


**Moving from Evidence to Innovations in Practice**  
**Prof. Gill Harvey, The University of Adelaide**  
**Broadcast live from the Australasian College of Infection Prevention and Control**



**5<sup>th</sup>**  
INTERNATIONAL

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for Infection Prevention and Control  
**2016 CONFERENCE**  
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**Moving from Evidence to Innovations  
in Practice**

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November 22, 2016

**Moving from evidence to innovations in practice**

- OR ....

Why we need to widen our  
thinking about evidence and  
evidence based practice

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## **Moving from Evidence to Innovations in Practice**

- A brief look back in time
  - The promise of evidence-based medicine/practice
  - Increasing recognition of translational challenges
- Are we making progress?
  - And if not, why not?
- The knowledge practice gap
  - How we see it
  - How we make sense of it
- Strategies for supporting implementation

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## **The 1990's .....**



Study of the appropriateness of care delivered in the United States of America:

Preventive care 50%  
Acute care 70%  
Chronic care 60%  
of people received recommended care

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## The promise of evidence-based practice

### Evidence based medicine: what it is and what it isn't

*It's about integrating individual clinical expertise and the best external evidence*

Evidence based medicine, whose philosophical origins extend back to mid-19th century Paris and earlier, remains a hot topic for clinicians, public health practitioners, purchasers, planners, and the public. There are now frequent workshops in how to practice and teach it (one sponsored by the *BMJ* will be held in London on 24 April); undergraduate<sup>1</sup> and postgraduate<sup>2</sup> training programmes are incorporating it<sup>3</sup> (or pondering how to do so); British centres for evidence based practice have been established or planned in adult medicine, child health, surgery, pathology, pharmacotherapy, nursing, general practice, and dentistry; the Cochrane Collaboration and Britain's Centre for Review and Dissemination in York are providing systematic reviews of the effects of health care; new evidence based practice journals are being launched; and it has become a common topic in the lay media. But enthusiasm has been mixed with some negative reaction.<sup>4,5</sup> Criticism has ranged from evidence based medicine being old hat to it being a dangerous innovation, perpetrated by the

arrogant to serve cost cutters and suppress clinical freedom. As evidence based medicine continues to evolve and adapt, now is a useful time to refine the discussion of what it is and what it is not.

Evidence based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research. By individual clinical expertise we mean the proficiency and judgment that individual clinicians acquire through clinical experience and clinical practice. Increased expertise is reflected in many ways, but especially in more effective and efficient diagnosis and in the more thoughtful identification and compassionate use of individual patients' predicaments, rights, and preferences in making clinical decisions about their care. By best available external clinical evidence we mean clinically relevant research, often from the

## The early 2010's

### Research

#### CareTrack: assessing the appropriateness of health care delivery in Australia

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How appropriate is the health care delivered to Australians? A seminal study in the United States showed that American adults received "recommended care" only 55% of the time in the years 1999–2000.<sup>1</sup> Estimates of "appropriate care" — defined here as care in line with evidence-based or consensus-based guidelines<sup>2</sup> — are limited in most countries, including Australia, to small groups of conditions, often in particular settings.<sup>3,4</sup> Despite some evidence of great variations in care and poor compliance with guidelines (Box 1), no comprehensive study of the appropriateness of the health care received by Australians has been undertaken. Without such information, we will be unable to create sustainable systems that have "the capacity to measure,

#### Abstract

**Objective:** To determine the percentage of health care encounters at which a sample of adult Australians received appropriate care (ie, care in line with evidence-based or consensus-based guidelines).

**Design, setting and participants:** Computer-assisted telephone interviews and retrospective review of the medical records (for 2009–2010) of a sample of at least 1000 Australian adults to measure compliance with 522 expert consensus indicators representing appropriate care for 22 common conditions. Participants were selected from households in areas of South Australia and New South Wales chosen to be representative of the socioeconomic profile of Australians. Health care encounters occurred in health care practices and hospitals with general practitioners, specialists, physiotherapists, chiropractors, psychologists and counsellors.

**Main outcome measure:** Percentage of health care encounters at which the sample received appropriate care.

**Results:** From 15 292 households contacted by telephone, 7649 individuals agreed to participate, 3567 consented, 2638 proved eligible, and 1154 were included after gaining the consent of their health care providers. The adult Australians in this sample received appropriate care at 57% (95% CI, 54%–60%) of 35 572 eligible health care encounters. Compliance with indicators of appropriate care at condition level ranged from 13% (95% CI, 1%–43%) for alcohol dependence to 90% (95% CI, 85%–93%) for coronary artery disease. For health care providers with more than 300 eligible encounters each, overall compliance ranged from 32% to 86%.

Overall appropriate level of care received 57% of the time  
 Variable compliance with indicators of appropriate care, for example:

- Obesity 24%
- Stroke 53%
- Low back pain 72%
- Coronary artery disease 90%

## Are we making progress?

- How we think and talk about evidence, knowledge and knowledge translation
- How we think evidence relates to improvements in practice
- How we plan and support implementation

## Some propositions .....

1. Good research is not enough to guarantee its uptake in practice
2. The pipeline model of knowledge translation fails to represent the reality of implementing new knowledge in practice
3. We need to embrace more dynamic and iterative conceptualisations of evidence and knowledge translation in healthcare



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**Proposition 1: Good research does not guarantee people will use it**

- Explicit formal knowledge vs knowledge derived from clinical and patient experience
- Population level evidence and patient-level clinical decision making
- Direct (instrumental) use of research vs sense-making and enactment of evidence in practice
- Contested and negotiated nature of evidence
- Effectiveness vs other determinants of quality care, e.g. acceptability, appropriateness, access, equity etc.

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**ESSAY**

**Evidence based medicine: a movement in crisis?**

Trisha Greenhalgh and colleagues argue that, although evidence based medicine has had many benefits, it has also had some negative unintended consequences. They offer a preliminary agenda for the movement's renaissance, refocusing on providing useable evidence that can be combined with context and professional expertise so that individual patients get optimal treatment

Trisha Greenhalgh *dean for research impact*<sup>1</sup>, Jeremy Howick *senior research fellow*<sup>2</sup>, Neal Maskrey *professor of evidence informed decision making*<sup>3</sup>, for the Evidence Based Medicine Renaissance Group

<sup>1</sup>Barts and the London School of Medicine and Dentistry, London E1 2AB, UK; <sup>2</sup>Centre for Evidence-Based Medicine, University of Oxford, Oxford OX2 6NW, UK; <sup>3</sup>Keele University, Staffs ST5 5BG, UK

It is more than 20 years since the evidence based medicine working group announced a "new paradigm" for teaching and practising clinical medicine.<sup>1</sup> Tradition, anecdote, and theoretical reasoning from basic sciences would be replaced by evidence from high quality randomised controlled trials and observational studies, in combination with clinical expertise and the needs and wishes of patients.

Two decades of enthusiasm and funding have produced numerous successes for evidence based medicine. An early example was the British Thoracic Society's 1990 asthma guidelines, developed through consensus but based on a combination of randomised trials and observational studies.<sup>9</sup> Subsequently, the use of personal care plans and step wise prescription of inhaled steroids for asthma increased,<sup>10</sup> and

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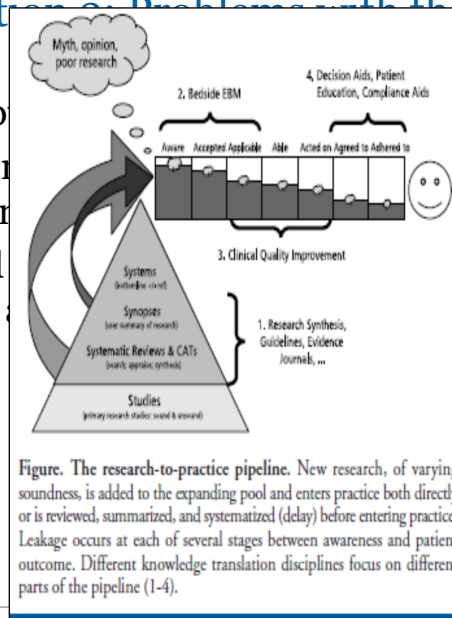
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## Proposition 2: Problems with the pipeline

- Assumption of rational-linear decision making
- Focus on increasing accessibility, awareness, acceptance of and adherence to research
- Limited acknowledgement of the influence of context and the complexities of clinical decision-making

## Proposition 2: Problems with the pipeline

- Assump
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- Limited
- context
- making



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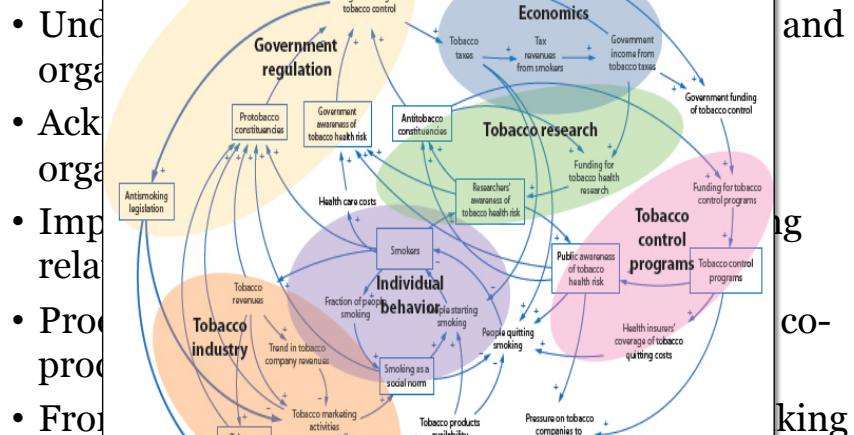
**Proposition 3: Viewing evidence and practice change as complex and multi-dimensional**

- Understanding processes of individual, team and organisational behavioural change
- Acknowledging contextual influences: local, organisational and health system level
- Importance of forming networks and fostering relationships
- Producer-push models of implementation vs co-production and integrated approaches
- From straight-line to multi-dimensional thinking

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**Proposition 3: Viewing evidence and practice change as complex and multi-dimensional**



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## Embracing a more dynamic perspective

- **WHAT** is being implemented: characteristics of the innovation or change
- **WHO** is involved: characteristics of the target groups for implementation
- **WHERE:** characteristics of the setting for the intended change
- **HOW:** implications for the process of implementation

## Introducing the i-PARIHS framework

Health and Social Implementation Science 2016;11:33  
 DOI:10.1007/s12148-016-9162-2

Implementation Science

DEBATE

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PARIHS revisited: from heuristic to integrated framework for the successful implementation of knowledge into practice

Gill Harvey<sup>1\*</sup> and Alison Kitson<sup>1</sup>

Abstract

**Background:** The Promoting Action on Research Implementation in Health Services, or PARIHS frame published in 1998. Since this time, work has been ongoing to further develop, refine and test it. With ongoing or conceptual framework to help both explain and predict why the implementation of evidence practice is or is not successful, PARIHS was one of the first frameworks to make explicit the multidimensional complex nature of implementation as well as highlighting the central importance of context. Several of the framework have also pointed out its limitations and suggested areas for improvement.

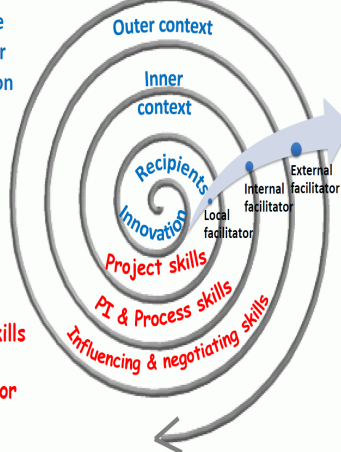
**Discussion:** Building on the published critiques and a number of empirical studies, this paper introduces a revised version of the framework, called the integrated or i-PARIHS framework. The theoretical antecedents of the framework are described as well as outlining the revised and new elements, notably, the revision of 1) is described, how the individual and teams are incorporated; and how context is further delineated; 2) how the framework can be operationalised and draw on case study data to demonstrate the practical face and content validity of the revised framework.

**Summary:** This paper is presented for deliberation and discussion within the implementation science community in response to a series of critiques and helpful feedback on the utility of the original PARIHS framework. Feedback on the proposed improvements to the framework. We believe that the i-PARIHS framework more integrated approach to understand the theoretical complexity from which implementation science propositions and working hypotheses, that the new framework is more coherent and comprehensive, some time maintains its inclusive approach, and that the models of facilitation described enable its more operationalisation.

**Keywords:** PARIHS, i-PARIHS, Implementation framework, Facilitator role, Facilitation



What the facilitator focuses on



What skills the facilitator needs

## The i-PARIHS framework

$$SI = Fac^n(I+R+C)$$

SI = Successful Implementation

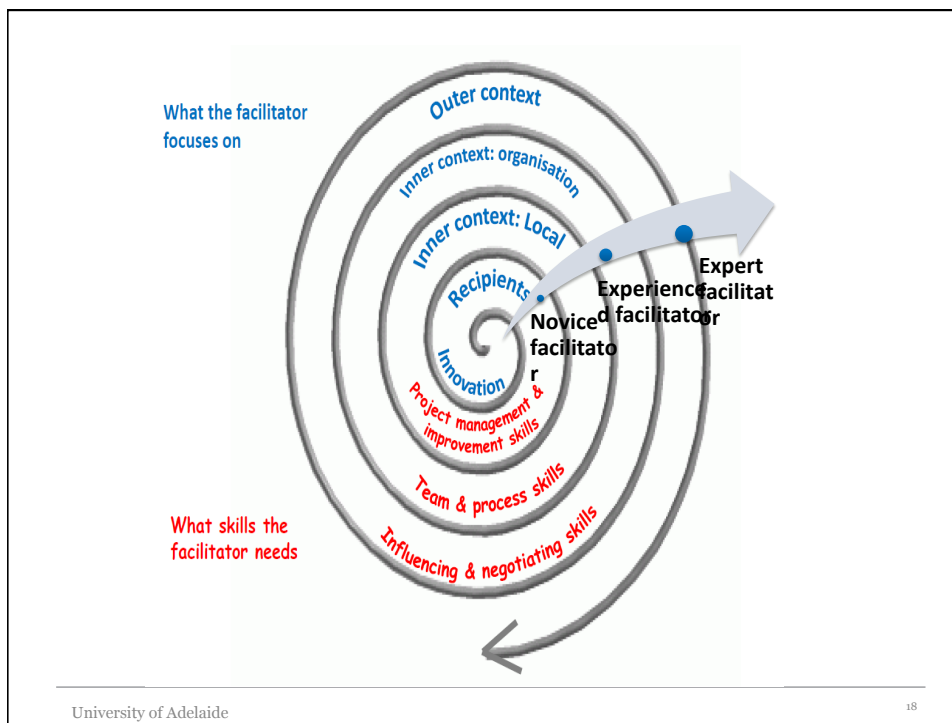
- Achievement of agreed implementation/project goals
- The uptake and embedding of the innovation in practice
- Individuals, teams and stakeholders are engaged, motivated and 'own' the innovation
- Variation related to context is minimised across implementation settings

Fac<sup>n</sup> = Facilitation (role and process)

I= Innovation (diverse sources of evidence that drive change)

R = Recipients (individual and collective)

C = Context (inner and outer)



## In conclusion ....

- Why do we need to widen our thinking about evidence and evidence-based practice?
- Because .... it's complex!
- Research evidence, clinical guidelines etc. help to synthesise and codify knowledge of best practice
- But we also need to think about who are the intended users of the new knowledge and how they will respond?
- What behavioural changes will be required at a clinical, team and/or organisational level?
- What contextual factors might act as barriers or enablers?
- And what structures, processes and supports need to be put in place to actively enable and embed implementation?

Thank you



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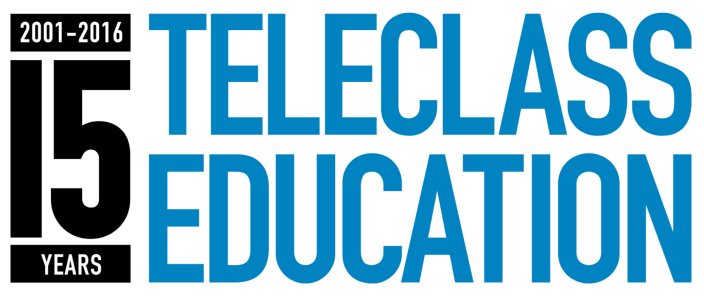


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December 8 **VIABILITY OF BACTERIA ON FABRICS**  
Prof. Jerry H. Kavouras, University of Illinois at Chicago

December 15 (FREE Teleclass)  
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Prof. Andreas Voss, Radboud University Medical Centre, The Netherlands

[www.webbertraining.com/schedule1.php](http://www.webbertraining.com/schedule1.php)



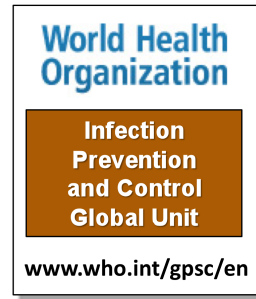
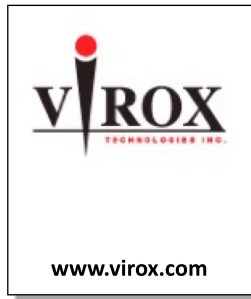
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