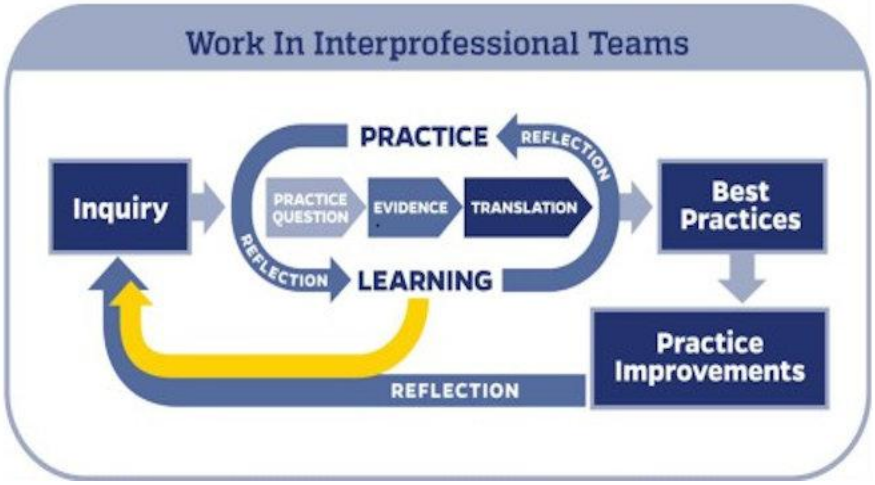
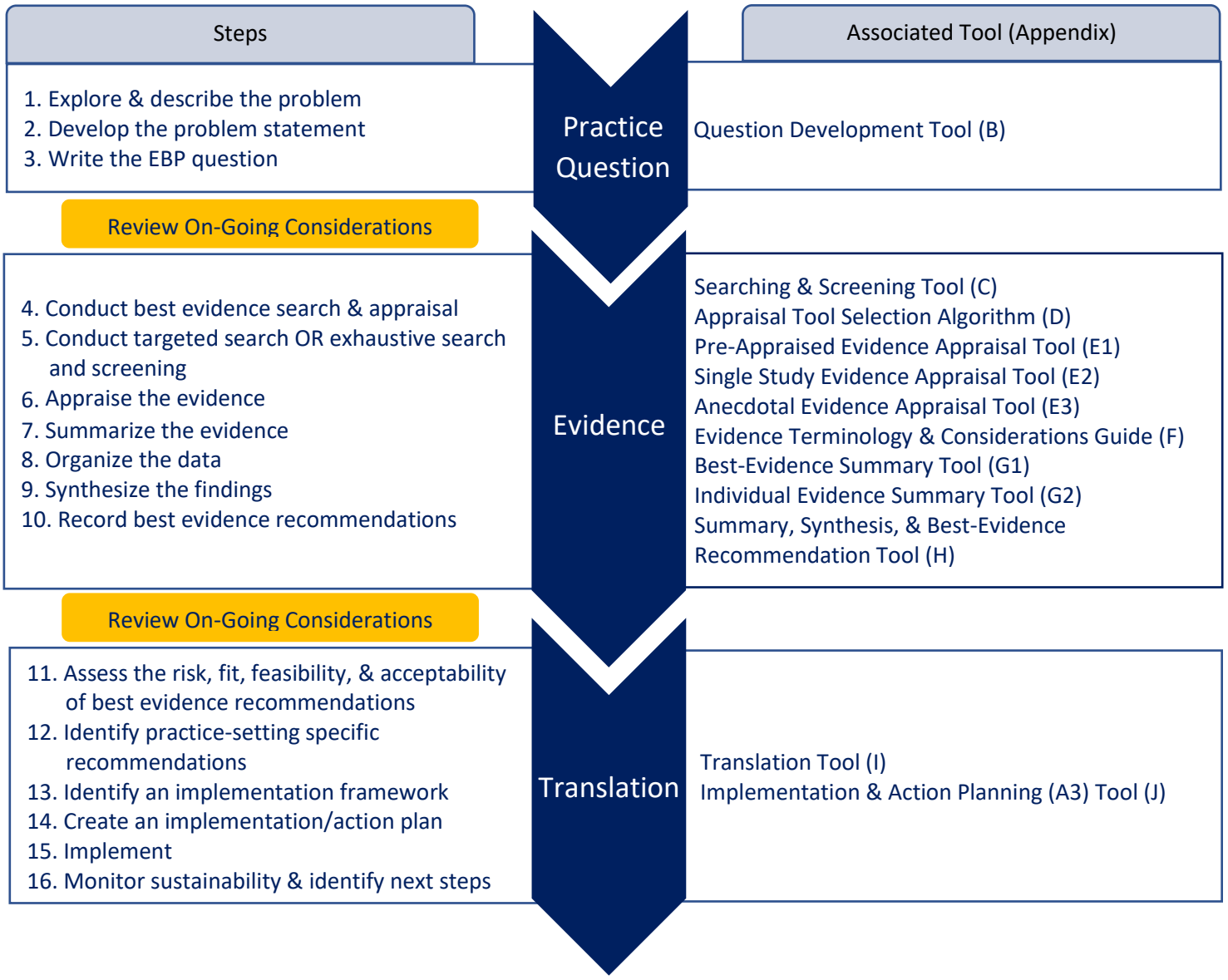
Johns Hopkins EBP Model



Appendix A
EBP Project Steps and Overview

Purpose: This appendix outlines the steps in the PET process and factors the team should consider throughout the project. The tools to facilitate the steps are listed according to the process phase. Additionally, the decision tree guides teams in determining if an EBP project is the correct path and what kind of evidence search is required.



On-Going Considerations

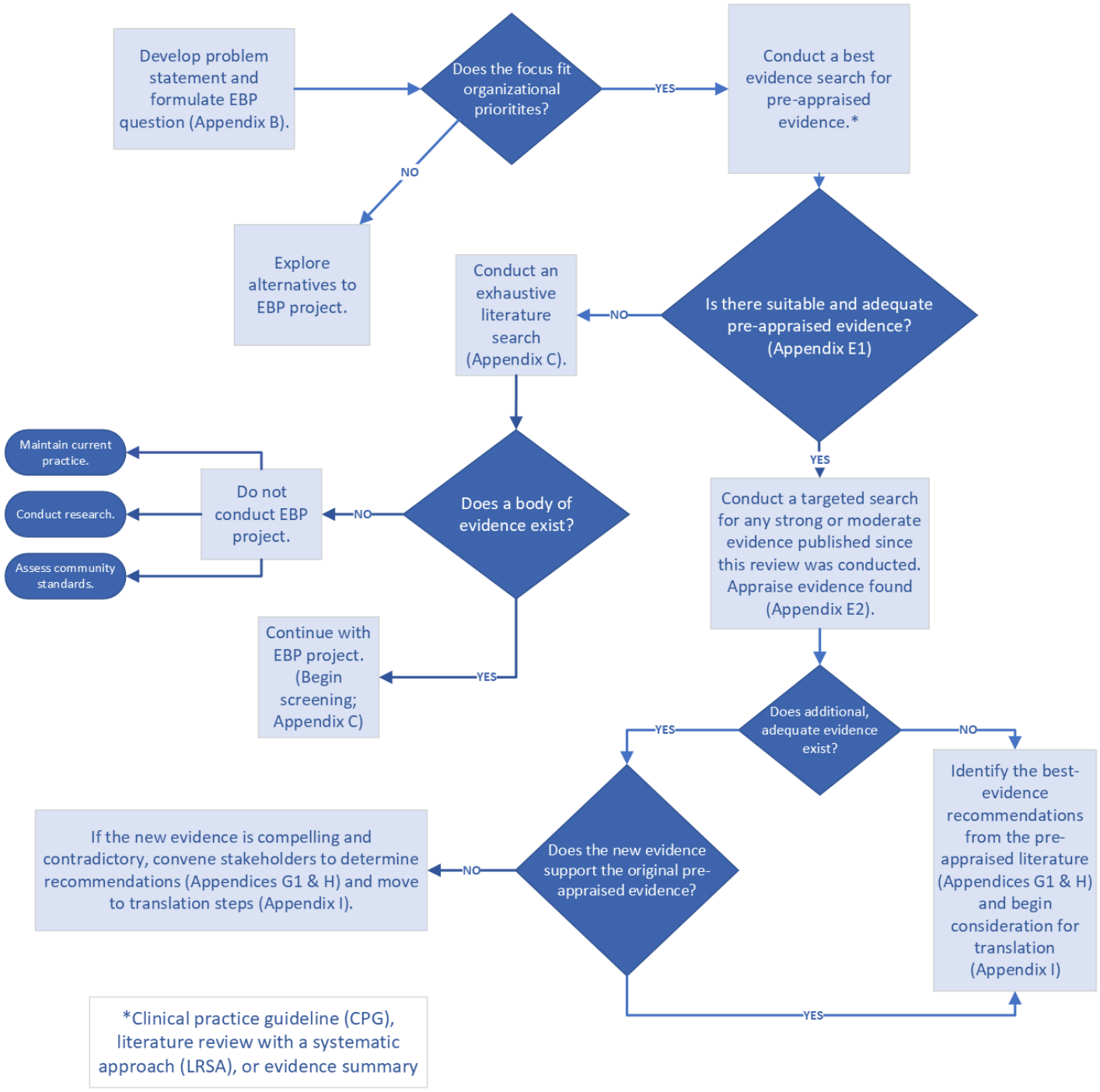
>Maintain project plan, including timeline & responsibilities

>Ensure appropriate team & impacted groups are involved

>Monitor project alignment with organizational priorities

>Communicate & disseminate

Evidence Phase Decision Tree:



Appendix B
Question Development Tool

Purpose: This form guides the EBP team in developing an answerable EBP question. It is meant to be fluid and dynamic as the team engages in the question development process. As the team becomes familiar with the evidence base for the topic of interest, they revisit, revise, and refine the question, search terms, search strategy, and sources of evidence.

**If viewing this online, hover over bold text for more information*

What is the local problem? *(the response can be a bulleted list or phrases)*
Enter text
Why is this problem important and relevant? What would happen if it was not addressed?
Enter text
What is the current practice in the EBP team's setting?
Enter text
What data from the EBP team's setting indicates there is a problem?
Enter text
Considering all of the information above, create a concise problem statement below.
Enter text.
Will this be a broad or intervention EBP question?
☐ **Broad** ☐ **Intervention**

Identify the relevant elements of the EBP question *(some items may not be used)*	
Population	Enter text
Setting	Enter text
Topic (for broad questions) or **Intervention**(s) (for intervention questions)	Enter text
Outcomes (as needed)	Enter text

Use the information above, and the sentence templates below, to construct the EBP question.

For Broad EBP Questions:

In/among Enter population and /or setting what are best practices/strategies/interventions for/regarding Enter topic ?

For Intervention EBP Questions:

According to the evidence, in/among Enter population and /or setting, what is the impact of Enter intervention* on Enter outcome?

**if comparing more than one intervention, provide the interventions, separated with the phrase "as compared to".*

Record the completed EBP question below.

Enter text

If needed after a preliminary evidence search/review, record an updated or revised EBP question here.

Enter text

Instructions for the Question Development Tool

What is the local problem? *(The response can be a bulleted list or phrases)*
Describe the topic or problem that needs to be addressed in the team's local setting. This can be a quick and informal report of what is happening or the results of the group's brainstorming session.
Why is this problem important and relevant? What would happen if it was not addressed?
Establish a sense of importance and urgency for a practice problem to help build support for the EBP project and on-board other stakeholders. Emphasize why the problem must be addressed and the potential consequences of not doing so. This is the place to establish your "burning platform" for practice change.
What is the current practice in the EBP team's setting?
Define the current practice in the team's local setting, as it relates to the problem by identifying the gap or performance issue. Think about current unit or departmental policies and procedures as well as adherence to these guidelines. What is commonly considered acceptable among the staff related to their daily practice? Do policy and practice align? What do you see?
What data from the EBP team's setting indicates there is a problem?
Confirm the problem with concrete, rather than anecdotal, information from the team's specific setting. Concrete information exists in the form of staff or patient safety concerns, data demonstrating unsatisfactory process or outcome measures on the unit level, financial reports, identification of the lack of evidence for current organizational practice, or unsatisfactory quality indicators. Formal information or observations may demonstrate variations within the practice setting or the community. These elements are not mutually exclusive, and the problem may be evidenced in multiple areas. *Consider the following (provide actual data or examples, if available):* • *Safety and risk management concerns* • *Financial information* • *Lack of evidence for current practice* • *Quality indicators* • *Practice observations* • *Other data*
Considering all of the information above, create a concise problem statement below.
Write a short paragraph to capture the problem. It should be succinct (one or two concise sentences) and robust (strongly constructed. Articulating a well-developed problem statement provides a comprehensive understanding of the population of interest (e.g., patients, families, staff, and their characteristics), how they are affected (e.g., morbidity, mortality, satisfaction), and why it matters.
Will this be a broad or intervention EBP question? ☐ **Broad** ☐ **Intervention** *Select if you intend to write a broad or an intervention best practice question. Broad questions are expansive and produce a wide range of evidence to establish best practices when the team has little knowledge, experience, or expertise in the area of interest. Broad questions do not include any interventions or outcomes. Intervention questions are focused and may include a specific comparison of two or more ideas or interventions, as well as an outcome of interest. Intervention questions often flow from an initial broad question and evidence review.*

Identify the relevant elements of the EBP question *(some items may not be used)*	
Population	*Who is the group of interest? What types of patients, clients, healthcare providers, or people? Consider attributes such as age, gender, symptoms, diagnosis, or roles (e.g. pediatric, adult, nurses, pharmacists, post-operative patients, patients with congestive heart failure).*
Setting	*Where does the problem need to be addressed? What are the characteristics of the environment? Consider factors such as general location (e.g. in-patient, out-patient, home-based) and specific care areas (e.g. oncology, peri-operative, surgical, critical care).*
Topic (for broad questions) or **Intervention**(s) (for intervention questions)	*What is the problem or issue? Provide the general topic or the specific intervention(s) under investigation.*
Outcomes (as needed)	*Why is there a problem? What is the metric the team is hoping to address (e.g. fall rates, infection rates, length of stay)?*

Use the information above, and the sentence templates below, to construct the EBP question.

For Broad EBP Questions:

In/among _____ , what are best practices/strategies/interventions for/regarding _____?

(population and/or setting) *(topic)*

For Intervention EBP Questions:

According to the evidence, in/among _____ , what is the impact of _____ on _____?

(population and/or setting) *(intervention*)* *(outcome)*

*if comparing more than one intervention, provide the interventions and separate them with the phrase "as compared to"

Enter the **EBP Question** below.

Write the EBP question. Use the information you identified in the above section to complete the fill-in-the-blank sentence structure. Ensure you are using the correct format, depending on if you are writing a broad or intervention EBP question. You will also need to select if you would like to use the word "in" or among." Additionally, for broad questions, select "practices," "strategies" or "interventions" and "for" or "regarding," depending on that makes the sentence easiest to read.

After a preliminary evidence search/review, a revised EBP question can be developed if necessary.

Often the question that you start with will not be the final EBP question. Needed revisions to the EBP question may not be evident until after the initial evidence review, which may indicate a need to focus or broaden the question, update terminology, and/or consider additional measures of success.

Appendix C
Searching and Screening Tool

Purpose: This tool guides the team through the steps of searching for evidence that answers their EBP question and tracking the process. The team will first look for pre-appraised evidence in a best-evidence search. The results of that investigation will guide the next steps (a targeted or exhaustive search). Recording the evidence identification process creates confidence in the eventual project recommendations by demonstrating a thorough and unbiased approach.

Section I: Key Elements of the EBP Question

Identify the key elements of the EBP question (*from the Question Development Tool*)

Population	Enter text
Setting	Enter text
Topic or Intervention(s)	Enter text
Outcomes (as needed)	Enter text

Section II: Best-Evidence Search

Does pre-appraised evidence exist in the form of clinical practice guidelines (CPGs), literature reviews with a systematic approach (LRSAs), or evidence summaries?

☐ Yes → Appraise using the Pre-Appraised Evidence Appraisal Tool (Appendix E1)
- Is the evidence suitable and adequate quality?
  - ☐ Yes → Complete targeted search for additional evidence based on search date in pre-appraised evidence to determine if relevant evidence has been published in the interim
  - ☐ No → Skip to Section III (exhaustive search)

☐ No → Skip to Section III (Exhaustive Search)

Section III: Exhaustive Search and Screening

Complete the table below using the population, setting, topic, or intervention(s) and outcomes identified in Section I. List the element and associated terms to build a full search concept.

EBP Question Element	Possible Search Terms (*synonyms, alternative spellings, or brand names*)
1)Enter text	Enter text
2) Enter text	Enter text
3)Enter text	Enter text

What databases will you search?

☐CINAHL
☐MEDLINE (PubMed)
☐Embase
☐PsychINFO
☐Epistemonikos
☐Other:

What are the inclusion and exclusion criteria?

Inclusion:Enter text	Exclusion: Enter text

What date limit will you use and why?

Enter text

What is the date the team conducted the search?

Enter date

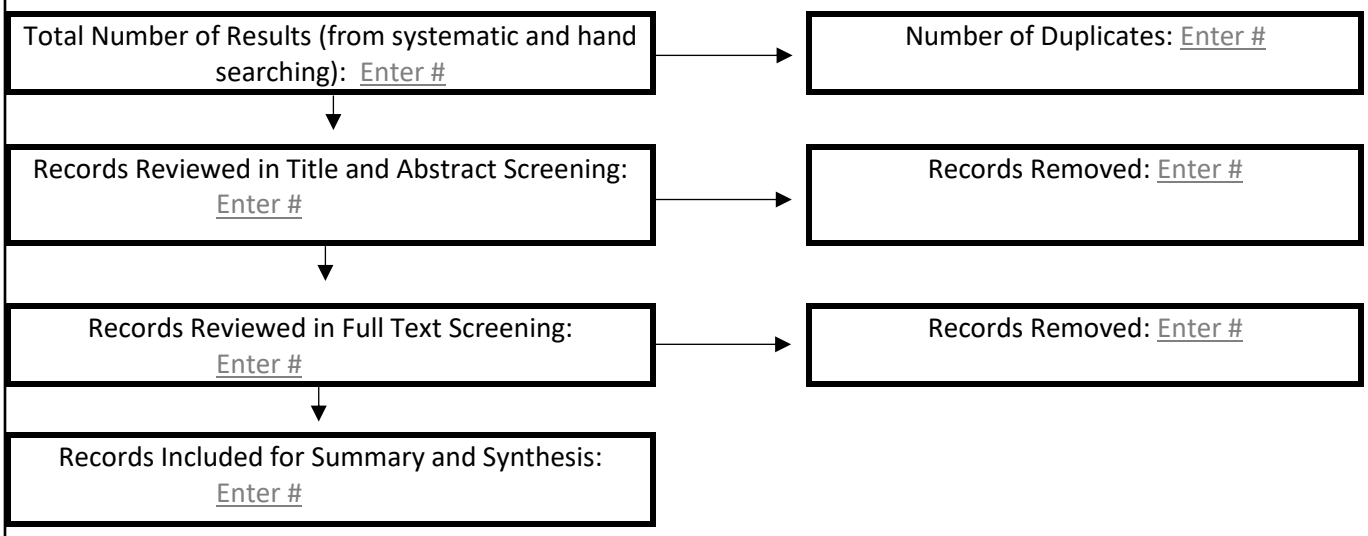
What are the search strings and number of results from each database?

Database	Search String	Number of Results
Enter text	Enter text	Enter text
Enter text	Enter text	Enter text
Enter text	Enter text	Enter text

How will the team systematically screen the results to identify evidence that answers the EBP question and meets the inclusion/exclusion criteria (*select all that apply*)?

☐Use software or web-based program to track (e.g. Google Forms, Excel, Abstrackr)
☐Have at least two independent reviewers for each record
☐Inclusion or exclusion disagreements resolved by third reviewer
☐Other: Enter text

Complete the screening flow chart below



Instructions for the Search and Screening Tool

Section I: Key Elements of the EBP Question

Identify the key elements of the EBP question (from the Question Development Tool)

Population	*Record the details of the population outlined in the EBP question.*
Setting	*If not captured in the population, record any additional details about the setting the EBP question pertains to.*
Topic or Intervention(s)	*Record the topic or intervention the EBP team is interested in investigating. If comparing two interventions, list them both here.*
Outcomes (as needed)	*If needed, list any specific outcomes of interest. Only list outcomes if you intend to make them a part of the literature search.*

Section II: Best-Evidence Search

Does pre-appraised evidence exist in the form of clinical practice guidelines (CPGs), literature reviews with a systematic approach (LRSAs), or evidence summaries?

Some sources of pre-appraised evidence include Cochrane Library, Joanna Briggs Institute (JBI), The National Institute for Health and Care Excellence (NICE), US Preventative Services Taskforce (USPSTF), ECRI Guidelines Trust®, and Trip Database. See Chapter 7 for more information on which type of information to prioritize.

☐ Yes → Appraise using the Pre-Appraised Evidence Appraisal Tool (Appendix E1)

- Is the evidence suitable and adequate quality? *This is determined by a series of questions on the Pre-Appraised Evidence Tool. Complete the appraisal and come back here to answer the question.*
  - ☐ Yes → Complete targeted search for additional evidence based on search date in pre-appraised evidence to determine if relevant evidence has been published in the interim

    Locate the date the search was completed in the pre-appraised evidence. Complete a targeted search to specifically look for evidence that can provide moderate and strong support for decision-making that has been published since the authors completed their search. For a list of possible databases to query, see Section III.

  - ☐ No → Skip to Section III (exhaustive search)

☐ No → Skip to Section III (exhaustive search)

Section III: Exhaustive Search and Screening

Complete the table below using the population, setting, topic, or intervention(s) and outcomes identified in Section I. List the element and associated terms to build a full search concept.

EBP Question Element	Possible Search Terms (*synonyms, alternative spellings, or brand names*)
1) *Write the word or phrase that captures one element of the EBP question from the table in Section I*	*Brainstorm possible synonyms for the concepts, including alternative spellings, brand names, and alternative terms.*
2) *Repeat steps from element 1*	*Repeat steps from element 1.*

3) *Repeat steps from element 1*	*Repeat steps from element 1. You may have more or fewer concepts than the boxes provided here. Remember, team should not search on directional words such as "increase," "improve," etc. because it can bias the search.*

What databases will you search? *Highlight or select each of the databases the team plans to search. If a database is not listed, select "other" and record the name.*

- ☐ CINAHL
- ☐ MEDLINE (PubMed)
- ☐ Embase
- ☐ PsychINFO
- ☐ Epistemonikos
- ☐ Other:

What are the inclusion and exclusion criteria? *While this may be similar to the EBP question, it helps the team think through the details of exactly what they ARE and ARE NOT looking for. These discussions help to ensure the team has a mutual understanding of the focus of project. The group should revisit the list throughout the process to provide further clarifications and refine evidence search results.*

Inclusion:	Exclusion:
Record characteristics of the evidence the team wants to explicitly INCLUDE beyond the elements of the EBP question. They may relate to the type of evidence, the year it was published, or more granular specifics of the setting, population, or interventions.	*Record characteristics of the evidence the team wants to explicitly EXCLUDE. Common characteristics include date of publication, type of publication, language, population, type of setting, or specifics of the intervention.*

What date limit will you use and why?

Record the data limit the team will use for the search and the reason for selecting the parameters. Remember, data cut-offs are topic-dependent and require consideration and justification. Do not simply include the outdated 5-year cut-off without specific reasoning.

What is the date the team conducted the search?

Record the date the official search was run.

What are the search strings and number of results from each database?

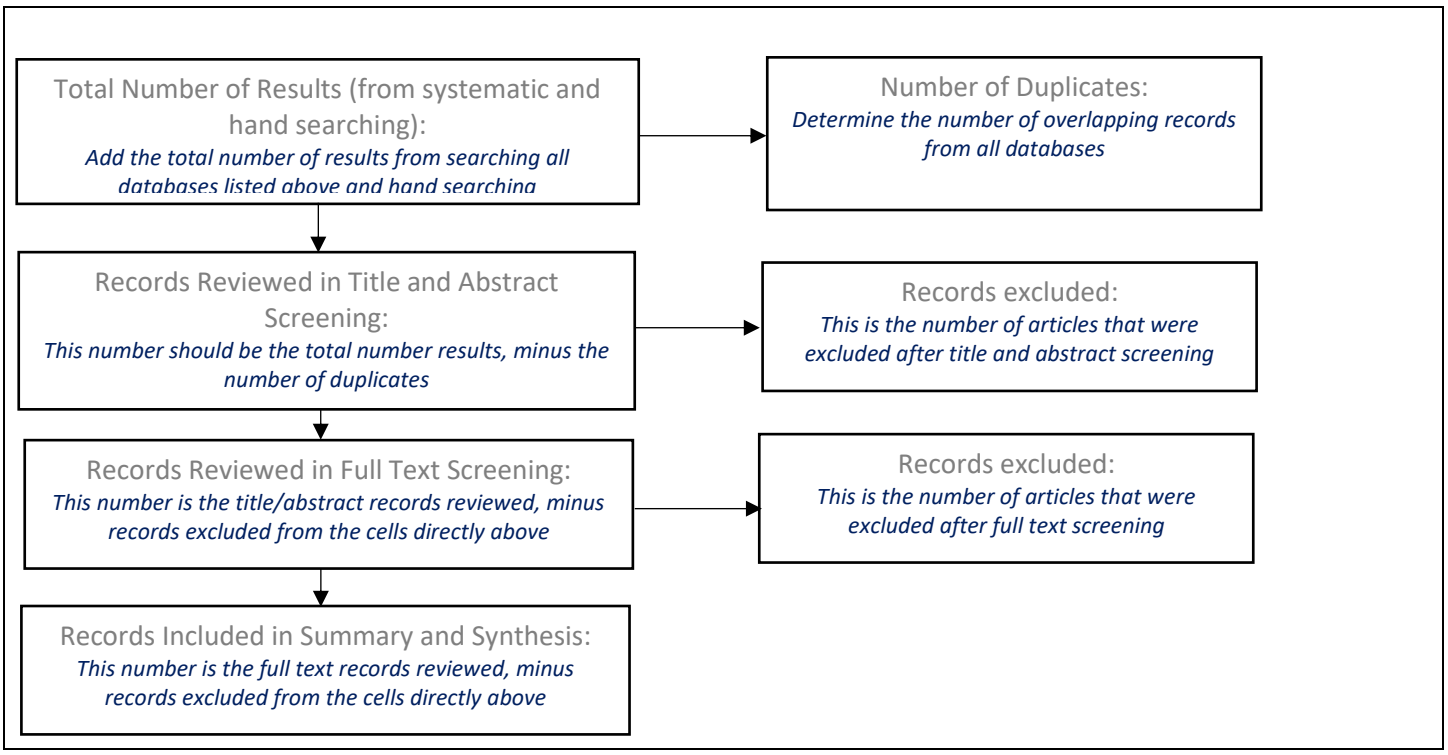
Database	Search String	Number of Results
Record the database searched	*Copy/paste the exact search string entered into the search field of the database.*	*Record the number of results retrieved*
Record the database searched	*Copy/paste the exact search string entered into the search field of the database.*	*Record the number of results retrieved*
Record the database searched	*Copy/paste the exact search string entered into the search field of the database.*	*Record the number of results retrieved*

How will the team systematically screen the results to identify evidence that answers the EBP question and meets the inclusion/exclusion criteria (select all that apply)?

- ☐ Use software or web-based program to track (e.g. Google Forms, Excel, Abstrackr)
- ☐ Have at least two independent reviewers for each record
- ☐ Inclusion or exclusion disagreements resolved by third reviewer
- ☐ Other:

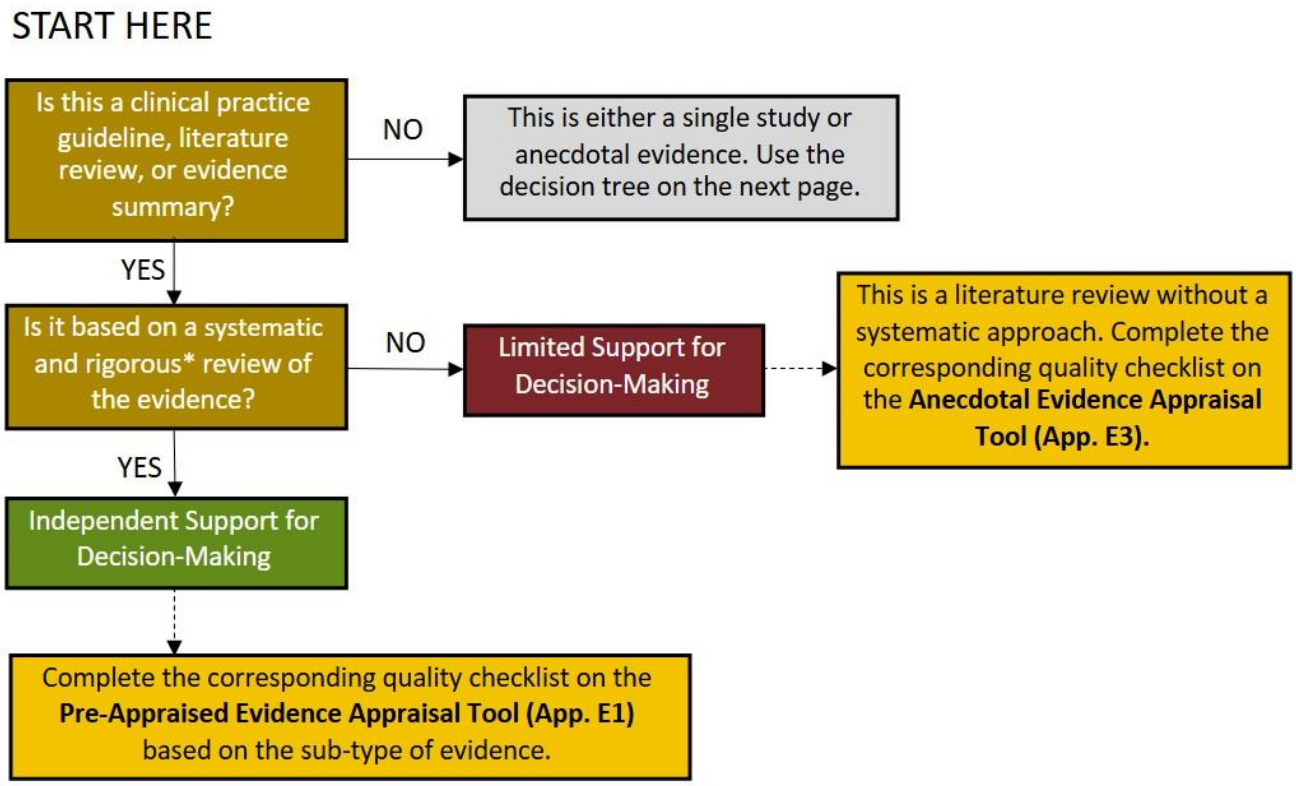
Select the strategy the team will use to screen the results of their literature search. This should represent a systematic and unbiased approach to ensure the final evidence is representative of the true state of the literature on the topic.

Complete the screening flow chart below.



Appendix D

Appraisal Tool Selection Algorithm



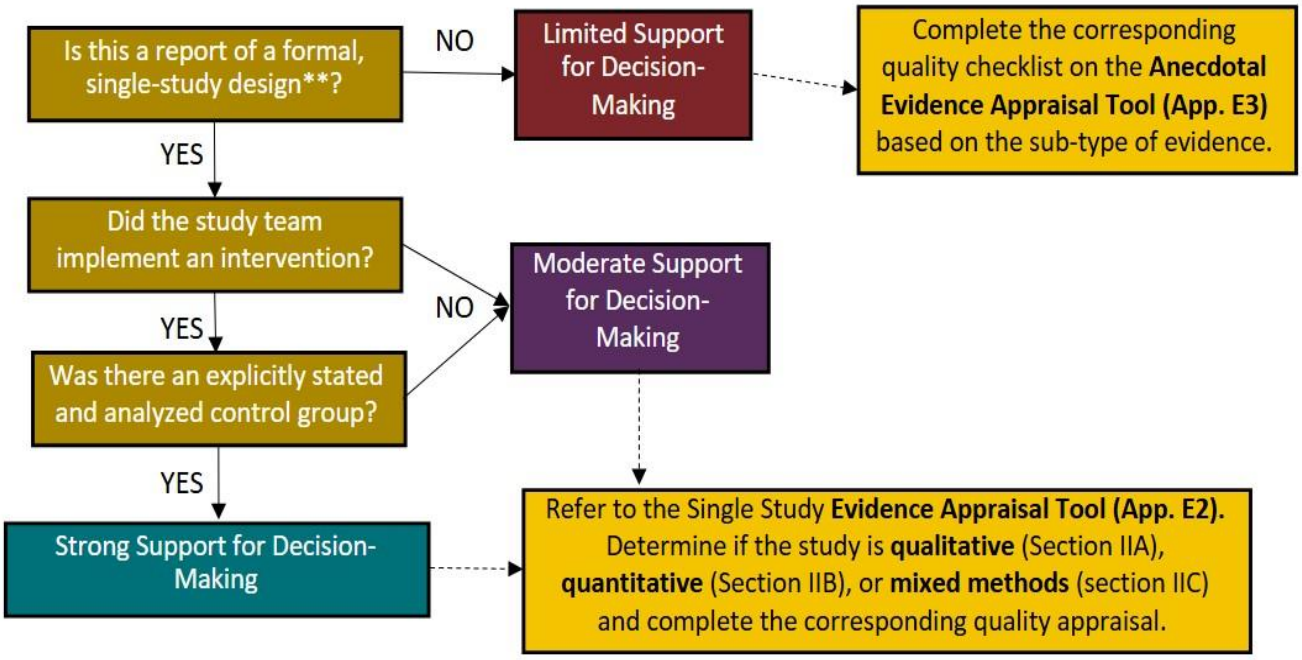
*To be considered systematic and rigorous, a review should include:

- A pre-planned method or protocol
- A question the authors are attempting to answer
- Clear and explicit inclusion and exclusion criteria
- A documented search strategy, including sources and terms
- Use of tables to provide pertinent characteristics of the studies included
- An explicit approach to assess the quality (risk of bias) of included evidence
- Exploration of the data to identify consistencies as well as gaps
- Tables or figures to support the interpretation of data
- Appendices or supplemental files to provide further details

Note: This may not be readily apparent. Teams may need to consult organizational websites and delve deeper into their methods.

Adapted from Booth, 2021

SINGLE STUDY OR ANECDOTAL EVIDENCE DECISION TREE



**Study designs should be explicit and formal. A report is considered to have a formal study design if it meets most of the following criteria:

- Was pre-planned (before investigators initiated intervention or data collection)
- Received ethical review (by the institutional review board)
- Has formal and systematic data collection and data analysis
- Uses specific qualitative and/or quantitative information gathered for the investigation
- The study team is not also a subject of the intervention
- Has a clear aim, reproducible methods, results, and discussion
- Do not only recount the authors' personal, organizational, or literature-based experience.

Appendix E1

Pre-Appraised Evidence Appraisal Tool

Fill in this data collection table after completing the suitability and quality assessments below.						
Article Number	Author, date, title	Type of pre-appraised evidence	Topic or intervention	Population	Setting	Recommendations that answer the EBP question
Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text

*For definitions of terms in **bold print** see **Appendix F: Evidence Terminology and Considerations Guide**

Section I: Suitability

Only complete this section if you are using this evidence as potential independent support for decision-making. **If you gathered this evidence in an exhaustive search, skip to Section II: Quality Appraisal.**

	Yes	No	Unclear	N/A
Is the topic or intervention the same or similar to the topic of interest?	☐	☐	☐	☐
Is the population the same or similar to your population of interest?	☐	☐	☐	☐
Is the setting the same or similar to your setting of interest?	☐	☐	☐	☐
If applicable, are the **outcomes** the same or similar to your **outcomes** of interest?	☐	☐	☐	☐
How recent are the references (*provide date*)?	Enter text			
Are the references recent enough to be reasonably applied to the practice setting (this will depend on the intervention and changing nature of the topic at hand)	☐	☐	☐	☐
Notes:				

*For independent support for decision-making, all responses must be YES. If the topic, population, setting, or outcome is similar, but not the same, include in the notes section the team's rationale for how the provided information can be reasonably compared to the elements in the team's EBP question**. If suitable, complete the corresponding quality assessment below.**

If the evidence is not fully suitable, but it informs the EBP question, complete the appraisal below. If the quality is adequate, this is strong support for decision-making, record the information on Appendix G2: The Individual Evidence Summary Tool.

Section II: Quality Appraisal

Complete the checklist below for the corresponding sub-type of evidence.

Evidence Summary (point-of-care clinical decision support produced by a reputable organization)

	Yes	No	Unclear	N/A
1. Was the summary produced by a reputable organization?	☐	☐	☐	☐
2. Does the organization use a clear, systematic, and comprehensive method for selecting evidence?**	☐	☐	☐	☐
3. Does the organization use a clear, well-established process for evaluating evidence (e.g. rapid review protocol, systematic review)?**	☐	☐	☐	☐
4. Is the **review question** or summary topic clearly stated?	☐	☐	☐	☐
5. Are the details of the included evidence provided (including types of studies, intervention(s), settings, populations, and **grading**)?	☐	☐	☐	☐
6. Is there a direct and obvious link between recommendations and the provided evidence?	☐	☐	☐	☐
7. Are recommendations clear and complete (including a **level of certainty/confidence**)?	☐	☐	☐	☐
8. Does the **level of certainty/confidence** of each of the recommendations align with the evidence used to support them?	☐	☐	☐	☐
9. Did the review undergo an independent peer review?	☐	☐	☐	☐
10. Are funding and **conflicts of interest** addressed?	☐	☐	☐	☐

** This may be directly provided or available on the organization's website

Consider all of your responses above. Do you think the quality of this article is adequate to provide independent support for decision-making?	☐Yes → *Include, complete data collection table on page 1*
	☐ No → *Exclude, set aside, and note exclusion for tracking*

Clinical Practice Guidelines

	Yes	No	Unclear	N/A
1. Is the review group made up of experts who have proven expertise or skills related to the topic?	☐	☐	☐	☐
2. Is the target population of the recommendations clear?	☐	☐	☐	☐
3. Is the process for making the recommendations provided (e.g. evidence review, reaching consensus)?	☐	☐	☐	☐
4. Are recommendations clear and complete (including a level of certainty/confidence)?	☐	☐	☐	☐

	Yes	No	Unclear	N/A
5. Was there an external, peer-review of the guidelines?	☐	☐	☐	☐
6. Does the level of certainty/confidence of each of the recommendations align with the evidence used to support them?	☐	☐	☐	☐
7. Are funding and conflicts of interest addressed?	☐	☐	☐	☐

Complete the below checklist to determine the quality of the literature review used to generate the guidelines.

Literature Reviews with a Systematic Approach (LRSAs)

	Yes	No	Unclear	N/A
Background/Introduction				
1. Is a logical background and rationale for the review explained using **current literature**?	☐	☐	☐	☐
2. Is the **review question** clear?	☐	☐	☐	☐
Methods				
1. Did the review follow a model or guideline (e.g. **PRISMA**, **AMSTAR II**, etc.)?	☐	☐	☐	☐
2. Do the authors clearly state what they are trying to measure or describe?	☐	☐	☐	☐
3. Was the literature **search** thorough and could it be replicated (this includes providing keywords, **inclusion/exclusion criteria**, and at least 2 formal databases searched)?	☐	☐	☐	☐
4. Was there an independent double-check system in the review process (this includes an independent assessment for **eligibility**, critical appraisal, and data extraction by at least 2 reviewers for each article)?	☐	☐	☐	☐
5. Was the quality of each included study formally assessed and listed?	☐	☐	☐	☐
6. Was the risk of introducing **bias** into the literature selection and review process addressed and minimized?	☐	☐	☐	☐
7. If applicable, were **data pooling** (**meta-analysis** or **meta-synthesis**) methods clear and appropriate?	☐	☐	☐	☐
8. In addition to the items above, did the authors answer all of your questions about how they conducted their review [include notes about additional concerns]?	☐	☐	☐	☐
Results				
1. Was there a flow diagram that included the number of studies eliminated at each stage of the review?	☐	☐	☐	☐
2. Were details of included studies provided (e.g. **design**, **sample**, methods, results, outcomes, **limitations**, the strength of evidence)?	☐	☐	☐	☐
3. If applicable, are themes identified?	☐	☐	☐	☐
4. If applicable, are statistics shown clearly?	☐	☐	☐	☐

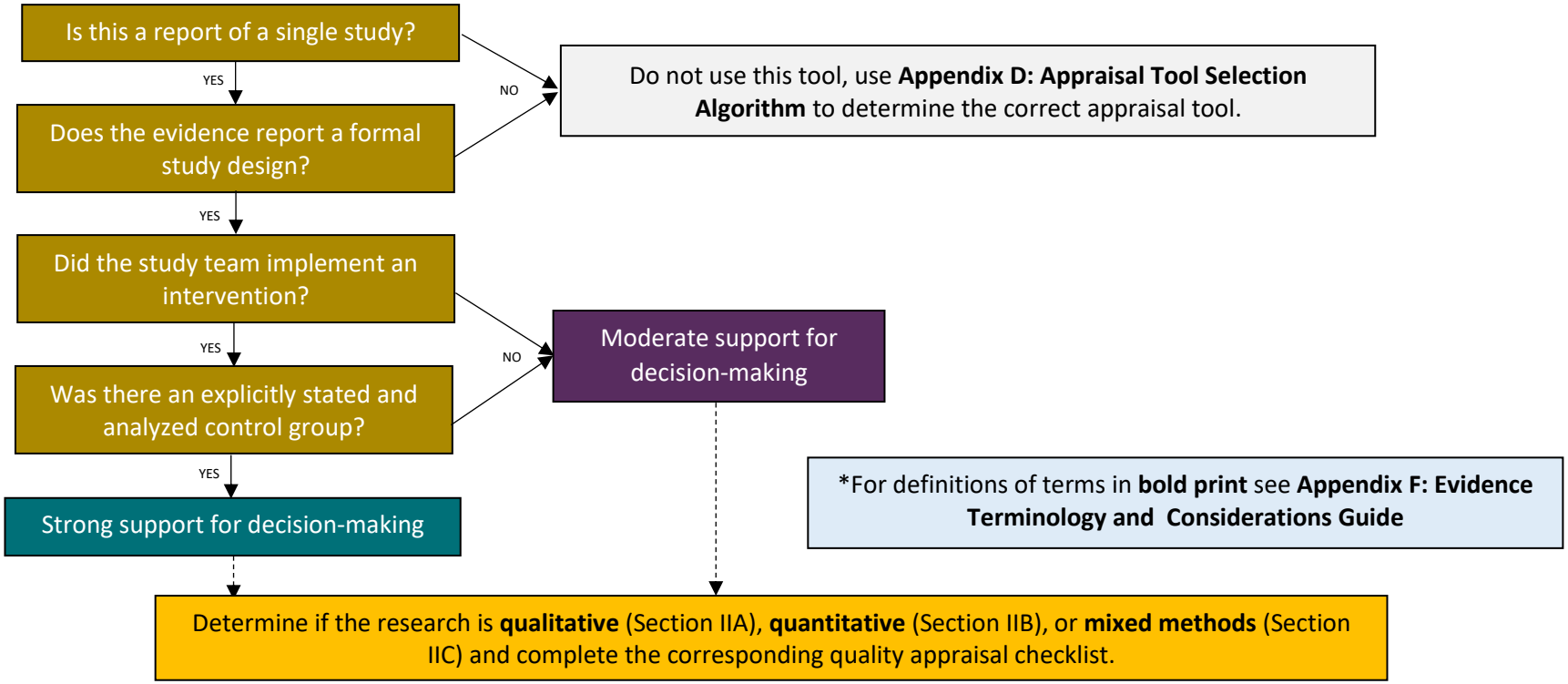
	Yes	No	Unclear	N/A
Discussion				
1. Does the discussion match what is reported in the results section?	☐	☐	☐	☐
2. Do the authors examine what they found and compare it to other literature on the topic?	☐	☐	☐	☐
3. Are **limitations** included with an explanation of how they were handled?	☐	☐	☐	☐
4. Do the authors provide implications of their study for practice and future investigation?	☐	☐	☐	☐
General				
1. Is all the information in the paper congruent (consistent throughout the aims, methods, results, and discussion sections)?	☐	☐	☐	☐
2. Are funding and conflict(s) of interest addressed?	☐	☐	☐	☐
Consider all of your responses above. Do you think the quality of this article is adequate to provide independent support for decision-making?	☐ Yes → *Include, complete data collection table on page 1*			
	☐ No → *Exclude, set aside, and note exclusion for tracking*			

Appendix E2

Single Study Evidence Appraisal Tool

Section I: Level of Support for Practice Change

Complete the decision tree below to determine the level of support for practice change.



Fill in this data collection table after completing the quality assessment below (see Instructions in **Appendix G2: Individual Evidence Summary Tool** for more information)

Article Number	Author, date, title	Type of evidence	Population, size, and setting	Intervention	Findings that help answer the EBP question	Measures used	Limitations	Level of support for decision-making
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text

Section II: Quality Appraisal

Complete the checklist below for the corresponding type of evidence.

Section IIA: Qualitative Evidence

	Yes	No	Unclear	N/A
Introduction/Background				
1. Is a logical background and rationale for the study explained using **current** literature?	☐	☐	☐	☐
2. Is the purpose/objective of the study clear?	☐	☐	☐	☐
Methods				
1. Is the **study design** and guiding theory or model provided with the reason it was chosen?	☐	☐	☐	☐
2. Is the **study setting** clearly described (including location, dates, and other important details) to enhance **transferability**?	☐	☐	☐	☐
3. Is the process for recruiting participants (**sampling**) explained clearly and does it match with the study aim(s)?	☐	☐	☐	☐
4. Do **eligibility** criteria (rules for who can join the study) make sense and are they easy to understand?	☐	☐	☐	☐
5. Is the **sample size** adequate, as shown by reaching data **saturation?**	☐	☐	☐	☐
6. Are important characteristics of the group they studied (**sample)** provided (e.g. how many participants or encounters were involved, demographics, or other details about the participants or things being studied)?	☐	☐	☐	☐
7. Did the authors address **reflexivity** (how their background or experience might have affected the study)?	☐	☐	☐	☐
8. Are the **data collection** methods clear and appropriate (this includes how they gathered and recorded the information)?	☐	☐	☐	☐
9. Are **data processing** methods clear and appropriate (this includes how the data was transcribed and checked) to enhance **credibility**?	☐	☐	☐	☐
10. Are the methods to **analyze** the data well explained (this includes what computer programs they used and how they coded the data to find patterns or themes) to enhance **confirmability**?	☐	☐	☐	☐
11. Are the **intervention**(s) clearly described?	☐	☐	☐	☐
12. Is there information on the **ethical review** provided?	☐	☐	☐	☐
13. In addition to the items above, did the authors answer all of your questions about how they conducted their study [include notes about additional concerns]?	☐	☐	☐	☐
Results/Findings				
1. Do the findings make sense and are they easy to understand?	☐	☐	☐	☐

	Yes	No	Unclear	N/A
2. Are **themes or patterns** identified clearly?	☐	☐	☐	☐
3. Do the authors provide enough quotations, detailed observations, or other proof to support their findings?	☐	☐	☐	☐
Discussion				
1. Does the discussion match what is reported in the results section?	☐	☐	☐	☐
2. Do the authors examine what they found and compare it to other literature on the topic?	☐	☐	☐	☐
3. Are **limitations** included with an explanation of how they were handled?	☐	☐	☐	☐
4. Do the authors provide implications of their study for practice and future investigation?	☐	☐	☐	☐
General				
1. Is all the information in the paper **congruent** (consistent throughout the aims, methods, results, and discussion sections)?	☐	☐	☐	☐
2. Are funding and **conflicts of interest** addressed?	☐	☐	☐	☐
Consider all of your responses above. Do you think the quality of this article is adequate to provide dependable information to answer your EBP question?	☐Yes → *Include, complete data collection table on page 1* ☐No → *Exclude, set aside, and note exclusion for tracking*			
Section IIB: Quantitative Evidence				
	Yes	No	Unclear	N/A
Introduction/Background				
1. Is a logical background and rationale for the study explained using **current** literature?	☐	☐	☐	☐
2. Is the purpose/objective of the study clear?	☐	☐	☐	☐
Methods				
1. Is the **study design** clearly stated?	☐	☐	☐	☐
2. Is the **study setting** clearly described (including location, dates, and other important details) to enhance **generalizability**?	☐	☐	☐	☐
3. Is the process for recruiting participants (**sampling**) explained clearly and does it match with the study aim(s)?	☐	☐	☐	☐
4. Do **eligibility** criteria (rules for who can join the study) make sense and are they easy to understand?	☐	☐	☐	☐
5. Is the **sample size powered** adequately (a calculation or other explanation for how the authors decided how many participants or observations to include)?	☐	☐	☐	☐

	Yes	No	Unclear	N/A
6. Did the authors clearly state what they wanted to measure?	☐	☐	☐	☐
7. Are the **data collection** methods clear and appropriate (this includes how they gathered and recorded the	☐	☐	☐	☐
8. If applicable, were all the tools **reliable**?	☐	☐	☐	☐
a) If applicable, were all the tools **valid**?	☐	☐	☐	☐
b) Are the methods to analyze the data well explained (this includes what computer programs they used, how they made calculations or anything else they did to explore the data)?	☐	☐	☐	☐
9. If applicable, are the intervention(s) clearly described?	☐	☐	☐	☐
10. If there was **randomization,**	☐	☐	☐	☐
11. Was true **randomization** used to put people in the **control** and **intervention** groups?	☐	☐	☐	☐
a) Other than the intervention being studied, were the **intervention** and **control** groups treated similarly?	☐	☐	☐	☐
b) Is there information on the **ethical review** provided?	☐	☐	☐	☐
12. In addition to the items above, did the authors answer all of your questions about how they conducted their study [include notes about additional concerns]?	☐	☐	☐	☐
13. **Results/Findings**	☐	☐	☐	☐
Do the findings make sense and are they easy to understand?				
1. Are characteristics of the participants provided (this may include demographics or other important details about the participants or things being studied)?	☐	☐	☐	☐
2. If applicable, was the survey **response rate** provided?	☐	☐	☐	☐
3. If applicable, are **attrition** rates provided (this includes how many people remained with the study at each stage)?	☐	☐	☐	☐
4. Is data provided for each item the authors stated they wanted to measure?	☐	☐	☐	☐
5. If applicable, are the baseline characteristics of the **intervention** and **control** groups similar?	☐	☐	☐	☐
6. Are any statistics shown clearly?	☐	☐	☐	☐
7.	☐	☐	☐	☐
Discussion				
1. Does the discussion match what is reported in the results section?	☐	☐	☐	☐
2. Do the authors examine what they found and compare it to other literature on the topic?	☐	☐	☐	☐
3. Are **limitations** included with an explanation of how they were handled?	☐	☐	☐	☐
4. Do the authors provide implications of their study for practice and future investigation?	☐	☐	☐	☐

	Yes	No	Unclear	N/A
General				
1. Is all the information in the paper **congruent** (consistent throughout the aims, methods, results, and discussion sections)?	☐	☐	☐	☐
2. Are funding and **conflicts of interest** addressed?	☐	☐	☐	☐
Consider all of your responses above. Do you think the quality of this article is adequate to provide dependable information to answer your EBP question?	☐Yes → *Include, complete data collection table on page 1*			
	☐No → *Exclude, set aside, and note exclusion for tracking*			
Section IIC: Mixed Methods Evidence				
	Yes	No	Unclear	N/A
Background/Introduction				
1. Is a logical background and rationale for the review explained using **current** literature?	☐	☐	☐	☐
2. Is the purpose/objective of the study clear?	☐	☐	☐	☐
Methods				
1. Is the **study design** and mixed methods approach clearly stated with an explanation of why it was chosen?	☐	☐	☐	☐
2. Is the **study setting** clearly described (including location, dates, and other important details) to enhance **generalizability?**	☐	☐	☐	☐
3. Is the process for recruiting participants (**sampling**) explained clearly and does it match with the study aim(s)?	☐	☐	☐	☐
4. Do **eligibility** criteria (rules for who can join the study) make sense and are they easy to understand?	☐	☐	☐	☐
5. Is the **sample size** adequate…	☐	☐	☐	☐
a) For the qualitative portion (this includes evidence of data saturation)?	☐	☐	☐	☐
b) For the quantitative portion (this includes adequate **power,** a calculation, or other explanation for how the authors decided how many participants or observations to include)?	☐	☐	☐	☐
6. Did the authors clearly state what they wanted to measure or describe?	☐	☐	☐	☐
7. Did the authors address **reflexivity** (how their background or experience might have affected the study)?	☐	☐	☐	☐
8. If applicable, are the **intervention**(s) clearly described?	☐	☐	☐	☐
9. Are the **data collection** methods clear and appropriate (this includes how they gathered and recorded the information)?	☐	☐	☐	☐

	Yes	No	Unclear	N/A
a) If applicable, were all the tools **reliable**?	☐	☐	☐	☐
b) If applicable, were all the tools **valid**?	☐	☐	☐	☐
10. In the qualitative section, are data processing methods clear and appropriate (this includes how the data was transcribed and checked) to enhance **credibility**?	☐	☐	☐	☐
11. Are the methods to **analyze** the data well explained…	☐	☐	☐	☐
a) For the qualitative section (this includes coding and generation of themes)?	☐	☐	☐	☐
b) For the quantitative section (this includes what computer programs they used, how they made calculations, or anything else they did to explore the data)?	☐	☐	☐	☐
12. If there was **randomization,**	☐	☐	☐	☐
a) Was true **randomization** used to put people in the **control** and **intervention** groups?	☐	☐	☐	☐
b) Other than the intervention being studied, were the **intervention** and **control** groups treated similarly?	☐	☐	☐	☐
13. Do the authors truly use and integrate both qualitative and quantitative methodologies to collect and analyze data?	☐	☐	☐	☐
14. Is there information on the **ethical review** provided?	☐	☐	☐	☐
15. In addition to the items above, did the authors answer all of your questions about how they conducted their study? [include notes about additional concerns]	☐	☐	☐	☐
Results				
1. Do the **findings** make sense and are they easy to understand?	☐	☐	☐	☐
2. Are characteristics of the participants provided (this may include demographics or other important details about the participants or things being studied)?	☐	☐	☐	☐
3. If applicable, was the survey **response rate** provided?	☐	☐	☐	☐
4. If applicable, are **attrition** rates provided (this includes how many people remained with the study at each stage)?	☐	☐	☐	☐
5. Is data provided for each item the authors stated they wanted to measure or describe?	☐	☐	☐	☐
6. In the qualitative section, do the authors provide enough quotations, detailed observations, or other proof to support their findings?	☐	☐	☐	☐
7. In the quantitative section, are statistics shown clearly?	☐	☐	☐	☐
8. If applicable, are the baseline characteristics of the **intervention** and **control** groups similar?	☐	☐	☐	☐
9. Are any statistics shown clearly?	☐	☐	☐	☐

	Yes	No	Unclear	N/A
Discussion				
1. Does the discussion match what is reported in the results section?	☐	☐	☐	☐
2. Do the authors fully integrate the qualitative and quantitative data to create a deeper understanding?	☐	☐	☐	☐
3. Do the authors examine what they found and compare it to other literature on the topic?	☐	☐	☐	☐
4. Are **limitations** included with an explanation of how they were handled?	☐	☐	☐	☐
5. Do the authors provide implications of their study for practice and future investigation?	☐	☐	☐	☐
General				
1. Is all the information in the paper **congruent** (consistent throughout the aims, methods, results, and discussion sections)?	☐	☐	☐	☐
2. Are funding and **conflicts of interest** addressed?	☐	☐	☐	☐
Consider all of your responses above. Do you think the quality of this article is adequate to provide dependable information to answer your EBP question?	☐Yes → *Include, complete data collection table on page 1*			
	☐No → *Exclude, set aside, and note exclusion for tracking*			

Appendix E3

Anecdotal Evidence Appraisal Tool

Fill in this data collection table after completing the quality assessment below (see Instructions in **Appendix G2: Individual Evidence Summary Tool** for more information).								
Article Number	Author, date, title	Type of evidence	Population, size, and setting	Intervention	Findings that help answer the EBP question	Measures used	Limitations	Level of support for decision-making?
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	*Limited*

*For definitions of terms in **bold print** see **Appendix F: Evidence Terminology and Considerations Guide**

Section I: Quality Appraisal

Complete the checklist below for the corresponding sub-type of evidence. Note, that the headers within each checklist are used for organization and may not match the exact language from the article or report being appraised.

Expert Opinion, Position Statements, and Book Chapters				
	Yes	No	Unclear	N/A
Author(s) expertise				
1. Does the author(s) know about the topic of interest as evidenced by previous publications on the topic, relevant professional or academic **affiliations**, related education/training, or other activities that suggest their **expertise**?	☐	☐	☐	☐
Purpose/objectives				
1. Is the purpose/objective(s) clearly stated?	☐	☐	☐	☐
Reference to evidence				
1. Is there a thorough reference to **current** literature on the topic?	☐	☐	☐	☐
2. Do the author(s) provide meaningful **analysis** (through insights or commentary) of existing evidence on the topic?	☐	☐	☐	☐
Summary/conclusions				
1. Is it clear and logical how the authors reached their conclusion(s)?	☐	☐	☐	☐
2. Are recommendations clear?	☐	☐	☐	☐

	Yes	No	Unclear	N/A
General				
1. Are funding and **conflicts of interest** addressed?	☐	☐	☐	☐
Consider all of your responses above. Do you think the quality of this article is adequate to provide dependable information to answer your EBP question?	☐Yes → *Include, complete data collection table on page 1*			
	☐No → *Exclude, set aside, and note exclusion for tracking*			

Case Report				
	Yes	No	Unclear	N/A
Introduction				
1. Is there a short introduction to the case, including why it is relevant or important?	☐	☐	☐	☐
Patient information				
1. Is patient-level data provided to address the clinical focus of the case study (this can include patient history, clinical findings, diagnosis, or timeline)?	☐	☐	☐	☐
2. Is there a thorough explanation of diagnostic and/or therapeutic intervention(s)?	☐	☐	☐	☐
3. Did the patient or caregiver provide informed consent?	☐	☐	☐	☐
Discussion				
1. Is their meaningful interpretation of the patient information (see above)?	☐	☐	☐	☐
2. Are "lessons learned" clearly stated and based on the provided patient information?	☐	☐	☐	☐
3. Is there an insightful discussion of the case presentation regarding relevant medical literature?	☐	☐	☐	☐
General				
1. Are funding and **conflicts of interest** addressed?	☐	☐	☐	☐
2. Is the information provided in a logical manner that is easy to follow?	☐	☐	☐	☐
Consider all of your responses above. Do you think the quality of this article is adequate to provide dependable information to answer your EBP question?	☐Yes → *Include, complete data collection table on page 1*			
	☐No → *Exclude, set aside, and note exclusion for tracking*			

Programmatic Experiences				
	Yes	No	Unclear	N/A
Introduction	☐	☐	☐	☐
1. Is there a short introduction to the project, including why it is relevant or important?	☐	☐	☐	☐
2. Is the purpose/objective of the project clear?	☐	☐	☐	☐
Project Information				
1. Is there adequate information regarding the context of the project, including the setting and people involved?	☐	☐	☐	☐
2. Is what the project team did (interventions) clearly described?	☐	☐	☐	☐
3. Was a tool, model, or framework used to plan and implement the project?	☐	☐	☐	☐
4. Are the findings or impact of the project provided?	☐	☐	☐	☐
Discussion				
1. Does the author(s) provide insights into the project's successes and areas for improvement?	☐	☐	☐	☐
2. Are "lessons learned" clearly stated?	☐	☐	☐	☐
3. Is the project discussed in the context of **currently** available information on the intervention or problem it was addressing?	☐	☐	☐	☐
General				
1. Are funding and **conflicts of interest** addressed?	☐	☐	☐	☐
2. Are you able to follow what the group did to implement and measure the success of the project?	☐	☐	☐	☐
Consider all of your responses above. Do you think the quality of this article is adequate to provide dependable information to answer your EBP question?	☐Yes → *Include, complete data collection table on page 1* ☐No → *Exclude, set aside, and note exclusion for tracking*			

Reviews with an Unsystematic Approach (e.g. Scoping, Critical, Literature Reviews)				
	Yes	No	Unclear	N/A
Background/Introduction				
1. Is a logical background and rationale for the review explained using current literature?	☐	☐	☐	☐
2. Is the review question clear?	☐	☐	☐	☐
Methods				
1. Did the review follow a model or guideline?	☐	☐	☐	☐
2. Do the authors clearly state what they are trying to measure or describe?	☐	☐	☐	☐
3. Do the authors explain how they selected the articles included in their review?	☐	☐	☐	☐
Results				
1. Are findings from the included articles presented clearly?	☐	☐	☐	☐
Discussion				
1. Does the discussion match what is reported in the results section?	☐	☐	☐	☐
2. Is it clear how the authors arrived at their conclusions?	☐	☐	☐	☐
General				
1. Are funding and **conflicts of interest** addressed?	☐	☐	☐	☐
Consider all of your responses above. Do you think the quality of this article is adequate to provide dependable information to answer your EBP question?	☐Yes → *Include, complete data collection table on page 1* ☐No → *Exclude, set aside, and note exclusion for tracking*			

Appendix F

Evidence Terminology and Considerations

Term	Definition*	Appraisal Considerations
AMSTAR II	A critical appraisal tool for systematic reviews (Shea, 2017)	The use of this instrument by authors is an indication they used a formal, well-established approach to their review
Affiliation	A formal link between an author and one or more organizations or groups that often provide support or recognition.	Affiliations may help the EBP team to determine if an author or team member has relevant training and professional standing. If not explicitly listed in a report, the team can do an internet search of a person's name for more information.
Analysis	The systematic processes to describe, summarize, or evaluate data to create greater meaning through description and evaluation.	Authors should provide very clear and explicit information on the process they used to interpret their data, including what software was used. For quantitative analysis, this should also include statistical calculations. For qualitative analysis, this should include the process to code narrative data and generate themes, including how many people performed each step.
Attrition	The loss of participants during the course of a study, which can affect the validity and reliability of study outcomes.	Some loss to follow-up in a study is normal, but if those dropping out aren't comparable to those remaining in, this can generate results that may not represent the truth of the subject of study. It is important to report attrition, as well as how this may have affected study results.
Bias	An influence that produces a distortion or error and results in the systematic alteration from the truth (McDonagh et al., 2013).	Biases can cause the findings from studies or reviews to not accurately reflect the truth. There are many types of biases, and it is the responsibility of study teams and reviewers to make efforts to mitigate them and include these efforts in their report. Of note, the terms "quality assessment" and "bias assessment" are often used interchangeably but do not mean the same thing. Quality assessment looks at the inclusion of safeguards to minimize bias and bias assessment evaluates the effectiveness of those safeguards (Furuya-Kanamori et al., 2021; Banzi et al., 2018)
Case-control study design	A type of epidemiological study design that compares two groups, people with an outcome of interest (cases) and a similar group without the outcome (controls) and looks back (retrospectively) into their lives to examine is the cases are more likely than the control to have been exposed to a risk factor (Polit & Beck, 2021)	This is a common type of observational study when a disease or condition is rare, or it would be unethical to expose a group to a risk factor (e.g. cigarette smoking). In these studies, it is important that both groups are similar other than the outcome of interest and there are measures taken to minimize recall bias since they are looking into people's historic behaviors and data.
Causation	A relationship where one event is the result of the other's occurrence; more than correlation, causation indicates a direct effect.	EBP teams should ensure statements about causation are fully supported and authors are not implying causation when correlation (two things are related, but one doesn't necessarily cause the other) is more appropriate. Causation is usually established with randomized control trials, and sometimes quasi-experimental studies.

Term	Definition*	Appraisal Considerations
Certainty/ confidence (level of)	A rating or assessment of how assured reviewers are in the body of evidence or their specific recommendations. This is usually based on data analysis and a quality or bias evaluation.	Different reviews use different approaches to establishing levels of certainty or confidence. The authors should explicitly state which approach they used and the level of certainty or confidence in each recommendation or outcome. They are sometimes expressed as "high to low" or with letters "A, B, or C."
Clinical Practice Guidelines (CPGs)	Reports that generate recommendations on a specific healthcare topic based on rigorous collection of data, analyses, and processes to achieve consensus by a group of experts.	All CPGs are not created equal. EBP teams should look carefully at the methodology of a CPG (either provided in the document itself or on the organization's website) to ensure it meets all necessary standards.
Conflict of interest	A situation in which a person or affiliation might compromise professional judgment or integrity due to a potential for personal gain.	All conflicts of interest should be disclosed by authors and considered when assessing information from a report or study. For example, if an author is employed by a company that produces the product a study is endorsing, the team should keep this in mind when reading and interpreting the findings.
Confounding	A situation in a scientific study where the effect or association between an independent and dependent variable is distorted by another factor.	EBP teams should look for study teams' efforts to reduce confounding. This can include matching among groups, randomization and using statistics to control for different factors.
Congruency	The alignment of each of the parts of a study (aims, methods, results, discussion, and conclusions).	EBP teams should ensure that study teams have used and reported methods that adequately address their aims, all data introduced in the methods is reported in the results, all results have associated methods, and conclusions are based on those results. This helps establish the study was well done and all data is accounted for.
Control	The standard to which comparisons are made in a study. Often refers to a group of subjects that does not receive the intervention or treatment being tested.	Control groups should be similar to the group receiving an intervention. Exact similarities will depend on the nature of the intervention (e.g. sex, age, medical history). Keep in mind, control groups do not necessarily receive no intervention, they may the standard of care or a placebo intervention. This helps control for things like time spent with a member of the study team (e.g. an orientation to the hospital vs the intervention of disease process education) or the expectation of a positive result (e.g. a sugar pill vs the intervention of an antidepressant).
Correlation	Relationship(s) between variables that indicate an association, but not that one is the result of the other	Studies that investigate correlational relationships observe things that are happening naturally and use statistical calculations to describe negative and positive relationships between two or more variables. They are useful in situations where conducting an experiment is not possible (e.g. the area where a person grows up and their highest education level achieved). Epidemiologic studies such as case-control and cohort studies are examples of correlational studies.

Term	Definition*	Appraisal Considerations
Credibility	A component of trustworthiness. The confidence that findings and conclusions of a qualitative study represent the truth.	Study teams can increase credibility in both how they conduct the study and demonstrate it in their report by keeping details records, accounting for personal biases, data triangulation, including rich descriptions, transparency in data processing and interpretation, and respondent validation. This term speaks to the same idea as "internal validity" in quantitative studies (Noble & Smith, 2015).
Cross-sectional study design	A type of observational study that analyzes data from a population at a specific point in time.	Cross-sectional study designs typically collect data with surveys, observations, and sometimes secondary data analysis. It is often used to assess the prevalence of phenomena or current conditions within a particular population. It does not introduce an intervention but rather describes a phenomenon that is occurring naturally.
Current	Recent, occurring, or existing in the present time (Merriam-Webster)	The concept of "current" is subjective and the EBP team should determine what is a reasonable timeline for their topic at hand. Additionally, the inclusion of older literature on a topic should not necessarily be seen as a sign that a literature summary is not current, but rather it may be referring to foundational information on a subject (see seminal literature).
Data collection	The formal process for gathering information for analysis	Data collection should be explicitly and clearly described. This includes details of the tool(s) used, how the data was recorded (e.g. electronically, paper survey), and where that data was collated for future analysis. Data collection tool descriptions should include the number and types of questions and specific metrics gathered (e.g. blood pressure, Likert-scale feedback, open-ended questions).
Data pooling	The process of combining information from multiple studies or sources to allow for new statistical calculations that can increase the power and generalizability of results	This is a common technique when combining information from multiple studies in a systematic review with meta-analysis. To pool data, studies need to have similar populations, designs and analyses, and metrics (i.e. homogeneity).
Descriptive studies	A type of observational study designed primarily to describe the nature or status of the situation as it occurs naturally	Descriptive studies describe characteristics of a population or phenomenon using observational methods such as surveys, prevalence, and incidence data. It does not involve relationships between variables; instead, it aims to create a picture of a variable, condition, or situation of interest.
Delphi technique	A research approach to generate consensus among subject-matter experts on a topic that lacks robust, science-based data, to set priorities, or to create a stance where one has not existed before (McPherson, 2018)	Descriptive studies describe characteristics of a population or phenomenon using observational methods such as surveys, prevalence, and incidence data. It does not involve relationships between variables; instead, it aims to create a picture of a variable, condition, or situation of interest.
Eligibility criteria	The pre-determined list of criteria that outline the characteristics of who will and will not be included in a study.	Eligibility criteria should be clearly listed and should define the exact characteristics of who can and cannot be included in a study. It can be based on what is feasible and ethical, as well as who or what the team is truly trying to study.

Term	Definition*	Appraisal Considerations
Ethical Review	The process by which an institutional review board (IRB) assesses research proposals to ensure they are ethically acceptable.	In general, all research studies should undergo ethical review (there may be some exceptions based on the country in which a study is conducted and the amount of interaction with participants). Citing the ethical review process is an essential part of the report of a research study. Review boards may deem studies "approved" or "exempt." Other non-research activities, such as quality improvement (QI) can also undergo ethical review. If this occurs, the study team should provide the process and confirm the IRB deemed their project to be acknowledged as QI and outside of the IRB's scope.
Evidence Summary	A peer-reviewed synthesis of scientific literature written by organizations following pre-determined methods to select and evaluate evidence. Information is presented in a succinct and actionable way for a broad audience with the intent to support point-of-care decision-making (Petkovic, 2016; Jordan, 2019).	The EBP team should ensure an evidence summary was completed using robust methods for selecting and appraising evidence. It may be helpful to reference organizations that are well-known for producing high-quality evidence summaries (e.g. UpToDate and JBI). Because of the goal of making the report easy to read, many times the methodology is not included in the document itself, and the team will need to look for further details on an organization's website.
Experiment	In true experiments, a study team manipulates an independent variable and randomly assigns it to an intervention or control group.	Experimental studies use highly structured designs to establish cause-and-effect relationships. See Randomized Control Trials for further information.
Expertise	Special skills or authoritative knowledge of a topic (Merriam-Webster)	Expertise is not always readily apparent from looking at the listed authors in a publication. Further information can be found in their listed affiliations and by performing an internet search. Items to look for are their professional affiliations, publications on the topic at hand (see H-index), and credentials.
Findings	The results of systematic inquiry usually in the form of data or narrative information	Authors should provide both the data they are analyzing and the results of that analysis. Often this is displayed in tables or figures. The findings should be presented without commentary and reflect the information exactly as it was gathered and analyzed. The findings should help inform the study's aim and the process to generate them should be explained in the methods.
Forest plot	A graphical display designed to illustrate the relative strength of the effects of an intervention from multiple quantitative studies addressing the same question	These are a hallmark of systematic reviews with meta-analysis. EBP teams should ensure they are easy to read and match the results and discussion sections.

Term	Definition*	Appraisal Considerations
Funding	Money provided to aid in conducting and reporting studies or other reports. It can come from government grants, private foundations, corporations, or academic institutions	Studies can be commissioned by various organizations with various interests or priorities. Investigations have shown that commercially sponsored studies (e.g. from technology or drug companies) are more likely to have findings that favor a sponsor's product than independently funded studies. Publications should include a statement addressing any funding received, if it poses a conflict of interest, and if so, how it was addressed.
Generalizability	The extent to which the findings from a study can be applied or extended to other settings, populations, or time periods. High generalizability means the conclusions are likely relevant beyond the study's specific conditions. Sometimes also called "external validity"	Study teams should make an effort to ensure their participants truly reflect the larger population, such as random sampling or subgroup analysis, and clearly report these measures. Authors should also provide detailed information about where the study took place and the included participants. They should do this in a way that allows the reader to determine if the findings can be applied not only to the larger population but also to their specific setting and population. Of note, quality improvement projects do not have a main goal to be generalized, and these efforts may be minimal in this type of report.
Grading	A systematic way to assess and assign a rating to the quality or bias of evidence.	Reviewers can use a variety of tools/models to assess or "grade" their evidence. They should explicitly state the model used and list the grade or rating assigned for all the provided evidence or recommendations.
Gray literature	Scholarly output that is not formally published in peer-reviewed journals. This can include theses, dissertations, government reports, conference papers, and internal documents from organizations.	EBP teams should assess the source of their gray literature and ensure it is reputable. The report itself should provide sufficient information to conduct a formal assessment. Occasionally, this literature does not meet the requirements to be included in the evidence synthesis, but it may provide helpful background information.
H-index	A calculation to measure the amount and impact of scientific publications by an individual. The number is related to the number of published papers by the author and how many times each has been cited (Schreiber, 2019).	This can be a helpful metric to determine someone's expertise on, and scientific contributions to, a topic. It can be found using search engines such as Scopus or Google Scholar. There is no required value, but for context, in the medical field, assistant professors tend to have h-indexes between 2 and 5, associate professors between 6 and 10, and full professors between 12 and 24 (Schreiber, 2019).
Incidence	A measure of the occurrence of new cases of a disease or condition in a specified population within a certain timeframe. It provides information about the risk of contracting the disease or condition.	This metric is often used to report on the outcome of interest. It is usually expressed as a rate, meaning a count over a certain time frame. When possible, authors should provide incidence rates in a well-recognized format (e.g. number of falls per 1,000 patient bed days).

Term	Definition*	Appraisal Considerations
Inclusion/ Exclusion criteria	The set of rules, markers, or guidelines used to determine who or what is eligible to be included in a study or evidence review.	In the context of literature reviews, the inclusion/exclusion criteria are the list of characteristics a study must HAVE or NOT HAVE to be included in the data analysis. In literature reviews with a systematic approach, they should be directly recorded in the report itself or supplemental content. The EBP team should ensure they are present and fit the question the reviewers are trying to answer. The team should also assess the given criteria for biases (e.g. excluding evidence from one region of the world without reasonable justification).
Institutional Review Board (IRB)	A group, usually associated with an academic organization, that reviews study proposals to evaluate their ethical implications. See "ethical review" for more information.	This term is primarily used in the United States. Authors should list their specific IRB and the designation assigned to a study. Other terms include Ethics Review Committee, Ethics Review Board, Research Ethics Board, and Independent Ethics Committee.
Intervention	An action or item purposefully introduced into a study to test its effects on outcomes of interest.	Interventions can be used in any type of experimental or quasi-experimental study and are often used to assess effectiveness of treatments, drugs, or techniques. An intervention should be deliberate and described in enough detail so the reader could replicate it.
Likert scale	A scale for measuring attitudes or opinions that uses a fixed number range with associated descriptions for each of the values in that range.	Likert scales typically ask people for their level of agreement, likelihood, or other opinions using a number range (usually between 3 and 7 options) with each side of the scale representing the extremes of each option. Although they are assessing subjective information (e.g. attitudes), Likert-scales are a type of quantitative measurement because they assign a numeric value to the measurement.
Limitations	The recognized flaws, constraints, or weaknesses within a study that may affect the results or implications of the findings.	All studies have limitations. If they are not provided, this is a limitation in and of itself. Ideally, authors provide limitations as well as explanations of how they were mitigated.
Literature Reviews with a Systematic Approach (LRSAs)	LRSAs use explicit methods to search the scientific evidence, analyze the information, extract data, and summarize the included studies.	These reviews go by different names (e.g. systematic, integrative, rapid, umbrella). To determine if a review uses a systematic approach the EBP team should look for the following: • An explicit pre-planned method or protocol • A clear question • Clear and explicit inclusion and exclusion criteria • A documented search strategy, including sources and terms • Use of tables to provide pertinent characteristics of the studies included • An explicit approach to assess the quality (risk of bias) of included evidence • Exploration of the data to consistencies and gaps • Use of tables or figures to support interpretation *Some of this information may be provided in appendices or supplemental files (Booth, 2021)

Term	Definition*	Appraisal Considerations
Longitudinal	A study design that involves repeated observations or measurements of the same variables, among the same individuals, over time. This can span years or even decades.	Longitudinal studies involve multiple data collection points and are useful in understanding long-term efforts or changes. It is common in developmental psychology, sociology, and medicine.
Manipulation	The study team's control over the independent variable (intervention) to observe its effect on the dependent variable.	Manipulation of a variable essentially means a study team "did something." They intervened or changed a situation in some way to measure how that change affected other metrics (variables) of interests. This can range anywhere from introducing a program to giving a patient a medication or treatment.
Meta-analysis	A statistical technique that combines the results of multiple scientific studies addressing the same question to integrate findings and measure an overall effect size. This method enhances the overall understanding of the variable of interest by increasing the sample size and statistical power.	Meta-analysis is usually conducted after reviewers have completed a systematic search and selection of literature on their topic and outcome of interest. Essentially, in a rigorous and replicable way, reviewers attempt to gather all studies that answer their review question and meet their inclusion/exclusion criteria (see corresponding section), to pool data that measures the same variable in the same way. They can then combine those numbers to create a larger, more convincing statistical calculation.
Meta-synthesis	A method used in qualitative research to integrate, evaluate, and interpret findings from multiple qualitative studies. The goal of meta-synthesis is to build a greater narrative or comprehensive understanding about a phenomenon.	Meta-synthesis is the qualitative counterpart to meta-analysis. The analysis process begins after reviewers have systematically gathered and selected evidence that addresses their topic of interest. It uses systematic methods to not just pull information together but to create new interpretations and deeper insights that go beyond the findings of individual studies. This approach attempts to make the whole greater than the sum of its parts.
Mixed methods methodology	An approach that combines elements of both qualitative and quantitative methods to provide a more comprehensive analysis of the topic of interest than either method could offer alone.	Authors should provide their reasoning for selecting a mixed methods approach and how they used one type of data to inform the other. Both the quantitative and qualitative portions should be equally explained and analyzed with true integration of data.
Observational Study design	A type of study in which the investigators observe the natural course of events with minimal or no intervention in the study subjects.	Observational design includes both descriptive and analytical studies (e.g. cohort, case-control, or cross-sectional studies). It is used to describe topics or outcomes of interest as they occur naturally and can simply describe a phenomenon or can suggest relationships between different variables.

Term	Definition*	Appraisal Considerations
Outcome	The result or effect of an intervention or exposure, which is measured to determine the impact of the independent variable in a study.	EBP teams should ensure all outcomes of interest are clearly listed. Authors should explain how they gathered and analyzed data to assess each one.
Participant	A person taking part in a study.	Authors should include information about how they selected and recruited participants, including the percentage of how many agreed to participate. They should also provide details about the participants that help the reader understand who the findings could be applied to.
Peer review	The process by which scholarly work (such as papers, reports, or proposals) is checked by a group of experts in the same field to ensure it meets the necessary standards before it is published or funded.	The purpose of peer review is to ensure that scientific and scholarly work is based on sound methods and that the findings are trustworthy. Peer review adds an additional level of scrutiny to published work and is an important part of the generation of clinical practice guidelines (CPGs) and evidence summaries, as well as work published in scholarly journals. While it is assumed for most journal work, the peer-review process should be explicitly explained in the methods for evidence summaries and CPGs
Phenomenon	A fact, situation, or concept	In qualitative studies, this is the concept the study team is exploring. Authors should explicitly state the phenomena of interest, and their methods should clearly match what they are attempting to explore. This can be considered the counterpart to “variable” in quantitative studies.
Prevalence	The proportion of a population who have a specific characteristic in a given time period. In epidemiology, it often refers to the proportion of people with a particular disease or condition.	This metric is often used to report the number of people who have a disease or condition among those at risk. It is usually expressed as a percentage or the number of cases per set number of people (e.g. 2.5 cases per 1,000 people).
The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram	A flow chart that depicts the different phases of a literature review with a systematic approach (LRSA) and illustrates the flow of studies screened, included, and excluded from the search and appraisal.	PRISMA diagrams, or similar flow charts, should be included with all LRSAs. They help the reader understand the scope of the literature search and ensure the process was systematic and comprehensive. Keep in mind, sometimes these diagrams are included as supplementary material and are not available in the article or report itself. The diagram is a portion of a larger reporting checklist (see https://www.prisma-statement.org/).
Prospective	A design that gathers data from the beginning of the study period and forwards in time. Data collection can occur once or several times.	Prospective studies do not look back at any historical or previously collected data. They only collect and analyze data for the study period. This allows the study team to ensure they are gathering complete information and adjust their design as needed.

Term	Definition*	Appraisal Considerations
Qualitative methodology	Qualitative studies collect and analyze narrative data to gain an in-depth understanding of a phenomenon or experience, including opinions, meanings, and motivations. They provide insights into the problem or help to develop ideas or hypotheses for potential quantitative inquiry.	Considerations for qualitative designs are outlined in the Qualitative Appraisal Checklist in Appendix E2. See Chapter 6 for more details. Some words to look for that are associated with qualitative designs and may help the EBP team determine if they are looking at this type of study are: narrative, thematic, coding, phenomenology, ethnography, grounded theory, critical theory, or data saturation.
Quantitative methodology	Quantitative studies involve the collection and analysis of number-based data to quantify a problem by generating numerical information that can be transformed into usable statistics.	Considerations for quantitative designs are outlined in the Quantitative Appraisal Checklist in Appendix E2. See Chapter 6 for more details. Some words to look for that are associated with quantitative designs and may help the EBP team determine if they are looking at this type of study are: randomized control trial, experimental, quasi-experimental, statistics, calculations, power, significance, Likert, incidence, prevalence, case-control, or cohort.
Quasi-Experimental Studies	Quasi-experimental studies have an intervention but lack randomization and sometimes lack a control group. They can help to establish causal relationships, but because they are limited in their ability to control for confounding factors, are not as compelling as true experiments (Randomized Control Trials; RCTs).	Quasi-experimental designs are used when it is not ethical or feasible to randomly assign people to an intervention. Words commonly associated with this approach are pre/post, nonrandomized, nonequivalent, natural experiment, or opt-in.
Randomization	The process of assigning participants into different groups in a study to ensure each participant has an equal chance of being assigned to any group.	Randomization reduces bias by increasing the likelihood that groups are comparable at the beginning of a study. EBP teams should ensure participant assignments are truly random (e.g. random number generator, coin flip) and not haphazard (e.g. dividing a list in half) or introduce bias in another way (e.g. grouping patients by time of day they present to a clinic).
Randomized Control Trial (RCT)	RCTs are considered “true experiments” and are considered the gold standard for establishing causal relationships. They have three core components, randomization, control, and manipulation of a variable.	EBP teams should assess if RCTs truly used random methods that ensured each participant had the same likelihood of being in the intervention or control group, the control group was otherwise similar to the intervention group and the intervention is clear and well-described. RCTs typically follow very robust methods and use advanced statistical calculations that are approved by an institutional review board. To increase confidence in the study findings, the EBP team can look to see if the trial protocol was registered or published.

Term	Definition*	Appraisal Considerations
Reflexivity	The study team members' awareness of their own influence on the study process and outcomes.	Study team members should reflect and provide information on their own biases, values, and decisions and how this might have affected the conduct of their study. This helps ensure transparency and objectivity.
Reliability	Reliability refers to the consistency of a measure or instrument. A reliable tool will yield the same results under consistent conditions across different times and settings.	Authors should provide specific information about the reliability of their data collection tools. This can sometimes be expressed with a statistic called Cronbach's alpha (>.7 is usually considered adequate) or intra-class correlation coefficients (ICC). Other types of reliability relate to having consistent measurements regardless of who is collecting/analyzing the data (inter-rater reliability), and consistent measurements from multiple tests describing unchanged conditions (test-retest reliability).
Research	Research is a systematic investigation into, and study of, materials and sources to establish facts and reach new conclusions. It is an organized way to learn and understand more about a specific question or problem.	Research should be rigorous and replicable with the intention of creating new knowledge.
Response rate	The proportion of individuals who respond to or participate in a survey or study out of all those invited or selected to participate.	Response rates should be provided because they are an important indicator of the representativeness of the data collected. Low response rate may introduce bias, especially if those who did respond are fundamentally different than those who did not. Authors should provide the exact number of people they attempted to recruit for all data collection points and the number of those people who responded (usually expressed as a percentage). There is not one "gold standard" for acceptable response rates. For context, one systematic review found the average response rate in patients is 70% and 53% for doctors (across all modalities; Meyer et al., 2022).
Retrospective	A retrospective study design involves looking back at events that have already occurred.	Retrospective studies do not collect data generated during the study period but rather look back at previously recorded information (e.g. retrospective chart review) or through recollections of participants. This can make the conduct of a study more feasible or ethical, but also can lead to incomplete data because study teams cannot fill in missing information or participants' memories might be limited. It is often contrasted with prospective studies, which follow participants into the future.
Review or research question	A clear and focused question that outlines the topic the study or review seeks to answer.	In the context of a review, the question should be explicitly listed in order for a reader to understand who, what, and where the review applies to. It defines the scope of the investigation, often expressed as a PICO question (Population, Interventions, Comparisons, and Outcomes of interest). It guides the literature search and inclusion/exclusion criteria for studies.

Term	Definition*	Appraisal Considerations
Sample	The subset of individuals, cases, or data points selected from a larger population for the purpose of conducting a study. The goal of using a sample is to obtain conclusions that can be generalized to the entire population while being cost-effective and more manageable in terms of size and practicality.	A sample should ideally represent the characteristics of the larger population from which it is drawn. This allows for the generalization of results back to the population. Authors should provide relevant details about their sample (e.g. demographics, past medical history, diagnoses) clearly and explicitly to help the reader understand the groups the findings apply to.
Sample size	The number of participants or data points included in a study.	Study teams should provide the number of people they intended to recruit, and how they arrived at that number (this can be based on a statistical calculation, power, or other methods such as comparison to similar studies that have been previously published). Authors should also provide the number of participants they successfully recruited at each data collection point in their report in a way that is easy to find and interpret. Larger samples generally provide more reliable estimates but are costlier and more time-consuming to manage.
Sampling	The process of selecting the participants for a study.	Authors should explicitly provide their methods for selecting potential participants for their study. This helps the reader determine if the eventual participants truly represent the larger group they were pulled from. Various methods include random sampling, stratified sampling (breaking the larger population into sub-groups that share similar characteristics and recruiting from each), convenience sampling (selecting participants who are easily and readily available), systematic sampling (selecting individuals at a pre-determined interval, e.g. every 5th person), cluster sampling (selecting entire groups) and snowball sampling (using participants to identify other participants). Snowball sampling can be used when populations are difficult to access, or a disease or condition is rare.
Saturation	In qualitative studies, the point at which data collection is not revealing any new information and themes or patterns are redundant. Saturation indicates that the data collection process can be concluded.	In qualitative studies, saturation is an indication the study team has collected enough data, and the sample size was adequate. They should explicitly explain how they determined saturation had been reached.
Search Strategy	A formal process used to retrieve evidence by identifying databases and creating search strings that include key concepts and synonyms with database-specific syntax (Booth, 2021; Bramer, 2018).	For literature reviews with a systematic approach (LRSAs), search strategies should be provided. This might not appear in the report itself but in online supplemental materials or technical development reports.

Term	Definition*	Appraisal Considerations
Seminal paper	Works of central importance to a topic or area of study. They often report a major breakthrough, insight, or a new theory. This kind of paper may describe a study that changes our understanding of a topic or describes and illustrates a new and highly useful scientific method. Also called pivotal, classic, or landmark studies.	When EBP teams are assessing the reference list of an article or report to ensure citations are recent, they may come across much older entries. This does not necessarily mean it is out-of-date, but they include foundational information in the form of a seminal paper (e.g. Benner's Novice to Expert paper). There is no specific label to identify these works, rather the team may need to do further investigation to determine their status—citation analysis is one method.
Study Design	An approach or set of methods and procedures used to collect and analyze information (Ranganathan, 2018).	Study designs should be explicit and formal. A report is considered to have a formal study design if it meets most of the following criteria: • Was pre-planned (prior to investigators initiating intervention or data collection) • Received ethical review (by the institutional review board) • Has formal and systematic data collection and data analysis • Uses specific qualitative and/or quantitative information gathered for the purposes of the investigation • The study team are not subjects of the intervention • Has a clear aim, reproducible methods, results, and discussion • Do not only recount the authors' personal, organizational, or literature-based experience.
Study setting	The physical location where data collection for a study takes place	Authors should include details about the environment in which a study takes place. This can include the type of facility (e.g. hospital inpatient, nursing home, school), the geographic location (e.g. region and country), and other information about the location that will help a team determine if it applies to their setting (e.g. academic hospital, rural hospital). It is common for authors to not use the name of the organization but general descriptors.
Triangulation	The use of multiple methods, data sources, investigators, or theoretical perspectives to cross-validate and corroborate findings.	Authors should explicitly address their efforts to enhance credibility and confirm their findings through triangulation techniques such as having multiple researchers analyze data, collecting data through different approaches or from more than one source, or approaching analysis with different interpretive frameworks.

Term	Definition*	Appraisal Considerations
Validity	Validity refers to the extent to which a research instrument or study measures what it is intended to measure.	Authors should describe if the tools they are using are valid, meaning they have undergone a process to ensure they are measuring what they intend to measure. This can be done through a variety of processes (from consultation with subject matter experts to statistical analyses) which establish different types of validity. Types of validity include: • Content Validity: The extent to which a measure represents all facets of a given construct. • Criterion Validity: The extent to which a measure is related to an outcome. • Construct Validity: The appropriateness of inferences made based on observations or measurements (often using a test) of a particular construct. • Face validity: The general perceiving appropriateness of a tool.
Variable	A variable is any characteristic, number, or quantity that can be measured or quantified. Variables can be considered dependent, independent, or confounding.	Authors should list all variables they intend to measure and how they will measure them. The variables they are collecting should link directly to the aim(s) of the study.

*Unless otherwise cited, definitions are attributed to Polit & Beck (2021)

Statistics Terms and Definitions	
Term	Definition*
Central tendency	A type of descriptive statistic to describe a "typical" value in a set of numbers that uses different calculations to quantify the center of the range of values. It includes mean (average), median (the middle value when data are put in order), and mode (the most frequently occurring value).
Confidence interval (CI)	Expressed as two numbers with an accompanying percentage, CIs are a range of values within which a metric is estimated to fall, at a specified probability (e.g. 95%). The specified probability tells you how confident the person performing the calculation is that the metric does in fact fall within the range. For example, an average of 10 with a 95% CI of 8-12 tells the reader they can be 95% sure the true average is between 8 and 12.
Effect size	The strength of the relationship between variables. Unlike significance tests that provide a yes-or-no answer to whether an effect exists, the effect size tells how substantial the effect is. Common measures include Cohen's d (standardized difference between two means), correlation coefficient (strength of association between two variables), and odds ratio (ratio of the odds of an event occurring in one group to the odds of it occurring in another group).
Odds ratio (OR)	Expressed as percentage or integer, OR is a measure of the likelihood (odds) of an event occurring to a member of a group compared to another (a ratio of event to non-events). A negative OR means the odds of an event occurring in a member of an exposed group is lower than that of a non-exposed group. ORs of 1 indicate there is no difference between group members. Positive ORs mean there are higher odds of an event occurring in a member of the exposed group compared to the non-exposed group. For example, an OR of -.5 comparing the odds of increased body mass index for a member of a group who attended exercise sessions vs the odds of increased BMI for a member of a group person who did not attend the session means a person who went to the exercise sessions were 50% less likely to have an increase in their BMI. ORs explain the odds of something occurring to an individual whereas relative risk explains the probability of something occurring at the population level.
Power analysis	It is a statistical method used to determine the number of participants or observations (sample size) required to detect an effect of a given size with a certain degree of certainty.
Statistical significance	Is a determination made based on the probability that the observed results of a study could have occurred by chance alone. This probability is expressed as a p-value; a p-value less than a chosen significance level (commonly 0.05) indicates that there is a 95% likelihood the observed effects are true and not based on change alone. In some cases, lack of statistical significance is a good indication (e.g. when comparing baseline characteristics between an intervention and control group).
Relative risk (RR)	Expressed as percentage or integer, RR, also known as the risk ratio, is a measure of the probability of an event occurring in the exposed group versus a non-exposed group. For instance, if the relative risk of developing a disease for smokers compared to non-smokers is 2.0, it means that smokers are twice as likely to develop the disease as non-smokers. Relative risk helps in understanding the strength of the association between an exposure and an outcome at the population level.

*Unless otherwise cited, definitions are attributed to Polit & Beck (2021)

For references, refer to Chapter 8.

Appendix G1

Best-Evidence Summary Tool

Purpose: This tool collates information from pre-appraised evidence identified in the best-evidence search and other data obtained from a targeted search. It brings all the data into a central document to help the EBP team with the next step of the EBP process, synthesis.

Section I: Pre-Appraised Evidence

Complete the data collection tool below for all included pre-appraised evidence.

Article Number	Author (organization), date, title	Type of pre-appraised evidence	Topic or Intervention	Population	Setting	Recommendations that answer the EBP question
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text

Section II: Reports of Single Studies from the Targeted Evidence Search

Was there additional evidence identified in the targeted search?

☐No → Skip to Section II of Appendix H

☐Yes → Record information from evidence that provides strong or moderate support for decision-making in the table below.

Article number	Reviewer names	Author, date, and title	Type of evidence	Population, size, and setting	Intervention	Findings that help answer the EBP question	Measures used	Limitations	Moderate, or strong support for decision-making?
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text

Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Complete Section II of Appendix H									

Instructions for the Best-Evidence Summary Tool

Section I: Pre-Appraised Evidence

Record information from the pre-appraised evidence.

Article Number	Author (organization), date, title	Type of pre-appraised evidence	Topic or Intervention	Population	Setting	Recommendations that answer the EBP question
Assign a unique number to each resource included in the table. This will help with tracking in subsequent steps	*Record the name of the organization or authors who produced the evidence. Also include the title and date.*	*Record the type of pre-appraised evidence. This should be a Clinical Practice Guideline (CPG), literature review with a systematic approach (LRSA), or evidence summary*	*Record the specific topic or intervention addressed in the pre-appraised evidence. This may be exactly the same as the topic or intervention the team identified in their EBP question or may be more broad and encompass an answer to the EBP team's question.*	*Record the population(s) the pre-appraised evidence addresses*	*Record the setting(s) the pre-appraised evidence applies to*	*List recommendations from the evidence that directly answer the EBP question. These should be considered the "take-away" points from the evidence that help the team better understand solutions to their given problem. When the pre-appraised evidence is broader than the team's scope, only record recommendations that apply to the question at hand.*

Section II: Reports of Single Studies from the Targeted Evidence Search

Record information from the targeted search evidence.

Article number	Reviewer names	Author, date, and title	Type of evidence	Population, size, and setting	Intervention	Findings that help answer the EBP question	Measures used	Limitations	Moderate, or strong support for decision-making?
Assign a unique number to each resource included	*Record the names of the team members who read*	*Record the last name of the first author of the article, the*	*Indicate the type of evidence provided in this source. This should be*	*Provide a quick review of the population, number of participants, and study*	*Record the intervention(s) implemented or discussed in the article. This should relate to*	*List findings, or results, from the article that directly answer the EBP question. These should be succinct statements that provide enough*	*These are the measures and/or instruments (e.g., satisfaction*	*Provide the limitations of the evidence—both as listed by the authors as well as your assessment of any*	*Record the type of support for decision-making.*

in the table. This will help with tracking in subsequent steps.	*the article. This is needed for any follow-up questions and to ensure everyone has completed their assigned readings.*	*publication /communication date, and the title. This will help track articles throughout the literature search, screening, and review process. It is also helpful when someone has authored more than one publication included in the review.*	*descriptive of the study or project design. Consider using descriptors from the word bank below.*	*location. Location can include the state and country and additional descriptors such as urban, rural, community-based, etc. Consider how the population, size, and setting relate to your EBP question. This may inform the level of detail you choose to record here.*	*the intervention or comparison elements of your EBP question. Some studies, such as observational studies, may not have an intervention. However, you can record the focus of the study team's query. Restating the intervention from your EBP question, as the "Intervention" in the summary table, is not useful. Additional details are required.*	*information that the reader does not need to return to the original article. Avoid directly copying and pasting from the article. These should be considered the "take-away" points from the evidence that help the team better understand solutions to their given problem.*	*surveys, patient interviews, focus groups, validated tools, subscales, biometric data, clinical data) the authors used to determine the answer to the research question or the effectiveness of their intervention. These are not the results of what was measured but rather the tool or approach to quantify or qualify the metric(s) of interest.*	*flaws or drawbacks. Consider not only how well the study or project was implemented, but also how well it was reported. Limitations should be apparent from the team's appraisal checklists. Keep in mind, some limitations are inherent to the type of evidence and don't necessarily negate its findings (e.g. lack of control in an observational study).*	

Word bank for type of evidence:

No individual study will use a term from each column. Within each grouping, only select one term.

Methodology	Design	Timing
Quantitative Qualitative Mixed-Methods	Randomized Controlled Trial (RCT) Quasi-experimental Interventional Observational (non-experimental) Descriptive Correlational	Prospective Retrospective Cross-Sectional Longitudinal

Appendix G2

Individual Evidence Summary Tool

Purpose: This tool collates information from the literature gathered during the exhaustive evidence search. It brings all of the data into a central document to help the EBP team with the next step of the EBP process, synthesis.

Complete the data collection tool below for all included evidence from the exhaustive evidence search.

Article number	Reviewer names	Author, date, and title	Type of evidence	Population, size, and setting	Intervention	Findings that help answer the EBP question	Measures used	Limitations	Level of support for decision-making	Notes to the team
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter #	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text

Instructions for the Individual Evidence Summary Tool

Record information from the exhaustive evidence search										
Article number	Reviewer names	Author, date, and title	Type of evidence	Population, size, and setting	Intervention	Findings that help answer the EBP question	Measures used	Limitations	Level of support for decision-making	Notes to the team
Assign a unique number to each resource included in the table. This will help with tracking in subse-quent steps.	*Record the names of the team members who read the article. This is needed for any follow-up questions and to ensure everyone has complete d their assigned readings.*	*Record the last name of the first author of the article, the publication /communic ation date, and the title. This will help track articles throughout the literature search, screening, and review process. It is also helpful when someone has authored more than one*	*Indicate the type of evidence provided by this source. This should be descriptive of the study, project, opinion, or report. Consider using descriptors from the word bank below.*	*Provide a quick review of the population, number of participants, and study location. Location can include the state and country and additional descriptors such as urban, rural, community-based, etc. Consider how the population, size, and setting relate to your EBP question. This may inform the level of detail you*	*Record the intervention(s) implemented or discussed in the article. This should relate to the intervention or comparison elements of your EBP question. Some evidence, such as observational studies or anecdotal evidence, may not have an intervention. However, you can record the focus of the report of the study team's query. Restating the intervention from your EBP question, as the "Intervention" in the summary*	*List findings, or results, from the article that directly answer the EBP question. These should be succinct statements that provide enough information that the reader does not need to return to the original article. Avoid directly copying and pasting from the article. These should be considered the "take-away" points from the evidence that help the team better understand solutions to their given problem.*	*These are the measures and/or instruments (e.g., satisfaction surveys, patient interviews, focus groups, validated tools, subscales, biometric data, clinical data) the authors used to determine the answer to the study question or the effectiveness of their intervention. These are not the results of what was measured but rather the tool or approach to quantify or qualify the metric(s) of interest.*	*Provide the limitations of the evidence—both as listed by the authors as well as your assessment of any flaws or drawbacks. Consider not only how well the study, project, or review was done, but also how well it was reported. Limitations should be apparent from the team's appraisal checklists. Keep in mind, some limitations are inherent to the type of evidence and don't*	*Record the level of support for decision-making.*	*Use this section to keep track of items important to the EBP process not captured elsewhere on this tool. Consider items that will be helpful to have easy reference to when conducting the evidence synthesis.*

		publication included in the review.		*choose to record here.*	*table, is not useful. Additional details are required.*			*necessarily negate its findings (e.g. lack of control in an observational study).*		

Word bank for type of evidence:

No individual report will use a term from each column. Within each grouping, only select one term.

Reviews	Methodology	Design/Approach	Timing	Other
-Systematic with or without meta-analysis -Integrative -Rapid -Umbrella -Scoping -Critical -Literature	Quantitative Qualitative Mixed-Methods	Randomized Controlled Trial (RCT) Quasi-experimental Interventional Observational (non-experimental) Descriptive Correlational	Prospective Retrospective Cross-Sectional Longitudinal	-Expert opinion -Book chapter -Position statement -Case report -Programmatic experience

Appendix H

Summary, Synthesis, & Best-Evidence Recommendation Tool

Purpose: This tool guides the EBP team through the process of synthesizing the pertinent findings from the Best Evidence or Individual Evidence Summary (Appendix G1 or G2) to create an overall picture of the body of the evidence related to the EBP question. The team analyzes the data in each category of support for decision-making, as well as any additional organizational approaches that bring further insights.

Section I: Findings from the Individual Evidence Summary	
Support for Decision-Making	**Synthesized Findings with Article Number(s)** (*This is not a simple restating of information from each individual evidence summary—see instructions*)
Strong Number of sources = Enter #	Enter text
Moderate Number of sources = Enter #	Enter text
Limited Number of sources =Enter #	Enter text

Further Synthesis Based on Additional Organization and Analysis (OPTIONAL)
Enter text

Section II: Best-Evidence Recommendations

The recommendations below are based on:

☒Pre-appraised evidence identified in a best evidence search → Record each recommendation in the corresponding evidence category in the table below based on the confidence/certainty listed in the clinical practice guidelines, evidence summary, or literature review with a systematic approach

☒Evidence appraised by the EBP team from a targeted search to supplement the pre-appraised evidence (single studies with a formal study design) → Record any additional or altered recommendations to the pre-appraised evidence in the corresponding evidence category in table below. See instructions for more details.

☒Evidence appraised by the EBP team from an exhaustive search (single studies, anecdotal evidence, and pre-appraised evidence that does not fully address the EBP question) → Record each recommendation in the table below based on the team's analysis and synthesis of information in Section I

Characteristics of the Recommendation(s)	Best-Evidence Recommendation(s)
High certainty recommendations (Robust, well-documented, consistent & persuasive, based mostly on evidence that provides strong support for decision-making)	Enter text
Reasonable certainty recommendations (Good, mostly compelling, consistent evidence, based mostly on evidence that provides moderate to strong support for decision-making)	Enter text
Characteristics of the Recommendation(s)	Recommendation(s) Lacking Adequate Evidence
Reasonable to low certainty recommendations (Good but conflicting evidence. Inconsistent results, based mostly on evidence that provides moderate support for decision making)	Enter text
Low certainty recommendations (Little to no evidence. Information is minimal, inconsistent and/or based mostly on evidence that provides limited support for decision-making)	

Instructions for the Summary, Synthesis, & Best-Evidence Recommendation Tool

Section I: Findings from the Individual Evidence Summary *Only complete Section I if the team completed an exhaustive evidence search and the Individual Evidence Summary Tool (Appendix G2).*	
Support for Decision-Making	**Synthesized Findings With Article Number(s)** (*This is not a simple restating of information from each individual evidence summary—see instructions*)
Strong Number of sources = _____	*This table captures key findings that answer the EBP question from an exhaustive evidence search. As a team, review the evidence that provides **strong** support for decision-making in the Individual Evidence Summary Tool (Appendix G2). Look for salient themes, patterns, important takeaways, consistencies, and inconsistencies.* *After discussing the **strong** evidence and coming to a consensus as a team, record succinct statements in this box that synthesize the information, enhance the team's knowledge, and generate new insight, perspective, and understanding to answer the EBP question.* *Avoid repeating content and/or copying and pasting directly from the Individual Evidence Summary Tool. Record the article number(s) used to generate each synthesis statement to make the source of findings easy to identify.*
Moderate Number of sources = _____	*Repeat the process above for evidence that provides **moderate** support for decision-making.*
Limited Number of sources = _____	*Repeat the process above for evidence that provides **limited** support for decision-making.*

Further Synthesis Based on Additional Organization and Analysis (OPTIONAL)
This is an optional section to reflect any additional insights the team has from further organization and analysis of the data. It may include patterns, themes, subgroups, or additional sorting. To determine if this step is necessary, the team should ask themselves, "How can the evidence be organized to explore subtleties or details in order to produce a more comprehensive understanding of the big picture?" See Chapter 9 for more information.

Section II: Best-Evidence Recommendations

The recommendations below are based on: *Select boxes below that reflect the type(s) of evidence used to generate the best-evidence recommendations.*

☒ Pre-appraised evidence identified in a best evidence search → Record each recommendation in the corresponding evidence category in the table below based on the confidence/certainty listed in the clinical practice guidelines, evidence summary, or literature review with a systematic approach *Using the certainty or confidence schema used by the authors of the pre-appraised evidence, put each recommendation into the corresponding box.*

☒ Evidence appraised by the EBP team from a targeted search to supplement the pre-appraised evidence (single studies with a formal study design) → Record any additional or altered recommendations to the pre-appraised evidence in the corresponding evidence category in table below. See instructions for more details. *Record any changes to the recommendations from the pre-appraised evidence in the corresponding box. When determining if a recommendation should be updated consider the following:*

- *Does the new evidence provide results that are based on robust methods that the team considers compelling?*
- *How does the certainty of any new or altered recommendations compare to the certainty of the recommendation from the pre-appraised evidence?*

☒ Evidence appraised by the EBP team from an exhaustive search (single studies, anecdotal evidence, and pre-appraised evidence that does not fully address the EBP question) → Record each recommendation in the table below based on the team's analysis and synthesis of information in Section I *Review the information from Section I. Consider the quantity and quality of information for each recommendation. Based on the descriptions below, record the best-evidence recommendation in the box that corresponds to the characteristics of the evidence used to support it. Recommendations should be succinct statements that distill the synthesized evidence into an answer to the EBP question. The team bases these recommendations on the evidence and does not yet consider their specific setting. Translating the recommendations into action steps within the team's organization occurs in the next step (Translation and Implementation Tools, Appendices I and J).*

Characteristics of the Recommendation(s)	Best-Evidence Recommendation(s)
High certainty recommendations (Robust, well-documented, consistent & persuasive, based mostly on evidence that provides strong support for decision-making)	*Record recommendations the team feels confident in endorsing here. Keep in mind, these can be recommendations FOR or AGAINST an intervention. Sentences can start with phrases such as:* • *"The evidence endorses..."* • *"The evidence recommends..."* *Or end with* • *"...is recommended"* • *"...is indicated"* • *"...is beneficial"* • *"...is useful"*
Reasonable certainty recommendations (Good, mostly compelling, consistent evidence, based mostly on evidence that provides moderate to strong support for decision-making)	*Record recommendations the team is fairly confident in endorsing here. Sentences can start with phrases such as:* • *"the evidence suggests..."* *Or end with* • *"…is reasonable"* • *"…can be useful"* • *"…can be effective"* • *"…can be beneficial"*

Characteristics of the Recommendation(s)	Recommendation(s) Lacking Adequate Evidence
Reasonable to low certainty recommendations (Good but conflicting evidence. Inconsistent results, based mostly on evidence that provides moderate support for decision making)	*Record recommendations the team the team has little confidence in endorsing here. Sentences can start with phrases such as:* • *"Evidence is mixed regarding…"* • *"Evidence is conflicting regarding…"* • *"There is little evidence to support…"* *Or end with:* • *"… may or may not be useful"*
Low certainty recommendations (Little to no evidence. Information is minimal, inconsistent and/or based mostly on evidence that provides limited support for decision-making)	*Record recommendations that team has no confidence in endorses here. Sentences can start with:* • *"There is no evidence to support…"* • *"Evidence is very limited on…"* • *"Recommendations cannot be made on…"* *Or end with:* • *"….is not supported by evidence"*

Appendix I
Translation Tool

Purpose: This tool guides the EBP team through analyzing the best-evidence recommendations for translation into the team's specific setting. The translation process considers the certainty, risk, feasibility, fit, and acceptability of the best-evidence recommendations. The team uses both critical thinking and clinical reasoning to generate site-specific recommendations.

Refer to the recommendations developed on Appendix H. Consider the certainty of *each* best-evidence recommendation, as well as the fit, feasibility, acceptability, and risk to develop organization-specific recommendations.				
Certainty	Risk	Fit	Feasibility	Acceptability
• Do the recommendations have high or reasonable certainty? (Recommendations with reasonable to low and low certainty do not provide adequate support to change current practice, *see instructions below*)	• What is the potential negative impact on patient or staff safety? (Interventions with higher risk require higher certainty evidence to put into practice.)	• How well does the change align with existing practices? • Values? • Norms? • Goals? • Skills?	• Is the change doable and are barriers realistic to overcome? • Is the practice environment ready for change? • Are necessary materials or human resources available? • Can the change be successfully implemented?	• Do impacted groups find the change agreeable? • Does leadership support the change and trust it is reasonable? • Does the change align with organizational priorities?
In concise statements, record the organization-specific recommendations below that address the EBP question.				
Enter text				

Instructions for the Translation Tool

Referring to the recommendations developed on Appendix H and considering the certainty of *each* best-evidence recommendation, and the fit, feasibility, acceptability, and risk, develop organization-specific recommendations.

Certainty	Risk	Fit	Feasibility	Acceptability
• Do the recommendations have high or reasonable certainty? (Recommendations with reasonable to low and low certainty do not provide adequate support to change current practice.)	• What is the potential negative impact on patient or staff safety? (Interventions with higher risk require higher certainty evidence to put into practice.)	• How well does the change align with existing practices? • Values? • Norms? • Goals? • Skills?	• Is the change doable and are barriers realistic to overcome? • Is the practice environment ready for change? • Are necessary materials or human resources available? • Can the change be successfully implemented?	• Do impacted groups find the change agreeable? • Does leadership support the change and trust it is reasonable? • Does the change align with organizational priorities?

In concise statements, record the organization-specific recommendations below that address the EBP question.

After evaluating the certainty, risk, fit, feasibility, and acceptability of each of the best evidence recommendations, the team should record their organization-specific recommendations here.

There are various scenarios in which an EBP team will determine insufficient evidence to make a change, the risk is too high, or the best-evidence recommendations do not adequately meet the fit, feasibility, and acceptability requirements for implementation at the organization. If this is the case, the EBP team can record a recommendation to wait for more information to become available, consider beginning a research project to fill the knowledge gap, or discontinue the project.

Additionally, teams may decide there is insufficient evidence to support a current practice or strong evidence against a current practice. In this case, the team should consider recommending de-implementation.

Appendix J

Implementation and Action Planning Tool (A3)

Problem/Evidence (summary of problem, synthesis of evidence)	Implementation (Educate, Execute)
Enter text	Enter text
Goal	
SMART Goal aligned with Strategic Priority: Enter text	
Key Accomplishments using Translation Framework: Enter text	

Timeline/Milestones (Gantt)	People (Engage)
Enter text	Project Leader: Enter text Working Group: Enter text Collaborating Groups: Enter text Impacted Groups: Enter text Sponsor: Enter text

Metrics Progress (Evaluate)
Enter text

Risk and Risk Mitigation Strategy

Risk	Risk Mitigation Strategy	Status
Enter text	Enter text	Enter text
Enter text	Enter text	Enter text
Enter text	Enter text	Enter text

Work Breakdown Structure (refer to the Timeline/Milestones section of A3 and provide details for each phase of the implementation framework)							
Due Date	Task	Dependencies	Accountable Person(s)	Status	Planned Completion	Actual Completion	Resource
Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Sustainability Plan (Endure)							
What are the potential barriers to project sustainability?	What are some mitigation strategies for the potential obstacles?	What additional resources may be needed to support the project?	What additional training may be required?	What responsibilities need to be assigned?	To whom will these responsibilities be assigned?	Are there any additional metrics/outcomes that need to be collected/measured?	How frequently will you monitor and review your outcomes?
Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text

Instructions for the Implementation and Action Planning Tool (A3)

<table>
<tr><td>Problem/Evidence (summary of problem, synthesis of evidence)</td><td>Implementation (Educate, Execute)</td></tr>
<tr><td>Establish the problem being solved using national, organizational, and local data. Provide citations. Establish the process measures and patient outcomes that require improvement. Synthesize the evidence around the intervention that will be implemented and how the intervention will address the process measures and patient outcomes identified as problems. Provide citations.</td><td rowspan="3">Note the implementation framework chosen for project translation
May list phases of the framework here
Also, may list tools used, such as PDSA</td></tr>
<tr><td>Goal</td></tr>
<tr><td>SMART Goal aligned with Strategic Priority:
The goal should reflect an improvement in the problem identified. Establish how the project can address the process measures and patient outcomes identified as problems. Record what the team hopes to accomplish by implementing the change(s). These can be high-level statements used to inform the measurement plan and implementation. When available, the goal should address the organization's broad strategic priority.</td></tr>
<tr><td colspan="2">Key Accomplishments using Translation Framework: Identify each component of the translation framework and the significant accomplishments in each component; identify the stakeholders accountable for each component (the identified stakeholders should be reflected in the People section of the A3). The WBS should go into more detail on how key accomplishments will be completed. The A3 and WBS should go hand in hand and be reflective of each other.</td></tr>
</table>

<table>
<tr><td>Timeline/Milestones (Gantt)</td><td>People (Engage)</td></tr>
<tr><td>Identify each component of the translation framework and provide a high-level timeline based on the critical accomplishment section of the A3.</td><td>Project Leader: The student or the accountable person/group responsible for the project implementation

Working Group: The stakeholders doing the work

Collaborating Groups: The stakeholders who are working with the working group to complete the project

Stakeholders: The stakeholders affected by the implementation, e.g., multi-disciplinary team, organizational/departmental leadership, external community including patients and families, and front-line interprofessional staff (Refer to Stakeholder Analysis Resource). Complete key accomplishments to determine stakeholders.

Sponsor: Identify the accountable leader/group responsible for the improvement.</td></tr>
</table>

Metrics Progress (Evaluate) *(refer to Chapter 11)*

Practice change has different aspects; other measures are frequently used to monitor uptake, attitudes, and outcomes. Select as many as the team feels necessary to gain an accurate picture of ongoing impact. Record the specific metric(s) the team will measure within the outcome categories, how the metrics will be obtained, and how often. Outcomes can be added or changed as the literature review is completed and the translation planning begins. Metrics let you know whether the change was successful. They have a numerator and denominator, typically expressed as rates or percentages. For example, a metric for measuring falls-with-injury would be the number of falls with injury (numerator) divided by 1,000 patient days (denominator). Other examples of metrics include the number of direct care RNs (numerator) on a unit divided by the total number of direct care staff (denominator) or the number of medication errors divided by 1,000 orders.

- *Identify measures of success. This should be related to the goals and the problem identified.*
- *Use process measures, such as compliance to evidence-based practice, attendance to education, etc. (80% compliance to infection prevention bundle)*
- *Use patient/population outcomes, such as improvement in infection rates, length of stay, etc. Be specific- demonstrate improvement comparison from pre-implementation to post-implementation (Reduction of infection by 25% or Reduction of infection rate from 10.0 to 7.5)*
- *Use timelines on when the metrics will be achieved (ex, a month from implementation)*

Example: Implemented a Pressure Injury Prevention Bundle in Unit 5
Process measures:

- *80% of the nurses attended PIP bundle education sessions offered from July 1 2025-August 1, 2025*
- *95% of nurses compliant with documentation of the PIP bundle from August 2, 2025, through November 31, 2025*

Patient Outcome:

- *The acquired Pressure Injury Incidence Rate for Unit 5 improved from 3.0 % of patients admitted from January 1, 2025, to June 31, 2025, to 1.5% of patients admitted from December 1, 2025, through April 1, 2026*

Risk and Risk Mitigation Strategy

Risk	Risk Mitigation Strategy	Status

This analysis allows teams to identify barriers to implementation and potentially mitigate them using inherent strengths and resources. You may find specific challenges that will likely impact the ability to deliver on the action plan. Though these obstacles can get in the way, knowing about them up front is helpful so that you can engage support and create a plan to move forward.

Work Breakdown Structure (refer to the Timeline/Milestones section of A3 and provide details for each phase of the implementation framework)

A Work Breakdown Structure (WBS) is a deliverable-oriented prioritized list of the steps needed to accomplish the project objectives and create the required deliverables.

Consider all the categories of work (high-level deliverables) necessary to implement this change. What tasks must be accomplished first for each deliverable to move forward? When must they be completed to stay on track? For example, if a high-level deliverable is needed to implement a protocol, list all the tasks that need to be accomplished. Record when the team must begin and complete the task and which member(s) are responsible. If possible, list a specific person or role to create ownership of work.

Due Date	Task	Dependencies	Accountable Person(s)	Status	Planned Completion	Actual Completion	Resource
Month/Day/Year Connect to timeline.	*Detailed component of each task within the implementation framework.*	*What is needed before task completion.*	*Stakeholder/person responsible for the task.*	*Planned/ In Progress/ Completed/ Stalled/ Cancelled*	*Month/Day/Year*	*Month/Day/Year*	*Stakeholders, policies, applications, equipment*
Sustainability Plan (Endure)							
What are the potential barriers to project sustainability?	What are some mitigation strategies for the potential obstacles?	What additional resources may be needed to support the project?	What additional training may be required?	What responsibilities need to be assigned?	To whom will these responsibilities be assigned?	Are there any additional metrics/outcomes that need to be collected/measured?	How frequently will you monitor and review your outcomes?
Consider resource limitations (e.g. funding, personnel, equipment, supplies), stakeholder engagement, changes in policy or regulations, training needs, and the ability to monitor the program long-term.	*Strategies should directly address the barriers identified in the previous column. For example, if there is a concern for long-term funding, other sources of financing can be identified (e.g. grants, donations).*	*Identify any additional financial, personnel, or equipment resources that will need to be secured. Consider the type of support needed to mitigate obstacles. For example, if pursuing a grant, a grant writer would be a helpful resource.*	*List the education the end-users and other people supporting the project will need to receive. This may include the who, what, when, where, and/or why of the change.*	*Beyond the tasks needed to implement the intervention, what will need to be done to support the project in the long term? Considering project monitoring as well as new workflows or responsibilities that will need to be permanently in place.*	*Assign a person or role to the responsibilities listed in the previous column.*	*With a new process or practice, consider what additional metrics may need to be collected. For example, a new piece of equipment might require someone to assess the frequency and accuracy of its use.*	*Record how frequently you will measure the metrics in the previous column. Keep in mind, that as projects continue and results improve or stabilize, it may make sense to decrease monitoring frequency to lessen the burden on staff performing the data collection. This may need to be adjusted if metrics show signs of worsening.*

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Metrics Progress (Evaluate)
Enter text

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Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text
Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text	Enter text

Sustainability Plan (Endure)

What are the potential barriers to project sustainability?	What are some mitigation strategies for the potential obstacles?	What additional resources may be needed to support the project?	What additional training may be required?	What responsibilities need to be assigned?	To whom will these responsibilities be assigned?	Are there any additional metrics/outcomes that need to be collected/measured?	How frequently will you monitor and review your outcomes?
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Work Breakdown Structure (refer to the Timeline/Milestones section of A3 and provide details for each phase of the implementation framework)

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Sustainability Plan (Endure)							
What are the potential barriers to project sustainability?	What are some mitigation strategies for the potential obstacles?	What additional resources may be needed to support the project?	What additional training may be required?	What responsibilities need to be assigned?	To whom will these responsibilities be assigned?	Are there any additional metrics/outcomes that need to be collected/measured?	How frequently will you monitor and review your outcomes?
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