Core competencies required for an educational training in evidence-based practice: a multi-method consensus process

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Introduction

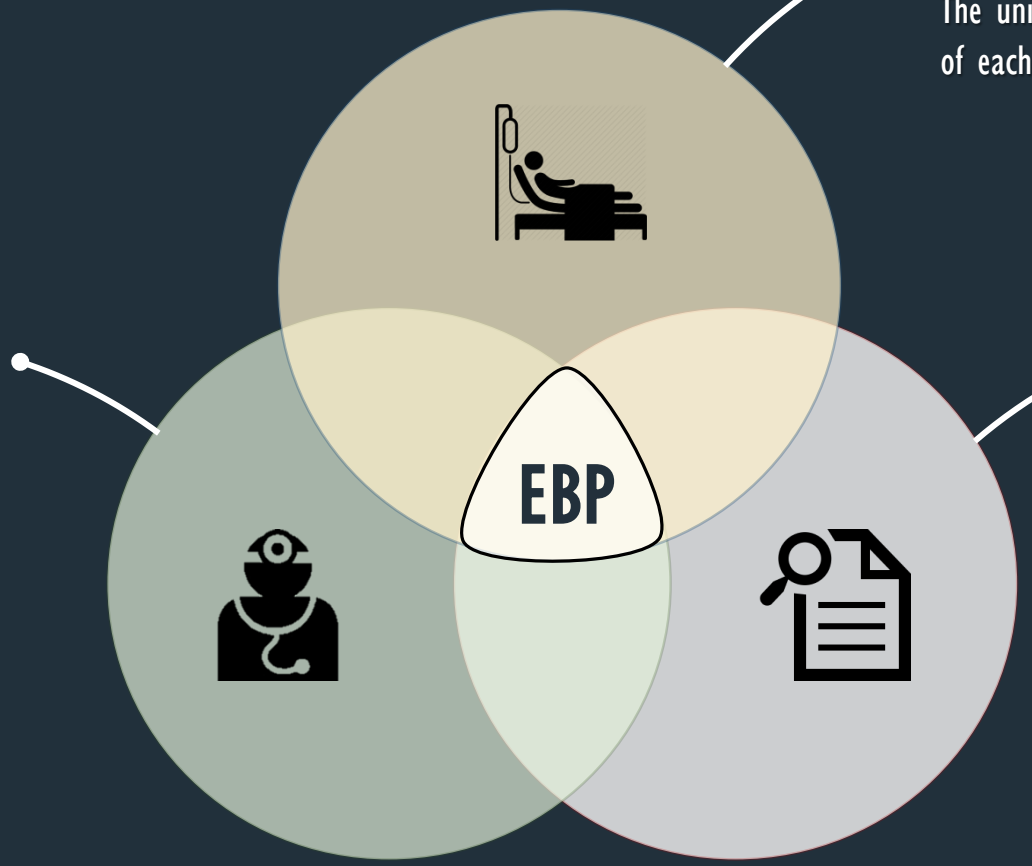
EBP

Patient Preferences

The unique preferences, concerns and expectations of each informed patient

Clinician Experience

The clinicians' ability to use their cumulated experience, skills and education



Best Evidence

The most rigorous and patient-centred clinically relevant evidence that addresses a specific clinical question

"Evidence-based Practice (EBP) is the integration of best research evidence with clinical expertise and patient values"

Introduction
EBP Steps

Sicily statement on evidence-based practice

Martin Dawes ✉, William Summerskill, Paul Glasziou, Antonino Cartabellotta, Janet Martin, Kevork Hopayian, Franz Porzsolt, Amanda Burls and James Osborne

BMC Medical Education 2005 **5**:1 | https://doi.org/10.1186/1472-6920-5-1

Step 1: ASK
Translation of uncertainties to an answerable structured clinical question

Step 2: ACQUIRE
Finding the best available evidence that is pertinent to the clinical question

Step 3: APPRAISE
Critically appraise the retrieved evidence for validity, clinical relevance and applicability

Step 4: APPLY
Application of the appraised evidence to the patient in clinical practice

Step 5: ASSESS
Evaluation of the efficiency and performance and strategies to improve

Introduction

Objectives

The aim of this study is to develop a core set of competencies that a clinician needs to learn as part of EBP:

relevant to clinicians in any health discipline (e.g. medicine, nursing, allied health, pharmacy), and

at any education level (e.g. undergraduate, postgraduate, or continuing medical education).

Methods

Phases of the development of core set of EBP competencies

Phase 1

- Generation of an initial list of relevant EBP competencies

Phase 2

- A two-round modified Delphi survey to prioritise and gain consensus on the EBP core competencies set

Phase 3

- A consensus meeting to finalise the core set of EBP competencies

Phase One

Generation of an initial list of EBP competencies

The initial list of relevant EBP competencies was based on:

1. The results of a previously conducted systematic review
2. competencies set out in published EBM curriculum statements (e.g. Sicily statement on EBP, and IHC key concepts).

We generated an initial list of more than 200 EBP competencies, and through discussion of the study steering group and removal of duplicates reduced this to 86 competencies.

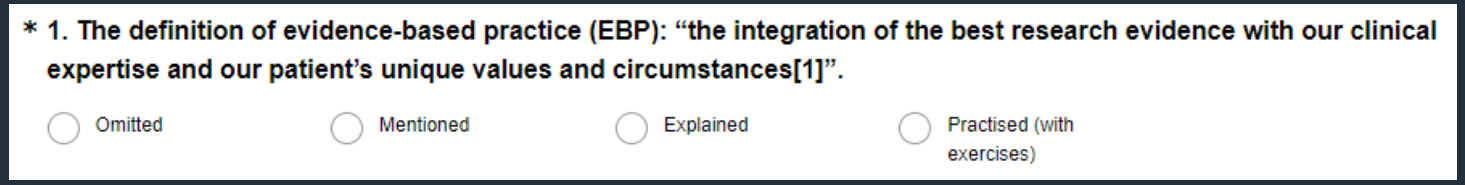
234 competencies → **86** competencies

Phase Two

Modified Delphi Survey: Round 1 Delphi

Participants were asked to rate the relative importance of each concept item listed as "omitted," "mentioned," "explained," or "practised (with exercises)".

Omitted: a concept that is not a priority to be included in an EBP training program.
Mentioned: a concept that should be just mentioned in an EBP training program (i.e. provide common knowledge about this concept).
Explained: a concept that should be briefly explained in an EBP training program (i.e. provide understanding of the concept but without practical exercises).
Practised (with exercises): a concept that should be practised with exercises in an EBP training program (i.e. provide a detailed understanding of the concept, enhanced with practical exercises).



Phase Two

Modified Delphi Survey: Round 1 Delphi

Based on the participants' rating and feedback, we grouped the competencies into 5 groups:

11 competencies reached the pre-defined consensus threshold

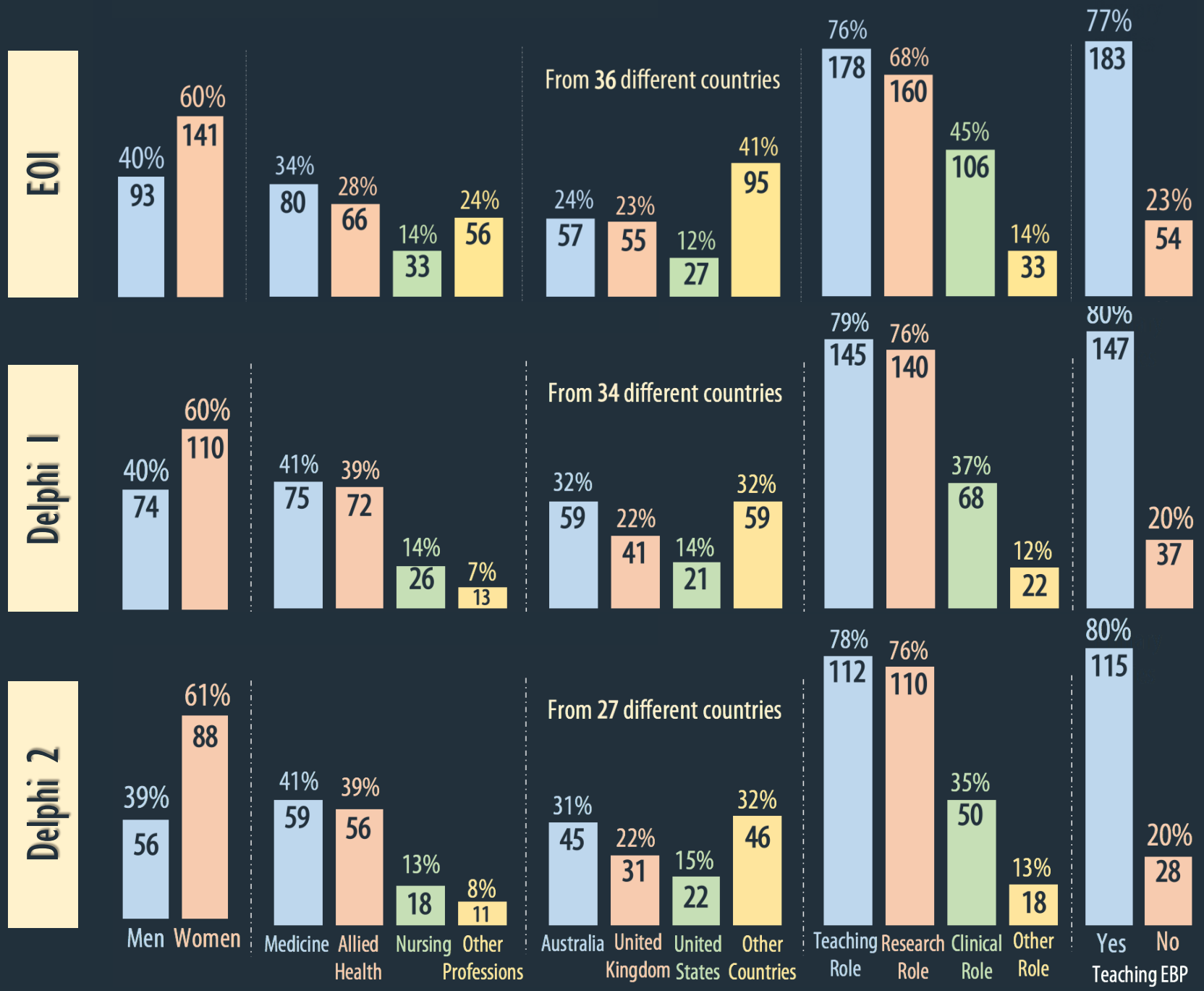
27 competencies rated as should be 'Practised with exercise' by the majority, but did not reach level of consensus.

28 competencies rated as should be 'Explained' by the majority, but did not reach level of consensus.

4 competencies rated as should be 'Mentioned' by the majority, but did not reach level of consensus.

9 New competencies either from the additional list or from the participants' comments

Results



Total responses: 234
Mean age 45.15 ± 10.2 years
Clinical Experience (years) 21.21 ± 10.8 years

Total responses: 184
Age 45% were 30-44 years, 41% 45-59, and 12% were ≥60 years
Teaching Experience (years) 10.54 ± 7.4 years

Total responses: 144
Age 44% were 30-44 years, 42% 45-59, and 12% were ≥60 years
Teaching Experience (years) 10.89 ± 7.4 years

Phase Three

Consensus Meeting

A meeting to finalise obtaining the consensus on the core set of EBP competencies. The meeting was in two half-days: Monday 10th and Tuesday 11th July, 2017.

The final list of EBP core competencies was sent for external feedback to 15 EBP experts to ensure the validity, applicability, utility, and clarity of the competencies

EBP Core Competencies

Introductory competencies

1. Understand evidence-based practice (EBP) defined as the integration of the best research evidence with our clinical expertise and our patient's unique values and circumstances.
2. Recognise the rationale and origin of EBP.
3. Practice the 5 steps of EBP: Ask, Acquire, Appraise and Interpret, Apply, and Reflect.
4. Identify the preferred order of study designs for each type of clinical question, including the pros and cons of the major study designs.
5. Describe the distinction between using research to inform clinical decision making and practice vs. conducting research.

Ask competencies

1. Identify the difference between the types of questions that cannot typically be answered by research (background questions) and those that can (foreground questions).
2. Identify different types of clinical questions, such as questions about treatment, diagnosis, prognosis, and aetiology.
3. Convert clinical questions into structured, answerable clinical questions using PICO.

EBP Core Competencies

Results

Acquire competencies

1. Outline the different major categories of sources of research information, including traditional biomedical databases or databases resources which filter or pre-appraise research.
2. Design and conduct an appropriate search strategy for clinical questions.
3. Recognise the differences in broad topics covered by the major traditional databases.
4. Define strategies to obtain the full text of articles and other evidence resources.

EBP Core Competencies

Results

Appraise and Interpret competencies

1. Identify key competences relevant to the critical evaluation of the integrity, reliability, and applicability of health related research.
2. Interpret different types of measures of association and effect, including key graphical presentations.
3. Critically appraise and interpret a systematic review.
4. Critically appraise and interpret a treatment study.
5. Critically appraise and interpret a diagnostic study.
6. Distinguish evidence-based from opinion-based clinical practice guideline.
7. Identify the key features of and be able to interpret a prognostic study.
8. Explain the use of harm/aetiologies study for (rare) adverse effects of interventions.
9. Explain the purpose and processes of a qualitative study.

EBP Core Competencies

Results

Apply competencies

1. Engage patients in the decision making process, using shared decision making, including discussing the evidence and their preferences.
2. Outline different strategies to manage uncertainty in clinical decision-making in practice.
3. Explain the importance of baseline risk of individual patients when estimating individual expected benefit.
4. Interpret the grading of the certainty in evidence and the strength of recommendations in health care.

Reflect competencies

1. Recognise potential individual-level barriers to knowledge translation and strategies to overcome these.
2. Recognise the role of personal clinical audit in facilitating evidence based practice.

Thank You