

# Nursing and Caring Sciences

## EVALUATION REPORT



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The Academy's object is to finance high-quality scientific research, act as a science and science policy expert and work to strengthen the position of science and research. The Academy's operations cover all scientific disciplines.

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# Preface

Nursing Science as an academic discipline is a relatively young field of research and education in Finland. Teaching in Nursing Science was started in 1979 at the University of Kuopio, and the development of research and education in the field has been rapid and productive; in less than 25 years Nursing and Caring Sciences have established themselves among the other disciplines related to health research. Today five Finnish universities have departments of Nursing and Caring Sciences, more than 130 doctoral theses have been published and more than two thousand students have passed their Master's degree education. As the volume of academic output has been constantly growing, it has become timely to evaluate the scientific quality of the research and researcher training provided by the departments and to seek new directions for the further development of Nursing and Caring Sciences. In this evaluation report the term Nursing Science is used to cover both Nursing and Caring Sciences

The initiative to evaluate Nursing Science was submitted to the Academy of Finland by the professors engaged in the field. The Research Council for Health launched the evaluation in 2002 by appointing a steering group to implement the evaluation. From the very beginning, the most important objective of the evaluation has been to support the future development of Nursing Science in Finland by contributing to the formulation of new strategies. This is based on a profound evaluation of the quality and relevance of the scientific outcome and researcher training of the field by an international panel of experts and on the self-evaluations performed by the departments and research groups.

On behalf of the Academy of Finland I wish to most warmly thank the Panel members: Professor Alison Tierney (Chair), Professor William L. Holzemer and Professor Ingalill Rahm-Hallberg for their profound commitment to this valuable work. Regardless of the extremely tight time frame the Panel has produced a thoroughly considered set of recommendations. I also wish to thank the coordinator, Professor Kaija Saranto, and the secretariat, Science Advisors Anna-Liisa Kauppila, Saara Leppinen and project Secretary Siru Oksa from the Academy of Finland.

The departments of Nursing Science at the universities had a significant role in this evaluation. I warmly thank the departments of Nursing Science for providing the Panel with informative and extensive self-evaluation forms and other material within the short time-table and for organising the site-visits of the Panel. Also all those researchers who gave their time to meet the Panel and presented their work are worth a special thank you.

I wish that this evaluation process would prove to have been a worthwhile exercise that will help the researcher community of Nursing Science to explore new challenges.

Hilkka Soininen  
Professor  
Chair of the Steering Group

# 1 Introduction: background to the evaluation

The strengthening of postgraduate training and the role of university research is an important national strategic objective. One of the tasks of the Academy of Finland, which is an expert organisation on research funding, is to evaluate how these objectives have been attained. All funding decisions made by the Academy are based on scientific evaluations. The Academy also evaluates the state and quality of individual disciplines. It has launched and coordinated more than 20 such evaluations since 1983. On the initiative of the professors of Nursing Sciences at the Universities of Kuopio, Oulu, Tampere, Turku and Åbo Akademi University, the Academy of Finland decided in April 2002 to carry out an evaluation of Nursing Science in Finland. Reasons for the request for this evaluation were the rapid development and state of the discipline, the need to assess the success of the postgraduate programmes in these five universities, as well as to consider the level and volume of national and international research cooperation. The evaluation was to focus on the scientific quality of Nursing Science and researcher training, and to identify the further development needs of the field.

The Research Council of Health of the Academy of Finland (RCH) appointed an internal steering group to plan the evaluation in 2002. The group was chaired by Professor Hilikka Soininen (vice chair of RCH) and the other members were Professor Elina Hemminki (RCH), Professor Helena Leino-Kilpi (RCH), and Director, Docent Marja-Leena Perälä (National Research and Development Centre for Welfare and Health, STAKES). The tasks of the group included the appointment of the Panel and the evaluation coordinator; the definition of the target groups and the objectives of the evaluation; the assignment of the Panel and the practical aspects of the evaluation at the Academy. Senior Advisors Anna-Liisa Kauppila and Saara Leppinen have acted as the secretaries of the steering group and as the contact persons at the Academy for the evaluation and edited the final report.

To assist the Panel, Professor Kaija Saranto (University of Kuopio) was appointed as coordinator for the evaluation. The coordinator's tasks included organising and producing the material for the evaluation, participating in the site visits, acting as an intermediary between researchers and the Panel, collecting the background material for the final report and acting as a scientific advisor for the secretariat.

In order to integrate the research community, the Research Council of Health organised a seminar for the researchers within the field in October 2002. At the seminar the members of the steering group and researchers discussed the coming evaluation and its objectives and the background material to be collected, including self-evaluation.

The objectives of the evaluation were:

- to evaluate the scientific quality of the academic nursing research in Finland as compared to the international level

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- to identify the strengths and weaknesses of the research
- to evaluate the quality of researcher training
- to evaluate the quality of doctoral dissertations; whether the quantity and quality are in balance
- to estimate communication and collaboration with key partners at home and abroad
- to estimate the significance of the nursing research in Finnish society
- to evaluate the efficacy of the research, i.e. how much scientific output is produced in relation to the resources invested
- to make suggestions and recommendations for the further development of the nursing research

It was agreed that the evaluation should cover the period of 1997-2002.

An international panel was invited to carry out the evaluation. The professors of Nursing Science in Finland were invited to nominate candidates to the Panel. The steering group appointed the following members to the Panel:

Alison Tierney, Professor, Chair of the Panel (University of Adelaide, Australia)

William L. Holzemer, Professor (University of California, United States)

Ingalill Rahm-Hallberg, Professor, Deputy Dean of the Medical Faculty (University of Lund, Sweden) (Appendix A)

The panel members are not only specialists in Nursing Science, but have also a wide experience and knowledge of multi- and interdisciplinary research. The Panel represents the international nursing science community at large rather than representing particular fields of specialization within nursing science.

Teaching and research in Nursing Science is carried out both at university departments and research institutes. All researchers were invited to participate in the evaluation. At the beginning of the evaluation process, a form for self-assessment was developed by the steering group for data collection. The form had two sections: a form for the research institutes or departments and a form to be filled in by the research groups within those organisations. The forms included background material, i.e. references and publications of the research activities among research groups. (Appendix B)

The Academy of Finland received evaluation forms from the Hospital District of Helsinki and Uusimaa (HUS), National Research and Development Centre for Welfare and Health (STAKES), University of Kuopio, University of Oulu, University of Tampere, University of Turku, and Åbo Akademi University. Information was received also from the Finnish Association of Caring Sciences, the Finnish Post-Graduate School of Nursing Science and the Foundation of Nursing Education.

The evaluation process included a seven-day visit by the Panel to Finland (23-29 March, 2003) when the three Panel members were briefed by officials of the Academy of Finland and by Professor Eero Vuorio, Chair of the Research Council of Health. The Panel visited departments of four universities and met with researchers from Åbo Akademi University at the Academy, and also paid a visit to STAKES. The



visits proved to be an important part of the evaluation, providing the Panel with the opportunity to meet and talk with researchers and research groups. The schedule was as follows:

- 23 March: meeting of the Panel
- 24 March: Helsinki (Åbo Akademi University, STAKES)
- 25 March: University of Kuopio
- 26 March: University of Tampere
- 27 March: University of Oulu
- 28 March: University of Turku
- 29 March: meeting of the Panel

The Panel also met several interest groups during the visits; representatives from university administration and neighbouring research fields: Rector Matti Uusitupa from the University of Kuopio and Deans Heikki Ruskoaho from the University of Oulu and Juha Kinnunen from University of Kuopio, Professor Eero Lahelma from the University of Helsinki and Professor Vappu Taipale, Director of the National Research Centre for Welfare and Health. The Panel also interviewed leading nurses from four University hospitals and health centres (Senior Vice President Anja Seppälä, Directors of nursing Pirjo Varjoranta, Tarja Pukuri, Kaarina Torppa, Liisa Ukkola and Anja Vannes) and nursing polytechnic (Director of education Kaija Lind). The Panel also had a meeting with the steering group.

# 2 Development of Nursing Science in Finland

## 2.1 Early developments

Before academic nursing education started in Finland there was a tendency for nurses to go abroad to study Nursing Science. All these pioneer nurse scientists have left their personal marks on Finnish nursing history, especially in the education field. The most significant move towards a scientific nursing research community was the establishment of the Finnish Nursing Research Institute in 1966. The Institute was a joint effort between the Finnish Nurses Association and the Public Health Nurses Associations as well as the Educational Foundation of Nurses, which had existed since 1944 as a publisher for educational materials in nursing. At first, research activities focused on nursing practice, and during the time research programmes were developed more purposefully, it has focused on the maintenance of health and the development of nursing work. The ideas of academic nursing education in Finland were formulated in the early 1970s (Lauri 1990).

## 2.2 Introduction of university education for nursing

University education in Nursing Science started in 1979 at the University of Kuopio, with a Master's programme in nursing administration. The development of university education was rapid and was then launched in Tampere (1981), Helsinki (1983), Oulu (1986), Turku (1986) and Åbo Akademi University in Vaasa in Swedish (1987) (Table 1 p. 11). The Nursing Science programmes were mostly administered in medical schools or in other faculties e.g. education or social sciences (Sinkkonen 1988). In 1998, the nursing education department in the University of Helsinki was closed. Today five universities offer programmes in nursing and caring sciences.

The entry requirements for Master's programmes in Nursing Science have been almost constant over the years. All universities have an entrance examination and all except Åbo Akademi University require a background in nursing.

The contents of the Master's programmes differ slightly across the universities. In the beginning, the programmes had two main streams, nursing administration and education. The Master's programme in nursing education prepares teachers for basic nursing education. The programme of nursing and health care administration prepares graduates to work as directors of nursing services and as planning officers and researchers. Since 1993, education in clinical nursing has also been available. The options to specialise include acute clinical care, elderly care, and primary health care. So far, there have been very few special positions available directly to those who have graduated from the clinical specialist's programme.

## 2.3 Introduction of postgraduate research training for nursing

One of the strengths of the university system for the nursing profession has been the intensification of postgraduate training and the increasing number of doctorates.

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The first postgraduate licentiate degree was completed in 1982, and the first doctoral degree in 1984, at the University of Kuopio. In the early days, the lack of qualified supervisors posed a problem at universities. Since 1995, the national graduate school system (Finnish Postgraduate School in Nursing Science) has contributed to the quality of education by increasing cooperation across the five universities. A shared doctoral programme for all the universities was planned in 1998.

The doctoral dissertation requires a minimum of three years' full-time work. The post-graduate studies include 40 credit units (60 ECTS<sup>1</sup> credit units). The students must include common parts, such as theoretical, methodological studies or courses in statistics and languages, in their studies. These are organized through examinations, course works, seminars or workshops. (Figure 1)

Admission examination for postgraduate studies
1. General postgraduate studies (7.5 – 12 credit units)
2. Postgraduate studies in Nursing Science (22.5 -37.5 credit units)
a) postgraduate studies in own university
b) studies in the Finnish Postgraduate School in Nursing Science
c) literature review
d) international scientific conferences (max. 7.5 credit units) or
e) in other agreed way
3. Studies related to research area (15-30 credit units)
4. Postgraduate seminars (min. 60 h or 3 credit units)

Figure 1. The required parts of the doctoral degree (60 ECTS cu) (University of Oulu).

## 2.4 Chairs in Nursing Science

The first full-time professorial chairs in Nursing Science were established in 1985. A professorship in nursing and health care administration had been established in 1979 in Kuopio. The first three chairs were in the Universities of Helsinki, Kuopio and Tampere, two further chairs in the Universities of Oulu and Turku were established in the 1980s (Table 1). Since the 1990s, the professors in the nursing departments have also had subsidiary posts in university hospitals, which has significantly enhanced cooperation with clinical staff.

The number of staff working in the departments has increased similarly in every department of nursing and caring sciences. At first, the teaching staff included only one professor, temporary teachers and an assistant. Gradually the number of professors has grown and tenured positions for lecturers and teachers have been established. Competitive public funding (e.g. Academy of Finland), private funding (e.g. Finnish Society for Nursing Education) and international support (e.g. European Union) have facilitated senior researchers to establish research groups. These groups give guidance to both doctoral and Master's degree students, offering them the possibility to undertake their thesis work within the group.

<sup>1</sup> ECTS = European Credit Transfer System

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Table 1. Chairs in Nursing Science

University/year of establishment of the department of Nursing Science	Professors*	Associate professors**	Subsidiary post in hospital	Faculty
Helsinki (1985)***	1985***			Medicine
Kuopio (1979)	1979****, 1985	1981 1984,1997	1990, 2000	Social Sciences
Oulu (1986)	1986	1991	1994	Medicine
Tampere (1981)	1985	1983	1995	Medicine
Turku (1986)	1986	1993	1991	Medicine
Åbo Akademi University (1987)	1987-	1989-	1996	Education (1987-1992), Social and Caring Sciences (1992-)

\* Established in the government budget

\*\* Changed to Professor's position in 1997

\*\*\* Was closed in 1998

\*\*\*\* Nursing and Health Care Administration

## 2.5 An overview of Finnish Nursing Science

In the early stages, the new discipline of nursing science lacked the benefit of research traditions. Universities created their own research policies and departments in each faculty set their own guidelines. In all of the departments the aim has been to set

Table 2. Research areas in the nursing departments in the 1990s (Leino-Kilpi 1996).

Education	Administration
Effectiveness, Quality Clinical Learning and Teaching Client Initiative Cooperation Teacher's Role	Quality Leadership Classifications, Work load Technology Strategies Patient's Role
Clinical Practice	
Theory-building Concept-analyses Culture	
Primary Health Care Ethics Different Groups of Patients Quality Mental Health Communication	
Models of Action	
Health-related Research	
Concept-analyses Health Education	Functionality Family Health
Nursing Science	
Basic Concepts Fields of Science Theories and Models Nursing Disciplines	

up broad research programmes involving increasing numbers of researchers. From the 1990s, the content of the research programmes have been classified as clinical practice, education, administration, nursing science and health-related research (Table 2). The primary focus of nursing research has been clinical, although there also has been great variety beyond this focus and the content of the programmes tends not to have been coherent. This is reflected in programmes covering broad areas and with lack of specified focus. (Leino-Kilpi 1996).

Research conducted at universities is financed mainly in two ways in Finland: part of the funding comes from budget sources, part from external sources. Budget funding to universities is tied to their annual outcome: universities are expected to produce a certain number of degrees and qualifications and to do good research. Two-thirds or 65 per cent of the budget is allocated on the basis of teaching performance, 35 per cent on the basis of research performance. The outcome of the education side is measured by the number of Master's degrees, for research the corresponding measure is the number of doctorates earned (the State and Quality of Scientific Research in Finland 2000). The actual funds for research projects are applied for separately for each project. For Nursing Science the main, competitive public funding sources have been the Ministry of Social Affairs and Health, the National Development Centre for Social Welfare and Health (STAKES), the Academy of Finland, the National Public Health Institute, and the Finnish Institute of Occupational Health. The most important source of funding has been the Academy of Finland. Over the years, private associations have also had a significant role in funding although the amount of money has not been very high. With grants from the Finnish Nurses Association, the Finnish Association of Caring Sciences or the Foundation Nursing Education and many other sources, doctoral students have been able to take leave from work to concentrate on their research or to present their work in progress at international conferences.

# 3 Health and Science Policy

## 3.1 The science policy agenda

### 3.1.1 Academy of Finland and Nursing Science

The Academy's main function is to enhance the quality of and to promote basic research in Finland by selective long-term research funding allocated on a competitive basis, by systematic evaluation, and by influencing science policy. A considerable proportion of the funding of basic research in Finland is channelled through the Academy of Finland.

The Academy's long-term science policy aim is to advance the career opportunities of professional researchers. It devotes special attention to promoting the careers of women and young researchers, to creating high-profile research environments and to taking advantage of opportunities for global cooperation in research, research funding and science policy.

The Research Council for Health is one of the Academy's four research councils. It is responsible for implementing the Academy's strategy in the field of health research. Research provides a solid foundation for the promotion of health and the development of health care. Health research has numerous points of contact, most particularly with basic research in life sciences and with research that has a social science and behavioural science orientation. Nursing Science is one of the fields covered by the Research Council for Health.

Each Research Council consists of a chairman and 10 members, each of them a prominent scientist within his/her field, nominated for three years at a time by the Minister of Education. The members do not represent only their own research fields on the council, obviously as only part of the wide range of research fields relating to health can have a representative on the council at any time. One way to support Nursing Science to develop, indirectly, has been the nomination of a representative of Nursing Science among the members of the Council since 1995, in the last three councils.

### 3.1.2 Strategy for Nursing Science in Finland

The first national action plan for the strategic development of nursing in Finland, including Nursing Science, was launched in 1997. The purpose of the strategy was especially to provide directions and incentives for planning, to promote and strengthen the health orientation, and to support efforts aimed at the well-being of the population. Ultimately the strategy was aimed at raising the quality standards and the productivity of nursing care. The strategy examines the role of nursing care and looks into the ways in which nursing management, education and research can best support the practice of nursing. The aims for a stronger role for research in the development of nursing care, development of research skills and research utilization in nursing practice, are major issues in the strategy. The research focus, methods

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for the evaluation of research as well as national and international research co-operation were set as key targets for developmental activities. The improvement of the organization and funding for research were also of interest due to the lack of systematic funding. (Perälä 1998)

According to the evaluation of the impact of this national strategy, the strategy was used in almost all hospitals and educational institutions in Finland. A stronger role for research in practice and the updating of research skills were regarded as the most important topics for further development of the strategy (Perälä&Vallimies-Patomäki 2002).

### **3.1.3 Health policy in Finland**

The Finnish Government Resolution on the Health 2015 public health programme outlines the targets for Finland's national health policy for the next fifteen years. The main focus of the strategy is on health promotion. The foundation for the strategy is provided by the Health for All programme of the WHO, which was revised in 1998.

Health policy aims to give people a longer and healthier life and to reduce health differentials between population groups. These general targets are still valid, and based upon them as well as on research and expert opinions, the Government concluded that by 2015 it will be possible to reach the following Health 2015 milestones. As targets for everyone, the Government concludes that the Finns can expect to remain healthy for an average two years longer than in 2000, to remain at least the present level of Finnish satisfaction with health service availability and to increase the welfare of those population groups in the weakest position. For different agegroups the Government pointed particularly to child well-being, smoking habits of young people, violent deaths, the functional capacity among people of working age and the improving the functional capacity among population over 75. (Ministry of Social Affairs and Health 2001)

The panel would urge that these health policy aims should shape developments in Nursing Science, as in other fields of health research, over the coming years.

# 4 Nursing Science in Finland today

This information is based on that submitted by the nursing departments and research groups involved in the current evaluation. A total of 58 evaluation forms were returned to the Academy, 55 from them from research groups within the university departments. During the data collection process some minor problems were met. Firstly, it proved to be difficult to report fully on the funding sources for research, especially based on the budgeting system in Finnish universities, because the amount of funding allocated directly to research is difficult to calculate. Secondly, the funding of departments cannot be directly compared with each other.

## 4.1 Resources and funding

### 4.1.1 Funding from the Academy of Finland

Among the main funding instruments are project funding and support for promoting professional research careers, which includes support to post-doctoral researchers for two-years and support for researcher training abroad, Academy Research Fellow posts for five-year periods, support to Senior Scientists for one year (mainly for professors) and Academy professorships for five-year periods, the highest and most competitive research post in Finland. There are also several other forms of support available to researchers i.e. support for international mobility. All funding decisions are made on the basis of competition.

The competition for research funding granted by the Research Council for Health is generally fierce. The success rate within the different funding instruments varies, however. Within small research areas such as Nursing Science it is problematic to assess the success rate of researchers compared to other fields because of the small number of applications; sometimes only one application has been received. During 1997-2002, a total of 73 applications for research funding were submitted within Nursing Science, of which 26 received funding. Support for research projects (general grants) has been the most sought after of the funding instruments; altogether 22 applications were submitted of which seven received funding, which presents 32 per cent success rate. The general success rate of research grant applications within health sciences grew from 33 to 37 per cent during 2000-2002 (figures for 1997-1999 are not available). It is evident (Table 3), on the other hand, that a relatively small number of applications were submitted for funding for international researcher mobility, today an important national target. The key goals of the Academy include internationalisation of research and development of international funding cooperation. The Academy supports international mobility with various instruments, and the success rate of researchers within health sciences has been relatively high, 54 per cent in 1997-2002 (researcher training abroad and invitation of foreign researchers to Finland).

The Academy has supported Nursing Science during the period of the evaluation with about 1.2 million euros (Table 3).



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Table 3. Academy of Finland's funding for Nursing Science in Finland in 1997-2002.

<b>Research posts</b>	<b>Funding applied for</b>		<b>Funding granted</b>	
<b>Research posts</b>	€	Number	€	Number
Academy Professors	1,498,615	4	0	0
Junior Fellows	257,462	3	105,167	1
Postdoctoral Researchers	99,434	2	0	0
Academy Research Fellows	352,537	2	0	0
<b>Total</b>	<b>2,208,048</b>	<b>11</b>	<b>105,167</b>	<b>1</b>
<b>Research programmes</b>				
Research programmes: Ageing (IKÄÄNT), Economic Crisis of the 1990s: Reasons, Events and Consequences; Health and Other Welfare Differences between Population Groups (TERO), Health Promotion (TERVE)	1,577,944	8	36,665	1
<b>Research funding</b>				
Research projects	3,547,582	22	332,163	7
Senior Scientists	279,984	4	56,995	1
Invitation of foreign researchers to Finland	13,472	1	0	0
<b>Total</b>	<b>3,841,038</b>	<b>27</b>	<b>389,158</b>	<b>8</b>
<b>Research training</b>				
Doctoral studies of employed persons	18,165	1	20,183	1
Subsidy to graduate schools and national researcher training courses	1,028,194	5	353,914	4
Appropriations for hiring postdoctoral researchers	694,136	9	161,446	2
Research training and research abroad	27,000	1	0	0
Research training courses	360,386	9	133,450	9
<b>Total</b>	<b>2,100,908</b>	<b>25</b>	<b>668,993</b>	<b>16</b>
<b>International researcher exchange</b>				
Research training and research abroad	56,275	2	0	0
<b>Total</b>	<b>9,784,213</b>	<b>73</b>	<b>1,199,983</b>	<b>26</b>

### 4.1.2 All funding obtained by the university departments

In the evaluation form the funding was divided into direct budgetary funding and external funding. Direct budgetary funding allocates the resources from the university's own budget.

External funding covers funding from other sources than the university's own budget. In the evaluation form, external funding for research was classified as competitive public, competitive private, international, competitive EVO and other sources. Among competitive public the departments included the Academy of Finland, Cities of Helsinki and Tampere, Ministries of Education, Labour, and Social Affairs and Health, Finnish Center for Health Promotion, and university foundations. As competitive private funders the departments mentioned several foundations: Finnish Cultural Foundation, Health Foundation of Finland, and Emil Aaltonen Foundation. International funding comes mostly from the EU, World Health Organization (WHO) and the Nordic Academy for Advanced Study (NorFA) (Appendix C). Competitive EVO (see p. 25) is a special funding mechanism of the

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Ministry of Social Affairs and Health for the teaching hospitals. Other funding reported included grants for students from various sources.

The departments receive most of their funding from universities' own budget but the role of external funding is becoming more important (Figure 2).

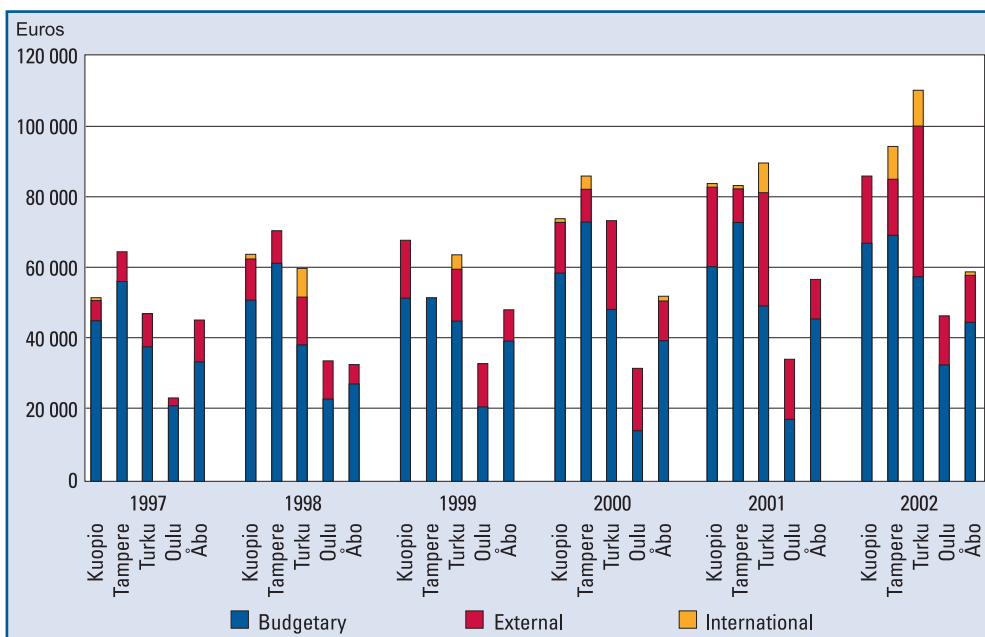


Figure 2. All funding obtained across all Finnish nursing departments.

The role of competitive public funding seems to be the most important among external funding to the Nursing Science, representing nearly 38 per cent of the total funding (Table 3).

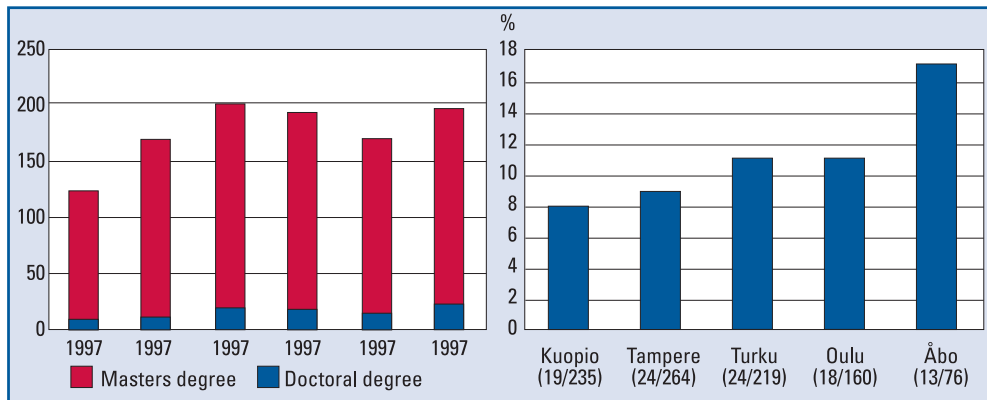
Table 3. Sources of external funding (%) of departments.

Type of external funding	%
Competitive public	38
Competitive private	12
International	10
Competitive EVO	19
Other	21
Total	100

## 4.2 Degrees awarded by the departments

During the period 1997-2002, the total number of completed Master's degrees was 954 and of doctoral degrees 98 across the five nursing departments (Figures 3 and 4). In the University of Kuopio the number of degrees as well as the total funding

of the department have steadily increased (Figures 2 and 5). The number of degrees awarded fluctuates in the nursing departments of the Universities of Tampere and Turku but the funding of the departments has increased in 1997-2002. In the nursing departments of the University of Oulu and Åbo Akademi University the funding has increased specially in 2002 but the number of degrees awarded varies between the years in the evaluation period.



Figures 3 and 4. Number of degrees in Nursing Science in all universities in Finland in 1997-2002 and the proportion of doctoral degrees to the number of Master's degrees in each department in 1997-2002.

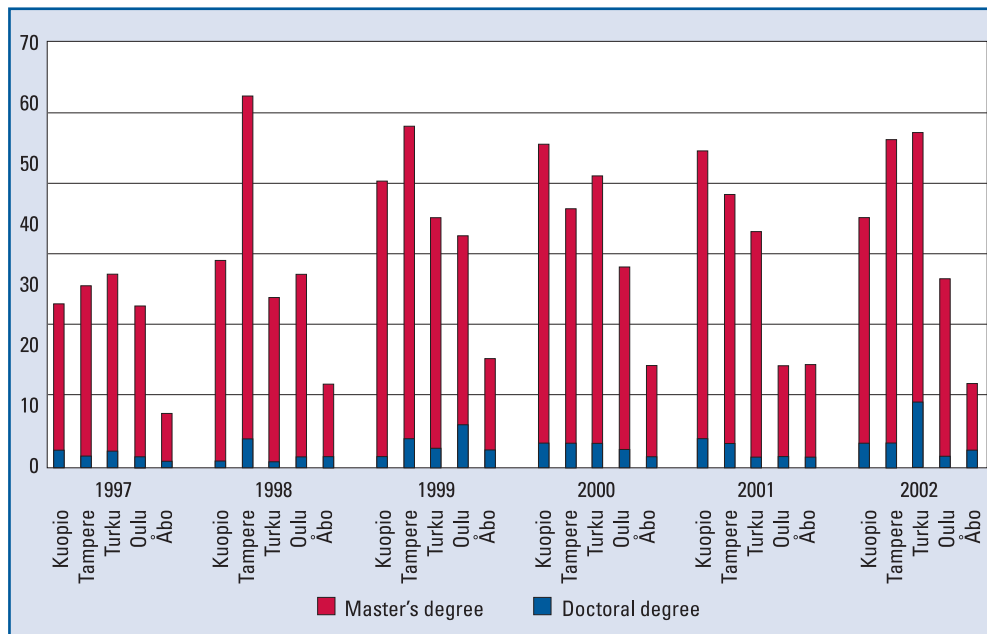


Figure 5. All degrees awarded by the departments.

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### **4.3 An overview of the university departments of Nursing Science**

#### **4.3.1 University of Kuopio**

The University of Kuopio was the first university in Finland to start a Master's programme in Nursing Science with a Health Care Administration option in 1979 within the Faculty of Social Sciences. The Nurse Teacher Education programme was initiated in 1985. Since 1991, the department has also provided education for clinical specialists in occupational health nursing, which was changed to nursing in primary health care in 1993. Master and Bachelor programmes in Preventive Nursing Science started in 1998. The third programme of the department, the Master's in the programme for Nursing Leadership and Management, has been ongoing since 1979. The staff consists of four professors in Nursing Science or Nursing Education, three senior lecturers in nursing and nursing education, other teachers, as well as research fellows, and department secretaries.

The range of research in the department is broad, ranging from preventive care to rehabilitation. The main research interests concern nursing practice and research on nursing education, and more broadly education in health care. The aim of the research programmes is to respond to the needs of Finnish society, population and individuals. Both qualitative and quantitative research methods are used in the studies. Some research projects include cross-cultural elements.

#### **4.3.2 University of Tampere**

In 1981, the University of Tampere launched a Master's programme in nursing administration at the Department of Public Health within the Faculty of Medicine. In 1991, the Department of Nursing Science was established as an independent administrative unit within the Medical Faculty. In 1985, the University launched a Master's programme in nursing education. A doctoral programme was launched in the mid-1980s.

When the Master's programme in Nursing Science started at the beginning of the 1980s, the Department had one professor, one senior lecturer and one assistant professor. In 2002, there are two professors, two senior assistant professors and five senior lecturers. The Department has also an associate professor, amanuensis, researcher, secretary and research secretary.

The research tradition in nursing in the University of Tampere has focused on the experiences of health and illness and on different care practices, their foundations and development, and on the assessment of quality of care. In the 1990s, when different universities started to focus on specific research areas, the University of Tampere focused on family nursing. Family nursing is understood broadly as covering the health of individuals and families and foundations of caring, various phenomena of caring, and the structure and conditions of the health care system. Other study interests are Mental Health Nursing, Nursing Education and Nursing

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Administration. The research work is organized around the research programmes and the aim is to develop theory and use different methods.

### **4.3.3 University of Turku**

Academic nursing education at the University of Turku started in 1986 with a Master's degree programme; doctoral education started in 1988 within the Faculty of Medicine. In the planning period, the department had international consultation support from WHO, and the first structure of the Masters' programme was made in collaboration with the University of Toronto. In the beginning, the Department of Nursing Science had a professor, one assistant and two lectures. For the first two years, nursing education was located in the Clinical Institute of the Faculty of Medicine, and in 1988 the Department of Nursing Science was established. Nowadays the staff consists of two professors, a senior assistant, three senior lecturers, three teachers and two secretaries. The number of researchers varies according to the funding available.

The goal of the department has been to have close contacts with nursing practice. In collaboration with the University Hospital and Turku Health Care Organisation two part-time teacher positions were established.

The aims set out for research in the Department of Nursing Science in Turku are pursued by:

- Analysing the theoretical basis for nursing, particularly value basis, ethics and decision-making
- Evaluating and developing the base of nursing knowledge, practice and education in clinical and elderly nursing care, and
- Evaluating and developing the learning and teaching in health care and nursing, and health care organisations.

### **4.3.4 University of Oulu**

Education in Nursing Science at the University of Oulu was started in 1986 by establishing a nurse teacher programme within the Faculty of Medicine. A Public Health Care programme was started one year later. Education in Clinical Laboratory Science for laboratory technologists was started in 1993, and education in Radiography for radiology assistants in 1999. An expert education in clinical Nursing Science was started in 1994. The staff consists of two professors, two senior assistants, two lecturers, two teachers, one assistant and researchers according to the funding available.

During 1986-1996, the focus of education was on the nurse teacher programme. Research mostly consisted of small-scale studies on specific topics. The department's staff has been located in different units, which rendered cooperation difficult. The primary mission of the University of Oulu is to promote mental and material welfare within its sphere of influence in Northern Finland. The research of Nursing Science in the University of Oulu should address the questions contributing to the promotion the health of the changing Finnish society, population and Finns. The research

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interests currently concern developing gerontological nursing science and studying the compliance of patients with chronic disease and the coping of parents with a child who has a chronic disease.

### **4.3.5 Åbo Akademi University**

The Department of Caring Science at Åbo Akademi University was founded in 1987 and 15 students studying for a Master's degree and four doctoral students started their education that year. In the early years the department belonged to the Faculty of Education, and in 1992 the Faculty of Social and Caring Sciences was founded. As a Finnish-Swedish university, Åbo Akademi University operates in four localities in Finland (Turku, Vaasa, Helsinki and Pietarsaari). The staff consisted originally of one professor and one assistant. In 1988, a lectureship in caring science didactics was established. In 2002, the permanent staff consists of two professors, one senior assistant, three lecturers, one assistant, an administrative assistant, a researcher and a secretary. In addition, there are one temporary lecturer and a researcher. (Appendix D2)

The Department of Caring Science at Åbo Akademi University has aroused interest in the Nordic countries and there are students from all Nordic countries. The department has a humanistically-oriented caring science tradition based on the conception of the human being as an entity of body, soul and spirit. As subsidiary subjects, the didactics of caring science and health care administration have been developed. Research has from the beginning been directed towards basic research, both systematic and clinical, with the focus on the development of the discipline of caring science, the basic concepts, the theoretical core and ethos. The research has been anchored in clinical activity and forms the foundation of evidence-based caring and nursing, for instance at the university clinics in Helsinki. In 1996 the chair of caring science was connected with the university clinic by means of a subsidiary post as leading chief nurse, which was an important step in the development of basic clinical caring science research.

## **4.4 The Finnish Postgraduate School in Nursing Science**

The Finnish Postgraduate School of Nursing Science was established in 1995, when the Ministry of Education allocated the school grants for four full-time doctoral students for a four-year period (1995-1998), and since 1997 the Academy of Finland has funded one doctoral student for a three-year period (1997-2000). In 1999, the financing of the Ministry of Education was continued for 1999-2002 for eight doctoral students and the Academy of Finland also financed a second position for a doctoral student, in all ten students. The financing will be continued for the years 2003-2006. The majority of doctoral students in Nursing Science (altogether 200) are still financed by other external funding or do not receive any funding for their studies. Most of the students by external funding are full-time workers and doing doctoral studies part time. During the years 1997-2002, the total funding of the School amounted to 1,077,520 euros (Ministry of Education 707,550 euros, Academy of Finland 294,270 euros, universities 75,700 euros).

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The Finnish Postgraduate School of Nursing Science is a graduate school network covering all the Departments of Nursing Science (University of Kuopio, University of Tampere, University of Turku, University of Oulu, and Åbo Akademi University). The present director of the Finnish Postgraduate School in Nursing Science is Professor Pirkko Meriläinen, University of Kuopio.

The School's aim is that the students will be able to work as active members of multidisciplinary and partly international research groups, and thereby participate in the group meetings with the responsibility for advancing their own work. The Finnish Postgraduate School in Nursing Science has annually offered 5-6 courses (25 credits/year). Every year the School has invited some visitors from abroad to act as educators in the courses. The students can accomplish the theoretical courses of their postgraduate studies either by taking the curriculum courses, by participating in courses available in universities, and by attending other national or international courses (altogether 40 credits). The students are also encouraged to build up their own scientific network by participating in international and national conferences.

During the period of 1997-2002, a total of 14 doctoral theses have been awarded from the Finnish Postgraduate School in Nursing Science, while the number of all completed doctoral theses in Nursing Science in Finland was 98. The mean age of doctoral candidates of the Finnish Postgraduate School in Nursing Science has been 43.4 years (range 35-54).

### **4.5 Nursing Science in polytechnics**

The Finnish polytechnic system was built during the 1990s to create a non-university sector for higher education. It was founded on institutions that previously provided post-secondary vocational education and that have been developed to form a nation-wide network of regional institutions of higher education. In 2003, there are 31 polytechnics in Finland and 24 of those have Bachelor's degree programme in nursing (Cimo 2003).

Polytechnics are multi-field institutions of professional higher education with a practical orientation. The purpose is to raise the standard of professional skills and to respond to the needs of working life. The programme (140 -160 credit units) consists of basic and professional studies, optional studies, practical studies including on-the-job training periods in hospitals or health centres, and a Bachelor's thesis. The thesis work focuses on nursing practice, e.g. the needs of different health problems of the population, management, and patient education.

The teachers at nursing polytechnics have a Master's degree mainly in Nursing Science and those with a senior lecturer position are required to have a postgraduate degree as well. Thus the polytechnics and university departments work closely together especially in areas where they are located in the same city.

In the Master's programmes in nurse education, students have their on-the-job training at polytechnics, which also makes the cooperation close; several nursing

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polytechnics have included basic Nursing Science courses in their curricula, and the staff working at the nursing departments are also members of the boards of research and development committees at nursing polytechnics.

### 4.6 Nursing Science in government research institutes

In government research units Nursing Science is integrated into multidisciplinary research projects. Many researchers have a background in Nursing Science but they do not identify themselves as nursing science researchers.

#### 4.6.1 STAKES

The National Research and Development Centre for Welfare and Health (STAKES), is one of the research agencies under the Ministry of Social Affairs and Health. STAKES is a centre of expertise in social and health care that promotes welfare and health, aims to secure equal access for high-quality and effective welfare and health services, provides knowledge and expertise to decision-makers and other actors in the field. In 2002, there were 258 permanent employees and 177 employees working in projects.

STAKES has four divisions: Health and Social Services, Promotion of Well-Being and Health, STAKES Information, and Administration. Researchers in Nursing Science are based in the division of Health and Social Services in three different research groups: Research on Practices, Policy and Services for Ageing People, and Mental Health.

STAKES produces extensive, strategic and applied research. Research topics seek to anticipate future knowledge needs in health care to produce methods which enable the follow-up of effectiveness and benchmarking. The general aim is ensure that research results can be utilised and have an impact. The researchers in Nursing Science participate in multidisciplinary research projects as project managers and research directors/team leaders or researchers. Nursing research is integrated into multidisciplinary research projects.

STAKES returned the evaluation form for research on nursing and caring science 1997-2002 and informed having three research groups in Nursing Science (Table 4)

*Table 4. Research groups submitted information in the evaluation of Nursing Science in STAKES 1997-2002.*

STAKES	Name of research group	Number of members
Marja-Leena Perälä	Research on practices: Team 2: Research on health care services and policies from client's viewpoint	9
Irma Kiikkala	Mental Health	2
Päivi Voutilainen	Policy and Services for Ageing People	1-2



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### **4.6.2 The National Public Health Institute**

The National Public Health Institute (KTL) is responsible as a government research institute to ensure that authorities, specialists and citizens have the best achievable new knowledge in their reach. The National Public Health Institute performs research to promote health of the population, monitors issues affecting the health of people, performs many public health functions, develops, assesses and carries out laboratory research, participates in further and professional education in its own field of expertise.

The goals of the Institute are to monitor infectious diseases, vaccination programmes, chronic national diseases, eating habits and environmental health hazards. The Institute has 850 workers, most of which are in expert functions.

The National Public Health Institute has researchers with Nursing Science background, but they did not, however, apply to enter this evaluation.

### **4.6.3 The Finnish Institute of Occupational Health**

The Finnish Institute of Occupational Health is a research and advisory institute whose main tasks are research, training of occupational health and safety professionals, provision of advisory services, and dissemination of information. Altogether ten disciplines related to occupational health and safety are covered by the Institute. The Institute has a total of 850 employees. The Central Institute and six Regional Institutes provide services for the whole country.

The Finnish Institute of Occupational Health has researchers with a background in Nursing Science. However, they did not apply to enter this evaluation.

## **4.7 The Finnish Association of Caring Sciences**

The Finnish Association of Caring Sciences (HTTS r.y.) was established in 1987. Academic graduates and undergraduates interested in nursing research are eligible as members. The association is administered by a board which consists of 11 members.

The purpose of the association is to support and promote research in Nursing Science and its applications in clinical nursing. The association awards grants for research and publishing. It also organizes national and international scientific conferences and promotes regional activity.

Every other year the association organises national and international conferences in cooperation with universities. The association also publishes a Finnish scientific journal *Hoitotiede* (Nursing Science). This journal aims to propagate knowledge of Nursing Science and research findings and to serve as a forum for scientific discussion. The journal includes scientific papers in Finnish and Swedish dealing with the practice and premises of nursing, nurse education and nursing research as well as various Nursing Science reviews.

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### **4.8 The Foundation for Nursing Education**

The Foundation for Nursing Education was the main publisher of literature in nursing and caring mainly for students. From 1996 onwards, the Foundation for Nursing Education has annually allocated awards for research on nursing and caring science. The Foundation for Nursing Education is today one of the financial sources for researchers in this special field.

Of the total annual allowance, 80 per cent is allocated to postdoctoral researchers and 20 per cent to research resulting into doctoral theses. The Foundation for Nursing Education supports educational research in nursing polytechnics every third year.

### **4.9 EVO funding for Nursing Science in clinical practice settings**

EVO funding consists of government payments for research activities under the Act on Specialized Medical Care and reimbursements of expenditure arising from the training of doctors in health care units. The Finnish government pays special state subsidies to university hospitals (so-called research EVO) as compensation for the teaching and research conducted by these hospitals. Compensation paid through the EVO scheme is based on the number of completed basic degrees and specialist's degrees as well as on the number of scientific publications and publication scores. These so-called EVO scores are based on citation analysis using the impact system. The research EVO funds for the year 2002 amounted to 56.8 million euros. EVO funding is awarded to clinical research based on competition.

# 5 Scope, quality and relevance of Nursing Science

A key objective of the evaluation was to obtain an external assessment from an international Panel of the scientific quality of the research currently being undertaken, particularly in the five university departments of Nursing Science, as compared to international standards. The Academy requested the Panel to estimate the strengths and weaknesses of Nursing Science in Finland, and its significance to Finnish society as well as the extent of international activity and collaboration in the field. Realistically, a full and considered assessment of the quality and relevance of the Nursing Science underway would require a much more detailed appraisal of the research activity and its products than was possible for the Panel to undertake within the one-week period set aside for the on-site phase of the evaluation. It is important, therefore, that the comments we make about the scope, quality and relevance of the Nursing Science that we reviewed, are considered in this time-limited context.

Our strongest impressions about the research going on in the departments were shaped on the basis of the presentations that were given by staff members, in their capacity as leaders of research groups/programmes, during our one-day meetings with each of the five Nursing Science departments. In four cases, these meetings took place on site, and the other in the Academy, as detailed in the earlier description of how the evaluation was arranged and conducted (Appendix E).

We also visited STAKES (see p. 23). However, in view of the rather different role of that organization in terms of its involvement in Nursing Science, and the different purpose and scale of its work as a core-funded government research agency, we did not consider it appropriate to evaluate STAKES as such, especially as the National Public Health Institute (p. 24) and the Institute of Occupational Health (p. 24) were not also included. With regard to these research centres, the important issue for the future is the question of how the university-based departments of Nursing Science could best establish more productive and more sustained links with these research-active agencies.

In the departments of nursing, overall, we were impressed by a high standard of research presentations in the course of our visits. There were a few examples of poorly-prepared and/or poorly-focused presentations, but these were overshadowed by the majority that were of a high standard, including the ability to deliver a research paper at a standard of English that generally would be acceptable at international conferences. We appreciate the time and effort that staff had given to their preparations for our meetings with all five of the departments.

Written information that we received in advance of the site visits had provided us with the names of staff and student members in each of the research groups in each of the departments along with the title of each group's research programme or topic. The evaluation form that heads of departments had completed had

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provided us with a one-page overall description of their department's research, and its aims and outcomes, over the six-year period under evaluation. These were rather variable in terms of focus and clarity. We were also provided with a list of publications that had been produced from the work of each of the research groups, along with samples of the published material. A detailed scrutiny of publications arising from research is, of course, the best basis on which to make any real judgment of research quality. The limited time available to us, however, meant that we were able only to look somewhat superficially through the selection of publications provided.

### 5.1 How is Nursing Science being defined?

There appeared to us to be no clear and consistent definition of 'Nursing Science' either within or across the five departments. The consistent focus seems to be placed on the mission or goals of nursing research, and these tend to be described in rather vague terms, such as 'adding to understanding', 'developing knowledge', 'building theory' and 'developing the discipline'. We found a recurrent preoccupation with 'theory' in all of the departments, and especially in the context of research being undertaken for doctoral degrees. Although theory clearly has an important role, both to underpin scientific enquiry and to conceptualize the findings from research, there should be a greater emphasis, in our view, on Nursing Science being seen as a means to an end (i.e. the improvement of nursing) rather than as an end in itself. The concept of evidence-based practice does not appear to be attracting the same level of attention as in other countries. Where it did surface, there did not appear to be clarity and consistency about its definition or about the strategies for transferring evidence from Nursing Science into evidence-based practice and policy with the objective of improving the quality and outcomes of nursing care in Finland's health system. Nursing Science needs to be articulated more clearly, we suggest, and in a way that is likely to be more meaningful to practitioners, consumers, research funders and the scientific community at large.

There is also apparent inconsistency and confusion in the dual use of the concepts of 'Nursing Science' and 'caring sciences' which, for us at least, does not serve well the need for a clear focus on Nursing Science. One department (Åbo Akademi University) is concerned explicitly with 'caring science' (rather than Nursing Science) although it appears to work with a very narrow focus on 'human suffering' and within the confines of an understanding of caring that is founded on the ideas of 'love' and 'mercy'. This somewhat idiosyncratic definition arguably does not sit comfortably alongside a twenty-first century definition of Nursing Science. Nor does it appear to reflect the wider scope (as we understand it) of 'caring science' as a multidisciplinary discipline, and one that extends beyond those who are members of healthcare professions.

Other countries have found it useful to agree on a common definition of Nursing Science/research, or to adopt one already in use elsewhere, either nationally or internationally. We suggest that it would be useful to develop a national consensus in Finland on a common definition for Nursing Science.

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### 5.2 Scope and focus of Nursing Science in the five departments

Before commenting further on general issues pertaining to all five departments, some comments will be offered on the scope and focus of Nursing Science in progress within each of the five individual departments. Comments in this section of the report should be interpreted in the light of the wider information already provided about the departments (Appendix D).

**University of Kuopio:** Although this department's research programme overall also was characterized by the aim of developing "sound theoretical and methodological knowledge", this was coupled with the aspiration of producing "new innovations and interventions for health care and society". On the whole, their research work is focused on practical and socially-relevant topics. Current work is organized into three programmes: preventive Nursing Science research (with emphasis on health promotion and health education); clinical nursing research (including studies focusing on health-related quality of life in chronically-ill patients); and research into nursing education (including cross-cultural comparison).

Within the first of these programmes of work, the involvement in an EU-funded participatory action research project that is engaging a network of Finnish health-promoting schools is one of the more prestigious projects currently underway in this department. There are ten sub-projects attached, including, for example, initiatives to support young people to establish healthy behaviours (non-smoking, mental health, nutrition etc) and to develop teachers and school nurses towards competence in health education. The department's participation in this project, which appears to lean more towards action than scientific research (as is typical in EU-funded demonstration projects of this kind) is led by Professor Kerttu Tossavainen, and six of the department's doctoral students are working in association with this project.

In the second programme, the set of studies relating to health-related quality of life in chronic illness is being undertaken under the leadership of Professor Pirkko Meriläinen. This work is engaging in one way or another a good number of the staff and quite a large number of PhD and Master's students. Much of the research is focused on specific conditions (e.g. MS, breast cancer) while some is topic-focused (e.g. sleep as a factor in HRQOL). Although this appears to be an interesting programme, and one that is producing publications and degrees, its distinctive contribution to the large body of research literature internationally that already exists in the area is not entirely clear.

That criticism, or question, is one which we consider also applies to other research underway in this department and, indeed, in all of the departments. If Nursing Science in Finland is to make an impact at the international level, then the new contribution that it is making to overall knowledge needs to be more clearly articulated. And, where research is concentrating on topics that are also actively under research in other nursing departments in Finland, the specific interests of each department need to be made clear. Where interests overlap, either one department should discontinue its work or else there should be more direct collaboration. For example, 'assessment and alleviation of children's pain' is a productive area of

research in Kuopio, under the leadership of Professor Katri Vehviläinen-Julkunen, and it has attracted funding and students. However, it also is an active line of research in Turku and so there is scope for collaboration, and the prospect of building up a strong, national programme of research that neither department might be able to achieve on its own.

Scale and depth in Nursing Science in Finland, and not just in Kuopio, is being sacrificed by maintaining a wide breadth and variety of research work. There are only 11 members of staff in the department Kuopio – and almost as many different research topics currently under investigation. There is some strong research that is producing a growing number of publications, and some of it has attracted external research grants (and/or has potential to do so). Ruthless concentration around these foci would allow work of larger scale and greater depth to be developed; and, as a result, the quality of the work would be lifted closer to international standards with studies more focused on nursing interventions that draw on nursing knowledge internationally. There is always a tension in small departments: on the one hand, breadth of research allows individual interests to flourish and to inform a wide range of teaching but, on the other hand, this inevitably leads to disparate and small-scale research activity. More overt cooperation between and across the five departments could help to alleviate this tension. Finland, being a small country, is in a unique position to exploit the potential to develop a productive, shared research agenda.

**University of Tampere:** The limitations that arise from variety and breadth, rather than focus and depth, also were apparent in this department. With roughly the same (small) number of staff (10), there were as many as 17 research groups listed on the evaluation form from this department. In reality, much of the work in the groups are projects rather than programmes of research and, again (as in all of the departments), the majority of the active research is being done by doctoral (and Master's) students rather than by staff members.

The foci of research work were described as 'family nursing', 'mental health nursing', 'nursing education' and 'nursing administration'. The department claims as a strength the close connection between its research and nursing practice, and also with researchers from other disciplines. Research across the department is said to be organized through a framework of 'caring' (foundations and premises of caring, caring as action, preconditions of caring) and studies are categorized under these three headings in the department's own document describing its research programme. The application and value of this conceptualization, however, were not self-evident in the research presentations during the site visit, or in the published output from the department, and we are not convinced that this framework is either a necessary or a useful device.

Research that uses the conceptual framework of 'family nursing' is one of the areas in which this department has established an international reputation. Studies underway or completed during the six-year period of the evaluation have focused on parenting and support during parenthood; educational and social support for needy families or those living with chronic illness; identification and management

of domestic violence, including child abuse; elderly care; care of grieving families; and promotion of mental health. There is scope, we suggest, for pulling some of these separate strands of work into a smaller number of substantive, more coherent research programmes. One example of what can be achieved as a result was presented to us at the site visit, by Professor Eija Paavilainen (leader of the research group), on 'The identification and care of domestic violence'. This has developed since the initial work in 1994 into a cohesive research programme that is productive (16 publications to date); that is attracting external funding; and that is beginning to make an impact on national policy designed to address the problems of family violence that, in Finland, are recognized now as being problems of social significance.

For a small department it also is notable that there currently is participation in two EU-funded research projects. The OSCAR project (Occupational Stress with Clients in Acute Response) involves four other European countries; it is a three-year project (started in December 2001); and is seeking to introduce more effective management of occupational stress in mental health services (which is a global problem) and to introduce more effective management of violence through better risk assessment. The ISADORA study (Integrated Services Aimed at Dual Diagnosis Optimal Recovery from Addiction) is also a three-year project; it started a year later; it is a seven-centre study; and its objectives are to identify care pathways for patients with a dual diagnosis of addiction and serious mental health problems. The plan is eventually to introduce education and service developments that will better meet the needs of these vulnerable patients. Dr Heli Laijärvi (SL) and Dr Maritta Välimäki (Senior Assistant Professor) are among the lead staff members on both of these EU projects.

**University of Turku:** A more overtly strategic approach to research planning was apparent in this department and, since 1991, a programmatic approach to Nursing Science has been developing. How to achieve this with a small staff group (11 permanent positions), however, continues to challenge the department. Currently the work is grouped into six 'areas of research': value basis and ethics in nursing; clinical decision-making; evaluation and development of clinical nursing; evaluation and development of elderly nursing care; evaluation and development of learning and teaching in health care; and evaluation and development of health care organizations. The first two of the areas are regarded as more theoretical in nature (basic research); the second two as more clinically orientated (i.e. impact of nursing on the patient); and the last two as responsive to the department's felt obligation to link research overtly with its teaching and, more importantly, with the local healthcare facilities with which it has active collaboration. The department acknowledged, however, that the structure of its research programme needs to be reviewed and sharpened, and strategies for obtaining more (and more secure) research funding somehow need to be developed.

There has been considerable success, however, in obtaining EU funding for support of the programme of research under the leadership of Professor Helena Leino-Kilpi, relating to nursing values and ethics. Over the past five years, a multinational project investigating patients' rights (autonomy, privacy, informed consent) has been conducted and a second such project now is examining ethical codes across

seven countries in Europe. This area of the department's research has an established international reputation and we were told that a total of 36 refereed scientific papers and a further 20 or so publications have emanated from this programme of work. The need now to consolidate the contribution of this research so far through meta-analysis and synthesis of its numerous projects is recognized.

Indeed, this is a necessary next step for other areas of research in this department (as in the others). In relation to the topic of clinical decision-making, for example, we learned that 162 Master's dissertations had been conducted since 1988 under the supervision of Professor Sirkka Lauri, recently retired from the department. Small projects in their own right are not expected to make any significant contribution to knowledge but there ought to be potential to extrapolate some substantive outcomes from such a very large collection of studies in one area. In general, postgraduate research in the departments, and especially at doctoral level, appears to be in need of very much stronger direction to ensure that individual studies are linked coherently to the common issues and objectives of the programmes of research to which they are attached.

The more focused a programme of research, the easier it becomes to ensure that doctoral studies (and Master's dissertations) have the potential to make a functional contribution to a staff-led programme of research. A clinically-orientated research theme also maximises the opportunity for interested clinical colleagues to collaborate actively with nursing research being conducted in academic departments of nursing. The research programme centred on 'Nursing care of patients in pain', being led by Dr Sanna Salanterä (Assistant Professor), is a good example of a research area that has potential to attract clearly-focused doctoral studies and to exploit clinical collaboration as well as the opportunity to seek EVO funding. There is also the danger, however, that scientific research can become overshadowed by 'development projects'. And, of course, pain research is an area that is well-developed internationally in the nursing field (and beyond) and so the purpose and focus of any particular research programme in this area needs to be clearly and carefully defined. There is already some overlap in the area of paediatric pain management between work in this department and that being undertaken in University of Kuopio. Collaboration would ensure that this common interest across the two departments is exploited so that duplication and unhelpful competition are not allowed to develop.

**University of Oulu:** There is a shorter research history in this department, its original mission being concerned with the training of nurse teachers. The staff group is small, with only nine members (of which all hold a PhD). Research activity, therefore, is less extensive as yet, and with less breadth and variety. Even so, there are four research groups and, within each of these, there are separate sub-programmes and research projects and, again, clarity of purpose and focus would benefit by being sharpened. The four research groups are concentrating on: gerontological nursing science; compliance of adolescents with chronic disease; quality of life and rehabilitation of patients after surgical or conservative treatment ('quality and cost of treatment chains'); and development of an integrated curriculum at Master's level in mental health nursing. The research focus of the last of these groups was not particularly clear.



The group that is concentrating on gerontological nursing research has been working out a schema for purposes of structuring its research work, under the leadership of Professor Arja Isola, the head of the department. Currently this programme covers four main fields of research – ‘nursing and living environment’, ‘specific phenomena in elderly nursing care’, caring needs of marginal groups’ and ‘ageing as a multidimensional phenomenon’. Current projects are assigned to these areas. Some of the projects are theory-driven (e.g. to develop a theory for older people recovering from depression) but many are focused in a practical way on significant clinical and social issues, such as the quality of gerontological care, use of physical restraint with elderly patients, abuse in elderly care and family members’ experiences of the placement of patients with dementia in long-term care and hospice care. Nursing Science that seeks to contribute to the improvement of the quality and effectiveness of nursing care for older people is self-evidently a priority area for nursing research in Finland, as it is in all countries that are experiencing population ageing. Gerontological nursing research is an area with potential to attract funding and with potential (and need) to involve collaborators from the clinical areas, from other disciplines (especially geriatric medicine) and from other nursing centres internationally where gerontological nursing research is already well established. We recommend a more collaborative and outward-looking approach to the further development of this potentially important area of research in the Oulu department.

The other particularly promising programme of research in this department is concerned with ‘Compliance of chronically ill adolescents and their coping in every day life’. This work is being led by Dr Helvi Kyngäs with the benefit of a three-year postdoctoral fellowship from the Academy of Finland. There are strong elements of innovative thinking and investigation in this programme of work, both on the theoretical side (e.g. the development and testing of a model of compliance) and on the side of developments in practice (e.g. development of a computer-based version of an instrument to use in clinical settings to evaluate compliance). International links are being developed with researchers in USA, Europe, Japan and Australia. We were surprised to learn that medical staff locally do not seem to be interested in collaborating with this work even although it appears to be firmly grounded in clinical practice. Lack of highly active collaboration with medical colleagues and with academic colleagues of other disciplines was a feature that we noted to some extent in all five of the Nursing Science departments. Certainly, the Dean of Medicine at University of Oulu, in which faculty the nursing department is based, was wholly positive about encouraging inter-disciplinary research. This same view was expressed to us by another Dean and a Principal that we had the opportunity to meet in the course of our visit.

In particular, there appears to be a distinct lack of collaboration with educational researchers in the context of research being conducted in the five nursing departments, including Oulu, under the name of ‘nursing education research’. On the whole we found that research of this type was parochial (i.e. local to the department and conducted only on its own courses and its own students) and, like nursing education research in general, it tended to be rather weak methodologically and without the support of adequate (or any) research funding.

**Åbo Akademi University:** As already mentioned, this department's concentration is firmly on 'caring science' and it conceptualizes this discipline as being divided into 'systematic caring science' and 'clinical caring science'. The department's research activity is described in these terms; most of the work has been driven by Professor Katie Eriksson's theory of caring; the research is characterised by use of qualitative research methods (mainly hermeneutics and phenomenology); and claims of the contribution made over time are framed primarily in terms of the theoretical development of caring science as a discipline. The main emphasis in the clinically-orientated studies is that of "searching for the context-specific characteristics of suffering and caring". Typically, a research group in this department consists of one of the professors, one other postdoctoral researcher and a sizeable number of doctoral students. Professor Eriksson supervises many of the students and, over the period under evaluation, she has shouldered the responsibility of acting as supervisor for as many as 22 doctoral theses.

Whether or not the heavily theoretical approach to research in this department, and its almost exclusive reliance on one dominant and internally-developed model, is an appropriate direction for all future work here is a question that we believe needs to be debated. The basic assumptions that still drive research and education in this department were developed in 1987 and conserving ideas, rather than challenging them, may be inhibiting strong critical thinking. While, ironically, most nursing departments suffer from a lack of focus, there are also serious disadvantages and dangers in exclusive concentration on one line of research, and especially if one theoretical model dominates all thinking. We were encouraged to hear that at least one clinical practice setting (with which Åbo Akademi University has links) does maintain a strong interest in this theoretical framework, and in their current research. It was of concern to us, however, that the staff members who presented their work to us, and the group of PhD students we met, did not appear to be actively questioning their rather unusual and highly consensual approach to research.

Their work, however, is being exposed to the international nursing research community through the publication of some papers in international nursing journals. It also is the case that other well-known nurse scholars in other countries also have built an international reputation on the basis of similar research and writing on 'nursing as caring'. The nursing community at large, however, does tend to be split in its view of work in this genre and the fact that all three of us on the Panel happen not to regard it highly (as Nursing Science) needs to be taken as representing just one view (or, rather, the view of three individuals!). We welcome the fact that more of the more recent publications from this department do appear to be focusing more directly on the application of caring theory in clinical practice (e.g. studies involving childbearing women, women with breast cancer and patients with psychiatric diagnoses). We recommend strongly that this trend should continue. We also recommend that a more critical approach be applied, especially with regard to the work undertaken by doctoral students who study in this department.

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### 5.3 Research areas and topics

As illustrated, the areas and topics of research being pursued in and across the five Nursing Science departments are wide-ranging. All of the departments have taken the important step of forming research groups, thus beginning the important move away from individual research activity towards a programmatic, collective approach to research. In all cases, however, there are too many groups for the small numbers of staff in all of the departments, and few of the groups are pursuing a cohesive and focused research programme. The vague descriptors attached to many of the so-called research groups reflect their lack of focus, and this is evident in the disparate range of projects that are underway in many of the groups. Functional descriptors, such as 'nursing education', 'nursing management', 'clinical nursing' and 'theory development' do not serve well in providing a conceptualization for articulating Nursing Science to consumers, practitioners, research funders and the scientific community. Rather, these are programmes of study, not areas of science.

Several recurrent themes were evident in the research underway in the departments, including caring, culture, quality of care, quality of life, chronic illness, health promotion and counselling. The same language, however, tends to be applied inconsistently across departments: for example, the concept of counselling is defined differently by different research groups and may be better described as patient education, although this may not be the actual meaning behind some uses of the term.

Several programmes of research on topics such as family violence, paediatric pain and adolescent compliance are more focused, however, and these might provide models for other areas of Nursing Science. Gerontological nursing research, for example, is an area (and a vital one) that needs to be broken down more clearly into discrete lines of research investigation, with different research groups concentrating on different topics over time.

Research programmes in the departments are too often defined and shaped (or mis-shaped!) by the topics selected by their Master's degree and doctoral degree students. While such students may be selecting topics that are interesting and sometimes innovative, this process of defining the research agendas in the Nursing Science departments is backwards. It is the research-experienced members of the departments who should be defining the focus, scope and dimensions of their programme of research, inviting students to join this ongoing programme and contribute to it in a purposeful way.

There is also a need for criteria that differentiate between 'a project' and 'a programme' and 'a research group'. Some of the research groups consist of one professor and a few PhD students while others include several professors, senior lecturers, clinical collaborators and many postgraduate students, both Master's and PhD students. Some senior staff were listed as members of several research groups, sometimes covering very different areas of research. Thus, it was clear that the nursing departments are using these various terms inconsistently, and it

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was unclear what constituted a project as distinct from a programme of research. Some research groups were working with very broad themes that might inform a programme of research over a 20-year time span while others were made up of specific, time-limited projects. How the research groups had evolved, and how they are being led and managed, was not clear to us. These are critical aspects of research management that need to be addressed within each of the departments but, ideally, with common agreement on the use of various descriptors.

The Academy of Finland might consider facilitating the development of a conceptual map that would help to identify for the medium- to long-term future a number of national co-ordinating centres in Nursing Science. These would be based in the different departments of Nursing Science. The move towards that would first start with the development of substantive programmes of research across departments, involving multicentre studies, and in the shorter term these could become designated as 'research centres'. In time, the successful 'small-c centres' would be in a position to apply to the Academy (or elsewhere) for designation as a 'capital C Centre'. The eventual outcome would be a national network of inter-departmental centres for Nursing Science in Finland rather than the perpetuation of local, intra-departmental research.

In summary, themes for Nursing Science that can be easily understood by healthcare consumers and providers, as well as funders and other researchers, need to be developed. Significant energy and resources should be concentrated on major themes, capitalizing on scope for collaboration on common themes across the departments and, in the longer term – we suggest – on building up national co-ordinating centres in specific, key areas of nursing research. Within each department, postgraduate research topics should contribute to programmes of research rather than define their direction and continue stretch the scope of ongoing research. There needs to be greater clarity about what constitutes a research group, how it is established and how it is led and managed over time; and, similarly, the concept of a 'programme of research' needs to be more clearly defined.

### 5.4 Gaps in research

Perhaps the most significant gap in current research arises from concentration on the four functional areas noted above, rather than focusing Nursing Science on human phenomena related to health and illness, and on people's nursing needs.

One area that appears to be almost totally lacking in the current research is the broad area of physiological markers, especially their integration in all clinical studies where they have clear relevance. Because Nursing Science is a clinical science linked intimately to clinical practice, there is a strong need to develop links between psychosocial measures such as stress, coping, and quality of life, with physiological markers such as hematocrit, blood pressure, viral load and stage of disease.

Interdisciplinary clinical research – centred firmly on patient/population problems and aimed directly at improvement of patient outcomes – also needs to assume a higher profile in Nursing Science in Finland, as it does in other countries as well.

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In order to identify significant gaps in the current research, the first step is to work on developing a common definition of Nursing Science, and greater consensus around the main themes for Nursing Science development in Finland. This process will then begin to reveal any significant gaps. This is a process that needs to be undertaken, not just by the five university departments of Nursing Science, but also in conjunction with the other main research agencies, notably STAKES, and involving the range of stakeholders who have a vested interest in nursing research. No country is able to sustain a Nursing Science agenda that is fully comprehensive, and certainly not a country as small as Finland. There always will be 'gaps' in the overall research portfolio in any one country. The question that needs to be asked is where the major gaps lie in the Finnish context, and how these could and should be addressed.

### **5.5 Societal and clinical relevance of current research**

Most of the research being undertaken does have relevance, either socially or clinically, but to varying degrees. It was the department in University of Tampere where the sense of 'societal relevance' perhaps came across to us most strongly through their work on supporting families and promoting health. And, in University of Oulu, there seemed to be a particularly strong attachment to the importance of clinical relevance in Nursing Science. No research group, however, talked about the inclusion of consumers of health care in their programme of research. There was no evidence of community members being asked to help formulate research policy, questions, or methods, or to engage actively in the process of research dissemination and evaluation. In other countries, such as the USA and the UK, consumer involvement in health research has become common practice, indeed now it is usually a requirement attached to any public funding for health-related research. The involvement of consumers would assist Nursing Science in Finland to move in directions that strengthen the societal relevance of future research.

While the EVO funds have presented a wonderful opportunity for research in collaboration with nursing (and other) colleagues in the clinical setting, they also have created a danger that the Nursing Science departments might become forced to focus more on educational or developmental projects, rather than on research itself. An example that illustrates successful linkage between basic and applied research is the pain assessment work in the Turku department. First, basic research focused upon developing scales to assess post-surgical pain management procedures and then projects focused upon the development of clinical practice guidelines in the clinical settings to improve the management of pain. The compliance project in Oulu's department has had a similar history. It focused initially on the measurement and predictors of compliance among adolescent diabetics, and now has a project to develop a computer-assisted assessment scale for use by clinicians in the service settings. These projects were able to continue their basic work and also contribute significantly to the improvement of quality of care. Nursing Science of this kind gains credibility with clinicians because of its relevance and impact on practice but, at the same time, scientific ingenuity and rigour are not lost.

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### **5.6 Innovativeness and international competitiveness**

There is some evidence of innovativeness and international competitiveness in a few of the current programmes of research. On the whole, however, we found that projects and programmes are not capitalizing enough on the now-large international nursing research literature, nor seeking actively to place new work in Finland at the cutting edge of Nursing Science internationally. This tendency is not unique to Finland. Nurse scientists have been slow in positioning their work in the global context, tending to conceptualise problems in the local context and repeating research, whether knowingly or in ignorance, rather than replicating past work or moving it on to produce new knowledge.

Much of the current research is locally conducted and more multicentre studies would lift more of the work from a local to a national level of significance and influence. This would be especially valuable in research that is national: that is, where the issues are culturally-influenced or heavily dependent on specific features of the Finnish healthcare system. In areas of work that are not highly specific to Finland, international collaboration is the goal and this is a strong feature already in some of the projects underway in the departments. This is to be commended. It has not happened because nurse researchers in other countries have sought out Finland (although a few have done so) but primarily because the current professors have been highly proactive in forging international connections. In particular, there also has been a notable level of achievement in terms of Finnish participation in EU-funded multinational nursing research projects in Europe.

Innovativeness and international competitiveness would be increased by the stronger linkage of Nursing Science to health-related research underway in other disciplines. Research on pedagogy is not linked well to departments of education and we would argue that this anyway requires to be done by researchers whose PhD training is in education rather than in nursing. Research on nursing management in some settings is not linked well to health services research. Studies on clinical topics are often not linked, when they need to be, with interdisciplinary collaborators and, in our discussions, we encountered some examples where there is not even awareness of the potential benefit of such linkages. The misdirected focus upon 'caring' and 'theory' is impeding the development, we believe, of an understanding of the wider context in which Nursing Science must be set, and with its application clearly focused on human health and clinical nursing practice.

There are some examples of research topics that demonstrate depth, significant contributions to the literature, and potential implications for enhancing human health and clinical nursing practice – but not enough. There certainly is a growing contribution from Finland to the international nursing research literature. Some of this is excellent. Much of it, however, is in the form of papers submitted by doctoral students in fulfilment of their PhD. Although sometimes innovative, and although successful in getting published in international journals, small-scale PhD studies do not constitute research of international quality or competitiveness unless they are strongly embedded in a larger programme of research being led by an experienced nurse scientist.

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### 5.7 Quality of Nursing Science

Some views on 'quality' have already been expressed, both directly and indirectly. Overall, there was very great variability in the quality of the science as presented to us by the research groups in the various departments. Several groups have had excellent international collaboration and international publications. Work that has resulted primarily in Finnish publications obviously was impossible for us to evaluate but, by definition, is likely to be of lesser quality than work seen to be worthy of translation and international publication.

We were concerned, as already noted, about work that relies solely on philosophical research methods to examine and re-examine elusive concepts such as suffering and caring. Work of this kind does not appear to us to be contributing to Nursing Science nor does it serve well the challenges of human health or clinical nursing practice. The training of doctoral students following this methodology raises concerns about the rigor and quality of their scientific training and their potential contribution in the future to Nursing Science that seeks improvement in human health and clinical nursing practice. 'Quality' in science is an elusive concept but we would expect it to include clear evidence of critical questioning of assumptions, innovative thinking and consideration of various research approaches to address any question or problem selected for examination.

We also have raised questions about quality of Nursing Science in terms of the very heavy reliance on the work of Master's and doctoral students who, by definition, are trainees and not trained researchers. In reviewing Master's and PhD dissertations, there was evidence of very wide variability in the rigor of the science. Too many studies consisted solely of interviewing a very small number of individuals, perhaps as few as eight people, and we have to question whether such small-scale work constitutes 'quality research' even at the level of postgraduate study. More is said about the quality of postgraduate research specifically in the next chapter of the report (Ch 6).

Even in the research undertaken by the doctorally-prepared staff, the predominance of the science, both qualitative and quantitative, has been descriptive. Unfortunately, a great deal of the descriptive research has paid insufficient attention to sampling issues and very small sample sizes (even when doing quantitative research) are still common. There is a general need to enhance the quality of the research methods, and to diversify the approaches adopted in Nursing Science. There was virtually no evidence of clinical trials or experimental research of any kind. Intervention studies to test evidence-based approaches to nursing practice were rare. There was generally too little emphasis on measurement of clinical outcome or change in health status. There was little sophistication in statistical analysis. There was virtually no longitudinal research. Economic evaluation did not feature.

Those observations, however, are not unique to Nursing Science in Finland but tend to be shortcomings more generally in the discipline, and they are indicative of the still-early stage of development in nursing research. In the UK, for example, many of the same shortcomings were evident in the work assessed in the course of the most recent (2001) Research Assessment Exercise.

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Ongoing training in research methods for faculty members, and more opportunity for postdoctoral training with expert researchers from other disciplines, would assist the development of Nursing Science in Finland in terms of its methodological quality and rigour. Exposure to a wider array of research approaches would encourage a culture in which the research question drives the selection of the method, not simply perpetuating the reliance on a comfort level with a particular type of methodology. These are harsh criticisms of the quality of Nursing Science in Finland and, again, it must be emphasized that they are not unique to this setting. There are real reasons why quality in Nursing Science continues to be compromised, as we will discuss later, these centring on lack of time and resources for research, and lack of opportunity for doctorally-trained nurse scientists to benefit from further training and wider experience of research and research management.

### **5.8 Productivity**

A consistent theme in our evaluative comments is the great variability we observed both within departments and across departments, and this is also true with regard to research productivity. A number of research programmes and individual researchers have been highly productive in their work, producing many publications. Productivity levels of other staff members were more modest.

A summary of the peer-reviewed publications produced in each of the five departments during each year of the period under evaluation is provided in Figures 6-10. The publications are differentiated as 'national' or 'international'. Numbers of publications can only be considered sensibly in the light of the numbers (and levels) of staff in post in each of the years in question, and that information is not available. It is difficult to see what conclusions can be drawn from these data. There is not a clear and strong trend over the period towards a greater proportion of the research outputs being published in international rather than national journals. There are some differences in the distribution between the two categories across the departments: for example, the balance towards international publications is stronger in some than in others, and in one it is very weak. The need for dissemination also to target the national and local levels of readership is, of course, appreciated. And the added demand on nurse scientists in Finland to publish their research in their second (or third) language must be acknowledged. What is not strongly evident, but might have been expected, is a steady upward trend in terms of the total numbers of publications over the years in each and all of the departments. This is the picture in one department (Tampere) but from a lower starting point and in another (Turku) there is, more or less, an upward trend, but from a higher baseline, although the proportion of international publications remains lower than in other departments.



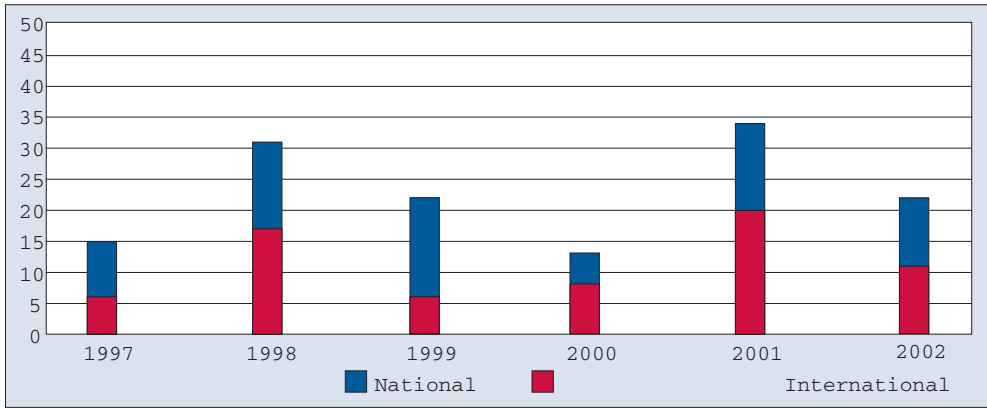


Figure 6. The annual number of scientific articles in the University of Kuopio.

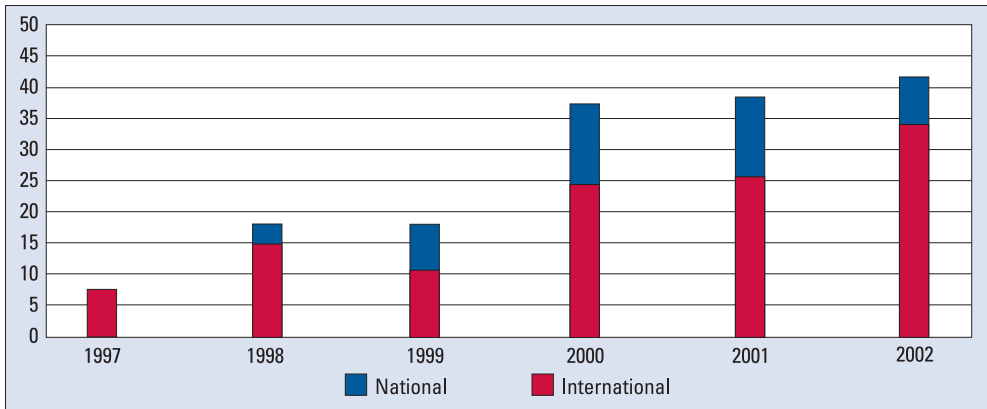


Figure 7. The annual number of scientific articles in the University of Tampere.

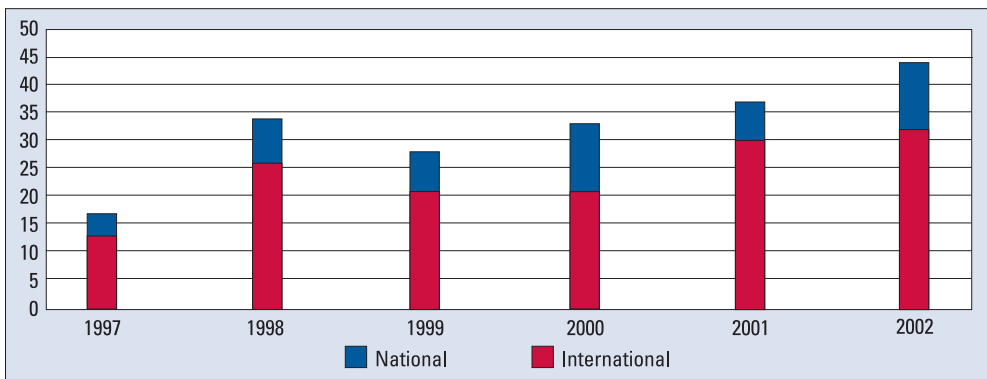


Figure 8. The annual number of scientific articles in the University of Turku.

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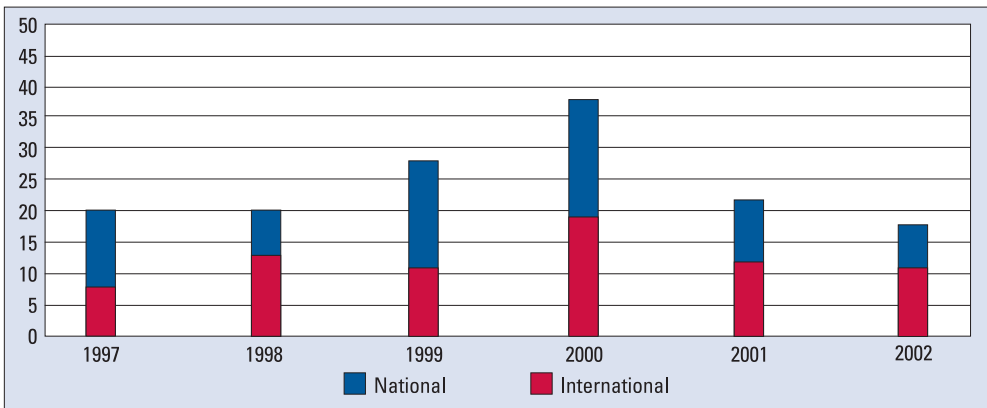


Figure 9. The annual number of scientific articles in the University of Oulu.

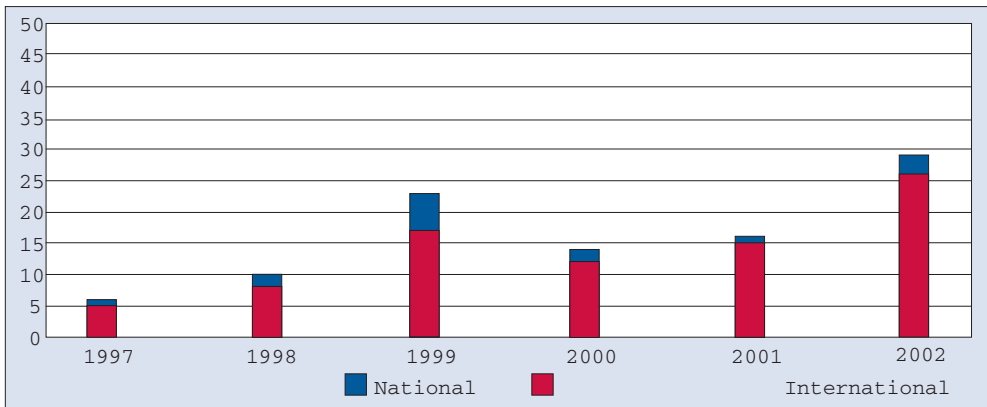


Figure 10. The annual number of scientific articles in Åbo Akademi University.

Aside from numbers of publications *pre se*, one strong impression that we did get is that the research productivity of staff in the departments is currently much too reliant on the work of their students. The requirement for doctoral students to publish four (or more) papers in international journals may be leading to a questionable level of ‘salami slicing’ (i.e. publishing multiple papers from a small data set). This would be a regrettable trend. There appeared to be few papers reporting substantive research or the synthesis of findings from a group of related projects. There appeared to be too few papers being published under the lead and sole authorship of staff. There appeared to be very few papers that reflected productive collaboration with non-nurse researchers.

## 5.9 Collaboration

While some of the work in some of the departments is clearly linked with inter- or multidisciplinary collaboration, this was not a common aspiration. In fact, one faculty member was incredulous when asked if she might seek to collaborate in her research with a medical colleague. There is a need for discussion and clarification of the benefits and potential risks of collaborative, interdisciplinary research in

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Nursing Science. What did impress us, in contrast, was the very strong support for engagement of Nursing Science in multidisciplinary research that was signalled to us by those we met from other academic disciplines in the course of the site visits, the visit to STAKES and the representatives we met in the Academy of Finland.

There was generally a highly positive attitude, however, towards collaboration between the nursing departments and their local nursing practice settings. This positive view was held equally by the directors of nursing whom we met in the course of the site visits. We were impressed that these senior members of the nursing service talked very positively about Nursing Science and about their strong wish to support nursing research, and to exploit opportunities for research collaboration.

Closer collaboration between the Nursing Science departments and the polytechnics also would appear to be an important line of development. There is a need, as we discuss later, for the research preparation provided in the course of first-level nurse education in the polytechnics, and then later at the postgraduate levels in the university sector, to be more closely aligned. Additionally, it would appear that there is a need for university departments and polytechnics to be talking together about their research agendas because, although we had understood that staff in polytechnics are not expected to be research-active, one nursing head in a polytechnic told us that at least some staff were research-active, and more wanted to be involved in research. Given that many of the PhD-trained nurses move on to employment in the polytechnics, it is important that this group do capitalize on their research training.

And, finally, as we have identified already, there is scope for much closer collaboration in research between and across the five nursing departments themselves. It was clear to us that there have already been discussions among the professors and heads of the departments which have led, for example, to the movement towards programmes of research in each of the departments, and with at least some attempt to differentiate their focus. The National Postgraduate School of Nursing also has promoted a climate of collegial and cooperative discussion and development. The time is ripe for the potential for active research collaboration across the departments to be exploited to a much greater degree than at present.

### **5.10 Funding**

Research income in each of the years under the evaluation period for each of the departments was shown in Chapter 4. The financial information was time-consuming for departments to provide and, even so, it is difficult to draw many conclusions from the data available. Comparisons across the departments are not particularly meaningful and numbers (and levels) of staff would need to be properly taken into account. In general, the fortunes of the departments as far as external research funding goes appear to be somewhat mixed and variable from year to year, even within any one department.

There is a general recognition that it is extremely difficult to obtain funding for Nursing Science in Finland and, indeed, for health-related research generally. Although the Academy of Finland is one of the major funders of health-related

research, its funds are limited and competition for funding is high. Nurse researchers appear to be equally successful to other applicants, and perhaps this information should be more widely shared. Information about funding provided by the Academy of Finland to support Nursing Science is provided in table 3, p 16.

Several projects, as mentioned earlier, have had significant success in collaborative bids for EU project funding. Continuing efforts on this front are to be encouraged although the new Framework Programme is less ostensibly applicable to nursing and to other clinically-grounded health research than the Programme just ended.

Where programmes of research are directly linked to the needs of clinical nursing practice settings, staff in all five departments have been successful in securing modest amounts of EVO funding in collaboration with clinically-based nursing colleagues. (EVO funding was explained earlier in the report: Chapter 4, p 25). We were led to understand, however, that nursing research does not enjoy the level of benefit from EVO funding that medical research is receiving. This issue should be pursued by heads of the departments, in collaboration with directors of nursing services, as a policy matter that requires to be addressed. A secure stream of EVO funding into all (or some) nursing services for purposes of supporting nursing research would have the result of stimulating more clinically-based Nursing Science and provide the potential for further extension of active and ongoing collaboration in Nursing Science between nurses in practice and those based in the university departments of Nursing Science.

There appear to be no funds available for small pilot projects at the department, school, faculty or institutional levels in the universities that host the five Nursing Science departments. This struck us as both unusual (in comparison with our own countries) and it certainly is not helpful to a discipline that is still fairly new to the university sector and clearly in need of support to build up its research.

It also was of great surprise to all three of us on the Panel that universities in Finland do not receive any direct funding stream for research (i.e. separate from the funding stream that supports teaching). There is, as explained earlier in the report (p. 11), an income stream that is generated by numbers of research students but, apparently, no direct funding to support staff time for research. In the UK, for example, core funding of universities from the government, through the Higher Education Funding Councils, traditionally has been separated into 'T' and 'R' funding (teaching and research), resulting in the general rule that academic members of the university staff were funded to do teaching for one-third of their time and research for one-third of their time, the rest to be devoted to administration and other internal and external activities. Since the introduction of the Research Assessment Exercise (RAE) this has changed to a performance-based system, with the funding settlement for research support to each university now being based on that university's RAE rating. It is still the case, however, that there is an expectation that time is available for research as an integral part of one's role as an academic, for most if not all members of a university's staff. This 'core funding' within the UK university system provides ongoing support for staff research.

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The fact that the university system in Finland does not have any similar provision means, as we found, that academics say they have ‘no time’ for research. Many of the staff we talked with during the site visits told us that research was strictly ‘an out-of-work’ activity. At best, the response to the question, ‘How much time do you get for research?’, was ‘about 10%’. Some of the heads of the departments, however, as well as the Deans we spoke with, explained that time for research does (or can) get built into workload planning. However, as they also confirmed, the teaching demands are heavy and they always must take top priority. Few creative solutions were being developed to address the dilemma of how to meet teaching obligations, yet still make time for research. Clearly this is a crucial issue that really does need to be addressed.

The material resources available to support research appeared on the whole to be much better, and generally seemed to be considered as satisfactory from the point of view of the staff in the departments. When there was any concern expressed, it tended to be about the level of library provision and on-line information access. The site visits confirmed that, on the whole, the Nursing Science departments are now well accommodated (or are about to be) within their universities, and with adequate physical facilities within which to pursue research.

### **5.11 Strengths and weaknesses**

#### **5.11.1 The strengths**

1. There are some excellent examples of emergent programmes of research that are grounded in significant societal health concerns, expertly operationalized, involve students at appropriate levels, use multiple methods, are rigorous to whichever research methodology selected, and seek to make a difference in practice through translational research.
2. There are a number of senior members in the university departments of Nursing Science that now have considerable experience of undertaking and supervising research, of seeking funding for research and establishing international research connections. This core research capacity can be expected to grow rapidly as a result of the relatively high number of nurses in Finland who have completed doctoral research training or are in the process of doing so (as long as opportunities are created to exploit this capacity).
3. The availability of EVO funding allows the staff in the nursing departments to collaborate with clinical colleagues on research with potential for the findings to be applied in clinical practice and to directly improve patient care and nursing services.
4. There has been commendable effort by the professors of Nursing Science in Finland to forge links with the international nursing research community. Particularly notable is the success to date with EU-funded multinational nursing research projects and this increases the capability for the further conduct of multicentre studies, both nationally and internationally.

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5. The Finnish Postgraduate School of Nursing is a creative development and not only allows for collaboration in doctoral teaching, but also provides the infrastructure for cooperative planning of research agendas across the five departments of Nursing Science.

### **5.11.2 The weaknesses**

1. The excessive preoccupation with 'theory building' and 'knowledge development' allows Nursing Science to exist in isolation, and research topics to be disconnected from health needs and rigorous, varied research methods.
2. There is a lack of financial support for pilot studies that would allow staff to be more competitive at a national and international level and, in general, a severe lack of resources (time as well as money) for nursing research
3. Some senior faculty members yet have to establish a track record of research publications in the English language and in peer-reviewed international journals.
4. Staff research is too dependent on, and too often defined by, the research work of Master's and PhD students and, instead, staff should be proactive in developing and defining programmes of research (to which postgraduate research students are attached).
5. Key research themes and priorities are not delineated clearly enough and, although the principle of a programmatic approach to research has been adopted, there is a lack of focus and cohesion within current programmes.
6. Collaboration with other disciplines, and especially with research-active medical staff, is underdeveloped and even the principle of strong interdisciplinary connections in Nursing Science appears to be undervalued.
7. Although there was evidence of some work that compares with high-quality research being undertaken in other countries, much of it is still local and small in scale and repetitive, rather than innovative, in nature.

# 6 Evaluation of research training in Nursing Science

A specific objective of the evaluation was to evaluate the quality of researcher training. In this chapter of the report we first describe the training trajectory for those who go into Nursing Science, and then discuss and criticise critical aspects of current training provision in the five Nursing Science departments.

## 6.1 The research training trajectory

The training prior to doctoral education is vital because it prepares nurses for learning how research is conducted, and how to utilize and develop relevant knowledge for health care, and especially for nursing care. The pre-doctoral preparation phase and the timing of admission of doctoral students in nursing, as in other disciplines, should take place not too late in their career. Younger doctoral students have a sufficiently long working time ahead to make it possible for them to contribute to Nursing Science and, in time, to establish programmes of research, becoming senior researchers and supervisors of the next generation of nurse researchers.

The Finnish training trajectory begins with becoming a registered nurse and then onto the Master's degree, the Licentiate degree (for some), the PhD degree and, finally, to the postdoctoral phase to become a senior researcher. This career pathway is already described in general terms in Chapter 2 (p. 9–10). The time period from starting initial nursing studies at a polytechnic to achieving a doctoral degree in nursing is at least ten years. A Master's programme requires 160 credits, which means four years of full-time study. Previous vocational education is acceptable as a substitute for only about 15 of the 160 credits. Since only about 15 credits for initial nurse training can be included, the Master's programme generally requires 3.5 years to complete. This makes for an extremely long time of study before a nurse can enter into a PhD.

In other countries, for instance Sweden (and in some parts of the UK), the training for a registered nurse is credited with a Bachelor's degree, which also is the requirement for entering a PhD programme. A Master's degree is not essential. In the UK, Sweden and USA, a nurse from a Bachelor's degree programme obtained from a three- or four-year Honours nursing degree programme can enter directly into a PhD programme. Possession of a Master's degree is considered to be advantageous prior to PhD study but in the UK a Master's degree involves only a one-year, full-time (or two years part-time) course of study. We believe that the extremely long preparation required prior to entry to a PhD programme in Finland should be reviewed, and suggest a shortening of the period for a Master's degree that will then allow acceleration of younger nurses into doctoral research training.

## 6.2 Pre-doctoral preparation

Since the Master's programme seems to be the most important recruitment route for doctoral studies in nursing, it was important for the Panel to get some impression of it from the five universities. The number of students, during the period from 1997 to

2002, in Master's programmes in the various universities ranged from the lowest of 8 to 15 each year to 28 to 56 each year in the university with the largest number of students. These figures are shown in Table 5.

*Table 5. Annual number of Master's degrees in Nursing Science in Finland.*

	1997	1998	1999	2000	2001	2002	Total
University of Kuopio	24	33	45	49	47	37	235
University of Tampere	28	56	51	38	41	50	264
University of Turku	29	27	38	44	37	44	219
University of Oulu	25	30	31	30	15	29	160
Åbo Akademi University	8	12	15	15	15	11	76
Total	114	158	180	176	155	171	954

The mean number of Master's students completing their studies over the same period ranged from 8 to 44 per year in the five universities, where the four universities each had an average of 26, 36, 39 and 44 students graduating per year. In general, there was an increasing number of students admitted and examined over the period. Recognizing that this is a 3.5-year programme at minimum, with an intensive teaching programme, the Master's courses impose a very heavy workload on the teaching staff of the Nursing Science departments. The high number of students is valuable, of course, from the perspective that Master's courses provide advanced prepared nurses for clinical practice settings as well as the main recruitment avenue for doctoral training. Over the six-year period under evaluation, 954 students received a Master's degree across the five Nursing Science departments in Finland (a mean of 159 per year). This is an impressive number of graduates. It is, however, not a very large base for the selective recruitment of doctoral students.

It was not within our task to evaluate the preliminary preparation for nursing research training through a Master's degree. However, we could not overlook this entirely since there is a strong link between the research topics of the Master's programmes and the PhD research topics. Many Master's students appear to undertake their research dissertation as a component of the faculty research programmes. Master's research, therefore, impacts directly on the core research activities of the Nursing Science departments, and some of the possibly negative effects of this on overall research quality were raised in the preceding chapter (p. 38–41).

The official requirement for becoming a doctoral student in nursing in Finland is that the applicants for PhD study must hold a Master's degree in health related sciences and be a registered nurse (RN) (except Åbo Akademi University). As discussed, this imposes a lengthy period of study from the starting point of RN to entry to a PhD in nursing. From the Panel's perspective, it seems both possible and desirable to shorten the phase prior to doctoral studies. Increasing exposure to research and to Nursing Science and nursing subjects during initial study in the polytechnics could shorten the research training included in Master's programmes. This move would require more intense collaboration between the polytechnics who prepare nurse graduates and the five universities that provide Master's programmes and PhD research



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training. Also, it seems likely that the research parts of the Master's programmes could, in turn, be strengthened by downplaying the current emphasis on nursing theory which, it would appear, takes up an extensive amount of the curriculum of Master's programmes in nursing.

Shortening the total preparation phase would produce younger PhD students, therefore at a lower cost for society. It also would increase the recruitment base for doctoral studies. Arguably, it would attract younger nurses with high motivation to become active researchers rather than older students who can tend to see a PhD as a personal intellectual challenge rather than training for a career as an active and productive researcher. Financial support from the government for postgraduate studies is based on students in Master's programmes and thus this may send the wrong message that emphasis should be on Master's education rather than on research and researcher training.

In 1990 Lauri wrote, "... although the Master's degree provides basic research knowledge, it does not necessarily guarantee that the graduate is able to independently plan and complete a large study" (Lauri 1990, p. 171). She also pointed out the problem of Finland having too few trained researchers to supervise PhD students. The panel received the clear impression, however, that staff in the Nursing Science departments at docent level (the minimum requirement for being a principal supervisor), as well as those holding a doctoral degree, were very heavily involved with Master's students as well as with PhD students. There is a risk that the supervision of Master's students takes up far too much time for these staff, thus disadvantaging the supervision of PhD students and, above all, using the time that should be being spent on their independent research and on supporting the postdoctoral career development of younger staff members of these departments.

### 6.3 Doctoral training

The main task for the evaluation panel in relation to the training of researchers was to review the PhD nursing programmes. At one of the universities (Åbo Academy University) it is a PhD programme in caring sciences. The implications of this, as opposed to a PhD programme in nursing, did not become clear to us apart from the point that it is open to students with no basic training in nursing or other healthcare profession. Only a few non-RN students are currently assigned to this programme. The other four universities provide PhD programmes in nursing.

The numbers of PhD students are shown in Table 6. We consider these numbers to be high in relation to the number of senior staff members who have reached the academic level required to become main PhD supervisors. Thus, staff in the nursing departments carry a very heavy burden in terms of PhD supervision. This is a well-known problem during the developmental phase of nursing research in other countries as well, and thus it is not unique to Finland. It does, however, affect the time available to these key staff members in the departments to be conducting research, building substantive research programmes, and actively publishing high-quality research. Without this opportunity, their career as a competitive researcher is jeopardised. The challenge of PhD supervision is intensified if the work of the

PhD students is not well integrated into the supervisor's programme of research. The contribution of nursing research to a strong and cumulative knowledge base for nursing and health care is hindered if the main contribution is stemming from masters theses and doctoral theses.

*Table 6. Annual number of doctoral degrees, registered postgraduate students and PhD staff in the departments of Nursing Science.*

University		1997	1998	1999	2000	2001	2002	Total
Kuopio	PhD degrees	3	1	2	4	5	4	19
	PhD staff in the department	6	8	6	7	6	7	40
	Registered postgraduate students	25	36	38	44	41	59	243
Tampere	PhD degrees	2	5	5	4	4	4	24
	PhD staff in the department	5	5	7	9	9	7	42
	Registered postgraduate students	42	43	63	56	56	59	319
	PhD degrees	3	1	3	4	2	11	24
Turku	PhD staff in the department	5	6	8	9	9	9	46
	Registered postgraduate students	33	39	54	55	58	68	307
Oulu	PhD degrees	2	2	7	3	2	2	18
	PhD staff in the department	5	7	8	8	9	9	46
	Registered postgraduate students	45	45	46	47	50	50	283
Åbo Akademi	PhD degrees	1	2	3	2	2	3	13
	PhD staff in the department	3	4	4	5	5	5	26
	Registered postgraduate students	35	41	47	50	47	47	267

An impressive number of doctoral students have completed their studies as well as there being a robust number that continue to be admitted for doctoral studies in nursing. This is especially challenging taking into account the small number of research-trained staff across the five departments of Nursing Science. As can be seen in Table 6, there has been an increase in the number of students (including licentiate students) from 1997 to 2002, indicating also that there has been rapid expansion. This bodes well for building the nursing research capacity in Finland in both the short- and long-term future.

The number of 'passive' PhD students (i.e. not actively studying), however, and the number of part-time PhD nursing students are high. Full-time students completing a PhD in 3-4 years are in the minority and yet this should be the main objective for expedient PhD training. Their generally slow progression is less than desirable and is mainly explained by the limited funding opportunities for doctoral students. On average, there were 53 PhD students each year at the university with the highest number of PhD students and 41 students per year at the university with the smallest number. Average annual figures for the five universities are 53, 51, 47, 45 and 41. In most cases there was an increase in the number of PhD students per year over the period 1997-2002. The average PhD programme reported 47 students (range 41-53) enrolled during 2002-2003.

There appears to be a potential imbalance in the number of students completing their PhD each year and the number of new PhD students admitted each year.

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Ideally, these two figures should be in balance in order not to accumulate a large bulk of PhD students or, alternatively, to prevent numbers dropping or varying excessively since that complicates staff workload planning. On average, more PhD students are being admitted than graduated in any one year. For instance, the annual intake in Turku is seven (mean) (Appendix D3), whilst the number gaining the PhD degree is only four. In Oulu only three per year are completing on average but six new students are being recruited. In Åbo Akademi University these figures are even more out of balance with only two students per year completing and seven new students being admitted. Tampere is more in balance with a mean of four students per year earning their PhD and some five new students being admitted. The number of PhD students completing each year in Kuopio is about three, and the number of recruited students is provided only for 2002, therefore the balance between incoming and outgoing students cannot be calculated. The imbalance, which is common, is partially explained by the large number of PhD students who do not have finances to study full time. It is important that data collected in future provide more details of that kind so that the numbers and trends can be examined more carefully. The total number of students in the Nursing Science departments across Finland that achieved a PhD degree over the period under evaluation was 98, roughly 16 graduating each year across the five Nursing Science departments. This is an impressive accomplishment bearing in mind the small number of teaching staff in these departments.

### 6.4 Characteristics of PhD nursing students

The preponderance of part-time students already has been identified. The common pattern of 'inactivity' while registered for a PhD has also been mentioned. Clearly, part-time students impact on the overall pattern of completion for PhD nursing students in Finland. It commonly takes 4-5 years to finish a PhD, the length of the study time, completing a PhD varied from three to more than six years. These data suggest that it commonly takes more than five years to finish a PhD, which, technically, is a four-year programme. This is, of course, a direct consequence of the fact that few nursing students are doing their PhD on a full-time basis. The grants provided by the Academy of Finland through the Finnish Postgraduate School of Nursing have been welcomed, and we would hope that this important funding stream for PhD training of nurses will be continued, if not actually be expanded. Apart from this provision, there appear to be very few grants available to PhD nursing students, and the low number of external research grants and the low level of grants that are being obtained by active postdoctoral researchers limit the opportunities for employment of PhD students as research assistants on their research programmes. Where these opportunities are available, they are particularly not financially attractive because the pay for a research assistant compares poorly with the salary of a clinical nurse or nurse teacher. The average age of doctoral students adds to this problem. Older students are more likely to be earning a higher salary and it may be difficult to decrease their family income for the duration of PhD studies.

The mean age of the PhD students when admitted to the PhD programmes, and subsequently their age when completing their study is high (Table 7). This is because most PhD nursing students have first to undergo initial education to become a

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nurse, then complete a Master's programme and, thereafter, do the PhD programme usually on a part-time basis. This means that the postdoctoral career and the time spent as an experienced researcher will be short for the majority of the PhD graduates currently being prepared in this way in Finland. For some, it may be far too short to allow for any form of meaningful, productive research-active phase in their nursing career. This is a serious shortcoming, and it is one that should be actively addressed. It can be addressed in several ways. As already proposed, the trajectory period from RN to PhD studies can be shortened; admission criteria can be reviewed so that no unnecessary demands are required; the number of full-time stipends to support PhD studies can be increased; and the recruitment base can be broadened so that having a Master's degree is not the only way to become a PhD student in nursing.

Table 7. The mean age of PhD graduation in Nursing Science in Finland.

	Åbo Akademi University	University of Kuopio	University of Tampere	University of Turku	University of Oulu
Age at graduation 1997	50	44	42	43	43
Age at graduation 2002	50	45	48	47	47

## 6.5 The Finnish Postgraduate School of Nursing

One important contribution to the development and strengthening of doctoral training in Finland has been the Finnish Postgraduate School of Nursing, which was described in Chapter 4 (p. 20). The School's strength and influence lie in the fact that its director and five professors of Nursing Science, one from each network university, manage the School co-operatively, and all departments contribute actively to this collaboration across the universities. Also the School adds strength to the resources within each of the departments individually by providing courses, 5-6 each year, which are open to all doctoral students in nursing across the country. The School has been in operation since 1995 and, over the evaluation period, this programme has supported fourteen doctoral theses. These PhD students tend to be younger than the average age at admission to doctoral studies in the five universities. In fact, the mean age of students accepted onto this programme is lower than that of the applicant group as a whole. Because this programme supports mostly full-time students, it means that they have earned their PhD degree in a shorter time frame than the average PhD nursing student. Financial constraints are solved on admission to the programme by the provision of stipends and tuition support for these PhD students.

The content of the courses provided under the auspices of the School is shown in Appendix F. Perhaps a stronger focus on methodological issues would be warranted, especially on experimental and quasi-experimental designs as well as longitudinal designs and advanced statistics. The courses are highly appreciated by the students but it also was said to us that there are too few courses and they are provided too seldom. The contribution of the School to nursing research training stood out as very important from several aspects. The School has provided the opportunity for full-time PhD study. It has brought all Nursing Science doctoral students together across campuses as a peer group, at least for their basic course work, and it is sharing staff expertise across programmes and provides research courses. During the six years

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of the evaluation period, however, the School has only been able to support on 14 out of 98 graduated PhD students – less than 15 per cent of the pool. An increase in the number and availability of courses provided by the School would extend its influence even more to improving the training of doctoral students in nursing throughout Finland.

### **6.6 PhD selection, admission and progression**

The procedures and criteria for the selection and admission of doctoral students at the five universities were closely related to those applying to the Master's programme. It was reported to the panel at one university that about six out of eight Master's students who applied last year had become accepted as doctoral students. A much more selective policy is operated by the Finnish Postgraduate School of Nursing where on average only 20 per cent of the applicants were admitted to the programme.

The progression of PhD students appears to be monitored formally on an annual basis through a written report from the department to the postgraduate studies committee at faculty level. In one university we were told that a panel is set up for each doctoral student and called upon in case of need. This seemed to function well from the students' and also from the teachers' perspective. The coursework component of the doctoral training programme is 40 credits, and that seems to be mainly planned individually and in slightly different ways within each of the departments. It was not really clear to us whether all students are receiving a broad enough methodological training because of the highly individually-planned approach to coursework and the variable use of courses available within faculty-level or university-wide graduate schools.

Internationalisation as an integral part of doctoral training seemed to be quite low at some of the universities. The nursing department at University of Tampere reported no in- or out-going students during the six years; Oulu reported only one outgoing student; and Åbo Akademi University reported no outgoing and 18 incoming students during the six years (mainly from the Nordic countries). University of Kuopio and University of Turku differed from the others, the first reporting seven outgoing and 11 incoming students during the six years, with 67 outgoing and 46 incoming students in the second. It is these two departments that are also actively participating in the Network of European Doctoral Nursing Programmes (a network established under the auspices of the European Academy of Nursing Science). The annual summer course, in which students from all of the member departments in the Network participate, is an initiative intended to increase interaction and understanding between doctoral students in nursing across Europe.

### **6.7 The students' views on PhD training**

The doctoral students whom the Panel met during the course of their site visits were all very satisfied with their PhD training, and especially with their supervision. They stated that they had access to their supervisors whenever needed and, in general, they reported that they experienced a warm and encouraging relationship with their

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supervisors. They emphasised that medical staff contributions to their research areas were also generally helpful. Students explained to us that they decide for themselves about the courses they take so, in theory, they could go through the doctoral programme with a rather narrow methodological training but, in practice, most of the students seemed to be choosing a variety of courses. They were less satisfied about the availability of courses, particularly those provided by the Finnish Postgraduate School in Nursing for which there are limited numbers of places, and clearly not enough to satisfy current demand. The lack of funding was the other most important problem according to the students and that contributed to uncertainty about the smooth progress of their researcher training.

One important resource in doctoral education is the departmental or programme-based research seminar and any other opportunities provided to encourage collaboration with other doctoral students as a peer group. If PhD students regard themselves as a group they can act as an important pressure group for the ongoing development of the quality of their doctoral programme, and they can also help and support each other. It is noteworthy that in general the PhD students that we met during the site visits, albeit in groups, seemingly had very little knowledge of each other or of the more general issues about the PhD programme. Some were unable to tell us much about the structure and the length of a PhD programme or the number of students admitted to the doctoral programme in their own department. The impression we got was that doctoral training is being highly individualised and, of course, this does have its pros as well as its cons. In some groups, the students saw each other mainly during their first year and thereafter only at seminars, although these apparently were not attended regularly by the majority of PhD students in any of the departments. PhD nursing students reported having little collaboration with each other, especially if they did not belong to the same research group. Some of the research groups did not seem to meet regularly and the student's contact with their group was really only through their supervisor.

In our experience, the doctoral training programme can be even more satisfactory if a more systematic approach is taken to encourage the doctoral students to function as a supportive, peer group, sharing their common interests and serving as resources for each other as well as a pressure group within the department. This can well be organised in collaboration with other departments – it need not just be within the nursing department – and, although this approach is difficult to establish when PhD students are mainly part-time students, it is in fact all the more reason for attempting to create a vibrant culture for this important student group within any research-active university department.

### **6.8 Postdoctoral training and research career**

Another important issue that we explored during the site visits was the extent to which nurses with a PhD – or about to complete one – are thinking about, or actively planning, their postdoctoral training. We also explored their interest in visiting research groups with similar interests working in other universities, whether in Finland or abroad. Very few post-doctoral fellows were present at the site visits and therefore it is hard to draw firm conclusions from their views. In some cases, students

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went on after completing their PhD to continue to work at the same university, and within the same research group as they were trained, and they did not see this as particularly limiting.

Most doctoral students had no plans to seek to go abroad or to another university to be exposed to other researchers and their possibly different approaches to Nursing Science. On the whole, the students had difficulty responding to the questions we posed about where they might seek postdoctoral research funding, or how they might shape a career as a researcher or as a research-active practitioner. We would encourage staff in the departments of Nursing Science to address postdoctoral training career development early in the course of doctoral training, and postdoctoral career plan needs to be discussed and possible sources of funding identified. Staff can provide encouragement and help in seeking to visit other universities to establish links for future collaboration as well as being exposed to different ideas and approaches to nursing research.

Overall, we were rather perplexed by the lack of enthusiasm displayed by the groups of students that we met, and by their reticence to discuss and debate issues pertaining to doctoral training and postdoctoral careers. This may have arisen from a lack of confidence about conversing in English although most students were able to do this well, when pressed. Or perhaps their diffidence was the result of our poor handling of these sessions. These doctoral student interviews were not the kind of experience that each of us is used to in working in departments where the doctoral students are a pushy group and, for that reason, a very valuable stimulus for the maintenance of a vibrant and questioning research culture in any university department of nursing.

## **6.9 Topics of doctoral research**

In general, the doctoral students seem to choose the subject for their thesis by themselves and mainly decide upon an issue that they have experienced as a problem in practice, or a topic in which they have a particular, often personal, interest. This freedom of choice was highly appreciated by the students. However, it also contributes to a broad range of topics for doctoral research in any one department and this places demands on staff as PhD supervisors in stretching their research expertise across a variety of areas and approaches. Importantly, this makes it more difficult for the staff to maintain a strong and coherent programme of research. It was evident from the staff presentations, although presented as a research programme, that the synergistic effects of doctoral studies were often hard to discern. Still in a developmental phase, and with few strong research programmes, it would be beneficial for the leaders of research groups to identify subjects for doctoral students rather than having them pursue their own, often highly individual, areas of research interest. This point also has been made in the preceding chapter.

The diversity in the subjects being pursued within PhDs became obvious when reviewing the abstracts from the dissertations at the five universities between 1997 and 2002. These showed great variation in design, as well as in topic, thus supporting the impression of diversity rather than coherence in the presentations at the site visits. The overarching impression when reviewing the abstracts was

that there is an overwhelming emphasis on qualitative studies and, in some cases, with a surprisingly small number of subjects for research worthy of a PhD thesis. It is not possible from the abstracts to judge the general quality of the theses. Those compiled on the basis of internationally published articles have been through the referee system, which provides at least some guarantee of quality. Some PhD theses are still being presented as dissertations in Finnish or Swedish but the trend seems to be moving more and more towards international publications.

The studies carried out for PhD work were mainly descriptive, with many based on interviewing and mostly in the form of cross-sectional research, and with very few intervention studies or use of experimental methods. This is a common trend when developing research in a new area but it also may be a result of students selecting their own subject for their thesis and selecting research designs that are perceived as 'easy', and selecting methods from a limited range on account of their own inexperience. Within a three – year study period it is not possible to do highly time-consuming research or work that requires a longer time frame, but working on sub-projects that are clearly set within well-established programmes of research would be likely to raise the standard and scope of PhD research. Small, cross-sectional studies offer little value in building knowledge about health and illness, or for informing the development of evidence-based nursing.

A brief overview of the abstracts from each university gave a flavour of the doctoral students' work. The dissertation abstracts from Åbo Akademi University deviated the most from the others. The dissertations there had a heavy emphasis on theoretical work and when empirical underpinning was used, it was in some cases with very small samples. There was a strong emphasis on qualitative research and the studies seemed to be strongly guided by the theoretical model of caring that is dominant in that department. The theses leaned more towards philosophical and conceptual issues rather than relating to issues in clinical care or health and illness. A core subject was 'suffering' and issues related to the nurse-patient encounter.

The abstracts from University of Oulu also had an emphasis on qualitative design but with a greater variation, including quantitative studies and a combination of these two approaches. There were some good examples of well-designed longitudinal studies, which present stronger evidence than cross-sectional studies. The topics were mainly clinical although there were some abstracts focusing on pedagogical issues. The research seemingly has focused mostly on care of the elderly and on psychiatric care, but it also has related to clinical issues and patient groups, such as those with hypertension, diabetes and coronary disease.

The dissertation abstracts from University of Kuopio represented both qualitative and quantitative research designs and analytical strategies, although mainly qualitative. A few focused on pedagogical and theoretical topics. Most of the theses were addressing clinical issues, and subjects that stood out were those related to pain and pain management with children, and childbirth from the perspective of the father. Other topics included children and asthma, HIV, and rehabilitation of patients after myocardial infarction. The abstracts in some cases gave an impression of emphasis on conceptual and theoretical issues rather than on patient-oriented issues.



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The dissertation abstracts from University of Turku showed a stronger emphasis on quantitative design or the combination of qualitative and quantitative designs. There were a handful of pedagogical studies whilst the rest were mainly clinically oriented. Topics related to children, childbirth and risk identification, and preventive childcare and family-oriented research dominated. Thus these areas seemed to form a more coherent series of theses. Other topics addressed in theses were related to psychiatric issues such as depression, self-determination, the use of restraint, care of the elderly, cancer care, peri-operative care and nursing care management issues, such as staffing.

The abstracts from University of Tampere showed an emphasis on quantitative design or a combination of qualitative and quantitative design and, as in Turku, PhD students seemingly used a greater variation in research design. There were some pedagogical studies and a few theoretical theses, and some related to concepts. The clinical issues in focus were related to grief, especially from a family perspective, and this stood out as a research area with several theses. Also there were other abstracts related to family issues in areas such as childbearing, palliative care and care of the elderly, again forming a more coherent string of research. Other topics included mammography screening, nursing management, fear in relation to coronary arteriography, health and health care, public health nursing and nurse-patient interaction.

In general, even a rapid review of the abstracts of the theses pointed to a picture of diversity rather than coherence although some coherent areas could be identified in almost all of the five universities. Since Finland, like the other Scandinavian countries, is small it may be productive for each university to focus on selected key areas of research – as has already been discussed in the previous chapter – and then PhD students would assign themselves to the department which best matches their research interest, or either they could elect to pursue a study relating to an ongoing programme of research which has been identified as potentially productive. Such an approach is likely to contribute positively to the students' research training and, at the same time, it would assist in the development of knowledge for nursing in key areas of relevance and priority to nursing and health care in Finland.

## **6.10 Summary of strengths and weaknesses**

### **6.10.1 The strengths**

1. Research training through PhD study has been firmly established in all of the Nursing Science departments and, coupled with the Finnish Postgraduate School of Nursing, there is a strong infrastructure that supports the training of nurse researchers. Also the collaboration between professors in relation to the Finnish Postgraduate School of Nursing is a strength that can be exploited further.
2. Numbers of PhDs completed and numbers of doctoral nursing students on course are very healthy, and there is high productivity in terms of researcher training in relation to the relatively limited level of resource (i.e. staffing and financial support for PhD students).

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3. The increasing trends towards presenting a PhD thesis in English and by publication is leading to a high number of research publications from Finland in the international nursing journals.

### **6.10.2 The weaknesses**

1. There is a heavy workload of supervision of Master's students and PhD students for the staff in the Nursing Science departments, arguably to the detriment of their own research productivity.
2. Too much diversity in the self-selected topics of doctoral students increases the demands on teachers and decreases the development of focused, coherent programmes of research in the departments.
3. The requirement of a lengthy Master's programme prior to entry to a PhD programme makes the research training career trajectory far too long and results in a high average age of commencement, with completion times also lengthened by part-time rather than full-time study for the majority (mainly on account of insufficient studentships), thus curtailing the career contribution of PhD-trained nurses.
4. While the supervision of individual PhD students appears to be satisfactory, the development and contribution of PhD students as a peer support group and pressure group are weakly developed.
5. The availability of research methods courses is far too small for the number of students and the range and frequency of courses offered by the Finnish Postgraduate School should be increased.
6. There is too little emphasis on postdoctoral development, including international post doctoral opportunities, and career planning with the objective of becoming senior researchers is weak.

# 7 Recommendations

Our evaluation of the work currently underway in the five Nursing Science departments in Finland, and their strategies for research and research training, has been set out in the last two chapters. At the end of each of those chapters, the strengths and the weaknesses of the current research and the current provisions for researcher training, as we see them, were listed. It is important that due attention is paid to the strengths that have been identified because there have been many very positive developments and achievements in Nursing Science in Finland over its relatively short history. Finland was fortunate in having had visionary nurse scholars who led the first all-important developments in the early years that resulted in the introduction of research into Finnish nursing, and the introduction of nursing into Finland's university system. Presently there are nursing departments in five of the Finnish universities. It is unfortunate that Helsinki, the capital, does not have a department of Nursing Science.

Today, there are able and highly motivated professors of nursing in the country's five university-based departments of Nursing Science, and it is to their credit that they themselves were keen to subject Nursing Science to the scrutiny of an external evaluation. The Panel was asked to be both questioning and critical, and to be frank in our appraisal of the quality of research and researcher training, and that was how we approached the task of this Evaluation. We have not shied away from exposing what we consider to be the weaknesses in the current situation. It is from a clear understanding of the weaknesses that necessary actions can be identified to strengthen and re-orientate Nursing Science in Finland, with the aim, of course, of maximising its benefit, both for users and providers of nursing services across the country.

## 1 Definition

1.1 A common definition of Nursing Science (and a clearer distinguishing definition of caring science) is required to guide and focus future developments. This definition should be framed in terms that are meaningful to practitioners, policy makers, research funders and health service users as well as to nurse scientists themselves. This work could be accomplished quickly and simply by means of a workshop involving representatives of these stakeholder groups.

## 2 Research focus and approach

2.1 In general, there is a need for greater concentration on research that addresses issues of significance and priority for health service users and providers of nursing services.

2.2 In general, there is a need for greater use of the variety of research methods that are available for health and nursing research and, in particular, for more studies to focus on clinical outcome (physical and physiological as well as psychosocial) and on measuring the effectiveness of nursing interventions.

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2.3 In general, there is a need for movement away from small-scale local studies to larger-scale national research and, in appropriate areas, for the continuation and expansion of international multi-centre research.

### **3 Research programmes**

3.1 The programmatic approach to research that has been adopted in the Nursing Science departments should be further developed and refined. Workshops or training programmes would assist senior staff in understanding how to develop a research programme has clear significance for public health and nursing services that centres on focused research questions; that uses appropriate and rigorous methodology; and that ensures high productivity in both publications and translational activities that impact on clinical practice and patient outcome.

3.2 The next step, building on strong research programmes, would be to consider the concept of Research Centres so that different departments would be leading different research programmes, at least some with the status of national centres through inter-departmental participation in multi-site studies across Finland.

3.3 The research work of postgraduate research students, and particularly PhD students, must be integrated much more effectively and much more purposefully into staff-led programmes of research.

### **4 Management of research**

4.1 Criteria for the definition of a research programme and a research group should be identified and applied consistently.

4.2 The roles and responsibilities of the leaders of research groups should be more clearly defined, and training needs identified for less-experienced group leaders.

4.3 Each department should have clear systems for research management, including selection and monitoring of projects and programmes and clear strategies for dissemination and publication.

### **5 Collaboration**

5.1 Opportunities for collaborative inter- and multidisciplinary research should be exploited. Workshops for senior staff in the departments might be helpful in clarifying the benefits of greater collaboration between nurse scientists and members of other disciplines, and how inter- and multidisciplinary research is developed and managed, and with shared benefit in terms of its outputs.

5.2 National collaboration across the five departments of Nursing Science should be developed rapidly, as already outlined above.

## **Contents**

- 5.3 Collaboration with clinical areas should be a continuing priority, but in ways that do not detract from rigorous scientific research in the academic departments, while also maximising their participation in translational research in the clinical setting.
- 5.4 Collaboration with educational researchers is essential in programmes of research that focus on nurse education.
- 5.5 Structures and systems for collaboration in research between the departments and other research agencies – notably STAKES, but also the Public Health Institute and the Occupational Health Institute – require to be established.
- 5.6 Nursing research in Finland should relate more explicitly to the international nursing research literature and a more aggressive approach should be taken to position innovative research at the cutting edge of Nursing Science internationally. There should be continuation of the efforts, already with notable successes, for Finland's leading nurse scientists to participate in EU-funded and other internationally collaborative research projects and programmes. Increasing the opportunities for international mobility of post-doctoral nurse scientists and senior researchers would assist this line of development.

## **6 Funding and resources for research**

- 6.1 It is essential that time for research becomes built into the systems for workload planning and annual timetabling in each of the Nursing Science departments. The development of a common metric might be helpful.
- 6.2 The heavy teaching demands on staff in the Nursing Science departments arise mainly from the large student numbers and the intensive curriculum of Master's programmes, and these clearly detract from the potential to devote adequate time to research. Reducing the length and intensity of Master's nursing programmes should be given serious consideration and the heads of the departments should ensure that their university is providing staffing resources that are commensurate with teaching loads.
- 6.3 The departments should continue to exploit all available funding sources that support health-related research and, in particular, aim for high-quality applications to the Academy of Finland in view of the importance of this particular funding resource.

## **7 Researcher training**

- 7.1 Alternative routes into PhD training that shorten the currently prolonged pre-doctoral career trajectory should be explored urgently in order to fast-track younger nurses into research training, thus lengthening their potential career contribution as postdoctoral nurse scientists.

## **Contents**

- 7.2 More funding opportunities to support full-time PhD students need to be provided, for example by the Academy of Finland and the Ministries of Education, and Social Affairs and Health, in order to accelerate and enhance researcher training in nursing.
- 7.3 Part-time PhD students in continuing employment in the health service should be given more support from their employing organisation – in the form of study time and periods of paid leave – in order to accelerate PhD completion and reduce the numbers of ‘inactive’ PhD students in the system.
- 7.4 A more systematic approach should be adopted in the departments to exploit the benefits, for the students and for the department, of a stronger group identity for their PhD students.
- 7.5 Most importantly, and already stated, the topics of PhD research should be more actively negotiated by the departments so that doctoral studies (and Master’s dissertations) are contributing to, and benefiting from, the staff-led research programme to which they are attached.
- 7.6 The important role of the National Postgraduate School of Nursing should be maintained and expanded, with opportunity for more PhD students to take its courses and with greater variation and depth to the research methods courses provided.
- 7.7 The availability of postdoctoral training fellowships should be expanded and positions created in the departments of Nursing Science, to enable promising researchers to build up strong research programmes before moving into more senior posts with attached teaching and administrative responsibilities. The need to support international mobility through postdoctoral fellowships and training programmes is also of great importance for the long term international recognition of nursing science in Finland.

### **7.1 Looking to the future**

We hope that these recommendations will help the departments of Nursing Science, individually and collectively, to begin now to engage in a forward-looking process of re-orientation and renewed planning for the longer-term future. It is clear that, in this process, the departments also need external support and assistance and, most of all, there is a need for greater investment in Nursing Science – yes, more time and more money – by all of those agencies that carry a responsibility either to support the science system or to assure the quality and improvement of nursing services for the people of Finland. The universities, the government, the hospitals and other health service agencies, the national nursing association/s and the funders of research all have a part to play in supporting science in nursing. Nursing is a large and essential profession, and a costly one, and its contribution to any 21st century healthcare system must be evidence-based. Science is not the only source of evidence for nursing and health care but, arguably, it is the most powerful. Support of Nursing Science is an important shared responsibility of all of those agencies with any vested interest in

the development of a high quality, cost-effective and innovative contribution from nursing to the overall healthcare system.

The Academy of Finland has provided a powerful lead by facilitating this evaluation of Nursing Science. It is only a partial evaluation in the sense that the five university-based departments are not the only players involved in Nursing Science in Finland, and the evaluation process was not as detailed as we would have liked, but time limits always are necessary in exercises of this kind. We hope, however, that our review of current research and researcher training, and the recommendations we have made, will help the departments to move forward rapidly with positive actions that will build on the current strengths and address the current weaknesses in Nursing Science in Finland.

The Academy has a clear and sound vision for the development of science in Finland for the future. In its 'Forward Look' document for the new millennium, the Academy provides an insightful analysis of the forces and directions that are re-shaping science and science systems in the 21st century. However, what is also made clear is that "the future is open" (Para 1.1, p 69). We hope that this report will open the door for a new and exciting future for Nursing Science in Finland.

We thank the Academy for their support of this evaluation, and all participants for their willing cooperation.

## Contents

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## Other sources

Focus database on Academy of Finland research funding (1st of October, 2003).



# Appendix A. Presentation of the evaluation panel

## **Professor Alison Tierney** **BSc PhD RN FRCN CBE**

Alison Tierney completed her PhD in 1976 and has spent most of her career as a nurse researcher and teacher in the Department of Nursing Studies at the University of Edinburgh in Scotland (UK) where she was promoted in turn from Lecturer to Senior Lecturer to Reader and finally to a Personal Chair in Nursing Research. Between 1998 and 2002, she was Head of the Department. Between 1984 and 1994 she was Director of the Nursing Research Unit in Scotland. Her research initially covered a variety of areas but over the past decade it has focused around issues at the interface between hospital and community care, especially with older people, and it has involved collaborative multidisciplinary research as well as nursing-specific studies. Alison Tierney also has been actively involved at national and international levels with the development of strategy for nursing research. She was the UK representative on the European Workgroup of Nurse Researchers during the 1990s and has also acted as an Expert Adviser on Nursing Research to the International Council of Nurses. Alison Tierney was a member of the Nursing Panel for the 2001 Research Assessment Exercise conducted across all universities in the UK under the auspices of the Higher Education Funding Councils. In October 2002, Alison Tierney left the University of Edinburgh to take up the Chair in the Department of Clinical Nursing at the University of Adelaide in South Australia, where previously she has been a Visiting Professor, at the same time taking over as the Editor-in-Chief of the Journal of Advanced Nursing.

## **Ingalill Rahm Hallberg** **RNT, PhD FEANS**

Ingalill Rahm Hallberg is professor in Nursing Care at Lund University, Sweden. She is also the Deputy Dean of the Medical Faculty and the head of the Swedish Institute for Health Sciences. The institute is multidisciplinary and a collaboration between Lund University, Gothenburg University and the two large health care regions of southern and western Sweden.

She has so far supervised twelve doctoral students, published about 150 original papers and carried out several national and international investigation assignments mainly related to health care, education and research. Her research is related to the elderly, aging and care. In particular three population-based studies, with sub-studies are ongoing. The Aging Well study is international and testing a model explaining successful aging including about 2400 people 50-89 years of age in Sweden. The five other European countries are UK, Netherlands, Austria, Luxembourg and Italy. The study Good Aging in Skåne is part of the Swedish National Study on Aging and Care (SNAC) and has two parts of which one concerns the municipal health and social care delivery in five municipalities. A register developed and including people 65 years or above receiving public health care covering their functional

ability, complaints, living conditions, social conditions and health care provided is matched with the health care register from the county council and thus gives a complete picture of older people's health care consumption. About 4000 people are included and followed over time. The other part of the study is population based and includes cohorts of about 1400 people, 60-93 years old. Data is collected through medical examinations, interviews, various tests and self-reports. The third study, Quality of life, health complaints, public and informal care to people 75 years or more in Skåne includes about 4000 people 75 years or above. It is built up of several sub-studies, in particular focusing older peoples' view of quality of life, living with chronic pain, cancer, care giving, public as well as informal, end-of-life care, urine and faecal incontinence.

**William L. Holzemer**  
**RN, PhD, FAAN**

Dr. William L. Holzemer is Professor and Associate Dean, International Programs, the Department of Community Health Systems; prior to this, he served as Department Chair, CHS (1995-01), Associate Dean for Research (1990-95). Dr. Holzemer is also the Director of the International Center for HIV/AIDS Research and Clinical Training in Nursing. His program of research has examined quality of nursing education, quality of nursing care, outcomes research, variation in practice, self-care symptom management, and quality of life, with special emphasis on people living with HIV infection. He has had continuous extramural funding as Principal Investigator or Co-Principal Investigator over the past twenty years. He recently completed six years as a chartered member and Chair of a National Institutes of Health (NIH) study section. Dr. Holzemer has published more than 100 refereed databased research articles, edited six books, and authored thirteen book chapters. His current work is focusing upon adherence, symptom management, HIV/AIDS stigma, and quality of life.

Dr. Holzemer is a member of the Institute of Medicine, Fellow of the American Academy of Nursing, and a member of the Japan Academy of Nursing. He is a former Fulbright Scholar (Egypt), a Project HOPE Fellow (USA-Mexico Boarder), and is a Visiting Professor at St. Luke's College of Nursing, Tokyo, Japan. He has served as an external adviser in nursing science at the University of Botswana, School of Education, University of Tokyo, School of Medicine, and many Universities throughout the United States.

# Appendix B. Evaluation form



SUOMEN AKATEMIA

FINLANDS AKADEMI • ACADEMY OF FINLAND

EVALUATION FORM FOR RESEARCH ON  
NURSING AND CARING SCIENCE 1997-2002

## Contact data

University, research institute or other organisation		Faculty and department or equivalent	
Address		Postal code	
Head of the department or equivalent	World Wide Web <i>http://</i>		
Contact person	Phone	Email	

## Research groups

Name of the group leader	Number of members

Checking list. Fill in manually.

Please mark appendix and page numbers

Department or equivalent	
<input type="checkbox"/> <b>1a</b> Number of persons in the department or equivalent	
<input type="checkbox"/> <b>1b</b> Funding by sources in euros	
<input type="checkbox"/> <b>1c</b> Annual number of scientific publications	
<input type="checkbox"/> <b>1d</b> Annual number of completed degrees at the department	
<input type="checkbox"/> <b>1e</b> Annual number of registered postgraduate students	
<input type="checkbox"/> <b>2.</b> Overall description of the research of the department or equivalent and aims and outcomes of the research since 1997 (max. length one A4)	
<input type="checkbox"/> <b>3.</b> Description of the societal relevance of the research since 1997 (max. length half an A4)	
<input type="checkbox"/> <b>4.</b> Description of the strengths and weaknesses of the research in the department or equivalent. (max. length half an A4)	
<input type="checkbox"/> <b>5.</b> Description of the facilities (rooms, PCs etc.), library and information services. (max. length half an A4)	
<input type="checkbox"/> <b>6.</b> Plans of the department for the future until 2007. (max. length one A4)	
Research group	
<input type="checkbox"/> <b>7.</b> Members of the group in 1997-2002 (including students)	

P.O. Box 99  
00501 HELSINKI  
FINLAND

Visiting address  
Vilhonvuorenkatu 6

Phone  
+358 9 774 881

Telefax  
+358 9 7748 8299

Internet  
keskus@aka.fi  
www.aka.fi

<input type="checkbox"/> 8. Description of the main formal research collaborators in Finland and abroad	
<input type="checkbox"/> 9. Funding by sources in euros	
<input type="checkbox"/> 10. Description of the research of the group and its aims and outcomes since 1997 (Max. length one A4)	
<input type="checkbox"/> 11. Description of the societal relevance of the research since 1997 (Max. length half an A4)	
<input type="checkbox"/> 12. Doctor's and licentiate's degrees supervised since 1997	
<input type="checkbox"/> 13. Doctor's and licentiate's degrees reviewed since 1997	
<input type="checkbox"/> 14a Annual number of scientific publications of the group since 1997	
<input type="checkbox"/> 15. Scientific expert tasks since 1997	
<input type="checkbox"/> 16. Editor or member on editorial boards of scientific journals, member in working groups and scientific societies since 1997	
<input type="checkbox"/> 17. Scientific meetings and conferences since 1997	
<input type="checkbox"/> 18. Visits abroad (a minimum of two weeks) by the members since 1997	
<input type="checkbox"/> 19. Significant visits by foreign researchers to Finland since 1997	

Appendices	Number of appendices and their pages
<b>Appendix 1.</b> Abstracts (in English) of doctoral dissertations (1d, departments)	
<b>Appendix 2.</b> Lists of publications (14b, research groups)	
<b>Appendix 3.</b> Examples of scientific publications (14b, research groups)	

**I GENERAL INFORMATION ON THE DEPARTMENT OR EQUIVALENT**

<b>1a</b> Number of persons in the department or equivalent	1997	1998	1999	2000	2001	2002
Professor						
Senior assistant						
Lecturer						
Assistant						
Full/part-time teacher						
Secretary and other staff						
Researcher						
Docent						
Other, please name						
<b>Total</b>						

<b>1b</b> Funding by sources in euros	1997	1998	1999	2000	2001	2002	<b>Total</b>
<b>Direct budgetary funding for research</b>							
<b>External funding for research and financier*</b>							
*Competitive public - Financier:							
*Competitive private - Financier:							
*International - Financier:							
*Competitive EVO <sup>1</sup>							
*Other sources - Financier:							
<b>Total</b>							

<b>1c</b> Annual number of scientific publications	1997	1998	1999	2000	2001	2002	In press
Articles in international journals with referee practice							
Articles in international edited works and conference proceedings with referee practice							
Articles in national journals with referee practice							
Articles in national edited works and conference proceedings with referee practice							

<sup>1</sup> EVO is a special funding mechanism of the Ministry of Social Affairs and Health for the teaching hospitals

Scientific monographs							
-----------------------	--	--	--	--	--	--	--

1d Annual number of completed degrees at the department	1997	1998	1999	2000	2001	2002	Total
Master's degree							
Licentiate's degree							
PhD							
<b>Total</b>							
Degrees completed in graduate schools							

**Please note** that abstracts of doctoral dissertations should be enclosed. See the instructions. Appendix 1.

1e Annual number of registered <u>post-graduate</u> students	1997	1998	1999	2000	2001	2002	Total
Licentiate							
PhD (total)							
- Graduate school students							
Annual intake (PhD)							
International student mobility: outgoing							
International student mobility: incoming							

**2. Overall description of the research of the department or equivalent and aims and outcomes of the research since 1997 (Max. length one A4)**

**3. Description of the societal relevance of the research since 1997 (max. length half an A4)**

**4. Description of the strengths and weaknesses of the research in the department or equivalent. (Max. length half an A4)**

**5. Description of the facilities (rooms, PCs etc.), library and information services. (Max. length half an A4)**

**6. Plans of the department for the future until 2007. (Max. length one A4)**

## II RESEARCH GROUP DATA

### Contact data

**Name of the research group**

<b>Head of the group</b>	<b>Home page of the group (if exists)</b> <i>http://</i>
<b>Position in the department or equivalent</b>	<b>Address</b>
<b>Postal code</b>	<b>Email</b>

<b>7. Members of the group in 1997-2002. (Including students)</b>	<b>Position and degree</b>	<b>Period of membership</b>
---	----------------------------	-----------------------------

**8. Description of the main formal research collaborators in Finland and abroad**

9. Funding by sources in euros	1997	1998	1999	2000	2001	2002	Total
<b>Direct budgetary funding for research</b>							
<b>External funding for research and financier*</b>							
*Competitive public - Financier:							
*Competitive private - Financier:							
*International - Financier:							
*Competitive EVO <sup>1</sup>							
*Other sources - Financier:							
<b>Total</b>							

<sup>1</sup> EVO is a special funding mechanism of the Ministry of Social Affairs and Health for the teaching hospitals

**10. Description of the research of the group and its aims and outcomes since 1997 (Max. length one A4)****11. Description of the societal relevance of the research since 1997 (Max. length half an A4)**



**12. Doctor's and licentiate's degrees supervised since 1997**

Name of the student, title of her/his thesis, language and type of the thesis (M=monograph or A=articles)	Year of Lic/PhD Degree	Supervisor (specify if main)
<u>Licentiates</u>		
<u>PhDs</u>		
Total number of Licentiate's degrees	Total number of PhD degrees	

**13. Doctor's and licentiate's degrees reviewed since 1997**

Name of the student and the title of her/his thesis	University	Year of PhLic/ PhD Degree	Reviewer
<u>Licentiates</u>			
<u>PhDs</u>			
Total number of Licentiate's degrees	Total number of PhD degrees		

<b>14a</b> Annual number of scientific publications of the group since 1997	1997	1998	1999	2000	2001	2002	In press
Articles in international journals with referee practice							
Articles in international edited works and conference proceedings with referee practice							
Articles in national journals with referee practice							
Articles in national edited works and conference proceedings with referee practice							
Scientific monographs							
<b>Total</b>							

**14b List of publications and examples of publications**

List of publications by the members of the group to be enclosed. See instructions. Appendix 2.  
One example of publications per person to be enclosed. See instructions. Appendix 3.

**Other scientific activities among research group members:****15. Scientific expert tasks since 1997**

Name of the group member	Description of the task	Organisation and timing

**16. Editor or member on editorial boards of scientific journals, member in working groups and scientific societies since 1997**

Name of the group member	Scientific journal/working group/ society	Task	Years

**17. Scientific meetings and conferences since 1997**

Participant	Invited paper/poster (give title) or chair.	Name of the meeting etc. and its place and timing

**18. Visits abroad (a minimum of two weeks) by the members since 1997**

Name	Position in the group	Country	Host institute	Position or task abroad	Duration of visit

**19. Significant visits by foreign researchers to Finland since 1997**

Name	Position in Finland	Country of home organisation	Institute of origin	Position in the institute of origin	Duration of visit

# Appendix C. External funding in Nursing Science

### Competitive public:

Academy of Finland (UTu, UO, UKu)  
City of Tampere (UTa)  
University of Tampere (UTa)  
Center for International Mobility, CIMO (Uta)  
University of Kuopio (UKu)  
Ministry of Education (UKu)  
Graduate School of Social and Health Policy (UKu)  
University Foundation of Kuopio (UKu)  
Ministry of Social Affairs and Health (UKu)  
Foundation for Municipal Development (UKu)  
Finnish Centre for Health Promotion (UKu)  
Association of Finnish Local and Regional Authorities (UKu)  
Kajaani Polytechnics (UKu)  
Finnish Association of Caring Sciences (UO)  
Emil Aaltonen Foundation (UO)  
Foundation for Nursing Education (UO)  
City of Helsinki (UO)  
Ministry of Labour (UO)  
Åbo Akademi University (ÅÅ)

### Competitive private:

Foundations (UTu)  
Different private sources (ÅÅ)  
Pirkanmaa Cancer (UTa)  
Health Foundation of Finland (UKu)  
Konkordia Union of Finland (UKu)  
Emil Aaltonen Foundation (UKu)  
Finnish Cultural Foundation (UKu, UTa)  
North Savo Cultural Foundation (UKu)  
Mannerheim League for Child Welfare (UKu)  
Foundation for Paediatric Research (UKu)

### International:

EU (UTu, UTa, UKu)  
Nordic Academy for Advanced Study, NorFA (ÅÅ)  
Letterstedtska Föreningen (ÅÅ)  
WHO (UKu)  
Transcultural Nursing Society (UKu)

### Other sources:

Student grants (UTu)  
Finnish Postgraduate School (ÅÅ)  
Hospital Development Fund (UTa)  
Scientific Society of Nursing Science (UKu)  
Finnish Nurses Association (UKu)  
The Lung Injury Association (UKu)  
Kuopio Social and Health Care (UKu)

UKu= University of Kuopio  
UTa= University of Tampere  
UTu= University of Turku  
UO= University of Oulu  
ÅÅ= Åbo Akademi University

## Contents

# Appendix D. Summary information submitted by the university departments in Nursing Science

Table D1. Research projects/groups in Nursing Science

University of Kuopio	Name of the research group	Number of members
Kylmä Jari	Hope-project	12
Meriläinen Pirkko	Cultural discovery of health and caring	12
Meriläinen Pirkko	Health-related quality of life of chronically ill patients	28
Pelkonen Marjaana	Resource-oriented nursing actions in health promotion of youth and adults	17
Pietilä Anna-Maija	Individual, community and culture in health research	16 (+22)*
Tossavainen Kerttu	Evaluation and development of theoretical and clinical education: cultural comparison	22
Tossavainen Kerttu	Participatory action research in the European Network of Finnish Health promoting Schools	29
Vehviläinen-Julkunen Katri	Clinical nursing research: Patient and nursing intervention classification, care quality and costs in health care	10
Vehviläinen-Julkunen Katri	The theoretical foundations of counselling: family and childbearing nursing	16
Vehviläinen-Julkunen Katri	Assessment and alleviation of children's' pain	20
<b>University of Tampere</b>		
Kaunonen Marja	Research in nursing culture and history	5
Laijärvi Heli	Occupational stress with mental health clients in Acute Response	6
Munnukka Terttu	Mental health nursing	18
Paavilainen Eija	The Identification and care of domestic violence	8
Paavilainen Eija	Family nursing care and rehabilitation - development of family-focused care in primary and specialized health care	11
Paunonen-Ilmonen Marita	Better nursing care through professional development and support to nursing staff/workforce	6
Paunonen-Ilmonen Marita	Patients fears	6
Paunonen-Ilmonen Marita Kaunonen Marja	Dying patient and grieving person as a client in health care	10
Raatikainen Ritva	Elderly care	7
Tarkka Marja-Terttu	Patient education and support	13
Tarkka Marja-Terttu	Support for parenthood	15
Tarkka Marja-Terttu	Nursing education and instruction	8
Välimäki Maritta	Development and assessment of health care organizations	28
Välimäki Maritta	Development of the professional skill and well-being of staff	15
Åstedt-Kurki Päivi	Collaboration between patient, family and health care	17
Åstedt-Kurki Päivi	Instrument development for Nursing Science	7
<b>University of Turku</b>		
Ahonen Pia	Evaluation and development of patient education	15
Arve Seija	Health care administration and the development of health organisations	5
Hupli Maija	Evaluation and development of nursing education	13
Lauri Sirkka (Salanterä)	Nursing decision-making and its knowledge base	11
Leino-Kilpi Helena	Evaluation and development of value basis and ethics in nursing	24

Routasalo Pirkko	Gerontological Nursing/Adaptation and living of older people at home and in institutions	10
Routasalo Pirkko	Gerontological Nursing/InfoPark (Information, health and social needs of older disabled people (Parkinson's Disease))	8
Salanterä Sanna	Evaluation and development of maternal and child health care and pediatric nursing	9
Salanterä Sanna	Development of nursing care of the patient in pain	9
Suominen Tarja	Evaluation basis and quality of clinical nursing care	21
<b>University of Oulu</b>		
Hentinen Maija	Long term patients coping and adherence as well the quality of life	0
Isola Arja	Gerontological Nursing Science	12
Janhonen Sirpa & Nikkonen Merja	Developing the curriculum for Master's Degree Education of Mental Health Nursing by integrating nursing practice, education and research	12
Kyngäs Helvi	Compliance of patients with chronic disease and coping of parents with child with chronic disease	17
Lukkarinen Hannele	Quality of life, life course and rehabilitation of surgically or conservatively treated patients	5
<b>Åbo Akademi University</b>		
Bondas Terese	The administration of caring science	6
Eriksson Katie	Systematic caring science	23
Eriksson Katie (Kasén Anne)	In the patient's world	9
Eriksson Katie (Nordman Tina)	Evidence-based caring and nursing	10
Lindholm Lisbet	Unizon - Youth Research in the Kvarken Region	10
Lindström Unni (Lindholm Lisbet)	Clinical caring science	27
Matilainen Dahly	The didactics of caring science	7

\*Including two subprojects

Table D2. Number of person-years working in the department of Nursing Science.

<b>University of Kuopio</b>	<b>1997</b>		<b>1998</b>		<b>1999</b>		<b>2000</b>		<b>2001</b>		<b>2002</b>	
Qualification	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD
Professor		4		4		4		4		4		4
Senior assistant		1		1		1		1		1		1
Lecturer	1*	1	1*	1	1*	1	1*	1	1*	1		2
Assistant	1			1	1		1		1*		1*	
Full/part-time teacher	2		1	1*	3		2	1	3		3	
Researcher (incl. Doctoral students)			1*		1*		2		1		2	
Other, please name: planner			1		1		1		1		1	
<b>Total</b>	<b>4</b>	<b>6</b>	<b>4</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>7</b>
<b>University of Tampere</b>	<b>1997</b>		<b>1998</b>		<b>1999</b>		<b>2000</b>		<b>2001</b>		<b>2002</b>	
Qualification	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD
Professor		3		2.5		2		2		2		2
Senior assistant	1		1	0.5	1*	1.5		2		2		2
Lecturer	1	2	1	2	1	2.5	1	3	1	3	1.5	3
Assistant	1		1			1		1		1	1	
Full/part-time teacher	0.5		1		1		0.5	0.5	1	0.5	1	
Researcher	1		1.5		1		1.5		2		3	
			1*		1*		1*		1*		1*	
<b>Total</b>	<b>4.5</b>	<b>5</b>	<b>6.5</b>	<b>5</b>	<b>5</b>	<b>7</b>	<b>4</b>	<b>8.5</b>	<b>5</b>	<b>8.5</b>	<b>7.5</b>	<b>7</b>
<b>University of Turku</b>	<b>1997</b>		<b>1998</b>		<b>1999</b>		<b>2000</b>		<b>2001</b>		<b>2002</b>	
Qualification	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD
Professor		2		2		2		2		2		2
Senior assistant		1		1		1		1		1		1
Lecturer	1	1	1	2		3		3		3		3
Assistant	1		1		2		2		2		2	
Full/part-time teacher		1	1			1		1		3		3
Researcher	1.5		1	1	2	1	0.5	1	3		3	
Other, please name: Student supervisor, MNS-student	1		1		1		1		1		1	
<b>Total</b>	<b>4.5</b>	<b>5</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>8</b>	<b>3.5</b>	<b>8</b>	<b>6</b>	<b>9</b>	<b>6</b>	<b>9</b>
<b>University of Oulu</b>	<b>1997</b>		<b>1998</b>		<b>1999</b>		<b>2000</b>		<b>2001</b>		<b>2002</b>	
Qualification	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD
Professor		2		2		2		2		2		2
Senior assistant	1	1	1	1		2		2		2		2
Lecturer		1		2		2		2		2		2
Assistant							1			1		1
Full/part-time teacher	1	1		2		2		2		2		2
Researcher	1		1		1		2		2		2	
<b>Total</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>7</b>	<b>1</b>	<b>8</b>	<b>3</b>	<b>8</b>	<b>2</b>	<b>9</b>	<b>2</b>	<b>9</b>
<b>Åbo Akademi University</b>	<b>1997</b>		<b>1998</b>		<b>1999</b>		<b>2000</b>		<b>2001</b>		<b>2002</b>	
Qualification	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD	MSc	PhD
Professor		2		2		2		2		2		2
Senior assistant		1		2		2		2		1		1
Lecturer	2		2		2		1	1	1	2	1	2
Assistant	1		1		1		1		1		1	
Full/part-time teacher	1		1		1		1					
Researcher	2		1		1		2		2		2	
Other, please name Administrative assistant	1		1		1		1		1		1	
<b>Total</b>	<b>7</b>	<b>3</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>

\*licenciante



Table D3. The annual number of completed degrees in Nursing Science.

<b>University of Kuopio</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Total</b>
Master's degree	24	33	45	49	47	37	235
Annual intake of post-graduate studies	7	7	7	7	7	4	39
Licentiate's degree	4	3	3	4	4	2	20
Doctoral degree	3	1	2	4	5	4	19
Degrees completed in graduate schools	1	–	–	1	1	–	3
<b>University of Tampere</b>							
Master's degree	28	56	51	38	41	50	264
Annual intake of post-graduate studies	3	6	4	5	4	9	31
Licentiate's degree	2	–	1	2	3	1	9
Doctoral degree	2	5	5	4	4	4	24
Degrees completed in graduate schools	–	–	1	–	–	1	2
<b>University of Turku</b>							
Master's degree	29	27	38	44	37	44	219
Annual intake of post-graduate studies	–	8	13	6	6	8	41
Licentiate's degree	4	7	4	1	3	1	20
Doctoral degree	3	1	3	4	2	11	24
Degrees completed in graduate schools	–	1	1	–	–	–	2
<b>University of Oulu</b>							
Master's degree	25	30	31	30	15	29	160
Annual intake of post-graduate studies	7	8	7	5	6	6	39
Licentiate's degree	3	5	2	2	2	1	15
Doctoral degree	2	2	7	3	2	2	18
Degrees completed in graduate schools	–	–	1	–	–	1	2
<b>Åbo Akademi University</b>							
Master's degree	8	12	15	15	15	11	76
Annual intake of post-graduate studies	4	10	9	11	4	5	43
Licentiate's degree	2	2	3	2	–	1	10
Doctoral degree	1	2	3	2	2	3	13
Degrees completed in postgraduate schools	–	1	–	–	1	1	3

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# Appendix E. Programme site visits

### Evaluation of Nursing Science SITE VISITS 23-29 March, 2003

Draft plan	24.3. Monday HELSINKI	25.3. Tuesday KUOPIO	26.3. Wednesday TAMPERE	27.3. Thursday OULU	28.3. Friday TURKU
morning	<p><b>Academy of Finland</b> 8.45 taxi to Academy 9.00-10.00 MRC Hiikka Soinen Elina Hemminki 10.00-10.30 Eero Lahelma, University of Helsinki</p>	<p><b>Academy of Finland</b> 8.30 taxi to AF 8.45 Eero Vuorio, MRC 9.10 taxi to airport 10.00 - 11.05 Flight to Kuopio Kuopio University 11.30-12.00 Introduction to the department 12.00 - 12.20 Matti Uusitupa, Rector and Hiikka Soinen (MRC)</p>	<p><b>Tampere University</b> 7.25 taxi to the railway station 8.04 Train to Tampere 10.30-11.00 Introduction to the department 11.00-12.30 GROUPS I</p>	<p><b>Oulu University</b> 8.00 taxi to the airport 9.15-10.20 Flight to Oulu 11.00-11.30 Introduction to the department 11.30-11.50 Heikki Ruskoaho, Dean 11.50 -12.35 GROUPS I</p>	<p><b>Turku University</b> 8.30 taxi - railway station 9.03-11.00 Train to Turku 11.15-11.45 Introduction to the department 11.45-12.35 GROUPS I</p>
	Lunch 11.00-11.45	Lunch 12.30-13.15	Lunch 12.45-13.30	Lunch 12.45-13.30	Lunch 12.45-13.30
afternoon	<p>11.45 taxi to <b>STAKES</b> 12.00-12.30, V. Taipale 12.30-13.00 GROUP STAKES <b>Åbo Akademi</b> (Academy) 13.30-14.00 Introduction to the department 14.00-14.55 GROUPS I 15.10-15.40 GROUPS II 16.00-16.30 Tea with students 16.40-17.00 Director of nursing, Anja Seppälä</p>	<p>13.15-14.25 GROUPS I 14.40-15.45 GROUPS II 16.10-16.40 Tea with students 16.50-17.10 Director of nursing Pirjo Varjoranta 17.20 taxi 18.10-19.00 Flight to Helsinki</p>	<p>13.30-14.30 GROUPS II 14.45-15.15 Tea with students 15.15-15.35 Director of nursing Tarja Pukuri 15.40 taxi 16.02-18.00 Train to Helsinki</p>	<p>13.30-14.00 GROUPS II 14.15-14.45 Tea with students 14.45-15.10 Directors of nursing Kaarina Torppa and Liisa Ukkola 15.15 taxi 16.30-17.30 Flight to Helsinki</p>	<p>13.45-15.00 GROUPS II 15.20-15.50 Tea with students 16.00-16.20 Director of nursing Anja Vannes 17.00-19.00 Train to Helsinki</p>
evening	<p>17.30-18.00 Panel meeting 18.00-19.00 Dinner (AF) Panel, Secretary, Coordinator</p>	<p>19.30-20.00 AF Juha Kinnunen 20.00 Dinner meeting (AF) Panel, Secretary, Coordinator</p>	<p>19.00 Dinner or tea (Panel only) Drafting of the report</p>	<p>19.00 Dinner or tea (Panel) Drafting of the report</p>	<p>19.00 Dinner or tea (Panel)</p>

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# Appendix F. The programme of the Finnish Postgraduate School of Nursing Science

<b>Spring 2003</b>	Methodological issues in clinical nursing research	A Theory of Science for Caring Science	Family Nursing Research Methods
<b>Autumn 2003</b>	Gerontological Research in Nursing Science	Ethics in Health Care and Nursing	Qualitative Research Methods in Nursing Science
<b>Spring 2004</b>	History of Ideas of Caring Science and Caring	New Innovations in Nurse Education and Research	Improving the Quality of Health Care Through Outcomes Research
<b>Autumn 2004</b>	Theories and Methods in Preventive Nursing Science	Basic Research within Clinical and Systematic Caring Science	Statistical Methods in Nursing Research
<b>Spring 2005</b>	The Development of Nursing Theories	Nursing Science and Health Service Research	Qualitative Research Methods in Nursing Science
<b>Autumn 2005</b>	Methodological issues in clinical nursing research	Nursing Education	Transcultural Nursing: Theories and Research
<b>Spring 2006</b>	A Theory of Science for Caring Science	Children and Adolescents Research in Nursing Science	Family Nursing Research Methods
<b>Autumn 2006</b>	Gerontological Research in Nursing Science	Qualitative Research in Nursing Science	Research in Caring Ethics

*The scientific quality, researcher training and societal relevance of the research carried out in the field of Nursing and Caring Sciences in Finland during 1997-2002 has been evaluated by an international panel. The evaluation was commissioned to support the future development of the field and it combined an external assessment with an internal self-assessment exercise. The evaluation focused on research conducted at university departments.*

*The evaluation shows that there are some excellent examples of emergent programmes of research that are grounded in significant societal health concerns and seeking to make a difference in practice through translational research. On the other hand, the panel points out that there is a need for still greater concentration on issues of significance and priority for health service users and providers of nursing services.*

*The panel sets out a number of recommendations directed to universities, departments of Nursing and Caring Sciences, research institutes, the Academy of Finland and other funding agencies.*

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