

# Key Concepts in Nursing and Healthcare Research

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# 1 Evidence-Based Practice and Research

Jo Rycroft-Malone

## DEFINITION

The concern with providing patients with the best and safest care possible is often referred to as *evidence-based practice*. Evidence-based practice has been defined as the combination of research, clinical experience, local information and patients' preferences and experience in the delivery of care and services (Rycroft-Malone et al., 2004a). Evidence-based practice has become a policy imperative in many countries, with an associated investment in guideline development bodies, such as the National Institute for Health and Clinical Excellence (NICE, [www.nice.org.uk](http://www.nice.org.uk)), to support practitioners, plus services deliver on this agenda. Despite this focus and investment, there are many examples of patients receiving treatment, care and interventions that are known to be less than effective and even harmful.

There are many challenges to using evidence in practice. While practitioners genuinely wish to do the right thing for patients, robust research is just one of several components that inform health professionals in their everyday practice and many factors influence this process. The Promoting Action on Research Implementation in Health Services (PARIHS) framework provides a way of thinking about how some of these challenges can be identified and considered.

## KEY POINTS

- The PARIHS framework was developed in an attempt to reflect the interdependence and interplay of the many factors that appear to play a role in the successful implementation of evidence in practice. It was developed inductively and has been refined over time (see Rycroft-Malone, 2010 and Kitson et al., 2008 for a summary)
- Successful implementation is represented as a function of the nature of *evidence*, the quality of the *context* of implementation and appropriate approaches to *facilitation*. This relationship is represented as:  $SI = f(E, C, F)$  – that is, successful implementation = function (evidence, context, facilitation)
- Evidence, context and facilitation are each positioned on a 'high' to 'low' continuum. Moving towards the high end of the continuum increases the chances

of successful implementation of evidence-based practice (Rycroft-Malone et al., 2004b)

- The proposition is that evidence-based practice is most likely to occur when evidence is scientifically robust and matches a professional consensus, patients' experiences and preferences and is informed by local information/data ('high' evidence), the context is receptive to change with appropriate cultures, leadership and robust monitoring and feedback systems ('high' context) and when there is appropriate support for change with input from skilled external and/or internal facilitators ('high' facilitation)
- The PARIHS framework should be useful for understanding some of the key ingredients of evidence-based practice, guiding evidence-based practice and as an aide-memoire in practice

## DISCUSSION

See Table 1.1 for a description of the various elements and sub-elements of the PARIHS framework.

**Table 1.1** Elements and sub-elements of the PARIHS framework

Elements	Sub-elements	
Evidence	Low	High
Research	<ul style="list-style-type: none"> <li>• Poorly conceived, designed and/or executed research</li> <li>• Seen as the only type of evidence</li> <li>• Not valued as evidence</li> <li>• Seen as certain</li> </ul>	<ul style="list-style-type: none"> <li>• Well-conceived, designed and executed research, appropriate to the research question</li> <li>• Seen as one part of a decision</li> <li>• Valued as evidence</li> <li>• Lack of certainty acknowledged</li> <li>• Social construction acknowledged</li> <li>• Judged as relevant</li> <li>• Importance weighted</li> <li>• Conclusions drawn</li> </ul>
Clinical experience	<ul style="list-style-type: none"> <li>• Anecdote, with no critical reflection or judgement</li> <li>• Lack of consensus within similar groups</li> <li>• Not valued as evidence</li> <li>• Seen as the only type of evidence</li> </ul>	<ul style="list-style-type: none"> <li>• Clinical experience and expertise reflected on, tested by individuals and groups</li> <li>• Consensus within similar groups</li> <li>• Valued as evidence</li> <li>• Seen as one part of the decision</li> <li>• Judged as relevant</li> <li>• Importance weighted</li> <li>• Conclusions drawn</li> </ul>
Patient experience	<ul style="list-style-type: none"> <li>• Not valued as evidence</li> <li>• Patients not involved</li> <li>• Seen as the only type of evidence</li> </ul>	<ul style="list-style-type: none"> <li>• Valued as evidence</li> <li>• Multiple biographies used</li> <li>• Partnerships with healthcare professionals</li> <li>• Seen as one part of a decision</li> <li>• Judged as relevant</li> <li>• Importance weighted</li> <li>• Conclusions drawn</li> </ul>

Elements		Sub-elements		
Evidence	Low	High		
Local data/ information	<ul style="list-style-type: none"> <li>• Not valued as evidence</li> <li>• Lack of systematic methods for collection and analysis</li> <li>• Not reflected on</li> <li>• No conclusions drawn</li> </ul>	<ul style="list-style-type: none"> <li>• Valued as evidence</li> <li>• Collected and analysed systematically and rigorously</li> <li>• Evaluated and reflected on</li> <li>• Conclusions drawn</li> </ul>		
Context	Low	High		
Culture	<ul style="list-style-type: none"> <li>• Unclear values and beliefs</li> <li>• Low regard for individuals</li> <li>• Task-driven organisation</li> <li>• Lack of consistency</li> <li>• Resources not allocated</li> <li>• Not integrated with strategic goals</li> </ul>	<ul style="list-style-type: none"> <li>• Able to define culture(s) in terms of prevailing values/beliefs</li> <li>• Values individual staff and clients</li> <li>• Promotes a learning organisation</li> <li>• Consistency of individuals' roles/ experience to value: <ul style="list-style-type: none"> <li>– relationships with others</li> <li>– teamwork</li> <li>– power and authority</li> <li>– rewards/recognition</li> </ul> </li> <li>• Resources – human, financial, equipment – allocated</li> <li>• Initiative fits with strategic goals and is a key practice/patient issue</li> </ul>		
Leadership	<ul style="list-style-type: none"> <li>• Traditional, command and control leadership</li> <li>• Lack of role clarity</li> <li>• Lack of teamwork</li> <li>• Poor organisational structures</li> <li>• Autocratic decisionmaking processes</li> <li>• Didactic approaches to learning/teaching/ managing</li> </ul>	<ul style="list-style-type: none"> <li>• Transformational leadership</li> <li>• Role clarity</li> <li>• Effective teamwork</li> <li>• Effective organisational structures</li> <li>• Democratic inclusive decisionmaking processes</li> <li>• Enabling/empowering approach to teaching/learning/managing</li> </ul>		
Evaluation	<ul style="list-style-type: none"> <li>• Absence of any form of feedback</li> <li>• Narrow use of performance information sources</li> <li>• Evaluations rely on single rather than multiple methods</li> </ul>	<ul style="list-style-type: none"> <li>• Feedback on: <ul style="list-style-type: none"> <li>– individual</li> <li>– team</li> <li>– system</li> <li>– performance</li> </ul> </li> <li>• Use of multiple sources of information on performance</li> <li>• Use of multiple methods: <ul style="list-style-type: none"> <li>– clinical</li> <li>– performance</li> <li>– economic</li> <li>– experience</li> <li>– evaluations</li> </ul> </li> </ul>		

(Continued)

**Table 1.1** (Continued)

Facilitation	Low inappropriate facilitation	High appropriate facilitation
	Purpose	Task
Role	Doing for others: <ul style="list-style-type: none"> <li>• episodic contact</li> <li>• practical/technical help</li> <li>• didactic, traditional approach to teaching</li> <li>• external agents</li> <li>• low intensity – extensive coverage</li> </ul>	Enabling others: <ul style="list-style-type: none"> <li>• sustained partnership</li> <li>• developmental</li> <li>• adult learning approach to teaching</li> <li>• internal/external agents</li> <li>• high intensity – limited coverage</li> </ul>
Skills and attributes	Task/doing for others: <ul style="list-style-type: none"> <li>• project management skills</li> <li>• technical skills</li> <li>• marketing skills</li> <li>• subject/technical/clinical credibility</li> </ul>	Holistic/enabling others: <ul style="list-style-type: none"> <li>• co-counselling</li> <li>• critical reflection</li> <li>• giving meaning</li> <li>• flexibility of role</li> <li>• realness/authenticity</li> </ul>

### Evidence

Within PARIHS, evidence is conceived in a broad sense to include four different types of evidence:

- research
- clinical experience
- patients' and carers' experiences
- local context information (see Rycroft-Malone et al., 2004a).

These sources of evidence are blended in decision-making to make appropriate patient-centred decisions based on the best research evidence available. This process is interactive and may need to be guided by a skilled facilitator.

### Context

Context refers to the environment or setting in which the proposed change is to be implemented (see McCormack et al., 2002). The quality and nature of the contexts in which we work can have a more or less facilitative influence on our ability to change and develop practices based on evidence. Within PARIHS, the contextual factors that promote successful implementation fall under three broad sub-elements that operate in a dynamic way:

- culture
- leadership
- evaluation.

## Facilitation

Facilitation refers to the process of enabling or making easier the implementation of evidence in practice (see Harvey et al., 2002). Facilitation is achieved by an individual carrying out a specific role – that of being a facilitator, with the appropriate skills and knowledge to help individuals, teams and organisations use evidence in practice.

Facilitators have a key role to play in developing contexts that are conducive to the use of evidence. Part of this process is also about working with practitioners to help them make sense of evidence. The purpose, role, skills and attributes of facilitators are absolutely critical to implementing evidence-based practice.

## CASE STUDY

PARIHS has been used in different ways (see Rycroft-Malone, 2010 for a summary). A number of tools and instruments have also been developed based on PARIHS. For example, the Context Assessment Index (McCormack et al., 2009) has been developed to assist practitioners with assessing and understanding the context in which they work and the effect this has on implementing evidence into practice. PARIHS has also been used with research and implementation activity as a conceptual and theoretical framework – that is, as an organising framework to underpin and/or guide evidence-based practice. For example, the elements can be used to understand or ‘diagnose’ a situation and help structure questions to make sense of situations, as follows.

### Evidence

- Is there any research evidence underpinning the initiative/topic?
- Is this research judged to be well conceived, designed and conducted?
- Are the findings from research relevant to the initiative/topic?
- What is the practitioner’s experience and opinion about this topic and the research evidence?
- Does the research evidence match with clinical, organisational and facilitation experience?
- Do you need to seek consensus before it might be used by practitioners in this setting? How might you do this in your workplace?
- What is the patient’s experience/preference/story concerning this initiative/topic?
- Does this differ from practitioners’ perspectives?
- How could a partnership approach be developed?
- Is there any robust, local information/data about the initiative/topic?

### Context

- Is the context of implementation receptive to change?
- What are the beliefs and values of the organisation, team and practice context?
- What sort of leadership style is present (command and control, transformational)?

- Are individual and team boundaries clear?
- Is there effective teamworking?
- Does evaluation of performance rely on broad and varied sources of information?
- Is this information fed back to clinical contexts?

### Facilitation

- Consider the answers to the evidence and context questions: what are the barriers and what are the facilitators to this initiative?
- What tasks/activities and processes require facilitation?

For a comprehensive review and critique of how PARIHS has been used previously, refer to Helfrich et al. (2010).

## CONCLUSION

Evidence-based practice requires individual, team and organisational effort. Using evidence in practice is complex and challenging, which goes far beyond an individual's ability to critically appraise research. The PARIHS framework represents this complexity and provides a map of the factors that play a role and therefore need to be paid attention to in any evidence-based practice-related activities.

## FURTHER READING

- Rycroft-Malone, J. and Bucknall, T. (2010) *Models and Frameworks for Implementing Evidence-Based Practice*. Oxford: Wiley Blackwell.
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