

Development of an Evidence Based Practice Competency Framework



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Introduction

Evidence-based practice (EBP) has been proposed for optimal patient care for more than three decades, yet competence in EBP knowledge and skills among nurse clinicians remains difficult to measure. The measurement of EBP competence is difficult and challenging due to lacking explicit competency standards and very limited validated assessment tools. In Australia, the Australian Nursing and Midwifery Council (ANMC) competency standards is far from specific in spelling out the components required for measuring EBP competence. Therefore, an EBP competency framework with explicit components is important in facilitating the measurement of EBP implementation.

Aim: To devise a competency framework for guiding the development of Evidence-Based Nursing Practice Assessment Tool

The Evidence Based Practice Competency Framework

New



■ A matrix designed for mapping each step of EBP model (Ask, Acquire, Appraise, Apply; and Assess) across the grid of elements required for reflecting EBP knowledge and skills in using evidence.

■ The ANMC National Competency Standard for the Registered Nurse and publications by local and international nursing and healthcare EBP scholars were used to set the benchmark components for the framework.



EBP 5-step model	Required knowledge (Benchmark of EBP competence for registered nurses)	Required skills (Recommendation from international nursing and healthcare scholars)
Ask	1.1 Identifies the relevance of research to improving individual/group health outcomes ¹ 1.2 Identifies problem(s)/issue(s) in nursing practice which is/are suitable for research ¹	1.3 Understands the acronyms of PICO ²⁻⁵ 1.4 Converts a clinical scenario into an answerable question using PICO strategies ²⁻⁵
Acquire	2.1 Demonstrates analytic skills in accessing health information and research evidence ¹	2.2 Understands the difference between filtered (pre-appraised) and unfiltered (un-appraised) database resources, recognises the common databases being used ²⁻⁶ e.g. Medline, CINAHL 2.3 Relates study types to study designs ²⁻⁶ 2.4 Possesses basic searching skills ²⁻⁵ 2.5 Constructs search strategy plans for relevant databases ²⁻⁵
Appraise	3.1 Demonstrates analytic skills in evaluating health information and research evidence ¹ 3.2 Undertakes critical analysis of evidence in considering its application to practice ¹ 3.3 Understands how knowledge/evidence is transferred through appraisal of evidence ⁷ If pre-appraised research evidence is used, this step may be skipped.	3.4 Recognises key research terminologies and commonly used statistical terms ^{4,5} 3.5 Recognises common tests used for quantitative or qualitative analysis ^{4,5} 3.6 Uses a relevant appraisal tool to evaluate the strength of evidence ³⁻⁵ 3.7 Identifies the strength and applicability of evidence: a) For quantitative evidence – discusses benefit and harms of choices in measurable numbers/effect size ^{2-4,8} b) For qualitative evidence – discusses the evidence's credibility ^{2,4,5} using the FAME (Feasibility, Appropriateness, Meaningfulness, and Effectiveness) scale ^{9,10} or other qualitative appraisal tool ³
Apply	4.1 Uses evidence to improve current practice ¹ 4.2 Recognises that nursing expertise varies with education, experience and context of practice ¹ 4.3 Participates in research and quality improvement activities ¹ 4.4 Changes practice via guidelines/protocols ⁷	4.5 Summarises all applicable evidence with consideration of patient's preference and other clinical and non-clinical contextual factors ^{2,5} 4.6 Explains evidence and discusses options with patient in lay language ² 4.7 Applies evidence into clinical scenario ²
Assess (Evaluate)	5.1 Reviews the outcome of nursing care ¹ 5.2 Participates in case review activities ¹ 5.3 Discusses implications of research with colleagues ¹	5.7 Assesses outcome of care through application of the first four steps of EBP model ¹¹ 5.8 Identifies strategy for direct measures of care outcomes ¹¹
	5.4 Seeks feedback from various sources to improve quality of care ¹ 5.5 Participates in review of practice outcomes, standards and guidelines; review of policies, procedures and guidelines based on evidence ¹ 5.6 Recognises the need to evaluate the impact on outcome ⁷	e.g. derived from clinical documentation, case review, patient's feedback 5.9 Reflects on own skills and seek improvement ¹¹

Methods

Three groups of content experts (nurse academics, clinicians; and EBP experts) were invited through the email networks at Sydney Medical School, Sydney Nursing School, and the Australian Nurse Teachers Society to comment on the structure and elements proposed for the EBP competency framework, from August to December, 2013. An introduction to the study and the role of a content expert were explained in the invitation email, potential participants were given choices to fill out the evaluation forms either through face-to-face/telephone interview or followed the written instructions and had them posted. The invitation was open for four months from the first contact date. A reminder email was sent four weeks after the forms were sent. The study was approved by the Human Research Ethics Committee at University of Sydney.

The evaluation forms contain eight statements and two open-ended questions. Content experts were invited to rate their agreements about the relevancy and appropriateness of the framework structure using a 5-point Likert scale with 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly agree. They were also invited to state their opinions about the elements proposed for measuring EBP knowledge and skills and commented if they were reasonably expected for a beginner registered nurse.

Results

- Sixty-nine evaluation forms were sent with 43 returned representing an overall response rate of 62%
- Participants were nurse educators/academics (n=25), nurse clinicians (n=6); and EBP experts (n=12)
- Content experts agreement in relation to the structure and elements used in the framework was significantly substantial; ICC: 0.798, 95% CI: 0.689-0.880; P<0.0005.
- Qualitative comments were analysed independently by three researchers, which led to emerging of three main themes:

1. The framework appears to be a useful guide for measuring EBP competence in nurses;



- 'The elements reflect areas of knowledge and skills needed for EBP' (EBP expert)
- 'Easy, logical process/sequence. Good acronym 5A's' (Clinician)
- 'The elements are from the ANMC standards so are relevant known to nurses' (Nurse educator/academic)
- 'They are useful descriptors of what is already established in literature' (Nurse educator/academic)

2. There are different expectations and acceptance of competence levels across the profession; and



- '1.4 (EBP step 1) – converts appears to need structural changes not simple development, too difficult' (Clinician)
- 'I think recognises is appropriate for 3.4 & 3.5 (EBP step 3) as understand implies a higher order of skills that may not be present in new graduate nurses or some clinicians...' (Nurse educator/academic)
- '3.4/3.5 (EBP step 3) – need to understand the terms, not just recognise them; suggests understands' (EBP expert)
- '3.5 (EBP step 3) – recognises, need to understand limitations; suggests comprehends' (EBP expert)

'The taxonomy is highly acceptable, through individual nurses' perception may differ because of their subjective interpretation on everybody views their world uniquely e.g. What one person may recognise, another may not even perceive. There needs to be some way to discern the subjective differentiation of the EBP tool's outcome' (Nurse educator/academic)

'I think people need to be able to appraise pre-appraised evidence for validity' (EBP expert)

3. There are perceived challenges in EBP implementation within nursing.



- 'able to identify drivers of EBP change (in the workplace) who have the enthusiasm in improving patient care. My rationale unless there is a platform to commence from a single nurse or even a mob (collective) will have a struggle to change practice when the people with the power to change practice repress EBP. I guess in a nutshell the nurse needs to find an EBP leader within her/his organisation' (Nurse educator/academic)
- '4.4 in my practice context (public hospital-acute) a first year RN would probably not have the opportunity to change practice via guidelines/protocols or to apply evidence to clinical scenario in a formal manner. Would have to consult with senior staff' (Nurse educator/academic)

Conclusion

The findings of this study suggest that the EBP competency framework would be a useful guide for evaluating EBP education and research in nursing. However, there is some uncertainty about acceptance of EBP competence levels across healthcare professions. Much effort is required to clarify the language used for measuring the breadth of using evidence in consideration of clinicians' experience and obstacles in EBP implementation within nursing. These challenges further implicate the need for setting a reasonable EBP competency standard with a broader group of stakeholders in nursing.