

Ottawa Health Research Institute

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Institut de recherche en santé d'Ottawa

Improving the science of quality improvement

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Quality improvement vs quality improvement research

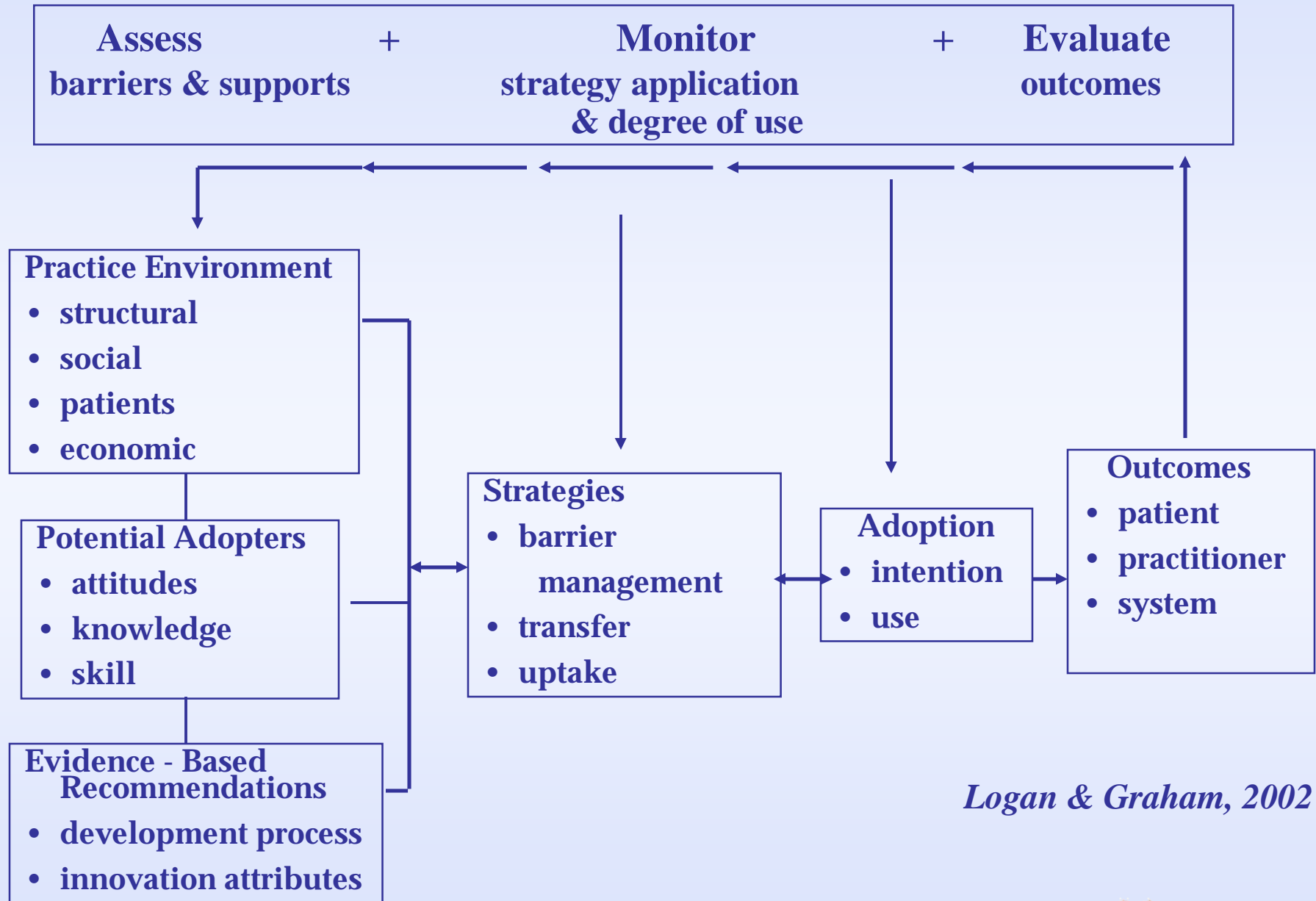
Quality Improvement

- Problem solving – improving quality in our setting; contextualised experiential learning
- Normative
- Contextual issues – implicit
- Demonstrating causal relationship between QI activities and improved quality not that important
- Evaluative designs – observational, quasi experimental

Quality improvement research

- Knowledge generation – generating more generalisable knowledge about how to undertake QI better
- Normative, predictive
- Contextual issues – need to be explored explicitly
- Demonstrating and understanding causal relationship between QI activities and improved quality central
- Evaluative designs – randomised controlled trials, quasi experimental

Ottawa Model of Research Use



Logan & Graham, 2002

Levels of intervention to improve quality of care

- Ferlie and Shortell suggest four levels of interventions to improve the quality of health care:
 - **the individual health professional;**
 - **health care groups or teams;**
 - **organisations providing health care;**
 - **the larger health care system or environment in which individual organizations are embedded.**
- **Different interventions at different levels targeting different stakeholders likely to be needed depending on identified barriers**

Ferlie, Shortell (2001). *Milbank Quarterly*

Quality improvement research

This is the scientific study of the determinants, processes and outcomes of QI including:

- knowledge synthesis (to identify the evidence base for QI);
- identification of knowledge to action gaps;
- development of methods to assess barriers and facilitators to QI;
- development of the methods for optimizing QI strategies;
- evaluations of the effectiveness and efficiency of QI strategies;
- development of QI theory; and
- development of QI research methods.

Quality improvement methods

- Diverse methods required depending on research question
- Eg for what works questions, Rigorous evaluations (mainly randomised controlled trials) provide the best evidence of effectiveness of different interventions because:
 - **Effects of interventions need to be tested across settings**
 - **Effects of interventions are modest**
 - **Limited understanding of likely confounders**
 - **Substantial opportunity costs if ineffective or inefficient dissemination and implementation strategies used**

Personal research (1)

- **Systematic reviews of interventions to improve healthcare systems and delivery**
 - **Co-ordinating Editor of Cochrane Effective Practice and Organisation of Care (EPOC) group**
 - **Supported 39 completed and 39 ongoing reviews**
 - **Undertaken two overview of reviews**
- **Large scale rigorous evaluations of dissemination and implementation strategies**
 - **Involved in over 30 cluster randomised trials and two quasi experimental studies**

Personal research (2)

- **Methodological and theoretical developments**
 - **Methods of developing clinical practice guidelines**
 - **Methods of appraising clinical practice guidelines**
 - **Methods of cluster randomised trials in implementation research**
 - **Assessing the applicability of behavioural theory to health care professional behaviour**
- **Epidemiology of health knowledge**

Key findings

- Possible to change provider behaviour and improve quality
- Modest but potentially important effects (eg audit and feedback leads to median 10% absolute improvement)
- Substantial variability of effects within intervention classes (eg audit and feedback - 2% to +71%)
- Low intensity interventions sometime very effective

Key findings

- **Current research often suffers from technical weaknesses that are easily addressed**
- **Need better understanding of mechanisms of action of different interventions and potential effect modifiers**
- **Behavioural theories appear to apply to professional behaviours**
- **Behavioural theories identify potential targets and mechanisms for interventions**
- **Need to consider economic issues**

Summary

- QI research is the scientific study of the determinants, processes and outcomes of QI
- Diverse questions that require diverse (and interdisciplinary) research approaches but do not warrant different research approaches
- Emergent empirical and theoretical evidence base that can guide QI activities
- Further research needed to:
 - **Develop methods of barrier identification**
 - **Optimise interventions**
 - **Evaluate effectiveness and efficiency of QI strategies**