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Evidence Based Practice Question Development & Search Checklist

Roy E. Brown
rebrown2@vcu.edu

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Evidence Based Practice Question Development & Search Checklist

- Problem / Issue / Initial Question:**
If you have an idea/solution in mind, what problem are you addressing?

- Why is this a problem? What data / measures or evidence / practice observations could be used to show this is an issue/problem? (Internal Evidence)**

- Describe current practice related to your problem. Include any key observations, processes in place such as audits, checklists, EMR documentation, etc. relevant to the problem.**

- Is there an established way of addressing this problem that is based on evidence?**

| | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--------------------------------|--|--------|--|--------|--|--------------------------------|--|--------|--|--|-----------------------|--|---------------|--|--|--|---|--|--|--|-------------------------------------|
| <input type="checkbox"/> Talked with nurse manager, nurse clinician, educator, or director. | <input type="checkbox"/> Checked for available hospital and/or unit procedures / policies / protocols | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> Talked with hospital / subject matter experts (SME) | <input type="checkbox"/> Checked for practice guideline: | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> Checked for systematic review/meta-analysis <table border="1" style="margin-left: 20px; width: 80%; border-collapse: collapse;"> <tr><td style="width: 20%;"></td><td>PubMed/Medline or OVID MEDLINE</td></tr> <tr><td></td><td>EMBASE</td></tr> <tr><td></td><td>CINAHL</td></tr> <tr><td></td><td>Cochrane Database of Sys. Rev.</td></tr> <tr><td></td><td>EMBASE</td></tr> </table> | | PubMed/Medline or OVID MEDLINE | | EMBASE | | CINAHL | | Cochrane Database of Sys. Rev. | | EMBASE | <table border="1" style="margin-left: 20px; width: 80%; border-collapse: collapse;"> <tr><td style="width: 20%;"></td><td>ECRI Guidelines Trust</td></tr> <tr><td></td><td>TRIP Database</td></tr> <tr><td></td><td>Professional Organizations. <i>(ex. AORN, AACN)</i></td></tr> <tr><td></td><td>Scientific Societies <i>(ex. American Heart Assoc., American Cancer Soc)</i></td></tr> <tr><td></td><td>Point of Care Tools <i>(ex. Up to Date, Clinical Key)</i></td></tr> <tr><td></td><td>US Preventative Services Task Force</td></tr> </table> | | ECRI Guidelines Trust | | TRIP Database | | Professional Organizations. <i>(ex. AORN, AACN)</i> | | Scientific Societies <i>(ex. American Heart Assoc., American Cancer Soc)</i> | | Point of Care Tools <i>(ex. Up to Date, Clinical Key)</i> | | US Preventative Services Task Force |
| | PubMed/Medline or OVID MEDLINE | | | | | | | | | | | | | | | | | | | | | | |
| | EMBASE | | | | | | | | | | | | | | | | | | | | | | |
| | CINAHL | | | | | | | | | | | | | | | | | | | | | | |
| | Cochrane Database of Sys. Rev. | | | | | | | | | | | | | | | | | | | | | | |
| | EMBASE | | | | | | | | | | | | | | | | | | | | | | |
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| | US Preventative Services Task Force | | | | | | | | | | | | | | | | | | | | | | |



Evidence Based Practice Question Development & Search Checklist

Identify Subject Matter Experts and Those Affected by the Potential Initiative or Project (Stakeholders)

May need to talk with these people or departments for insight or to find evidence, also may be potential teammates. Recommend documenting who you spoke to, when, the topic discussed and what was learned.

Consider the Appropriateness of the Question (Feasibility)

Things to consider when it comes to the potential initiative or project. The answers to these questions need to be identified to ensure success.

| | |
|--------------------------|---|
| <input type="checkbox"/> | <p>Is the problem/issue/topic within the scope of nursing practice?</p> <p>If the answer is no, you will need to team with those who are part of the clinical practice. If unable, it is best to find another topic to pursue if attempting to launch an EBP project/initiative.</p> |
| <input type="checkbox"/> | <p>What hospital patient safety goal or initiative does the problem align with?</p> <p>Identify the specific goal/initiative: _____</p> |
| <input type="checkbox"/> | <p>Time</p> <p>How much time do you think is needed to explore this topic through to implementation?</p> <p>Do you and your team have the time to devote to exploring this topic and following through on implementation?</p> <p>Is there a hospital resource or team that you could partner with to maximize your time?</p> |
| <input type="checkbox"/> | <p>Resources</p> <p>Does the organization have the tests, equipment, and other resources that will be needed for this intervention to be implemented?</p> |
| <input type="checkbox"/> | <p>Cost / Return on Investment (ROI)</p> <p>What do you expect the costs of the practice change to be as well as what are the potential cost savings for the organization?</p> |
| <input type="checkbox"/> | <p>Team Identified</p> <p>Have you identified individuals to assist you with this initiative/project? Does this group represent perspectives of more than one discipline if your topic is one that affects other disciplines? Be sure to get a commitment that those identified are willing to assist.</p> <p>_____</p> <p>_____</p> |

Evidence Based Practice Question Development & Search Checklist

- Constructing Your Clinical Question**
Start with a background question (broad) and move towards a foreground question (focused – PICO format)

Background Question

Provides general information that enables one to gain a greater understanding and allows one to understand the options or possibilities when it comes to addressing a topic. Tend to have two components: A question root (who, what, when, etc.) with a verb followed by a disorder, test, treatment, etc.

Foreground Question – The Clinical Question

A focused question that asks something specific in order to make an informed clinical decision or action. Should not be directional.

Question Templates for Asking PICOT Questions

Intervention

In _____ (P), how does _____ (I) compared to _____ (C) affect _____ (O) within _____ (T)?

ETIOLOGY

Are _____ (P), who have _____ (I) compared with those without _____ (C) at _____ risk for/of _____ (O) over _____ (T)?

DIAGNOSIS OR DIAGNOSTIC TEST

In _____ (P) are/is _____ (I) compared to _____ (C) more accurate in diagnosing _____ (O)

PROGNOSIS / PREDICTION

In (For) _____ (P), how does _____ (I) compared to _____ (C) influence _____ (O) during/over _____ (T)?

MEANING

How do _____ (P) with _____ (I) perceive _____ (O) during _____ (T)?

Melnyk, B. M., & Fineout-Overholt, E. (2011). Evidence-based practice in nursing & healthcare: A guide to best practice. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins



Evidence Based Practice Question Development & Search Checklist

Searching the Literature & The PICO Format. (External Evidence)

| P (Problem, Patient, Population, Program) | I (Intervention) | C (Comparison) What You are Doing Now | O (Outcome) | T (Type of Question) | T (Type of Study) |
|---|----------------------------|--|-----------------------|--------------------------------|-----------------------------|
| | | | | | |

The Type of Question Can Determine Type of Studies Needed:

Always want a **clinical practice guideline, systematic review or meta-analysis** when possible. Most of the time you will find only primary studies.

| Type of Question | Best Type of Evidence / Study |
|--|--|
| Intervention/Therapy: How well do interventions or treatments work in respect to an outcome. May address harm, viability, or cost. | Randomized Control Trial (RCT) or Systematic/Review Meta-Analysis of RCTs |
| Prevention: How to prevent a disease or condition | RCT/ Cohort Study / Case Control / Systematic Review / Meta-Analysis |
| Prognosis / Prediction: How to estimate the patient's likely clinical course over time and anticipate the likely complications of the disease or condition. | Cohort Study / Case Control / Case Series or Case Report / Synthesis or Cohort or Case Control Studies / Meta-Synthesis |
| Diagnosis or Diagnostic Test: How to select what mechanism or diagnostic tests to most accurately determine outcome. | Blind RCT Compared to Gold Standard (Best Treatment or Test) / Systematic Review / Meta-Analysis of RCTs |
| Etiology: Identify factor, process, condition that is associated or correlated with an outcome or disease. | RCT / Cohort Study / Case Control / Meta-Synthesis |
| Meaning: How an experience influences an outcome, the phenomena or health care. | Meta-Synthesis / Qualitative Studies |
| Cost Analysis: Economic costs of all facets of a intervention or disease treatment. | Economic Analysis. |

Users' guides to the medical literature A manual for evidence-based clinical practice (2008). In Rennie D. (Ed.), McGraw-Hill Medical: McGraw-Hill Medical: New York.



Evidence Based Practice Question Development & Search Checklist

Search Terms / Concepts:

| PICO Components | Primary Search Terms | Alternative Terms |
|-----------------|----------------------|-------------------|
| P | | |
| I | | |
| C | | |
| O | | |

Possible Limits to Apply:

Gender:

- Male
 Female

Species:

- Humans
 Animals

Age Groups: (May Differ Between Databases)

- All Ages
 Newborn (< 1 month)
 Infant (1 - 23 months)
 Pre-School (2 - 5 yrs.)
 Child (6-12 yrs.)
- Adolescent (13-18yrs.)
 Adult (19 - 44 yrs.)
 Middle Aged (45-64 yrs.)
 Elderly (65 - 79 yrs.)
 Aged (> 80 yrs.)

Languages:

- English Only
 Other Languages _____

Years Covered:

- Last 5 Years
 Last 10 Years
 Year Range _____ to _____

Known Authors or Researchers in the Field:

Citations Found That are Related to the Topic:

Useful Keywords or Subject Headings by Database:

If you find a good article, search for it in PubMed, CINAHL or another database that has a controlled vocabulary and see how it is indexed. This will allow you to find terms that may be useful to find more articles on the same topic.

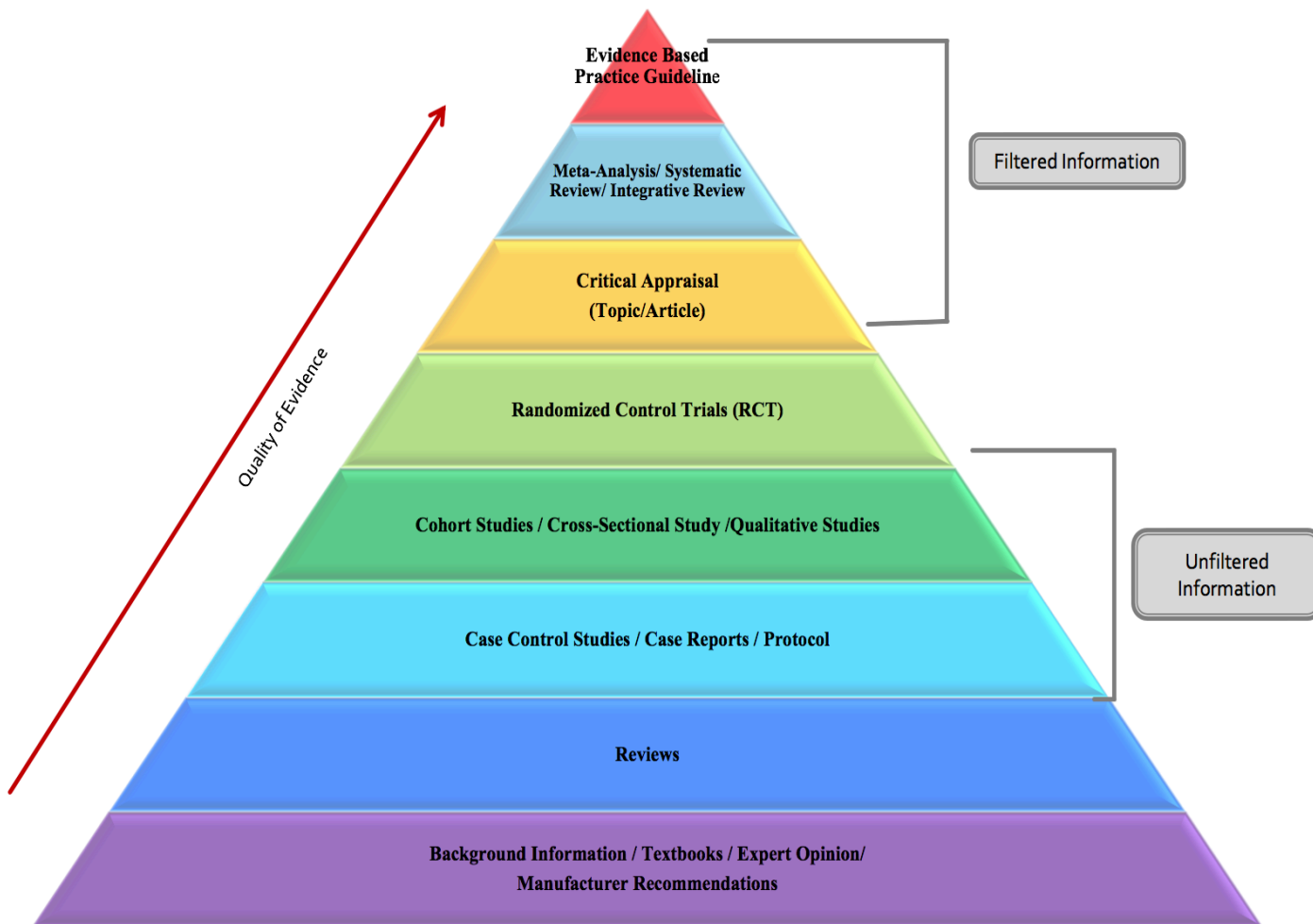
| Database #1: | Database #2: | Database #3: |
|--------------|--------------|--------------|
| _____ | _____ | _____ |
| | | |



Evidence Based Practice Question Development & Search Checklist

EBP Evidence Pyramid

Try to find evidence towards the top of the pyramid and work your way down.



Notes:



Evidence Based Practice Question Development & Search Checklist

Appraisal of the Evidence Found – Is There Enough?

Appraising the evidence when it comes to EBP ideally, should be done as team with more than one person appraising each article or piece of evidence. Each person has a unique perspective based on their knowledge and experience, which may result in varying strengths regarding evidence appraisal.

| Proceed with Evidence Based Practice Project / Question | |
|---|--|
| <input type="checkbox"/> Yes | <ul style="list-style-type: none"> • Questions / Assistance: Contact Your Nurse Clinician, Nurse Manager or the Department, Council or Committee that Supports EBP. • Next Steps: <ul style="list-style-type: none"> ○ Finalize Team Members & Schedule Meetings ○ Assess translation of evidence into practice setting ○ Gather Pre-Intervention / Pre-Project Data ○ Create Action Plan to Implement Change ○ Implement Change on a Small Scale (Pilot Project) ○ Evaluate Pilot and Determine if Ready for Full Scale Change ○ Implement Practice Change ○ Gather Post Intervention / Project Data ○ Report Results to Decision Makers ○ Adopt Change & Identify Next Steps ○ Disseminate – Poster, Paper, Presentation |
| Proceed with Research Project | |
| <input type="checkbox"/> No | <ul style="list-style-type: none"> • Next Steps: <ul style="list-style-type: none"> ○ Contact the Department, Council or Committee that Supports Research. ○ Find or Be Assigned a Mentor ○ Identify Resources Needed and Funding Options ○ Formulate IRB Proposal and Submit for Approval ○ Implement Research Protocol ○ Collect and Analyze Data ○ Determine Impact or Outcome(s) of the Study, Potential for Translation, and Identify Next Steps. ○ Disseminate – Poster, Paper, Presentation |

Notes:



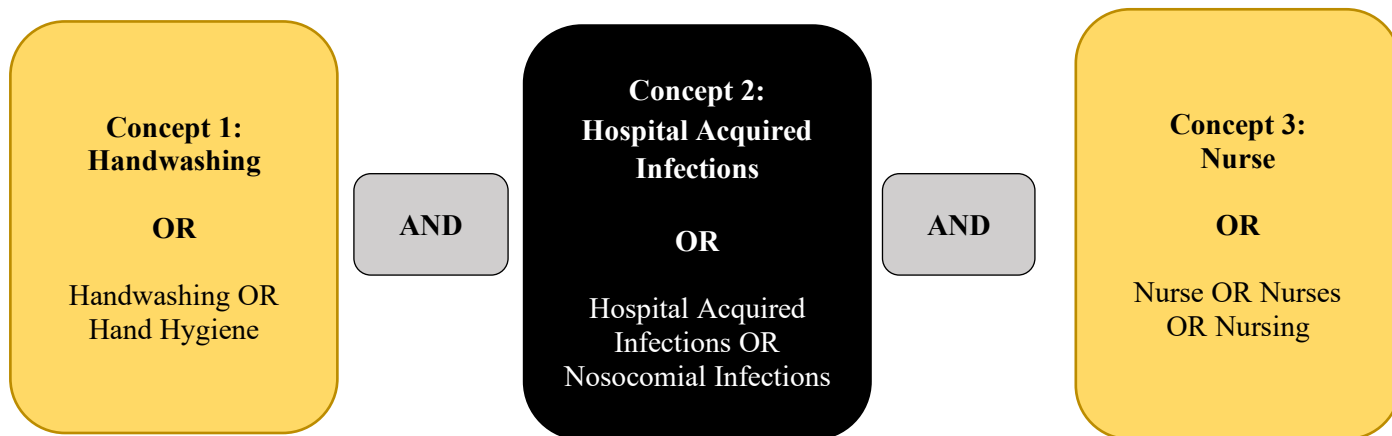
Evidence Based Practice Question Development & Search Checklist

Basic Rules of Doing a Good Search

Keep in Mind: Search comprehensiveness is determined by information need.
(Patient Care v. School Assignment)

1) Break Search into Concepts

- Easier to manipulate your search to get desired results.
- Start with two most important concepts from your question.
- Combine with Boolean operators - **AND, OR, NOT**



2) Come up with Alternative Terms or Concepts for Your Topic

- Databases = Different Audiences
- Remember: Terms people use are based on background / perspective / education/ profession
- Sources for alternative terms:
 - Index/Entry Terms of Subject Headings
 - Terms from Related Articles
 - Google Scholar

| | Concept/ Term | Synonyms/ Related Concepts (Other Ways to Describe) |
|------------------|------------------|--|
| Concept/ Term #1 | | OR |
| AND | Concept/ Term #2 | OR |
| AND | Concept/ Term #3 | OR |



Evidence Based Practice Question Development & Search Checklist

3) Use Subject Heading When Possible (*Advanced Searching Skill*)

- PubMed – Medical Subject Headings (MeSH)
- Embase – Emtree (Embase Subject Headings)
- CINAHL – CINAHL Headings
- Useful Tools:
 - *MeSH on Demand*: <https://www.nlm.nih.gov/mesh/MeSHonDemand.html>
 - *Yale MeSH Analyzer*: <http://mesh.med.yale.edu/>

| | Advantages | Disadvantages |
|--|--|--|
| Controlled Vocabulary (Subject Heading) | <ul style="list-style-type: none"> • May provide terms that can broaden or narrow search • Accounts for most common synonyms • Retrieve all items in database indexed under the topic | <ul style="list-style-type: none"> • Recently coined terms may not have a subject term assigned • Can be difficult to find if no list of subject terms is included in the database |
| Keyword | <ul style="list-style-type: none"> • Retrieve synonyms, jargon, new or distinctive words • Identify relevant articles quickly to find appropriate controlled vocabulary | <ul style="list-style-type: none"> • May retrieve irrelevant articles • Your search must account for synonyms and alternative terms |

4) Start Your Search Broad and Then Focus

- Use Limits/Filter of the Database (*Publication/Study Types, Language, Gender/Sex, Etc.*)
 - Start at the Top of the Evidence Pyramid and Work Down
- Add an Additional Concept or Term


| Finding Too Many Articles? Ways to <i>Decrease/Focus</i> Your Results | Not Finding Enough? Ways to <i>Expand/Increase</i> Your Results |
|---|--|
| <ul style="list-style-type: none"> • Utilize limits to English language, human subjects, review articles, time period searched (<i>last 5 years</i>), etc. • Add an additional term or concept • Do not explode • Restrict subject heading to major focus or major heading • Choose any relevant subheadings | <ul style="list-style-type: none"> • Add additional synonyms • Explode subject headings whenever possible • Do not restrict subject headings to major focus/heading • Do not choose subheadings • Consider searching back in time, look at citations of relevant article found. |



Evidence Based Practice Question Development & Search Checklist

5) Always Search at Least Two Databases – *Unique Articles in Each Database*

Provide different ways to access existing literature on a topic and may find evidence in one database using terminology that would not be found in another database.

| | |
|---|--|
|  | <p>Contains biomedical literature. Good place to search when the question is medical in nature or when you are not sure where to start.</p> |
|  | <p>Contains biomedical and pharmacological literature. Good place to search when it comes to medical, pharmacology and toxicology topics or questions.</p> |
|  <p>Available via EBSCOhost</p> | <p>Contains nursing and allied health literature. Good place to search when questions fall within the scope of nursing and allied health practice.</p> |
|  | <p>Contains psychological literature. Good to search when the question addresses psychology or psychiatry topics.</p> |
|  | <p>Resource that contains several different databases, one of those being the database of systematic reviews. Good place to search when you are searching for systematic reviews, economic evaluations and randomized controlled trials.</p> |
|   | <p>Contains education research. Good places to search when your question addresses educational topics.</p> |
|  <p>Powered by EBSCOhost</p>  | <p>Contains business, management and economic research. Good places to search when your search address management, economic or business topics.</p> |



Evidence Based Practice Question Development & Search Checklist

Reasons for Differences in Searches

Word Choice

Background / Education / Perspective / Profession

How Terms are Combined

Boolean Operators - AND / OR / NOT

- OR: More; ANY of your search terms can be present in the resulting records.
- AND: Less; ALL search terms must be present in the resulting records.
- NOT: Narrow; Exclude words/concepts from your search.

Databases Searched

PubMed/MEDLINE or OVID MEDLINE
Biomedical/Medical Topics

Embase
Biomedical/Medical and Pharmacological Topics

CINAHL
Nursing and Allied Health Topics

Different Word or Term Options

Use of Quotation Marks = Exact Phrase Searching

Use of Limits / Filters

Put on After Combining Terms

Singular or Plural

Nurses v. Nurse

Field of Citation Searched

Title, Abstract, etc.

Truncation (*)

Nurs* = Nurse, Nurses, Nursing

Be Cautious When Using!

Subject Headings

MeSH, Emtree, CINAHL Headings, etc.

Compound Words

Together or Separate

“Handwashing” or “Hand washing”



Evidence Based Practice Question Development & Search Checklist

Notes:

Original version appeared in the following article:

McGrath, J. M., Brown, R. E., & Samra, H. A. (2012). Before you search the literature: how to prepare and get the most out of citation databases. *Newborn and Infant Nursing Reviews*, 12(3), 162-170.

