia during pregnancy, second trimester</p> <p>O298X3 Other complications of anesthesia during pregnancy, third trimester</p> <p>O298X9 Other complications of anesthesia during pregnancy, unspecified trimester</p> <p>O2990 Unspecified complication of anesthesia during pregnancy, unspecified trimester</p> <p>O2991 Unspecified complication of anesthesia during pregnancy, first trimester</p> <p>O2992 Unspecified complication of anesthesia during pregnancy, second trimester</p> <p>O2993 Unspecified complication of anesthesia during pregnancy, third trimester</p> <p>O740 Aspiration pneumonitis due to anesthesia during labor and delivery</p> <p>O741 Other pulmonary complications of anesthesia during labor and delivery</p> <p>O742 Cardiac complications of anesthesia during labor and delivery</p> <p>O743 Central nervous system complications of anesthesia during labor and delivery</p> <p>O745 Spinal and epidural anesthesia-induced headache during labor and delivery</p> <p>O746 Other complications of spinal and epidural anesthesia during labor and delivery</p> <p>O747 Failed or difficult intubation for anesthesia during labor and delivery</p> <p>O748 Other complications of anesthesia during labor and delivery</p> <p>O749 Complication of anesthesia during labor and delivery, unspecified</p> <p>O8901 Aspiration pneumonitis due to anesthesia during the puerperium</p> <p>O8909 Other pulmonary complications of anesthesia during the puerperium</p> <p>O895 Other complications of spinal and epidural anesthesia during the puerperium</p> <p>O896 Failed or difficult intubation for anesthesia during the puerperium</p> <p>O898 Other complications of anesthesia during the puerperium</p> <p>O899 Complication of anesthesia during the puerperium, unspecified</p>	
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OTHER – Unspecified	O9A21 Injury, poisoning and certain other consequences of external causes complicating pregnancy O9A211 Injury, poisoning and certain other consequences of external causes complicating pregnancy, first trimester O9A212 Injury, poisoning and certain other consequences of external causes complicating pregnancy, second trimester O9A213 Injury, poisoning and certain other consequences of external causes complicating pregnancy, third trimester O9A219 Injury, poisoning and certain other consequences of external causes complicating pregnancy, unspecified trimester O9A22 Injury, poisoning and certain other consequences of external causes complicating childbirth O9A23 Injury, poisoning and certain other consequences of external causes complicating the puerperium	Consistent with similar categorizations
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Table D-2. Added Long Term Effects of injury ICD-10-CM codes, based on recommendations from FSOH SMEs, August 2021

ICD-10-CM Code	Description
D596	Hemoglobinuria due to hemolysis from other external causes
D612	Aplastic anemia due to other external agents
D84821	Immunodeficiency due to drugs
D84822	Immunodeficiency due to external causes
G40501	Epileptic seizures related to external causes, not intractable, with status epilepticus
G40509	Epileptic seizures related to external causes, not intractable, without status epilepticus
G546	Phantom limb syndrome with pain
G547	Phantom limb syndrome without pain
G587	Mononeuritis multiplex
G622	Polyneuropathy due to other toxic agents
G6282	Radiation-induced polyneuropathy
G652	Sequelae of toxic polyneuropathy
G701	Toxic myoneural disorders
G720	Drug-induced myopathy
G721	Alcoholic myopathy
G722	Myopathy due to other toxic agents
G913	Post-traumatic hydrocephalus, unspecified
H0281X	Retained foreign body in eyelid
H02811	Retained foreign body in right upper eyelid
H02812	Retained foreign body in right lower eyelid
H02813	Retained foreign body in right eye, unspecified eyelid
H02814	Retained foreign body in left upper eyelid
H02815	Retained foreign body in left lower eyelid
H02816	Retained foreign body in left eye, unspecified eyelid
H02819	Retained foreign body in unspecified eye, unspecified eyelid
H0550	Retained (old) foreign body following penetrating wound of unspecified orbit
H0551	Retained (old) foreign body following penetrating wound of right orbit
H0552	Retained (old) foreign body following penetrating wound of left orbit
H0553	Retained (old) foreign body following penetrating wound of bilateral orbits
H31011	Macula scars of posterior pole (postinflammatory) (post-traumatic), right eye
H31012	Macula scars of posterior pole (postinflammatory) (post-traumatic), left eye
H31013	Macula scars of posterior pole (postinflammatory) (post-traumatic), bilateral
H31019	Macula scars of posterior pole (postinflammatory) (post-traumatic), unspecified eye
J342	Deviated nasal septum
J690	Pneumonitis due to inhalation of food and vomit
J920	Pleural plaque with presence of asbestos
K710	Toxic liver disease with cholestasis
K7110	Toxic liver disease with hepatic necrosis, without coma
K7111	Toxic liver disease with hepatic necrosis, with coma
K712	Toxic liver disease with acute hepatitis
K713	Toxic liver disease with chronic persistent hepatitis
K714	Toxic liver disease with chronic lobular hepatitis
K7150	Toxic liver disease with chronic active hepatitis without ascites
K7151	Toxic liver disease with chronic active hepatitis with ascites
K716	Toxic liver disease with hepatitis, not elsewhere classified
K717	Toxic liver disease with fibrosis and cirrhosis of liver
K718	Toxic liver disease with other disorders of liver
K719	Toxic liver disease, unspecified

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H0553	Retained (old) foreign body following penetrating wound of bilateral orbits
H31011	Macula scars of posterior pole (postinflammatory) (post-traumatic), right eye
H31012	Macula scars of posterior pole (postinflammatory) (post-traumatic), left eye
H31013	Macula scars of posterior pole (postinflammatory) (post-traumatic), bilateral
H31019	Macula scars of posterior pole (postinflammatory) (post-traumatic), unspecified eye
J342	Deviated nasal septum
J690	Pneumonitis due to inhalation of food and vomit
J920	Pleural plaque with presence of asbestos
K710	Toxic liver disease with cholestasis
K7110	Toxic liver disease with hepatic necrosis, without coma
K7111	Toxic liver disease with hepatic necrosis, with coma
K712	Toxic liver disease with acute hepatitis
K713	Toxic liver disease with chronic persistent hepatitis
K714	Toxic liver disease with chronic lobular hepatitis
K7150	Toxic liver disease with chronic active hepatitis without ascites
K7151	Toxic liver disease with chronic active hepatitis with ascites
K716	Toxic liver disease with hepatitis, not elsewhere classified
K717	Toxic liver disease with fibrosis and cirrhosis of liver
K718	Toxic liver disease with other disorders of liver
K719	Toxic liver disease, unspecified
L512	Toxic epidermal necrolysis [Lyell]
L578	Other skin changes due to chronic exposure to nonionizing radiation
L579	Skin changes due to chronic exposure to nonionizing radiation, unspecified
L58	Radiodermatitis
L581	Chronic radiodermatitis
L589	Radiodermatitis, unspecified
L598	Other specified disorders of the skin and subcutaneous tissue related to radiation
L599	Disorder of the skin and subcutaneous tissue related to radiation, unspecified
M1A10X0	Lead-induced chronic gout, unspecified site, without tophus (tophi)
M1A10X1	Lead-induced chronic gout, unspecified site, with tophus (tophi)
M1A1110	Lead-induced chronic gout, right shoulder, without tophus (tophi)
M1A1111	Lead-induced chronic gout, right shoulder, with tophus (tophi)
M1A1120	Lead-induced chronic gout, left shoulder, without tophus (tophi)
M1A1121	Lead-induced chronic gout, left shoulder, with tophus (tophi)
M1A1190	Lead-induced chronic gout, unspecified shoulder, without tophus (tophi)
M1A1191	Lead-induced chronic gout, unspecified shoulder, with tophus (tophi)
M1A1210	Lead-induced chronic gout, right elbow, without tophus (tophi)
M1A1211	Lead-induced chronic gout, right elbow, with tophus (tophi)
M1A1220	Lead-induced chronic gout, left elbow, without tophus (tophi)
M1A1221	Lead-induced chronic gout, left elbow, with tophus (tophi)
M1A1290	Lead-induced chronic gout, unspecified elbow, without tophus (tophi)
M1A1291	Lead-induced chronic gout, unspecified elbow, with tophus (tophi)
M1A1310	Lead-induced chronic gout, right wrist, without tophus (tophi)
M1A1311	Lead-induced chronic gout, right wrist, with tophus (tophi)
M1A1320	Lead-induced chronic gout, left wrist, without tophus (tophi)
M1A1321	Lead-induced chronic gout, left wrist, with tophus (tophi)
M1A1390	Lead-induced chronic gout, unspecified wrist, without tophus (tophi)
M1A1391	Lead-induced chronic gout, unspecified wrist, with tophus (tophi)
M1A1410	Lead-induced chronic gout, right hand, without tophus (tophi)
M1A1411	Lead-induced chronic gout, right hand, with tophus (tophi)
M1A1420	Lead-induced chronic gout, left hand, without tophus (tophi)
M1A1421	Lead-induced chronic gout, left hand, with tophus (tophi)
M1A1490	Lead-induced chronic gout, unspecified hand, without tophus (tophi)

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M1A1491	Lead-induced chronic gout, unspecified hand, with tophus (tophi)
M1A1510	Lead-induced chronic gout, right hip, without tophus (tophi)
M1A1511	Lead-induced chronic gout, right hip, with tophus (tophi)
M1A1520	Lead-induced chronic gout, left hip, without tophus (tophi)
M1A1521	Lead-induced chronic gout, left hip, with tophus (tophi)
M1A1590	Lead-induced chronic gout, unspecified hip, without tophus (tophi)
M1A1591	Lead-induced chronic gout, unspecified hip, with tophus (tophi)
M1A1610	Lead-induced chronic gout, right knee, without tophus (tophi)
M1A1611	Lead-induced chronic gout, right knee, with tophus (tophi)
M1A1620	Lead-induced chronic gout, left knee, without tophus (tophi)
M1A1621	Lead-induced chronic gout, left knee, with tophus (tophi)
M1A1690	Lead-induced chronic gout, unspecified knee, without tophus (tophi)
M1A1691	Lead-induced chronic gout, unspecified knee, with tophus (tophi)
M1A1710	Lead-induced chronic gout, right ankle and foot, without tophus (tophi)
M1A1711	Lead-induced chronic gout, right ankle and foot, with tophus (tophi)
M1A1720	Lead-induced chronic gout, left ankle and foot, without tophus (tophi)
M1A1721	Lead-induced chronic gout, left ankle and foot, with tophus (tophi)
M1A1790	Lead-induced chronic gout, unspecified ankle and foot, without tophus (tophi)
M1A1791	Lead-induced chronic gout, unspecified ankle and foot, with tophus (tophi)
M1A18X0	Lead-induced chronic gout, vertebrae, without tophus (tophi)
M1A18X1	Lead-induced chronic gout, vertebrae, with tophus (tophi)
M1A19X0	Lead-induced chronic gout, multiple sites, without tophus (tophi)
M1A19X1	Lead-induced chronic gout, multiple sites, with tophus (tophi)
M1A20X0	Drug-induced chronic gout, unspecified site, without tophus (tophi)
M1A20X1	Drug-induced chronic gout, unspecified site, with tophus (tophi)
M1A2110	Drug-induced chronic gout, right shoulder, without tophus (tophi)
M1A2111	Drug-induced chronic gout, right shoulder, with tophus (tophi)
M1A2120	Drug-induced chronic gout, left shoulder, without tophus (tophi)
M1A2121	Drug-induced chronic gout, left shoulder, with tophus (tophi)
M1A2190	Drug-induced chronic gout, unspecified shoulder, without tophus (tophi)
M1A2191	Drug-induced chronic gout, unspecified shoulder, with tophus (tophi)
M1A2210	Drug-induced chronic gout, right elbow, without tophus (tophi)
M1A2211	Drug-induced chronic gout, right elbow, with tophus (tophi)
M1A2220	Drug-induced chronic gout, left elbow, without tophus (tophi)
M1A2221	Drug-induced chronic gout, left elbow, with tophus (tophi)
M1A2290	Drug-induced chronic gout, unspecified elbow, without tophus (tophi)
M1A2291	Drug-induced chronic gout, unspecified elbow, with tophus (tophi)
M1A2310	Drug-induced chronic gout, right wrist, without tophus (tophi)
M1A2311	Drug-induced chronic gout, right wrist, with tophus (tophi)
M1A2320	Drug-induced chronic gout, left wrist, without tophus (tophi)
M1A2321	Drug-induced chronic gout, left wrist, with tophus (tophi)
M1A2390	Drug-induced chronic gout, unspecified wrist, without tophus (tophi)
M1A2391	Drug-induced chronic gout, unspecified wrist, with tophus (tophi)
M1A2410	Drug-induced chronic gout, right hand, without tophus (tophi)
M1A2411	Drug-induced chronic gout, right hand, with tophus (tophi)
M1A2420	Drug-induced chronic gout, left hand, without tophus (tophi)
M1A2421	Drug-induced chronic gout, left hand, with tophus (tophi)
M1A2490	Drug-induced chronic gout, unspecified hand, without tophus (tophi)
M1A2491	Drug-induced chronic gout, unspecified hand, with tophus (tophi)
M1A2510	Drug-induced chronic gout, right hip, without tophus (tophi)
M1A2511	Drug-induced chronic gout, right hip, with tophus (tophi)
M1A2520	Drug-induced chronic gout, left hip, without tophus (tophi)
M1A2521	Drug-induced chronic gout, left hip, with tophus (tophi)

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M1A2590	Drug-induced chronic gout, unspecified hip, without tophus (tophi)
M1A2591	Drug-induced chronic gout, unspecified hip, with tophus (tophi)
M1A2610	Drug-induced chronic gout, right knee, without tophus (tophi)
M1A2611	Drug-induced chronic gout, right knee, with tophus (tophi)
M1A2620	Drug-induced chronic gout, left knee, without tophus (tophi)
M1A2621	Drug-induced chronic gout, left knee, with tophus (tophi)
M1A2690	Drug-induced chronic gout, unspecified knee, without tophus (tophi)
M1A2691	Drug-induced chronic gout, unspecified knee, with tophus (tophi)
M1A2710	Drug-induced chronic gout, right ankle and foot, without tophus (tophi)
M1A2711	Drug-induced chronic gout, right ankle and foot, with tophus (tophi)
M1A2720	Drug-induced chronic gout, left ankle and foot, without tophus (tophi)
M1A2721	Drug-induced chronic gout, left ankle and foot, with tophus (tophi)
M1A2790	Drug-induced chronic gout, unspecified ankle and foot, without tophus (tophi)
M1A2791	Drug-induced chronic gout, unspecified ankle and foot, with tophus (tophi)
M1A28X0	Drug-induced chronic gout, vertebrae, without tophus (tophi)
M1A28X1	Drug-induced chronic gout, vertebrae, with tophus (tophi)
M1A29X0	Drug-induced chronic gout, multiple sites, without tophus (tophi)
M1A29X1	Drug-induced chronic gout, multiple sites, with tophus (tophi)
M438X1	Other specified deforming dorsopathies, occipito-atlanto-axial region
M438X2	Other specified deforming dorsopathies, cervical region
M438X3	Other specified deforming dorsopathies, cervicothoracic region
M438X4	Other specified deforming dorsopathies, thoracic region
M438X5	Other specified deforming dorsopathies, thoracolumbar region
M438X6	Other specified deforming dorsopathies, lumbar region
M438X7	Other specified deforming dorsopathies, lumbosacral region
M438X8	Other specified deforming dorsopathies, sacral and sacrococcygeal region
M438X9	Other specified deforming dorsopathies, site unspecified
M439	Deforming dorsopathy, unspecified
M4850XA	Collapsed vertebra, not elsewhere classified, site unspecified, initial encounter for fracture
M4851XA	Collapsed vertebra, not elsewhere classified, occipito-atlanto-axial region, initial encounter for fracture
M4852XA	Collapsed vertebra, not elsewhere classified, cervical region, initial encounter for fracture
M4853XA	Collapsed vertebra, not elsewhere classified, cervicothoracic region, initial encounter for fracture
M4854XA	Collapsed vertebra, not elsewhere classified, thoracic region, initial encounter for fracture
M4855XA	Collapsed vertebra, not elsewhere classified, thoracolumbar region, initial encounter for fracture
M4856XA	Collapsed vertebra, not elsewhere classified, lumbar region, initial encounter for fracture
M4857XA	Collapsed vertebra, not elsewhere classified, lumbosacral region, initial encounter for fracture
M4858XA	Collapsed vertebra, not elsewhere classified, sacral and sacrococcygeal region, initial encounter for fracture
M6720	Synovial hypertrophy, not elsewhere classified, unspecified site
M67211	Synovial hypertrophy, not elsewhere classified, right shoulder
M67212	Synovial hypertrophy, not elsewhere classified, left shoulder
M67219	Synovial hypertrophy, not elsewhere classified, unspecified shoulder
M67221	Synovial hypertrophy, not elsewhere classified, right upper arm
M67222	Synovial hypertrophy, not elsewhere classified, left upper arm
M67229	Synovial hypertrophy, not elsewhere classified, unspecified upper arm
M67231	Synovial hypertrophy, not elsewhere classified, right forearm
M67232	Synovial hypertrophy, not elsewhere classified, left forearm
M67239	Synovial hypertrophy, not elsewhere classified, unspecified forearm
M67241	Synovial hypertrophy, not elsewhere classified, right hand
M67242	Synovial hypertrophy, not elsewhere classified, left hand
M67249	Synovial hypertrophy, not elsewhere classified, unspecified hand
M67251	Synovial hypertrophy, not elsewhere classified, right thigh
M67252	Synovial hypertrophy, not elsewhere classified, left thigh
M67259	Synovial hypertrophy, not elsewhere classified, unspecified thigh

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M67261	Synovial hypertrophy, not elsewhere classified, right lower leg
M67262	Synovial hypertrophy, not elsewhere classified, left lower leg
M67269	Synovial hypertrophy, not elsewhere classified, unspecified lower leg
M67271	Synovial hypertrophy, not elsewhere classified, right ankle and foot
M67272	Synovial hypertrophy, not elsewhere classified, left ankle and foot
M67279	Synovial hypertrophy, not elsewhere classified, unspecified ankle and foot
M6728	Synovial hypertrophy, not elsewhere classified, other site
M6729	Synovial hypertrophy, not elsewhere classified, multiple sites
M6780	Other specified disorders of synovium and tendon, unspecified site
M67811	Other specified disorders of synovium, right shoulder
M67812	Other specified disorders of synovium, left shoulder
M67813	Other specified disorders of tendon, right shoulder
M67814	Other specified disorders of tendon, left shoulder
M67819	Other specified disorders of synovium and tendon, unspecified shoulder
M67821	Other specified disorders of synovium, right elbow
M67822	Other specified disorders of synovium, left elbow
M67823	Other specified disorders of tendon, right elbow
M67824	Other specified disorders of tendon, left elbow
M67829	Other specified disorders of synovium and tendon, unspecified elbow
M67831	Other specified disorders of synovium, right wrist
M67832	Other specified disorders of synovium, left wrist
M67833	Other specified disorders of tendon, right wrist
M67834	Other specified disorders of tendon, left wrist
M67839	Other specified disorders of synovium and tendon, unspecified forearm
M67841	Other specified disorders of synovium, right hand
M67842	Other specified disorders of synovium, left hand
M67843	Other specified disorders of tendon, right hand
M67844	Other specified disorders of tendon, left hand
M67849	Other specified disorders of synovium and tendon, unspecified hand
M67851	Other specified disorders of synovium, right hip
M67852	Other specified disorders of synovium, left hip
M67853	Other specified disorders of tendon, right hip
M67854	Other specified disorders of tendon, left hip
M67859	Other specified disorders of synovium and tendon, unspecified hip
M67861	Other specified disorders of synovium, right knee
M67862	Other specified disorders of synovium, left knee
M67863	Other specified disorders of tendon, right knee
M67864	Other specified disorders of tendon, left knee
M67869	Other specified disorders of synovium and tendon, unspecified knee
M67871	Other specified disorders of synovium, right ankle and foot
M67872	Other specified disorders of synovium, left ankle and foot
M67873	Other specified disorders of tendon, right ankle and foot
M67874	Other specified disorders of tendon, left ankle and foot
M67879	Other specified disorders of synovium and tendon, unspecified ankle and foot
M6788	Other specified disorders of synovium and tendon, other site
M6789	Other specified disorders of synovium and tendon, multiple sites
M6790	Unspecified disorder of synovium and tendon, unspecified site
M67911	Unspecified disorder of synovium and tendon, right shoulder
M67912	Unspecified disorder of synovium and tendon, left shoulder
M67919	Unspecified disorder of synovium and tendon, unspecified shoulder
M67921	Unspecified disorder of synovium and tendon, right upper arm
M67922	Unspecified disorder of synovium and tendon, left upper arm
M67929	Unspecified disorder of synovium and tendon, unspecified upper arm

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M67931	Unspecified disorder of synovium and tendon, right forearm
M67932	Unspecified disorder of synovium and tendon, left forearm
M67939	Unspecified disorder of synovium and tendon, unspecified forearm
M67941	Unspecified disorder of synovium and tendon, right hand
M67942	Unspecified disorder of synovium and tendon, left hand
M67949	Unspecified disorder of synovium and tendon, unspecified hand
M67951	Unspecified disorder of synovium and tendon, right thigh
M67952	Unspecified disorder of synovium and tendon, left thigh
M67959	Unspecified disorder of synovium and tendon, unspecified thigh
M67961	Unspecified disorder of synovium and tendon, right lower leg
M67962	Unspecified disorder of synovium and tendon, left lower leg
M67969	Unspecified disorder of synovium and tendon, unspecified lower leg
M67971	Unspecified disorder of synovium and tendon, right ankle and foot
M67972	Unspecified disorder of synovium and tendon, left ankle and foot
M67979	Unspecified disorder of synovium and tendon, unspecified ankle and foot
M6798	Unspecified disorder of synovium and tendon, other site
M6799	Unspecified disorder of synovium and tendon, multiple sites
M795	Residual foreign body in soft tissue
M9920	Subluxation stenosis of neural canal of head region
M9921	Subluxation stenosis of neural canal of cervical region
M9922	Subluxation stenosis of neural canal of thoracic region
M9923	Subluxation stenosis of neural canal of lumbar region
M9924	Subluxation stenosis of neural canal of sacral region
M9925	Subluxation stenosis of neural canal of pelvic region
M9926	Subluxation stenosis of neural canal of lower extremity
M9927	Subluxation stenosis of neural canal of upper extremity
M9928	Subluxation stenosis of neural canal of rib cage
M9929	Subluxation stenosis of neural canal of abdomen and other regions
N141	Nephropathy induced by other drugs, medicaments and biological substances
N142	Nephropathy induced by unspecified drug, medicament or biological substance
N143	Nephropathy induced by heavy metals

Appendix E

ICD-10-CM Codes for Incidence Rule Pain Methodology

Table E-1. ICD-10-CM Codes for Incidence Rule Pain Methodology

ICD-10-CM code	Description
M2550	Pain in unspecified joint
M25511	Pain in right shoulder
M25512	Pain in left shoulder
M25519	Pain in unspecified shoulder
M25521	Pain in right elbow
M25522	Pain in left elbow
M25529	Pain in unspecified elbow
M25531	Pain in right wrist
M25532	Pain in left wrist
M25539	Pain in unspecified wrist
M25541	Pain in joints of right hand
M25542	Pain in joints of left hand
M25549	Pain in joints of unspecified hand
M25551	Pain in right hip
M25552	Pain in left hip
M25559	Pain in unspecified hip
M25561	Pain in right knee
M25562	Pain in left knee
M25569	Pain in unspecified knee
M25571	Pain in right ankle and joints of right foot
M25572	Pain in left ankle and joints of left foot
M25579	Pain in unspecified ankle and joints of unspecified foot
M2559	Pain in other specified joint
M545	Low back pain
M5450	Low back pain, unspecified
M5451	Vertebrogenic low back pain
M5459	Other low back pain
M546	Pain in thoracic spine
M79601	Pain in right arm
M79602	Pain in left arm
M79603	Pain in arm, unspecified
M79604	Pain in right leg
M79605	Pain in left leg
M79606	Pain in leg, unspecified
M79609	Pain in unspecified limb

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M79621	Pain in right upper arm
M79622	Pain in left upper arm
M79629	Pain in unspecified upper arm
M79631	Pain in right forearm
M79632	Pain in left forearm
M79639	Pain in unspecified forearm
M79641	Pain in right hand
M79642	Pain in left hand
M79643	Pain in unspecified hand
M79644	Pain in right finger(s)
M79645	Pain in left finger(s)
M79646	Pain in unspecified finger(s)
M79651	Pain in right thigh
M79652	Pain in left thigh
M79659	Pain in unspecified thigh
M79661	Pain in right lower leg
M79662	Pain in left lower leg
M79669	Pain in unspecified lower leg
M79671	Pain in right foot
M79672	Pain in left foot
M79673	Pain in unspecified foot
M79674	Pain in right toe(s)
M79675	Pain in left toe(s)
M79676	Pain in unspecified toe(s)
M799	Soft tissue disorder, unspecified