

Using evidence-based practice to address gaps in nursing knowledge

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Abstract

Implementing evidence based-practice and research findings into nursing care has been identified as a challenge to nursing staff. This article identifies key barriers to the use of research in the international literature, however, there are limited suggestions as to how to improve this in the clinical arena. This article aims to identify how nurses could optimize the implementation of evidence and research into their clinical care and reviews barriers to implementing and undertaking nursing research, suggesting a framework for improvement. It considers the widely varied levels of knowledge of research and equally varied critical appraisal skills present both at a pre and post-registration nursing level. The authors discuss an innovative, collaborative approach that considers the role of the nurse consultant, clinical academic and research facilitator posts. To ensure quality evidence-based practice is implemented into clinical nursing care a realistic and practical structure must be applied. With the appropriate framework, clinical structure and organizational support, promotion of evidence-based practice and research for patient benefit can be optimized. The implications for practice are also discussed. The implementation of a realistic research framework into clinical nursing practice has the potential to influence and develop a more active nursing research culture and promote evidence-based care within the workplace.

Key words: Evidence-based practice ■ Nurse consultants
■ Policy development ■ Research frameworks

Both here in Britain and internationally, the public's expectations of quality and evidence-based care are increasing (Biron et al, 2007; Department of Health (DH), 2008). Consideration must, therefore, be given to ways of supporting nursing practice and research that help to identify and address gaps in knowledge, thus expanding the evidence base (ICN, 2007; Priest, 2007). However, research suggests that nurses may not access the most up-to-date sources of evidence and

may lack the necessary critical appraisal skills to evaluate what constitutes 'best practice' (Gerrish and Clayton, 2004; Nicholas et al, 2005). Therefore, how can nurses be sure that the quality agenda is being addressed and that the best evidence-based practice is being delivered? This article explores a potential model for enhancing evidence-based care through developing nursing research and critical appraisal skills within a nursing environment. While the authors focus on an English perspective, the broad principles are applicable in any clinical nursing organization.

Evidence-based care

Over the past decade, the development of evidence-based care in England has received significant attention through a variety of central government policies. The introduction of national standards of excellence for the NHS were identified as part of what would make the new NHS 'modern and dependable' (DH, 1997), providing higher quality care to patients through improving efficiency and excellence. This was to be achieved through new evidence-based National Service Frameworks (NSFs), developed to help ensure equitable access to and quality within services. Additionally, the National Institute for Health and Clinical Excellence (NICE) was established, to draw up evidence guidelines from scientific research (DH, 1997), and the Commission for Health Improvement (CHI), was established to support and oversee the quality of clinical services.

The DH worked with the clinical professions to develop the NSFs and, for the first time, the NHS was to conduct and publish annual national surveys to find out what patients and their carers' thought of NHS services.

Within *A First Class Service – Setting Quality Standards* (DH 1998), the NHS research and development strategy was outlined as providing access to a rapidly expanding evidence base for health-care interventions and services, although development of guidance from this appeared inconsistent. It was suggested that clinical decisions should be based either on contradictory advice about service provision, or, in some cases, a complete lack of evidence. The strategic vision in *A First Class Service – Setting Quality Standards* emphasised that NSFs would set common standards across the country for the treatment of particular conditions. NICE would act as a nation-wide appraisal body for new and existing treatments, as well as the dissemination of consistent advice on preferred practice, thus eliminating confusion about the lack of applied evidence.

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Additionally, a new system of clinical governance was introduced to guide local implementation of NSFs and NICE guidance (with a continued emphasis on achieving national standards), supported by lifelong learning for staff through rigorous professional regulation and external monitoring.

Clinical governance in this context is defined as 'a framework through which NHS organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish' (DH 1998). Quality was to be viewed as 'everybody's business', with clear requirements for involving patients and carers to ensure processes remained focused on what really mattered to them.

Clinical audit was viewed as integral to these quality control processes, although research remained key to generating new knowledge. *The NHS Plan* (DH, 2000) and later *The NHS Improvement Plan* (DH, 2004) further emphasized the importance of national standards matched by regular inspection of all local health bodies by the Commission for Health Improvement with a Modernisation Agency to be set up to spread best practice. However, there has been considerable academic and clinical debate regarding what constitutes 'best practice' and the standards of evidence needed to support it (Ryecroft-Malone et al, 2004).

Professional development in clinical practice

The importance of continuing professional development, and updating clinical knowledge and skills to keep pace with improvements in clinical practice are emphasized throughout all these documents. This ongoing process was linked with the delivery of high-quality, modern, effective healthcare in a fast-changing world (DH, 1998). However, it was not made clear how this was to be implemented or measured in terms of nursing practice, other than achievement of the national standards of care.

More recently, aspects emphasizing this continued professional development have been captured in the *Knowledge and Skills Framework* (KSF) (DH, 2004a), a document that provides an employment structure for all health-care workers excluding medical staff. It encompasses the Agenda for Change pay and conditions agreement, whereby staff should be suitably remunerated according to qualifications (knowledge) and skills possessed. Service improvement and quality are two of the six core dimensions within the KSF. Although implementing and evaluating evidence are skills required across many of the other 24 specific dimensions within the KSF, research skills per se are only identified in two:

- Information and Knowledge (IK) 2. 'Information collection and analysis' – this covers the research process of collecting, collating, analysing and interpreting information
- General (G) 2 'Development and innovation' – this covers designing, developing and testing new and innovative concepts, models, methods, practices, products and equipment.

Therefore, although keeping 'up-to-date' with evidence-based practice is identified within many of the dimensions, how nurses are to do this remains unclear. Thus, it could

be viewed that research and appraisal skills were not valued within this framework.

Recent developments in nursing research

Historically, nurse education programmes placed little emphasis on the reviewing or generation of evidence and, in particular, nurses were not skilled to undertake research. Although there is some evidence now that research theory is embedded within pre-registration nurse training (Hek and Shaw, 2006), some newly qualified nurses initially struggle to see the relevance of this to clinical practice. Additionally, research that is undertaken can tend to be of a qualitative, small-scale nature, which attracts few funding opportunities (Rafferty et al, 2003). This may be linked to possible residual scepticism regarding the value and outcomes of qualitative research versus empirical quantitative research.

More recently, *Best Research for Best Health* (DH, 2006) was anticipated to encompass a complete overhaul of the way research in the NHS was funded and therefore challenge a perceived 'stranglehold' that some institutions and professional groups had over old funding mechanisms. Disappointingly, the final document and subsequent establishment of the National Institute for Health Research (NIHR, 2008) retained a primarily medical dominance and the proposed 'research units' and 'research centres' outlined in the strategy appear to focus solely on medical models. However, the establishment of the Research for Patient Benefit (RfPB) scheme under the umbrella of the NIHR, is accessible to

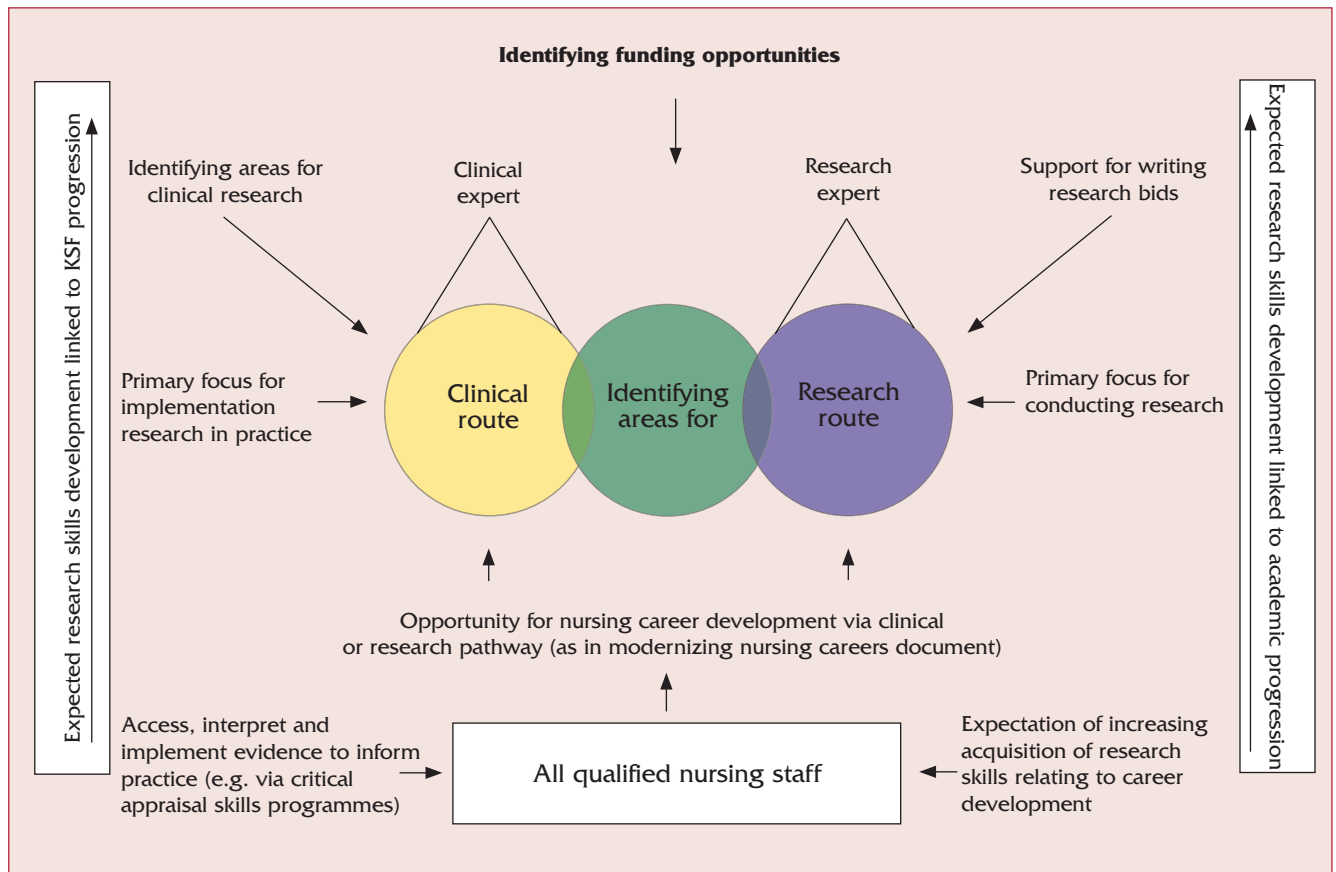


Figure 1. Suggested model for nurse-led/nursing research development.

many nursing research projects that demonstrate appropriate academic links and support systems.

Additionally, the DH launched a strategy regarding the structure and direction of the NHS led by Lord Darzi through *Our NHS Our Future* (DH, 2007). The final report (DH, 2008) acknowledges the continued investment in medical research and links this with the development of Academic Health Science Centres. Furthermore, the document clearly links the importance of establishing a strategy for health leadership development, including research. It recognizes that workforce planning and education does require an overhaul, although disappointingly it appears to focus mainly on medical careers.

In their report *Developing Best Research Professionals*, the United Kingdom Clinical Research Collaboration (UKCRC, 2007) identified that nurses are ideally placed to bring distinctive 'patient-focused' insights to the kind of research that offers greatest benefits to patients care. However, due to historical issues related to nurse education, there is a lack of nurses who are sufficiently well qualified and experienced to lead research projects and there are currently very few opportunities to nurture clinical academic nursing careers (UKCRC, 2007). This in turn means that there is often insufficient support in clinical environments to encourage ward or unit-based nurses to engage in developing research that could assist them in critically appraising or evaluating their nursing practice (Bertulis, 2008).

There was recognition within the documents *Modernising*

Nursing Careers: Setting the Direction (DH, 2006a) and *Towards a Framework for Post-Registration Nursing Careers* (DH, 2008a) that the nursing profession of the future will be shaped by the needs of patients. Additionally, the report *Nurses in Society: starting the debate* (Maben and Griffiths, 2008) suggests that nursing has 'lost its way; that there was unacceptable variation in the quality of care'. This links well with its sister report, *State of the Art Metrics: a rapid appraisal* (Griffiths et al, 2008). This much-needed work outlines proposals for how to measure the nursing contribution to delivery and outcomes of care. It attempts to identify ways of incorporating more qualitative rather than the current quantitative measures, e.g. rates of infection and numbers of patients treated.

Within these documents, there is recognition that care should be based on evidence and critical thinking and assisted by new technology. None of these documents specifically highlight the importance of acquiring appropriate analytical and research skills to promote evidence-based practice. They do, however, propose plans that will address how to encourage clinical academic careers as outlined in the UKCRC report and subsequent Chief Nursing Officer/NIHR documents (CNO, 2008a; NIHR, 2008; UKCRC, 2007). Recommendations from the *Nurses in Society* report (Maben and Griffiths, 2008) additionally suggest that the NMC 'should review the content and structure of both pre and post-registration education for nurses to ensure that they properly support the roles that current and future nurses will undertake'.

Research knowledge and skills development

Integrating research into practice is a multi-professional responsibility, requiring a coordinated, multifaceted approach (McNicholl et al, 2008). This needs to address gaps in both clinical knowledge, and how to equip practitioners with the skills to individually improve (e.g. where and how to access appropriate resources such as critical appraisal skills) as well as developing their applied research skills (e.g. conceiving and conducting research projects).

However, compared with the extent to which medical doctors have historically been involved in both generating and accessing empirical research, the nursing profession can still be viewed as being in its infancy. While there a body of knowledge has been generated that focuses on various aspects of nursing practice, this has tended to be of a qualitative nature, led by university academics in limited partnership with clinicians.

From the documents reviewed, it appears that while there is general support and encouragement for the broad nursing research agenda, there is little information or direction on how this should be integrated and implemented into NHS institutions or clinical practice.

Integration of a nursing research framework into clinical practice

Some nurses working in clinical practice may tend to consider involvement in nursing research and developing the evidence base as beyond their capabilities, particularly if their training curriculum did not include research awareness sessions. Yet all registered nurses are charged with delivering care based on the best available evidence and should have the knowledge and skills for safe and effective practice (NMC, 2008). However, there do not appear to be any formal structures in place to implement or measure this, and the KSF is only a means of measuring an individual's ability to perform in a given role. While the NMC requirements regarding professional conduct are the responsibility of the individual nurse to address, ensuring the delivery of evidence-based care is a shared responsibility between health-care organizations and practitioners. Clearly then, to enhance an increase in the use of evidence within practice will require a strategy that is supported at both the local clinical interface and an organizational level.

Within a large teaching NHS Foundation Trust in the South West of England, a model has been proposed that may help to address these issues (*Figure 1*). While this framework or one of a similar structure may already exist in some Trusts, there is limited evidence within the literature of such practical applications.

This model has evolved through collaboration between nursing academics and clinicians, with nurse consultants being the key people involved in its development. It has grown from the knowledge that within any health organization the nursing workforce will have widely varying knowledge and expertise when it comes to accessing and generating research. The model therefore attempts to quantify what skills and knowledge are required by nurses, and considers both current KSF structures and academic level.

To enable any development, it is perceived that there would need to be a clear baseline level to work from. It is anticipated that this should commence in pre-registration nursing training and should lead to an identified standard of knowledge and application of all elements of the research process, culminating as a newly qualified nurse. To enable this baseline standard to be achieved, appropriate facilities and/or support must be made available within any clinical health-care environment (e.g. Critical Appraisal Skills Programme [CASP] training, Research, Development and Effectiveness [RD&E] training activities). For nurses who qualified before the integration of critical appraisal skills into pre-registration training, access to appropriate training should be part of their personal development plan. Although apparently a simple starting point, in fact, it probably requires a fundamental shift in the clinical nursing culture as it would require support and acknowledgement that these skills are essential, valued and integral to ensuring best practice. To ensure complete 'buy-in' to this concept, it is suggested that the maintenance of such skills form part of a health-care employer's mandatory training programme.

Once this baseline standard is quantified and achieved, nurses' progression will be linked both from a clinical and research skills development, through their KSF and/or an academic framework. This baseline standard should therefore be seen as the initial level of knowledge and skills required to appraise and deliver quality, evidence-based care.

While it may be acceptable for some nurses to remain at this initial level, it is essential that others develop their research skills and expertise further in order to generate new nursing knowledge. Equally, to perform at a higher or advanced level of both clinical and academic practice, in line with some national proposals (CNO Scotland, 2008) it is anticipated that increased knowledge and skill in both using and conducting research will be required.

Clinical experts, such as clinical nurse specialists, may progress along the clinical expert route but will have some involvement in developing research knowledge and expertise. Likewise, clinical academics may progress along the academic path but still require practice links to enable appropriately applied research development to benefit patients.

It has been suggested that nurse consultants are ideally placed to 'take the lead in setting the local research agenda and fostering a research culture' (Chummun and Tiran, 2008). Interestingly, however, not all nurse consultants are actively engaged in primary nursing research and many may not have the appropriate skills to lead programmes of research that generate new knowledge. This has been supported by some formal, national evaluations of the role, which have identified wide variations in academic preparation and engagement (Guest et al, 2001; Guest et al, 2004). Perhaps it would be more appropriate to consider the development of post-doctoral clinical academic roles, whereby academic research expertise compliments the clinical research agendas identified by nurse consultants in clinical practice.

There are, however, some additional practical steps that

could be considered within a health-care provider's existing infrastructure that may assist in developing nurses' research and appraisal skills. The concept of a Nursing Research Framework could be seen as a format for structuring such an approach. This could include:

- Developing/maintaining robust links with local higher education establishments and academic colleagues
- Trying to establish local clinical speciality specific discussions, regarding incorporating nursing research into hospital strategies
- Developing a publication and research database to 'showcase' nursing research work undertaken within individual health-care sites
- Potential establishment of a Centre for Nursing and Allied Health Professionals Research for non-medical research (University College London and Great Ormond Street Hospital for Children NHS Trust (2007)
- Provision of education to ensure that nurses have a more comprehensive over-view of pre-registration nursing research education training
- Promotion of a clinical nursing forum for regular sharing and dissemination of new knowledge and promotion of existing regional and national nursing research groups (RCN, 2009).

Clearly, the way in which individual health-care providers prioritize the practical steps outlined above will depend on their local situation in terms of need and nursing research infrastructure. However, it is acknowledged that to instigate any changes requires appropriate resources in terms of leadership and investment (Perry et al, 2008).

Discussion

Evidence for the effectiveness of strategies that transfer research-based recommendations into nursing and other health-care professionals' practice is limited (Pearson, 2004). Although the value of evidence is widely acknowledged, it has been identified that nurses do not routinely incorporate it into their practice (Boyde et al, 2005) and tensions exist regarding what nurses class as evidence (Rolf et al, 2008).

There are many known barriers to undertaking, implementing and evaluating research in nursing practice (Bonner and Sando, 2008; Carlson and Ploczynski, 2008). In an effort to address the limited use of research among nurses, several researchers have used the 'Barriers to Research Utilization Scale' (BARRIERS), created by Funk et al (1991) to identify nurses' negative perceptions of implementing research (Bertulis, 2008; Carlson and Ploczynski; 2008; Gerrish et al, 2008; McCleary and Brown, 2003). Key barriers appear to be:

- Barriers to finding and reviewing evidence, e.g. lack of time to access research, lack of confidence in critically appraising research
- Barriers to changing practice, e.g. insufficient time and resources to implement changes in practice
- Lack of support for changing practice, e.g. managers, colleagues and medical staff are not behind initiatives (Gerrish et al, 2008).

Information technology is an increasingly crucial element in both accessing and distributing evidence to support practice. Historically, nurses were more likely to obtain their knowledge from nursing and medical colleagues, together with policy and procedure manuals that would be held as hard copies in the ward/practice area (Gerrish and Clayton, 2004; Gerrish et al, 2008). Additionally, nurses have tended to lag behind other professional groups in terms of relevant computer skills and accessing other sources of evidence-based information, such as electronic databases – nurses also lacked the skills to appraise any evidence they found (Gerrish et al, 2008; Nolan and Bradley, 2008).

There is no doubt that organizational culture has a major influence on the development and implementation of evidence and research into practice. A lack of support and strategic leadership can impede the use of research in practice (Chummun and Tiran, 2008). It may stifle innovative research developments as nurses may not feel empowered to implement evidence that requires a change in practice (Gerrish and Clayton 2004).

In order that nursing research is not seen as 'academic' or a 'luxury activity' but integral to patient care, professional development and clinical activity (Jolley, 2002), a change in culture regarding research and development within clinical health-care environments will be required (McNicholl et al, 2008). It seems from the literature that adopting a broad base regarding what is viewed as evidence (Rycroft-Malone et al, 2004), together with considering building capacity that reflects involvement in a range of activities that span 'research' and 'development' must be considered (McCance et al, 2007).

There is evolving evidence to support the integration of clinical and education posts, which could provide a link between clinical areas and academic institutions in order to develop programmes of nursing research and an evidence-based culture (UKCRC, 2007; Maben and Griffiths, 2008; Perry et al, 2008). Early results from evaluation of such innovative roles are encouraging, suggesting that they provide (Perry et al, 2008):

- Academic support to enable research involvement of nurses
- Dissemination of research into practice
- Research strategy development.

However, it does seem that these strategies appear to perpetuate the concept of 'academic' prowess that has been discouraged previously and may fail to appeal to 'grass root' clinical nurses in practice. While the aims of the strategy cannot be disputed, the authors contest that an agreed baseline of understanding about how to appraise evidence and apply findings appropriately to patient care is needed before such developments can take place. Currently, there is an assumption that such a baseline level of knowledge and skills already exists across the nursing profession, yet the continued emphasis on 'barriers' would seem to contradict this. The dearth of appropriate approaches to developing nursing research expertise and critical appraisal skills may be contributing to these barriers.

Conclusion

Having reviewed recent policy development and evidence around supporting the expansion of nursing research, it appears that many approaches remain academically focused. While numerous barriers to implementing or developing research in practice have been repeatedly identified, steps to address these in clinical practice appear scarce.

In an attempt to help influence such disparity, this article has proposed a practical framework that is broad in its potential application, with principles that can be applied nationally and internationally. It is recognized that the framework is not a panacea to the implementation of research in practice. However, it is hoped that it may provide a springboard to enable others to further develop the concept in order to promote evidence-based practice and research for the benefit of patients. BJN

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KEY POINTS

- This article discusses barriers to implementing evidence-based care and research in clinical practice.
- It provides an overview of key central government policy influences on developing and funding healthcare research and implementing and monitoring evidence-based practice.
- The authors highlight recent developments in creating academic nursing career pathways.
- They also suggest a framework to support the development in clinical practice of broad research skills, expertise and application at all clinical and academic nursing levels.