THE RESEARCH PROCESS IN NURSING

Edited by
Kate Gerrish
Anne Lacey

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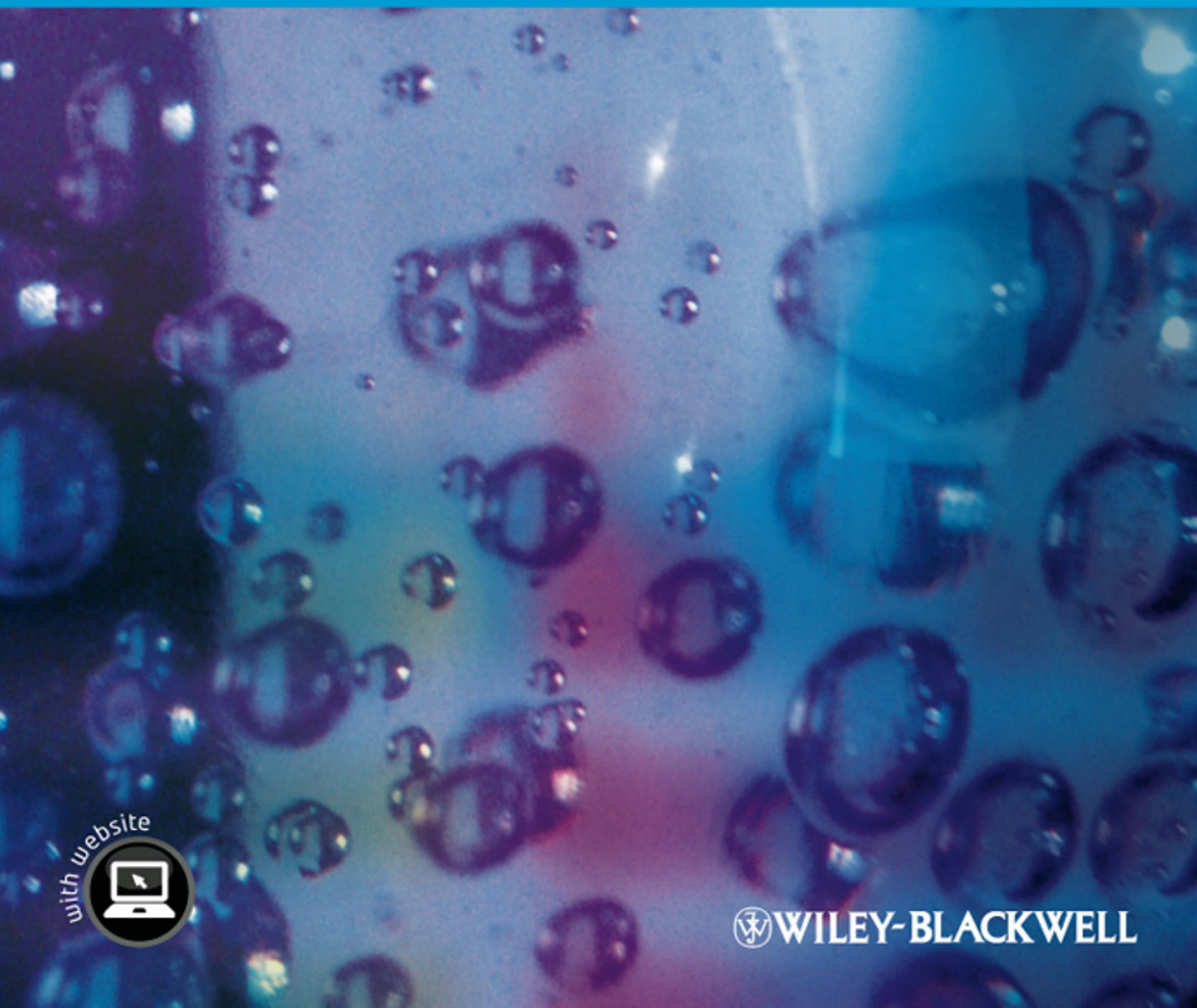
Desmond Cormack

SIXTH EDITION



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The Research Process in Nursing

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SIXTH EDITION

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Introduction

Since the 5th edition of *The Research Process in Nursing* was published in 2006, there have been some significant developments in nursing research in the UK. A framework for clinical academic careers in nursing has been developed, creating for the first time the opportunity for nurses to progress through masters preparation, doctoral and post-doctoral research fellowships while combining research activity with clinical practice. The results of the 2008 Research Assessment Exercise, an appraisal of the quality of research in UK higher education institutions, showed marked improvement in the quality of nursing research, with a significant proportion of the research undertaken by nurses judged to be of world-class standard. At the same time, the pace of change in nursing research has been rapid, with a broader range of research approaches and methods being used to answer research questions arising from nursing practice. Finally, the drive to ensure that research evidence is used to inform practice has continued to gain momentum in both policy and the everyday work of practising nurses. Patients expect to receive high quality healthcare informed by the very best evidence. Nursing research is central to this endeavour.

As editors, we have felt it necessary to ensure that this well-established research text reflects these developments in nursing research. In compiling the 6th edition of *The Research Process in Nursing*, we have made some significant changes to the content of the book, although the overall structure remains unchanged. There are 10 completely new chapters, and several other chapters have been substantially revised or written by new authors. The remaining chapters have been revised and updated to ensure that the reader is provided with the very latest information on research processes and methods. The 6th edition is also the first to include a website associated with the book (www.wiley.com/go/gerrish), enabling readers to complement their studies by accessing the many web resources that are available in the field of healthcare research, and highlighting work being undertaken by some of the chapter authors.

We, the editors, have been privileged to continue to work with chapter authors who are leaders in nursing research and other disciplines across the four countries of the UK, and, in this new edition, in Australia and Canada. We are indebted to our team of authors for their wide-ranging and authoritative contributions to the research methodology literature. We have continued to target the book at novice researchers, be they pre-registration students or those embarking on a postgraduate research degree, but the book should also be of value to many who are further on in their research careers. We have encouraged the authors to write in an accessible style, but not to shrink away from complex debates and technical issues.

The book is structured into six sections.

Section 1, *Setting the Scene*, deals with the background issues of nursing research in the current policy context in the UK, the nature of the research process, and ethics. This section also includes two chapters encouraging inclusive approaches to the

research process. The previous edition included a chapter on user involvement, and in this edition a new chapter on research in a multi-ethnic society has been added. Readers new to the context in which nursing research takes place will find that this section orients them to the subject and, we hope, will enthuse them to engage with an activity that has the potential to change and improve the provision of healthcare.

Section 2, *Preparing the Ground*, includes chapters that take the reader through the steps that are essential before a research project can begin. Regulatory frameworks governing research in the UK have continued to evolve, and the chapter on this issue has therefore been rewritten by a new author. Chapters dealing with the preparation of a research proposal and management of a project have also been completely rewritten.

Section 3, *Choosing the Right Approach*, is the longest section and in many ways the heart of the book. It has been expanded considerably from the 5th edition. After an introduction to the philosophical debates underlying the different research approaches available to nurses, and a chapter on sampling, 15 research approaches used in nursing research are explored in detail. New chapters for this edition include narrative research, Delphi approach, practitioner research, realist synthesis and mixed methods. Although some of these approaches are less common in nursing research than surveys and grounded theory, for example, they are now appearing in the literature and represent new ways of thinking about carrying out research. They are commended to the reader as possible ways into difficult-to-research areas, particularly those related closely to nursing practice. A chapter on historical research included in earlier editions of the book has been rewritten for this 6th edition.

Section 4, *Collecting Data*, and Section 5, *Making Sense of Data*, are both practical sections dealing with the skills required for data collection and analysis. Here the emphasis is on research tools, such as interviewing and statistical analysis, common to many different research approaches. Two new chapters have been included in Section 4 – on 'think aloud' techniques, and on outcome measures. The chapter on outcome measures replaces the chapter on physiological measurement in the previous edition, but includes some of the same content.

Section 6, *Putting Research into Practice*, concludes the book by taking the reader through the process of disseminating research findings and getting them implemented into policy and practice. As well as addressing active researchers, these chapters will be of use to nurses who, though not wanting to engage themselves in research, want to incorporate it into their professional lives through evidence-based practice. The chapter on translating research into practice has been completely rewritten by the author of the evidence-based practice chapter, which makes for a more coherent central theme in this section. The final chapter has undergone major revision, and now includes a policy review and up-to-date analysis of the state of nursing research and its aspirations for the future.

Although the book is designed in a logical fashion, as outlined above, each chapter is also intended to be complete in itself. Many readers will dip in and out of different sections as necessary. For this reason, wherever possible we have included cross-references to other chapters that may be helpful, and have provided key point summaries at the beginning of each chapter. We have also compiled a glossary of research terms to help the reader with new language with which they may be unfamiliar.

Throughout the book we have adopted certain generic terms to assist readability and reduce repetition. Foremost among these is the term 'nursing'. By this we mean all the professions of nursing, midwifery, health visiting and related specialisms. We hope that members of these professions will forgive our shorthand, but we have tried to ensure that examples given are taken from a wide range of healthcare settings. We have also used the terms 'evidence' and 'evidence-based practice' to denote the plethora of resources and implementation activities that have become so important in healthcare today.

This book is intended to be used primarily by nurses, midwives and health visitors, but it has much wider application to any health and social care practitioner who wishes to learn about research. Members of the allied health professions in particular face many of the same debates and dilemmas as nurses in

developing research capacity. The contributors to the book are not all nurses, but include statisticians, social scientists, information specialists, academic researchers and psychologists.

We trust that this 6th edition of a well-established book will continue to make a valuable contribution to research capacity building in nursing and healthcare.

Kate Gerrish and Anne Lacey
Editors to the 6th edition,
2010

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 academic community and relating to a complex healthcare system. This section explores this context and introduces the reader to the nature of nursing research.

Chapter 1 presents the fundamental concepts of the discipline, reviews the current context of nursing research, and emphasises the essential connection between nursing research and the practice of the profession. Even those who do not see themselves as active researchers should be users of the knowledge generated by research, and so need to understand much of what follows in the sections of this book. Chapter 2 then 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. Recent examples from the literature are used to illustrate the varied nature of nursing research.

Research in nursing, as in healthcare 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 the researcher and setting the context for the more specific ethical regulations dealt with in Section 2 of the book.

The final two chapters in this section deal with the need for nursing research to be inclusive in scope. User involvement in research has been advocated from within and outside the profession for more than a decade now, and Chapter 4 argues for the full inclusion in the research process of those to whom the outcomes might apply. New to this edition of the book is Chapter 5 on research in a multi-ethnic society. Although there are many minority groups that deserve special consideration when designing nursing research, ethnicity perhaps merits particular consideration as a major factor impacting on healthcare in UK society.

CHAPTER 1

Research and Development in Nursing

Kate Gerrish and Anne Lacey

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 the integration of the best available research evidence with expert clinical opinion while taking account of the preferences of patients.

INTRODUCTION

Significant changes in healthcare have taken place in the 26 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 healthcare 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 healthcare 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 healthcare, while at the same time reducing the burden of ill health through active public health and health promotion strategies. For example, the recent review of the NHS in England undertaken by Lord Darzi has identified a number of priorities that need to be progressed in order to provide high quality care for patients and the wider public (DoH 2008). The review stresses the importance of 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.

To achieve the outcomes for enhancing quality set out in the review, there is a need to change the way healthcare professionals work and the way health services fit together, and to ensure that patients have access to the best available treatments. However, achieving quality in healthcare 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 60 years on. Knowledge about effective healthcare interventions has increased enormously, and this is certainly the case with nursing interventions. In the past, custom and practice, often based on the ward sister's or doctor's likes and dislikes, dictated what nurses did to patients, but nursing research has provided a new evidence base to inform the care that nurses provide. One clear example is in the field of pressure area care. It is not that long ago that nurses applied various techniques in an attempt to reduce the risk of a patient developing a pressure sore, these included egg white and oxygen, methylated spirits and vigorously rubbing the area at risk. Yet research by Doreen Norton more than 30 years ago clearly identified that moving patients regularly, keeping their skin clean and dry, and using the right equipment was the most effective way to reduce the risk (Norton *et al*. 1975).

It is essential that nurses respond proactively to the developments outlined above 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 is 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, i.e. 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' (DoH 2005: 3, section 1.10)

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). The International Council of Nursing's (ICN) definition of nursing research captures the 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 addition, research in the field of nursing education is 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. Priorities for research in nursing education are broad ranging as illustrated in Box 1.2. 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 (see Chapter 26).

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

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

Health and illness

Nursing research priorities in health and illness focus 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 healthcare
- nursing workforce to include quality of nurses' work life, retention, satisfaction with work
- impact of healthcare reform on health policy, programme planning and evaluation
- impact on equity and access to nursing care and its effects on nursing
- financing of healthcare.

Source: ICN (2009)

Box 1.2 Priorities for research in nursing education

- Curriculum design and evaluation, including community-driven models for curriculum development
- New pedagogies
- Innovation in teaching and learning
- Use of instructional technology, including new approaches to simulated learning
- Student/teacher learning partnerships
- Clinical teaching models
- Assessment of student learning in classroom and practice settings
- New models for teacher preparation and faculty development
- Quality improvement processes
- Educational systems and infrastructures

Adapted from National League for Nursing (2008)

- 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, some seminal studies into nursing practice and nurse education have been undertaken by sociologists. 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, multiagency 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, sociologists and other health professionals, working on research areas such as rehabilitation, which encompass a wide range of disciplines. Nurse researchers work appropriately in university departments such as social science, health services research and complementary medicine, 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 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 that 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, practice development and service evaluation (see Box 1.3). 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, practice development and service evaluation are primarily concerned with generating information that can inform local decision making (NPSA 2008). Yet, the boundaries between some forms of research, for example action research (see Chapter 22) and practice development, and evaluation research (see Chapter 21) 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 10).

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 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 healthcare policy and practice.

Box 1.3 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 that 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). Clinical audit measures care against pre-determined standards.

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 healthcare teams to develop their knowledge and skills, and 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 (NPSA 2008).

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 on 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 that of 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. 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 (NPSA 2008).

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 more than 35 years since the Report of the Committee on Nursing (Committee on Nursing/ Briggs report 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. 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 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 that arise 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 wellbeing of patients remains paramount and report promptly any concerns they may have about the research to more senior clinicians/managers as well as researchers. Arguably, all nurses should develop research awareness as part of pre-registration 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 to judge the quality of the research. All nurses should be able to appraise a research report, although specialist advice may be needed to help judge the appropriateness of complex research designs or unusual statistical tests. Chapter 7 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 to provide more robust guidance for practice than the findings of a single study would allow. Chapter 24 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 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 findings 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. 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. The ability to lead a large-scale study generally requires study at doctoral level, followed by an 'apprenticeship' working within a research team with supervision and support from experienced researchers. A recently published report on clinical academic careers for nurses provides a framework to enable nurses to develop their competence as researchers while still maintaining and developing their clinical role. The new clinical academic training pathway creates opportunities for nurses to progress from master's programmes in clinical research, through doctoral and post-doctoral clinical research opportunities with the ultimate aim of holding a senior clinical academic appointment between a university and an NHS trust (UKCRC 2007).

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 on 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 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. 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 healthcare. The UK (England, Northern Ireland, Scotland and Wales) governments are each seeking to modernise the NHS through major policy reforms. Central among these initiatives has been the introduction of the concept of clinical governance,

a process whereby healthcare 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 healthcare because of financial constraints and pressure on resources (Maynard 1999). Nevertheless, the objective of seeking to develop the quality of healthcare, together with recognition of the importance of healthcare organisations and the individuals who work in them being accountable for the quality of services, is laudable. Research is essential for making progress towards achieving this objective. 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 on knowledge generated through research to decide which intervention is most appropriate and how and when to deliver it. Research may also highlight reasons for non-compliance. For example, 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). In addition, the recently launched NHS Evidence portal provides healthcare 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 (see the list of websites at the end of the chapter).

Increasing demands on the finite resources within the NHS have resulted in the need to ensure that healthcare 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.

CONCLUSIONS

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). They 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 need to be able to evaluate the quality of published research reports. This