

Section 1

Setting the Scene

Nursing research does not exist in a vacuum, but is an applied discipline set in the context of a dynamic health care system. This section begins in Chapter 1 by considering the nature and purpose of research in nursing, and how it relates to other activities such as audit and service development. The crucial importance of implementation of research findings in evidence-based practice is highlighted, and will be picked up again later in the book in Section 6.

For the novice researcher, Section 1 then leads on to four introductory chapters, taking a broad brush approach to topics that underpin much of the rest of the book. Chapter 2 takes the reader through the essential steps in the research process, each of which will be dealt with in much more depth in later sections, but with the aim of giving an overview of the entire undertaking that is research.

Research in nursing, as in health care generally, is complicated by the fact that it is involved with vulnerable human beings, and ethical principles need to be observed from the outset of any research project. Chapter 3 therefore tackles this moral obligation on the researcher, drawing out the practical implications for researchers and setting the context for more specific ethical regulations dealt with in Section 2.

Nursing researchers cannot operate satisfactorily without personal, practical and financial support, and Chapter 4 reviews the sources from which such support may be obtained. This chapter links to discussions about nursing research policy for capacity building that begun in Chapter 1, and will be explored more fully in Section 6.

The final chapter in Section 1 is completely new to this edition of the book, focusing on user involvement in research. Government policy has raised the profile of this subject, and it is one in which nursing research is well placed to take a lead. The chapter challenges the reader to consider more than token involvement of users in the whole research process, in a range of models including participatory and emancipatory approaches.



1 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 utilise research findings in their practice.
- Evidence-based practice involves the integration of the best available research evidence with expert clinical opinion while taking into account of the preferences of patients.
- Current nursing research policy is concerned with increasing research capacity, developing career pathways in research for nurses, creating effective partnerships through research collaboration and exerting greater influence on the research and development (R&D) agenda.

Introduction

Significant changes in health care have taken place in the 22 years 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 United Kingdom (UK) population 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.

It is essential that nurses respond proactively to these developments 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 in respect of research awareness, research utilisation and research activity. However, nursing research does not occur in a vacuum and a review of nursing policy and research policy in the UK provides the context for an analysis of the current position of nursing research.

The nature of nursing research and development

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

'... 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, i.e. that it can be generalised 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 2001: 4, section 1.7)

Research is designed to investigate explicit questions. In the case of nursing research these questions relate to those aspects of professional activity that are predominantly and appropriately the concern and responsibility of nurses (Hockey 1996). This may include nursing education, the management of nursing services and all aspects of nursing practice. Most nursing research investigates contemporary issues; however, some studies may take an historical perspective in order to examine the development of nursing by studying documentary sources and other artefacts.

The questions that nursing research may address vary in terms of their focus. Over 20 years ago, Crow (1982) identified four approaches that research could take; these remain pertinent today:

- research that will provide new insights into nursing practice
- research that will deepen an understanding of the concepts central to nursing care

- research that is concerned with the development of new and improved methods of caring
- research that is designed to test the effectiveness of care

Nursing research does not necessarily need to be undertaken by nurses. Indeed, sociologists have undertaken some seminal studies into nursing practice and nurse education. For example, in the 1970s Robert Dingwall, a sociologist, undertook an influential study of health visitor training (Dingwall 1977). 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.

Whereas the generation of new knowledge is valuable in its own right, the application and utilisation of knowledge gained through research is essential to a practice-based profession such as nursing. This latter activity is known as 'development'. Thus research and development, 'R&D', go hand in hand.

Research and development can be divided into three types of activity.

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.

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 which can be used to inform nursing practice and can involve both clinical and non-clinical methods.

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 utilisation of knowledge generated through research can take different forms. The most common activities include clinical audit and practice development (Box 1.1). 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, which has applicability beyond the immediate setting. By contrast, clinical audit and practice development are primarily concerned with generating information that can inform local decision-making. Yet the boundaries between action research (see Chapter 18) and practice development are often blurred (Gerrish & Mawson 2005).

Developing nursing knowledge

Nursing research is concerned with developing new knowledge about the discipline and practice of nursing. Nursing knowledge, like any other knowledge, is

Box 1.1 Definitions of research, clinical audit and practice development.

Research involves the attempt to extend the available knowledge by means of a systematically and scientifically defensible process of inquiry. (Clamp *et al.* 2004)

Clinical audit is a professional-led initiative which seeks to improve the quality and outcome of patient care through practitioners examining their practices and results and modifying practice where indicated. (NHSE 1996:16)

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).

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.

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 utilise other forms of knowledge, such as practical knowledge derived from experience and aesthetic or intuitive knowledge derived from nursing practice (Thompson 2000). It is beyond the scope of this book to examine in detail the various forms of nursing knowledge; however, Chapter 31 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, which 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 which values the notion that we can be totally objective in our research endeavours. Here, the term is not restricted in this way and we use the term ‘scientific method’ to mean a rigorous approach to a systematic form of enquiry. Chapter 11 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.

Research awareness, utilisation and activity

Over 30 years ago, the report of the Committee on Nursing (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 practice, they need to be able to utilise 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 demonstrate the ability to find out about the latest research in their area together with an openness to change their practice when new knowledge becomes available. Research awareness also implies a willingness to share the task of keeping abreast of new developments by disseminating information to others and supporting and co-operating with researchers in an informed way. Arguably, all nurses should develop research awareness as part of pre-registration nurse education programmes.

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 to judge the quality of the research. 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. 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 21 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 Centre for Reviews and Dissemination at the University of York has been set up specifically for the purpose of undertaking systematic reviews on a range of health-related topics.

The findings from a systematic review then need to be incorporated into clinical guidelines or care protocols, which 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 31 and 32 for more information).

All nurses should be research-aware and utilise research findings in their practice; however, not all nurses need to undertake research. To carry out serious research, nurses need to be equipped with appropriate knowledge and skills. Pre-registration and undergraduate post-registration 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 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.

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 other 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 10.

Research and nursing practice

Current policy initiatives seek to promote a culture of evidence-based practice. There are generally considered to be three components to evidence-based practice, namely the best available evidence derived from research, clinical expertise and patient preferences (Sackett *et al.* 1996). In recognising that knowledge derived from research is never absolute, nurses should draw upon their own expertise and that of other more experienced nurses when deciding on an appropriate intervention. Equally, 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. The third component of evidence-based practice involves taking account of patient perspectives. Nurses have a responsibility to share their knowledge of the best available evidence with patients in order to assist them make informed choices about the care they receive. This is particularly important where there are alternative courses of action that can be selected. These issues are examined in more detail in Chapters 31 and 32.

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 each seeking to modernise the National Health Service through major policy reforms. Central among these initiatives has been the introduction of the concept of clinical governance, a process whereby health care organisations are accountable for continually improving the quality of their services and safeguarding high standards of care by creating an environment that promotes excellence (Currie *et al.* 2003). It is, however, difficult to achieve the aspiration of 'excellence' in health care because of financial constraints and pressure on resources (Maynard 1999). Nevertheless, the objective of seeking to develop the quality of health care together with recognition of the importance of health care organisations and the individuals who work in them being accountable for the quality of services is laudable.

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, 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 best research evidence by, for example, the National Institute for Health and Clinical Excellence (NICE) and the Scottish Intercollegiate Guideline Network (SIGN).

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 (Chambers & Boath 2001). NICE and SIGN guidelines take account of both clinical and cost effectiveness when making recommendations for best practice.

UK health and social care research policy

The development of nursing research is heavily influenced within each of the four countries of the UK by national health and social policy and R&D policy in particular. There is a common policy concern to promote the generation and utilisation of research evidence in order to contribute towards securing the health of the population and improve the quality and cost-effectiveness of health care services. Box 1.2 details the departments that manage NHS R&D across the UK.

Shaped by their specific health and social care priorities, each of the R&D Offices are responsible to their respective government health departments for the development of R&D policy and priorities, and for the commissioning of research to inform policy and practice.

Box 1.2 UK government health department and R&D offices.

UK country	Government health department	Government health department responsible for R&D
England	Department of Health (DH)	Research and Development (R&D)
Northern Ireland	Department of Health, Personal Social Services and Public Safety (DHPSSPS)	Health and Personal Social Services Research and Development (HPSS R&D)
Scotland	Scottish Executive Health Department (SEHD)	Chief Scientist Office (CSO)
Wales	Welsh Assembly Government	Wales Office of Research and Development for Health and Social Care (WORD)

There are a number of strategic initiatives that are addressed to different degrees within each of the four countries. These include:

- infrastructure – research support units and networks, resources to meet NHS costs of externally-funded non-commercial research, research governance arrangements
- identifying research priority areas
- commissioning and managing research to inform policy development and health services
- research capacity building initiatives including research training support schemes – from bursaries through to fellowships
- core-funded units to undertake research
- promotion of evidence-based practice

In addition to each country having its own strategic arrangements for managing R&D policy, the UK Clinical Research Collaboration (UKCRC) was established in 2004 with the intention to create a clinical research environment of international standing. The collaboration brings together the major stakeholders that influence clinical research in the UK and particularly in the NHS. Membership includes representation from the main funding bodies, academic medicine, the NHS, regulatory bodies and representatives from industry and patients. The five work streams the UKCRC is currently pursuing are listed in Box 1.3. The UKCRC is focusing its endeavours where it sees it can bring added value through collaboration. However, at the time of writing, nursing does not have a voice within the UKCRC so it is not clear whether nursing research will benefit from this initiative.

Box 1.3 UK Clinical Research Collaboration (UKCRC) work streams.

- building up the infrastructure in the NHS
- building up incentives for research in the NHS
- building up the research workforce
- streamlining the regulatory and governance processes
- co-ordinating clinical research funding

UK nursing research policy

Just as each country in the UK has developed its own priorities and strategic direction for R&D, nursing has also examined R&D policy within each of these contexts. Box 1.4 summarises the policy drivers and the current nursing R&D policy and strategy across the UK.

The strategy for nursing in England identified the need to develop a strategy to influence the research and development agenda, to strengthen the capacity to undertake nursing research, and to use research to support nursing practice (Department of Health 1999). Strictly speaking this statement of intent has never

Box 1.4 Policy drivers and the current UK R&D nursing policy.

UK country	Nursing policy context	Nursing R&D policy
England	Department of Health (1999) <i>Making a Difference: strengthening the nursing, midwifery and health visiting contribution to health and healthcare.</i> London, Department of Health 1996 and 2001 Higher Education Funding Council's Research Assessment Exercise (RAE)	Department of Health (2000) <i>Towards a Strategy for Nursing Research And Development. Proposals for action.</i> London, Department of Health. Higher Education Funding Council for England (2001) <i>Promoting Research in Nursing and the Allied Health Professions.</i> Research report 01/64
Northern Ireland	McKenna H & Mason C (1998) <i>Using and Doing Research: a position paper to inform strategy, policy and practice for nursing research in Northern Ireland.</i> Belfast, DHSS	McCance T, Fitzsimons D (2005) <i>Using and Doing Research: guiding the future.</i> Belfast, Northern Ireland Practice and Education Council for Nursing and Midwifery
Scotland	Scottish Executive (2001) <i>Caring for Scotland: the strategy for nursing and midwifery in Scotland.</i> Edinburgh, NHS Scotland 2001 Higher Education Funding Council's Research Assessment Exercise (RAE)	Scottish Executive Health Department (2002) <i>Choices and Challenges: the strategy for research and development in nursing and midwifery in Scotland.</i> Edinburgh, SEHD
Wales	National Assembly for Wales (1999) <i>Realising the Potential: a strategic framework for nursing, midwifery and health visiting in Wales into the 21st century.</i> Cardiff. National Assembly for Wales	Welsh Assembly Government (2004) <i>Realising the potential. Briefing Paper 6: achieving the potential through research and development,</i> Cardiff, Welsh Assembly Government.

been realised although 12 months after publication, recommendations detailing what a nursing R&D strategy needed to contain were published (Department of Health 2000) and these recommendations are under review at the time of writing this chapter. In addition, concern over the position of the discipline of nursing in the 1996 quadrennial assessment of research activity (Research Assessment Exercise, RAE) in UK universities led the Higher Education Funding Council for England and the Department of Health to commission research to examine why this might be so and to recommend how this could be addressed (Higher Education Funding Council for England 2001).

In Northern Ireland, a study commissioned in 1998 (McKenna & Mason 1998) examined:

- how the nursing professions could influence the overall R&D agenda
- how the nursing professions could contribute to the wider R&D programme
- priorities for research within the nursing professions

- the R&D needs of the nursing professions
- how access, dissemination and uptake of research might be improved.

This report provided a baseline assessment and the current state of play has recently been evaluated and new priorities to further the R&D agenda within nursing in Northern Ireland identified (McCance & Fitzsimons 2005).

The 2001 strategy for nursing in Scotland sought to develop the highest possible standards in education, research, innovation, accountability and professional practice (Scottish Executive 2001). The strategy acknowledged achievements to date and recognised that a future strategy for nursing research was a prerequisite to achieving the objective of creating research-aware, research-literate and research-active nurses. Further fuelled by the poor performance of nursing departments in Scottish universities in the RAE and following extensive consultation, a strategy for nursing research entitled *Choices and Challenges*, (Scottish Executive Health Department 2002) was launched in December 2002.

The 1999 Welsh strategy for nursing clearly articulated the need for the nursing professions to continue to develop a

‘sound research base . . . to demonstrate conclusively the effectiveness of nursing intervention in improving health’ (National Assembly for Wales 1999: section 97).

The strategy called for the development of more integrated career pathways to enable clinically-based nurses to be more research active and academically-based nurses to be more clinically engaged. A strategic framework for improving the quality and quantity of R&D carried out by the nursing professions in Wales was published five years later (Welsh Assembly Government 2004) and is currently being implemented.

Nursing research policy imperatives

There are many similarities in the research policy priorities for nursing across the UK. The necessity to develop research capacity within the nursing professions is universally recognised as a key priority. It is also acknowledged that those who develop their research capacity must be afforded the opportunity to do so within the context of a clearly-defined career pathway.

Across the board it is recognised that although the UK funding base for biomedical research may be relatively healthy, the balance is clearly tipping in favour of basic research in areas such as genetics and immunology as opposed to clinical research, which includes nursing (Policy Research in Science and Medicine (PRISM) 1998). Nursing is therefore not only starting from a relatively low baseline (Higher Education Funding Council for England 2001) but is competing against more established disciplines such as clinical medicine for a diminishing resource. It is therefore recognised that within this context it is imperative that nursing research must become much more strategic and focused, that nursing must have a greater professional influence in R&D and nursing must develop effective part-

nerships to build the evidence base to inform policy and practice. Each of these policy priorities will be discussed in greater detail in Chapter 33.

Conclusion

Research is necessary to develop the knowledge base to inform nursing policy and practice. Whereas only a minority of 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

- www.man.ac.uk/rcn/ – RCN Research and Development Co-ordinating Centre website provides links to current internet addresses to find out more about the health and nursing R&D strategies within each country, together with information on capacity building opportunities
- ukcrc.org/ – UK Clinical Research Collaboration (UKCRC) provides further details of the recently established collaboration to enhance the UK position as a world leader in clinical research
- www.nice.org.uk/ – National Institute for Health and Clinical Excellence (NICE) publishes recommendations on treatments and care using the best available evidence of clinical and cost effectiveness
- www.york.ac.uk/inst/crd/ – Centre for Reviews and Dissemination (CRD) undertakes and publishes reviews of research about the effects of interventions used in health and social care
- www.sign.ac.uk/ – Scottish Intercollegiate Guidelines Network (SIGN) publishes national clinical guidelines containing recommendations for effective practice based on current evidence.