Healthcare Utilization

The Phenotype and Outcomes Work Group identified the domains to be included in the definition of Healthcare Utilization:

1) Primary Care Outpatient
2) Urgent/ Emergent Care
3) Telemedicine
4) Specialty Care
5) Procedures/Imaging
6) Inpatient Care.

Full list available in hyperlink above.

Summary of Healthcare Utilization Recommendation

Healthcare Utilization recommendations provide for calculating summary counts of both inpatient and outpatient healthcare utilization. VA clinics that provide outpatients services (Primary Care, Emergency Medicine, Telehealth, etc.) are identified using list of identification are identified in the EHR unique codes (Stop Codes).

The PMC Phenotypes and Outcomes Work Group reviewed several sources that have definitions of VA Stop Codes for Healthcare Utilization including the (1.) the MCA Outpatient Cube definitions, (2.) an HSR ListServ conversation in November of 2020 and (3.) the VSSC Patient Aligned Care Teams Compass Data Definitions (Last Update: 5/22/2020) to ensure a comprehensive list was available for consideration. The Phenotype and Outcomes Work Group reviewed the selected reference lists and made recommendations on how type of outpatient services might be combined to support meaningful analyses. Discussion/decision points included: the groups clinical services (domains) to include and how to define each domain, to exclude pharmacologic and non-pharmacologic pain treatments, to include observation stays in Urgent/Emergent Care, to sub-categorize specialty care to allow granularity, and to have telemedicine as a stand-alone category. In addition, the Work Group recommended employing DRG/MDC definitions developed by Centers for Medicare & Medicaid Services (CMS) to classify utilization of inpatient services. An excel worksheet with the operation definitions recommended was developed and is available to PMC researchers.

Table 1

Summary of Table 1 Recommendations

One of the benefits of conducting multiple trials under the umbrella of a collaboratory is the opportunity to harmonize data collection on some measures, which facilitates shared analyses, cross-trial comparisons, etc. Such harmonization efforts are especially evident in recent programs such as the NIH's Helping to End Addiction Long-term (HEAL) Initiative. HEAL's Common Data Elements (CDE) program facilitates cross-study comparisons and ensures that validated patient-reported outcomes are universally included in every HEAL study. (see: https://heal.nih.gov/data/common-data-elements). The Phenotype and Outcomes Work Group considered HEAL's list of CDEs as it identified a number of key variables to include in a shared Table 1. These were factors that served as common outcomes across multiple trials or pain-related phenotypic variables that were considered, on the basis of prior literature, to be potentially related to pain (and treatment outcomes). Not all such factors could be included, as some were collected in only a minority of trials, or measured in such diverse ways that harmonizing the reporting of those factors was not possible. Collectively, the Work Group identified 21 domains/variables for inclusion in a shared Table 1. For many of these domains/variables, the data to be presented required simplification and condensing. For example, in the domain of education, while some trials may have collected much more granular data (e.g., the number of years of formal schooling), harmonization across trials required simplifying the reporting to the percentage of the sample with a post-secondary degree, allowing the large majority of trials to provide this common data point. The overall goal of this exercise was to provide resources and recommendations to support cross-trial collaboration and manuscript development. Below are the steps involved in this exercise of developing a cross-trial shared/harmonized Table 1.

1 Stage I- Identified what we *wanted* to include in a shared Table 1.

   a. We identified important phenotypic characteristics that would be useful in describing the pain populations in our trials. Additional consideration was given to the characteristics relevant to the VA-DoD cohort.

   b. Stage I identified 32 suggested domains for consideration for inclusion in a shared Table 1.

2 Stage II- Identify what the PMC trials *could reasonably* include in a shared Table 1.

   a. We collected trial-level data to see if harmonization was possible.

   b. We determined feasibility based on the number of groups collecting data in the target domain and the heterogeneity of that data across trials.

   c. Stage II identified 21 domains targeted for harmonization in a shared Table 1.

3 Stage III- Defined reporting structure and identified scoring thresholds for each domain.

   a. We compared the data structure across trials.

   b. We provided recommendations on (1.) domain description, (2.) definitions/instructions for reporting, (3.) format (e.g., counts, means/medians, categories), (4.) scoring thresholds.

   c. Stage III resulted in final recommendations for standardization and harmonization.

Summary of Table 1 Recommendation

Recommended for Inclusion:

1) Pain Population: Chronic Pain, Chronic Musculoskeletal Pain, Chronic Low Back Pain
2) Veteran's Health Administration, Defense Health Agency, Both
3) Time Period (Study Start – Study End)

4) Age (years)
5) Sex
6) Race
7) Ethnicity
8) Highest Level of Education
9) Employment Status
10) Relationship Status
11) Pain Duration
12) Pain Impact- PEG Overall Score
13) High Impact Chronic Pain (HICP)
14) Use of Nonpharmacologic and Self-Care Approaches from PMC (NSCAP Survey)
15) Long Term Opioid Therapy
16) Positive Screen for High-Risk Alcohol Use (AUDIT-C)
17) Positive Screen for Depression
18) Positive Screen for Anxiety
19) Positive Screen for Sleep Disturbance
20) Positive Screen for PTSD
21) COVID Impact (PMC Self-Report Measure)

Considered for inclusion, but not recommended for Table 1 due to insufficient numbers of trials collecting and/or high heterogeneity of data collection across trials:

1) Living Situation
2) Rurality (e.g. urban/rural, distance)
3) Annual Household Income
4) Applied for Disability Insurance
5) VA Priority Groups
6) Global Satisfaction with treatment
7) Quality of Life (QoL)/Physical Functioning
8) Stress
9) Pain Catastrophizing
10) Pain Self-Efficacy
11) Pain Intensity and Interference.

Table 1

Domains	# Trials Collecting	Heterogeneity	Reporting Recommendations
1) Pain Population	10/10	High	**Chronic Pain, Chronic Musculoskeletal Pain, Chronic Low Back Pain** Note: This is a global descriptor of pain population; not a count
2) Veteran's Health Administration (VHA) or Defense Health Agency (DHA)	N/A	N/A	**VHA, DHA, Both** Note: This is a global descriptor of the target recruitment population; not a count
3) Time Period (Start – End)	N/A	N/A	**MM/YYYY-MM/YYYY** **Study start = first participant enrolled.** **Study completion = last participant data collection (all outcomes)**
4) Age (years)	10/10	Low	**Mean, Median, SD** – Age at enrollment
5) Sex	10/10	Low	**N, % Female** **N, % Male** **N, % Other**
6) Race	10/10	Low	**N, % American Indian or Alaska Native** **N, % Asian** **N, % Black or African American** **N, % Native Hawaiian or Other Pacific Islander** **N, % White** **N, % Multiracial** **N, % Other Racial Group** **N, % Unknown or Not reported**
7) Ethnicity	10/10	Low	**N, % Hispanic or Latina/o**

Domains	# Trials Collecting	Heterogeneity	Reporting Recommendations
8) Highest Level of Education	8/10	Medium	**N, % Post-secondary degree** Note: *Diploma post high school inclusive of college, associates, or technical degrees*.
9) Employment Status	9/10	Medium	**N, % Working for pay** Note: *Those working for pay (full or part time). VA only populations - DoD not reported*
10) Relationship Status	9/10	Low	**N, % Married or Living with Partner** **N, % Divorced or Widowed** **N, % Other**
11) Pain Duration	7/10	High	**N, % for 3 months or more** **N, % for 1 year or more** **N, % for 5 years or more**
12) Pain Impact- PEG Overall Score	10/10	Low	**PEG (Overall Score)** • Mean ± SD Some manuscripts may choose to report categorically: Add the responses to the three PEG items, then divide by three to get a mean score (out of 10). • Mild pain <4 • Moderate pain 4 to < 7 • Severe pain 7 to 10

Domains	# Trials Collecting	Heterogeneity	Reporting Recommendations
13) High Impact Chronic Pain (HICP)	9/10	Low	**N, % with HICP** Instructions: **CDC MMWR** • Q1 "*In the past three months, how often did you have pain? Would you say never, some days, most days, or every day?*" = most or every day AND • Q2 "*Over the past three months, how often did pain limit your life or work activities?"* = most days or everyday *OR* • Q3 "Are you [currently] not working or unable to work due to pain or a pain condition?" = YES (if asked) **NIH Low Back Pain** • **"***How long has low-back pain been an ongoing problem for you?***"** ≥ 6 months AND • *"How often has low-back pain been an ongoing problem for you over the past 6 months?"* = At least half the days in the past 6 months OR Every day or nearly every day in the past 6 months

Domains	# Trials Collecting	Heterogeneity	Reporting Recommendations
14) Use of Nonpharmacological and Self-Care Approaches from PMC (NSCAP Survey)	10/10	Low	**N, % Acupuncture** **N, % Manipulation** **N, % Massage** **N, % Yoga** **N, % Tai Chi/Qigong** **N, % Exercise** **N, % Relaxation Techniques (progressive relaxation, guided imagery, visualization, deep breathing)** **N, % Meditation/**Mindfulness **N, % Psychotherapy/Counseling** Instructions: If you altered or did not capture a category on NSCAP, list as N/A.
15) Long Term Opioid Therapy (Opioid Prescription over 90 Days)	10/10	High	**N, %** Instructions: • Script available to PMC researchers to pull data from the CDW.
16) **Positive Screen for High-Risk Alcohol Use (AUDIT-C)**	10/10	Low	**N, %** Instructions: The AUDIT-C is scored on a scale of 0-12 (scores of 0 reflect no alcohol use). In men, a score of ≥4 is considered positive; in women, a score of ≥3 is considered positive.

Domains	# Trials Collecting	Heterogeneity	Reporting Recommendations
17) Positive Screen for Depression	10/10	Low	**N, %** *Instrument Name (e.g. PHQ-2, PROMIS)* Instructions: **PHQ-2** ≥3 cut point for a positive screen. **PROMIS-** A t-score of ≥60 on PROMIS depression (Choi et al., 2017)
18) Positive Screen for Anxiety	8/10	High	**N, %** [*Instrument Name (e.g. GAD-7, PROMIS)* Instructions: Use clinically established cutoffs for **GAD-7:** ≥10 (Spitzer et al., 2006) **PROMIS**: A t-score of ≥60 on PROMIS anxiety (Elsman et al., 2022) **BHM-20**: Indeterminate; no subscale
19) Positive Screen for Sleep Disturbance	7/10	High	**N, %** [*Instrument Name (e.g. PROMIS, ISI, etc.)* Instructions: Use clinically established cutoffs for **ISI:** Total Score ≥15 will be used as positive screen for sleep disturbance. **PROMIS:** *A t-score of ≥60 (Strainge et al., 2019)* **BHM-20**: Indeterminate; no subscale Do not include pain-related sleep disturbance in this category.
20) Positive Screen for PTSD	6/10	Medium	% with positive screen for PTSD (i.e., this would be % who are above the relevant screening cutoff for PCL or other measure or have an indication/diagnosis in the EHR).
21) COVID Impact (PMC Self-Report Measures)	8/10	Low	Mean ± SD

Domains	# Trials Collecting	Heterogeneity	Reporting Recommendations
Considered for inclusion, but not recommended for Table 1 due to insufficient number of trials collecting and/or low heterogeneity across trials			
1. Living Situation	3/10	High	
2. Rurality (e.g. urban/rural, distance)	5/10	Low	
3. Annual Household Income	6/10	High	
4. Applied for Disability Insurance	3/10	High	
5. VA priority groups	1/10	Low	
6. Global Satisfaction with treatment	3/10	Medium	
7. Quality of Life/Physical Functioning	6-8/10	High	
8. Stress	7/10	Medium	
9. Pain Catastrophizing	6/10	Medium	
10. Pain Self-Efficacy	9/10	High	
11. Pain Intensity and Interference	4/10	Low	Reported as Pain Impact- (i.e. total PEG score). Pain Intensity and Interference can be calculated from BPI (4/10 trials collecting).