
Nursing Research In Europe

Scoping Report

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Executive Summary

The report

This report arose from a European Commission ERA-CARE Network project funded for one year from October 2004, within the European Union's 6th Framework Programme. It maps the current state of nursing research in Europe.

Chapter 1 gives an overview of nursing research, offering a broad definition of the term and explaining how developing nursing research can benefit patients. Chapter 2 explains the methodology adopted and how the authors gathered data about nursing research in Europe. The following chapters give the main findings of the scoping exercise, with a chapter devoted to each of the countries included. The conclusion chapter summarises the main findings and considers what has been learned as a result of the work to inform the further development of nursing research in Europe.

Nursing research

The report takes an inclusive view of nursing research as a term referring to all research relevant to nurses and nursing. Nursing research may be carried out by scientists from many different disciplinary backgrounds, as well as by qualified nurses or individuals with a nursing background.

'Nursing research' also refers to the development of research capacity, capability and culture in nursing as a profession. This typically involves training nurses as researchers, but may also refer to the development of research facilities that employ, develop and draw on the expertise of researchers from a range of academic backgrounds to develop the evidence base for nursing practice.

At present, much clinical research focuses on 'hard' evidence on the effectiveness of innovations such as new drugs and technologies, but there is often little or no evidence on effective strategies to promote their practical implementation. Nursing research can help address this deficit. Advancing nursing research therefore goes hand-in-hand with

advancing a patient-led research agenda. Key nursing issues that matter to patients – caring for long-term conditions, palliative care and quality of health services – have an international dimension that might benefit from multi-national research commissioning and sharing of expertise.

Method

Partner countries – Spain, the Netherlands, Scotland, England and Ireland – were funded to undertake a scoping exercise to:

- map current research strategies, programmes and activities;
- map research capacity and capability building strategies;
- identify areas where programmes of nursing research can be developed.

Methods used to collect data varied among countries, but in most, an internet search was undertaken to identify key organisations, associations and individuals and relevant policy documents. Literature searches were also undertaken using databases such as the British Nursing Index (BNI) and PubMed. Individuals in government departments, universities, professional associations and special interest groups were then contacted.

Information, where available, was collected on:

- the absolute numbers of nurses and numbers of nurses per 1,000 population;
- who employs nurses and in what proportions (state sector, private sector etc);
- numbers of nurses with Master's degrees and PhDs;
- numbers of active researchers and their demographic profiles;
- whether there is a government 'chief nurse';
- where nurse education is located, how it is funded and the format and research content of education at undergraduate and postgraduate levels;
- research priorities and funding;
- measures for assessing the quality of nursing research and the results of any such assessments;
- government interventions designed to build capacity in the nursing research workforce;
- supra-national funding streams and initiatives likely to have an impact on the quality of nursing research;
- hindering factors likely to exert a negative impact on the development of and quality of nursing research;
- areas for future development.

Constraints such as language difficulties, the limited timeframe of the project and difficulties in gaining access to key individuals and organisations in countries and regions may have hampered the comprehensiveness of the information collected during the scoping exercise. Useful and illuminative data nevertheless emerged across a range of issues.

Findings

The scoping exercise found:

- a lack of robust comparative data in Europe on relatively straightforward issues such as the absolute number of nurses and number of nurses per 1,000 population;
- huge variation among countries in the share of GDP invested in research and development (R&D) in general and in the proportion of government funding devoted to R&D;
- significant variation in the amount and level of nursing involvement in government and in government-funded R&D bodies
- few countries with dedicated nursing research programmes, nursing research strategies or agreed nursing research priorities;
- increasing links between government funding mechanisms for research and measures of research quality and impact, with most governments moving towards funding programmes of research, rather than isolated projects;
- general agreement on the need for more research into health outcomes, ageing, and the management of long-term conditions;
- huge variation in policies on funding of nursing research;
- few examples of nursing-related supra-national research funding collaborations and partnerships;
- a lack, for the most part, of nursing research career pathways that straddle clinical work and higher education and enhance the generation and utilisation of research in practice settings;
- no set measures of time devoted to research being set for nurse academics, with most having heavy teaching loads;
- the vast majority of nurse researchers obtaining doctorates and doing post-doctoral work on a part-time, non-funded basis;
- insufficient numbers of doctorally prepared nurses to act as supervisors for doctoral theses;

- concerns about equity of access to centres of research excellence for a largely female and, in some cases, ageing nursing workforce;
- a need to harness existing capacity through more effective use of skills in the post-doctoral context.

Conclusion

This scoping exercise has captured a 'snapshot' of nursing research in Europe, with a focus on governmental funding and policy. It shows that research on nursing issues and the development of nurse researchers remains the domain of relatively few European countries. Funding sources and influence at government level vary markedly between countries, and nursing for the most part lacks research career pathways that straddle clinical work and higher education. The incorporation of nurse education into higher education is a relatively recent phenomenon for nurses in Europe, meaning the academic infrastructure remains relatively underdeveloped.

The report suggests that nursing-related health research is falling short in its contribution to supporting the planning, development and provision of evidence-based health services. This is partly due to under-capacity, but is also caused by lack of collaboration within and across regions and countries. Increasing cross-European collaboration in nursing and health-related research would therefore help to ensure a robust evidence base for practice, benefiting patients and the public across Europe.

1 Introduction

This report arose from a European Commission ERA-CARE Network project funded for one year from October 2004, within the European Union's 6th Framework Programme. The project was entitled: Specific Support Action to establish a European Platform of Nursing Research

A key objective of the project was to scope the situation of nursing research across a number of European countries in order to map national and regional programmes, which include a significant amount of nursing research. This report fulfils that objective by mapping the current state of nursing research in Europe.

The work to bring together the information on which this report is based was funded by ERA-NET (CORDIS, 2005) under the Framework 6 scheme as a Specific Support Action (SSA). The partner organisations in the SSA were national government and government agency research funders.

Nursing research became the subject of attention at European level in 1996 when Recommendation No R (96)1 of the Committee of Ministers advised member states to promote nursing research activities. Guidelines contained in this recommendation were the result of the work of a committee of experts convened by the European Committee of Health.

Following the spirit of this recommendation and in accordance with the aim for which it was established, the Spanish Nursing Research Coordination and Development Unit organised a conference in 1999 called 'Building a European Nursing Research Strategy.' The event was co-financed by the European Commission and was attended by stakeholders in nursing research from Belgium, France, Finland, Sweden, Italy, Germany, Denmark, Greece, Netherlands, Ireland, Israel, Portugal, Spain the UK, the US and Canada. Contacts made at this conference eventually led to the formation of the group that prepared the successful Specific Support Action (SSA) bid in October 2004, Context made

at a follow up conference in 2003. Formation of a group that prepared for the SSA, which is attached as Annex 1.

A key part of the SSA activities proposed by bid partners was to map out the state of nursing research across Europe. This document reports on the main findings from this exercise.

Chapter 1 gives an overview of nursing research, offering a broad definition of the term and explaining how developing nursing research can benefit patients. Chapter 2 explains the methodology adopted and how the authors gathered data about nursing research in Europe.

The following chapters give the main findings of the scoping exercise, with a chapter devoted to each of the countries included.

The conclusion chapter summarises the main findings and considers what has been learned as a result of the work to inform the further development of nursing research in Europe.

The report demonstrates that the nursing research community in Europe may now be reaching a position from which it is possible to look strategically across the EU and help build capacity in regions where nursing research is less developed. This could be particularly beneficial for those countries currently progressing through the accession process.

In an era when academic institutions are trying to develop particular foci of research interest and expertise, it becomes more important to avoid overlaps and support the build-up of expertise. The exchange of good practice in commissioning and undertaking and implementing research allows expertise to be accurately identified and made accessible beyond the regional and national boundaries within which current research funders in this area are bound to work. This will benefit research commissioners, researchers and the institutions in which they are based, and ultimately patients, service users and the public.

2 Nursing Research in Europe

2.1 This report

Patients and the public expect nurses and other health professionals to be up-to-date in terms of their professional skills (MORI, 2005). Nurses involved in research are more likely to utilise research findings (Walter et al, 2003) and deliver evidence-based care. Policy makers and managers within health economies need to know what works best in terms of nursing interventions and the nursing contribution to health care (Hanay et al, 2003).

This report describes the current state of nursing research in Europe. The work to bring together the information on which the report is based was funded by ERA-NET (CORDIS, 2005) under the Framework 6 scheme as a Specific Support Action (SSA).

The partners in the SSA who carried out the work are national government and government agency research funders.

2.2 Why patients, the public and nursing need research

Health care systems across Europe face challenges from ageing populations, increasing prevalence of chronic illness, earlier discharge of patients from hospitals, greater emphasis on self-care and a greater need for informal caregivers. Professional roles and skill-mix in health care are adapting to meet these challenges, with multi-disciplinary working increasingly the norm.

Nurses, whether with new responsibilities in new or expanded roles or in more traditional roles, remain by far the most numerous professional group providing direct patient care (Rafferty et al, 2003). Consequently, nurses are largely responsible for the quality of care experienced by patients. Despite this, the research culture in nursing and the evidence base for much of nursing practice remains underdeveloped. Significant research on nursing issues and the development of nurse researchers takes place in only a small number of

European countries, and even in these countries nursing research and knowledge transfer is regarded as inadequate (Bellman, 2005).

2.3 Defining nursing research

This report takes an inclusive view of nursing research as a term referring to all research relevant to nurses and nursing. Nursing research may be carried out by scientists from many different disciplinary backgrounds including economics, psychology, epidemiology, statistics and biomedical disciplines, as well as by qualified nurses or individuals with a nursing background. This may include health services research looking at issues of service organisation and delivery, assessment of health technologies, and clinical research into nursing interventions.

'Nursing research' also refers to the development of research capacity, capability and culture in nursing as a profession. This typically involves training nurses as researchers, but may also refer to the development of research facilities that employ, develop and draw on the expertise of researchers from a range of academic backgrounds to develop the evidence base for nursing practice.

It has been argued that nursing research as a concept may have outlived its usefulness, in the UK countries at least (Masterson, 2005), and should instead be categorised as research into care interventions, disease management, long-term conditions and care services. As will be seen in the chapters that follow, however, research and research capacity in nursing across Europe remain underdeveloped. This means that too often, services and care interventions received by patients are not based on adequate research evidence. Initiatives to address this will necessarily involve actions targeted on the nursing profession, and will take place under the banner of 'nursing research.'

Researchers on nursing issues may come from a variety of disciplines and academic backgrounds, but for the purposes of knowledge transfer and to ensure that research is relevant to and credible with a nursing audience, key members of the research team need to have a background in nursing.

At present, much clinical research focuses on 'hard' evidence on the effectiveness of innovations such as new drugs and technologies, but there is often little or no evidence on effective strategies to promote their practical implementation (Denis et al, 2001). Nursing research can help address this deficit.

Advancing nursing research goes hand-in-hand with advancing a patient-led research agenda. Nursing research has been criticised for playing to a professional rather than a patient or scientific agenda, and for being overly concerned with inward-looking issues such as the status of nursing as a profession rather than patient needs. A patient-led research agenda would contain more research into caring for long-term conditions and co-morbidities that affect growing numbers of people as the population ages. Incontinence and bowel care, for example, are not glamorous topics for research, but are important to a large proportion of the population. These are areas where nurses are most involved in providing care, but often this care is not informed by sound research evidence.

2.4 Nursing research in Europe

Research on nursing issues and the development of nurse researchers remains the domain of relatively few European countries. The UK and Nordic countries have been building nursing research since the 1950s. Small amounts of research and researchers can be found in other EU countries, but not in significant volumes and numbers.

Nursing research is more developed in the US and Canada, perhaps because nurses are more prominent in health care management and decision-making in those countries, with a high proportion working in extended and senior roles. Health care management organisations (HMOs) in the US invest significantly in health services research (Lomas, 2003), including nursing issues. Lomas notes that this investment has yielded high payback through better prevention and increased concordance with treatment regimes, leading to cost savings of 25% per patient.

Nursing for the most part lacks research career pathways that straddle clinical work and higher education. The incorporation of nurse education into higher education is a relatively recent phenomenon for nurses in Europe, meaning the academic infrastructure remains relatively underdeveloped.

The EU accession round of 2004 increased the number of EU countries where nursing is underdeveloped as a profession. Few nurses in the accession countries have undertaken doctorate programmes and are in a position to offer research leadership. Those nurses who are qualified and able to offer research leadership tend to be isolated, though links with institutions within the EU may provide much-needed support.

Professional networks that have developed, such as the Work Group of European Nurse Researchers and the Nordic Nurses Association, have tended to operate as support groups for researchers. The International Council of Nurses and the Standing Nursing Committee of Europe provide a professional backdrop to nursing research and fund research in their own policy areas.

Much of the investment by individuals and organisations in this field has focused on creating facilities to train and develop nurse researchers. It is only in the last decade that systematic programmes of nursing research have emerged in those countries where nurse researchers are able to provide research leadership. It has taken time to develop a cadre of sufficient experience and depth to support more complex programmes.

Nursing has taken huge strides in developing its research capacity and in contributing to research to develop its evidence base. A report by the European Commission (2000) pointed to a growing specialisation in nursing and increasing research competence and capacity. Nurses are increasingly contributing to work at a European level on public health and informatics and to a range of task groups on cancer, palliative care, AIDS/HIV and ageing. Key nursing issues that matter to patients – caring for long-term conditions, palliative care and quality of health services – have an international dimension that might benefit from multi-national research commissioning and sharing of expertise.

The readiness of the field for sharing expertise in nursing research was one of the factors that provided impetus for the wider project of which this scoping report is a component. The next chapter describes how information was collected about nursing research programmes, funders and key institutions.

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3 Scoping Methodology

3.1 Purpose

The overall aim of the SSA was to enable and encourage research funders to co-ordinate their activities among countries across the EU to enhance the quality of nursing research, consequently improving patient outcomes and promoting patient welfare. It was necessary first of all to scope existing government investment in nursing research across Europe.

3.2 Objectives

The SSA provided funding for the partner countries – Spain, the Netherlands, Scotland, England and Ireland – to undertake a scoping exercise to:

- map current research strategies, programmes and activities;
- map research capacity and capability building strategies;
- identify areas where programmes of nursing research can be developed.

To achieve these objectives, it was agreed that:

- visits be made to countries where nursing research is most developed to interview key informants responsible for health research and development (R&D) strategy and funding from national governments and research funding organisations;
- data be collated from national programmes to estimate their scope and scale and map the nature of research activity;
- research strategy events be held for representatives responsible for health research and development (R&D) strategy and funding from national governments and research-funding organisations.

These were intended to offer opportunities to:

- share information on funded programmes and evaluation processes;
- identify best practice in capacity building;
- delineate administrative and legal barriers to international research collaboration;

- identify opportunities for new research themes;
- identify further partners and stakeholders in member states;
- consolidate a Nursing Research and Development Group to work up a proposal for a Co-ordination Action (submitted in October 2005).

3.3 Data collection methods

The data was collected between April and September 2005. In practice, methods used to collect data for this scoping report varied, and an iterative approach was used to develop the data collection template. The template was constantly refined and developed through face-to-face meetings and e-mail contact with partners and in response to reflections on the experience of using it in practice.

An internet search was undertaken to identify key organisations, associations and individuals and relevant policy documents for most of the countries included in the report. Literature searches were also undertaken using databases such as the British Nursing Index (BNI) and PubMed. Individuals in government departments, universities, professional associations and special interest groups were then contacted and asked for information on:

- current nursing research strategies, programmes and activities, particularly those funded by the government;
- individuals involved in funding and commissioning research considered appropriate for a visit and/or interview by telephone.

Countries without a national programme were also contacted, like Italy, Belgium and Greece. Where possible, the results of the scoping were shared with 'critical readers' and/or 'key informants' from each country to check for factual accuracy and to identify gaps.

3.4 Presenting the data

The methods and processes used to gather the data for each country are described. To illustrate the nursing research capacity and the research users, background information on the nursing/research workforce is offered. Where available, information is presented on:

- the absolute numbers of nurses and numbers of nurses per 1,000 population;
- who employs nurses and in what proportions (state sector, private sector etc);

- numbers of nurses with Master's degrees and PhDs;
- numbers of active researchers and their demographic profiles;
- whether there is a government 'chief nurse';
- where nurse education is located, how it is funded and the format and research content of that education at undergraduate and postgraduate levels.

A section on research priorities and funding then follows, which includes:

- the national organisations in each country responsible for funding research that is potentially relevant to nursing, and for determining health and/or nursing research priorities at national level;
- information about the representation of nursing in such bodies and how priorities are set;
- descriptions of current health and/or nursing research priorities and relevant strategies and policy statements;
- the amount of dedicated government nursing research funding and how that funding is distributed (for example, through Department/Ministry of Health or Education, open competition, grants, universities, government-funded but 'independent' bodies such as research councils);
- the number of programmes and projects and whether there is a national database for nursing research;
- descriptions of programmes of government funding that are not dedicated to nursing research per se, but the outcomes of which are likely to have an impact on nursing and/or are undertaken by research teams led by and/or including nurses.

Measures for assessing the quality of nursing research and the results of any such assessments and government interventions designed to build capacity in the nursing research workforce such as infrastructure, training initiatives and career paths are then outlined. Descriptions of supra-national funding streams and initiatives likely to have an impact on the quality of nursing research are offered. Finally, hindering factors likely to exert a negative impact on the development of and quality of nursing research and areas for future development are listed.

3.5 Limitations

A scoping exercise can only offer a snapshot of development at a particular point in time. Many of the countries were engaged in developing and refining their policies on nursing research during the period of the study, and many interviewers and interviewees were communicating in their second or third languages. Some governments publish all research related documents on the World Wide Web, while others have a limited presence or only produce synopses of key policy documents in English. There is a lack of robust and consistent data on many relevant indicators such as the numbers of nurses and the numbers of Master's and doctorally prepared nurses across Europe. There is no universally accepted definition of nursing research or, indeed, nursing-related health research.

Consequently, addressing even an apparently straightforward question such as 'what is the level of government funding for nursing- and health-related research?' is extremely challenging. For example, Table 2.1 is the result of a website review undertaken in October 2005 to ascertain and compare government funding levels for nursing- and health-related research. It is practically impossible to make meaningful inter-country comparisons, however, without would require:

- a clear and robust definition of 'nursing- and health-related research';
- detailed inclusion and exclusion criteria;
- an in-depth understanding of government research funding streams in different countries and the ways these are distributed (for example, filtered through higher education, through government support to charities and/or quangos, and/or ring-fenced for research and development through dedicated government offices, and the existence of supra-national funding streams such as in the UK and the Nordic countries).

4 Spain Scoping Report

4.1 The nursing/research workforce

According to the National Statistics Institute (INE), the absolute number of nurses in Spain is 220,769, and the number of nurses per 1,000 inhabitants is 5. The total number of midwives is 5,105 (2003 figures). The majority of nurses (approximately 89.4%) are employed by the government.

To become a registered nurse in Spain takes three years of study at a university. There are 110 organizations providing nurse education spread throughout the country, approximately 85.4% of which are managed by the state education authorities. The educational system in Spain follows the French model and does not have Master degrees (MSc). At present seven universities are offering a Certificate of Higher Education in Nursing, however this certificate is only recognised within the own university (Título Propio Superior). Nurses can have a Baccalaureate degree in other subjects, so it is not possible to estimate the number of nurses holding a Baccalaureate degree. Nurses can undertake PhD studies on five different programmes at nursing departments, two at physiotherapy departments and there are other programmes in a few health sciences related departments. The approximate number of nurses with a PhD is 57 (2005 figures) although some have achieved their doctorates in disciplines other than nursing. Five got a PhD in nursing after studying outside Spain (USA, UK and Canada). There is an increasing number of doctoral candidates coming from the nursing discipline after having completed a university degree equivalent to a MSc. Membership to a professional association is obligatory.

According to information gathered from a Ministry of Health and Consumer Affairs study of publicly-funded nursing research projects, 71.9% of principal researchers are women. The average age of principal researchers who apply for projects is 40.57 (SD 6,63), with 25 the minimum and 58 the maximum ages.

Spain has no Chief Nursing Officer post in the Ministry of Health and Consumer Affairs. There is, however, a position within the ministry responsible for performing the role of the Chief Nursing Officer at international level.

4.2 Research priorities and funding

The Ministry of Education and Science (which was previously the Ministry of Science and Technology) bears overall responsibility for Spanish research policy. Spain spends 0.96% of GDP on research (2001 figures), which is below the OECD average of 2.3%. Just over 52% of research activity is funded by the private sector.

The Spanish government published a White Paper on research in 2003 for the period 2004-2007 (*El Plan Nacional I+D+I 2004-2007*) in which it outlines plans to raise the total investment in R&D to approximately 1.4% of GDP within this period through annual increases close to 10%. It is intended that the number of researchers will exceed five per 1,000 per 1.000 population during the execution of the plan (it was 4.4 in 2001). The White Paper also identifies health and welfare research as a priority for investment. It sets out plans to increase co-operation among the Spanish regions and establish new scientific co-operation agreements with Germany, France, UK, US, Russia, Canada and China, among others, as well as supporting the creation of the European Research and Innovation Area.

The High Council of Scientific Research (CSIC) is the major public research body in Spain. It plays an active role in determining scientific policies in the Spanish regions.

The Ministry of Health and Consumer Affairs has overall responsibility for health research and puts into practice the recommendations of the Ministry of Education and Science. According to the Spanish General Health Law 14/1986, the Institute of Health Carlos III (ISCIII) is the main unit of scientific and technical support for the Ministry of Health and Consumer Affairs and for regional health services.

The Health Research Funding Agency (FIS) is part of the ISCIII. It provides nationwide economic support for proposals for biomedical research projects and issues annual standard and specific calls for proposals. FIS also facilitates international academic and professional training, especially for young researchers, through research fellowships. In the specific field of nursing research, FIS has followed the strategy designed by the Ministry of Health,

which started a series of initiatives to incorporate nurses into health research in 1987. These included allowing nurses to apply for grants as principal investigators to conduct research projects and creating a Working Group for Nursing Research, which produced a national report about nursing in Spain. Since 1996, an organised programme of nursing research has been in place, including research fellowships for nurses and funding for nursing research projects.

The *Centre for the Co-ordination and Development of Nursing Research Investén-isciii* is responsible for the fostering and co-ordination of transnational and multi-disciplinary research in the field of health, nursing and strategic aspects for the National Health System.

The *Spanish General Council of Nursing* is an umbrella organisation for all the professional associations from the Spanish regions. The council has a collaboration agreement with ISCIII on promoting nursing research.

The process of devolving health care to the Spanish regions ended in 2002. Each region now has complete authority on health issues.

The *Basque Foundation for Health Innovation and Research (BIOEF)* was created by the Health Department of the Basque Country in September 2002. BIOEF is committed to the promotion of innovation and research in the Basque Health System (Osakidetza) as a means of continually developing and improving the general health of the Basque population. BIOEF carries out its task through two institutes: *OIKER (Basque Institute of Health Research)* and *OBERRI (Basque Institute for Innovation in Health)*. OIKER co-ordinates clinical investigators based in public or private hospitals and primary care clinics. BIOEF manages public and private funds used to finance research projects developed in strategic areas. Applications for funding research from the Basque Government Health Department are invited from nursing professionals, but no specific sums of money are assigned for nursing.

The *Strategy and Co-ordination Directorate (SCD)* belongs to the *Department of Health of the Catalonia Government (HD)*. This strategic plan has fixed health research, development and innovation as priorities. HD and SCD spent close to €15m in 2004 on research projects, of human resources, training courses and knowledge transfer. The forecast for 2010 is €32m. The application programme in nursing research is

complementary to the Institute of Health Carlos III. SCD carries out the research strategy by means of two instruments: the Research Director Plan (RDP) and the International Research, Development and Innovation Program (RDI). RDP promotes research policy in public and private hospitals and in primary care clinics through an advisory committee. RDI improves capacity for obtaining funds for research projects, development and SMEs Small and Medium Enterprises innovation with the help of a research agency, reflecting ERA-NET policies. The final research aims of both programmes (RDP and RDI) are the promotion of knowledge and improvement of welfare quality; nursing research is regarded as a key mechanism for achieving this aim.

A study called 'Identification of priorities of nursing research in Spain: a Delphi study' was performed at the Institute of Health Carlos III in 1999. Participants identified priorities related to continuity and co-ordination of nursing care, quality of nursing care, impact of invasive techniques and treatments on the quality of life of patients, needs of primary care givers, quality of life among older people, customer satisfaction and needs of terminally-ill patients and their families. A new Delphi study is currently being performed to update nursing priorities. It will be finished in 2006.

4.3 Nursing and related research funding

It is difficult for Spanish nurses to apply for funds to the Ministry of Education and Science or CSIC, as principal investigators are required to hold a MSc degree at this institution. The academic requirement for applying for funds to the Ministry of Health and Consumer Affairs is a BSc degree.

Project funding is awarded through open competition after a peer review evaluation by the FIS. The Ministry of Health and Consumer Affairs budget for nursing research projects for the period 1996-2002 was €1.2m. Between 1996 and 2004, 704 projects applied for funding, of which 196 were successful.

The Spanish General Council of Nursing and the Institute of Health Carlos III have agreed a three-year collaboration (2003-2005) to develop a standardised comprehensive quality management system for nursing with a budget of €5.57m, divided into three annual payments. Investén-isciii's budget for the promotion of nursing research is €180,000 (2000-2005).

The Spanish Government also promotes nursing capacity and capability building by awarding fellowships. Fellowship awards amounted to €1.29m for the period 2000-2005. They include fellowships for further study, a Nursing Research Training Grants Programme developed by the Institute of Health Carlos III and the University of Montreal, and Nursing Research Management Fellowships.

In Catalonia, the *Strategy and Co-ordination Directorate's* funds for nursing research amount roughly to €430,000 per year. Big differences in budgets and research funding can be seen among regions since responsibility for health was devolved. Holding a MSc degree is an essential requirement for qualifying for research funding in five of the 17 Spanish regions. In the other 12 regions, principal Investigators are required to hold a BSc.

There is a national database for nursing research, BDIE, which is currently being updated and transformed into the Biomedical Research Map in Spain.

4.4 Assessment of the quality of nursing research

The Institute of Health Carlos III has compiled a report offering qualitative and quantitative assessments of nursing research projects that have applied for FIS funding. The report shows methodological deficiencies in nursing research due to a lack of training in research methodology.

4.5 Government interventions to build capacity in the nursing research workforce

The Spanish government has some training initiatives in the field of nursing research, such as the BEFI research training grant programme (aimed at training researchers to act as links between basic, clinical and epidemiological research in biomedicine), the BAE postgraduate studies grant programme (aimed at improving the training and research capacity of professionals of the National Health System), the BEGIN Research Management grant programme (promoting training in different areas of research management), and the Institute of Health Carlos III Intramural Fellowships (designed to help young researchers holding any kind of university degree to work at the Institute of Health Carlos III). The duration of these fellowships ranges from six months to four years. They are regarded as training, and do not entitle participants to permanent positions.

4.6 Supra-national nursing-related funding

A collaborating agreement involving the Institute of Health Carlos III, eight Spanish regions and the Joanna Briggs Institute (Adelaide, Australia) has been in place since 2004.

The agreement aims to establish an evidence-based health care centre in Spain.

4.7 Hindering factors

Factors consistently reported to be likely to have a negative impact on the development of and quality of nursing research in Spain include:

- nurse education is limited to the BSc degree and therefore does not qualify holders to enrol directly into PhD programmes, unless nurses have previously enrolled for a MSc programme in another discipline;
- deficiencies in methodological research aspects;
- difficulty for nurses to qualify for research programmes at the Ministry of Education and Science;
- lack of connection between clinical practice and research;
- lack of a dedicated research career pathway;
- lack of dedicated senior research staff in clinical settings;
- lack of multi-centre collaboration;
- low publication and reading rates due to language problems;
- lack of protected time for nurse clinicians to undertake research.

4.8 Contacts

Ministry of Education and Science – www.mec.es

High Council of Scientific Research – www.csic.es

Ministry of Health and Consumer Affairs – www.msc.es

Institute of Health Carlos III – www.isciii.es

Health Research Funding Agency – www.isciii.es/fis/

Center for the Co-ordination and Development of Nursing Research – www.isciii.es/investen/

Spanish General Council of Nursing – www.enfermundi.com

Basque Foundation for Innovation and Research – www.bioef.org

Strategy and Co-ordination Directorate of the Department of Health of Catalonia – www.gencat.net/ics/

The Joanna Briggs Institute Collaborating Center – www.joannabriggs.edu.au
Iberoamerican Cochrane Center - www.cochrane.es/Castellano/
Index Foundation: www.index-f.com
Asociación Española de Enfermería Docente - www.aeed.net

4.9 Key reports/policy documents and data sources

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Moreno, T. Martín, C. Orts, I. Comet, P. (2010). *Identification of priorities of nursing research in Spain: a Delphi study*. *Journal of Advanced Nursing*. 35: 6: 857-863.

Luengo, R. Martínez, L. González, T. (en prensa) *Antropología de los cuidados en el ámbito académico enfermero español*. *Texto e Contexto Enfermería*.

Moreno-Casbas, T. Frutos Sánchez, D. (2002). *Focus. Developing a national strategy to promote and extend nursing research in Spain*. *NT Research*. 7: 4: 263-271.

4.10 Areas for development

- Further role out of the Bologna treaty to adapt nurse university education to the European research area.
- Improve training on research methodology at basic nurse education level.
- Reduce access restrictions for funding caused by the lack of a MSc degree in nursing.
- Strengthen the link between clinical practice and nursing research in nursing directorates in hospitals and primary care centres.
- Encourage nursing involvement in multi-disciplinary and inter-professional research.
- Support and develop nursing research career pathways.
- Support mobility of nurse researchers.
- Increase the number of publications in refereed journals.
- Facilitate access to scientific journals by improving researchers' language skills.
- Develop infrastructure to support clinical nursing research.

5 Ireland Scoping Report

5.1 The nursing/research workforce

According to data published by the Department of Health and Children in 2002, there were approximately 36,089 nurses and midwives in practice in Ireland in 2001. This figure should be treated with some caution, however, as it has been calculated from the number of nurses working in the public sector (33,474), with an estimate of those employed in the private sector. The approximate number of nurses per 1,000 population was 9 at that time.

Nurses are for the most part (approximately 85%) employed by the government.

Pre-registration education of nurses has been situated in the third-level sector since 2002, with the final award at Bachelor's degree level. The third-level sector consists of universities and institutes of technology (ITs). Funding responsibility lies with the Department of Health and Children. Paediatric, midwifery, specialised nursing (such as critical care and accident and emergency) and public health nurse education is set at higher or postgraduate diploma level and is provided between hospitals and the third-level sector. Master's and PhD programmes are offered by the majority of universities and some higher-level award programmes are being developed in the ITs. Centres for nurse education provide in-service training and short-course professional development. Currently, capacity is being built to provide training for practitioners in finding and appraising evidence, with some centres already running short courses and others in development.

According to the National Council for Professional Development of Nursing and Midwifery, 208 nurses and midwives held MSc degrees in 2003. This number, however, reflects only those who have completed MSc programmes in Republic of Ireland universities or through one distance-learning programme. According to the same source, the number of nurses with PhDs in 2003 was 18, with indications that this has risen to 33 by 2005. This number reflects nurses or midwives working in academic nursing and midwifery centres, and does not include those who work in non-academic settings or outside nursing and midwifery.

The National Council source also cites the number of advanced nurse/midwife practitioners as 24.

A search of a database of Irish researchers (www.expertiseireland.com) on 6 September 2005 found 147 contacts listing nursing and 73 listing midwifery. These figures, however, include the whole island of Ireland and not just the jurisdiction of the Republic, all researchers who list nursing and midwifery interests and not just nurses and midwives, are self-reported, and are not necessarily accurate in time.

There is a Chief Nurse in the Department of Health and Children. The research funding body has a Nursing Research Advisor who is a joint appointment with the National Council for the Professional Development of Nursing and Midwifery.

5.2 Research priorities and funding

Research is a national priority in Ireland. The government has funded nearly €2.5bn in a programme for research in third-level institutions under the National Development Plan 2000-2006. Ireland spends 1.17% of GDP on research (2001 figures), which is below the OECD average of 2.3%.

Government departments dictate policy and provide funding for different areas. Health research strategy within the broader context is guided by policy documents such as 'Making Knowledge Work for Health' (Department of Health and Children, 2001). A five-year national government strategy guides nursing and midwifery research development (Department of Health and Children, 2003) and nurses and midwives may also benefit from other frameworks such as the 'Mental Health Commission Research Strategy' (MHC, 2005). A study to set nursing and midwifery research priorities has just been completed by the *National Council for the Professional Development of Nursing and Midwifery* and will be published late in 2005. This study included the service user's voice, and will help to inform the future direction of funding for Irish nursing and midwifery research.

Funding for research is provided by government departments to statutory funding agencies who allocate funding through a call system with peer-review assessment of research quality. The main funder of health research is the Health Research Board (HRB). Although funding to nursing and midwifery comprises a small percentage of the overall monies available, it does have some dedicated funding. The HRB also funds clinical and biomedical

sciences, public and population health and health services research, among others. As research capacity grows, increasing numbers of nurses and midwives are applying across the portfolio of support. One nurse currently sits on the board of the HRB as a nominee of the Conference Heads of Irish Universities. The HRB also commissions one-off projects by request of others, such as the Department of Health and Children.¹

Other potential funders of nursing and midwifery research include statutory funding agencies such as *Science Foundation Ireland* and the *Irish Research Council for the Humanities and Social Sciences*, statutory agencies with specific remits such as the *Mental Health Commission* and the *National Children's Office*, and professional bodies such as the *National Council for the Professional Development of Nursing and Midwifery* or *An Bord Altranais*. Charitable foundations also provide some funding for nursing and midwifery research, but indications are that this is very limited. Like elsewhere, the main health research charities are disease specific, focusing on issues like cancer and diabetes.

A national database of nursing and midwifery research is in the very early stages of development. When fully functional, this will assist with mapping developments.

5.3 Nursing and related research funding

To date, the Health Research Board has provided €0.5m funding over five years specifically for nursing research (but with multi-disciplinary team input), and €0.8m over five years for multi-disciplinary projects in which nurses are employed. There is currently a nursing project grant (three years) on service delivery for people with dual disability of Down syndrome and Alzheimer's disease. The HRB has also provided approximately €250,000 for a multi-centre, randomised controlled trial of the effectiveness of midwifery-led services in one region through a R&D Information Award.

¹ For example: 'Nurses' and Midwives' Understanding and Experiences of Empowerment in Ireland', 2003; the 'National Study of Turnover in Nursing and Midwifery', 2002; or the National Council for the Professional Development of Nursing and Midwifery (Nursing and Midwifery Research Priorities Study, forthcoming).

5.4 Assessment of the quality of nursing research

No central or systematic assessment of nursing and midwifery research is currently in place.

5.5 Government interventions to build capacity in the nursing research workforce

The Funding and Policy Division of the HRB established clinical nursing and midwifery fellowships in 1999 with a dedicated funding stream. Eligibility criteria include five years practice as a nurse or midwife, holding a post in practice (or related to practice), and employment in the Irish health services or academic nursing setting. The research must be focused on clinical nursing or midwifery issues and be set at MSc or PhD level. The fellows' research training is delivered through established academic departments. To date, 17 PhD and seven MSc awards have been made.

Other capacity building schemes have seen successful applications from nurses, among others. Since 2004, six awards have been granted to nurses within the Partnership Awards scheme, one award has been granted to a nurse within the Cochrane fellowship since 2003, and 27 nurses attended the three-day Cochrane training course between 2002-2005.

Capacity building is also an aim of the tripartite Cancer Consortium, which involves the National Cancer Institute (NCI) in the US, the HRB in Ireland and the R&D Office in Northern Ireland. Nine cancer clinical trials centres are funded by the HRB with an average of two research nurses funded by HRB awards in each. An opportunity exists for nurses in these units to travel to NCI for a six-week period to access further training in cancer clinical trials activity.

5.6 Supra-national nursing-related research funding

Funding from the Health Research Board is mainly granted on an all-Ireland basis, and is therefore open to applicants from Northern Ireland. In addition, a specific Ireland-Northern Ireland co-operation scheme has been funded, with one nursing project being successful in 2003. This particular scheme is currently under review. There is no specific supra-national funding for nursing research programmes.

5.7 Hindering factors

Factors consistently reported to be likely to have a negative impact on the development of and quality of nursing research in Ireland include:

- small numbers of researchers and a limited focus on building a career path for those who have already attained doctorates;
- a need to increase the number of practitioners undertaking research within the health services; funding for clinical scientists is a very recent initiative in Ireland which aims to achieve this, but the capacity for practising nurses and midwives to be successful in this area is yet to be tested.

5.8 Contacts

Department of Health and Children – www.doh.ie

Health Research Board – www.hrb.ie

National Council for the Professional Development of Nursing and Midwifery – www.ncnm.ie

An Bord Altranais – www.nursingboard.ie

The Irish Nurses Organisation – www.ino.ie

The Mental Health Commission – www.mhcirl.ie

5.9 Key reports/policy documents and data sources

Central Statistics Office (2002). Downloaded from www.cso.ie

Cousins, C. McGee, H. Ring, L. Conroy, R. Kay, E. Croke, D. Tomkin, D. (2005) *Public Perceptions of Biomedical Research: a survey of the general population in Ireland*. Dublin, Health Research Board.

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Department of Health and Children (2003) *Research Strategy for Nursing and Midwifery in Ireland*. Dublin, Department of Health and Children.

Mental Health Commission (2005) *Research Strategy for the Mental Health Commission*.
Dublin, Mental Health Commission.

National Council for the Professional Development of Nursing and Midwifery
(forthcoming) *Baseline Survey of Research Activity in Irish Nursing and Midwifery*.

National Council for the Professional Development of Nursing and Midwifery
(forthcoming) *Report on the Nursing and Midwifery Research Priorities for Ireland*.

5.10 Areas for development

- Establish and develop nursing and midwifery research units and further programmes of nursing and midwifery research within the higher education sector, based on identified priorities.
- Continue capacity building with a clear, flexible career pathway, which incorporates research on a full-time, part-time or joint appointment basis.
- Promote links with health services through collaborative research initiatives and increase the demand for and use of evidence in practice.

6 Scotland Scoping Report

6.1 The nursing/research workforce

Figures on the numbers of nurses in Scotland vary by source, but those from the Information and Statistics Division of NHS Scotland (ISD Scotland) for March 2005 suggest there are over 55,000 nurses. The Auditor General's report of 2002 (Auditor General, 2002) suggests there are 10.2 nurses per 1,000 population. Figures from ISD Scotland for the same year, however, suggest the number is 7.6. Some of this apparent variation may be due to differences in classification of health visitors and midwives and the inclusion (or not) of bank and agency staff. Whether the figures are based on headcount or whole time equivalents (WTEs) is also significant. Regardless of the ambiguity, it is known that nurses make up about 50% of the staff of NHS Scotland.

All nursing education in Scotland is integrated into the higher education sector. The majority of nurse lecturers are funded through NHS contract monies, which does not provide funds for engaging in research.

Of the 725 staff employed within the departments of nursing and midwifery in Scotland in 2003, 74 (10%) had a PhD in nursing, five (0.7%) a Doctorate in Education (Ed. D), and 22 (3%) a Master's degree by research (MPhil). One hundred and 52 students were registered for some form of research degree (PhD, clinical doctorate or Master's by research); of these, 28 (18%) were full time. The majority of nursing PhD students were self-funded or funded by the institution. Only 5% were funded by external studentships.

There is a Chief Nursing Officer and a small team of government nurses, one of whom has particular responsibility for research.

6.2 Research priorities and funding

The Scottish Parliament was re-established in 1999 and is responsible for legislation relating to health. The Scottish Executive is accountable to the Scottish Parliament. Since devolution within the UK, distinct and unique policies on health and, indeed, R&D have been emerging.

The *Scottish Executive Health Department (SEHD)* is responsible both for NHS Scotland and for the development and implementation of health and community care policy. The Scottish Executive funds a wide range of research programmes. Its Social Research Unit is responsible for the development of research programmes on community care, mental health law in Scotland and the national programme to improve mental health and well-being. The Social Research Unit also provides social research support and research-based advice to ministers and civil servants throughout SEHD on a wide spectrum of topics, such as older people and nurse prescribing.

The *Chief Scientist Office (CSO)* is part of SEHD. It supports and promotes high-quality R&D aimed at improving services offered by NHS Scotland and the health of the people of Scotland. The CSO commission's research in specific priority areas, supports research initiated by the research community in Scotland and advises the Scottish Executive and SEHD on how research contributes to improvements in health and health care. It invests over £49m per annum. Its main activities include:

- funding high-quality research;
- offering research training initiatives;
- defining research priorities and building a research strategy for NHS Scotland;
- promoting dissemination and implementation of research findings;
- commissioning research in areas of particular importance;
- encouraging multi-disciplinary collaboration in research.

It also supports a number of research units, including the Nursing Midwifery and Allied Health Professions Research Unit jointly hosted by the University of Stirling and Glasgow Caledonian University. This unit has three programmes of research: stroke, decision-making, and practitioner interventions.

Executive summaries of all the research the CSO funds are available on its website.

NHS Scotland's overall research priorities (2003) are:

- cancer;
- cardio and cerebro-vascular disease;
- mental health;
- public health.

NHS Scotland published a strategy for R&D in nursing and midwifery in Scotland in 2002.

The objectives of the strategy are to:

- develop the capacity, culture and infrastructure to enable nurses and midwives to deliver services that are based on sound evidence drawn from rigorously conducted research programmes;
- enable nurses and midwives to value the generation and utilisation of research.

The strategy laid out the following aims to meet these objectives:

- enable nurses and midwives to influence the R&D agenda in NHS Scotland;
- strengthen the capacity of nurses and midwives to undertake research;
- encourage R&D activity in all nursing and midwifery departments in higher education institutions (HEIs) in Scotland;
- encourage intra-disciplinary, multi-disciplinary and inter-agency research collaboration and partnerships across health, health care and social care boundaries;
- enhance the quality and quantity of research applications submitted to funding bodies by nurses and midwives;
- support and develop nursing and midwifery research career pathways within clinical, management and education environments;
- ensure service-user and public involvement in the R&D agenda.

NHS Education for Scotland (NES) aims to promote best practice in the education and lifelong learning of NHS staff.

NHS Health Scotland is the national centre for health promotion expertise and a WHO collaborating centre. It offers strategic support for evidence-based health promotion and its evaluation division provides evidence for public health and health promotion researchers, policy makers and practitioners.

The *Scottish Further and Higher Education Funding Council (SHEFC)* is a non-departmental public body responsible to the Scottish Executive. It provides financial support for teaching, research and associated activities in Scottish HEIs. Its Research Policy and Strategy Directorate develops strategies and policies for research. All nursing education funded by SHEFC contains funds dedicated for research.

The *Scottish School of Primary Care* is funded by SEHD, CSO, and NES.

6.3 Nursing and related research funding

The Health Minister announced a new £8m programme to support patient-focused research by nurses, midwives and allied health professionals in May 2004. Research areas identified in this programme include:

- improving recovery from acute illness and trauma;
- early years;
- preventing and better management of chronic diseases;
- care of older people;
- improving the mobility of people with disabilities;
- improving decision-making for patients and health professionals;
- helping people with cardiovascular illness to improve their condition through enhancing self care.

Three new research consortia have recently been established as part of this initiative, funded by SHEFC, SEHD, CSO and NES – the *Centre for Integrated Health Research* in the South East of Scotland, the *West of Scotland Research Centre for Therapeutic Practice*, now called Health Qwest, and the *Central and North Scotland Alliance for Enhancing Self Care*. This is part of a strategic drive to provide the infrastructure, leadership and working culture to facilitate meaningful research activity across the academic and clinical settings for nursing, midwifery and the allied health professions.

Funding of £1m has also been awarded to a North East Consortium consisting of the University of Stirling, University of Dundee, University of Aberdeen, Robert Gordon University, NHS Grampian, NHS Tayside, NHS Forth Valley and NHS Highland to run the Nursing, Midwifery and Allied Health Professions Research Training Partnership scheme. This award has been developed in partnership with SEHD, the Health Foundation and NES. It will enable these higher education institutions to collaborate over 3-5 years

to offer research training to nurses, midwives and allied health professionals undertaking pre-doctoral and post- doctoral studies.

In addition to this initiative, much of the research the CSO funds has direct relevance for nursing. For example, reports published in 2005 included:

- developing a measure of informed choice in cancer screening;
- a multi-centre trial to evaluate feeding policies for patients admitted to hospital with recent stroke;
- developing a screening instrument to identify women and their partners at risk of psychological morbidity following miscarriage;
- evaluating the use of 'talking mats' as a communication aid with people with an intellectual disability;
- the role of environmental factors in steroid resistance in asthma;
- topical agents in psoriasis;
- ethnic background and oral health.

Research recently commissioned by the CSO includes:

- investigating the use of a decision aid for the diagnosis of active labour in term pregnancy;
- developing services to meet the end-of-life needs of South Asians and their families in Scotland;
- investigating the quality of life of adults with intellectual disabilities discharged from long-stay hospitals;
- how to improve the diet of young children living in areas of high deprivation.

6.4 Assessment of the quality of nursing research

The quality of nursing research is evaluated on a regular basis through the Research Assessment Exercise (RAE). The RAE is conducted nationally to assess the quality of research in universities and colleges in the UK. Results determine how higher education funding bodies distribute public funds for research selectively on the basis of quality. The most recent RAEs were carried out in 1996 and 2001, and the next is scheduled for 2008.

The results of the RAE are rated on a scale of: 1, 2, 3a, 3b, 4, 5, 5*. A rating of 5* represents 'quality (that equates to attainable levels) of international excellence in more

than half of the research activity submitted and (attainable levels) of national excellence in the remainder.' A rating of 1 represents 'quality (that equates to attainable levels) of national excellence in none (or virtually none) of the research activity submitted.'

Nursing has its own unit of assessment (UoA 10), but nurse researchers may be entered into other units of assessment depending on the overall research strategy of individual HEIs. Any analysis of RAE results consequently provides limited evidence on the true capacity and capability of research within departments, but nevertheless offers a useful insight into capacity and capability.

In the 2001 RAE, five departments of nursing across Scotland were submitted for assessment, but none received a 4 or a 5 ranking.

6.5 Government interventions to build capacity in the nursing research workforce

The SEHD identified nursing and midwifery research as a core contributor to the achievement of the Scottish Executive's plans for a 'healthy, caring Scotland' in 2002. Two key elements were central to the strategy: developing research consortia, and developing clinical/academic career pathways.

Research consortia were seen as offering opportunities to develop a critical mass of skilled researchers capable of contributing to focused programmes of research. They would create a learning environment in which novice researchers could be nurtured. Clinical/academic career pathways were defined as the key platform for the future development of nursing and midwifery research in Scotland. They would be based on high-quality research training at different career stages and would allow the nurse or midwife to maintain involvement in clinical practice through the creation of sustainable clinical/academic posts.

This commitment was further strengthened by the CSO in 2003 and the Scottish Executive and NES in 2005, which identified building capacity in nursing, midwifery and allied health professions research as a priority. A route-map for aspiring researchers has been presented, based on systematic, comprehensive training that prepares nurses to design, develop, deliver and evaluate their projects as part of a wider programme of focused research. It is recommended that this is best achieved by completing studies at PhD and post-doctoral levels.

6.6 Supra-national nursing-related research funding

The four UK health departments continue to have much in common and often address research issues through jointly developed or similar policies. The four UK higher education funding bodies also operate some joint programmes.

The UK Clinical Research Collaboration is a partnership involving the NHS, patient groups, the Medical Research Council, the Wellcome Trust, medical charities and industry. It oversees the extension of the research infrastructure in the NHS, co-ordinates and develops research career pathways, and co-ordinates clinical research funding. The first phase of its work on developing the research workforce is focusing on medicine, but the next phase will focus on nursing.

Research Councils UK is a strategic partnership through which the UK's eight research councils work together. The research councils are the main public investors in basic research in the UK. The Medical Research Council and the Economic and Social Research Council both fund research of relevance to nurses and nursing.

6.7 Hindering factors

Factors commonly presented as having a negative impact on the development of and quality of nursing research in Scotland are:

- a lack of senior research staff in many academic nursing departments in Scotland;
- lack of experienced PhD supervisors;
- a relatively young academic discipline;
- lack of multi-centre and international collaboration.

6.8 Contacts

Chief Scientist Office, Scottish Executive Health Department – www.show.scot.nhs.uk/cso/
Nursing, Midwifery and Allied Health Professions Directorate, Scottish Executive Health Department – www.show.scot.nhs.uk/sehd/
Council of Deans – www.councilofdeans.org.uk
Royal College of Nursing – www.rcn.org.uk

6.9 Key reports/policy documents and data sources

Auditor General (2002) *Planning Ward Nursing – Legacy or Design?* Edinburgh, Auditor General.

Buscher, A. Wagner, L. (2004) *Analysis of implementation of the Munich declaration*. Copenhagen, WHO Europe.

Chief Scientist Office (2003) *Research Strategy for Health and Healthcare*. Edinburgh, The Stationery Office.

Dowding, D. (2003) *Report to Scottish Further and Higher Education Funding Council and the Scottish Executive Health Department. Building research capacity and capability in nursing, midwifery and allied health professionals in Scotland*.

Scottish Executive/NHS Education for Scotland (2005) *Making Choices, Facing Challenges: developing your research career in nursing, midwifery and the allied health professions*. Edinburgh, SEHD.

Scottish Executive Health Department (2002) *Choices and Challenges: the strategy for research and development in nursing and midwifery in Scotland*. Edinburgh, SEHD.

6.10 Areas for development

- Develop the capacity, culture and infrastructure for nursing research.
- Increase the use of evidence-based practice.
- Enable nurses to influence the R&D agenda in NHS Scotland.
- Encourage an increase in R&D activity in all nursing and midwifery departments in HEIs in Scotland.
- Encourage intra-disciplinary, multi-disciplinary and inter-agency research collaboration.
- Enhance the quality and quantity of research applications submitted to funding bodies by nurses.
- Support and develop nursing research career pathways.

7 England Scoping Report

7.1 The nursing/research workforce

Figures on the numbers of nurses in England vary by source. There were 301,877 whole time equivalent (WTE) nurses employed in the NHS in 2004. The OECD report of 2003 suggested there were 9.7 nurses per 1,000 population, but the Department of health (DH) non-medical workforce census of the same year suggests 7.31, and work by Buchan (2005) suggests 5.9. Some variation may be due to differences in classification of health visitors and midwives, inclusion of bank and agency staff, and whether headcount or WTEs are used.

The National Health Service (NHS) is the major employer of nurses in England, although there have been significant policy drives towards a more mixed economy of health care and service provision. Student nurses currently undertake either diploma- or degree-level preparation. Degree programmes have more content on research and research methods.

There is extensive provision of Master's and doctoral programmes in nursing, with 32 universities offering PhD programmes. Nurse lecturers are expected to have a Master's degree and, increasingly, a PhD and to spend significant amounts of their time engaged in research and scholarly activity. The majority of nursing PhD students (36%) are funded by their institution, 22% are funded by strategic health authorities and NHS trusts, and 19% are self-funding. Ten per cent are funded by studentships from UK charities, research councils or central government.

The most recent figures available for the UK indicate a rapid expansion in PhD enrolments (mainly for part-time study), a rapid increase in research income secured by universities for research related to nursing, and a rapid increase in research-active staff in nursing departments (HEFCE, 2001). No studies have specifically explored the age and demographic characteristics of nurse researchers in England.

The DH employs a Chief Nursing Officer and a team of government nurses, one of whom has particular responsibility for research and development.

7.2 Research priorities and funding

UK government funding for health research is estimated at £1,700m, from the Higher Education Funding Councils (£400m), the Research Councils (£440m), the Department of Health (£680m) and other government departments (£180m). The pharmaceutical industry spends around £4,000m on R&D and charitable trusts spend a further £6,650m on clinical health research.

The *Department of Health (DH) England* is currently consulting on proposals for the future direction of health research. The proposals include:

- expanding research and development funding;
- simplifying the research funding structure into fewer, larger funding streams;
- creating new focused programmes of research funding in developing areas such as assistive technology;
- working more closely with stakeholders such as other government departments, the research councils and private and voluntary sectors;
- establishing a National Institute for Health Research;
- setting up topic-specific clinical research networks;
- establishing new academic medical research centres;
- establishing new research career posts and pathways.

At present, the DH spends approximately £150m annually on research and development to meet the priorities and needs of the NHS through its national research and development programmes. It is a significant funder of research related to nurses and nursing through the Policy Research Programme (PRP) and the Service Delivery and Organisation (SDO) programme. Its Health Technology Assessment (HTA) programme and the New and Emerging Applications of Technology (NEAT) programme also frequently commission projects that have implications for the profession and nursing practice.

The DH funds and supports nursing research in a variety of ways, including commissioned programmes, fellowships and support with research training, supporting a university-based centre of excellence, working with the Higher Education Funding Council for England (which funds universities) and leading on research and development strategy.

Nurses are represented in research policy decision-making at several levels and on commissioning panels. The Research Findings Electronic Register (ReFeR) is a database of the findings of research studies funded by the DH.

Current DH nursing R&D priorities

The DH issued 'Towards a Strategy for Nursing Research and Development: proposals for action' in 2000. The report summarised recommendations from a workshop organised by the DH, which brought together nurse leaders, researchers and academics to advise on the capacity for – and development of – research in nursing and midwifery.

It recommended that a coherent and sustained strategy was needed to ensure the nursing contribution to key health priorities is properly researched, evaluated and supported by robust evidence, and the research and development agenda is properly informed by nursing expertise. Three strategic objectives were identified:

- to enable the nursing profession to better influence the research and development agenda;
- to strengthen the capacity of the nursing profession to contribute to and undertake health services research;
- to help the nursing profession to better use research-informed and research-evaluated evidence to support professional practice.

The *Higher Education Funding Council for England (HEFCE)* distributes government money for teaching and research to universities in England. It provides funding to support the research infrastructure, including the salaries of permanent academic staff, premises, libraries and central computing costs. Funding is designed to:

- provide universities with a base from which to undertake research commissioned by other funders;
- offer flexibility to enable universities to react to emerging priorities and new fields of enquiry and develop facilities to train new researchers;
- enable the capacity to undertake groundbreaking research.

Increased funds have been awarded in the most recent funding round to university departments who have achieved a high-quality rating. HEFCE also has a research capability fund which supports research in emerging subject areas in which the research base is not strong, and nursing is identified as one of these disciplines. Nurses are represented on the board and in funding panels.

7.3 Nursing and related research funding

The *Department of Health Policy Research Programme (PRP)*

The purpose of the PRP is to provide a knowledge base for health services policy, social services policy and central policies directed at the health of the population as a whole.

The remit of the PRP extends across the range of responsibilities of the Secretary of State for Health, and the research portfolio encompasses:

- population studies of health and social well being;
- lifestyle issues;
- promotion of health;
- prevention of illness;
- environmental factors;
- social care for adults and for children;
- health service organisation;
- strategies for the health care of patients with particular diseases and conditions.

The PRP aims to help ensure that decision-making in the policy domain is informed by all available and robust scientific evidence. PRP work is commissioned to meet DH research needs identified in the course of policy work.

The PRP therefore serves policy customers, including the Chief Nursing Officer and her team who lead the strategic development of policy for nurses, midwives and health visitors. It seeks to inform policy development for nurses, midwives and health visitors with the best available research evidence by commissioning high-quality research that contributes to the practice and management of nursing and contributing to the national and international dissemination of its nursing research findings. Nursing-related research currently commissioned by the PRP includes projects such as:

- reviewing primary care nursing in prisons;
- how to improve the recruitment of South Asian people into nursing;
- the impact of benchmarking on bowel care in care home settings;
- how frontline staff can be empowered to deliver evidence-based practice;
- effective strategies for retaining older nurses in primary care;
- what makes a good 'first contact' nurse in primary care;
- nurses' use of new technology;
- a literature review to support the CNO review of mental health nursing.

The PRP also funds the Nursing Research Unit (NRU), based in the School of Nursing and Midwifery at King's College London. The NRU is the only nursing research unit in England that is core funded by the DH. The work of the NRU is carried out in two research programmes:

- lay and professional leadership of change;
- careers and working lives.

To ensure policy relevance, the PRP is prioritised, commissioned and managed as a collaboration between the Research and Development Directorate and departmental staff in other directorates with policy responsibilities. The PRP does not commission research in response to unsolicited proposals. Priorities for the programme are determined according to criteria of:

- ministerial priority and relevance to the goals, aims and objectives of the Department of Health;
- size and importance of the problem to be addressed in terms of actual or potential burden of disease and social condition;
- well-defined plans for introducing research results into current policy activity or the formulation of future policy;
- timeliness;
- feasibility of research;
- likely return on the investment in research;
- appropriateness and availability of other research budgets.

NHS R&D Service Delivery and Organisation (SDO) programme

The purpose of the SDO programme is to produce and promote the use of research evidence about how the organisation and delivery of services can be improved to increase the quality of patient care, ensure better strategic outcomes and contribute to improved health. It therefore commissions, synthesises and communicates existing research findings relating to the organisation and delivery of health services. A sub-group commissions nursing and midwifery research to support research and development in these disciplines. The SDO programme is based at the London School of Hygiene and Tropical Medicine in London.

Nursing research currently commissioned by the SDO includes:

- two projects exploring the extent and benefit of protocol-based care and the contribution of nurses, midwives and health visitors to this;

- the contribution of nurse, midwife and health visitor entrepreneurs to patient choice;
- evaluating the nursing, midwifery and health visiting contribution to models of chronic disease management.

The SDO programme commissioned a scoping exercise to inform its commissioning of nursing and midwifery research. This involved systematic consultation with service user representatives and other key stakeholders, supported by a literature and policy analysis to identify priorities for research funding in nursing and midwifery (Ross et al, 2002).

The SDO priority areas for commissioning nursing and midwifery research identified in this scoping exercise were:

- appropriate and timely interventions;
- individualised services;
- continuity of care;
- staff capacity and quality;
- user involvement and participation.

The consultation also recommended that attention be paid to research commissioning, capacity building, dissemination and implementation (Ross et al, 2002).

The NHS Health Technology Assessment (HTA) programme

The purpose of the HTA programme is to ensure that high-quality research information on the costs, effectiveness and broader impact of health technologies is produced in the most effective way for those who use, manage and provide care in the NHS. The National Co-ordinating Centre for HTA (NCCHTA), which is part of the Wessex Institute for Health Research and Development at the University of Southampton, co-ordinates the HTA programme on behalf of the Department of Health's Research and Development Division.

Each year, the HTA programme and its advisory panels, supported by the NCCHTA, decide on which of the many suggestions received from the NHS and its users should become research priorities. Input from the National Horizon Scanning Centre at the University of Birmingham also ensures the HTA programme is able to prepare for new health care technologies. Prioritisation of topics is performed by four HTA advisory panels:

- Diagnostic Technologies and Screening;
- Pharmaceuticals;
- Therapeutic Procedures;
- Disease Prevention.

Panels are assisted by briefing papers ('vignettes'), which review the extent of the health problem, outline existing or planned research, and clarify the research question. The HTA programme then issues calls for proposals and commissions research. By the end of July 2004, almost £102m had been allocated to 360 projects.

The results of HTA-commissioned research are published as reports in the HTA monograph series, which is indexed on Medline, EMBASE/Excerpta Medica, CINAHL, DARE and the Cochrane Library. Commissioning and publishing involve rigorous peer review and all projects under way are closely monitored.

A search of the HTA database reveals at least 32 projects directly relevant to nursing and nursing practice. These projects focus on issues such as:

- improving the effectiveness of inter-disciplinary care for people with stroke;
- cost effectiveness of endoscopy undertaken by nurses;
- extending nursing and midwifery roles in the routine examination of the newborn;
- the role of specialist nurses in multiple sclerosis.

New and Emerging Applications of Technology (NEAT) programme

The NEAT programme aims, through applied research, to promote and support the use of new or emerging technologies to develop health care products and interventions that will enhance the quality, efficiency and effectiveness of health and social care. Priorities for NEAT are new and emerging technologies relevant to:

- cancer;
- coronary heart disease and stroke;
- mental health;
- children's services;
- older people's services;
- waiting lists and times;
- modern primary care.

The programme involves initiatives in life and physical sciences and is open to all research providers in the academic and NHS communities. The annual budget is £1.2m.

A search of past and current NEAT projects revealed a few with direct relevance to nursing and nursing practice, such as a decision-support system for mental health risk screening and assessment and compression sleeves for managing lymphoedema of the arms.

Commissioning processes

Most NHS R&D commissioning in all programmes is done via open competitive tender, particularly for strategic initiatives and high-cost projects. Advertisements are usually placed in professional journals, the national press and on the DH, SDO and HTA websites.

7.4 Assessment of the quality of nursing research

The quality of nursing research is evaluated on a regular basis through the Research Assessment Exercise (RAE). The RAE is conducted nationally to assess the quality of research in universities and colleges in the UK. Results determine how higher education funding bodies distribute public funds for research selectively on the basis of quality. The most recent RAEs were carried out in 1996 and 2001, and the next is scheduled for 2008.

The results of the RAE are rated on a scale of: 1, 2, 3a, 3b, 4, 5, 5*. A rating of 5* represents 'quality (that equates to attainable levels) of international excellence in more than half of the research activity submitted and (attainable levels) of national excellence in the remainder.' A rating of 1 represents 'quality (that equates to attainable levels) of national excellence in none (or virtually none) of the research activity submitted.'

Nursing has its own unit of assessment (UoA 10), but nurse researchers may be entered into other units of assessment depending on the overall research strategy of individual higher education institutions (HEIs). Any analysis of RAE results consequently provides a limited insight into the true capacity and capability of nurse researchers.

In the 2001 RAE, 43 departments of nursing across the UK were submitted for assessment and a 5 rating was achieved by the University of Manchester, University of Newcastle, University of Sheffield and University of York. The majority of funding in these departments came from central government (71%), with 19% from charities.

Analysis of the results over the three RAEs indicates an increase in the number of academic nursing departments in England entering the RAE and an increase in the quality of research being produced.

The Centre for Policy on Nursing Research (CPNR) report (2001) identified that postgraduate student numbers in nursing were increasing, but that most are part time. The capacity to undertake nursing research is increasing, and the academic departments of nursing are generating increased research income.

English nurse academics are members of the Workgroup of European Nurse Researchers and the International Network for Doctoral Education in Nursing.

7.5 Government interventions to build capacity in the nursing research workforce

The Research Capacity Development programme provides personal awards and funds academic infrastructure to support research capacity development within the NHS through the provision of appropriate training, support and secure career opportunities. It is funded by the DH Research and Development programme and is administered by the National Co-ordinating Centre for Research Capacity Development (NCCRCD).

There are three main types of personal awards: post-doctoral awards, researcher development awards to fast-track individuals of outstanding potential through PhD programmes, and career scientist awards which provide funding for research leaders to undertake programmes of research. The DH is particularly committed to building research capacity in the nursing, midwifery and health-visiting workforce and there is some protected short-term funding for nurses.

7.6 Supra-national nursing-related funding

The four UK health departments continue to have much in common and often address research issues through jointly developed or similar policies. The four UK higher education funding bodies also operate some joint programmes.

The UK Clinical Research Collaboration is a partnership involving the NHS, patient groups, Medical Research Council, Wellcome Trust, medical charities and industry. It oversees the extension of research infrastructure in the NHS, co-ordinates and develops research

career pathways and co-ordinates clinical research funding. The first phase of its work on developing the research workforce is focusing on medicine, but the next will focus on nursing.

Research Councils UK is a strategic partnership through which the UK's eight research councils work together. Research councils are the main public investors in basic research in the UK. The Medical Research Council and the Economic and Social Research Council both fund research of relevance to nurses and nursing.

7.7 Hindering factors

Factors consistently reported to be likely to have a negative impact on the development of and quality of nursing research in England include:

- a lack of dedicated nursing research monies;
- nursing's poor record of success in successfully competing for generic research monies;
- the emphasis on teaching rather than research in many university departments of nursing;
- the lack of a dedicated research career pathway;
- capacity in and sustainability of the nursing research workforce.

7.8 Contacts

Department of Health – www.dh.gov.uk/Home/fs/en

Council of Deans – www.councilofdeans.org.uk

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7.10 Areas for development

- Develop a new strategy for nursing research in England.
- Maintain dedicated programmes of funding for nursing research in the form of grants, fellowships and commissioned work.
- Enable the nursing profession to better influence the research and development agenda.
- Continue to strengthen the capacity of the nursing profession to contribute to and undertake health services research through representation on priority setting and commissioning panels and the development of appropriate research career pathways.
- Encourage nursing involvement in multi-disciplinary and inter-professional research.

8 Northern Ireland Scoping Report

8.1 The nursing/research workforce

Figures on the numbers of nurses in N. Ireland vary by source, and the Health and Personal Social Services (HPSS) is the major employer of nurses. Figures from the HRIS suggest there are 12,634 nurses employed in the HPSS in N. Ireland and 7.4 nurses per 1,000 population.

All new pre-registration programmes in N. Ireland equip nurses with a degree. Programmes have an extensive research and research methods component. Master's and doctoral programmes in nursing are provided at both universities. Nurse lecturers are expected to have Master's degrees and, increasingly, PhDs and to spend significant amounts of their time engaged in research and scholarly activity. There are thought to be 20 nurses with PhDs in N. Ireland (unconfirmed) and the majority of post-doctoral nurses work in universities.

There is a Chief Nursing Officer and a small team of government nurses. The Central Nursing Advisory Committee of the Department of Health, Social Services and Public Safety has identifying areas for research as one of its objectives. There is a nurse in the government R&D Office – the Programme Manager for Nursing – with responsibility for liaison and development of nursing research. One of the key functions of this post is to build R&D capacity within the nursing professions, focusing on the provision and uptake of research training for nurses, midwives and health visitors currently working in the HPSS.

8.2 Research priorities and funding

Power to run Northern Ireland's domestic affairs (including health) was devolved from the UK Parliament in Westminster to the Northern Ireland Assembly (NIA) and its Executive Committee of Ministers in 1999. The NIA was suspended on 14 October 2002 and currently the UK Secretary of State for Northern Ireland, assisted by his team

of N. Ireland Office Ministers, has assumed responsibility for the direction and control of the Northern Irish departments, including health.

The *Department of Health, Social Services and Public Safety (DHSSPS)* administers the business of health and personal social services, public health, and public safety in N. Ireland, which includes legislation and policy for hospitals and community health services. Health and social services are integrated and delivered jointly under the umbrella of Health and Personal Social Services (HPSS).

The R&D Office was established in 1998 and is a directorate of the Northern Ireland Health and Personal Social Services Central Services Agency. It was established to promote, co-ordinate and support R&D within the HPSS. Its remit encompasses the research needs of the DHSSPS and all sectors of health and social care within N. Ireland. The R&D Office provides an overall strategic direction for HPSS R&D and liaises with national statutory bodies and health-related organisations. At operational level, the R&D Office supports a wide range of R&D initiatives, from education and training to direct commissioning.

Most commissioned research comes from a top-down directed programme of R&D, primarily concerned with research that supports development of policy or commissioning of HPSS services. The programme is intended to fund research directly relevant to organisational needs, especially in high-priority areas and areas undergoing major policy change. There are currently three main programmes: investing for health, targeting social need, and antimicrobial resistance action plan (AMRAP).

The R&D Office currently supports one core-funded unit, the Institute of Child Care Research (ICCR), which was established in 1995 and is based at Queen's University Belfast. ICCR's aim is to influence the development of childcare policy and practice through identifying and conducting high-quality research and promoting the use of the best available findings. One health visitor is currently employed in this unit.

The *Department for Employment and Learning (DEL)* is the principal funder of university research in N. Ireland. The DEL takes advice from the N. Ireland Higher Education Council. Most of DEL funding is distributed on the basis of the quality and volume of research undertaken by universities, as determined by their Research Assessment Exercise (RAE) scores.

8.3 Nursing and related research funding

Recognised Research Groups (RRGs) have been developed to enhance good-quality research while creating a more vibrant research culture, with increased multi-disciplinary working and co-operation. RRGs have been established in the following areas:

- cancer;
- child health and welfare;
- endocrinology and diabetes;
- epidemiology;
- neuroscience;
- trauma and rehabilitation;
- infectious diseases.

These groups bring together a critical mass of researchers working in a common area, with a clear focus on producing high-quality rigorous research that will impact on the health of the N. Ireland population. Each group consists of a number of principal investigators (PIs) leading individual research programmes. Nursing currently has one PI, in the Endocrinology and Diabetes Group, and two joint PIs in the Trauma and Rehabilitation Group.

Another key function of the RRGs is to provide a nurturing and critical environment for successful research and research training, and a large number of nurses are employed within the 74 research programmes, which make up the RRGs.

There is also a small grant scheme intended to provide opportunities for researchers to begin the acquisition of grants. It is targeted at professions starting from a low R&D base and reflects the funding gap that exists for these groups at post-doctoral level. The scheme was run for the first time in 2003 and resulted in five grants being awarded, two of them to nurses. One nurse is investigating the perception and experience of patients, nurses and oncologists of the health care needs of patients with cancer at the outpatient review clinic, and the other is looking at an experimental intervention for patients awaiting coronary artery bypass surgery with exploration of associated outcomes. Projects for the second round of applications are currently being evaluated.

8.4 Assessment of the quality of nursing research

The quality of nursing research is evaluated on a regular basis through the Research Assessment Exercise (RAE). The (RAE) is conducted nationally to assess the quality of research in universities and colleges in the UK. Results determine how higher education funding bodies distribute public funds for research selectively on the basis of quality. The most recent RAEs were carried out in 1996 and 2001, and the next is scheduled for 2008.

The results of the RAE are rated on a scale of: 1, 2, 3a, 3b, 4, 5, 5*. A rating of 5* represents 'quality (that equates to attainable levels) of international excellence in more than half of the research activity submitted and (attainable levels) of national excellence in the remainder.' A rating of 1 represents 'quality (that equates to attainable levels) of national excellence in none (or virtually none) of the research activity submitted.'

Nursing has its own unit of assessment (UoA 10), but nurse researchers may be entered into other units of assessment depending on the overall research strategy of individual higher education institutions. Any analysis of RAE results will therefore provide only limited evidence about the true capacity and capability of research within departments, but nevertheless provides a useful insight into capacity and capability.

In the 2001 RAE, only one Northern Irish university, the University of Ulster, submitted. It was awarded a 4 rating.

The R&D Office has recently conducted a research project in partnership with the Northern Ireland Practice and Education Council for Nurses and Midwives (NIPEC). The overall aim was to map progress within nursing and midwifery in relation to R&D since the publication of the position paper 'Using and Doing Research' (McKenna and Mason 1998) and, through engagement with key stakeholders, identify new priorities to further develop nursing and midwifery R&D. The specific objectives were to:

- conduct a comprehensive literature analysis of national and international sources relating to key issues for nursing and midwifery R&D;
- develop a R&D Best Practice Framework, identifying key criteria for developing the nursing and midwifery research agenda;
- benchmark progress of selected stakeholder organisations against the R&D Best Practice Framework;
- identify examples of good practice in relation to R&D activity;

- explore issues from the benchmarking exercise with targeted key stakeholders;
- identify key priority areas for the next 3-5 years.

The findings resulted in a series of recommended action plans, which identify what the issue is, how the issue can be moved forward, and who should be involved in implementation. The published report was launched on 12 October 2005.

8.5 Government interventions to build capacity in the nursing research workforce

The Health and Personal Social Services (HPSS) R&D Strategy, 'Research for Health and Wellbeing', recognised the importance of education and training opportunities in increasing capacity in the nursing research workforce. The R&D Office funds a variety of bursaries, fellowships and studentships for this purpose. All awards are open to HPSS staff and staff working in voluntary/not-for-profit organisations involved in health and social services provision. The personal bursary scheme provides funding for postgraduate diploma-level research courses (including *Mres/MclinRes*) or research modules within a postgraduate degree/diploma programme. Short courses of training in specific research methods or visits associated with training in research methods are also eligible under the bursary scheme. Fellowships provide full salary costs and research expenses for MPhil and PhD study. Health and social care services studentships are awarded to universities and pay students a stipend. Nurses have been successful in accessing these awards at all levels— in 2005, for example, three of the nine doctoral fellowships and one of the four MPhil fellowships were awarded to nurses.

8.6 Supra-national nursing-related research funding

The N. Ireland HPSS R&D Office and the Irish Health Research Board offer responsive-mode funding for Ireland-Northern Ireland co-operation research project grants. This 'North/South Scheme' aims to stimulate co-operation among research investigators in Ireland and Northern Ireland by providing grant support for high-quality, joint health care-related research projects. A total of five rounds of this scheme have been held, funding some 20 research projects, of which one, investigating the contextual indicators impacting on effective proactive continence management in rehabilitation settings for older people, is led by two professors of nursing.

The N. Ireland HPSS R&D Office and the Irish Health Research Board, in conjunction with their respective government departments, provide funding to support systematic review training on the island of Ireland – the Cochrane Fellowships scheme. The Department of Health and Children of Ireland, the Department of Health, Social Services and Public Safety of N. Ireland, and the National Cancer Institute of the US Department of Health and Human Services established a multilateral partnership in October 1999 to intensify co-operation in cancer treatment and research that will lead to improved scientific programmes in each country. The goal of the consortium is to reduce the incidence of cancer in both parts of Ireland, which have high rates of cancer compared to many other Western countries.

After a recent review of their awards portfolio, the Department of Health (England) National Co-ordinating Centre for Research Capacity Development now offers a series of generic personal awards at three levels – researcher development, post-doctoral and career scientist awards. Nurses in N. Ireland are eligible to make applications to this scheme through the R&D Office, but to date, no nurses in N. Ireland have been successful in obtaining awards.

The four UK health departments continue to have much in common and often address research issues through jointly developed or similar policies. Details of ongoing and recently completed research projects funded by, or of interest to, the United Kingdom's National Health Service (NHS) are held in the National Research Register. The four UK higher education funding bodies also operate some joint programmes.

The UK Clinical Research Collaboration is a partnership involving the NHS, patient groups, the Medical Research Council, the Wellcome Trust, medical charities and industry. It oversees the extension of the research infrastructure in the NHS, co-ordinates and develops research career pathways and co-ordinates clinical research funding. The first phase of its work on developing the research workforce is focusing on medicine, but the next phase will focus on nursing.

Research Councils UK is a strategic partnership through which the UK's eight research councils work together. The research councils are the main public investors in basic research in the UK. The Medical Research Council and the Economic and Social Research Council both fund research of relevance to nurses and nursing.

8.7 Hindering factors

Factors regularly identified as likely to be having a negative impact on the development of and quality of nursing research in N. Ireland are:

- the small size of the country and small national research budget;
- low numbers of research-active nurses;
- lack of awareness of funding and training opportunities among nurses.

8.8 Contacts

Department of Health, Social Services and Public Safety – www.dhsspsni.gov.uk

R&D Office for the Health and Personal Social Services –
www.centralservicesagency.n-i.nhs.uk/display/rdo_rd_office

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8.10 Areas for development

- Increase the numbers of research-active nurses.
- Increase research income.
- Increase awareness of funding and training opportunities among nurses.
- Encourage nursing applications for research funding.
- Increase the quality of research outputs and target journals with high citation indices.
- Increase the numbers of postgraduate research students.
- Increase cross-border (between N. Ireland and the Republic of Ireland) and international collaboration among nurse researchers.

9 Wales Scoping Report

9.1 The nursing/research workforce

There are reported to be 28,814 nurses and midwives in Wales. The number of nurses per 1,000 population is 6.6. The NHS is the major employer of nurses and midwives, employing 20,386 WTEs.

Since 2005, all pre-registration programmes in Wales equip nurses with a degree, which includes research and research methods components. There is also extensive provision of Master's and doctoral programmes in nursing. Investment has been made in consultant nurse and midwife posts, holders of which have a specific responsibility for undertaking and/or collaborating in research in their specialty.

Nurse lecturers are expected to have a Master's degree and, increasingly, a PhD and to spend significant amounts of their time engaged in research and scholarly activity. The most recent figures available for the UK indicate a rapid expansion in PhD enrolments (mainly for part-time study), a rapid increase in research income secured by universities for research related to nursing, a rapid increase in research-active staff in nursing departments (HEFCE, 2001) and nurses undertaking research in specialty departments. There have been no specific studies exploring the age and demographic characteristics of nurse researchers in Wales.

All nursing education in Wales is integrated into the higher education sector. The majority of nurse lecturers are funded through NHS contract monies, which does not provide funds for engaging in research. The *Higher Education Funding Council for Wales* is a non-departmental public body responsible to the Welsh Assembly Government. It provides financial support for teaching, research and associated activities in Welsh higher education institutions (HEIs). All nursing education funded by HEFCW contains funds dedicated for research. This includes monies to departments following the Research Assessment Exercise (RAE) in 2001.

There is a Chief Nursing Officer for Wales and a small team of government nurses and secondees take forward issues related to nursing and midwifery.

9.2 Research priorities and funding

The Wales Office of Research and Development for Health and Social Care (WORD) is a branch of the Strategy Unit in the Health and Social Care Department of the Welsh Assembly Government. The strategic aim of WORD is to ensure that policy and practice in health and social care in Wales are underpinned by evidence. To meet this aim, WORD, in consultation with partners, develops policy on R&D to reflect the health and social care priorities of the National Assembly for Wales. These priorities currently are:

- children and young people;
- older people;
- mental health;
- service quality;
- patient and public involvement.

WORD also commissions and directly funds R&D activity and contract-manages projects and initiatives. There is currently no dedicated funding stream for nursing research, although some of the research WORD commissions relates to, and is likely to have an impact on, nursing practice and nurses.

Findings from research funded by WORD and information about current WORD initiatives are available on its website (www.word.wales.gov.uk/index.htm).

Chief Nursing Officer and other central government initiatives

A working group set up by the Chief Nursing Officer set out a strategy in 2004 to achieve an increase in the research capacity of the nursing, midwifery and health visiting professions in Wales. This would be achieved by producing a critical mass of career researchers and research-competent clinicians, and by enabling practitioners to evaluate research findings so that knowledge derived from research informs service developments and the delivery of care. The report notes that funding and resources are crucial in realising the potential of nursing, midwifery and health visiting research.

The following goals were identified:

- a robust infrastructure at national level to support R&D in nursing, midwifery and health visiting in Wales, and a strategic level body to steer developments;
- a research workforce capable of delivering high-quality research, together with a range of innovative education programmes that develop and heighten research skills in the area of application, assessment, implementation and evaluation;
- flexible career pathways that enable nurses, midwives and health visitors to integrate research into practice and/or pursue a role in R&D;
- a supportive culture and a clearly defined infrastructure in all health and higher education organisations in which evidence-based practice can thrive;
- full participation of nursing, midwifery and health visiting in strategic decision making concerning all aspects of health and social care R&D that are of relevance to these professions;
- equity of access across Wales for nurses, midwives and health visitors to resources and skills needed to support and sustain R&D.

Health Professions Wales (HPW) is a non-departmental public body sponsored by the Welsh Assembly Government, which develops standards to ensure the quality of education and training for nurses in Wales. It offers a number of research training fellowships each year.

The *Welsh Nursing Academy* is an independent organisation that was supported in its establishment by HPW and was launched in March 2005. It aims to 'serve the public and the nursing professions in Wales by advancing health policy and practice through the generation, synthesis and dissemination of nursing knowledge.'

9.3 Nursing and related research funding

WORD held a conference to launch a new work programme on 28 April 2005.

The programme is based on the strategic framework, 'A Health and Social Care Research and Development Strategic Framework for Wales' (WORD, 2002). Although there is no dedicated nursing research funding stream, the work programme contains a number of initiatives that offer opportunities to researchers in nursing.

These include:

- a new responsive research funding scheme for 'career researchers';
- a large investment in infrastructure development and capacity building which has at its core the creation of a number of thematic and sectoral research networks;
- the availability of a small number of nursing research scholarships (in collaboration with the Health Foundation);
- opportunities for Welsh Assembly Government policy officials to work with WORD to commission research through a contract held with the All-Wales Alliance for Research and Development (AWARD).

In addition, WORD supports research and development activity in NHS trusts through the NHS Provider Support scheme. Provider support accounts for almost two thirds of WORD's annual programme budget (which currently stands at £21m).

Some NHS trusts offer small grants funding for which nurses have successfully applied.

9.4 Assessment of the quality nursing research

The quality of nursing research is evaluated on a regular basis through the Research Assessment Exercise (RAE). The (RAE) is conducted nationally to assess the quality of research in universities and colleges in the UK. Results determine how higher education funding bodies distribute public funds for research selectively on the basis of quality. The most recent RAEs were carried out in 1996 and 2001, and the next is scheduled for 2008.

The results of the RAE are rated on a scale of: 1, 2, 3a, 3b, 4, 5, 5*. A rating of 5* represents 'quality (that equates to attainable levels) of international excellence in more than half of the research activity submitted and (attainable levels) of national excellence in the remainder.' A rating of 1 represents 'quality (that equates to attainable levels) of national excellence in none (or virtually none) of the research activity submitted.'

Nursing has its own unit of assessment (UoA 10), but nurse researchers may be entered into other units of assessment depending on the overall research strategy of individual HEIs. Any analysis of RAE results will therefore provide only limited evidence about the true capacity and capability of research within departments, but nevertheless offers a useful insight into capacity and capability.

In the 2001 RAE, 43 departments of nursing across the UK were submitted for assessment and the University of Wales, Cardiff achieved a 4 rating. The Universities of Swansea and Glamorgan achieved a 3b. Two universities in Wales with departments of nursing did not submit to the UoA 10 unit of assessment.

9.5 Government interventions to build capacity in the nursing research workforce

A scoping exercise was commissioned in 2005 as part of WORD's infrastructure development programme. It looked at existing research networks and the feasibility of developing an all-Wales research network to support capacity and capacity building in Wales. WORD is currently seeking applications from groups who wish to apply for full research network status as part of broader infrastructure development. This is a competitive process that will result in initial three-year grant awards for all successful applicants.

WORD, in collaboration with the Health Foundation (a charity), funds a small number of nursing research scholarships (£200,000 from the Health Foundation and £450,000 from WORD).

The *All-Wales Alliance for Research and Development (AWARD)* is a multi-disciplinary network of academics with a strong record of health and social care research leading to improvements in practice and service provision. The network's members have a range of methodological expertise, which includes qualitative and quantitative methods, trial design and health economics. AWARD is part of the new investment in the R&D infrastructure in Wales. It has been commissioned by WORD, following an open and competitive tendering process, to provide a range of research services across the new infrastructure and to key customers such as Welsh Assembly Government policy officials and NHS trusts. AWARD aims to raise the profile of Welsh R&D in health and social care by:

- attracting new research funds into Wales;
- undertaking high-quality research that is relevant to national priorities for improving health and well being;
- publishing findings in peer-reviewed journals that are influential and are respected by academics and practitioners in Wales and internationally.

9.6 Supra-national nursing-related research funding

The four UK health departments continue to have much in common and often address research issues through jointly developed or similar policies. Details of ongoing and recently completed research projects funded by, or that are of interest to, the United Kingdom's National Health Service (NHS) are held in the National Research Register. The four UK higher education funding bodies also operate some joint programmes.

The UK Clinical Research Collaboration is a partnership involving the NHS, patient groups, the Medical Research Council, the Wellcome Trust, medical charities and industry. It oversees the extension of clinical research infrastructure in the NHS, co-ordinates and develops research career pathways and co-ordinates clinical research funding. The first phase of its work on developing the research workforce is focusing on medicine, but the next phase will focus on nursing.

Research Councils UK is a strategic partnership through which the UK's eight research councils work together. The research councils are the main public investors in basic research in the UK. The Medical Research Council and the Economic and Social Research Council both fund research of relevance to nurses and nursing.

9.7 Hindering factors

The scoping study carried out for WORD by Kenkre et al (2005) identified the following as factors that were hindering the development of nursing research in Wales:

- lack of a comprehensive register of research activity in nursing;
- lack of dedicated funding for research and development in nursing;
- contradictory agendas;
- lack of confidence among nurses and negative attitudes of other multi-disciplinary team members;
- lack of protected time for nurse academics and clinicians to undertake research;
- lack of management support and mentorship;
- lack of appropriate and flexible career pathways including ways to fast-track nurses into research;
- insufficient availability of funding for PhD scholarships and research training fellowships.

9.8 Contacts

Wales Office of Research and Development for Health and Social Care –
www.wales.gov.uk/subihealth www.word.wales.gov.uk
Health and Social Care Department of the Welsh Assembly Government
Council of Deans – www.councilofdeans.org.uk
Royal College of Nursing – www.rcn.org.uk

9.9 Key Reports/Policy documents and Data Sources

Buchan, J. (2005) *RCN Nursing Labour Market Commentary 2004/5*. Edinburgh, Queen Margaret University College.

ELWa (2002) *Research Assessment Exercise: Outcomes from the Welsh HE Sector*.
WO2/13HE

HEFCE (2001) *Research in Nursing and the Allied Health Professions: a report to Task Group 3*. Bristol, HEFCE.

Higher Education Funding Council Wales (2000) *Review of Research Policy*. WOO/08HE.
Cardiff, HEFCW.

Kenkre, J. et al (2005) *Scoping Study: a Research and Development Network for Nurses, Midwives and Health Visitors*. Cardiff, WORD.

National Assembly for Wales (1999) *Realising the Potential: a strategic framework for nursing, midwifery and health visiting for the 21st Century*. Cardiff, NAW.

Welsh Assembly Government (2004) *Realising the Potential: a strategic framework for nursing, midwifery and health visiting for the 21st Century. Briefing Paper 6 Achieving the potential through research and development*. Cardiff, WAG.

WORD (2002) *A Health and Social Care Research and Development Strategic Framework for Wales: a consultation document*. Cardiff, WORD.

9.10 Areas for development

- Develop a research network for nursing, midwifery and health visiting in Wales.
- Develop a comprehensive register of research activity in nursing.
- Develop nurse leaders in research to lead innovation initiatives to ensure future care is effective and efficient.
- Ensure protected time for nurse academics and clinicians to undertake research.
- Develop appropriate and flexible career pathways, including ways to fast-track nurses into research.
- Ensure that research becomes a core part of every nurse's continuing professional development.

10 Denmark Scoping Report

10.1 The nursing/research workforce

According to the Analysis of Country Reports published by WENR, the number of nurses in Denmark in 2003 was 52,597 and the number of midwives 1,312. The approximate number of nurses per 1,000 population was 10.

Nurses are for the most part (approximately 93.4%) employed by the government. (WENR 2003).

Further higher education website searches showed that Danish nursing students spend 24 months at college and 18 months in the clinical field. Nursing education programmes are offered at 21 schools of nursing throughout the country and in a number of hospitals through agreements with the schools. Education for Danish students is financially supported by the Danish government. There are many opportunities for specialisation and further study with four specialisation areas that require additional qualifications: anaesthetic nursing, intensive care nursing, psychiatric nursing and hygienic nursing.

The approximate number of PhD nurses in Denmark is 40, with 300 MScs. The School of Advanced Nursing Education at Aarhus University offers programmes in education, management, infection control and nursing science. It is the only university in Denmark to offer graduate programmes in nursing.

Data about the numbers of active researchers and their demographic profiles are not available.

Denmark has no Chief Nursing Officer.

10.2 Research priorities and funding

Nursing and midwifery research has had a defined role in Denmark since 1975. It receives medium priority within research programmes. The *Ministry of Science, Technology and Innovation* bears overall responsibility for research policy and designs research strategies. Danish universities operate under the jurisdiction of the ministry.

Denmark spent 2.61% of GDP on research in 2003 and lies in the top third of European countries in relation to R&D spending as a percentage of GDP. Most of the rise in R&D expenditure has arisen through increased private investment. R&D in public institutions amounts to around 0.8% of GDP (2003 figures). The health sciences are allocated 13% of R&D expenditure. Danish university institutions received 47% of the R&D grant of the Financial Act in 2003, while Danish government research institutions received 13%.

The *Danish Council for Independent Research* is the governing body of five research councils, one of which is for health and disease. Nurses can compete for funds from the council, but competition is tough, with research funding tending to be science driven. Very few nursing research projects have received funding through the council. The Danish Council for Strategic Research ensures the implementation of research in politically prioritised areas. It has no competence to give grants and works through ad hoc programme committees for each politically chosen theme. There is currently one programme committee for welfare research.

The *Danish Nurses' Organisation (DNO)* is the nurses' professional association. DNO plays an important role in basic, specialist, continuing and advanced education for nurses and in health policy. It has published a national strategy for nursing research 2005-2010 which is independent of government involvement. The English-language version of the strategy was not available at the time of publication of this report, but will be in the future. No government-sponsored national strategy for nursing research strategy has been produced.

The *Danish Nursing Research Foundation*, which was founded by the Danish Nursing Research Society, is a private foundation that supports Danish nursing research.

The board of the *Nursing Research and Care Centre of the University Hospitals (UCSF)* consists of a panel of scientific experts who fund nursing research on behalf of a private concern, the Lundbeck Foundation. The Novo Nordisk Foundation is another private

concern that supports Danish clinical nursing research – other private foundations do likewise.

Nurses also receive local public funding for nursing research from hospitals and counties, which are responsible for the hospitals.

The *Danish National Research Foundation* is an independent foundation whose primary strategy is to set up and fund centres of excellence. The foundation can fund research until the end of 2013. Funds are distributed in open competition, with the board basing all final decisions on international peer reviews. The foundation has not funded any nursing-related centres of excellence to date.

10.3 Nursing and related research funding

The Ministry of Science, Technology and Innovation has no specific funding programme for nursing. The average yearly spend for nursing research projects at the Danish Research Agency is very low. The Nursing Research Foundation has an annual budget of €4,000, and the Lundbeck Foundation and Novo Nordisk Foundation each has an annual budget of €100,000. Research funds from the Copenhagen Hospital Corporation amount to €260,000 specifically allocated for nursing research. The County of Aarhus, the County of Northern Jutland, the Copenhagen County and the County of Fuen provide a total of €1.1m funding for research, but this is not specific to nursing. The Danish Cancer Society, Danish Heart Association, Health Insurance Foundation and the Velux Foundation altogether provide €1.5m, but again, this is not specific to nursing research.

The Danish Nurses Organisation provides €200,000 through 3-4 PhD grants.

Research projects are carried out at the University of Copenhagen, the University of Aarhus, Aalborg University, University of Southern Denmark and the Nursing Research and Care Centre of the University Hospitals (UCSF). Topics researched are traditional nursing research areas, with a strong emphasis on care of older people, cancer and advances in health.

There is no national database in Denmark for nursing research findings.

10.4 Assessment of the quality of nursing research

The DNO journal *Sygeplejersken* is received by approximately 95% of Danish nurses and the Novo Nordisk Foundation publishes a journal called *Nursing Science and Research*. Both publish peer-reviewed research in Danish with English abstracts. The Novo Nordisk Foundation journal *Vård I Norden* publishes in Norwegian, Swedish, Danish and English, with abstracts in English.

There were no presentations by Danish nurses at the fifth European Doctoral Conference in Nursing Science in October 2004.

10.5 Government interventions to build capacity in the nursing research workforce

Broad political consensus on research was reached in May 2000. It was agreed that succession planning for public and private research must be ensured through research training, that cutting-edge research must be stimulated through co-operation across institutions, disciplines and industry, and that universities and the Danish research councils must ensure a stable financial framework. The Danish government decided that universities must improve the quality and relevance of their research, education and dissemination of knowledge, partly through closer co-operation with the communities they serve.

10.6 Supra-national nursing-related research funding

The Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) have a long tradition of international cooperation in R&D. The Nordic countries held a symposium in 1995 to define priorities in nursing/caring science. It recommended the following topics:

- promotion of health and well-being across the lifespan of the individual;
- symptom management;
- care of older people;
- cost-effectiveness evaluation;
- restructuring health care systems;
- self management of health and illness;
- development of knowledge from theoretical/philosophical perspectives.

A 2001 Nordic Academy of Nursing Science symposium on knowledge development in nursing/caring recommended more meta-analysis, concept analysis and theoretical studies.

Nordforsk was established on 1 January 2005. It is an independent institution operating under the Nordic Council of Ministers and has responsibility for encouraging Nordic co-operation within research and research training. It replaced the Nordic Academy for Advanced Study (NORFA), which used to award scholarships for study at Scandinavian research institutions and fund health-related research, usually in collaboration with others.

The Nordic Medico-Statistical Committee (NOMESCO) was set up in 1966 following a recommendation from the Nordic Council. The committee was made a permanent statistical committee under the Nordic Council of Ministers in 1979, with separate funding from the Nordic Committee on Social Policy. The committee has a permanent secretariat in Copenhagen. NOMESCO aims to:

- be responsible for the co-ordination of health statistics in the Nordic countries;
- initiate new projects related to health statistics;
- publish annual statistics and the results of special projects and surveys;
- co-ordinate and take part in international statistical collaborations, including activities in the Baltic countries.

Reported research priorities for the Nordic countries as a group are:

- health promotion and disease prevention;
- evidence-based practice;
- care of older people;
- cost-effective care

10.7 Hindering factors

It has been difficult to gather information on factors that hinder nursing research in Denmark. Reports suggest:

- immense competition for external research funds;
- problems in attracting and keeping good, young researchers and research teams;
- difficulties in attracting students to university courses.

10.8 Contacts

Danish Ministry of Science, Technology and Innovation

Danish Research Agency

Danish Nursing Research Foundation

Nursing Research and Care Centre of the University Hospitals (UCSF)

Danish Nursing Research Society

10.9 Areas for development

- Develop clinical nursing.
- Increase the number of nurses completing Master's and PhD programmes.
- Improve patient involvement in health services planning/delivery/research.
- Establish continuity of care across organisational and professional boundaries.
- Implement the Danish Nurses' Organisation's strategy for education and financing of research.

11 Finland Scoping Report

11.1 The nursing/research workforce

In 1999, Finland was reported to have the highest number of nurses per capita in Western Europe. OECD figures reported that there are 18.5 nurses (including public health nurses, midwives, head nurses and practical nurses) per 1,000 population in Finland. These figures, however, included retired nurses and nurses working in other sectors; Finland will only report the number of nurses in employment from 2005.

Headcount for 2003 was estimated to be 48,800, which would equate to about 9.4 nurses per 1,000 population. This figure included private and public sector-employed nurses and nurses, public health nurses and midwives who had completed a four-year university-level education. There were also approximately 6,000 head nurses/ward sisters based in nursing education, giving a total of 54,800 qualified nurses in 2003.

Roughly 95% are employed in the public sector, with 90% in health settings and the remaining 10% in social services (homes for older people, for instance). There are also 'practical nurses' in Finland who undertake a shorter education. There were estimated to be 29,900 practical nurses working in the public sector in 2003, more than half (51%) in social services, with the remainder in the health sector.

Pre-registration education of nurses is funded by the Ministry of Education and is offered in polytechnics. Nursing education and research entered universities in 1979 and polytechnics in the mid 1990s. The pre-registration nurse education programme is 3.5 years in duration. It takes four years of study to become a public health nurse, and 4.5 years to become a midwife. The degree awarded is a professionally oriented higher education degree, comparable to a Bachelor's degree.

A variety of post-registration programmes is available in specialties such as nursing older people, mental health nursing, family nursing and medical-surgical nursing, with courses in

leadership and management. Both pre- and post-registration programmes include research appreciation and research methods. Completion of a Master's degree in university is an essential prerequisite for registering for a PhD programme.

Nurse teachers/lecturers in polytechnics are expected to hold a Master's degree and principal lecturers to have a licentiate (PhLic) or doctorate. Most teachers in universities have a doctorate. Four Finnish universities currently have departments of nursing and caring sciences. Figures from 2005 show that over 200 doctoral theses have been published, approximately 200 nurses are currently undertaking PhDs (the majority part time), and more than 2,500 nurses have Master's degrees. Most nurses undertaking PhD studies in Finland register for a degree in Nursing Science.

There are four senior nursing officers in the Ministry of Social Affairs and Health.

11.2 Research priorities and funding organisations

The *Science and Technology Policy Council of Finland* is the highest agency responsible for R&D policy. The council is chaired by the Prime Minister and sets the direction for all R&D policies, including those for ministries and sectoral R&D organisations. Overall science policy is the responsibility of the *Ministry of Education*, which also retains national responsibility for EU R&D activities. Finnish science policy aims to effect a substantial increase in research funding and maintain the GDP share of R&D (currently over 3%) to strengthen basic research, researcher training and research infrastructure, promote research careers and boost social innovation. International networking and collaboration are positively encouraged.

The *Ministry of Social Affairs and Health* holds the general responsibility for R&D in health and health care. Broadly, the policy trend is towards larger research programmes based on well-defined social and health policy-orientated questions. The Finnish Government's 'Resolution on Health 2015' public health programme outlines targets for Finland's national health policy, with the main focus for services and research being health promotion.

The key objectives of Finnish science policy are to raise standards of research, increase its international visibility and improve its scientific impact. The *Academy of Finland* is the major public funder of research. Its main function is to promote and enhance

the quality of basic research in Finland through selective long-term research funding allocated on a competitive basis. It also undertakes systematic evaluations and influences science policy.

Finland's research and development spending in 2004 was 3.4% of GDP. The Academy of Finland made almost €208m research funding available, which equates to approximately 14% of the Finnish government's total research spend. The academy's main instruments for supporting Finnish research include research project funding open for general application, research programmes, centres of excellence programmes and support for promoting professional research careers, including support for post-doctoral researchers and researcher training abroad. Virtually all research projects involve international co-operation, researcher training and work abroad. The academy provides grants through the Finnish Postgraduate School of Nursing for PhD training for nurses.

The *Research Council for Health* is one of the academy's four research councils. It is responsible for implementing the academy's strategy for health research. Nursing research is covered by the Research Council for Health, and nursing is represented in its membership.

The *National Research and Development Centre for Welfare and Health (STAKES)* is an agency of the Ministry of Social Affairs and Health. STAKES monitors and evaluates activities and developments in social welfare and health care. It maintains statistics and registers, engages in research and development activities and promotes and organises training. The work of STAKES is guided by legislation and the government's 'Target and Action Plan for Social Welfare and Health Care', the strategy of the Ministry of Social Affairs and Health which sets out the target agreements made annually with the ministry. It focuses on applied research ranging from large research projects to more flexible small-scale investigations addressing urgent information needs. Its thematic areas are:

- health-care research;
- health economics research;
- evaluation research;
- alcohol and drug research;
- welfare research;
- research on care and services for older people;
- childhood and family research.

Nurse researchers are mainly based in the Division of Health and Social Services and contribute to multi-disciplinary research in the following research groupings:

- research on practice;
- policy and services for older people;
- mental health.

They participate in multi-disciplinary projects as project managers and research professor/team leaders and researchers.

The *National Public Health Institute (KTL)* works under the auspices of the Ministry of Social Affairs and Health. Its task is to study, promote and monitor public health.

The *Finnish Institute of Occupational Health (TTL)* has four fundamental activities, one of which is research into health promotion and the workforce.

The *Finnish National Fund for Research and Development (SITRA)* is an independent public foundation under the supervision of the Finnish Parliament. Its health care programme aims to improve the quality and productivity of Finnish health care with a focus on new technology. Projects currently being undertaken involve improving private and public sector interactions, developing health sector logistics and promoting the efficiency of support operations and facility management.

The administration and functions of the *Nursing Research Institute* were reorganised in 2005. Its mission is to promote the effectiveness of research in nursing, and it aims to develop the preconditions for evidence-based nursing. The institute serves as a WHO Collaborating Centre for Nursing and Midwifery and is involved in a variety of R&D projects, including:

- piloting the WHO concept of the family health nurse;
- building a long-term collaboration strategy on nursing between Finland and Russia;
- supporting the development of evidence-based practice;
- participating in the development of nursing strategies.

The *Finnish Association of Nursing Research* is a professional organisation that supports and promotes research in nursing science and its application to clinical nursing. It also organises conferences and publishes a journal.

11.3 Nursing and related research funding

The academy does not currently have a dedicated nursing research programme and is unlikely to have one over the next few years. The Research Council for Health launched target funds for nursing research in 2005 with the aim of strengthening Finnish nursing research, promoting researcher training in the field and increasing national and international networking. Allocation of funding is based on the international evaluation of Finnish nursing science, and funding decisions will be made in December 2005; there is nursing representation on the academy's funding committee.

Seventy-three applications for nursing research projects (latest published figures available) were received between 1997-2002, 26 of which were funded, representing an investment of approximately €1.2m. It is generally recognised that it is extremely difficult to obtain funding for nursing and health-related research in Finland, but nurses seem to be as successful as applicants from other disciplines in securing funding from the academy.

The first national action plan for the strategic development of nursing in Finland was launched in 1997. It aimed for a stronger role for research in the development of nursing care, development of research skills and research utilisation in nursing practice, national and international research collaboration, and improvements to the organisation and funding of nursing research. The second national action plan 2004–2007 (health and well-being by evidence-based nursing) was launched in 2003. The plan's emphasis was that nursing research should reflect client need and that there was a need for research into:

- factors affecting health and quality of life;
- the effectiveness of nursing interventions;
- the nursing workforce (including skill mix, competence and new roles);
- nursing management.

The plan also called for an increased focus on dissemination.

EVO funding

Extra state funding is awarded to health care units involved in teaching and research. Funding relates to the number and impact of scientific publications produced by researchers and the numbers of degrees completed. Ninety percent of the research subsidy goes to university hospitals.

The EVO funds for 2002 amounted to €56.8m. Although it is difficult to identify the proportion that could definitively be labelled as 'nursing research', there is evidence that nurses have been successful in securing modest amounts of funding. Nursing research is often integrated in larger health care research projects.

University funding

Universities in Finland do not receive a direct funding stream for research that is separate from the stream that supports teaching. Income stream is generated by the numbers of research students, but there is no direct funding to support staff time for research.

Finland has no national database for nursing research and no nationally agreed nursing research priorities besides those in national action plans aimed at improving the effectiveness of nursing practice.

11.4 Assessment of the quality of nursing research

Most applications to and evaluations of academy research programmes are presented in English and experts from outside Finland are brought in to carry out project and programme evaluations. For example, the academy published an evaluation of 'Nursing Science' in Finland in 2003, which was carried out by an international panel. The objectives of this evaluation included:

- evaluating the scientific quality of nursing research in Finland;
- evaluating the quality of researcher training;
- estimating the significance of nursing research in Finnish society;
- evaluating the efficacy of nursing research, measuring its output in relation to resources invested;
- making recommendations for the future.

This review concluded that there were differences in the definition of 'nursing science' across different universities and inconsistent use of the terms 'nursing' and 'caring science.' A pre-occupation with nursing theory as an end in itself rather than as a means to improving nursing was observed, and it was felt that more attention could be paid to evidence-based practice and consumer involvement in research. University departments were perceived as beginning the move away from individual research activity to a collective programmatic approach and the proactive approach of current professors in forging international connections and involvement in EU-funded multi-national nursing

research projects in Europe was commended. The reviewers recommended that:

- a national consensus statement should be developed on the definition of nursing science;
- Finnish involvement in international and multi-centre research studies should be increased;
- research approaches should be diversified;
- a greater focus should be placed on inter-disciplinary collaboration.

The Finnish Nurses' Association is a member of the Workgroup of European Nurse Researchers (WENR) and many nurse academics are involved in the International Network for Doctoral Education in Nursing and other international research and professional networks.

11.5 Government interventions to build capacity in the nursing research workforce

Research training through PhD study is firmly established in all of the university departments of nursing and, combined with funding from the Finnish Postgraduate School of Nursing, there is a strong infrastructure of support for the training of nurse researchers. The Finnish Postgraduate School of Nursing Science is co-ordinated by the Department of Nursing Science at the University of Kuopio. It offers full-time fellowships that have resulted in a decrease in the average number of years nurses take to complete doctoral theses - 60% now complete in four years. The mean age of nursing science PhD students (40 years) is higher than in other disciplines (36 years). Graduation at a later age means that nurses have less time to establish a research career, which may be inhibiting systematic development of the discipline.

11.6 Supra-national nursing-related research funding

The Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) have a long tradition of international cooperation in R&D. The Nordic countries held a symposium in 1995 to define priorities in nursing/caring science. It recommended the following topics:

- promotion of health and well-being across the lifespan of the individual;
- symptom management;
- care of older people;
- cost-effectiveness evaluation;
- restructuring health care systems;

- self management of health and illness;
- development of knowledge from theoretical/philosophical perspectives.

A 2001 Nordic Academy of Nursing Science symposium on knowledge development in nursing/caring recommended more meta-analysis, concept analysis and theoretical studies.

Nordforsk was established on 1 January 2005. It is an independent institution operating under the Nordic Council of Ministers and has responsibility for encouraging Nordic co-operation within research and research training. It replaced the Nordic Academy for Advanced Study (NORFA), which used to award scholarships for study at Scandinavian research institutions and fund health-related research, usually in collaboration with others.

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- be responsible for the co-ordination of health statistics in the Nordic countries;
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Reported research priorities for the Nordic countries as a group are:

- health promotion and disease prevention;
- evidence-based practice;
- care of older people;
- cost-effective care.

11.7 Hindering factors

Factors consistently reported to be likely to have a negative impact on the development of and quality of nursing research in Finland include:

- a heavy supervision workload of Master's and PhD students, reducing nurse academics' research productivity;

- the research training trajectory is too long, with a high average age of commencement of PhD studies and large numbers of PhDs being completed part time, both of which potentially curtail PhD students' career contributions;
- there is too little emphasis on and support for post-doctoral development.

11.8 Contacts

European Academy for Nursing Science – www.european-academy-of-nursing-science.com

European Nurse Directors Association – www.nurse-directors.org

Finnish Nurses Association (was previously called the Finish Federation of Nurses) – www.sairaanhoitajaliitto.fi

The Foundation for Nursing Education

The Finnish Postgraduate School of Nursing

The Finnish Association of Nursing Research (was previously called the Finnish Association of Caring Sciences) – www.uku.fi/https/english/vision.shtml

WHO Collaborating Centre for Nursing – www.euro.who.int/nursingmidwifery/ccs/20050621_1

Academy of Finland, Research Council for Health – www.aka.fi/index.asp?id=eb9a8e15a46244d989ac56c132e8d13a

University of Turku, Department of Nursing Science – www.med.utu.fi/hoitotiede/en/index.html

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11.10 Areas for development

- Develop a common definition of nursing research.
- Secure a dedicated funding stream.
- Ensure a greater concentration on research that addresses issues of significance and priority for health service users and providers of nursing services.
- Ensure greater use of a variety of research methods, in particular more studies that focus on clinical outcomes and measuring the effectiveness of nursing interventions.
- Expand international multi-centre research and longer-term projects.
- Further develop and refine programmes of research.
- Encourage greater collaboration between disciplines and inter- and multi-disciplinary research programmes.
- Reduce heavy teaching demands on nurse academics.
- Develop routes to fast-track younger nurses into research training.
- Expand the availability of post-doctoral training fellowships for nurses.
- Support international mobility of nurse researchers.
- Increase the numbers of publications in refereed journals.

12 Norway Scoping Report

12.1 The nursing/research workforce

Data on the numbers of nurses in Norway vary by source. The number of nurses per 1,000 population appears to be relatively high at 18.4, but most commentators suggest this figure probably includes registered nurses and unqualified nursing assistants; an adjusted figure often cited is 11.6 registered nurses per 1,000 population. There are recognised shortages of nurses with specialist skills, nurses in rural areas and nurses in services for older people and people with mental health problems.

Approximately 91% of working nurses are employed by the government.

It takes three years of study at a university or university college to become a registered nurse. Approximately 35 organisations spread throughout the country provide nurse education. Most are managed by the state education authorities, although some are privately managed. Nursing programmes are designed within a national curriculum framework, with the pre-registration curriculum including research and research methods.

Specialist post-registration courses last 18 months. There is not yet extensive provision of Master's or doctoral programmes in nursing. Nurse teachers/lecturers are expected to have a Master's degree and to spend 25% of their time engaged in research and development/scholarly activity. Most nurses undertaking PhD studies in Norway register for a degree in Nursing Science. It is estimated that there are currently 20 nurses with PhDs in Nursing Science in Norway, but Statistics Norway does not identify 'nursing' or 'nursing science' as separate categories in statistical information it collects on numbers studying for and/or achieving doctorates.

Norway has no Chief Nursing Officer post in the Ministry of Health and Care Services, although there are nurses working in a variety of government departments.

12.2 Research priorities and funding organisations

The *Ministry of Education and Research* bears overall responsibility for Norwegian research policy and participation in the European research area. It finances Norwegian universities and university colleges, in which approximately 25% of all Norwegian R&D activity takes place. All Norwegian ministries are responsible for financing research and developing the knowledge base within their various sectors.

Norway spends 1.7% of GDP on research (2002 figures), which is below the OECD average of 2.3%. Compared with many other OECD countries, a relatively large part of Norwegian research activity is funded by the government. The Norwegian government published a White Paper on research in 2005 in which it outlines plans to raise the total investment in research to 3% of GDP by 2010 and proposes that public funding of research be increased to 1% of GDP. The White Paper identifies health research as a priority for investment, and research co-operation with EU countries is also identified as being important. The Ministry of Education and Research states that it is committed to quality enhancement, internationalisation and network building in European education and research.

The *Ministry of Health and Care Services* (which was previously the Ministry of Health and Social Affairs) has overall government responsibility for health research. The *Norwegian Research Council (RCN)* bears overall responsibility for national research strategy and manages a third of public sector research funding. The RCN:

- identifies important fields for research;
- allocates funds;
- evaluates R&D;
- co-ordinates Norwegian participation in EU R&D programmes;
- identifies Norway's research needs;
- recommends national priorities;
- administers and distributes public funding for Norwegian research through over 130 research programmes and independent projects;
- administers and distributes basic funding to research institutions.

Funds were allocated to the RCN in the Ministry of Health budget for 2004 for three research priority areas:

- physical activity;
- diet;
- social inequalities in health.

It was difficult to ascertain whether nurses are represented in the staff of the Norwegian Research Council or how health research priorities are set.

The *Norwegian Knowledge Centre for the Health Services* was founded in January 2004. It arose from a merger of the Norwegian Centre for Health Technology Assessment (SMM) and the Foundation for Health Services Research (HELTEF). It is located within the auspices of the Directorate for Health and Social Affairs but is scientifically and professionally independent. It gathers and disseminates evidence about the effect and quality of methods and interventions within all parts of the Norwegian health service and produces health technology assessment reports, systematic reviews and surveys and promotes evidence-based practice.

The *Norwegian Institute of Public Health* also has a research function.

No priority setting exercise for nursing research in Norway has been published recently, although nurse academics at the universities of Bergen, Oslo and Tromsø were active in a priority-setting exercise for nursing research from 1979-1989. The *Norwegian Nurses' Association* is reportedly working on the development of a nursing research strategy.

12.3 Nursing and related research funding

The Public Health and Health Services Research Panel 2 of the government-funded Norwegian Research Council (which has a general research remit) recommended in 2004 that: 'Norwegian society would benefit from greater funding of nursing and health sciences, with a stronger public health perspective, for example in the area of health promotion.'

There is no specific government programme of nursing research funding, but nursing research is reported to be regarded as an important part of multi-disciplinary research within public health and clinical research. Nurses can apply to the Norwegian Research

Council for funding, but informants suggest that few have been successful in securing monies.

A small amount of government funding from the Ministry for Education and Research flows through universities and university colleges to support small R&D projects and PhD programmes. Government funding is also allocated to teaching hospitals for R&D projects, although studies have suggested that the amount of research taking place among all disciplines in teaching hospitals has declined recently.

There is no national database in Norway for nursing research findings.

Much of government-supported health services research in Norway relates to or has an impact on nursing.

12.4 Assessment of the quality of nursing research

The Public Health and Health Services Research Panel of the Norwegian Research Council recently evaluated the major nursing research institutions in Norway and identified the University of Oslo as the clear leader. A summary of their findings follows.

The University of Oslo, Institute of Nursing Science was established in 1985 to provide academic education for nurses and to contribute to the development of nursing science in Norway. Research undertaken in the institute is diverse, covering theoretical and methodological work as well as educational and clinical research.

The current focus of research is on three main areas: nursing ethics, symptom management and nursing care of frail older people. The group has wide national and international collaboration and is believed to have benefited from long-term co-operation with nursing departments in the US.

Ninety percent of the academic staff will retire within 10-15 years, and doctoral students are also relatively old. There are insufficient numbers of academic staff to cover research and education needs identified by university hospitals and other institutions within the health care system. Lack of funds and insufficient infrastructure to support research activities and applications for external funding are also problems. Increasing and strengthening collaboration with other nursing researchers in Europe was seen to have

positive outcomes, particularly in being able to apply for money from the EU.

The Norwegian government's 2005 White Paper on research recommends that future funding mechanisms for research should be more closely linked to quality.

Norwegian nurse academics are members of the Workgroup of European Nurse Researchers and the International Network for Doctoral Education in Nursing.

12.5 Government interventions to build capacity in the nursing research workforce

There are no specific initiatives or interventions targeted at nursing research in particular, but there is a range of government initiatives that nurses can apply for and/or benefit from. These include government measures to:

- make research positions at universities and university colleges more attractive by:
- creating new temporary posts with a duration of 4–6 years, after which candidates will be considered for fixed tenure as professors at the end of their period of research;
- establishing a scheme for national graduate schools;
- creating additional PhD scholarships and post-doctoral positions;
- improving opportunities for carrying out research abroad through, for example, top-up funding of EU scholarship schemes;
- establishing a new scheme designed to cover minor operational expenditure in ongoing research projects
- improve the organisation of doctoral training;
- encourage long-term skills development in research institutes.

12.6 Supra-national nursing-related research funding

The Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) have a long tradition of international cooperation in R&D. The Nordic countries held a symposium in 1995 to define priorities in nursing/caring science. It recommended the following topics:

- promotion of health and well-being across the lifespan of the individual;
- symptom management;
- care of older people;
- cost-effectiveness evaluation;
- restructuring health care systems;

- self management of health and illness;
- development of knowledge from theoretical/philosophical perspectives.

A 2001 Nordic Academy of Nursing Science symposium on knowledge development in nursing/caring recommended more meta-analysis, concept analysis and theoretical studies.

Nordforsk was established on 1 January 2005. It is an independent institution operating under the Nordic Council of Ministers and has responsibility for encouraging Nordic co-operation within research and research training. It replaced the Nordic Academy for Advanced Study (NORFA), which used to award scholarships for study at Scandinavian research institutions and fund health-related research, usually in collaboration with others.

The Nordic Medico-Statistical Committee (NOMESCO) was set up in 1966 following a recommendation from the Nordic Council. The Committee was made a permanent statistical committee under the Nordic Council of Ministers in 1979, with separate funding from the Nordic Committee on Social Policy. The committee has a permanent secretariat in Copenhagen. NOMESCO aims to:

- be responsible for the co-ordination of health statistics in the Nordic countries;
- initiate new projects related to health statistics;
- publish annual statistics and the results of special projects and surveys;
- coordinate and take part in international statistical collaborations, including activities in the Baltic countries.

Reported research priorities for the Nordic countries as a group are:

- health promotion and disease prevention;
- evidence-based practice;
- care of older people;
- cost-effective care.

12.7 Hindering factors

Factors consistently reported to be likely to have a negative impact on the development of and quality of nursing research in Norway include:

- a lack of specific nursing research monies;
- emphasis on planning and teaching rather than research in university and university college departments of nursing;
- patchy access to PhD training across the country;

- difficulty recruiting senior staff;
- low publication rates;
- low international profile.

12.8 Contacts

European Academy for Nursing Science – www.european-academy-of-nursing-science.com

European Nurse Directors Association – www.nurse-directors.org

International Network for Doctoral Education in Nursing – www.umich.edu/~inden/about/

Editorial Board of the Scandinavian Journal of Caring Sciences

Universities of Oslo, Bergen and Tromsø

Norwegian Nurses Association –

www.sykepleierforbundet.no/nettside/nsfmain.nsf/docPrCat?OpenView&RestrictToCategory=In+English|About+NSF/NNA

The Norwegian Registration Authority for Health Personnel – www.safh.no/english/

Norwegian Board of Health – www.helsetilsynet.no/templates/sectionpage____5499.aspx

Norwegian Knowledge Centre for the Health Services –

www.kunnskapssenteret.no/index.php?show=75&expand=14,75

Research Council of Norway – www.forskningsradet.no/english/

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12.10 Areas for development

- Increase nursing's influence in government research priority setting exercises in health.
- Improve nurse researchers' ability successfully to compete for funds from the Norwegian Research Council and the Norwegian Knowledge Centre for the Health Services.
- Increase nurse researchers' opportunities for international collaboration and involvement in multi-centre research.
- Develop infrastructure to support nursing research.
- Ensure nurses take full advantage of general government measures to increase research capacity and develop attractive research careers.

13 Sweden Scoping Report

13.1 The nursing/research workforce

According to data published by WENR, the total number of registered nurses actively working in Sweden in 2003 was 104,700. No data on the total number of nurses in Sweden have emerged.

Approximately 93% of working nurses are employed by the government.

The starting point of nursing research in Sweden is usually cited as 1977, when education moved to university level. The first professor in nursing was appointed in 1988. Before then, nursing research within nursing education was rudimentary. It has expanded significantly during the last 20 years, both quantitatively and qualitatively, and the numbers of researchers and published articles in nursing science have increased considerably.

Nursing research in Sweden is showing increasing signs of specialisation. A doctoral degree in nursing is no longer seen as an end point, but rather as part of a formal research-training programme. The status of nursing as a science, both academically and publicly, has steadily improved, and in most aspects it can be said to have become established within academia.

Expansion in nursing research has been supported by a series of higher education reforms through which nursing departments have been incorporated into the national university system, improving funding possibilities and increasing public awareness and interest in nursing research questions.

There is uncertainty about the extent of nursing research in Sweden, but there are

31 professors (plus five who have retired) and about 125 senior lecturers² in nursing departments. Around 450 nurses are registered as PhD students and between 30-40 achieve a doctoral degree in nursing each year. The Swedish Society of Nursing estimates that around 510 nurses in Sweden hold a doctoral degree (2005 figures). These figures do not take account of nursing research being carried out within other departments or nursing research being conducted by non-nurses.

The amount of time professors and senior lecturers can devote to research varies considerably. Professors manage about 70% on average, but the range is 10-80%. Most senior lecturers have less than 50%, with the range 20-80%. Teachers with a doctoral degree normally have 20-30% of their time allocated for research. It should be noted, however, that a large proportion of teachers have no doctoral degree, and it can be assumed that most will not be research active, unless they are registered as students on PhD programmes.

There are about 25 nursing departments or divisions in Sweden, with the larger universities hosting most research activity while the smaller ones concentrate on education. Midwifery research has traditionally taken place within nursing departments and has been labelled as 'nursing research', but midwives are mounting increasing pressure to develop their own units within nursing departments. Nursing departments' organisational structures vary; they are placed within the Faculty of Medicine where such a faculty exists at the university, and within a range of other faculties when it does not.

There are no specific centres for nursing research, although there are some for 'care science.' The Vardal Institute is a national multi-disciplinary centre in care science with a focus on research, doctoral and post-doctoral studies and communication between professionals and the public. Two research schools (PhD studies) in health care also exist, working in co-operation with 3-5 universities.

Sweden has a part-time Chief Nursing Officer.

² Senior lecturers are equivalent to the US position of associate professor; this is the minimum permissible position for supervising PhD students.

13.2 Research priorities and funding

As was stated in the Government Bill 2004/05:80, the Swedish state bears overall responsibility for ensuring that Swedish society continues to develop and is able to make use of new knowledge. *The Ministry of Education, Research and Culture* bears responsibility for research in Sweden. Sweden allocates nearly 4% of GDP to research and development (2000 figures), well above the OECD average of 2.3%. This figure includes substantial investments made by business.

The *Scientific Council for Medicine* within the *Swedish Research Council (SRC (Medicine)) (Vetenskapsrådet – Ämnesrådet för medicin)* is the main government funder of health research. It works under the aegis of the *Ministry of Education, Research and Culture*, with no Department of Health involvement. Funding is allocated through a call system with peer-review assessment on research quality, with most going to basic science. Care Science, which incorporates nursing and midwifery but is not exclusive to them, has had designated funding since 2001. Care Science funding has been determined up to 2008, but it is unclear what will happen after this. It is likely that SRC (Medicine) will still be responsible for care research, but with no exclusively designated money (see also Section C below).

Five per cent of total funding for research in medicine goes to Care Science. The SRC runs a clinical scientist scheme that is open to all clinicians (including nurses). Funding is provided to support protected research time within clinical practice. The SRC does not specify themes or priority focus areas when it calls for funding applications.

The *Ministry of Health and Social Affairs* plays a pivotal role in setting priorities for health and medical care policy questions, although it does not set priorities in research.

The *Vardal Foundation (Vårdalsstiftelsen)* funds health care research with an emphasis on clinical practice rather than basic science and is the largest external funder (see also Section C below).

Sweden has a Health Technology Assessment (HTA) programme with some national HTA guidelines in specific nursing areas, such as management of pain. The guidelines are the responsibility of the *Swedish Council on Technology Assessment in Health Care (SBU)*. The SBU is a government agency that evaluates methods used in health care, analyses costs and benefits of various health care methods and compares research findings with Swedish health care practice.

The *Swedish Association of Health Professionals (Vårdförbundet)* is a professional organisation consisting of Swedish nurses, midwives, biomedical scientists and radiographers. It is the Swedish national nursing organisation within the International Council of Nurses. It is not entitled to determine priorities in research or policy questions, although it influences research questions to some extent.

The *National Board of Health and Welfare* is the Swedish national expert and supervisory authority for social services, public health, infectious diseases prevention and health services. It plays a role in setting priorities for health and medical care policy questions, but does not set priorities in research.

Sweden has numerous charity foundations, but there is no one-umbrella group. The larger foundations relate to diabetes and cancer, and these finance research in nursing; the Cancer Foundation, for instance, is estimated to spend about 5% of its research budget on nursing.

The *Swedish Society of Nursing (SSF)* is the professional society that brings registered nurses together on professional issues. It has a national nursing research strategy and provides grants to nursing research projects.

Municipalities and local councils are responsible for the distribution of funds for health care. Funds are also available for research.

13.3 Nursing and related research funding

There are no reliable data on how much money is spent on nursing research in Sweden. Nursing is often combined with care science, making identification of nursing-specific monies difficult, and there are ambiguities in official statistics.

Direct national government funding to universities through faculty grants is a major source of funding for nursing research. The precise extent of this funding is, however, unclear. For medicine in total (including nursing), about 50% of the total research budget is financed from this source, meaning a large part of research activity has to be financed from other sources. Official statistics for care science seem to indicate that the percentage of research financed by faculty grants is lower than 50%, but this figure is unsubstantiated. No figures are available specifically for nursing science.

County councils and, to a lesser extent, municipalities (the two bodies responsible for the operation of the health care system) have different funds available for research, with the total sum available being quite substantial. Most research money goes to clinically orientated medicine, but a part (as yet undetermined in extent) trickles down to nursing research. Nurses have been eligible for some of these funds in recent years.

There are two main players among governmental and semi-governmental external financiers. The Vardal Foundation, a semi-governmental organisation, is the largest external financier. It was established in 1994 and has distributed about €50 million to care science, mainly in the form of investigator-initiated projects, academic positions and a research centre. Many of these programmes have attracted co-financiers. How much of this has been distributed to nursing research has not been established, but a rough estimate is one third. The Vardal Foundation is scheduled to cease in about ten years, and it is unclear if any other agency will give higher priority to care science.

The second main player is the Scientific Council for Medicine within the Swedish Research Council. It had a special government-initiated programme on care science from 2001-2004 through which €2.6m was distributed to nursing research for a range of investigator-initiated projects and junior position grants. Around 65% of these were led by nurses or midwives. In total, about €8.7m was distributed to care science within the programme. Under the new government bill on research, the Swedish Research Council is expected to continue to finance care science to the same level, and the Scientific Council for Medicine has been given a significant increase in funds over the next four years. Consequently, there is confidence that there will be no reduction in funding from these sources for care and nursing research in the next few years.

There are some differences between these two main players. The Swedish Research Council gives a slightly higher priority to funding basic research projects, while the Vardal Foundation is, to some extent, more clinically orientated. The Swedish Research Council funds projects and grants to positions. This was formerly the main priority of the Vardal Foundation, but they now tend to concentrate their funding on research centres and larger projects within certain areas of care science.

A number of other government and private financiers also finance nursing research. Funds from private financiers are often directed towards specific diseases.

There is no national database in Sweden for nursing research findings.

13.4 Government interventions to build capacity in the nursing research workforce

The Swedish government proposed its bill on Research and Renewal (2000/01:3) in 2000. This was subsequently passed into law and has been incorporated into the standing Higher Education Ordinance. It makes it mandatory for Swedish universities and other higher education institutions that offer postgraduate studies to arrange training courses for research supervisors.

The bill was inspired by three considerations:

- impending generational change in the Swedish research community;
- the need to make concentrated efforts in important research areas;
- the need to stimulate inter-disciplinary and multi-disciplinary research.

The bill commits the government to providing new resources to support postgraduate education and young researchers. Graduate schools would be established in a range of fields to develop postgraduate education, encourage new recruitment and promote interaction among higher education institutions throughout the country. More positions would be established for new recruits to improve prospects for young researchers who have just completed research degrees, and special funds would be set aside to support outstanding young researchers. In addition, special initiatives would be undertaken in eight high-priority areas, including health and social services research, which was allocated to receive SEK 35m (€3.7m) financing for graduate schools. The government proposed to distribute SEK 214m (€22.8m) among 16 graduate schools in the years up to 2003, including the Health Care Sciences Postgraduate School of the Karolinska Institutet.

The Government proposed its Research for a Better Life bill in 2004, under which it committed further new resources for postgraduate education and positions for young researchers. Research allocations should increase by SEK 400m (€42.5m) for medicine over the period 2005-2008, and a care science-funding stream is also included. The bill proposes a strong commitment to large long-term research grants for internationally competitive centres of excellence in all scientific fields. Funds for strong research environments will be distributed following an open tendering process and peer review by international experts. Grants to higher education institutions for research and postgraduate education will be increased by a total of SEK 521m (€55.4m) over the period, and SEK 150m (€16m) will be allocated to young researchers in post-doctoral positions.

13.5 Supra-national nursing-related research funding

The Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) have a long tradition of international cooperation in R&D. The Nordic countries held a symposium in 1995 to define priorities in nursing/caring science. It recommended the following topics:

- promotion of health and well-being across the lifespan of the individual;
- symptom management;
- care of older people;
- cost-effectiveness evaluation;
- restructuring health care systems;
- self management of health and illness;
- development of knowledge from theoretical/philosophical perspectives.

A 2001 Nordic Academy of Nursing Science symposium on knowledge development in nursing/caring recommended more meta-analysis, concept analysis and theoretical studies.

Nordforsk was established on 1 January 2005. It is an independent institution operating under the Nordic Council of Ministers and has responsibility for encouraging Nordic co-operation within research and research training. It replaced the Nordic Academy for Advanced Study (NORFA), which used to award scholarships for study at Scandinavian research institutions and fund health-related research, usually in collaboration with others.

The Nordic Medico-Statistical Committee (NOMESCO) was set up in 1966 following a recommendation from the Nordic Council. The Committee was made a permanent statistical committee under the Nordic Council of Ministers in 1979, with separate funding from the Nordic Committee on Social Policy. The committee has a permanent secretariat in Copenhagen. NOMESCO aims to:

- be responsible for the co-ordination of health statistics in the Nordic countries;
- initiate new projects related to health statistics;
- publish annual statistics and the results of special projects and surveys;
- coordinate and take part in international statistical collaborations, including activities in the Baltic countries.

Reported research priorities for the Nordic countries as a group are:

- health promotion and disease prevention;
- evidence-based practice;

- care of older people;
- cost-effective care.

13.6 Hindering factors

Factors consistently reported to be likely to have a negative impact on the development of and quality of nursing research in Sweden include:

- problems in research capacity issues, with an ageing of current research leaders and lack of support for building capacity at lower levels in the present career trajectory;
- research being small scale with little co-operation between different research groups;
- inadequate translation of research findings into improvements in nursing practice;
- few incentives (salaries or positions) for nurses with a doctoral degree to work with health care services.

13.7 Contacts

The Swedish Research Council (medicine) (*Vetenskapsrådet – Ämnesrådet för medicin*)

The Vardal Foundation (*Vårdalsstiftelsen*)

Health Care Sciences Postgraduate School, Karolinska Institutet.

13.8 Key Reports/Policy documents and Data Sources

Summary of the Government Bill 2004/05:80 *Research for a Better Life*. The Ministry of Education, Research and Culture, U 05.019, March 2005

Summary of the Government Bill 2000/01:3 *“Research and Renewal”* The Ministry of Education and Science, U00.027, October 2000

13.9 Areas for development

- Establish more junior academic positions (post-doctoral and junior research positions).
- Increase co-operation among different research groups.

Translate research findings into improvements in nursing practice.

14 Netherlands Scoping Report

14.1 The nursing/research workforce

The number of employed nurses in the Netherlands in 2003 was 136,400, with approximately 8.25 nurses per 1,000 population.

Approximately 95% of working nurses are employed by the government.

It takes four years of study at a school of nursing to become a registered nurse. One university offers a Master of Science in Nursing programme at Bachelor's and Master's level and other universities offer Master's programmes for advanced nursing practice, all of them publicly funded. Students on Bachelor's and Master's programmes can choose different majors and minors focusing on how to measure or determine health, hindering and facilitating factors influencing health, and measures to increase health and decrease sickness.

Sixty students start the Master of Science in Nursing programme at the University of Utrecht each year. Approximately 1,700 nurses in the Netherlands hold the degree: 10-11% are presently active in research, including those currently on a PhD programme. Fifty nurses had a PhD in 2004.

Universities account for over a quarter of all research conducted in the Netherlands, public research institutes for nearly 20% and companies for over 50%. Universities are covered by the government's university education policy.

There is a Chief Nursing Officer in the Netherlands.

14.2 Research priorities and funding organisations

The *Ministry of Education, Culture and Science* co-ordinates science policy for the entire national government. It is also responsible for the ministry's own policy areas of research and science.

The *Ministry of Health, Welfare and Sport* is responsible for all matters concerning health. The *Advisory Council on Health Research (RGO)* advises the Ministry of Health, Welfare and Sport on matters relating to health research, health services research and the infrastructure of such research. 'Health' research is defined as research on epidemiological and aetiologic aspects of disease, diagnosis, prevention, cure and care, and the development of relevant technology, while 'health services' research relates to structure and organisation, function, and demand. The RGO's main task is to set priorities for research aimed at providing solutions to problems in health and health services and to give recommendations on financial and infrastructure matters. It gears scientific research to social needs by means of close interaction between government, scientific investigators and end-users of research results. RGO recommendations are reached following a comprehensive investigation of the field of interest. Each of its reports is based on a careful balance of scientific requirements and social needs for health (care) research.

The latest RGO report (2001) details its recommendations for research and research infrastructure in the field of nursing and patient care. The impetus for the advice was a letter dated 23 June 2000 from the Minister of Health, Welfare and Sport requesting the RGO to advise about priorities in nursing research. The minister asked the RGO to take account of such issues as 'the effectiveness and efficiency of nursing interventions', 'the role of nurses and caregivers in the co-ordination of care', and the implementation of research results. She also asked the RGO to pay attention to the infrastructure of scientific research and, as far as it was relevant, to the scientific training of nurses and nursing researchers. The RGO has concluded that priority should be given to research that:

- investigates effectiveness and efficiency of nursing care
- contributes to the development and implementation of guidelines and evidence-based practice
- focuses on 'harmonisation and continuity of care', 'patient problems and their determinants', and 'measuring care'.

The *Netherlands Organisation for Health Research and Development (ZonMw)* is commissioned by the Ministry of Health, Welfare and Sport to carry out research programmes. It also contributes to the initiation and implementation policy cycle and is responsible for distributing a proportion of the resources available for health research and development. Much of its work involves the design, implementation and evaluation of national programmes, which are either open or restricted. It is also the funding agency for health research projects.

The *Netherlands Centre for Excellence in Nursing (LEVV)* is an independent knowledge centre that aims to improve professional practice in nursing. It collects, develops and disseminates information. Since its formation in 1993, the LEVV has acquired an independent and authoritative position in health care and can call upon a broad national and international network. It helps influential parties in health care to meet with each other and facilitates them to use their expertise to develop professional practice. Its main task is the early identification and implementation of innovations in health care by focusing on three programmes:

- information supply;
- bridging the gap between science and practice;
- stimulating innovations in the health sector.

A priority setting exercise by LEVV is expected to be published by 2006.

Independent charity organisations like the *Dutch Cancer Society*, *Diabetes Fund* and *Aids Fonds* are supported by voluntary donations. Major donors have the opportunity to allocate monies to specific research and education programmes. Charities do not conduct their own research, but finance research projects at universities and other scientific institutions throughout the Netherlands.

14.3 Nursing and related research funding. Nursing research

Nurses can apply for funding mostly through grants from open and restricted programmes, tailor-made funding schemes distributed by ZonMw, and through special funds provided by, for instance, the Dutch Cancer Society or Aids Fonds.

ZonMw supported 16 programmes and 87 projects focusing on improving the quality of care and increasing efficiency and effectiveness from 2001-2204. One programme, *Tussen Weten en Doen (TWD)*, consists of 38 projects and has been awarded €3.4m funding in two stages over seven years. Objectives of the first TWD programme were to provide a scientific basis for interventions performed by nurses and caregivers through the development and implementation of multi-disciplinary guidelines. The second TWD programme aims to identify evidence to refine existing guidelines in psychogeriatric care and prevention of complications in somatic care.

Universities also provide funding for nursing research:

- the University of Groningen conducts research on public health and health services, research disease management and assessment of health-related functional status;
- the University of Utrecht conducts research on the chronically ill, self-efficacy and cancer;
- the University of Nijmegen conducts research on patient safety, assisting in coping and adjusting to illness;
- one university in Amsterdam conducts research on clinical epidemiology;
- the University of Maastricht conducts research on innovations in care of older people, the chronically ill and evidence-based practice.

Universities obtain funding through grants and direct from the Ministry of Education, Culture and Science.

The Netherlands Institute for Health Service Research (NIVEL) conducts research into care of older people, palliative care, care of the dying and evidence-based practice. The LEVV has a national database for nursing research.

There are other programmes that have an impact on nursing research, such as the 'Health Care Efficiency Research programme.' This supports research focused on resolving topical policy problems, with an emphasis on health technologies and the organisation of health care. The patient perspective is very important, because the goal is ultimately to improve their health and quality of life. The programme covers a particularly broad area, its framework encompassing prevention, diagnostics, therapy (cure) and care and organisation in all medical and paramedical disciplines.

14.4 Assessment of the quality of nursing research

There is no central body in the Netherlands that measures the quality of nursing research, but some initiatives and institutions, such as the Netherlands Institute of Accreditation, focus on quality in specific subjects like the NIAZ accreditation. The Faculty of Nursing Science in Utrecht was positively accredited in 2005 by the 'Nederlands Vlaamse Accreditatie Organisatie' (NVAO), part of the European Consortium for Accreditation.

14.5 Government interventions to build capacity in the nursing research workforce

There is no government intervention designed to build capacity in the nursing research workforce in the Netherlands.

14.6 Supra-national nursing-related research funding

There is no supra-national nursing-related research funding in the Netherlands.

14.7 Hindering factors

Factors consistently reported to be likely to have a negative impact on the development of and quality of nursing research in the Netherlands include:

- small numbers of research staff in academic medical centres, including those with a special group of researchers focusing on nursing care
- limited access to in- and outpatient care for research purposes, with many nursing researchers feeling they have few opportunities to obtain access to patients to conduct research;
- lack of access to an academic environment for nursing researchers, many of whom are situated in non-academic institutions;
- lack of a formal alliance between nursing researchers in academic medical centres and researchers from non-academic research centres.

14.8 Contacts

The Netherlands Organisation for Health Research and Development (ZonMw)

Netherlands Centre for Excellence in Nursing (LEVV)

Centre for Quality of Care Research: Nursing Science Section, Radboud University

Nijmegen Medical Centre

Dutch Association of Nurses and Care Workers (AVVV)
Julius Centre for Health Sciences and Primary Care
Nursing Science Section
University Medical Centre Utrecht
Maastricht University Department of Health Care Studies

14.9 Key reports/policy documents and data sources

RGO (2001) *Advies onderzoek Verpleging en verzorging*, ref. Publication, Den Haag

Van der Windt, W. Calsbeek, H. Talma, H. Hingstma, L. (2004) *Feiten over verpleegkundige en verzorgende beroepen in Nederland*. Utrecht, LEVV/Elsevier Gezondheidszorg.

14.10 Areas for development

- Promote and prioritise research in effectiveness and efficiency of nursing care and research that may contribute to the development and implementation of guidelines and evidence-based practice.
- Promote research into harmonisation and continuity of care, patient problems and their determinants, and measuring care.

15 Germany Scoping Report

15.1 The nursing/research workforce

The exact number of nurses in Germany is not clear. It varies between sources. According to Eurostat (New Cronos Database) in 2002 the total number of practicing nurses and midwife staff per 100.000 inhabitants was 770.6. (7.7 per 1000 inhabitants). In 2002 the population in Germany was 82 million. So this means there were approximately 632.000 nurses.

Nurses are employed by a variety of employers, including the state (the Länder), communes and the private sector.

It is difficult to estimate the number of active nursing researchers. Professors in nursing science (*Pflegewissenschaft*) can be found at the universities of Berlin (Humboldt Universität), Bremen, Bielefeld, Halle-Wittenberg, Osnabrück and Witten-Herdecke, with up to 10 junior researchers at each (the exact numbers depend on the number of funded research projects under way). A degree in nursing research has recently been introduced.

A number of researchers from other disciplines also work regularly or occasionally on nursing-related projects, notably gerontologists, sociologists, psychologists, educationalists and physicians in different specialties. There are more than 40 study programmes in nursing at the *Fachhochschulen* (university of applied sciences), but, with occasional exceptions such as the PT-DLR-funded Fachhochschule Osnabrück, they do not tend to take part in research. Some of the Catholic universities of applied sciences and the universities of applied sciences in Hesse (one of the Länder) have research institutes.

Nurses aren't registered in Germany. The three different three-year education programmes, however, are regulated by federal laws and are organised in a way comparable to an apprenticeship. The programmes are divided into three branches: paediatric, geriatric and adult nursing. Less than 10% of nurses opt to join a professional

organisation, which stands in stark contrast to doctors who are obliged to become members of *Ärzttekammern* organised on a regional basis.

The following institutions have a Science in Nursing programme at Bachelor and/or Master's level.

- Dachorganisation: Charité - Universitätsmedizin Berlin. This is a new joint Faculty of Medicine involving the Humboldt-Universität and Freie Universität Berlin. It offers a European Master of Science in Nursing programme and a doctoral degree in nursing research (Doctor rerum curae, Doktor der Pflegewissenschaft).
- University of Bielefeld, Institute of Nursing Science. This university offers a Master's and a doctoral degree in public health, which include nursing research.
- The University of Berlin has an inter-disciplinary doctoral programme on the health of older people funded by the Robert Bosch Foundation, which includes nursing research projects.
- The University of Bremen has a nursing programme at Bachelor level.
- The University of Halle-Wittenberg has a Master's programme in Pflege- und Gesundheitswissenschaft (nursing and health sciences).
- The Institute of Nursing Science of the University of Witten/Herdecke runs a post-basic Bachelor of Science in Nursing programme, a Master of Science in Nursing and a doctoral programme. The institute is a member of the European Academy of Nursing Science.

All German universities are publicly funded, with the exception of the privately financed Universität Witten/Herdecke.

There is no Chief Nursing Officer in Germany, but the states (Länder) administrations have nursing officer positions.

15.2 Research priorities and funding

The Bundesministerium für Bildung und Forschung (BMBF) (Federal Ministry for Education and Research) co-ordinates science policy for the federal government and is responsible at policy level for the funding of research and science. In principle, each ministry for health and research in the Länder is obliged to fund health-related research, including nursing research.

Two other ministries fund nursing research at federal level:

- the Ministry for Health and Social Security (Bundesministerium für Gesundheit und Soziale Sicherung - BMGS);
- the Ministry for Families, Older People, Women and Youth (Bundesministerium für Familie, Senioren, Frauen und Jugend – BMFSFJ).

Health insurance organisations fund smaller projects, and the Stuttgart-based Robert Bosch Foundation (Robert Bosch-Stiftung) funded nursing research for 10-12 years up to 2003. Industry supports nursing by developing and implementing innovative health care products, but the extent of funding for nursing research from industry is unclear.

15.3 Nursing and related research funding. Nursing research

The BMBF has a programme on research in nursing called Angewandte Pflegeforschung (Applied Nursing Research). It is scheduled to run from 2004-2007 for the first funding period, and 2007-2010 for the second. The total budget for the first funding period is €3.7m, with funding of approximately €4m for the second.

There are currently four research confederations (Verbünde) with 26 financed projects.

The main research themes are:

- evidence-based nursing for chronically ill patients with communication problems;
- improving the nursing process with new guidance instruments;
- women and family-orientated birth care;
- patient-centred nursing concepts for coping with chronic illness.

15.4 Assessment of the quality of nursing research

Research-results evaluation is a developing area in Germany. Funders, especially BMBF and DFG, have high standards for applications. Two German-language peer-reviewed nursing science journals will be launched in 2006 (*Pflege* in Switzerland, and *Pflege und Gesellschaft* in Germany).

15.5 Government interventions to build capacity in the nursing research workforce

The Länder are responsible for funding universities in Germany, but they have insufficient resources. Federal funding measures contain a capacity-building component, as witnessed

by the establishment of research structures such as the confederations of applied nursing research (see above). Future funding should look to enhance the capacity of nursing research and enlarge the number of nurse researchers.

15.6 Supra-national nursing-related research funding

A German institute in Wuppertal led a large European-funded nursing research project (NEXT-Study: Nurses' Early Exit). The German branch of the study was conducted by the Institute of Nursing Research in Witten/Herdecke.

15.7 Hindering factors

Factors consistently reported to be likely to have a negative impact on the development of and quality of nursing research in Germany include:

- the relative immaturity of nursing science in Germany;
- the nursing profession being as yet unconvinced that research is an important basis for nursing practice;
- nursing science's relative lack of visibility in the general scientific community;
- funding problems: DFG (Deutsche Forschungsgemeinschaft, the German Research Foundation) mainly funds natural sciences; BMBF's institutional funding tends to be focused on departments that conduct natural science research, and health research is only a small part of its project-funding stream, with nursing comprising a small part of this.

15.8 Contacts

Dr. Armin Hendrichs, DLR-Projektträger des BMBF, – Gesundheitsforschung –
Bonn

Dr. Hubert Misslich, coordinator European Research Area Networks, PT-DLR: Project
Management Organization on behalf of the Federal Ministry of Education and Research,
Bonn

Dr. Birgit Wetterauer, BMBF, Referat 612, Gesundheitsforschung, Berlin

Prof. Dr. Sabine Bartolomeyczik, Chair of epidemiology and nursing science, Institut für Pflegewissenschaft, Universität Witten Herdecke

15.9 Key reports/policy documents and data sources

Sachverständigenrat für die Konzertierte Aktion im Gesundheitswesen.

Bedarfsgerechtigkeit und Wirtschaftlichkeit. Gutachten (2000/2001. Band I: Zielbildung, Prävention, Nutzerorientierung und Partizipation. II: Qualitätsentwicklung in Medizin und Pflege. III: Über-, Unter- und Fehlversorgung. (Expert panel for a joint action in health care: quality development in medicine and nursing)

Bundesministerium für Familie, Senioren, Frauen und Jugend (Hrsg.)(2001): *Dritter Bericht zur Lage der älteren Generation*: Deutscher Bundestag Drucksache 14/5130, 19.1.2001. (Federal ministry of family, elders, women and youth: Third report on the situation of the elderly)

Bundesministerium für Familie, S., Frauen und Jugend. (Hrsg.)(2002): *Vierter Bericht zur Lage der älteren Generation in der Bundesrepublik Deutschland: Risiken, Lebensqualität und Versorgung Hochaltriger – unter besonderer Berücksichtigung demenzieller Erkrankungen*. (Federal ministry of family, elders, women and youth: Fourth report on the situation of the elderly).

16 Portugal Scoping Report

16.1 The nursing/research workforce

There are about 46,000 nurses in Portugal, with around 4.6 nurses per 1,000 population. They work mainly in the public sector (90%) and in hospitals (± 82%).

Student nurses can complete their training in one of 46 public and private nursing colleges. All lecturers at polytechnic level, regardless of their scientific subject area, have the same career structure. All nursing lecturers have obtained a Master's degree, in various domains. Some have obtained doctoral degrees in nursing sciences and other domains.

Nursing education was integrated into the polytechnic system of higher education in 1988, and has had a single-level preparation for general care practice since 1975 (the 18 months practical nurses programme has not been offered since 1974, and all existing practical nurses have undertaken an upgrading programme). Undergraduate nursing education lasts four years full time (licentiate degree). Since 1979, entry requirements in nursing education have been the same as for admission to university (12 years of education).

Doctoral programmes in nursing have been developed since 2001, first at the University of Porto, then, from 2005, at the University of Lisbon and Portuguese Catholic University in Lisbon. About 60 doctoral students are involved. Two Master's degree programmes in nursing sciences have been run at the University of Porto and the Portuguese Catholic University in Lisbon since 1991. Many nurses have either completed or are undertaking Master's and doctoral studies in other areas such as health services management, public health, philosophy, psychology, educational sciences and ergonomics. It is estimated that there are 1,000 nurses in Portugal with a Master's degree in nursing sciences or other discipline such as those mentioned above, and about 20 with a doctoral degree in nursing or other domain.

Nurses can adopt a clinical specialty through post-graduate programmes in:

- rehabilitation nursing;
- child health nursing and paediatrics;
- midwifery;
- medical-surgical nursing;
- public health nursing;
- mental health and psychiatric nursing

Nurses have directed nursing schools for the last four decades and, since 2001, they have been accountable to the Ministry of Education (now Ministry of Science and Higher Education). The public education system is mixed, supported by taxation but also by students' own contributions. Private schools are completely supported by students. Nursing research is an important curricular unit in all nursing courses.

The estimate of the number of nursing researchers is approximately 100.

16.2 Research priorities and funding

The *Ministry of Science, Innovation and Higher Education* bears responsibility for Portuguese research policy and finances universities and polytechnics. Portugal spends 0.83 of GDP on research (2001 figures), which is much below the OECD average of 2.3%.

The *Ministry of Health* bears responsibility for health policy and practice. There are no nurses in executive positions at the ministry, but some work in central departments as advisers to ministry staff.

The *Foundation for Science and Technology (FCT)*, the *Fundação para a Ciência e Tecnologia*, is Portugal's main funding agency for research. It has the status of a public organisation with administrative and financial autonomy, working under the aegis of the Ministry of Science, Innovation and Higher Education. The FCT covers all fields of science, from natural sciences to humanities. It provides funding and information to support the pillars of the system - human resources, research centres and research activity. Some nursing research units receive funding from FCT, but there is no specific programme for nursing. Funding is granted on a specific/individual/project basis. The FCT does not play an important role in determining nursing research priorities and strategies: it is the nursing research units who determine these.

The FCT will reinforce funding in 2005 through two complementary aims: convergence with Europe, and integration of the research system within the European Research Area. These will be enacted through co-funding European projects and networks and supporting the internationalisation of research teams and organisations.

The *National Nursing Council* (Ordem dos Enfermeiros) has responsibility for nursing policy and practice.

16.3 Nursing and related research funding

Foundation for Science and Technology funding is structured around the following schemes:

- promotion of training and career development (fellowships, scholarships);
- promotion of the institutional base in higher education and private non-profit sectors (institutional funding);
- support to infrastructures;
- promotion and development of scientific activity (research projects);
- encouragement and dissemination of scientific culture.

FCT uses a panel review process to evaluate submitted funding proposals.

There are five nursing research units in Portugal: Porto (3), Coimbra and Lisbon, each with several researchers. There are also some individual researchers in Portugal.

16.4 Assessment of the quality of nursing research

The Foundation for Science and Technology makes an annual evaluation of all units that are receiving funds. Multi-disciplinary committees make this evaluation, and they include nurses.

16.5 Government interventions to build capacity in the nursing research workforce

No information has been gathered about this issue.

16.6 Supra-national nursing-related research funding

No information has been gathered with regard to this kind of funding in Portugal.

16.7 Hindering factors

Factors consistently reported to be likely to have a negative impact on the development of and quality of nursing research in Portugal include:

- lack of a national nursing research strategy; the Ministry of Health and the National Nursing Council defined some priorities, but no recommendations for nursing research were made;
- inadequate dissemination of nursing research and inadequate penetration outside nursing; while dissemination among nurses has improved in the last few years, it has a small impact outside the profession;
- difficulties in gaining co-operation among nursing research units to promote dissemination and collaboration;
- language barriers; it is often uneconomic for editors to translate books into Portuguese because of its small population and, consequently, relatively small market, but use of English is increasing among Portuguese nurses.

16.8 Contacts

Unidade de Investigação e Desenvolvimento em Enfermagem (ui&de) in Lisbon (Nursing Research and Development Unit) – www.esenfcgl.pt

Unidade de Investigação de Ciências da Saúde: domínio de Enfermagem in Coimbra (Health Science Research Unit: Nursing domain) – www.esseaf.pt

Ordem dos Enfermeiros (National Nursing Council) – www.ordemenfermeiros.pt

Fundação para a Ciência e Tecnologia (FCT – Foundation for Science and Technology) Portuguese Catholic University in Lisbon – www.fct.mctes.pt

University of Lisbon – www.ucp.pt

Instituto de Ciências Biomédicas Abel Salazar (University of Porto) – www.icbas.up.pt

16.9 Key reports/policy documents and data sources

Dima, AM. (2005) *Higher Education in Portugal*. Country report. Lisbon, Center for Higher Education Policy Studies.

16.10 Areas for development

- Create a common definition of nursing research and a strategy(ies) for nursing research.
- Concentrate on research that addresses issues of significance and priority for health service users and providers of nursing services.
- Make greater use of a variety of research methods, in particular focusing on clinical outcomes and measuring the effectiveness of nursing interventions.
- Expand international multi-centre research.
- Further develop and refine programmes of research.
- Develop greater collaboration between disciplines and inter- and multi-disciplinary research programmes.
- Reduce heavy teaching demands on nurse academics.
- Expand the availability of post-doctoral training fellowships for nurses.
- Support international mobility of nurse researchers.

17 Conclusions

17.1 Introduction

Constraints such as language difficulties, the limited timeframe of the project and difficulties in gaining access to key individuals and organisations in countries and regions may have hampered the comprehensiveness of the information collected during the scoping exercise. Useful and illuminative data nevertheless emerged across a range of issues.

The scoping exercise demonstrates a lack of robust comparative data in Europe on relatively straightforward issues such as the absolute number of nurses and number of nurses per 1,000 population. There is huge variation in the share of GDP invested in R&D in general and in the proportion of government funding devoted to R&D.

Definitions of 'nursing research' were found to vary between countries. Achieving a European consensus on the term 'nursing-related health research' and the development of robust, agreed indicators and proxies to allow for inter-country and regional comparisons on nurses' engagement and involvement in research may assist in data collection in the future.

17.2 Nursing involvement at government level

The amount and level of nursing involvement in government and in government-funded R&D bodies varies significantly between countries. Few have dedicated nursing research programmes, nursing research strategies or agreed nursing research priorities. Common features in nursing R&D strategies (where they exist) are commitments to:

- increase the evidence base for nursing practice;
- increase funding for nursing research;
- build capacity and capability in the nursing research workforce;
- increase international collaboration.

17.3 Funding and priority setting

Government funding mechanisms for research are increasingly related to measures of research quality and impact, and most governments are moving towards funding programmes of research, rather than isolated projects. There is both coherence and divergence between national and European R&D priorities, but there is general agreement on the need for more research into health outcomes, ageing, and the management of long-term conditions.

Some countries have identified and funded explicit nursing-related research priorities, research groupings and/or funding themes (Spain, Ireland, Scotland, England, the Netherlands and Germany). In some cases (such as in England and the Republic of Ireland), patients and the public have participated in setting priorities.

The scoping exercise found, however, huge variations in policy on funding of nursing research. This might reflect the absence of nursing representation at governmental and other levels, but may also betray variation in commitment to the developing nursing research agenda at government level. Research policy is reflected in some countries through strategic frameworks, specific centres, representation in specialist agencies and identification of research priorities. In others, where policy is not government-led, enthusiastic individuals and professional organisations are the driving forces, but with limited impact.

Nurses are accessing non-governmental funding sources such as charities, foundations and industry, creatively mixing funding sources to support their research activity. The focus of many researchers on specific patient groups or conditions lends itself to specific, collaborative nursing programmes of research in areas such as diabetes and cancer.

17.4 Supra-national collaborations

Many countries are involved in supra-national research funding collaborations and partnerships, but these are rare in nursing-related health research. Evidence of existing nursing-related supra-national funding collaborations was limited largely to the Nordic countries, UK and Ireland.

Collaboration in nursing-related health research programmes is necessary to prevent replication of effort and enhance the impact of research findings for patient care

throughout Europe. There are areas where such collaboration could occur, but further support from government-funded programme developments would be necessary. Greater collaboration across regional and national borders through ERA-NET funding would promote programme development and serve as an incentive to enhancing national and regional governmental support for nursing research. Piloting a Joint Call would enable the exchange of good practice in commissioning, undertaking and implementing research.

17.5 Capacity and capability

Nurses' engagement and involvement with research varies across the different countries, as does research capacity and capability within the profession.

A proxy commonly used to establish capacity is the proportion of the nursing workforce with PhDs, but it was possible to collect only rough estimates of the numbers of nurses with PhDs for most countries. No set measures of time devoted to research were set for nurse academics, and most have heavy teaching loads.

The scoping exercise revealed major issues about the nursing research workforce. The vast majority of nurse researchers were obtaining doctorates and doing post-doctoral work on a part-time, non-funded basis. Many were making a late start to their research careers, necessarily limiting the length of time they would be able to function as active researchers prior to retirement. There were insufficient numbers of doctorally prepared nurses to act as supervisors for doctoral theses, and concerns were raised about equity of access to centres of research excellence for a largely female and, in some cases, ageing workforce. The gender issue reflects a restriction in nurses' ability to take opportunities under EU schemes that require participants to be able to move location.

In all countries there was a lack of flexible career pathways that would enhance the generation and utilisation of research in practice settings. Since research capacity is essential to the development of research programmes, there is a need to harness existing capacity through more effective use of skills in the post-doctoral context.

17.6 Conclusion

This scoping exercise has captured a 'snapshot' of nursing research in Europe, with a focus on governmental funding and policy. It shows that nursing-related health research is falling short in its contribution to supporting the planning, development and provision of evidence-based health services. This is partly due to under-capacity, but is also caused by lack of collaboration within and across regions and countries. Increasing cross-European collaboration in nursing and health-related research would therefore help to ensure a robust evidence base for practice, benefiting patients and the public across Europe.

Annex

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