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# What factors influence general practitioners' competencies and application of EBM?


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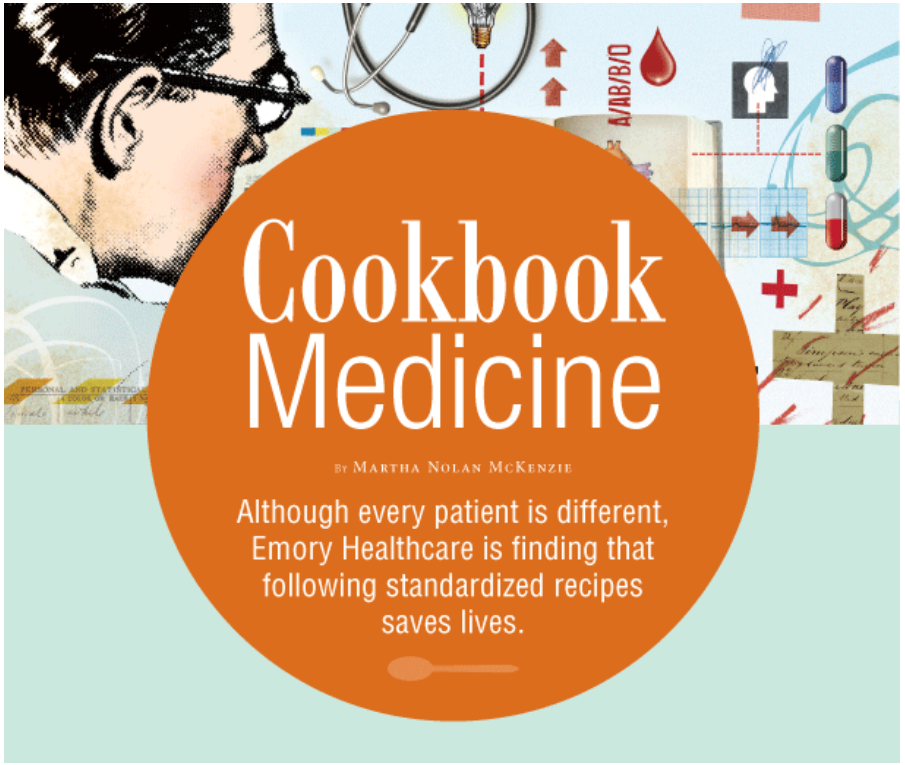
GROUP OF EIGHT AUSTRALIA

# What is evidence-based medicine (EBM)?

- Each step requires different competencies across knowledge, skills, attitudes and behaviour
- Disciplines include;
  - Clinical epidemiology
  - Research methodology
  - Critical appraisal
  - Biostatistics
  - Informatics
  - Information literacy
  - Knowledge management

# What are the view of general practitioners (GPs) on EBM?

- Great value in primary care, although adoption is complicated
- ‘Cook-book’ medicine
- Time and resources barriers
- Patient / doctor relationship in decision making



# Project aims

- To examine Australian GP attitudes, beliefs and perceptions on EBM and how these factors influence their competency in EBM

# Methodology

- A mixed methods consisting of focus group discussions and questionnaires was conducted

*Qualitative study*

- A total of 43 GPs participated in 6 focus group discussions
- Focus group discussions were audio-taped and transcribed verbatim
- Data analysed using thematic analysis

# Methodology

*Quantitative study*

- GP competency, beliefs, confidence and implementation of EBM was assessed via;
  - Assessing Competency in Evidence-Based Medicine (ACE) tool (Ilic et al 2014)
  - Evidence-based practice confidence (EPIC) scale (Salbach et al 2010)
  - Evidence-based practice implementation scale (EBPIS) (Melnyk et al 2008)
  - Evidence-based practice beliefs scale (EBPBS) (Melnyk et al 2008)
- Statistical analysis
  - Pearson correlation
  - Student t-tests

# Results

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| Characteristic | Mean (SD) | Frequency (%) |
|---|---|---|
| **Age (mean ± SD)** | 59.1 (11.4) | |
| **Gender** | | |
| Male | 59.4 (11.0) | 24 (56%) |
| Female | 56.4 (11.9) | 19 (44%) |
| **Years in practice** | | |
| <9 | | 1 (2%) |
| 10-15 | | 2 (4%) |
| 16-20 | | 9 (21%) |
| 20-29 | | 15 (36%) |
| 30+ | | 16 (37%) |
| **Practice type** | | |
| Solo | | 8 (19%) |
| Group | | 35 (81%) |

# Results – competency

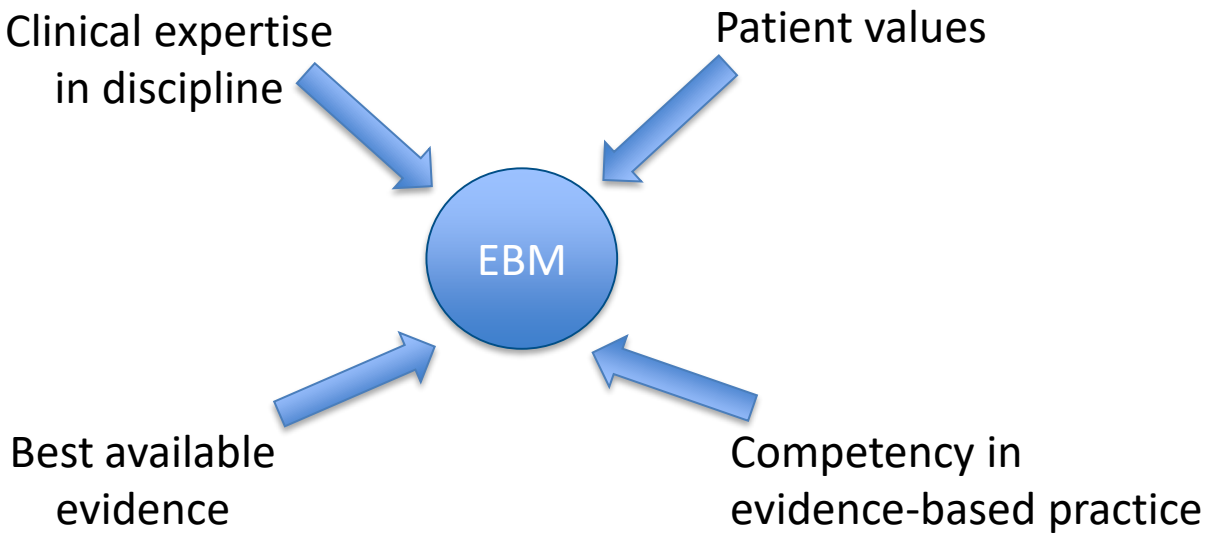
- Participants' competency in EBM measured as 'novice', mid-range confidence and beliefs, few 'implementers'.

- Correlations between competency in EBM and…
  - Implementation *r*=0.23
  - Confidence *r*=0.16
  - Beliefs *r*=0.45*

- No differences between competency in EBM and…
  - Sex
  - Age
  - Type of practice (solo vs group)
  - Type of work (full-time vs part-time)

# Results – qualitative

- Practicing EBM versus EBP
  - EBM is the discipline, whereas EBP is the ‘art’ of being evidence-based



# Results – qualitative

- Drivers of good EBM in practice
  - (1) clinical practice
  - (2) research experience
  - (3) training in EBM

*'I know in daily practice I'll say to them look this is – "Like this doesn't fit the classic picture. I'm still going to do these tests. It could be this or it could be that." And that's us, talking generalisations, patterns, but we get an inkling and you can't put this into words.'*

# Results – qualitative

- Factors influencing EBM in practice
  - Patient values vs evidence

*'If they say, "I'm allergic to penicillin", that's evidence, not their values'*

  - Patient expectation as a driver of care

*'I think it depends on what they're [parents] doing. I mean if they were getting on a flight the next day, and you know they're going to be in the air for 48 hours with a possibly screaming baby with a perforated ear drum at the other end, you don't want to be the one that actually led to that by withholding, treatment.'*

  - Levels of health literacy

*'Lots of people are not that educated, and I must admit they say I trust you, I trust you'*

# Conclusions

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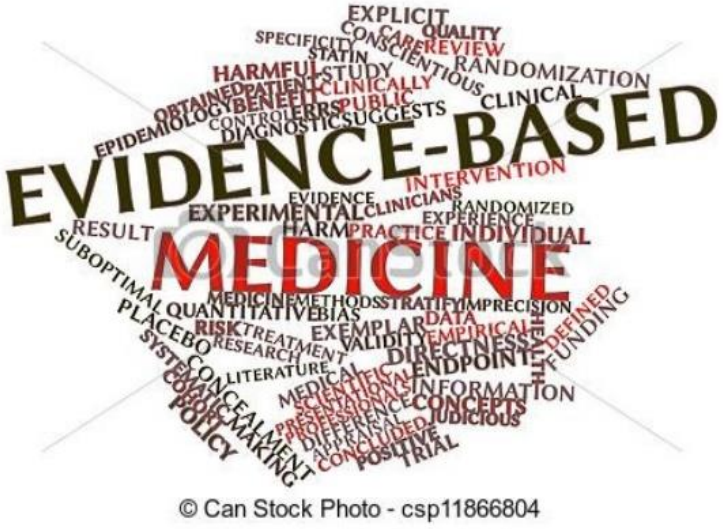
- GPs in this study were typically not taught EBM during their training, as exhibited by their low competency in EBM
- Association between belief in EBM, and competency
- Deficiency in technical knowledge is offset by experience in patient/doctor communication, guided by clinical expertise in discipline and patient preferences
- Limitation
  - Small sample size
  - Context

# Next steps…

- Generation of practicing GPs that did not have formal education in EBM

- Need for formalized curriculum in EBM and multimodal education formats for delivery to currently practicing clinicians



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Thank you

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