

Online Supplementary 1: Step-by-Step Process of Formulating a Search Strategy

This supplementary addresses how we formulated a search strategy for the database CINAHL.

These are the initial search terms we used for the three conceptual domains of our search: outreach, population, and context. These terms were generated based on the insights of our practice experts.

Conceptual domain	Initial search term used
Outreach	“outreach”
Population: Hard to reach and hidden	“hidden”; “hard to reach”; “homeless”; “vulnerable”; “marginalized”; “underserved”; “inequity”; “migrant”; “refugee”; “immigrant”
Context: Health and social issues	“sexual health”; “sexually transmitted infections”; “HIV”; “Hepatitis C”; “blood-borne infections”; “alcohol use”; “drug use”; “harm reduction”; “mental health”; “reproductive health”; “housing”; “violence”; “dental health”; “employment”; “social”; “income”; “legal”

Determining indexed terms and keywords for each conceptual domain:

To address the conceptual domain of “outreach,” the initial search term (“outreach”) was inputted into CINAHL to generate corresponding indexed terms.

Searching: [CINAHL Complete](#) | [Choose Databases](#)

Suggest Subject Terms

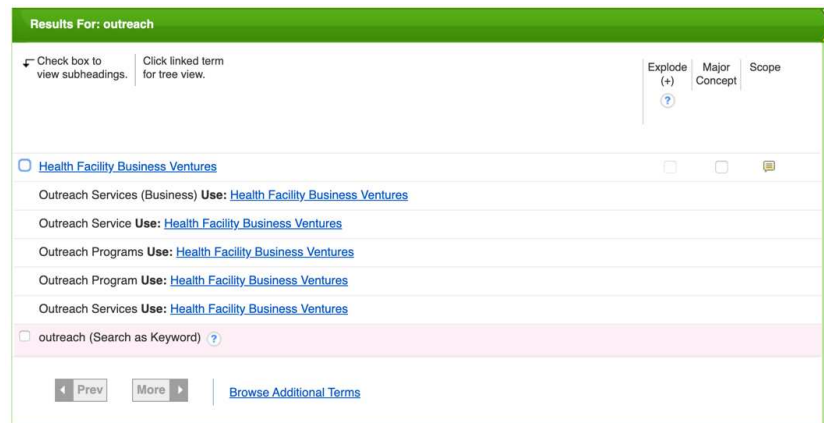
outreach Select a Field (optional) ▾ Search

AND ▾ Select a Field (optional) ▾ Clear ?

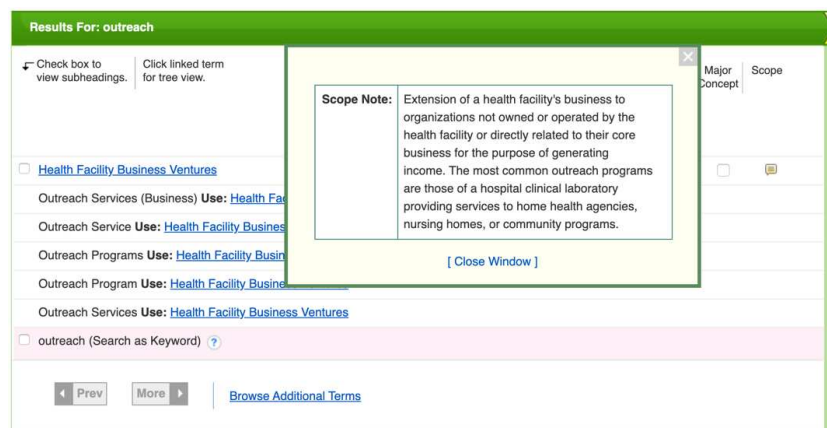
AND ▾ Select a Field (optional) ▾ + -

[Basic Search](#) [Advanced Search](#) [Search History](#)

In this case, one indexed term was generated, which was “health facility business ventures.”



We examined the scope note that corresponded to the indexed term “health facility business ventures.”



We determined that this indexed term was relevant for the purposes of our search.

We then included the indexed term “health facility business ventures” and the initial search term “outreach” (as a keyword) in our search strategy to address the conceptual domain of “outreach.”

To address the conceptual domain of “population,” a similar process was used, where each of the initial search terms (“hidden”; “hard to reach”; “homeless”; “vulnerable”; “marginalized”; “underserved”; “inequity”; “migrant”; “refugee”; “immigrant”) was inputted into CINAHL to generate corresponding indexed terms.

The relevancy of each indexed term was determined by reviewing its corresponding scope note. We then included the relevant indexed terms and the initial search terms (as keywords) in our search strategy to address the conceptual domain of “population.”

For the conceptual domain of “population,” we brainstormed variations on the initial search terms and also included these variations as keywords in the search strategy (e.g., for the initial

search term “underserved,” in addition to including “underserved population” as a keyword, we also included “under served population” and “under-served population” as keywords.

To address the conceptual domain of “context,” each of the initial search terms “sexual health”; “sexually transmitted infections”; “HIV”; “Hepatitis C”; “blood-borne infections”; “alcohol use”; “drug use”; “harm reduction”; “mental health”; “reproductive health”; “housing”; “violence”; “dental health”; “employment”; “social”; “income”; “legal”) was inputted into CINAHL to generate corresponding indexed terms.

Again, after determining relevant indexed terms for each of these initial search terms, we included the relevant indexed terms and the initial search terms (as keywords) in our search strategy to address the conceptual domain of “context.”

For the conceptual domain of “context,” we also brainstormed variations on the initial search terms and included these variations as keywords in the search strategy (e.g., for the initial search term “harm reduction,” in addition to including “harm reduction” as a keyword, we also included “harm minimization” and “risk reduction” as keywords).

For all conceptual domains, we added a “+” to each indexed term to use the “explode” function, which allows us to capture any articles that are indexed under sub-terms of the original subject term (e.g., the subject term “sexually transmitted diseases” was exploded to capture all articles indexed under “chlamydia,” “gonorrhea,” etc.).

We also used the truncation symbol * on keywords that may have variations (e.g., we used the keyword “substance us*” to capture both “substance use” and “substance using”) without having to type each variation into the search.

Formulating a search phrase for each conceptual domain:

For each conceptual domain, we combined the relevant indexed terms and the initial search terms using the Boolean operator “OR” to generate a search phrase. We will search each indexed term as an *exact subject heading* and each initial search term as a *keyword*.

For example, for the conceptual domain “outreach,” we generated the search phrase: [(health facility business ventures+) as an *exact subject heading*] OR [(outreach) as a *keyword*]

Formulating the overall search strategy:

We first conduct a search combining the search phrases for each of the conceptual domains using the Boolean operator “AND”:

(search phrase for the conceptual domain “outreach”) AND (search phrase for the conceptual domain “population”) AND (search phrase for the conceptual domain “context”)

We then conduct a search combining the search phrases for only the “outreach” and “population” conceptual domains using the Boolean operator “AND”:

(search phrase for the conceptual domain “outreach”) AND (search phrase for the conceptual domain “population”)

Lastly, we conduct a search combining the search phrases for only the “outreach” and “context” conceptual domains using the Boolean operator “AND”:

(search phrase for the conceptual domain “outreach”) AND (search phrase for the conceptual domain “context”)

Results from the three searches will be merged and duplicates will be removed.

This process was designed to ensure that the outreach domain is always accounted for. For example, we are not interested in the overlap between only the “population” and “context” conceptual domains.

Online Supplementary 2: Precise Search Strategy for One Database

The following is the search strategy we used for the database CINAHL including our limiters.

Search line number	Conceptual term of interest	Search algorithm
S1	Outreach	MH Health Facility Business Ventures+ OR Outreach
S2	Sexual health	MH Sexual Health+ OR Sexual Health
S3	Sexually transmitted infections	MH Sexually Transmitted Diseases+ OR Sexually Transmitted Disease* OR Sexually Transmitted Infection* OR STD* OR STI* OR Sexually Transmitted Blood Borne Infection* OR STBBI*
S4	HIV	MH Human Immunodeficiency Virus+ OR Human Immunodeficiency Virus OR HIV
S5	Hepatitis C	MH Hepatitis C+ OR Hepatitis C OR HCV
S6	Blood-borne infections	MH Bloodborne Pathogens+ OR Bloodborne Pathogen* OR Blood-borne Pathogen* OR Bloodborne Infection* OR Blood-borne Infection*
S7	Alcohol use	MH Alcohol Drinking+ OR Alcohol Use Disorder* OR Alcohol-Related Disorder* OR Alcohol Drinking OR Alcohol Us* OR Alcohol Abus* OR Alcoholi*
S8	Drug use	MH Substance Use Disorders+ OR Substance Use Disorder* OR Substance Us* OR Drug Us* OR Drug Abus* OR Addiction* OR Drug Depend* OR Substance-Related Disorder* OR Substance Abus*
S9	Harm reduction	MH Harm Reduction+ OR Harm Reduction OR Harm Minimization OR Risk Reduction
S10	Mental health	MH Mental Health+ OR MH Community Mental Health Services+ OR Mental Health OR Psychiatr*
S11	Reproductive health	MH Reproductive Health+ OR Reproductive Health
S12	Housing	MH Housing+ OR MH Public Housing+ OR MH Halfway House+ OR Housing OR Public Housing OR Halfway House* OR Social Housing OR Supportive Housing OR Shelter OR Single-Room Occupancy OR Single Room Occupancy OR SRO OR Rooming House
S13	Violence	MH Violence+ OR MH Exposure to Violence+ OR MH Domestic Violence+ OR MH Community Violence+ OR MH Gender-Based Violence+ OR MH Intimate Partner Violence+ OR MH Dating Violence+ OR Violence OR Domestic Violence OR Intimate Partner Violence OR Spousal Violence OR Dating Violence OR Gender-Based Violence OR Ethnic Violence OR Community Violence

		OR Battered Female* OR Exposure to Violence OR Physical Abuse
S14	Dental health	MH Dental Health Services+ OR Dental Health OR Oral Health
S15	Employment	MH Employment+ OR MH Employment of Women+ OR MH Employment, Supported+ OR MH Employment Assistance Programs+ OR Employ* OR Supported Employment OR Employment Support OR Vocation* Support
S16	Social	MH Social Welfare+ OR MH Economic and Social Security+ OR MH Social Work+ OR MH Social Work Service+ OR MH Social Service Assessment+ OR Social Welfare OR Welfare OR Social Security OR Social Service* OR Social Work Service* OR Social Work* OR Support Work*
S17	Income	MH Economic and Social Security+ OR MH Poverty+ OR Economic Security OR Social Assistance OR Income Assistance OR Person* with Disability OR PWD OR Employment Assistance OR Employment Insurance OR Poverty OR Impoverish*
S18	Legal	MH Police+ OR MH Criminal Justice+ OR MH Patient Advocacy+ OR Police OR Law Enforcement OR Criminal Justice OR Legal Service* OR Legal Aid OR Legal Advoca*
S19		S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18
S20	Hidden population	MH Special populations+ OR MH Indigenous peoples+ OR Hidden population*
S21	Hard-to-reach population	MH Health Services Accessibility+ OR Hard-to-reach population* OR Hard to reach population*
S22	Homeless	MH Homeless persons+ OR MH Homelessness+ OR Homeless
S23	Vulnerable population	MH Special populations+ OR MH Vulnerability+ OR MH Safety-net providers+ OR Vulnerable population*
S24	Marginalized population	MH Special populations+ OR MH Indigenous peoples+ OR Marginalized population*
S25	Underserved population	MH Medically underserved+ OR Underserved population* OR Under served population* OR Under-served population*
S26	Inequity	MH Healthcare disparities+ OR Inequit*
S27	Migrant Refugee Immigrant	MH Transients and Migrants+ OR MH Refugees+ OR MH Immigrants+ OR MH Immigrants, Illegal+ OR Migrant* OR Transient* OR Refugee* OR Immigrant* OR Newcomer*

S28		S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27
S29		S1 AND S19 AND S28
S30		S1 AND S19 NOT S28
S31		S1 AND S28 NOT S19
S32		S29 OR S30 OR S31

Our limiters for all searches
1. English language
2. 1/1/2008 to 04/30/2020
3. Peer-reviewed only

Online Supplementary 3: Joanna Briggs Institute (JBI) Critical Appraisal Tools

The Joanna Briggs Institute (JBI) Critical Appraisal Tools are an effective and efficient means of determining the quality of references across multiple reviewers. The checklists are organized according to study type with tailored questions of relevance particular to each type. For example, the “Checklist for Case Control Studies” asks “Were cases and controls matched appropriately?” while the “Checklist for Cohort Studies” asks “Were the exposures measures similarly to assign people to both exposed and unexposed groups?” These curated checklists enable the reviewers to appraise the articles across different study types in a critical and rigorous manner.

We have included an example of a Checklist below that we anticipate using in our review of the literature. Given the nature of the JBI Critical Appraisal Tools, the specific checklists we use will depend on the type of studies we encounter in the literature.

Example 1. Checklist for Qualitative Research, available at https://joannabriggs.org/sites/default/files/2019-05/JBI_Critical_Appraisal-Checklist_for_Qualitative_Research2017_0.pdf



JBI Critical Appraisal Checklist for Qualitative Research

Reviewer _____ Date _____

Author _____ Year _____ Record Number _____

	Yes	No	Unclear	Not applicable
1. Is there congruity between the stated philosophical perspective and the research methodology?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is there congruity between the research methodology and the research question or objectives?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Is there congruity between the research methodology and the methods used to collect data?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Is there congruity between the research methodology and the representation and analysis of data?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is there congruity between the research methodology and the interpretation of results?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Is there a statement locating the researcher culturally or theoretically?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Is the influence of the researcher on the research, and vice-versa, addressed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Are participants, and their voices, adequately represented?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Overall appraisal: Include Exclude Seek further info

Comments (Including reason for exclusion)
