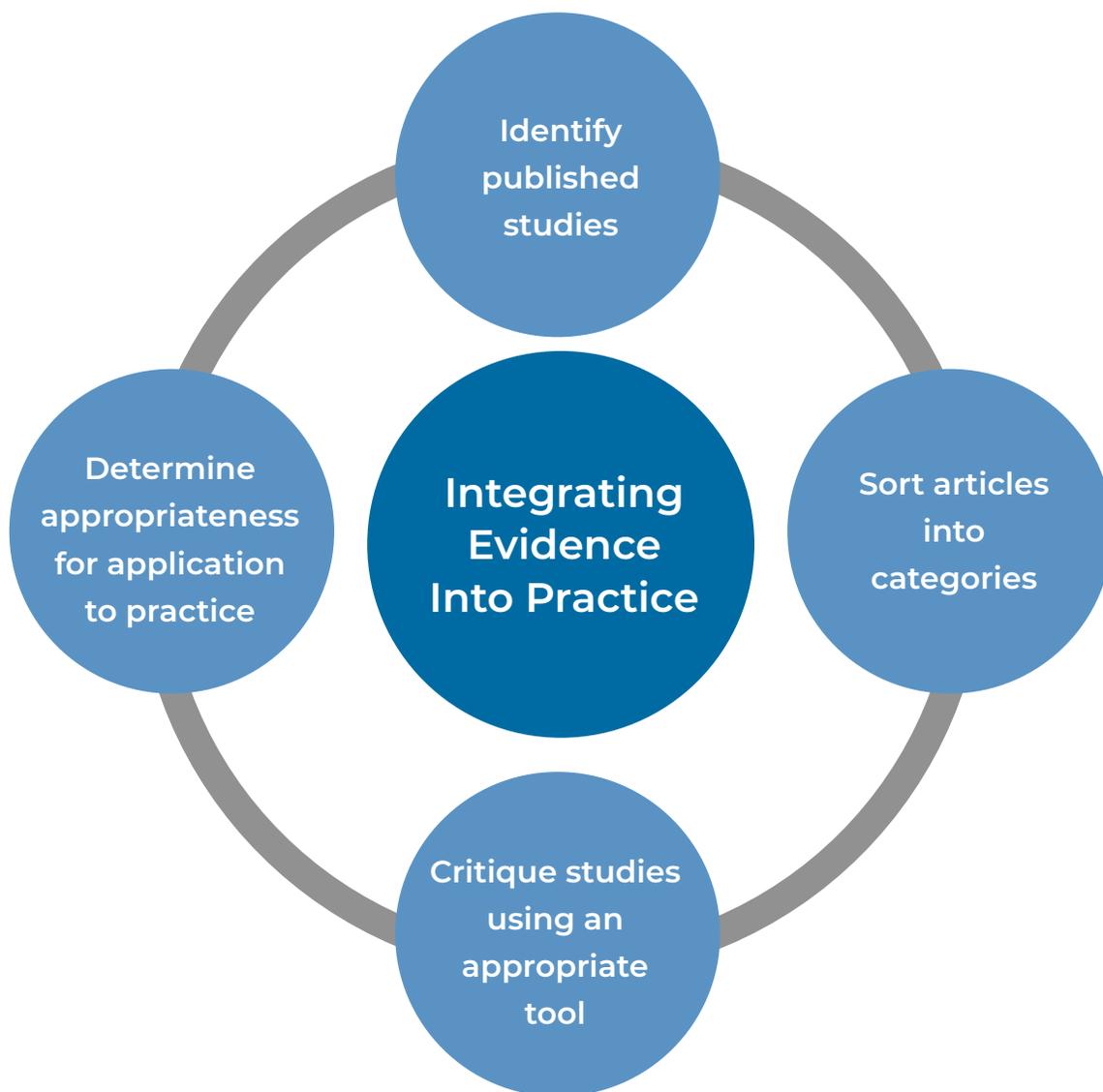


RESEARCH SERIES PART I

AN EVIDENCE-BASED APPROACH TO INFORM CLINICAL PRACTICE

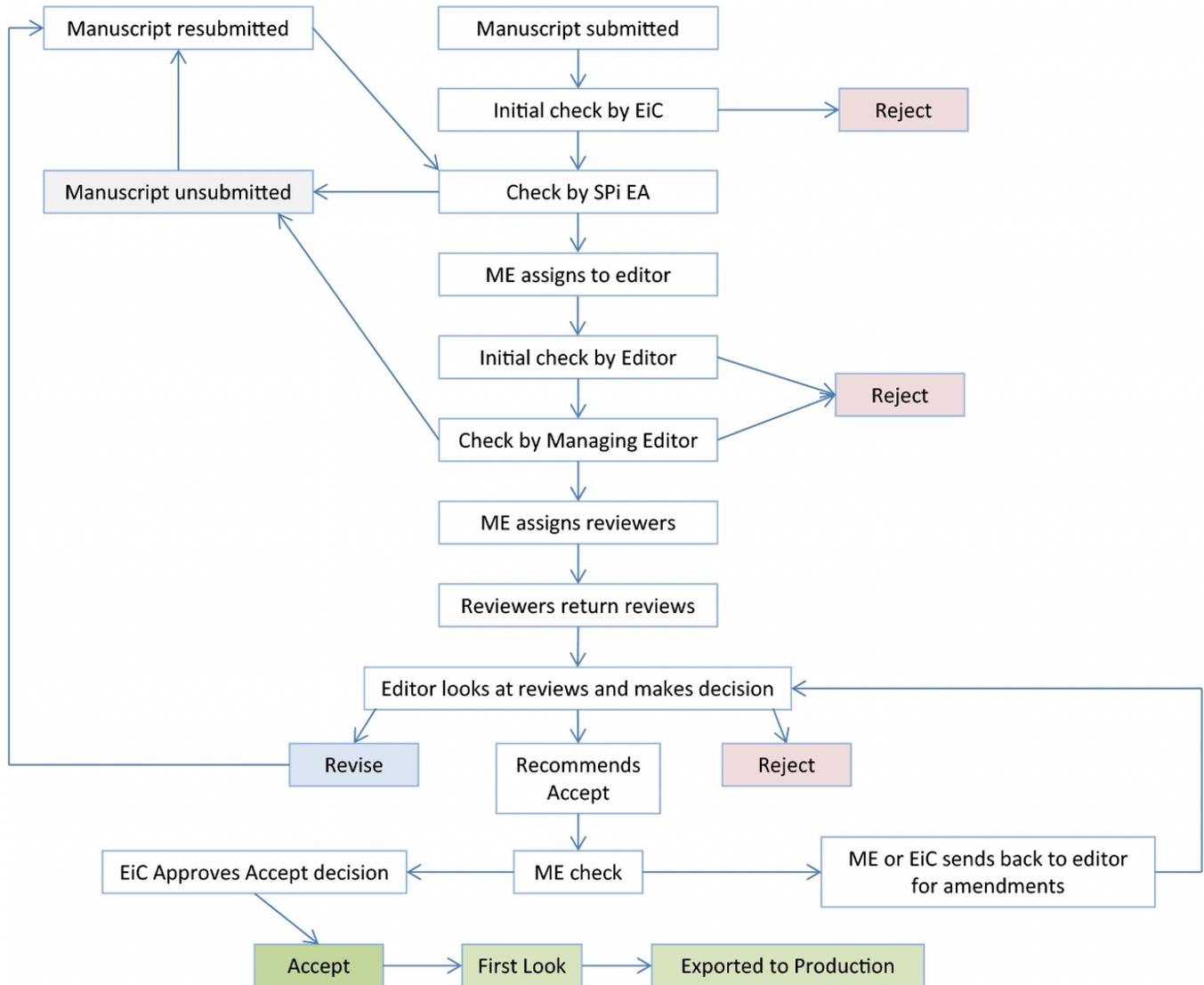
Do you have a clinical question? If so, collecting evidence to help answer your question is an extremely important step in promoting the best evidence-based practice. To fully engage in evidence-based practice, nurses must develop skills in identifying, critiquing, synthesizing, and applying published research.¹ The reader must be able to critique published studies before deciding whether they are useful for practice or education. Only excellent empirical evidence can form the foundation of evidence-based practice.

Figure 1. Steps to Inform Clinical Practice



EVALUATING PUBLISHED RESEARCH

“**Primary empirical research** is the systematic collection of data to answer an empirical question or test a hypothesis. A variety of qualitative and quantitative designs is used, including experimental, quasi-experimental, descriptive, exploratory, case studies, and ethnography.”² Research studies published in scholarly journals are rigorously peer-reviewed using the following process³:



From: Ali, P. A., & Watson, R. (2016). Peer review and the publication process. *Nursing Open*, 3(4), 193-202. <https://onlinelibrary.wiley.com/doi/full/10.1002/nop2.51>

Abbreviations: The editorial process, including peer review. EiC, editor-in-chief; EA, editorial assistant; ME, managing editor.

TYPES OF SCHOLARY ARTICLES

Quantitative research generally involves collecting data with research instruments or tools. The data gathered are numerical and analyzed statistically. Descriptive statistics are used to summarize or describe data. Analytic statistics are used to draw inferences or conclusions about the data.

Qualitative research usually involves interviewing participants and using their words as data. Results can be presented as themes, concepts, categories, or theories. The data gathered includes text. This text data can then be analyzed through a variety of interpretive processes.

Mixed-methods research is conducted using both quantitative and qualitative methods. The researcher collects some data using tools or instruments and other data through interviews with participants. The researcher can draw stronger conclusions when the results of both approaches are congruent.

Literature reviews provide a thorough description of published literature on a particular topic. Sometimes called systematic reviews or state-of-the-science papers, literature reviews are often used to summarize what is already known about a topic and to point out areas for further inquiry.

To find more information about comparing quantitative and qualitative research please watch [this video](#).

HOW DO I KNOW WHICH IS WHICH?

Look for keywords in the abstract of an article to help you determine which kind of article it is.

QUANTITATIVE	QUALITATIVE	MIXED METHODS	LITERATURE REVIEW
<ul style="list-style-type: none"> • Experiment • Control • Predict • Research instruments • Analytic statistics • Reliability/ validity 	<ul style="list-style-type: none"> • Explore • Lived experience • Interviews • Bracketing • Focus group • Themes 	<ul style="list-style-type: none"> • Multimethod • Triangulation • Integrated • Combined • Composite • Combination 	<ul style="list-style-type: none"> • Literature search • Review of literature • Literary review • Systematic review • State of the science • Survey

CRITIQUING PUBLISHED RESEARCH

Each type of research article is critiqued differently. Once you have identified the type of literature you have found, it is important to critique it. The purpose of a research critique is to determine whether its findings are usable for you. It is important to note that not all published research is scientifically sound. You can use guides to help you critique the different types of articles and decide whether the research is sound. The following lists of questions can help you identify the strength of the evidence for each type of article.

CRITIQUING A QUANTITATIVE STUDY

Question	Yes/No
1. Is the researcher qualified to conduct the study?	
2. Does the title of the study give a clear indication of what the study is about?	
3. Is the abstract concise, clearly written?	
4. Does the abstract include the purpose of the article, the sample, the method, and the results?	
5. Is the purpose of the study clearly defined?	
6. Is the literature review well-organized (if there is no literature review section, then check the 'Introduction' section)	
7. Are the steps of the research study logical?	
8. Has a conceptual framework or theory been used?	
9. Have aims, objectives, or hypotheses been identified?	
10. Has the sample been clearly identified?	
11. Is the sample size adequate?	
12. Are the inclusion and exclusion criteria clearly identified?	
13. Were the ethical considerations of the study explained? Was IRB approval (or other ethical permission) obtained?	
14. Was the research design clearly identified?	
15. Were the instruments appropriate for the study?	
16. Were the statistical tests used appropriate?	
17. Were the findings clearly stated?	
18. Were the findings on this study compared with other research findings?	
19. Were the strengths and limitations of the study reviewed?	
20. Are the findings generalizable?	
21. Is the article well-written and well-organized?	

Adapted from Coughlan et al.

CRITIQUING A QUALITATIVE STUDY

Question	Yes/No
1. Is the researcher qualified to conduct the study?	
2. Does the title of the study give a clear indication of what the study is about?	
3. Is the abstract concise, clearly written?	
4. Does the abstract include the purpose of the article, the sample, the method, and the results?	
5. Is the topic of the study clearly identified?	
6. Is the literature review well-organized (if there is no literature review section, then check the 'Introduction' section)	
7. Are the steps of the research study logical?	
8. Has a conceptual framework or theory been used?	
9. Is the choice of methods appropriate to answer the research question?	
10. Has the sample been clearly identified?	
11. Is the sample size adequate?	
12. Are the inclusion and exclusion criteria clearly identified?	
13. Were the ethical considerations of the study explained? Was IRB approval (or other ethical permission) obtained?	
14. Were the data collection methods clearly described?	
15. Were the methods used to analyze the data clearly described?	
16. Was the development of the categories, themes, etc. explained clearly?	
17. Were the findings clearly stated?	
18. Were the findings supported with the data obtained in the study?	
19. Did the researcher address rigor and trustworthiness?	
20. Were the findings on this study compared with other research findings?	
21. Were the strengths and limitations of the study reviewed?	
22. Is the article well-written and well-organized?	

Adapted from Ryan et al.

CRITIQUING A LITERATURE REVIEW

Question	Yes/No
1. Is the review up-to-date?	
2. Are major studies on the topic included?	
3. Did the researcher explain the process used to identify research?	
4. Does the review include mainly primary resources?	
5. Is the research used critically evaluated and compared or are the studies only summarized?	
6. Are important gaps in the literature identified?	
7. Is the review well-organized and written clearly?	
8. Does the review draw appropriate conclusions about practice implications?	

Note: PRISMA is used to guide reporting points in systematic review and meta-analyses. An evaluation guideline is available at: <http://www.prisma-statement.org/>

CRITIQUING A MIXED METHODS STUDY

Question	Yes/No
1. Is the researcher qualified to conduct the study?	
2. Does the title of the study give a clear indication of what the study is about?	
3. Is the abstract concise and clearly written?	
4. Does the abstract include the purpose of the article, the sample, the method, and the results?	
5. Is the topic of the study clearly identified?	
6. Is the literature review well organized? (If there is no literature review section, then check the 'Introduction' section.)	
7. Are the steps of the research study logical?	
8. Has a conceptual framework or theory been used?	
9. Is a mixed-methods approach appropriate to answer the research question?	
10. Are the quantitative and qualitative aspects of the study well integrated?	
11. Has the sample been clearly identified?	
12. Is the sample size for the quantitative part of the study adequate (i.e., was power analysis used)?	
13. Is the sample size for the qualitative part of the study adequate (i.e., was saturation reached)?	
14. Are the inclusion and exclusion criteria clearly identified?	
15. Were the ethical considerations of the study explained? Was IRB approval (or other ethical permission) obtained?	
16. Were the data collection methods clearly described?	
17. Were the methods used to analyze the data clearly described?	

13. Is the sample size for the qualitative part of the study adequate (i.e., was saturation reached)?	
14. Are the inclusion and exclusion criteria clearly identified?	
15. Were the ethical considerations of the study explained? Was IRB approval (or other ethical permission) obtained?	
16. Were the data collection methods clearly described?	
17. Were the methods used to analyze the data clearly described?	
18. Was the development of the categories, themes, etc. explained clearly?	
19. Were the quantitative and qualitative findings well integrated?	
20. Were the findings well supported with the data obtained in the study?	
21. Did the researcher address the validity and generalizability of the quantitative results?	
22. Did the researcher address the rigor and trustworthiness of the qualitative findings?	
23. Were the findings of this study compared with other research findings?	
24. Were the strengths and limitations of the study reviewed?	
25. Is the article well written and well organized?	

Adapted from Coughlan et al; Hong et al; and Ryan et al.

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