Evidence of moving on: education and evidence-based practice

SYDNEY NURSING SCHOOL

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Background

- **Australian competency standards for evidence-based practice**
  - What is competence for EBP?
  - How is EBP being taught?
  - How is competence measured?
  - Have we got better at teaching and assessing competence for EBP?

Australian competency standards

Domain of Critical thinking and analysis

1. self-appraisal
2. professional development
3. value of evidence and research for practice

3. Practices within an evidence based framework

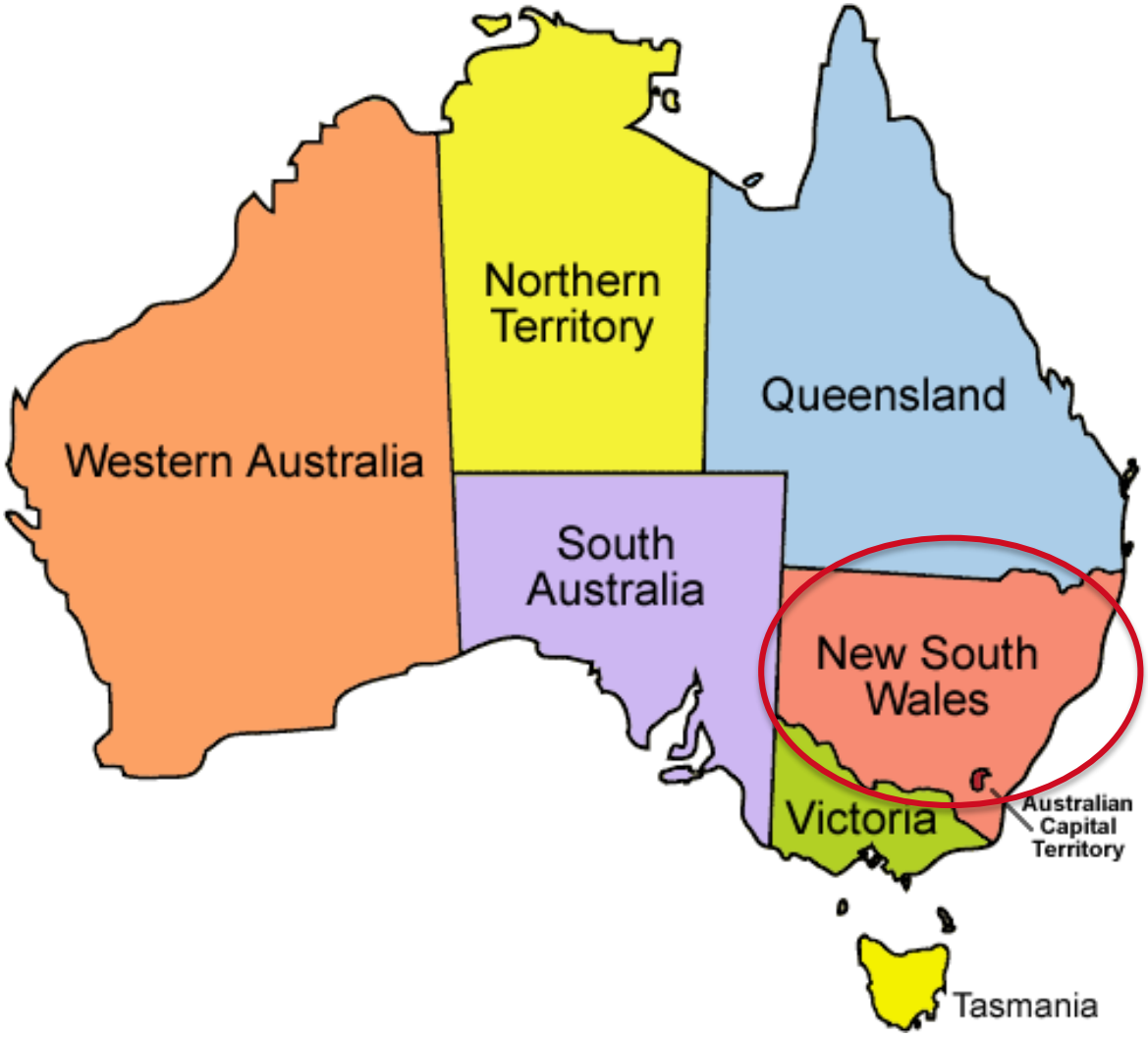
3.1 Identifies relevance of research to improving health outcomes
3.2 Uses best available evidence, nursing expertise and respect for values of patient/family
3.3 Demonstrates analytical skills in accessing and evaluating health information and research evidence
3.4 Supports and contributes to nursing and health care research
3.5 Participates in quality improvement activities

Aims

1. To explore assumptions underlying the educational preparation of undergraduate nurses for research and EBP

2. To explore options for measuring or assessing competence (knowledge, skills, attitudes) for EBP

Location



New South Wales (NSW)

- 7.3 million people
- 1.7% growth p.a.
- 85,000 nurses (300,000 in Australia)
- 10/13 universities and one College offer nursing
- 1,300 new nursing students p.a

Preparedness for EBP

- Anonymous self-complete questionnaire '*Nurses perceptions of evidence based practice'*
- 383 New South Wales nurses
- Self-rated knowledge and attitudes towards evidence-based practice 2002 - 2003
  - Post-registration (n=126, 69 hospital-trained)
  - Pre-registration, final year (n=257)

Results: NSW nurses

- NSW nurses had a welcoming attitude towards EBP
- Clinical practice based on evidence (ranged 30 – 80%)
- Large variation in self-reported skill and confidence in searching and appraisal
- Pre-registration nurses more confident in self-reported skills esp. searching
- Poor understanding of ‘research language’ and epidemiological terms
- Self-rated ability to translate evidence into practice relatively high (3.6 on 5 point scale)

Waters, Crisp, Rychetnik, Barratt (2010) Journal of Nursing Management

Results: NSW nurses

SELF-RATED ABILITY IN LITERATURE SEARCHING	Pre-registration nurses NSW	Post-registration nurses NSW		UK Post-registration nurses (Newman et al. 2000)
	n=257	Hospital Trained n=69	University Prepared n=57	n=17
General Searching Skills	*Mean score*	*Mean score*	*Mean score*	*Mean score*
Formulating the right question	3.6	2.8*	2.8*	3.4
Identifying key terms	3.9	2.9*	3.1*	2.9
Selecting relevant information	3.9	3.3*	3.3*	3.6
Keyboard skills	4.2	3.4*	3.6*	3.7
Ability to access database	4.2	3.1*	3.3*	2.6
Familiarity with search terms	3.9	2.7*	3.1*	2.5

*adjusted p=0.0 compared to pre-registration group

No difference between post-registration groups

Influences on undergraduate education

- Face-to-face semi-structured interviews with nursing opinion leaders
- 23 nursing and midwifery ‘opinion’ leaders
    - academics, NSW government employees, management & clinical roles, chief nurse, clinical professors
    - metro and rural areas of NSW
- Interviews analysed using phenomenography

Results: opinion leaders

Categories of description for evidence	***Focus***	***Collective understanding (Structural Aspect)***
A. Evidence is synonymous with research and scientific method. B. Knowledge or skill in evidence is equivalent to knowledge and skill in research.	Research and method	*Evidence is the same as **research***
C. Other forms of evidence are relevant to nursing and midwifery. D. The kind of evidence required depends upon the context of nursing or midwifery practice.	Nurses and midwives	*Evidence includes research but it can also include **other** forms of **validated nursing and midwifery input***
E. The best available evidence is used for the clinical question being asked. F. Evidence translation relies on support for EBP in the clinical setting.	Patient and clinical context	*The kind of evidence used depends on the **context of the clinical decision***
G. Evidence used in practice is a means of improving patient outcomes through effective and efficient health care.	Effective health care	*Evidence is understood within the broader context of **health care***

Waters, Crisp, Rychetnik, Barratt (2010) Journal of Nursing Management

Results: opinion leaders

- Variation between opinion leaders on views and understanding of ‘evidence’
- Many used words ‘research’ and ‘evidence’ interchangeably
- Views deeply individual depending upon
    - clinical background
    - context of practice
    - professional experience
    - exposure to ‘research’ type

Influences on undergraduate education

- Document search of title and brief outline of ‘research’ unit (course handbook)
- All NSW universities and colleges offering an undergraduate nursing program during 2004 (n=10)
- NSW undergraduate programs (three-years)
- When unit is offered within the program (year)
- Simple count of pre-selected ‘words’ and ‘phrases’
- Analysed using enumerative content analysis

Results: document analysis

NSW University or College	Subject name (year offered) 2004
A*	Introduction to Nursing Research (2)
B	Utilising research (1)
C*	Introduction to health research (3)
D*	Health Care Practices (2)
E*	Enquiry, Analysis and Change (2)
F*	Foundation Studies 1B (1) Foundation Studies 2B (2) Foundation Studies 3A (3)
G	Inquiry and Research in Nursing (3)
H	Inquiry in Nursing Practice (3)
I*	Foundations for Enquiry and Nursing Research (2) Applications of Enquiry and Research to Nursing (3)
J*	Research Appreciation and Application (3)

** School situated within a health faculty*

Results: document analysis

In New South Wales in 2004:

- Variation across year in which course(s) offered
- Variation in content (statistics, inquiry, critical appraisal, EBP)
- Words ‘research’ or ‘evidence’ sometimes invisible
- Interchanged terms (e.g. evidence-based, research-based, research-informed etc.)
- Critical appraisal and writing a research proposal most common assessment items
- One university used a ‘foundation’ approach – across three years

Tips for moving on…

"In many respects the most troublesome problems of any science centre around its most basic terms and fundamental concepts, and not around its more sophisticated concerns.

Indeed, to the extent that everything either follows on from or is based on a discipline's basic terms and fundamental concepts, problems at a higher level can always be traced back to problems at a more fundamental level."

Mitroff & Sagasti (1973) cited by McKibbon et al. Implementation Science 2010, 5:16.

Measurement of competence

- Systematic review of instruments for measuring evidence-based knowledge, skills and attitudes
- To identify valid and reliable instruments of assessing competence
- Three reviewers
- Independent grading of psychometric properties using a psychometric grading tool

Leung, Travena, Waters (2012) Nurse Researcher

Results: systematic review

Eligibility
- 91 studies identified for full text review

Inclusion
- 59 studies met inclusion criteria

Instrument
- Total of 24 instruments

Appraisal
- Two graded ‘adequate’

Leung, Travena, Waters (2014) Journal of Advanced Nursing

What we have learnt

- Broad brush stroke to education for EBP in nursing and midwifery in NSW
- Different interpretations of beginning competency standards for EBP ‘using an evidence-based framework’
- Assumptions that a beginning registered nurse is ‘prepared for EBP’
- The language of research presented to beginning nurses in undergraduate curricula rarely defined and used carelessly
- Presents a confusing picture to beginning practitioners
- Variation in reliability and validity of instruments for measuring EBP knowledge, skills and attitudes

Evidence of moving on

University /College	Subject name (yr) 2004	Subject name (yr) 2012
A*	Introduction to Nursing Research (2)	Inquiry in Healthcare*(1)
B	Utilising research (1)	Utilising Research (2)
C*	Introduction to health research (3)	Inquiry and Research (2)
D*	Health Care Practices (2)	Enquiry and Critique in Health* (3)
E*	Enquiry, Analysis and Change (2)	Critical enquiry in Nursing (2)
F*	Foundation Studies 1B (1) Foundation Studies 2B (2) Foundation Studies 3A (3)	Prudence in Nursing Research (2)
G	Inquiry and Research in Nursing (3)	Inquiry and Research in Nursing (1)
H	Inquiry in Nursing Practice (3)	Evidence for Nursing (2)
I*	Foundations for Enquiry and Nursing Research (2) Applications of Enquiry and Research to Nursing (3)	Evidence-Based Nursing 1(2) Evidence-Based Nursing 2(3)
J*	Research Appreciation and Application (3)	Evidence Appreciation and Application in Health Care (3)

Evidence of moving on

UNIT (word) counts in subject descriptors

	2004 Subject Description		2012 Subject Description	
	Mean word count per document (n=13)	*total count*	*Mean word count per document (n=10)*	*total count*
Research *or* research-based	1.9 (1.0)	10	3.5 (2.3)	35
Evidence *or* evidence-based	1.7 (0.6)	3	3.0 (1.7)	30
Enquiry *or* inquiry	2.0 (0)	1	1.0 (0)	3

Evidence of moving on

In NSW in 2012:

- A more common pattern of one undergraduate unit – offered in second year
- A move to inter-disciplinary units (less use of word ‘nursing’)
- Greater use of word ‘evidence’ in unit name but not in outline
- Greater emphasis on ‘application’ of evidence
- Ready to test a reliable and valid tool for measuring EBP competence (knowledge, skills and attitudes)
- Still variable and still interchange words e.g. What is the difference between ‘research’-based and ‘evidence’-based and ‘research-informed’ practice?

Future preparedness

- **EBP education alone will not effect behaviour change**
  - Common and consistent language within and between disciplines and globally
  - Multifaceted frameworks for EBP education
  - Valid and reliable instruments for assessing EBP competence
  - Thoughtful and consistent ‘leadership’ and role modelling from opinion leaders in clinical and educational settings
  - Alignment of ‘research’ skill to preparation and development of practice (novice to expert)