

Research and Development in Nursing

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Key points

- Research is concerned with generating new knowledge through a process of systematic scientific enquiry, the research process.
- Research in nursing can provide new insights into nursing practice, develop and improve methods of caring and test the effectiveness of care.
- Whereas comparatively few nurses may undertake research, all nurses should develop research awareness and use research findings in their practice.
- Evidence-based practice involves integrating the best available research evidence with professional expertise whilst also taking account of patient preferences, the patient's state, setting and circumstances and health-care resources.

INTRODUCTION

Significant changes in health care have taken place in the three decades since the first edition of this book was published, and these changes are set to continue. Technological developments have led to improved health outcomes and at the same time have raised public expectations of health-care services. Increased life expectancy and lower birth rates mean that the population in the United Kingdom is ageing. An older population is more likely to experience complex health needs, especially in regard to chronic disease, and this places additional demands on an already pressurised health service. At the same time, the escalating cost

of health care is leading to a shift from expensive resource-intensive hospital care to more services being provided in the primary and community care sectors. In response to these changes, government health policy is increasingly focused on improving the clinical and cost-effectiveness of health care while at the same time reducing the burden of ill health through active public health and health promotion strategies. These changes in the United Kingdom are reflected in other high-income countries internationally.

In order to respond to these challenges, the UK government has identified a number of priorities that need to be progressed in order to provide high-quality care for patients and promote the health of

the population at large. These include improving health outcomes by preventing illness as well as enhancing the quality of care provided to people with particular needs, for example, patients with common long-term conditions such as diabetes or those in need of palliative and end-of-life care (Department of Health 2012a, 2013a). In order to achieve the aspirations for enhancing quality and improving health and health outcomes, there is a need to change the way health-care professionals work and the way health services fit together and ensure that patients have access to the best available treatments. However, achieving quality in health care is a moving target. What was considered high-quality care in 1948 when the NHS was first founded is no longer considered to be the case nearly seven decades later. Knowledge about effective health-care interventions has increased by leaps and bounds, and this is certainly the case with nursing interventions.

It is essential that nurses respond proactively to the developments in nursing and health-care delivery outlined earlier in order to provide high-quality care in response to the needs of the individuals and communities with whom they work. To do this, they need up-to-date knowledge to inform their practice. Such knowledge is generated through research. This chapter introduces the concept of nursing research and considers how research contributes to the development of nursing knowledge. In recognising that nursing is a practice-based profession, the relevance of research to nursing policy and practice is examined within the context of evidence-based practice, and the responsibilities of nurses are explored in respect of research awareness, research utilisation and research activity.

NURSING RESEARCH AND DEVELOPMENT

The definition of research provided by Hockey (1984) in the first edition of this book is still pertinent today:

Research is an attempt to increase the sum of what is known, usually referred to as a 'body of knowledge' by the discovery of new facts or relationships through a process of systematic scientific enquiry, the research process. (Hockey 1984: 4)

Other definitions of research emphasise the importance of the knowledge generated through research being applicable beyond the research setting in which it was undertaken, that is, that it is generalisable to other similar populations or settings. The Department of Health, for example, defines research as

the attempt to derive generalisable new knowledge by addressing clearly defined questions with systematic and rigorous methods. (Department of Health 2005: 3, section 1.10)

Research is designed to investigate explicit questions. In the case of nursing research, these questions relate to professional activities and concerns that are primarily the responsibility of nurses. The International Council of Nurses' (ICN) definition of nursing research captures these broad areas of interest that are relevant to nurse researchers:

Nursing research is a systematic enquiry that seeks to add new nursing knowledge to benefit patients, families and communities. It encompasses all aspects of health that are of interest to nursing, including promotion of health, prevention of illness, care of people of all ages during illness and recovery or towards a peaceful and dignified death. (ICN 2009)

The ICN has identified nursing research priorities in two broad areas, namely, health and illness and the delivery of care services. These priority areas are outlined in Box 1.1. In further developing the nursing research agenda, various organisations have identified priorities for specific areas of nursing practice. For example, a recent consultative exercise in the United Kingdom involving patients, carers, health-care professionals and researchers identified 12 research priorities into the prevention and management of pressure ulcers (James Lind Alliance Pressure Ulcer Partnership 2013). Box 1.2 shows that these priorities are broad ranging and cover not only aspects of nursing care but also education, service delivery, surgical interventions and patient/carer involvement.

Research in the field of nursing education is also important, for unless nurses are prepared appropriately for their role, they will not be able to respond to the needs of patients, families and communities.

Box 1.1 Priorities for nursing research identified by the International Council of Nurses

Health and illness

Nursing research priorities in health and illness focuses on:

- health promotion
- prevention of illness
- control of symptoms
- living with chronic conditions and enhancing quality of life
- caring for clients experiencing changes in their health and illness
- assessing and monitoring client problems
- providing and testing nursing care interventions
- measuring the outcomes of care

Delivery of care services

Nursing research priorities in delivery of care services focus on:

- quality and cost-effectiveness of care
- impact of nursing interventions on client outcomes
- evidence-based nursing practice
- community and primary health care
- nursing workforce to include quality of nurses' work life, retention and satisfaction with work
- impact of health-care reform on health policy, programme planning and evaluation
- impact upon equity and access to nursing care and its effects on nursing
- financing of health care

ICN (2009)

Box 1.2 Top 12 pressure ulcer research priorities

- 1 How effective is repositioning in the prevention of pressure ulcers?
- 2 How effective at preventing pressure ulcers is involving patients, family and lay carers in patient care?
- 3 Does the education of health and social care staff on prevention lead to a reduction in the incidence of pressure ulcers, and, if so, which education programmes are most effective?
- 4 What is the relative effectiveness of the different types of pressure-relieving beds, mattresses, overlays, heel protectors and cushions?
- 5 What impact do different service models have on the incidence of pressure ulcers including staffing levels, continuity of care and the current organisation of nursing care in hospitals?
- 6 What are the best service models to ensure that patients with pressure ulcers receive the best treatment outcomes?
- 7 For wheelchair users sitting on a pressure ulcer, how effective is bed rest in promoting pressure ulcer healing?
- 8 How effective are wound dressings in the promotion of pressure ulcer healing?
- 9 Does regular turning of patients in bed promote healing of pressure ulcers?
- 10 Does improving diet and hydration promote pressure ulcer healing?
- 11 How effective are surgical operations to close pressure ulcers?
- 12 How effective are topical skin care products and skin care regimes at preventing pressure ulcers?

James Lind Alliance Pressure Ulcer Partnership (2013)

Box 1.3 Priorities for research in nursing education

Education–practice linkages

- Education models focused on delivery of team-based patient-centred care to diverse patient populations in a variety of clinical settings
- Education–practice partnerships designed to relate innovative teaching models to quality patient care outcomes
- New curriculum models related to inter-professional education and practice

Knowledge acquisition

- The effectiveness of various creative teaching–learning approaches to foster development of clinical reasoning in patient care contexts
- Teaching–learning approaches that relate knowledge acquisition and evidence-based practice to the patient's actual care experience

Technology in nursing education

- The effectiveness of emerging technologies in the teaching of nursing decision-making skills
- The relationship between simulated learning experience, programme outcomes and graduate nurse competencies

Adapted from National League for Nursing (2012)

Some examples of priorities for research in nursing education are identified in Box 1.3.

Most nursing research investigates contemporary issues; however, some studies may take a historical perspective in order to examine the development of nursing by studying documentary sources and other artefacts. Rafferty (2010) points out that studying what happened in the past can contribute to our understanding of the contemporary problems we face and give insight into human behaviours and the forces influencing social change.

The questions that nursing research may address vary in terms of their focus. Over 30 years ago, Crow (1982) identified four approaches that research could take; these remain pertinent today:

- 1 Research that will provide new insights into nursing practice
- 2 Research that will deepen an understanding of the concepts central to nursing care
- 3 Research that is concerned with the development of new and improved methods of caring
- 4 Research that is designed to test the effectiveness of care

Reflection activity

Think about your own area of nursing practice. What priority areas for nursing research can you identify? You may be aware of aspects of your own practice that are underpinned by research, but there may be other areas of practice that require further research. The list of research priorities identified by the ICN (Box 1.1) may help you to think more broadly about areas for research. From the list you have compiled, identify the area that you think is the most important to research.

Nursing research does not necessarily need to be undertaken by nurses. Indeed, sociologists and psychologists undertook some important early studies into nursing practice and nurse education from the 1950s to 1970s. However, research expertise amongst nurses has developed considerably in the past 40 years, to the extent that research examining nursing practice is most likely to be undertaken by nurses themselves or nurses collaborating with other disciplines.

Likewise, nurses who engage in research may not confine their area of enquiry to nursing research. The growing emphasis on multidisciplinary, multi-agency working means that nurse researchers may choose to examine questions that extend beyond the scope of nursing into other areas of health and social care. Nurse researchers may find themselves working in multidisciplinary teams including statisticians, health economists, psychologists, sociologists and other health professionals, working on research areas such as rehabilitation that encompass a wide range of disciplines. Nurse researchers work appropriately in a number of university departments such as social science and health services research as well as in departments of nursing and midwifery.

Whereas the generation of new knowledge is valuable in its own right, the application and utilisation of knowledge gained through research are essential to a practice-based profession such as nursing. This latter activity is known as ‘development’ and may take the form of practice or service development. Thus, research and development (‘R&D’) go hand in hand.

R&D can be divided into three types of activity:

- 1 *Basic research* is original, experimental or theoretical work, primarily for the purpose of obtaining new knowledge rather than focusing on the specific use of the findings. For example, biomedical laboratory-based research falls within this category.
- 2 *Applied research* is also original investigation with a view to obtaining new knowledge, but it is undertaken primarily for practical purposes. Much nursing research falls within this category and is undertaken with the intention of generating knowledge that can be used to inform nursing practice and can involve both clinical and non-clinical methods.
- 3 *Development* activity involves the systematic use of knowledge obtained through research and/or practical experience for the purpose of producing new or improved products, processes, systems or services.

Development activity that focuses on the use of knowledge generated through research can take different forms. The most common activities include clinical audit, practice development and service evaluation (see Box 1.4). Like research, these activities often employ systematic methods to address questions arising from practice. Research, however, is undertaken with the explicit purpose of generating new knowledge that has applicability beyond the immediate setting. By contrast, clinical audit, practice development and service evaluation are primarily concerned with generating information that can inform local decision-making (Health Research Authority 2013). Yet, the boundaries between some forms of research, for example, action research (see Chapter 23) and practice development and evaluation research (see Chapter 22) and service evaluation, are often blurred (Gerrish & Mawson 2005). It is, however, important to be able to differentiate between these activities as they require very different approval processes before the work can begin (see Chapter 11).

DEVELOPING NURSING KNOWLEDGE

Nursing research is concerned with developing new knowledge about the discipline and practice of nursing. Nursing knowledge, like any other form of knowledge, is never absolute. As the external world changes, nursing develops and adapts in response. In parallel, nursing knowledge develops and changes. This year’s ‘best available evidence’ has the potential of being superseded by new insights and discoveries. Therefore, nursing knowledge is temporal and will always be partial and hence imperfect. This does not mean, however, that nurses should not continually strive to develop new knowledge to inform nursing and health-care policy and practice.

Box 1.4 Definitions of research, clinical audit and practice development

Research seeks to create generalisable new knowledge to answer clearly defined questions by undertaking a systematic and rigorous process of enquiry (Department of Health 2005).

Clinical audit is the process that helps ensure patients and service users receive the right treatment from the right person in the right way. It does this by measuring the care and services provided against evidence-based standards and then narrowing the gap between existing practice and what is known to be best practice (Health Quality Improvement Partnership 2009).

Practice development encompasses a broad range of innovations that are initiated to improve practice and the services in which that practice takes place. It involves a continuous process of improvement towards increased effectiveness in patient-centred care. This is brought about by helping health-care teams to develop their knowledge and skills and to transform the culture and context of care (Garbett & McCormack 2002).

Service evaluation seeks to assess how well a service is achieving its intended aims. It is undertaken to benefit those who use a particular service and is designed and conducted solely to define or judge current service (Health Research Authority 2013).

Whereas the focus of this book is on the generation of knowledge through research, it is important to recognise that nursing knowledge may take different forms. In addition to empirical knowledge derived through research, nurses use other forms of knowledge, such as practical knowledge derived from experience and aesthetic or intuitive knowledge derived from nursing practice (Thompson 2000). Nurses use these different forms of knowledge to varying degrees to inform their practice (Gerrish *et al.* 2008). It is beyond the scope of this book to examine in detail the various forms of nursing knowledge; however, Chapter 38 introduces the reader to some of these within the context of promoting evidence-based practice.

The definitions of research given earlier in this chapter emphasise the role of systematic scientific enquiry – the research process – in generating new knowledge. The research process comprises a series of logical steps that have to be undertaken to develop knowledge. Different disciplines may interpret the research process in different ways, depending on the specific paradigms (ways of interpreting the world) and theories that underpin the discipline. A biological scientist's approach to generating new knowledge

will be different from that of a sociologist. However, the basic principles of the systematic research process will be followed by all disciplines. Nursing, as a discipline in its own right, is relatively young in comparison to more established professional groups such as medicine and is in the process of generating theories that are unique to describing, explaining or predicting the outcomes of nursing actions. Nursing theories are generated through the process of undertaking research and may also be tested and refined through further research. However, nursing also draws upon a unique mix of several disciplines, such as physiology, psychology and sociology, and any of these disciplines may be appropriate for research in nursing. For example, the management of pain can be studied from a psychological or physiological perspective; whichever approach is chosen will be influenced by the theories relevant to the particular discipline.

The research process in nursing is no different from other disciplines, and the same rules of scientific method apply. Chapter 2 sets out a systematic approach to research – the scientific method in action – and subsequent chapters consider the various components of the research process in detail.

At this stage, it is worth noting that in some texts, the 'scientific method' is taken to reflect a particular view of the world that values the notion that we can be totally objective in our research endeavours. In this book, the term 'scientific method' is not restricted in this way and is used to mean a rigorous approach to a systematic form of enquiry. Chapter 12 introduces the reader to the different ways in which the scientific method can be interpreted depending on the assumptions that the researcher holds about the nature of the social world and reality. These can be broadly classified as quantitative and qualitative approaches to research. Quantitative research is designed to test a hypothesis and generally involves evaluating or comparing interventions, particularly new ones, whereas qualitative research usually involves seeking to understand how interventions and relationships are experienced by patients and nurses (Health Research Authority 2013).

RESEARCH AWARENESS, UTILISATION AND ACTIVITY

Research-based practice is arguably the hallmark of professional nursing and is essential for high-quality clinical and cost-effective nursing care (ICN 2009). It is now over 45 years since the Report of the Committee on Nursing (1972) stressed the need for nursing to become research based to the extent that research should become part of the mental equipment of every practising nurse. Although considerable progress has been made in the intervening period, this objective still remains a challenge. In order for nursing to establish its research base, nurses need to develop an awareness of research in relation to their practice, they need to be able to use research findings, and some nurses need to undertake research activity.

Research awareness implies recognition of the importance of research to the profession and to patient care. It requires nurses to develop a critical and questioning approach to their work and in so doing identify problems or questions that can be answered through research. Nurses who are research aware will be able find out about the latest research

in their area and have the ability to evaluate its relevance to practice. They will also be open to changing their practice when new knowledge becomes available. Research awareness implies a willingness to share the task of keeping abreast of new developments by sharing information with colleagues. It also entails supporting and co-operating with researchers in an informed way. Nurses need to understand the implications for patients arising from research being undertaken in the clinical area in which they work. For example, nurses may need to provide care according to an agreed research protocol, and deviating from the protocol may jeopardise the research. However, they must ensure that the well-being of patients remains paramount and report promptly any concerns they may have regarding the research to more senior clinicians and managers as well as the researchers. Nurses should develop research awareness as part of preregistration nurse education programmes and continue to develop their knowledge and skills following registration.

Research utilisation is concerned with incorporating research findings into practice so that care is based on research evidence. Not all research, even that which is published in reputable journals, is necessarily of high quality. Before findings can be applied, a research study needs to be evaluated critically in order judge the quality of the research undertaken. All nurses should be able to appraise a research report although specialist advice may need to be sought in regard to judging the appropriateness of complex research designs or unusual statistical tests. Chapter 8 provides guidance on how to appraise research reports.

Research studies do not always provide conclusive findings that can be used to guide practice. Indeed, different studies examining the same phenomenon may produce contradictory results. Wherever possible, a systematic review of a number of studies examining a particular phenomenon should be undertaken in order to provide more robust guidance for practice than the findings of a single study would allow. Chapter 25 outlines the procedures for undertaking a systematic review. It is a time-consuming process and requires a good understanding of research designs and methods together with knowledge of techniques for analysis, including statistical tests. Whereas some

nurses may develop the skills to undertake a systematic review as part of a postgraduate course, many systematic reviews are undertaken by people who are experts in the technique. For example, The Joanna Briggs Institute, which is based in Australia, is a collaborative involving over 70 teams in different parts of the world who are involved in undertaking detailed reviews of the best available evidence to inform nursing care (www.joannabriggs.org).

The findings from a systematic review then need to be incorporated into clinical guidelines or care protocols that can be applied to practice. Whereas some guidelines may be developed at a national level, nurses may need to adapt national guidelines for application at a local level or develop their own guidelines where no national ones are available (see Chapters 38 and 39 for more information).

All nurses should be research aware and use research finding in their practice; however, not all nurses need to undertake research. To carry out rigorous research, nurses need to be equipped with appropriate knowledge and skills. Undergraduate nursing programmes tend to focus on developing research awareness and research utilisation. It is generally not until nurses embark on a master's programme, or a specialist research course, that they will learn how to undertake a small-scale research study, under the supervision of a more experienced researcher. This represents the first step in acquiring the skills to become a competent researcher. Comparatively, few nurses progress to develop a career in nursing

research in which they undertake large-scale studies that are funded by external agencies. It generally requires study at doctoral level followed by an 'apprenticeship' working within a research team with supervision and support from experienced researchers before being able to lead a large-scale study.

Within the United Kingdom, initiatives are underway to support nurses, midwives and a range of allied health professionals to develop their competence as researchers whilst still maintaining and developing their clinical role. The clinical academic training pathway creates opportunities for practitioners to progress from master's programmes in clinical research through doctoral and postdoctoral clinical research opportunities with the aim of ultimately holding a senior clinical academic appointment between a university and a health-care organisation (Department of Health 2012b).

Although relatively few nurses progress to lead large research studies, many more nurses participate in research led by nurse researchers, doctors and other health professionals. Nurses working in clinical practice may be asked to undertake data collection for researchers, and their clinical nursing experience can be valuable to the research enterprise. Even if they are not leading a study, nurses who assist other researchers should have a sound understanding of the research process in order to collect valid and reliable data and to adhere to the research governance and ethical requirements outlined in Chapter 11.

Reflection activity

A number of research studies have identified the barriers that nurses experience in using research findings in practice. From your own experience of nursing, what do you think are the main barriers to nurses using research in their everyday practice? How can these barriers be overcome? After undertaking this exercise, you might like to refer to Chapter 38, which provides more details of the barriers to research use.

RESEARCH AND NURSING PRACTICE

Current policy initiatives seek to promote a culture of evidence-based practice in which nurses use the best available evidence to inform their decision-making. There are several components to evidence-based practice, namely, the knowledge derived from research, the clinical expertise of practitioners, the insights that patients contribute about their condition and their preferences for different treatment options, the patient's clinical state, setting and circumstances and health-care information and resources (DiCenso *et al.* 2005). In recognising that knowledge derived

from research is never absolute, nurses should draw upon their own expertise and that of other more experienced colleagues when deciding on an appropriate intervention. However, clinical expertise should not be seen as a substitute for research evidence but rather as contributing to the decision about the most appropriate intervention for a particular patient. Nurses have a responsibility to share their knowledge of the best available evidence with patients in order to help them make informed choices about the care they receive. This is particularly important where there are alternative courses of action that can be selected. However, the patient's clinical state (e.g. severity of illness or disability), the setting in which they are receiving care (e.g. hospital or community settings) and their social and economic circumstances may affect the delivery of evidence-based care. Finally, decision-making can also be influenced by other sources of information available, for example, national policy documents or local clinical audit information, and by the resources available to provide care. These issues are examined in more detail in Chapters 38 and 39.

Nursing's progress towards becoming evidence based needs to be viewed within the context of wider influences on health care. The UK (England, Northern Ireland, Scotland and Wales) governments are actively promoting standards for health care through major policy reforms. For example, the NHS Outcomes Framework 2014/15 for England (Department of Health 2013b) identifies key priorities in terms of preventing premature deaths, enhancing the quality of life for people with long-term conditions, supporting recovery from episodes of ill health or injury, ensuring positive experiences of care for patients and protecting people from harm by providing a safe environment for care. All of these priorities have implications for nursing care. Quality improvement, a process whereby health-care organisations and the people who work in them are responsible for continually improving the quality of services and safeguarding high standards of care, is central to these initiatives (Batalden & Davidoff 2007). Clearly, improvements in the quality of care and health-care services need to be based on the best available evidence. Research is therefore essential to making progress towards achieving quality improvement.

Reflection activity

Consider your own area of practice. What mechanisms are in place to ensure that patients receive care that is based on the best available evidence?

Are there any specific initiatives underway to improve quality of patient care, the patient experience or patient outcomes?

As outlined earlier in this chapter, the knowledge generated through nursing research should be used to develop evidence-based practice, improve the quality of care and maximise health outcomes (ICN 2009).

In order to enhance the quality of nursing care, it is important to ensure that care is clinically effective. Often referred to as 'doing the right thing right', clinical effectiveness involves providing the most appropriate intervention in the correct manner at the most expedient time in order to achieve the best outcomes for the patient. Nurses need to draw upon knowledge generated through research in order to decide which intervention is most appropriate and how and when to deliver it. Research may also highlight reasons for non-compliance. A particular dressing may have been shown through research to be effective in promoting wound healing, but if it is unacceptable to the patient, problems with compliance may arise.

As mentioned earlier in this chapter, the findings from a single study may not provide sufficient evidence to direct practice, and wherever possible, nurses should rely on knowledge generated through systematic reviews of research evidence drawn from several research studies. There are a number of national initiatives to assist nurses and other health professionals to provide clinically effective care. These include the development of clinical guidelines based on the research evidence by, for example, the National Institute for Health and Care Excellence (NICE) and the Scottish Intercollegiate Guidelines Network (SIGN). In addition, the NHS Evidence portal provides health-care professionals with access to a comprehensive evidence base to inform clinical practice. It is intended to provide a 'one-stop shop'

for a range of information types, including primary research literature, practical implementation tools, guidelines and policy documents. The websites listed at the end of this chapter provide some useful links to these resources.

Increasing demands on the finite resources within the NHS have resulted in the need to ensure that health-care interventions are not only clinically effective but also cost-effective. There is little point pursuing a costly intervention if a cheaper one is seen to be equally as effective. The field of health economics is concerned with examining the financial and wider resource implications of providing a specific intervention or service. Economic evaluations can be undertaken to evaluate different treatments or alternative ways of providing services from an economic perspective and providing information that can be used to inform judgements about the clinical and cost-effectiveness of a particular intervention or service (Jackson 2012). NICE and SIGN guidelines take account of both clinical and cost-effectiveness when making recommendations for best practice.

CONCLUSION

Research is necessary to develop the knowledge base to inform nursing policy and practice. In an era of evidence-based practice, nurses are constantly challenged to identify new and better ways of delivering care that is grounded in knowledge derived from research (ICN 2009). Nurses have a professional obligation to their patients and to wider society to provide care that is based on the best available evidence. Whereas relatively few nurses will develop a career in nursing research, all nurses should become research aware. This means developing a critical and questioning approach in order to identify areas where practice could be improved on the basis of research findings or areas where research evidence is lacking and new knowledge needs to be generated through research. Nurses also need to utilise research findings in their day-to-day practice. However, in order to provide evidence-based care, nurses should be able to evaluate the quality of published research reports. This requires a sound understanding of the

research process, together with knowledge of different research designs and the methods that can be used to collect and analyse data. The following chapters of this book examine the research process, designs and methods in detail in order to equip nurses with the knowledge base to critically appraise research reports and to engage in the process of undertaking research under the supervision of a more experienced researcher.

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Websites

<http://www.evidence.nhs.uk> – The NHS Evidence website provides access to a comprehensive evidence base to inform clinical practice. It provides a ‘one-stop shop’ for a range of information types, including primary research literature, practical implementation tools, guidelines and policy documents.

<http://www.joannabriggs.org> – An international research and development collaborative, led by the University of Adelaide, Australia, that undertakes systematic reviews of best evidence for nursing interventions and draws up recommendations for practice, based on the best available evidence.

<http://www.nice.org.uk> – The National Institute for Health and Care Excellence (NICE) publishes recommendations on treatments and care using the best available evidence of clinical and cost-effectiveness.

http://www.rcn.org.uk/development/research_and_innovation – The RCN Research and Innovation Co-ordinating Centre website provides links to a range of resources to support nursing research and evidence-based practice.

<http://www.sign.ac.uk> – The Scottish Intercollegiate Guidelines Network (SIGN) publishes national clinical guidelines containing recommendations for effective practice based on current evidence.

<http://www.york.ac.uk/inst/crd> – The Centre for Reviews and Dissemination (CRD) undertakes and publishes reviews of research about the effects of interventions used in health and social care.

