

Using the Best Evidence to Change Practice

We are living in an exciting era in which we have a much more extensive body of nursing research than in the past decades upon which to base nursing practice. Although there remain many aspects of patient care for which little research is available, our literature contains a wealth of knowledge applicable to practice. The purpose of this column in the *Journal of Nursing Care Quality* is to present practical information for direct-care nurses and quality improvement leaders about using the best available evidence to change practice. This column is coordinated by June H. Larrabee, PhD, RN, at jhlarrabee@adelphia.net; jlarrabee@hsc.wvu.edu.

The PARIHS Framework—A Framework for Guiding the Implementation of Evidence-based Practice

Jo Rycroft-Malone, PhD, MSc, BSc(Hons), RN

From the Royal College of Nursing Institute, Oxford, United Kingdom.

The PARIHS framework is the culmination of a project team's work. Kitson, Harvey, and McCormack conceived the framework, first published in 1998. Since that time, a larger project team, led by Jo Rycroft-Malone, has shaped its ongoing development and refinement. Project team: Alison Kitson, BSc(Hons), DPbil, RN, FRCN—executive director of nursing, honorary professorship, Royal College of Nursing, London, UK; Gill Harvey, BNursing, PhD, RHV, RGN, DN—senior lecturer in healthcare and public sector management, Centre for Healthcare Management, University of Manchester, UK; Kate Seers, BSc(Hons), PhD, RGN—honorary professor and head of research, RCN Institute, Oxford, UK; Brendan McCormack, BSc(Hons)Nursing, DPHIL (Oxon), PGCEA, RGN, RMN—professor of nursing research, University of Ulster and Royal Hospitals Trust, Belfast, UK; and Angie Titcher, MSc, DPbil (Oxon), MCSP—senior research and development fellow, RCN Institute, Oxford, UK.

Corresponding author: Jo Rycroft-Malone, PhD, MSc, BSc(Hons), RN, Royal College of Nursing, Radcliffe Infirmary, Woodstock Rd, Oxford OX2 6HE, United Kingdom (e-mail: Joanne.rycroft-malone@rcn.org.uk).

AGAINST a background of rising health costs, a management ethos of “doing things right,” and a drive for quality improvement, evidence-based healthcare has evolved. It has emerged as one of the dominant themes of practice, management, and education in health services across the globe. Mounting pressure is being exerted to ensure that the delivery of care is evidence based and clinically effective. Yet if you have been involved in implementing change, getting research into practice, or improving the quality of patient care, you know what a complex, messy, and demanding task it can be. If it was straightforward, the production of “evidence,” perhaps in the form of guidelines followed by an education or a teaching package, would lead to an expectation that practitioners would automatically integrate it into their everyday practice. But we know that this is not the case, and often practice lags behind what is known to be current best practice.

Against this context, research and practice development teams within the Royal College

of Nursing (RCN) Institute in the United Kingdom have accumulated experience and knowledge about implementation and changing practice from their involvement in a number of different research, practice development, and quality improvement projects.¹⁻⁴ Analysis of work such as this indicates that a number of key factors appear to play a role in successful implementation.^{5,6} The Promoting Action on Research Implementation in Health Services (PARIHS) framework represents the interplay and interdependence of these factors. This multidimensional framework was developed in an attempt to represent the complexity of the change processes involved in implementing research-based practice.

THE PARIHS FRAMEWORK

The PARIHS framework presents successful research implementation as a function of the relationships among *evidence*, *context*, and *facilitation*. The framework considers these elements to have a dynamic, simultaneous relationship. The 3 elements, evidence, context, and facilitation, are each positioned on a high to low continuum. The proposition is that for implementation of evidence to be successful, there needs to be clarity about the nature of the evidence being used, the quality of context, and the type of facilitation needed to ensure a successful change process. Theoretical and retrospective analysis of 4 studies that had been undertaken by the RCN Institute⁵ led to a proposal that the most successful implementation seems to occur when evidence is scientifically robust and matches professional consensus and patient's preferences (high evidence), the context is receptive to change with sympathetic cultures, strong leadership, and appropriate monitoring and feedback systems (high context), and when there is appropriate facilitation of change, with input from skilled external and internal facilitators (high facilitation).

The framework was originally developed from collective experience and wisdom.⁵ Since its conception and publication in 1998,

the framework has undergone research and development work. Most notably, this has included a concept analysis of each of the dimensions: evidence, context, and facilitation, and a research study to assess its content validity. This has enabled some theoretical rigor and conceptual clarity to be gained about the constituent elements and as a result, a refinement of its content. The following sections outline the contents of the PARIHS framework subsequent to this research and development work.

Evidence

For many involved in the evidence-based practice (EBP) movements, evidence equals research. However, in reality, a number of different sources of knowledge and information need to be combined and used in clinical decision making at the bedside with the patient. It is proposed that evidence in EBP should be considered to be "knowledge derived from a variety of sources that has been subjected to testing and has found to be credible."^{7(p311)} More specifically, the PARIHS framework identifies these as research, clinical experience, patient experience, and local data/information (see Rycroft-Malone⁸ for a detailed discussion).

It is argued that successful implementation is more likely to occur when research and clinical and patient experience are located toward high. In this case, high includes whether, for example, the research (qualitative or quantitative) is well conceived and conducted and whether there is a consensus about it. In the case of clinical experience, high is experience that has been made explicit and verified through critical reflection, critique, and debate. Patient experience is high when patient preferences are used as part of the decision-making process, and when patient narratives and experiences are seen as a valid source of evidence. Finally, local data/information that have been systematically collected and evaluated are located toward high and could be considered in decision-making processes at individual and organizational levels.

The challenge remaining to practitioners and researchers, however, is to better understand how these are combined in clinical decision making and how more effective care can be delivered by melding this broader evidence base.

Context

Research has demonstrated that the context can be a potent mediator of the implementation of evidence into practice.⁹⁻¹¹ As Wood et al¹² point out, in promoting innovation or a piece of research evidence, we are not dealing merely with the uncomplicated dissemination of findings to a passive and receptive audience but are, in fact, reconnecting research with its supplementary other—practice. Despite this growing acknowledgment, we are only just beginning to really understand the role that contextual factors can play in facilitating or inhibiting the research implementation process.

The context in which healthcare practice occurs can be seen as infinite as it takes place in a variety of settings, communities, and cultures that are all influenced by economic, social, political, fiscal, historical, and psychosocial factors. In the PARIHS framework, the term *context* is used to refer to the environment or setting in which people receive healthcare services, or in the context of getting research evidence into practice, the environment or setting in which the proposed change is to be implemented.^{5,13} In the framework, the contextual factors that promote the successful implementation of evidence into practice fall under the 3 broad themes of culture, leadership, and evaluation (see McCormack et al¹³ for a full discussion).

Organizations that could be described as “learning organizations” are those that are more conducive to facilitating change because they create learning *cultures* that pay attention to individuals, group processes, and organizational systems. Such a context is characterized by decentralized decision making, an emphasis on the relationship between manager and worker, and a manage-

ment style that is facilitative rather than ordering.¹⁴

Leaders have a key role to play in transforming cultures and are therefore influential in shaping a context that is ready for change. Transformational leaders, as opposed to those who command and control, have the ability to transform cultures to create contexts that are more conducive to the integration of evidence into practice.¹⁵ These types of leaders inspire staff to have a shared vision and do so in a stimulating, a challenging, and an enabling way. This, in turn, results in clear roles and effective teamwork and organizational structures.^{5,16} The significance to implementation and change is that effective leaders have the ability to bring the “science” component of healthcare practice (the application of science and technology) together with the “art” component (the translation of different forms of practice knowledge) into caring actions.¹⁷

An additional component of the environment that seems to play a role in shaping its readiness for implementation is that of *evaluation*. Measurement generates evidence on which to base practice and is part of the evaluation or feedback process that demonstrates whether or not changes to practices are appropriate, effective, and/or efficient. Guba and Lincoln,¹⁸ Pawson and Tilley,¹⁹ and Quinn-Patton²⁰ argue that evaluation frameworks need to reflect the complexity of organizational systems and the multiple realities of stakeholders. Contexts in which evaluation relies on broad and multiple sources of evidence of effectiveness in addition to more tangible outcomes tend to be those that are more receptive to change.

The context of practice and thus of research evidence implementation is complex and dynamic. The PARIHS framework proposes that a context’s characteristics are key to ensuring a more conducive environment to get evidence into practice. More specifically, it is proposed that a strong context, where, for example, there is clarity of roles, decentralized decision making, valuing of staff, transformational leaders, and a reliance on multiple

sources of information on performance, will make the chances of successful implementation more likely.

FACILITATION

It is proposed that a facilitator has a key role to play in not only affecting the context in which change is taking place but also in working with practitioners to make sense of the evidence being implemented.²¹ Kitson et al⁵ describe *facilitation* as "a technique by which one person makes things easier for others."^(p152) In the context of the PARIHS framework, *facilitation* refers to the process of enabling (making easier) the implementation of evidence into practice. Thus, facilitation is achieved by an individual carrying out a specific role (a facilitator), which aims to help others. This indicates that facilitators are individuals with the appropriate roles, skills, and knowledge to help individuals, teams, and organizations apply evidence into practice.

In the PARIHS framework, high facilitation relates to the presence of appropriate facilitation and low to the absence of appropriate facilitation or inappropriate facilitation. Appropriate may encompass a range of roles and interventions, depending on the needs of the situation. Key facets of facilitation are organized in the 3 broad themes of purpose, role, and skills and attributes (see Harvey et al²¹ for a detailed discussion).

The PARIHS framework acknowledges that the *purpose* of facilitation can vary from a focused process of providing help and support to achieve a specific task ("task") to a more complex, holistic process of enabling teams and individuals to analyze, reflect, and change their own attitudes, behaviors, and ways of working ("holistic"). As the approach moves toward holistic, facilitation is increasingly concerned with addressing the whole situation and the whole person.

As the purpose of facilitation appears to vary within the literature, there also are multiple interpretations of the facilitator *role* in practice. These range from a practical hands-on role of assisting change to a more complex,

multifaceted role. In the models of health promotion that explicitly employ a facilitator, the emphasis is on external facilitators using an outreach model to work with several primary healthcare practices, providing advice, networking, and support to help them establish the required health prevention activities.²² In contrast, approaches to facilitation that are rooted in the fields of counseling and experiential learning are strongly influenced by underlying theories of humanistic psychology and human inquiry. Consequently, the facilitator's role is concerned with enabling the development of reflective learning by helping to identify learner needs, guide group processes, encourage critical thinking, and assess the achievement of learning goals.

In these different situations, the *skills and attributes* required of the facilitator would be different. To fulfill the potential demands of the role, facilitators are likely to require a wide repertoire of skills and attributes. Arguably, skilled facilitators would be ones who could adjust their role and style at the different phases of an implementation or development project.

Facilitation and facilitators have key roles to play in the implementation of evidence into practice. While there is still some conceptual clarity to be gained about how facilitators may differ from other change agent roles, it is suggested that fundamentally the facilitator role is one that supports practitioners to change their practice. This is likely to include the need to work with practitioners to particularize and translate different types of evidence into practice, as well as to assist individuals and teams to transform the practice environment so that the implementation context is conducive to change.

SUMMARY OF KEY ELEMENTS FOR SUCCESSFUL IMPLEMENTATION

In summary, we suggest that there are 3 elements that are key to successful implementation: evidence, context, and facilitation. Each of these elements is made up of subelements. *Evidence* is characterized by research

Table 1. Elements of the Promoting Action on Research Implementation in Health Systems (PARIHS) framework

Elements	Subelements	
	Low	High
Evidence		
Research	<ul style="list-style-type: none"> ● Poorly conceived, designed, and/or executed research ● Seen as the only type of evidence ● Not valued as evidence ● Seen as certain 	<ul style="list-style-type: none"> ● Well-conceived, designed, and executed research, appropriate to the research question ● Seen as one part of a decision ● Valued as evidence ● Lack of certainty acknowledged ● Social construction acknowledged ● Judged as relevant ● Importance weighted ● Conclusions drawn
Clinical experience	<ul style="list-style-type: none"> ● Anecdotal, with no critical reflection and judgment ● Lack of consensus within similar groups ● Not valued as evidence ● Seen as the only type of evidence 	<ul style="list-style-type: none"> ● Clinical experience and expertise reflected upon, tested by individuals and groups ● Consensus within similar groups ● Valued as evidence ● Seen as one part of the decision ● Judged as relevant ● Importance weighted ● Conclusions drawn
Patient experience	<ul style="list-style-type: none"> ● Not valued as evidence ● Patients not involved ● Seen as the only type of evidence 	<ul style="list-style-type: none"> ● Valued as evidence ● Multiple biographies used ● Partnerships with healthcare professionals ● Seen as one part of a decision ● Judged as relevant ● Importance weighted ● Conclusions drawn
Local data/information	<ul style="list-style-type: none"> ● Not valued as evidence ● Lack of systematic methods for collection and analysis ● Not reflected upon ● No conclusions drawn 	<ul style="list-style-type: none"> ● Valued as evidence ● Collected and analyzed systematically and rigorously ● Evaluated and reflected upon ● Conclusions drawn
Context		
Culture	<ul style="list-style-type: none"> ● Unclear values and beliefs ● Low regard for individuals ● Task-driven organization ● Lack of consistency ● Resources not allocated ● Well integrated with strategic goals 	<ul style="list-style-type: none"> ● Able to define culture(s) in terms of prevailing values/beliefs ● Values individual staff and clients ● Promotes learning organization ● Consistency of individual's role/experience to value <ul style="list-style-type: none"> Relationship with others Teamwork Power and authority Rewards/recognition ● Resources—human, financial, equipment - allocated ● Initiative fits with strategic goals and is a key practice/patient issue

(continues)

Table 1. (Continued)

Elements	Subelements	
	Low	High
Leadership	<ul style="list-style-type: none"> • Traditional, command, and control leadership • Lack of role clarity • Lack of teamwork • Poor organizational structures • Autocratic decision-making processes • Didactic approaches to learning/teaching/managing 	<ul style="list-style-type: none"> • Transformational leadership • Role clarity • Effective teamwork • Effective organizational structures • Democratic-inclusive decision-making processes • Enabling/empowering approach to teaching/learning/managing
Evaluation	<ul style="list-style-type: none"> • Absence of any form of feedback • Narrow use of performance information sources • Evaluations rely on single rather than multiple methods 	<ul style="list-style-type: none"> • Feedback on Individual Team System performance • Use of multiple sources of information on performance • Use of multiple methods Clinical Performance Economic Experience evaluations
Facilitation Purpose Role	Task Doing for others <ul style="list-style-type: none"> • Episodic contact • Practical/technical help • Didactic, traditional approach to teaching • External agents • Low intensity—extensive coverage 	Holistic Enabling others <ul style="list-style-type: none"> • Sustained partnership • Developmental • Adult learning approach to teaching • Internal/external agents • High intensity—limited coverage
Skills and attributes	Task/doing for others <ul style="list-style-type: none"> • Project management skills • Technical skills • Marketing skills • Subject/technical/clinical credibility 	Holistic/enabling others <ul style="list-style-type: none"> • Cocounselling • Critical reflection • Giving meaning • Flexibility of role • Realness/authenticity

evidence, clinical experience, patient experience, and local data/information; *context* by culture, leadership, and evaluation; and *facilitation* by purpose, role, and skills and attributes. These key factors have been derived from our research, practice development, and quality improvement work, and are supported by other research studies.²³

Each of the elements is on a continuum of low to high. We are suggesting that if each subelement can be judged to be toward

high, implementation is more likely to be successful. Thus, when all the elements are toward high (Table 1), successful implementation is more likely. Therefore, evidence needs to be robust; match professional consensus and patient needs/experience; and where relevant, include local data (high evidence). The context will be more receptive to change when there are sympathetic cultures, strong leadership, and appropriate evaluative systems (high context). Finally, implementation

should be supported by appropriate facilitation (high facilitation). The challenge then for implementers is to move toward the right-hand side of the continuum where evidence, context, and facilitation are high.

THE FRAMEWORK'S UTILITY

To enhance the robustness of the framework, we have conducted theoretical and empirical development work over the past 4 years. There are still questions and issues that need to be better understood, including their relationship(s) among evidence, context, and facilitation, and their relative importance when implementing EBPs. This research work continues in the quest to increase our understanding so that we can be better placed to help practitioners plan and implement effective change and development strategies. However, we are aware that the PARIHS framework has been used by others to structure change and develop practice. In these projects, the main elements of the framework have been used as an aide-memoire or theo-

retical framework. For example, with regard to *evidence*, practitioners would be encouraged to seek out research evidence about the topic identified, see how that matches with theirs and their colleagues' clinical experience, and ascertain how congruent it is with patients' experience (eg, by gathering stories from patients). Additionally, the framework has been used to evaluate projects as a post hoc checklist.²⁴

Our aim now is to develop a self-assessment tool that those implementing EBP will be able to use to review and subsequently plan their own strategies for implementation. It is envisaged that it would be completed to assess readiness for change, leading to a set of scores that would indicate the sort of intervention(s) and work required to facilitate implementation. Additionally, it may be used as a method to track change and progress throughout an implementation project. The piloting and testing of such a tool will form part of a larger implementation project to be conducted by the RCN Institute with collaborative partners.

REFERENCES

- Royal College of Nursing. *Quality Patient Care: The dynamic Standard Setting System*. London: Scutari; 1990.
- Morrell C, Harvey G, Kitson A. *The Reality of Practitioner-Based Quality Improvement—A Review of the Use of the Dynamic Standard Setting System in the NHS of the 1990s*. Oxford: National Institute for Nursing; 1995:14.
- Ward MF, Titchen A, Morrell C, McCormack B, Kitson A. Using a supervisory framework to support and evaluate a multiproject practice development programme. *J Clin Nurs*. 1998;7(1):29-36.
- McCormack B, Wright J. Achieving dignified care for older people through practice development—a systematic approach. *NT Res*. 2000;4(5):340-352.
- Kitson A, Harvey G, McCormack B. Enabling the implementation of evidence based practice: a conceptual framework. *Qual Health Care*. 1998;7(3):149-158.
- Rycroft-Malone J, Kitson A, Harvey G, et al. Ingredients for change: revisiting a conceptual framework. *Qual Saf Health Care*. 2002;11(2):174-180.
- Higgs J, Titchen A. Knowledge and reasoning. In: Higgs J, Jones M, eds. *Clinical Reasoning in the Health Professions*. 2nd ed. Oxford: Butterworth Heineman; 2000:23-32.
- Rycroft-Malone J, Seers K, Titchen A, et al. What counts as evidence in evidence-based practice. *J Adv Nursing*. June 2004;47:81-90.
- Dopson S, Gabbay J, Locock L, Chambers D. *Evaluation of the PACE Programme: Final Report*. Oxford Healthcare Management Institute, Templeton College University of Oxford & Wessex Institute for Health Research & Development, University of Southampton; 1999.
- Dunning M, Abi-Aad G, Gilbert D, et al. *Turning Evidence into Everyday Practice*. London: King's Fund; 1998.
- Ferlie E, Wood M, Fitzgerald L. Some limits to evidence-based medicine: a case study from elective orthopaedics. *Qual Health Care*. 1999;8(2):99-107.
- Wood M, Ferlie E, Fitzgerald L. Achieving clinical behaviour change: a case of becoming indeterminate. *Soc Sci Med*. 1998;47(11):1729-1738.
- McCormack B, Kitson A, Harvey G, Rycroft-Malone J, Titchen A, Seers K. Getting evidence into practice:

- the meaning of "context." *J Adv Nurs*. 2002;38(1): 94-104.
14. Senge PM. *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday/Currency; 1990.
 15. Schein EH. *Organizational Culture and Leadership*. San Francisco: Jossey-Bass; 1985.
 16. Cunningham G, Kitson A. An evaluation of the RCN Clinical Leadership Development Programme: Part 2. *Nurs Stand*. December 13, 2000-January 2, 2001;15:34-40.
 17. Manley K. Organisational culture and consultant nurse outcomes, part 1: organisational culture. *Nurs Stand*. May 24-30, 2000;14:34-38.
 18. Guba E, Lincoln Y. *Fourth Generation Evaluation*. Beverly Hills: Sage; 1989.
 19. Pawson R, Tilley N. *Realistic Evaluation*. London: Sage; 1997.
 20. Quinn-Patton M. *Utilization-focused Evaluation: The New Century Text*. Thousand Oaks, Calif: Sage; 1997.
 21. Harvey G, Loftus-Hills A, Rycroft-Malone J, et al. Getting evidence into practice: the role and function of facilitation. *J Adv Nurs*. 2002;37(6):577-588.
 22. Fullard E, Fowler G, Gray M. Facilitating prevention in primary care. *Br Med J*. 1984;289:1585-1587.
 23. Rycroft-Malone J, Harvey G, Seers K, et al. An exploration of the factors that influence the implementation of evidence into practice. *J Clin Nurs*. In press.
 24. Sharp N, Pineros SL, Hsu C, Starks H, Sales A. A qualitative study to identify barriers and facilitators to implementation of pilot interventions in the Veterans Health Administration (VHA) Northwest Network. In press. Second quarter 2004 Worldviews on evidence-based nursing.

Copyright of Journal of Nursing Care Quality is the property of Lippincott Williams & Wilkins -- Nursing and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.