

# Development and validation of the Evidence-based Practice Assessment Tool

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# Background

- Existing validated tools such as Fresno & Berlin tests are limited to measure only literature searching & CA skills
- Need a new tool for measuring all 5-steps of EBP
- Build upon the EBP competency framework (5As), SDM model & the Transtheoretical Model of Health Behaviour Change
- The evidence-based Practice Assessment Tool called

***ePAT***

# Research question

What is the validity and reliability of ePAT for measuring the evidence-based practice capability of healthcare professionals?



# Psychometric Framework

- Content validity
- Internal consistency
- Generalisability
- Interrater reliability
- Utility
- Feasibility and Acceptability

# Method - Development of the ePAT

- A modified Fresno test
- Five main questions measuring 5 steps of EBP implementation  
*Ask, Acquire, Appraise, Apply, Assess*
- Within a defined clinical scenario
- Using a clear & organised evidence summary

# Marking rubric

- Criteria of the Fresno test (Step 1 & 2)
- Develop standardised grading criteria for new questions (part of Step 1 and Step 3)
- Criteria of the ACEPP tool to measure Step 4
- Criteria of the EBPIS to measure Step 5

# Method - Content evaluation

- ✦ Questionnaire survey from Aug to Dec 2013
- ✦ Expert panel - 42 medical and healthcare academics, researchers and clinicians
- ✦ Comment on the structure (5As) & relevance of competency elements within the framework
- ✦ Agreement about the Representatives, Clarity and Comprehensiveness of the ePAT

# Content evaluation - Example

## Competency elements within the framework:

4.5 Summarises all applicable evidence with consideration of patient's preference and other clinical and non-clinical contextual factors<sup>2, 4, 6, 12</sup>

➤ 4.6 Explains evidence and discusses options with patient in lay language<sup>2, 12</sup>

4.7 Applies evidence into clinical scenario<sup>2</sup>

## In Question 4a :

Can you use plain or lay language to explain the above evidence for Mary?

(i.e. What is the evidence about benefits and harms of this treatment option that she needs to weigh up?)



# Results - Content validity

- ✚ Structure & relevance of the EBP framework  
ICC: 0.80, 95% CI: 0.69-0.88;  $P < 0.0001$
- ✚ Representativeness (Content relevance & coverage)  
ICC: 0.79, 95% CI: 0.67-0.87;  $P < 0.0001$
- ✚ Clarity (Item construction & wording)  
ICC: 0.66, 95% CI: 0.48-0.80;  $P < 0.0001$
- ✚ Comprehensiveness (97% coverage of content domains)  
68% - Comprehensive  
29% - Needs minor revisions

- ✘ Small sample size
- ✘ Purposive sampling through the network of one university
- ✘ Some content experts were not involved in EBP teaching (e.g. clinicians)

# Bottom line

- @ The panel provides a broad perspective on EBP competence assessment within the climate of inter-professional collaboration
- @ Extensive coverage of academic & research networks within Australia

# Preliminary validity & reliability

- Internal consistency – Cronbach's  $\alpha$ : 0.7
- Inter-rater reliability – Substantial  
ICC: 0.902, 95% CI: 0.779-0.958  $P < 0.0001$
- Acceptability –  $>70\%$
- Feasibility – Mean time for completion 33 minutes
- Modified Angoff method – minimum competence
- Quality of ePAT – G-String analysis (mid 2016)

# Conclusions

- A generic EBP assessment tool
- Innovative & imperative to EBP education and research
- Welcome feedback and enquiry from interested EBHC researchers/teachers



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