Building capacity in research use for public health decision-making

Tahna L Pettman, Rebecca Armstrong, Elizabeth Waters

Public Health Evidence and Knowledge Translation Group, Jack Brockhoff Child Health and Wellbeing Program, McCaughey VicHealth Centre for Community Wellbeing, Melbourne School of Population and Global Health, The University of Melbourne, Victoria.

THE UNIVERSITY OF MELBOURNE

Background

The use of research evidence is challenged by a range of individual and organisational factors – these have been well documented (Innvaer 2002; Orton 2011)

Knowledge translation and Exchange strategies have been proposed to support evidence-informed public health (EIPH) decision-making, such as
• Systematic reviews, evidence summaries, clearinghouses (Knowledge 'push')
• Capacity building (facilitating user 'pull')
• Relationships between decision-makers and research producers (Exchange)

Training is one capacity building strategy
• But does EIPH training in make a difference?
• May build confidence, competence (Baker et al 2009)
• Evidence very limited, no pre and post evaluations in public health setting

Objective: To understand impacts of workforce training in evidence-informed public health (EIPH) decision-making.

About us

The Public Health Evidence and Knowledge Translation group is involved in Research and Evaluation; editing and publishing Cochrane reviews; Workforce capacity building; Stakeholder engagement; and Dissemination and communications

Primary research & evaluation - Knowledge translation & exchange, evidence-informed decision making

Stakeholder engagement in review topics & development

Facilitate production of **Cochrane public health reviews** & methods

THE COCHRANE COLLABORATION PUBLIC HEALTH GROUP

Dissemination Publications, evidence summaries, social media

Capacity building courses for reviewers, researchers, decision makers, practitioners.

Implementation of training courses

We have delivered EIPH short-courses since 2005, responding to identified need and demand among stakeholders . EIPH short-courses are designed for professionals working in public health and health promotion policy and practice e.g. Departments of health, community health services, primary care partnerships, and more recently Local Governments and NGOs. Core components of the EIPH training are shown in the EIPH process in **Figure 1**.

Evaluation methods

Since 2007: evaluated experiences post-course only. Since 2012: evaluating pre and post course: experiences, impacts and core components

Results

Sample: (2011 – 2013 combined): Pre course n=45; Post course n=59; Post course follow-up n=38

Expectations are being met and exceeded based on pre-course information and post-course feedback. High ratings of course relevance, quality/overall rating and rating of facilitators' performance, each of which has increased with increased tailoring between 2011 – 2013, informed by improved understanding of practice and policy decision-making contexts. Marked increases in **confidence** occurred across all five domains of EIPH assessed **(Table 1)**. Small improvements in opinion/attitudes **(Table 2)**, particulary in relation to accessing evidence and understanding how evidence applies to participants' own context. Attitudes towards formulating answerable questions, critical appraisal, evaluation, and incentive to use research evidence were positive at pre-course survey.

At 6-month follow up, compared to the pre-course survey, more participants reported practising EIPH in the preceding month including formulating answerable questions, searching and critical appraisal **(Fig 2)**.

Table 1: Change in self-rated confidence across EIPH domains

% participants responding to statement: How confident are you … : % 'confident' or 'completely' confident (categories combined)	Pre-course n= 45*	Post-course n=59	Change	p (t-test, two-tailed)
Formulate an answerable question about a public health issue/topic, to guide an online evidence search	24%	86%	**62%**	<0.01
Conduct an online evidence search to address a question	40%	90%	**50%**	<0.01
Critically appraise (assess trustworthiness) of research evidence	18%	76%	**58%**	<0.01
Determine if evidence is applicable and transferable to other contexts	18%	76%	**58%**	<0.01
Evaluate the implementation and impacts of public health interventions (programs, policies etc)	25%	74%	**49%**	<0.01
Overcome the barriers in implementing evidence-informed public health in your workplace	14%	56%	**43%**	<0.01

Table 2: Change in attitudes towards EIPH domains

% participants responding to statement: To what extent do you agree/disagree …: % 'agree' or 'completely agree' OR: **% 'disagree' or 'strongly disagree' (categories combined) n=	Pre-course n= 45*	Post-course n=59	Change	p (t-test, two-tailed)
It is important to formulate answerable questions from public health issues/topics	80%	98%	19%	<0.01
It is easy for me to access the most relevant research evidence available as I plan programs or policies	33%	69%	37%	<0.01
It is important to critically appraise research evidence (assess trustworthiness), before applying it to programs and policies	95%	97%	1%	NS, 0.10
It is difficult to fully understand how research evidence findings apply to my context**	47%	71%	25%	NS, 0.02
It is important to evaluate the implementation and impact of public health programs and policies	98%	100%	2%	NS, 0.90
There is no incentive to use research evidence in my workplace**	86%	85%	-1%	NS, 0.69

Discussion & next steps

With findings suggesting high acceptability and potential positive impacts upon practice, this evaluation informs local implementation and could also contribute to the broader evidence-base on effectiveness of training for EIPH decision-making. We plan to strengthen the evaluation design (e.g. comparison group, additional qualitative methodsto triangulate findings). Further exploration and interpretation of findings within a broader knowledge translation & exchange framework is required to understand role and importance of organisational culture and systems for evidence-informed decision-making.
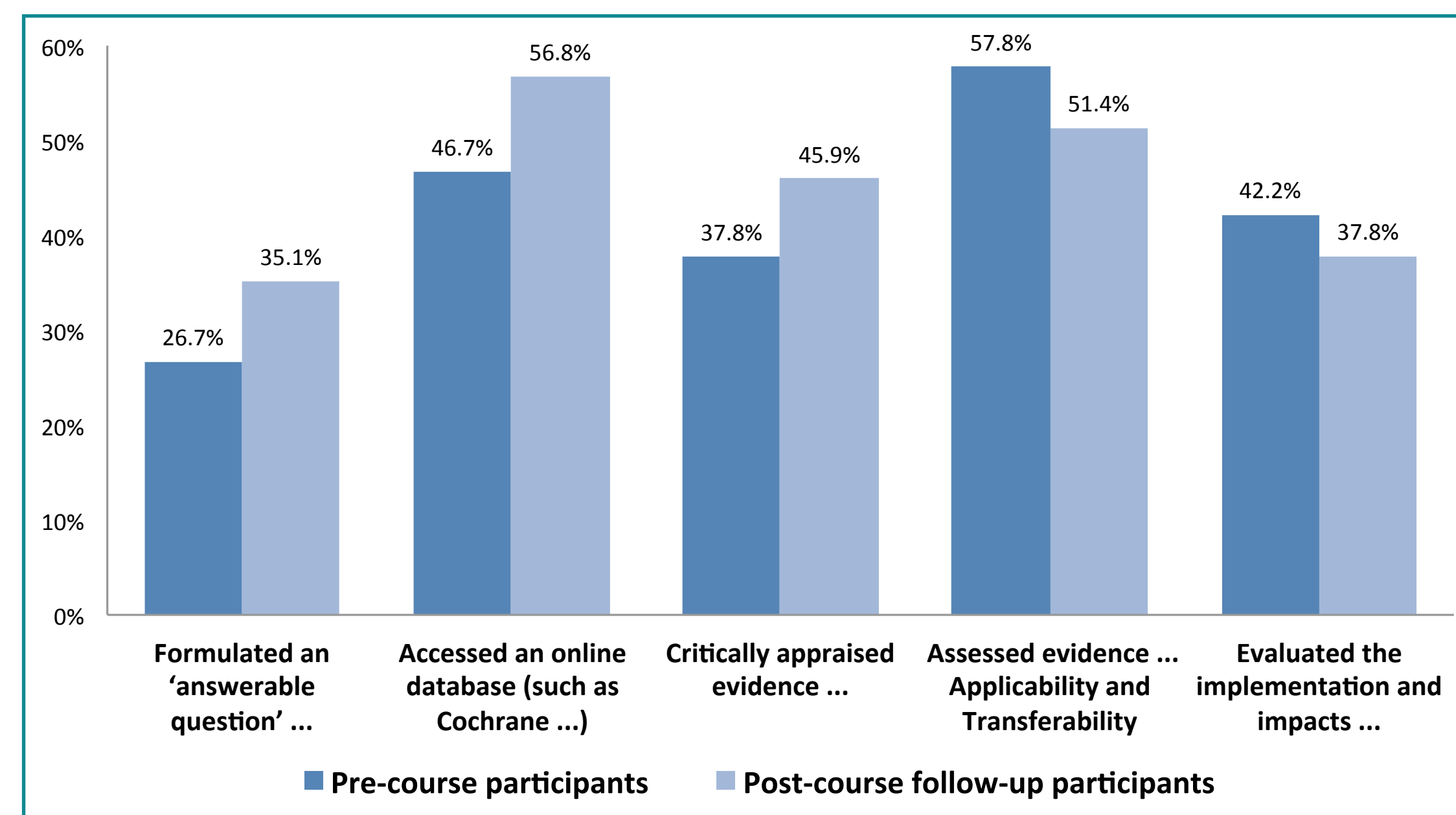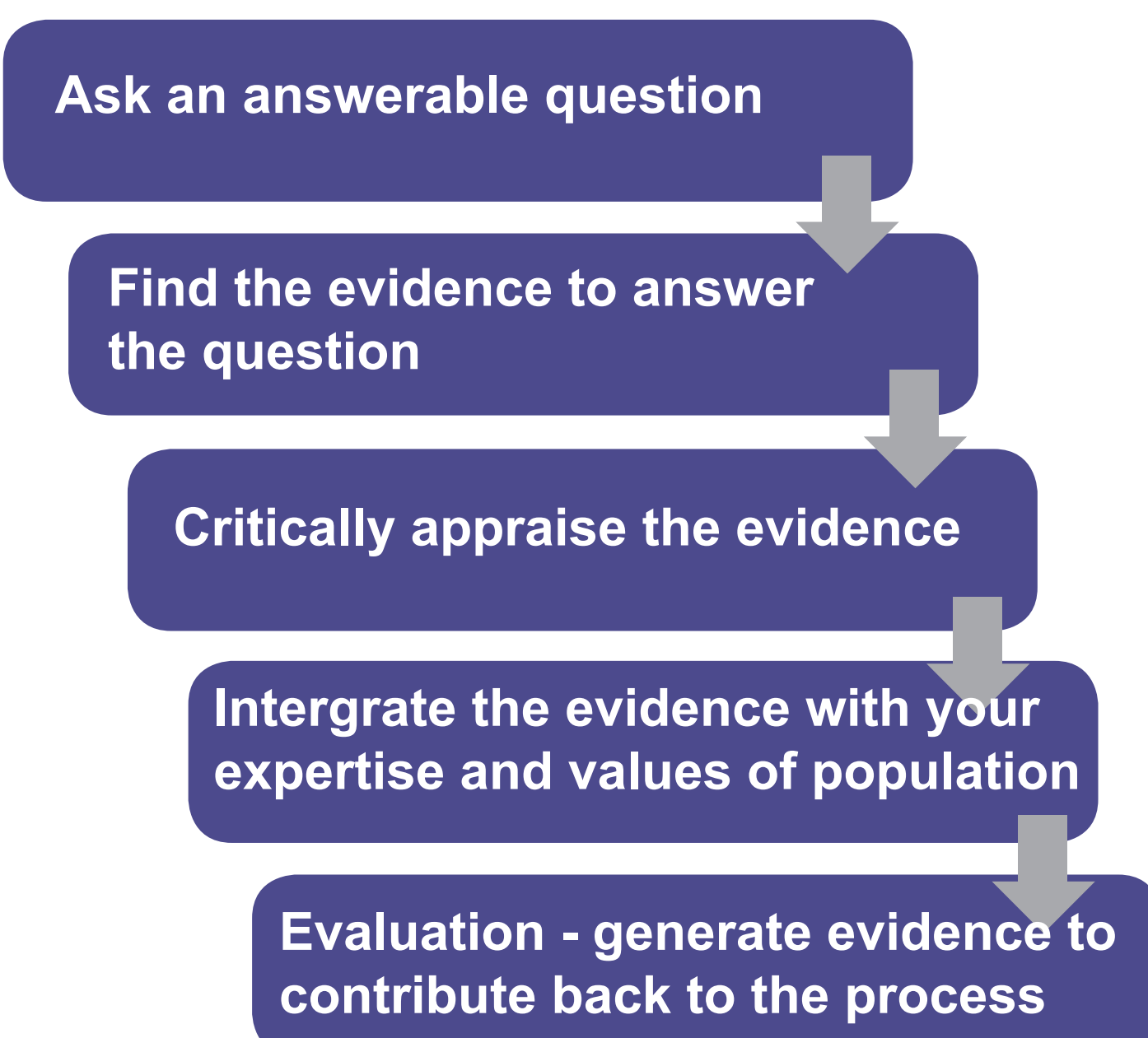
"… it bridged the gap between the academic, policy and practitioner world. Realistic about how things can be applied in the real world."
"The level of interaction and practical side of the course. It was very applicable to current work."
"Practical knowledge and skills to utilise in the workplace. Found the use of IT to do searches valuable - practice doing searches and finding out about the challenges. Can't find what [I'm] looking for normally!"
"Activities to practice skills and apply knowledge"
"Technical skills - PICO(T), search strategy, list of websites, info and tools"

Figure 1: EIPH process

- Ask an answerable question
- Find the evidence to answer the question
- Critically appraise the evidence
- Intergrate the evidence with your expertise and values of population
- Evaluation - generate evidence to contribute back to the process

Figure 2: Change in self-reported practice across EIPH domains

Pre-course participants / Post-course follow-up participants

- Formulated an 'answerable question' … : 26.7% / 35.1%
- Accessed an online database (such as Cochrane …) : 46.7% / 56.8%
- Critically appraised evidence … : 37.8% / 45.9%
- Assessed evidence … Applicability and Transferability : 57.8% / 51.4%
- Evaluated the implementation and impacts … : 42.2% / 37.8%

References
• Orton et al (2010). "Systematic review: the use of research evidence by public health policy-makers." JECH 64(Suppl 1): A21.
• Innvaer et al (2002). "Health policy-makers' perceptions of their use of evidence: a systematic review." J Health Serv Res Policy 7: 239-244.
• Brownson et al (2009). "Evidence-based public health: a fundamental concept for public health practice." Annu Rev Public Health 30: 175-201.
• Baker et al (2009). "Examining the role of training in evidence-based public health: a qualitative study." Health Promotion Practice 10(3): 342-348.