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The Best Possible Medication History Interview Guide: a Scoping Review Protocol

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ADMINISTRATIVE INFORMATION

Support - Health Canada.

Review Stage at time of this submission - Data extraction.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 7 November 2024 and was last updated on 7 November 2024.

INTRODUCTION

Review question / Objective 1. What is the evidence to guide questions and procedures for completing a best possible medication history (BPMH)? 2. What are patient, care partner, and/or health care professional preferences and perceptions relevant to the BPMH interview process?

Background Adverse drug events (ADEs) are leading causes of mortality and morbidity. Errors in prescribing and monitoring, and challenges with medication adherence are major and modifiable causes of ADEs. These issues can be mitigated with a best possible medication history (BPMH), a key component of medication reconciliation and clinical medication reviews. The BPMH involves an interview with the patient and/or designated care partner, and the review of at least one other reliable source to obtain and to verify all prescribed or nonprescribed medications being used by a patient at a given point in time. Nonprescribed medications include over-the-counter medications, natural health products and recreational substances.

Although pharmacist-conducted BPMHs are considered the gold standard, BPMHs can also be conducted by pharmacy technicians, pharmacy trainees, nurses, and other allied health professionals with adequate training. The literature also demonstrates the application of the BPMH in multiple care settings.

The Institute for Safe Medication Practices (ISMP) Canada created a BPMH Interview Guide in 2008 to standardize the BPMH interview. The guide is frequently used to support clinicians, health care organizations and health systems in the implementation of medication reconciliation by incorporating the BPMH into clinical care.

Aim: To perform a scoping review to inform an update of the ISMP Canada Best Possible Medication History Interview Guide with evidence-based questions and procedures.

Rationale Over the past decade, significant changes have occurred in Canadian health care, including the rapid adoption of digital health tools and services, increased diversity in Canadians and their use of traditional medicines or natural health products, cannabis legalization, the SARS-CoV2 pandemic, an ageing population and the opioid epidemic. Consequently, there is a need to update the BPMH interview guide for Canadian patients. A multifaceted initiative was undertaken to update this interview guide, integrating feedback from health care professionals, patients and care partners regarding the previous ISMP Canada BPMH Interview Guide and existing BPMH Interview process.
Objective: As part of this initiative, we will conduct a scoping review of the literature to inform the questions and process of the BPMH interview guide.

METHODS

Strategy of data synthesis Expertise: This scoping review protocol was developed by our team, which includes expertise in pharmacy, geriatric medicine, geriatric psychiatry, clinical pharmacology, systematic and scoping review methodology. The protocol was developed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) extension for Scoping Reviews Checklist. The draft protocol was reviewed by all investigators.
Literature search methods were developed in collaboration with librarians experienced in scoping reviews (Camille Gagnon Dulong and Brendalynn Ens). We will include peer-reviewed quantitative studies (randomized controlled trials, non-randomized and/or observational studies), qualitative studies, systematic reviews, and grey literature (including guidelines, quality improvement initiatives, patient experiences, health technology assessments). We will exclude editorials, opinion pieces, critical appraisals of studies, and letters to the editor which do not present original study data.
Using OVID, we will search Medline (1946 to July 28, 2023), Joanna Briggs Institute Evidence-Based Practice Database (Current to July 26, 2023), Evidence-Based Medicine Reviews which included the following databases:
- Cochrane Database of Systematic Reviews 2005 to July 25, 2023,
- ACP Journal Club 1991 to July 2023,
- Database of Abstracts of Reviews of Effects 1st Quarter 2016, Database Field Guide
- Cochrane Clinical Answers July 2023,
- Cochrane Central Register of Controlled Trials June 2023,
- Cochrane Methodology Register 3rd Quarter 2012,
- Health Technology Assessment 4th Quarter 2016
- NHS Economic Evaluation Database 1st Quarter 2016
Reviewers will also perform relevant reference list searches. Searches will be designed and conducted by a librarian experienced in literature searches and scoping review, using a method designed to optimize term selection.
A targeted approach will be developed in Medline, using intervention-related headings to focus on identifying articles that describe using a standardized approach for:
-the concept of Best Possible Medication History (BPMH), medication history, medication reconciliation, medication discrepancies, medication interview and related terms.
In MEDLINE, filters for Systematic reviews, Meta-analysis, and health technology assessments will be applied.
Records retrieved by the electronic search will be downloaded and imported into an Endnote® database, and then exported in RIS format for import into Covidence® for screening. Records will be reviewed against the inclusion criteria.

Eligibility criteria
The PICOST criteria:
Population (P):
All patient populations in all care settings.
All care settings including: Inpatient, outpatient (clinic), home care, public health, virtual care (e.g., e-consult, telehealth, teleconference,), community, pharmacies, emergent care, long-term care, rehabilitation, primary care, institutional services, correctional services
All populations including: newborn, child (pediatric), youth, adult, elder, seniors, Indigenous Peoples, Metis and Inuit, all cultural groups (e.g., immigrants, refugees), all ages
Intervention (I)
Best Possible Medication History (BPMH): We define a BPMH as a complete and accurate list of all the medications a patient is taking, created using at least 2 sources of information, including a client and/or family interview. We will include studies which consider a BPMH as an intervention or exposure, either explicitly or implicitly, as long they meet the criteria outline above.
Synonyms for BPMH included “comprehensive medication list, accurate medication list, optimal medication history, incomplete medication history.”

To account for variability in nomenclature, we will include articles that describe "medication history", "medication reconciliation", "medication discrepancies" or "medication review" with a focus on the questions or procedures used to collect a medication history for the review. Due to feasibility constraints, studies involving medication reviews without any reference to the medication history process/procedure/tool will be excluded.

Comparison (C)
We will include all comparators however we will also include studies which did not have a comparison group.

Outcomes (O)
The main outcome of the search will be questions or procedural details used when conducting a BPMH. In order to capture studies which conducted a BPMH and provided those details in their methods or protocols, we will include studies with the following outcomes: Medication discrepancies, safety, transitions of care, time to admission, erroneous documentation, re-admission due to medication discrepancy, adherence/compliance and patient/client/caregiver/care partner reported measures.

Timing (T)
Our search encompasses the period between January 1, 2018 and July 23, 2023. We will include studies from outside that period if they included BPMH questions or procedural details which were subsequently used and referenced. We chose the five-year period due to feasibility.

Source of evidence screening and selection Using the online literature review platform Covidence®, we will conduct a pilot test of eligibility criteria using a random sample of 20 citations, which will be screened by all reviewers. Once a kappa statistic of ≥60% agreement between reviewers is reached, screening for title and abstracts followed by full text will commence. Two reviewers will independently screen the literature search results at citation (titles and abstracts) and full text article levels using the Covidence tool. Conflicts will be resolved by discussion between the reviewers or with a third reviewer, if necessary.
We will include papers with BPMH questions or procedural details. Papers that do not contain BPMH questions or procedural details but have relevant outcomes for BPMH as an intervention or exposure may provide context for the interview guide but will not be included for data extraction. We will include referenced protocols, manuals, reports or supplementary materials with BPMH questions or procedural details.

Data management Data extraction will be performed independently by two reviewers. A data abstraction form will be created and then piloted by both reviewers on a random sample of 5 articles. Following a pilot test to ensure interrater agreement of >60%, data extraction will be performed in duplicate for 30% of the included papers. Discrepancies will be resolved through discussion reviewers. Multiple articles of the same study will be linked.
1. BPMH questions/procedure (research question 1):
a. Study ID
b. Title
c. Author
d. Country
e. Year
f. Sample size
g. Questions (check box and full text)
i. Prescription
ii. Nonprescription
iii. Natural health products (vitamins, minerals, herbals, alternative medicines, homeopathic, dietary supplements)
iv. Alcohol
v. Smoking
vi. Cannabis
vii. Caffeine
viii. Other substances
ix. Allergies
x. Other
h. Procedure (check box and full text)
i. Patient or care partner input (check box)
1. synchronous (check box)
a. in person
b. telecommunications (phone, video)
c. other (free text)
2. asynchronous (check box)
a. text/chat
b. online platform/survey (include user interface, app, EMR)
c. other (free text e.g. picture with AI))
ii. Pharmacy records (check box and free text for how they pulled, estimated use)
iii. Provincial database prescription fill records (check box and free text for how they pulled, estimated use, time period to estimate use)
iv. Prescriber records (consult note, d/c summary, EMR)
v. Other
i. Setting of patient (check box and full text)
i. Primary care
ii. Outpatient specialist
iii. Acute
iv. Long-term care

v. Rehabilitation
vi. Home-based care/outreach
vii. Virtual
j. Consent (full text)
k. Performed by:
i. Pharmacy
ii. Pharmacy technician
iii. Nursing
iv. Physician
v. Allied health
vi. Trainee (include full text for type of trainee)
vii. Other (full text)
l. Manual
i. Organization (full text)
ii. Link (full text)
m. Study type
i. Clinical practice guidelines.

Reporting results / Analysis of the evidence We will track the article screening process using Covidence. We will describe the following characteristics of each included study: country, year of publication, sample size, study type, clinical setting. Using the existing ISMP Canada BPMH interview guide from 2008 as a reference, we will identify questions or procedural elements which are not present in the existing guide.

Presentation of the results We will present the process of article inclusion and exclusion in a PRISMA flow diagram. The study characteristics will be summarized in a table with frequencies and proportions, and the BPMH questions and procedures from the included articles will be summarized.

Language restriction Due to feasibility, we will exclude non-English studies.

Country(ies) involved Canada.

Other relevant information There is a need to update the BPMH interview guide for Canadian patients. A multifaceted initiative to update this interview guide will be undertaken. In addition to this scoping review, we will also collect feedback about the previous ISMP Canada BPMH Interview Guide and existing BPMH Interview process from health care professionals, patients, care partners.

Keywords Best Possible Medication History, medication reconciliation.

Dissemination plans Results from this scoping review will be shared through two virtual facilitated roundtables attended by health care providers, patients, and care partners, peer-reviewed publication and conference presentation. The Institute for Safe Medication Practices Canada (ISMP Canada) will also support dissemination of findings. ISMP Canada is an independent not-for-profit national organization dedicated to the advancement of medication safety. ISMP Canada publishes national newsletters, and hosts webinars and forums as knowledge dissemination vehicles.

Contributions of each author

Author 1 - Joanne Ho - Author 1 was involved with scoping review design, literature search, protocol, screening, data extraction. Author 1 will be involved with data analysis, manuscript preparation; Author 1 will also contribute expertise in clinical pharmacology and geriatric medicine, drug safety, virtual care of older adults, interdisciplinary geriatric models of care.
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Author 2 - Jennifer Tung - Author 2 was involved with the following: scoping review design, literature search, protocol, screening, data extraction. Author 2 will be involved with data analysis, manuscript preparation; Author 2 will also contribute expertise in clinical pharmacy, virtual and acute care of older adults.
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Author 3 - Alice Watt - Author 3 was involved with the following: scoping review design, protocol, literature search, screening, data extraction. Author 3 will be involved with data analysis, manuscript preparation; Author 3 will also contribute expertise in pharmacy and the best possible medication history, knowledge translation and dissemination.
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Author 4 - Tony Antoniou - Author 4 was involved with the following: scoping review design, protocol, screening, data extraction. Author 4 will be involved with data analysis, manuscript preparation; Author 4 will also contribute expertise in pharmacy, drug safety, systematic and scoping review methodology, thematic analysis, pharmacoepidemiology.
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Author 5 - Danielle Yantha - Author 5 was involved with the following: scoping review design, protocol, screening. Author 5 will be involved with data analysis, manuscript preparation; Author 5 will also contribute expertise in nursing, mental health, health administration.
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Author 6 - Carolyn Hoffman - Author 6 was involved with the following: scoping review design, protocol, screening. Author 6 will be involved with data analysis, manuscript preparation; Author 6 will also contribute expertise in nursing, the best possible medication history, knowledge translation and dissemination, health administration.
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Author 7 - David Golding - Author 7 was involved with the following: scoping review design, protocol. Author 7 will be involved with data analysis, manuscript preparation; Author 7 will also contribute expertise in health care research and qualitative research methodology.
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Author 8 - Sylvia Hyland - Author 8 was involved with the following: scoping review design, literature search, protocol. Author 8 will be involved with manuscript preparation; Author 8 will also contribute expertise in health care research in pharmacy, drug safety research, patient safety.
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Author 9 - Camille Dulong - Author 9 was involved with the following: scoping review design, literature search. Author 9 will be involved in data analysis. Author 9 also contributes expertise in library science and literature review methodology in drug safety.
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Author 10 - Sophiya Benjamin - Author 10 was involved with the following: scoping review design, protocol, screening, data extraction. Author 10 will be involved in data analysis, manuscript preparation. Author 9 also contributes expertise in geriatric psychiatry, systematic review methodology, virtual care of older adults.
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