

Public Health and Health-related Research

Panel 5

Evaluation
Division for Science





Public Health and Health-related Research – Panel 5

**Public health, community dentistry and community
nutrition. Epidemiology and medical statistics. Health
services research, preventive medicine, nursing
research, physiotherapy, occupational medicine,
behavioural research and ethics, other health related
research**

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Preface from the Research Council of Norway

The Research Council of Norway (RCN) is given the task by the Ministry of Education and Research to perform subject-specific evaluations. According to the plan for these evaluations the RCN carried during 2010 and 2011 out a comprehensive evaluation of Norwegian research within biology, medicine and health in Norwegian universities, hospitals, relevant university colleges and relevant research institutes. Evaluations have previously been performed within these subjects/fields, in biology in 2000 and medicine and health in 2004.

Due to the large span in disciplines and the number of scientific groups involved in the evaluation, seven international panels of experts were established; each of them reviewed one of the following subfields:

Panel 1	Botany, Zoology and Ecology-related Disciplines
Panel 2	Physiology-related Disciplines
Panel 3	Molecular Biology
Panel 4a	Clinical Research – Selected Disciplines
Panel 4b	Clinical Research – Selected Disciplines
Panel 5	Public Health and Health-related Research
Panel 6	Psychology and Psychiatry

The Research Council of Norway would like to thank the panel for the comprehensive work the panel has performed.

Oslo, October 2011

Hilde Jerkø (sign.)
Director
Division for Science

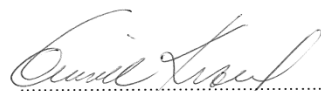
Mari K. Nes (sign.)
Director
Division for Society and Health


Statement from the Panel


This is the report from Panel 5 in the Evaluation of Biology, Medicine and Health covering Public health and health-related research.

The conclusion and recommendations in this report are based on self-evaluations and hearings with representatives from the units evaluated. The hearings took place in April 2011 in Oslo. The views expressed in this report are the consensus view of the panel members. The members of the panel are in collective agreement with the assessments, conclusions and recommendations presented. Some of the panel members had conflicts of interest with one evaluation unit. Nancy Pedersen reported conflicts of interest with the unit of epidemiology at Norwegian Institute of Public Health, David Leon with Department of Community Medicine, University of Tromsø and Michael Væth with Department for Public Health and Primary Health Care, University of Bergen. Therefore, these panel members did not take part in the hearing nor the discussion or the grading of the unit/department where there was conflict of interest. Professor Peter C. Croft of Keele University contributed to the initial evaluation of the submitted self-evaluation documents but did not attend the Panel hearings and has not signed the report.



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Maria Albin, Lund University, Sweden, acted as secretary for the panel.

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Executive summary with general conclusions and recommendations

The Panel was impressed by the amount of high-quality research produced in Norway in the field of public health and health-related research, and noted that it was increasing. Also, there was extensive local, regional, national and international research collaboration, and great ambitions to disseminate information.

However, there are some general problems, which should be addressed. Hence, the age of the academic staff is high, and there is a serious lack of post-doc, middle positions for young researchers, and low mobility between research units. There has also been repeated, extensive reorganization of many institutions, which may have harmed scientific productivity.

Norway has unique possibilities for epidemiological research. The combination of reliable personal identification numbers, geographical coordinates of the population, large cohorts of populations followed over a long period with extensive information on exposures and health parameters, well-organized biobanks attached to these cohorts, a national network for analyses in genetics/molecular biology, and a series of very good registries for health outcomes, provide an internationally unique combination.

A number of strong research groups have been able to harness these unique opportunities to produce a wealth of very excellent, mainly aetiological research. There is no doubt, that these groups could fruitfully make use of more resources. However, new resources could also be channelled to increase the current relatively low volume of research on interventions.

The Panel was unanimous in its view that it was crucial that support should be maintained, and possibly extended, to ensure the continued development and exploitation of existing databases and biobanks, including their infrastructure. New registries of health outcomes should also be considered within clinical medicine and primary health care. Moreover, formal methodological training in epidemiology and biostatistics should be strengthened.

Norway also has very good possibilities for research on global health. The Panel was very impressed by the activities in some of the units in this area, in particular by their well-developed strategies and long-term visions, including real partnership with local partners in low- and middle-income countries. In particular, there were important mechanisms on place, by which locally recruited students return to work in their respective home countries after advanced training in Norway.

Research activities overseas with implementation in preventive activities require units of sufficient size and long-term funding. The most mature and successful units will certainly make good use of extended resources.

Further, the Panel noted the very good Norwegian research in occupational health, making use of good conditions in terms of political prioritization and positive climate of collaboration between the partners in the labour market. The Panel approved of the increasing attention being paid to non-physical health risks in the workplace, such as psychological and psychosocial problems. However, the Panel stresses that there are still important physical risk factors, which deserve further attention.

The Norwegian health-care system has undergone major reorganization over the last decade. It is of the utmost importance to evaluate the effects of these changes systematically. However, surprisingly limited advanced research has been devoted to this important area. Thus, the Panel strongly recommends good research to be made of the impact of changes in the hospital system and – even more important – the primary health-care system.

The area of care/nursing research is important, in particular in an ageing society like the Norwegian one. In particular, there is a need for carefully evaluated, evidence-based practice in health care, prevention and health promotion, e.g. with regard to caring of elderly and patients with chronic diseases. However the Panel found only a few examples of high quality research in this area. Some of the large units attached to universities performed well, while others, in particular small units at university colleges, were weaker, due to fragmentation, lack of clear focus, methodological problems and a superficiality in the choice of research topics. The Panel also noted that there was extensive overlap in topic areas across many units.

The view of the Panel is that the important area of care/nursing research can be improved. The most crucial research questions should be identified, and resources allocated for their efficient solution. A limited number of strong environments, preferably in close connection with the universities, should be supported. The research question should govern the choice of methods; qualitative, quantitative or combined that may be most relevant. The results should, to a greater extent than now, be published in international scientific journals with a wider focus than care/nursing science. An increased exchange of staff between units is advisable; thus the strong research units may supply the university colleges with teaching personnel having sufficient scientific training for their teaching duties.

In the public health and health-related research, the societal impact of the activities is a crucial issue. A system to assess this could facilitate interaction with the society.

General description of the field and recommendations

During the evaluation process, the Panel made a series of observations of general character of strengths and weaknesses in its area of responsibility. These are summarized in this section, and a number of attached recommendations are given.

The Norwegian research system in general

Descriptive aspects

An impressive amount of high-quality research is produced in Norway, relative to the size of the country and its research community. During the period 2000-2009 Norwegian researchers within the field of public health and health-related research contributed to approximately 3,300 articles in international scientific journals. In all disciplines covered by this evaluation the annual number of scientific articles increased significantly during this period, and the increase was largest in public health and health-related research. Compared to the overall Norwegian scientific production (all fields), many of the subfields within public health and health-related research contributed with a larger share of the global production of scientific articles.[Aksnes DW. Evaluation of research in biology, medicine and health in Norway (2010-2011). Publication and citation analysis. National indicators and international comparisons (2000-2009). Institutional analyses (2005-2009). Nordic Institute for Studies in Innovation, Research and Education. March, 2011].

From the self-evaluations and the hearings, the Panel concluded that there had been extensive reorganization of many of the research units in the last years, partly as a result of the RCN evaluation in 2004. The Panel's view is that most of the reorganization was justified, and that even in some areas further fusions of similar activities would be meaningful. However, in several cases the Panel (and the units) had difficulties in understanding the rational from a research point of view. It was also clear that in some cases the disruption caused by reorganisation had a negative, even if only temporary, impact on research output. In some instances, the reorganisation was very recent or even ongoing at the time of the evaluation, making it difficult for the Panel to reach a firm conclusion.

Most of the research units complained of limited, and some of decreasing resources available for research. However, the statistics on the resources allocated to the present area does not indicate that the field has generally suffered economically. Part of the explanation for these comments may be because there has been an increase of wages/administrative costs, resulting in a loss of research resources, which has not been compensated for.

A major problem in many research units was the high age of the academic staff, which means that a major fraction will retire in the next few years. Not all the units had a clear strategy for handling this problem by recruitment. This problem was aggravated by a serious lack of post-PhD, middle positions for young researchers.

While there is some mobility of researchers between different departments in the same university, there is an obvious lack of movement between universities.

The Norwegian research system contains a larger fraction of national, directly funded institutes that perform research than in most other comparable countries. This is an advantage

in some respects, since the institutes may focus over a long time on issues of strategic societal importance, and at the same time have a clear-cut mission with regard to function and dissemination. This may allow extensive and long-term allocation of resources to specific, prioritized research areas, e.g. large scale cohort studies). On the other hand, there is a risk that the dynamics of the research structure suffers from less interaction with other university disciplines, and less competition. The Panel noted that this potential problem was, to a large extent, compensated for by the system of professor II positions, with academic staff members positioned both at the institute and at a university department, with tutoring of PhD students formally attached to the university.

The Panel was impressed by the degree of collaboration displayed by many of the research units - locally, regionally, nationally and internationally. Obviously, the signals given by the Ministry of Education and Research and RCN have been efficient.

Besides extensive scientific collaboration, the Panel noted the ambition of most of the units to cooperate with the surrounding society and disseminate research results. This is true for other parts of the health-care system and the universities, but also for other parts of the society, e.g. the welfare, environmental protection, and labour inspectorate systems. As mentioned below, the interaction of some units with the health-care systems in low income countries was impressive.

With a small number of exceptions, the Panel found that there was relatively little methodological work being conducted in areas of biostatistics, bioinformatics and study design, even though there is an obvious need for this. However, the Panel was aware that it only saw parts of the research in these fields.

Recommendations

It is beyond the remit of the Panel to give specific advice on economic issues. However, it is obvious that some successful research units, in particular in the fields of epidemiology and global health, would be able to make very good use of additional resources. This would benefit research in these areas, and be of practical use to Norway and other countries. At the least, this should be carefully considered by RCN in the relative distribution of funding.

The problem with the ageing academic staffs should be forcefully addressed by RCN. Thus, post-doc and other "middle" researcher positions should be established at many units. It might be that the number of PhD positions should - at least temporarily - be decreased in favour of post-docs. Also, measures that increase mobility between universities should be stimulated.

It is important that the research institutes maintain, and further develop, their interaction with the universities, e.g. by professor II positions and PhD students.

The Panel's view is that local, national and international collaboration should be further stimulated, in view of the character of the evaluated research area, and in particular its frequent multidisciplinary needs. At the same time, the focus should be on concrete research cooperation, not on simply networking without clear scientific content.

One aspect of the system for scoring research outputs worked against developing productive collaborations. We heard repeatedly from units, that the scoring system for publications is such that if authorship of a paper spans several research units, each unit gets reduced merit

points for the paper. Furthermore, the system awards quantity, not quality, and should be changed.

The Panel saw that many units participated in research activities that were funded through European Union schemes. The institutes have, as a function of their size and administrative staff, a particular possibility to become members or coordinators of such collaborations. For the university units, it is more risky to undertake leading positions in such applications, because they are both complex and costly. In some universities, there are administrative services that advise and support departments in planning and preparation of proposals, and in running of projects. The Panel thinks that such support should be available on request for all units.

The Panel saw only a few research grants from the European Research Council (ERC). This may be because ERC is fairly new, and with a focus on more basic research. Still, activities in relation to ERC should be stimulated in the present area.

Even if a majority of the research units reported quite extensive interaction with the surrounding society, for many units there is scope for this to be developed further; in the present research area, such contacts are crucial for the application of results. RCN should consider the possibility of establishing funding possibilities for supporting the development of methodology in this area. Only a few units declared cooperation with industry, which is natural, considering the character of the research. In a few areas only, equipment and methods may have a market potential.

Particularly strong research areas

Aetiological epidemiology

Description

Norway has extremely good possibilities for epidemiological research, and some of the research in this area was world leading. This was also noted in the previous evaluation in 2004 (Public health and health services research. Public health, epidemiology, relevant psychology, behavioural research, health services research, ethics and other health-related research. Panel 2. Research Council of Norway, 2004).

The combination of reliable personal identification numbers, geographical coordinates of the population, large cohorts of populations screened over time for background information and health parameters (HUNT, Tromsø, MoBa, etc.), well-organized biobanks attached to these cohorts, a national network for analyses in genetics/molecular biology, and a series of very good registers of health outcomes (birth registry, cancer registry, causes of death registry, etc) provides an internationally unique combination.

These facilities have already resulted in a wealth of mainly etiological research. However, during the evaluation process, the Panel came across several areas, in which improvements would further enhance the possibilities and quality of the work.

The Panel was concerned that research in infectious disease epidemiology seemed to be limited and mainly descriptive. However, this impression might be due in part to the fact that we may not have seen all activities in the area due to the distribution of units/tasks across the different panels.

Recommendations

A universal problem, which is also present in Norway, is that while research funding agencies are prepared to invest in establishing cohorts, databases and biobanks, they are often much less interested in supplying resources for their necessary continuous support, which is often quite costly, but of central importance for their quality and usefulness. Thus, the Panel strongly recommends that the RCN assesses the situation and makes an action plan for the optimal survival and use of the databases and biobanks, including infrastructure support (for data management, programming, and support staff).

New registries of health outcomes should be considered. The Panel noted that a registry of cardiovascular disease was in the process of being established that will certainly provide important research possibilities. Further, there should be possibilities to develop registries of other outcome parameters within clinical medicine and primary health care; the Panel noted that such were discussed in several units.

The area of observational, etiological studies based on these unique resources could be even more fruitful, and move ahead much faster, had there been a national, readily accessible meta-database based on a 21st century platform, maybe with a joint data-discovery portal. There is already much information that may be extremely useful, even without further expansion. It is obvious that this would require national funding. The Panel is well aware of the many problems in such an approach, in terms of, e.g. confidentiality, ownership of the information and accessibility. However, the potential for the health of the population in Norway (and the world) is enormous. Thus, at least, the possibility should be considered.

Several units pointed out the problem that there is no formal training in methods in epidemiology, which meant insufficient possibilities to recruit competence, run epidemiological projects and develop methods in an optimal way. Furthermore, there is a lack of trained biostatisticians. For a full use of the epidemiological potential, those issues should be solved.

There is room for development of infectious disease epidemiology into a more analytical approach; mathematical modelling seems to be a fruitful way forward.

The Panel is aware that it has no overview of clinical trials, since they may have been allocated to other panels. Despite this, our strong impression of the units assessed was that there is only a limited amount of intervention research undertaken. This is a weakness, as a capacity to undertake intervention research is crucial for establishing evidence-based best practice, e.g. in the health care and health promotion areas. There are good possibilities in Norway to perform such studies. Thus, RCN should stimulate intervention research.

Global health

Description

Norway has unique possibilities in this important area, in particular because of its political commitment and role, and long research tradition.

During the evaluation process, the Panel saw evidence of some units performing very impressive research in the area of health problems in low- and middle-income countries, mainly in Sub-Saharan Africa, but also in Southeast Asia and South America. Hence, in spite of the small size of Norway, some of the research units have made great contributions. In particular, a number of units had very well developed strategies and suitable long-term impressive visions.

The Panel noted that the leading units in this field fully understood the importance of developing global research as real partnerships, in which local collaborators were fully involved and which were translated into improvements in public health. Capacity development was also given appropriate emphasis. The best units had mechanisms in place, so that PhD students from the research areas, who had spent time at research units in Norway, really return to their original country, to use their new knowledge in local activities. On the other hand, several research units reported problems in funding Norwegian PhD students in their fieldwork abroad.

Recommendations

Research activities over-seas with implementation in preventive activities require units with sufficient size and long-term funding. Some of the evaluated research units definitely deserve strong and continuous support by RCN; the Panel's view is that the most mature and successful units will harbour larger resources in a most fruitful way.

The good and effective strategies for collaboration, developed by some units over a considerable period of time, emphasise the importance of appropriate local collaborations, capacity building and return of personnel/knowledge. These strategies deserve to be disseminated to other units active in the global health area, not only in Norway, but also internationally.

Strong research areas

Occupational health

Description

Norway has a long tradition of research in occupational health, partly because of political prioritization and a climate of collaboration between the partners in the labour market permitting access to the workplaces and the workforce which is rare from an international perspective. This has been successful in terms of elimination of physical occupational health hazards in Norway, and has also been of value for the rest of the world. In many other high income countries, the focus on physical hazards has faded away during the last decades, and the focus has shifted into psychological and psychosocial problems in occupational settings. During the evaluation process, it was stressed that there had been an increasing focus in Norway on the non-physical health risks, but there are still important physical ones, which deserve further attention.

The Panel was aware that it only saw parts of the research effort in environmental health, as other parts (e.g. most of the toxicological aspects) were assessed by other panels. Though Norway is a country of limited environmental pollution, there are some very specific problems, e.g. with pollution of seafood, in particular in the Arctic area. Maintaining strong research capacity in this area is therefore potentially of strategic importance.

Recommendations

The research resources in the occupational health area should be preserved, in order to handle the remaining physical problems in Norway, and as a source of knowledge of importance for less developed societies in the world.

The Panel concluded that given the unique possibilities there should be a continued allocation of resources to this area.

Others

The Panel noted strong research in other areas in a couple of units. Since the strength was not relevant for the field as a whole, these strengths are pointed out in the level 2 assessments.

Less strong research areas

Health-care system research

Description

The Norwegian health-care system has undergone major reorganization over the last decade. This means that many basic conditions and practices have been changed. It should be of utmost importance for Norway to systematically evaluate the effects of these changes, in order to get a firm knowledge basis to take advantage of the positive sides and handle mistakes. Such information should, of course, also be valuable for the rest of the world, where similar changes have been made, or are planned. The Panel has encountered several attempts to study different aspects of the changes, but its general view is that surprisingly limited research is devoted to this important area. Although there were a few units where work in this area was strong, in general it was not.

Recommendations

Resources should be directed to systematic studies of different aspects of the Norwegian health-care system, and in particular the effects of the recently made changes. This should, of course, include the hospital system, but even more important the primary health-care system.

Care/Nursing sciences

Description

Several units engaged in care/nursing sciences were evaluated. The quality of the activities varied widely, from "very good" to "weak".

The area is very important, since there is a lack of carefully evaluated, evidence-based practice in health care, prevention and health promotion. This deficiency is true for all the presently evaluated areas, but perhaps in particular for the caring of elderly and patients with chronic diseases. Establishment of such practices needs reliable intervention studies. However, the Panel only found a few examples of good research, despite the good opportunities there are to conduct research in this area.

The impression is that some, though not all, of the large units attached to the universities, with their strong research environments, perform well in studies aiming at evidence-based practice. However, the small units at the university colleges, the cores of which are former nursing schools with limited resources for research in terms of academic staff and funding combined with heavy educational duties, were performing less well. In this connection, it should be stressed that the Panel may not grasp the full situation, since only a fraction of the university colleges volunteered to be evaluated, which may, however, mean that the problem is underestimated.

The research in these mostly small units was fragmented, without a sufficiently clear focus and sometimes without appropriate methodological consideration, which resulted in superficial results. Also, it seemed that many of the research activities at the different units were quite similar. This was especially obvious in the fields of ageing and care of patients with chronic diseases, areas of utmost importance in a society like the Norwegian, with its rapid demographic changes towards an ageing population.

The Panel fully realizes that nursing research is a difficult issue. On the one hand, there is a strong need for advanced research, on the other an often expressed political ambition to link any education after high school to research. However, one interpretation of the latter, which was expressed repeatedly during the hearings, was that the academic teachers should convey results of their own research to the students. This has led, in many cases, to the unreasonable and inappropriate expectation that all staff involved in training nurses and related occupational groups should become researchers. These research activities have often become broad and shallow. Also, it has resulted in a very high average age in the PhD students, and a frustration of the impossible division of limited resources between research and teaching, with a constant demand for more research resources to the small units.

The view of the Panel is that the importance of research education of teachers is not mainly a matter of transfer of the teacher's own limited results to the students, but has its value in understanding of research in general, and in the specific area, which should be given to the students. Hence, most teachers should have research training. However, many of the staff members who teach did not enter this career to be researchers; they neither have the appropriate background nor motivation.

A view often encountered was that nursing research by definition is qualitative. The Panel does not share this view. Often, there is a need for a more complex approach to the methodological issues. Hence, many of the groups within nursing research would most likely benefit from a greater consideration of such matters. The research questions should govern the choice of methods, be they qualitative or quantitative, or a combination. Also, the aim should decide on the need for collaboration: inter- or multi-disciplinarity is not a value in itself.

The Panel was impressed by the high rate of publication even by several of the small university-college units. However they published mainly in international nursing journals and in interdisciplinary journals; a fairly large fraction was in Norwegian.

Recommendations

As said above, the Norwegian society (as well as any other country) has a great need for evidence-based practices in the nursing area (in a wide sense). This means that the most crucial research questions should be identified, and resources allocated to their efficient solution.

The view of the Panel is that this goal cannot be achieved within the present system, with distribution of limited resources as a thin layer over a wide range of small research units. Instead, a limited number of strong environments should be supported, with sufficient power to tackle these important research questions in a way that will allow solid answers. It seems reasonable that most of these units should be located in close geographical and functional connection with the universities. These units should also have the responsibility to supply the other units with PhDs, necessary for good teaching.

For the many other university colleges, it seems that the way forward is not to give general support from the limited resources of the funding agencies, which would still mean too little for forceful research in the prioritized areas. Instead, the ambition should stay with focused support of research activity in a few strong areas/institutions.

The publishing of the high-quality research in the important nursing area should to a greater extent be in journals which reach a wider public, and enable the researchers to take part in the international frontline discussion.

The evaluation process

The Panel finds the evaluation process to have been well organized. The combination of self-evaluations and hearings was a good procedure, though the relative distribution of time between large and small departments was not always optimal.

However, in some cases splitting up research units within a single department between different panels made the assessment more complex, both for the units and for the Panel. Next time, the departments should be kept together, even if it means that there is a need for some widening of the competence in the Panels.

Further, the amount of information collected from the research units was far too extensive (totally about 2,000 pages) and detailed on issues of limited importance for the core conclusions. In particular, the data on administrative issues could be reduced. Eventually, the size of the academic staff, funding, publications, most important achievements and plans for the future, and societal impact are the crucial parameters for an adequate assessment and recommendations.

Hence, the instructions need improvements, in particular regarding the way of describing societal relevance/impact. The Panel advises the RCN to formulate operationalisations of societal impact in measurable terms.

Further, the problems encountered in the present evaluation, with recent, extensive reorganization of many of the research units, and the problems which that caused for an adequate assessment of the research, indicates that a new evaluation should not be launched until the units have had a chance to establish themselves after reorganization.

Evaluation of the individual units

University of Oslo, Faculty of Medicine

Institute of Basic Medical Sciences

Level 1

Description

The Institute of Basic Medical Sciences (IMB) is one of three institutes under the Faculty of Medicine at University of Oslo (UIO). IMB is responsible for medical education in preclinical disciplines, as well as a master's program in nutrition. The institute's overall objective is to promote basic medical knowledge, in order to understand normal processes, provide insight into mechanisms that cause illness, and promote good health. The organization of IMB has changed in 2009. The institute leadership began its tenure in 2009, and reorganized the institute into Thematic Research Units that related to seven prioritized research areas, of which nutrition II and biostatistics are involved in the evaluation by Panel 5.

The institute supports sabbaticals and research visits abroad, for faculty, PhD students, and post-docs. Members of the institute are active in dissemination of research and application of their expertise, for example through a popular public health science lecture series and national and international media presentations through major newspapers, internet, radio and TV.

International recruitment is highest for post-doc and researcher positions. Most research groups at IMB have collaborations with several other institutes at UIO and Oslo University Hospital, and also international collaborations. Women have competed well for new permanent positions over the last few years. IMB has had a stable number of PhD students and post-docs in the 2005-8 period. From 2009, the Faculty of Medicine allocated a larger number of internally funded PhD students to IMB. At present, the institute has up to 38 PhD students employed, an increase of 30-40% compared to previous years.

Critical points are old instrumentation and infrastructure. Another critical issue is the recruitment of MDs for research. Funding is 50% internal and 50% external. A risk may be to loose focus on basic medical research, since funding turns into more clinical, applied research. Boundaries between the Ministry of Health and Care Services and the Ministry of Education and Research may increase this problem.

Follow-up of previous recommendations

The Institute of Basic Medical Sciences has responded well to recommendations of the last RCN evaluation held in 2004.

1. Biostatistics

Level 2

Description

The Department of Biostatistics is an independent unit under IMB. The staff of the department includes four full-time tenured professors, two full-time associate professors, one full-time associate professor on a five year grant, four post-docs, and two internally financed part-time researchers. During the period 2005-9, the unit had six dissertations

and was co-supervisor for 12 candidates at other departments. At present, they have ten PhD students and four post-doc fellows.

Each of the professors organizes their own research group. They also have strong collaboration within life sciences, both within the institute and both nationally and internationally. They can also be exposed to industrial research challenges through the unique opportunities given by the Statistics for Innovation, which develops core statistical methodologies for industry. The financial situation of the unit has been good over the last years. They have also had a rather high acceptance rate of their applications for project funding with, e.g., the RCN and the Norwegian Cancer Society. Lack of long term, predictable university funding makes research activities dependent on external funding. Funding sources for long-term funding of research into methods in biostatistics are lacking – biostatistics is mostly financed as part of other projects.

In the 2004 evaluation, it was noted there is a need for greater consultancy support to other departments. Now they report that consulting activity is a major activity for their staff.

Research quality

Research activities include both applied and methodological research. The main topics for the research projects are epidemiological research, infectious diseases, statistical genomics and methodological research. A particular strength of the unit is the wide diversity of research being carried out, and the interplay between methodological development and practical implementations. The unit has a very high scientific competence and has contributed to more than 300 publications (including books and book chapters) in the period 2005-10, with a top in 2009 with 72 publications.

Grade: Excellent

Societal impact

Research in epidemiology has a great societal relevance.

Recommendations

This is a very strong and productive unit, doing high quality work. Lack of long-term, predictable university funding makes activities dependent on external funding. The unit has a number of highly experienced senior researchers. As three of the full time professors are above 60 years old, they should announce new positions early enough and prepare for the time after retirement. Then, they can ensure that valuable silent knowledge collected during the years will proceed to the new generation of professors and scientists running the biostatistics at the IMB. The Panel also supports merger with Department of Biostatistics at the Oslo University Hospital, but emphasizes the importance of strong scientific leadership.

2. Nutrition II

Level 2

Description

The unit is organized under the Thematic Research Unit of Nutrition Sciences. Other parts of this research (Nutrition I) is evaluated by another panel. Nutrition II consists of three research groups. The research is organized around projects headed by the professors/researcher. There is extensive collaboration among the unit members, both within and between projects. The unit includes three professors, one university lecturer, one research scientist (externally funded), three post-doctoral fellows, nine PhD students and 3.5 research assistants. The academic staff has competence in dietary survey methodology, biomarkers, nutritional and behavioral epidemiology, food-composition database, development of software for dietary data collection and analysis, intervention and evaluation methodology, and use of qualitative and quantitative methodology. The unit has lost half of its permanent staff during the last 10 years due to retirement, two before 2005 and one in 2008, and one going from 100% to 20% effort. Eleven PhD students have defended their degrees successfully during the period 2005-9.

The unit of nutrition has been able to obtain a large number of external grants, and the scientific output is good, both in quantity and in quality. The majority of the articles are published in journals which are of high interest for public health nutritionists internationally. Moreover, the members of the unit are very active in both the scientific and the societal debate related to public health nutrition.

The unit has been/is active in several EU-funded projects as coordinator or partner. Moreover, it has coordinated, and been a partner, in a number of analytical and intervention studies in Sub-Saharan African settings. The unit has also had close collaboration with a number of research groups, both within its own department, other departments in the Medical Faculty at UoO, other institutions in Norway, and internationally. Furthermore, members of the unit have participated in several research networks and organizations, both within Norway, within the Nordic countries, and internationally.

Research quality

The publication strategy of the unit is to publish in international scientific peer-reviewed journals, and master students are also encouraged to do so. Since the unit is deeply involved in research on applied public health issues, results are also disseminated through news media, books, reports to the government, and contributions to government White papers, seminars for the general public, representatives for the food industry, non-governmental organizations and public officials. The publication list for the period 2005-10 has 166 scientific papers, mostly published in very good international journals.

Grade: Very good

Societal impact

Research in nutrition has a great societal relevance. In addition, the expertise of the academic staff has been drawn upon by governmental bodies, in several scientific and expert committees, and through popular articles.

Recommendations

There is very important good and productive collaboration with other groups and the group has also great societal impact.

Researchers of the unit are in the forefront of development and evaluation of dietary assessment instruments by trying to reduce potential errors in the applied methods, and at the same time incorporate internet based technology in order to reduce the cost of both data collection and processing. They are also participating in, or coordinating many important clinical studies and public health programs like Fruit and vegetable makes the mark. The unit appears to be vulnerable due to the low number of permanent academic staff and that 2 of these soon are forced to retire. Funding for creating platforms and databases for general use is important.

University of Oslo, Faculty of Medicine

Institute of Health and Society

Level 1

Description

The institute (HELSAM) is within the Faculty of Medicine. It undertakes the majority of the faculty's research in primary care, community medicine, ethics and health services research. It is a new entity: it was established in 2010 and it is only in 2011 that it started operating with its full complement of six departments. It was created out of the merger of three pre-existing institutes in the Faculty of Medicine. As of April 2011, the Institute employed approximately 300 staff (including adjunct and administrative staff and PhD students), 48 of whom were in academic positions. From January 2011, the institute operated on two main sites. Because the Institute is so new, the Panel was unable to make an assessment of how successful this reorganisation will be in terms of improving research in the faculty.

The institute has the aim that professors and associate professors should devote 45% of their time to research. However, there is a major problem in that "a large proportion" of academic staff do not manage to spend this amount of time on research. Research time was limited due to competing demands from teaching, and from providing advice to central and local government. However, the Panel found that these other demands varied considerably between departments, both in level, as well as perceived impact.

The age profile of the academic staff and researchers tended to be relatively old, although again this varied between departments. The Panel was of the view that the institute as a whole should be pro-active in managing new recruitment, to ensure that predictable retirements would not seriously compromise research capacity in strong areas.

The institute had the goal to be a leading national research institution for research activities on and in primary care, including clinical projects, studies in medical ethics, studies on organization, and studies on financing health care in hospitals and municipalities. The Panel noted that this was a very broad research agenda, particularly given that there was also a stated interest in further extending their already substantial work in "global health", as well as in the analysis and exploitation of health registers.

Overall, the Panel noted that there was considerable variation in culture, approach and involvement in research within the institute. There are examples of what appear to be very good practice, which could be usefully spread across departments. There also appear to be many areas where there could be further linkage and consolidation across departments and between other institutions that would strengthen the research effort in HELSAM. Biostatistics was one of the most obvious areas in this respect.

1. Department of Health Sciences

Level 2

Description

The department was originally established in 1995, although at the point of the creation of the new Institute it was part of a larger nursing and health science department. The new department has 11 academics with doctoral degrees. It submitted CVs for eight researchers: four professors I, three professors II and one associate professor, 7/8 were aged 50 years or more. The other staff are post-docs/senior scientists, mainly part-time. The disciplinary

background of the majority of the academic staff is nursing and physiotherapy. All have an involvement in research, but have heavy teaching demands that mean that the target of 45% of time on research is difficult to achieve. The department runs a MSc programme (30 students per year). Currently, staff in the department provides the main supervision for 20 PhD students.

Research quality

There are two main areas of research that were elaborated following the 2004 RCN evaluation: (1) Physical function, pain and fatigue; (2) Humanities in the health sciences. The Panel found it difficult to assess how far researchers in these two rather distinct areas did work together to address well-defined problems. However, it was stated that staff in these two areas collaborate, although it was acknowledged that they used different research methodologies and had different publication traditions.

Over the past few years, there has been an increase in research funding, such that external grant funding in 2011 exceeded internal funding.

The department has led a number of intervention studies (RCTs) on patient education and medical rehabilitation in the area of musculoskeletal pain. They collaborate with the Department of Biostatistics at the UoO on these studies. The department has collaborative research links with other institutions, both in Norway and internationally. The department is the "main partner" in FYSIOPRIM, that aims to develop tools and methods for scientific research in physiotherapy in primary care, and to conduct evaluations of interventions. Funding for this is 32 million NOK over 5 years from 2010. The international collaborations have been mainly in the form of exchange of staff for study visits, rather than collaborative research projects.

Between Jan 2005 and June 2010, the department listed 146 peer-reviewed papers. According to the self-assessment, there has been a 50% increase in publications from 2005-7 to 2008-9. Publications are mainly in international specialist journals, aimed at a professional readership working in the area of physiotherapy, nursing, pain and musculoskeletal disorders. The papers cover a wide range of topics, including descriptive studies of musculoskeletal disorders in clinical populations, as well as evaluations of treatments. Only a small proportion of the publications are identifiably in the area of humanities in the health sciences.

Grade: Good

Societal impact

The research output is likely to be of particular value to physiotherapists, nurses and other practitioners dealing with pain and musculoskeletal disorders.

Recommendations

Although the department is well established, how it fares in the future in the new institute is difficult to assess. However, if research is to continue to be productive and of a good grade, issues to do with the age profile of the academic staff, the balance of teaching and research and how far the humanities theme really deserves to be a discrete group, should be examined.

2. Department of Health Management and Health Economics

Level 2

Description

The department originated from a study programme in health administration established in 1986. It submitted 19 academic staff with their CVs: six professors, five professor IIs, five associate professors and three post-doc/researchers. Of these, 13 are full-time and 8/19 are aged less than 50 years. The Panel regarded the relative youth of this department to be one of its strengths. The department has eight internal PhD students, and an additional 14 PhD students registered at other institutions, where a member of staff is their main supervisor. The department stated that its goal is “research-driven” teaching, which essentially means that teachers are involved in research and thus aware of current debates and methodologies. It runs a series of international masters and other training courses that are “business school programmes adapted to the needs of the health care sector”. The department has grown over recent years in response to increased demand for teaching in their area. While costs of teaching are met by the faculty, the heavy teaching load is perceived as a weakness by the department. Staff in the department also provides advice to government on health care financing, organisation and performance.

Research quality

Research is organised in three areas: (1) Health economics and policy; (2) Health organisation, management and ethics; (3) Economic evaluation of health technology. The Panel was impressed by the breadth and depth of key research projects undertaken that have been driven by well formulated and important questions, ranging from issues to do with health care financing, to more global issues concerning the relationship between health care expenditure and health outcomes across different countries.

The department sees an opportunity for a new area of research, with the national linkage of health registers and hospital activity with those containing socio-demographic data at an individual level. This would allow novel health-care outcome studies to be undertaken that control for socio-demographic and clinical case-mix.

The department has been in receipt of external research funding from national, as well as international sources (including EU and OECD).

In the assessment period, the members of the department listed 286 peer-reviewed papers. These were in a wide range of journals, many of them international, with broad readerships.

Grade: Very good

Societal impact

Much of this research is likely to have an influence on health care policy within Norway, as well as more broadly.

Recommendations

The new institute needs to make sure it recognises the strength of this particular department, and ensures that it continues to be as productive as it has been to date. In particular, care must be taken to ensure that the continued high demand for training in the department’s area does not start to negatively impact on its research. However, the department may have lessons for the faculty as a whole, in demonstrating that a high teaching load is not necessarily incompatible with producing very good research. The reasons for the department having a

younger age profile compared to most other parts of the institute should also be looked at, to see if other departments could move towards this more favourable age distribution.

3. Department of Nursing Sciences

Level 2

Description

At the point of the creation of the new institute, the small group of academics in this department was part of a larger department of nursing science that included the new Department of Health Sciences. The new Department of Nursing Science has three professors, three associate professors, four part-time associate professors, one post-doc and two PhD students – the majority of which has a nursing background. It submitted CVs for six academics: two professors and four associate professors, only one of whom is aged 50 years or less – a weakness that is recognised by the department itself. This was attributed to a more general structural problem in nursing studies, due to the fact that most nurses only go into research towards the end of a professional career in nursing practice.

Research quality

The research in the department is divided into two groups: (1) Elderly-care research; (2) Competence in nursing. The description of these research areas was well structured and convincing. While it has strength in qualitative research, the department saw itself as moving more towards more quantitative studies, involving collaborations with other disciplines.

The department has collaborative links with other institutions, both inside Norway and internationally, the latter including collaboration with University of California, which involves sending PhD students there, to work on qualitative studies.

The department regarded one of its main weaknesses as being its small size – an assessment the Panel agreed with. However, it was nevertheless able to bring in sufficient external grant income to recently hire four new PhD students.

The department articulated a strategy of moving towards undertaking RCTs to evaluate aspects of nursing practice, which would be informed by initial smaller scale qualitative work. The department is part of a recent 25 million NOK multi-disciplinary initiative on rehabilitation.

For the assessment period, the department listed 148 peer-reviewed papers. There were also an appreciable number of book chapters (22) and books (6) listed. The papers were mainly in international specialist nursing journals, including a number in the highest ranking journals in the field. The Panel regarded this as an impressive output, given the size of the department.

Grade: Good

Societal impact

This department contributes to nursing studies and addresses issues of direct relevance to health care practitioners.

Recommendations

In the coming years, the department should endeavour to capitalize on the strengths of the whole institute. The Panel supported the intention to move more into quantitative evaluation of nursing practice. However, the institute and department must deal with the serious threat the department faces due to the high age profile of the academic staff.

4. Centre for Medical Ethics

Level 2

Description

The centre was initially established in 1989 as a research programme, and had funding directly from the Medical Research Council of Norway. It currently has 11 academic staff listed with CVs: three professors, two professor IIs, six researchers/post-docs; five are full-time; 6/11 are aged 50 years or less. The centre has nine PhD students. The academic staff come from a variety of different disciplinary backgrounds, including the humanities, medicine, nursing and engineering. The centre has substantial national responsibilities. It coordinates clinical ethics committees in Norway, and facilitates the competence building and training of members of these committees. It receives an annual amount of 2.25 million NOK from the Norwegian government to undertake these roles, as well as to carry out research in medical ethics. Since 2008, the centre has also been granted an annual 2 million NOK for strengthening medical ethics at all levels in community health care in Norway.

Research quality

The primary focus of the centre is on clinical medical ethics. The balance between research and the other (substantial) commitments of the centre is approximately 50/50. The centre lists a total of nine collaborative research projects that it is engaged in and/or leads. These are financed by a variety of national and international sources, including the EU. However, some fraction of the core funding from the Norwegian government is expected to be spent on research.

The Panel recognised that the centre deals with a range of important research issues, including when health care staff can use force, and the assessment of competence to give informed consent. The Panel was particularly impressed by the work on issues of informed consent and other ethical issues raised by the growing collection of biological samples from research and their depositing in biobanks.

The publication profile of the centre cannot be readily compared with the other departments in the institute, as in this disciplinary area the focus is on publishing books and book chapters rather than papers in peer-reviewed journals. It appears that three of the staff have been very productive during the assessment period. In addition, several of the centre staff have significant roles on international advisory panels in the area of medical ethics. The strength of the centre as a research group seems heavily dependent upon this small group of outstanding individuals, who are stepping down due to retirement.

Apart from the relatively small size of the research group, the main weakness of the centre was that they do not have anyone who will be able to provide scientific leadership over the next decade. However, steps are being taken to recruit such a person.

Grade: Good.

Societal impact

There are relatively few centres anywhere specialising in medical ethics. This group is likely to have an important impact on ensuring that decisions taken by ethics committees are based on sound principles – which is of major public importance. The fact that they are research active gives them credibility and authority in this role, as well as ensuring they are in touch with latest developments in the field.

Recommendations

The Panel concluded that the centre had an appropriate strategy for developing its research which they should continue to pursue.

5. Department of Community Medicine

Level 2

Description

The department is relatively large, with 35 academic staff: 11 full professors, seven professor IIs, three active professor emeriti, one associate professor, four (part-time) lecturers, five post-docs, and four research fellows with PhDs. CVs were submitted for 27 staff, with 5/27 were aged 50 years or less. In the assessment period, 49 PhD students recruited. Research is organised in four main groups (see below). Each group has an informal head and holds its own seminars. The Panel were impressed by the clarity and rigour of the self-assessment, in terms both of description of structure and management, as well as with respect to the description of research areas.

Research quality

The research is organised in four discipline-based groups: (1) International community health; (2) Medical anthropology and medical history; (3) Preventive medicine and epidemiology; and (4) Social medicine, with a focus on aging. The research staff comes from a wide range of disciplinary backgrounds, and includes strengths in both qualitative and quantitative research methods.

The department had a large number of collaborations with other institutions, both inside Norway and internationally. Within Norway, they have close links with the Norwegian Institute of Public Health, with several shared professor II posts. The Panel regarded this as a sign of strength, and important for ensuring that Norwegian science in this area is productive. Fruitful collaborations with other parts of the UoO were also noted. In particular, links with the Department of Biostatistics were seen to be important. Outside of Norway, long term links with institutions in Africa and Asia and other regions were evident. The department has been successful in attracting research funds from a range of sources within Norway and outside, including the European Science Foundation and the EU. The Panel concluded that the department had real strength in a number of areas. They were particularly impressed by the international health work, which had shown international leadership, depth and impact.

The department recognised that despite the recent recruitment of a 20% professor II post in biostatistics, and links with the UoO Department of Biostatistics, they still lacked adequate internal capacity in this area. Other acknowledged areas of weakness included their work in the area of social security medicine and occupational health that are now running down due to retirement of staff in these areas.

In the assessment period, the department published 513 peer-reviewed publications, of which 405 were journal articles, almost all in international journals. The listed publications include papers in the Lancet and other high-ranking international journals. The Panel was impressed by the quality of many of these outputs.

Grade: Very good/Excellent

Societal impact

The Panel noted the good examples of impact particularly in the international work in Africa.

Recommendations

The Panel supported the department's intention to phase out work in social security medicine and occupational health. Strengthening biostatistics is a priority, but should be undertaken as part of an institute-wide strategy for building up competence in this area. In the context of the new institute, this strong department should ensure that it makes full use of cross-linkages with other departments, as appropriate. Steps should be taken to recruit more researchers at the post-doc level.

6. Department of General Practice/Family Medicine

Level 2

Description

This department was originally established in 1968 and became part of the Institute of general practice and community health in 1990. It appears as though the department has a considerable teaching load, although there are two subunits with external funding for research. The department is largely clinical, and most staff are part-time employed in combination with part time work as general practitioners (GPs) elsewhere, with 43 individuals of which ½ are graduate students – representing 23 full-time employees (FTE). About 75% of the academic staff in permanent positions are above the age of 55, although the unit reports having successfully recruited several “younger” clinical (GP's) PhD students, despite lower salaries. The rapid expansion of PhD students is to a large extent due to the two externally funded sub-units AFE and ASP. The unit has recently been able to recruit a biostatistician.

Research quality

The primary research focus is on medication prescriptions, e.g. of antibiotics. There is also a focus on using national surveys – again with a focus on prescriptions – as well as using the NorPD (prescription registry). The unit expresses wanting to strengthen the ability to extract data from electronic medical records.

However, the organization is very flat, with no clear strategy or leadership, and very few researchers trying to do too much. There is great potential, but the publication rate is only modest, with many of the publications in Norwegian journals.

Grade: Fair/Good

Recommendations

The unit clearly needs to focus. There is great potential in developing research based on patient records, and possibly in antibiotic resistance. However, the unit should improve international collaboration (for instance with groups in the other Nordic countries, which have similar potential advantages). Furthermore, a more distinct research strategy should be developed, as well as encouragement to publish not only in Norwegian, but even international peer-reviewed journals.

Societal impact

The group clearly has the potential to make a societal impact, and publication in local medical journals is one indication of this.

University of Oslo and Oslo University Hospital

Institute of Clinical Medicine

Level 1

Description

Division of Medicine is the forum for the close collaboration between University of Oslo (UoO) and Oslo University Hospital (OUH). OUH is the result of a series of mergers of hospitals in the Oslo area during the period 2005-09. OUH has organized the activities in nine clinical divisions, which all span activities in more than one of the four major localizations. The Faculty of Medicine has similarly reorganized its activities at OUH with Institute of Clinical Medicine (Clinmed). In the reorganization, steps have been taken to improve research collaboration between OUH and UoO, including strategic leadership meeting and establishment of working groups with participation from both institutions.

The evaluation units include scientist employed by UoO or by OUH, as well as scientists having a combined employment at both institutions. Almost all scientists employed by UoO belong to Clinmed. As part of the institutional reorganization, several of the major issues that were raised by the previous evaluation have been addressed by both institutions, including strengthening scientific leadership at all levels, and formation of research unit with more focused research. Since the last evaluations, three Centres of Excellence have been appointed by the RCN with UoO as the major host institution and UOH as the primary location.

OUH is responsible for approximately 50% of research in the health sector in Norway, including 110 finished PhD degrees in 2009 and 140 in 2010.

The present organization both at OUH and UoO was established in 2010, and the current research strategy is therefore also new. Important elements of the research strategy are: Recruitment of the best talents in all positions, work for a 50/50 split between research and clinical work in all academic positions, work for project support as seeding money to new areas and areas with lower scientific output, strategically improve translational research and collaboration with basic sciences, and strengthening the research focus of the individual department to enhance the competitive profile.

1.Center for Shared Decision Making and Nursing Research

Level 2

Description

Center for Shared Decision Making and Nursing research (CSDM) was established in 2002 to build a strong interdisciplinary research program on health information technologies, to support shared decision making, patient-provider partnerships and illness management, as means to improve patient care quality and patient outcomes. Today, CSDM has developed into an internationally recognized interdisciplinary research unit, which has been able to obtain approximately 60 million NOK in external funding. The Center has 32 employees

including 13 externally funded PhD students, four scientists with a doctoral degree (two full-time and two part-time), six systems developers, and research staff. CSDM collaborates with a considerably number of national and international research institutions. PhD students are strongly encouraged to spend 1-2 semesters abroad, and CSDM has agreements for student exchange with two high-ranking universities in the US.

The core activity consists of research combined with innovation, with the overall goal to improve illness management and prevention through support for patient self-management and patient-centered collaborative care. CSDM has gained considerable experience in developing, implementing and testing user-centered electronic support systems. These systems are now used in several hospitals in Norway, and one system is also used in research collaboration with universities in California. CSDM has also ongoing negotiations with IT companies to bring these systems to market in the Nordic countries.

The research strategy has developed with the growth of the center. CSDM is currently restructuring its research organization from four thematically defined research sections to a matrix organization with five complementary cores: 1. User-determined collaborative care; 2. Self-management; 3. Implementation sciences; 4. Comparative effectiveness studies; and 5. Information technology. Moreover, CSDM will continue its commitment towards doctoral and post-doctoral education.

Research quality

The research at CSDM has a high level, and the number of publications is high, especially when compared to the modest number of permanent positions. The Center has apparently managed to create a dynamic research milieu that can attract both PhD students and external funding. The four scientists with a doctoral degree are all between 55 and 60 years old, and recruitment of younger academic staff is recognized as a main problem in the coming years. The recurrent reorganizations of the hospitals have also been a challenge in several ways.

Grade: Very Good.

Societal impact

The societal impact of the research at CSDM is evident, as support systems developed here are in use in several Norwegian hospitals. CSDM has also ongoing negotiations with commercial companies.

Recommendations

The Panel finds that evidence-based approaches to assessment of the performance of new methods should be strengthened further. Trials with long-term follow-up should evaluate if the new support systems also have a positive impact on disease progression and survival. Such studies should compare new approaches with current best practice.

2. Unit of Biostatistics and Epidemiology

Level 2

Description

The Unit of Biostatistics and Epidemiology unit (UBE) was formed in 2010 from parts of different sections within the Research and Development Department at Oslo University Hospital (OUH). The leadership, strategy, and resource situation of the unit is therefore still under development and documentation. Currently most decision-making are done at bi-weekly meeting, with all members attending. UBE comprises all together 12 persons, including four researchers with professor level competence (one is included in another evaluation unit), two researchers with a PhD degree, one PhD candidate, four researchers with a master degree, and a computer and data-base expert. Overall, the gender distribution is balanced, but the scientific staff has a male dominance, and the three researchers with professor-level competence are all above 63 years old.

The main activity of the unit is to provide supervision for health-related research projects, particularly PhD projects, with emphasis on statistical, epidemiological, and research methodological issues. The strategy of BEU is to be involved in research projects as early as possible, to be an active partner in every step of the research process, so as to ensure that the projects have an adequate methodological quality. The academic staff of BEU is also encouraged to initiate research projects, both related to medical and methodological issues, but this is so far not organized by BEU. This lack of research organization is due to the recent creation of the unit, and a strengthening of this matter is a key element in BEU's future research strategy.

The researchers at the unit have published extensively in the evaluation period. Most of these publications are the result of supervision of PhD students from other units, and the number of first authorships is therefore less impressive. The senior researchers have all well-established research collaborations, mainly within Norway, but also a few international contacts.

Research quality

BEU has a number of highly experienced senior researchers, who have successfully supervised a large number of health-related research projects. This has resulted in a large number of publications from a relatively small unit. The unit is newly formed from different parts of the previous organization; a research strategy is under development.

Grade: This is a newly formed group, about to be reorganized, so the Panel has decided not to grade the unit.

Societal impact

By improving the quality of health-related research projects by methodological support, the activities of the unit has great potential for the society.

Recommendations

To uphold its academic competence, the unit needs to establish its own research projects and attract resources to finance these activities. The unit recognizes the importance of establishing research projects initiated from the unit, and this is given high priority in the new research strategy. The Panel agrees completely with this assessment of the situation. Identification of interesting research problems that the researchers at the unit can focus on must have top-priority in the coming years.

Such research projects are also necessary in order to maintain the high quality of the statistical support and are particularly important in a period where all the senior researchers are reaching retirement age.

The Panel agrees that a formation of a larger group by merging BEU with one or several other groups may ensure that high quality biostatistical and epidemiological support are still available in OUH. Several options are under consideration, including mergers with health economics, development of clinical trial unit, and a more formalized collaboration with the Department of Biostatistics at UoO.

University of Oslo and Akershus University Hospital

Institute of Clinical Medicine

Level 1

Description

From 2001 on, Akershus hospital was transformed into a university hospital, including a substantial research task. Now, 10 years later, the general impression is that this operation has been successful, which is a major achievement, considering the enormous task. The University of Oslo produced a generous grant, but the hospital was more reluctant to support the transformation.

The Akershus University Hospital (Ahus) organised its research activities around eight themes. In the evaluation it was not mentioned whether this division has caused either too much or too little diversification; all clinical divisions do not have a 'research arm'.

The organisation used interesting financial and other incentives to stimulate academic excellence. However, intermediate positions between professors and PhD students are rare. That narrows the career opportunities for researchers and, in the end, might create problems in replacing the current tenured scientific staff that has a skewed age distribution. The organization is aware of this. Internal PhD funding could create the extra academic 'mass' needed for accelerating the path of scientific development beside the already existing and interesting stimuli of academic excellence.

Follow-up of previous recommendations

This is the first ever general scientific evaluation of this new academic institution.

1. Health Services Research Group

Level 2

Description

The Health Services Research group is the biggest group of Ahus' eight research departments in terms of scientific staff. From 2005 to 2010, the external funding increased from 6.2 million NOK to 19.5 million NOK.

The group is divided into three subgroups with rather broad themes (system development, organisation and user perspective, operational analysis). This rather loose structure stimulates internal cooperation. Research teams are composed not by discipline, but according to the requirements of the problem under study.

There are a lot of in house training activities targeted mostly at the PhD group, like the weekly Research Forum, where senior and junior staff share their experiences and discuss their products.

Research quality

The group has targets about the number of publications (approximately 50 per year) and about the number of defended PhD theses (two per year), which it seems to reach. Hence, the number of publications increased [from 30 in 2005 to 58 (2008) and 41 (2009)] as did the proportion of English language publications (47% in 2005, 76% in 2007, 90% in 2009 and 100% in 2010). The publications are published in papers that are well read by and accessible to the worldwide health services research community.

Between the senior staff the output varied considerably.. In the hearing, these differences were ascribed to differences in the publication culture of the disciplines that form the staff of the institute.

Grade: Good

Societal impact

In terms of 'societal impact' it can be observed that a broad set of collaborative actions exists between the group and authorities both at national and local level.

Recommendations

The academic culture increasingly focuses on quantity and quality of outputs; if a group average is strongly influence by some outliers, it will most likely induce mutual tensions in the group. So, it is recommended to tackle this problem by creating a commonly accepted publication culture.

The lack of career opportunities for PhD students is not an exclusive problem for the HSR-group or Akershus University Hospital, but for the whole (medical) research sector in Norway that should be tackled nationally.

University of Bergen, Faculty of Medicine and Dentistry

Department of Public Health and Primary Health Care

Level 1

Description

This department forms part of the Faculty of Medicine and Dentistry at University of Bergen (UoB). The department was created in 1990 by fusing of Departments of Hygiene and Social Medicine, Geriatrics and Nursing Science and General Practice. It was further enlarged, when new sections were added on: Occupational Medicine, Physiotherapy Science and Medical Statistics. The department has an elected council, which approve of all major strategic decisions.

The organizational structure with sections was replaced by research groups three years ago and the department now consists of seven research groups and - parallel to these - six branches. The academic staff are members of both a research group and a branch. The research groups perform research and seek external collaboration, while the branches are responsible for teaching and other professional activities.

The leader of the research group is responsible for personnel management, and coordinates applications for external funding. A research group further consists of several members, is multidisciplinary and includes doctoral students.

The basic funding from the university is used for staff salaries. The resources for bringing in external lecturers have decreased, and the teaching demand on the staff is now higher than earlier. The department has, however, received some major grants and their publication rate is one of the highest at the faculty and at UoB. About 20 PhD students complete their degree every year. Post-doc positions are scarce and permanent positions hard to offer.

Researchers at the department have an internationally leading position within registry-based epidemiology related to reproductive health, B-vitamins, cardiovascular disease and - recently - cancer.

This is a resourceful department, however with some of the research groups being heavily burdened by teaching and in need of more statistical support. Registry data, survey data and biobanks are considered the greatest assets for research development in the future. The external funding has increased considerably in the past four years, and the publication rate is high, though it decreased somewhat in 2010. There is also a need to involve clinical researchers in the use of registry data. A challenge for the future is to secure external funding for post-docs and research fellows.

Follow-up of previous evaluation

Since the previous evaluation, the most important organizational change is the formation of the research groups with appointed leaders, of which the majority is women.

1. General Practice

Level 2

Description

The Section for General Practice (SAM) was established in 1972, but reorganized into the Research Group for General Practice (ALFO) in 2009-10. After doing this, the research group is now able to concentrate on research activities.

The senior academic staff at SAM/ALFO consists of 18 persons, with an age span of 38-62, holding positions as professors (6), professor II (4), associate professors (7), and one post-doc, with equal number of men and women, though full professorships are dominated by males. These 18 academic together hold only 8.7 full-time positions, since they also perform practical work within general practice and family medicine. During the years 2005-10, 20 PhD students finalised their thesis work. Currently, more than 30 PhD students have their main supervision from this unit.

The research group mainly collaborates with partners within Norway. The main collaborations are within UoB and with other universities. International collaboration is also at hand.

Research quality

This group is engaged in a wide range of research activities within the field of primary care, and has a leading role within fields such as urologic and pelvic floor diseases, sleep disorders, vulnerable groups and health promotion, medical theory, risk and communication, quality improvement of laboratory services, and nursing-home medicine.

The General Practice Group has an international leading role within some of these areas (urologic and pelvic floor diseases, sleep disorders and for the use of qualitative methods in research on doctor-patient communication and marginalized patient groups).

The research is interdisciplinary. The group is productive and publishes in high-impact journals. Epidemiological, qualitative and intervention studies are performed. The interaction between empirical studies and theory development is a strength. The list of publications for 2010 includes 51 papers, of which 41 are in international scientific journals and 10 in Norwegian ones. For 2009, the publication list contains 76 papers in total; international and national articles, book chapters, etc. In the period 2005-10, the group published extensively (50-70 papers/year), on average 6-7 papers/year per researcher.

Grade: Very good.

Societal impact

Some of the research projects have had impact on policy (nursing) and all topics are closely related to practice, where they possibly make contributions to change.

Recommendations

This group is occupied with a wide range of topics, have some really strong areas and produce many PhD dissertations. The research is done close to the practice, as the researchers combine their role as researcher with being also clinically active, which contributes to implementation of findings. It should, however, benefit from concentrating the resources, as full-time staff is few, and also post-doc positions are scarce. It is also recommended that the group make better use of registry-based data and strengthen external collaboration.

2. Occupational and Environmental Medicine

Level 2

Description

The group has four professors, of whom two have faculty positions; the group comprises 13.5 full-time scientists at different levels, including six PhD positions. Part of the scientific staff is salaried by UoB, but the majority through external funding. This number of staff is judged as an efficient research unit. Also, the collaboration is extensive. The PhD students come from different disciplines, from Norway and abroad (Tanzania, Ethiopia and other countries). The external funding amounts to 8 million NOK, and this has been stable over the years. There is lack of funding for infrastructure and equipment, which makes it complicated to set up laboratory analyses of certain environmental agents. The lack of infrastructure delays and restricts projects in terms of size.

Research quality

The research performed within this group is mainly concentrated on exposures and health effects, but in some cases also on pathological mechanisms. One example is cancer among offshore workers, where the benzene exposure was found to be the risk factor for leukaemia. The group produces applied science of immediate use to working life and affected individuals.

Global research is ongoing since 10 years, and focused on dust exposure in work places and respiratory health. Hence, in Tanzania and in Ethiopia, exposure to cement dust and coffee dust (Tanzania) is explored in relation to lung function. National research is focused on work and health at sea and offshore, electromagnetic fields (reproductive health and congenital effects); female hairdressers (reproductive health); shift work and health; domestic violence and its associations to work life; and environmental pollution outside of factories.

The group has a steady production of articles and book chapters over the years 2005-10, in well-acknowledged journals. The list of publication contains 10 papers in international journals for 2010, 19 articles published in 2009 and the same number in 2008.

Grade: Good/Very good

Societal impact

Popular science reports are written for all projects, and intended for dissemination and immediate use of groups of workers, work places, organisations and industrial settings. The researchers often comment on specific problems or environmental issues through mass media. The studies undertaken in Tanzania on dust exposure have led to several improvements in the work environment. Noise prevention is a project carried out in collaboration with Statoil, to protect the workers from such exposure. The groups feels that being a university-based group, working independent of ministries, facilitates in making identified health threats public immediately.

Recommendations

This group performs research within a wide variety of fields with a limited research staff, which is only made possible through extensive collaboration. It is, however, recommended to focus the efforts to fewer areas, for sustainability reasons, possibilities to make in-depth investigations, and to attract more long-term funding. The lack of funding for infrastructure needs a more permanent solution.

3. Physiotherapy Research Group

Level 2

Description

The unit was established in 1995. The academic staff has ten members, of whom eight have a PhD. All of the latter hold part-time positions at other institutions (Haukeland University Hospital, Uni Health or Bergen University College), or are private physiotherapists. The age of the senior researchers is quite high (age 54-68). 2-3 PhD students are recruited yearly.

Scientific quality

There are three main research areas: 1. Musculoskeletal pain, 2 Gait and balance, 3. Neuro-rehabilitation.

The group within musculoskeletal pain has developed questionnaires for assessment of pain and a good somato-sensory laboratory. It has performed a randomized controlled trial of the Norwegian Psychomotor Physiotherapy method in low back pain, with the aim of improving return to work. Studies of laser treatment of tendinitis have been a major task. Further, qualitative methods have been used in studies of generalized muscular pain ("fibromyalgia"). Further, the group, in international collaboration, studies modification of pain response by polymorphisms in genes.

Within the area gait and balance, there has been successful development of methods for measurements. The group has a movement laboratory and body-worn sensors for ambulatory monitoring of locomotor control. The equipment has been developed in close collaboration with mainly NTNU and SINTEF in Trondheim, and an enterprise affiliated with UoB, using possibilities offered by the rapid technological development. The group has been successful in obtaining external funding. The methods have been employed in clinical studies of, e.g., elderly and patients with cerebral palsy, stroke and joint disease, including studies of interventions. The research group has made important contributions to the understanding of locomotor control and has plans for further development.

The activity within the neuro-rehabilitation group is mainly applied research, aiming at improvement of treatment and rehabilitation in, *inter alia*, stroke, multiple sclerosis, Parkinson's disease and cerebral palsy. The work is performed in close collaboration with clinics at Haukeland University Hospital and Bergen Municipal Health Care System. Also, the group is involved in more basal studies of reorganization of the cerebral cortex after stroke, by use of functional MRI. At the hearing, intentions were expressed, to assess gait and balance in the ageing population, by use of the accelerometers and software developed within the group.

The group has an impressive history of methodological developments, in collaboration with technological expertise. The methods have won a wide use by other groups. Also, the very close connection with the clinical units at Haukeland University Hospital is a major strength. There is also national and some international collaboration. The academic staff of 10 publishes about 20 articles per year, which is a reasonable productivity. The papers are mainly in peer-reviewed Norwegian and international journals, in a few cases such with great impact.

Grade: Good/Very good.

Societal impact

The unit is devoted to studies of a series of important diseases with great impact on the public health, and with focus on treatment and rehabilitation. Hence, the relevance for the society is very great.

Recommendations

There is an obvious need for recruitment of senior scientists to replace the soon retiring research staff. The deep methodological knowledge of the unit should be a firm basis for more collaboration nationally and internationally, which may give a possibility to collect information in larger samples of patients. The achievements of the unit merits publication in journals with higher impact.

The intention to use the group's methods to assess gait and balance among elderly to establish the natural changes over time is an interesting route. The methods should also be useful in intervention studies. Further, the methods may also be useful in collaboration with researchers working on basic aspects of muscle loss.

Obviously, the hardware is already available on the market, but the software developed by the group may have a commercial potential.

4. Nursing Science

Level 2

Description

There have been many organizational changes in Nursing Science since last evaluation. One of the latest was in 2009, when two new research groups, Praxeology and Quality of Life, were organized at the department level, and the Section for Nursing Sciences was shut down. Study groups consist of both students and external partners, in addition to the department's regular employees. The research groups have also a broad network of collaborators locally, who participate in activities of the research group. The total staff is five full-time professors (four females and one male).

In 2005, the research at the section was fragmented, and work was begun to establish a research program, focusing on quality of life and care, related to elderly and chronically ill people. There are three main research areas: (1) Quality of life; (2) Health-promoting processes; and (3) Providing care at the intersection between nature and culture. In addition to the quantitative research, the group has strength within qualitative methodology. This unit is small and its organisation is clear.

Research quality

Researchers of the group publish 20-30 publications yearly, most of these in international peer-reviewed scientific journals of nursing science. The praxeology group has not yet published much, so it cannot be assessed.

As said above, there have been many organizational changes in the Nursing Science since last evaluation, and in addition to those, there have been great changes, in both the personnel and research aims. The unit has managed these changes very well, and is now also collaborating with many national and international groups. However, although the group has been engaged in a cooperative effort through the European Academy of Nursing Science (EANS) within nursing research environments at various European universities, and also has established cooperation with the University of California at San Francisco, it seems that they are publishing internationally mainly by themselves alone.

Grade: Fair/good.

Societal impact

The research areas have great interest and importance for the public. However, it is not clear how much the researchers of the group share their results in public.

Recommendations

As the group is small, the Panel recommends focusing of the research.

5. Registry-Based Research Groups

Level 2

Description

The registry-based research groups have four self-described areas, each with approximately three professors per group: (1) Lifestyle epidemiology; (2) Genetic epidemiology; (3) Familial risks; and (4) Social epidemiology. The Social epidemiology group was recently reorganized, in contrast to the others, which have largely the same structure and focus as that during the previous review. The number of post-docs and PhD students varies considerably across the groups, with the highest number in the Lifestyle epidemiology group. In general, however, there are very few PhD students per senior researcher (main supervisor). The major common theme/resource of the areas within the group is the use of national registries and cohorts, notably the Medical Birth Registry, MoBa, CONOR, Biohealth Norway/Biobank Norway, the Hordaland Health Studies, HUSK, etc.

Scientific quality

The level of international mobility is impressive, with many, perhaps the majority, of scientists having spent time abroad, either at the post-doc or more senior level. This appears to have contributed to the success of the group.

The group uses the national registries well, and the cardiovascular disease registry, which the group has developed, is a welcome national resource. The group is part of an application, together with the Norwegian Institute of Public Health, for major national infrastructure for registry research.

Overall, the quality of the group is impressive, mainly because of the activities of the Familial risks and Lifestyle epidemiology groups. Nevertheless, there are areas that do not have the same strength, e.g. the Social epidemiology and Neuro-epidemiology sub-groups. The Social epidemiology group lists ambitious aims “to develop social epidemiology as a common theme for the Registry-Based Research Groups” and to develop a registry-based center for primary health care, but has a completely different publication style than the others, with a predominance of publications in textbooks rather than peer-reviewed journals.

The group indicates that it will be expanding into genetic epidemiology, but there was only a very diffuse articulation of a vision, other than that genetic epidemiology will be a fruitful expansion of the registry studies.

Grade: Very Good/Excellent

Societal impact

Most of the activities are of great interest for the society, some (familial risks and lifestyle epidemiology) have clearly had impact, while that is less clear for a couple of the others.

Recommendations

The Panel strongly supports the need for an infrastructure that will facilitate exploiting registry-based research. It is important that the register resources used and/or developed by the group are made available to researchers throughout Norway.

6. Global Health: Ethics, Economics & Culture

Level 2

Description

This research group is organised under the Department of Public Health and Primary Health care. It is closely linked to Centre for International Health (CIH), but the studies taking place under this department are distinctly focused on the thematic areas ethics, economics and culture. The institutional support from the Department of Public Health and Primary Health Care and from CIH is strong in terms of both administrative and academic tasks.

The professional staff consists of four professors (two employed by the Department of Public Health and Primary Health Care, and two employed by CIH), and two associate professors. Only one of the professors holds a full-time position (employed by the Department of Public Health and Primary Health Care) and the total number of professors is 1.5. The average age among the staff is quite high. However, 19 PhD students are registered, coming from Norway, but also from Tanzania, Zambia, Ethiopia and Sudan, with bachelor degrees in medicine, ethics, economics, anthropology, political science, history, nursing and sociology. The group has been successful in obtaining grants from external sources. The high number of PhDs secures a high publication rate.

Research quality

The research activities are concentrated into two main areas: (1) Justice and priority setting in health and (2) Health systems and patients' experience. Some projects are focused on specific problems and countries and are performed in Tanzania, Sudan, Ethiopia and Uganda, while others embrace general research areas, such as Gender in poverty reduction, The right to health through litigation, Setting equitable priorities in health and health care: from theory to practice.

The topics centered on ethics deal with important research questions of high importance to the wider research community. The number of publications over the past five years is impressive in relation to the limited number of researchers. In 2010, 16 scientific articles and four book chapters were published, some of the articles in really high impact journals (Social Science and Medicine, American Journal of Bioethics). The same trend is seen for 2009.

Grade: Very good.

Societal impact

This group has been involved in developing more than 30 guidance documents for how to prioritise among patients seeking specialised care for cardiovascular diseases. The group collaborates with WHO in providing guidance on how to set health priorities directed at decision-makers from low and middle income countries. They are further involved in collaborations with the aim to develop guidance documents on equity concerns relevant for setting health priorities. This group has further done important research and developed a guidance tool to be used during counselling of HIV-positive women with infants. These guidelines were developed for Tanzania, but have received attention also from the WHO in developing guidelines for HIV-positive women in general.

Recommendations

This group is small, anyhow doing research of high impact and quality, both within and outside of Norway (mainly in Sub-Saharan Africa) within the field of Ethics and Health. There is an apparent risk that this will decrease, since the average age in this small group is rather high, and the focus broad. As the areas of concern to this group are of high general interest, it can only be recommended that the group continues its collaborations with CIH and others, and consider concentrating on fewer areas.

7. Genetic Counselling

Level 2

Description

The unit was established in 2008. It contains only three academics, of whom two have PhDs and one is a PhD student. The two senior researchers have half-time appointments at Uppsala University and Haukeland University Hospital, respectively.

It is too early to evaluate the group, since it had only been active 2.5 years at the time of self-assessment. Follow-up of previous evaluation is not relevant. There is no Norwegian funding; the research is financed through Swedish grants to the principal investigator (PI), intended to support her research at Uppsala University, but which is now also used for data collection in Norway.

Scientific quality

Main part of the research uses qualitative methods. It originates from the PI's three projects at Uppsala University: 1. Genetic counselling (in clinical diseases, e.g. hereditary cancer and cardiac-rhythm disturbance). 2. Intervention against stress in breast-cancer patients. 3. Psychosocial aspects (attitudes and acceptance) of early prenatal diagnosis. At the hearing, an intention was expressed to start intervention studies.

There is already a lot of collaboration with departments in Bergen (Haukeland University Hospital, Faculty of Psychology) and three Norwegian centres of medical genetics. There is also collaboration with a group in the Netherlands.

The group has published half a dozen papers per year in 2009-2010, mainly covering research performed at Uppsala University (with collaborations), but also some work originating in Bergen. The publication rate is reasonable in relation to the resources, but has, with a few exceptions, occurred in journals which are peer-reviewed, but of minor impact.

Grade: Too early for assessment.

Societal impact

Research in genetic counselling has a great societal relevance. The rapid development in clinical genetics has prompted the development of means to counsel pregnant women, as well as patients and their relatives. Traditionally, genetic counselling has been occupied with rare hereditary diseases with high penetration. Now, the main focus is on disorders with more complex hereditary patterns, involving several genes with low penetration, which makes counselling more complex. Also, handling of results from whole-genome scanning will be a challenge.

Recommendations

The group is very small. It will be dependent upon establishing collaborations locally, nationally and internationally. It seems that it has made a good start. Prioritizations in a small

group in a rapidly developing field need careful consideration; the resources are too limited to proceed on all routes initiated.

University of Bergen, Faculty of Medicine and Dentistry

Centre for International Health

Level 1

Description

Centre for International Health (CIH) was established in 1988 directly under the board of UoB, as an interfaculty centre. Since 2008, CIH forms a department within Faculty of Medicine and Dentistry with a mandate to serve as an interdisciplinary and inter-faculty centre in the field of global and international health within UoB. CIH has two main functions: (1) Undertake high quality research with relevance for and impact on policy; (2) High quality research capacity strengthening in partner institutions in low and middle income countries (LMIC) and in Norway. CIH is organized into thematic research groups to actively focus and develop capacity and capability within certain areas: Child Health and Nutrition Group (CHN); HIV & TB Research Group (HIV/TB); and Global Health: Ethics, Economics and Culture (Global Health). Each research group is led by a senior researcher and the groups include researchers from CIH and other UoB departments, as well as PhD and masters candidates from Norway and collaborating LMICs.

Training programmes on Master and PhD levels for candidates from low, middle and high income countries are established and integrated into a common research school in international health. The Faculty of Medicine and Dentistry (of which CIH forms a department) contributes in two Masters programmes at Muhimbili University, Tanzania: Master in health policy and management, and Master in public health. During the years 2005-10, 51 PhD candidates successfully defended their thesis work. Of these, 42 were non-Europeans, and so far 39 have returned to their home countries, to work at universities, hospitals or ministries of health.

Of the 23 academic staff, 12 are professors working at CIH; all but two are males; the two females are employed at other departments than CIH. CIH faces a problem in funding post-doc positions for Norwegian candidates and, further, lacks female professors.

Funding emanates from several sources, such as core funding from UoB, quota scholarships, and external funding by NORAD, Ministry of Foreign Affairs, Ministry of Research and Education, and from EU and RCN.

The research fields that the different research groups are occupied in are: Translational research; Operational research; Implementation; and Health systems research. The researchers publish extensively in international peer-reviewed journals, as described further below.

The research groups advice national bodies (ministries, NORAD, RCN) and also international bodies (WHO, Ministries in partner countries). Further, CIH has strong relations and collaborations with universities and other research organizations in Asia (Nepal and India), and Africa (Ethiopia, Zambia, South-Africa, Uganda, Burkina Faso, Guinea-Bissau, and Tanzania).

Recommendations

The establishment of CIH as a department within Faculty of Medicine has contributed to strengthening the focus on international and global health at the faculty and university level. The external funding has increased considerably over the past few years, but there is a lack of core staff and core funding. Hence, academics from social science, human rights and advanced statistics are lacking.

This is the leading research centre within international/global health in the Nordic countries, and one of the leading centres in Europe. CIH is able to combine biomedical research with public-health focused activities. Recruitment of more Norwegian PhD students would build competence for the future. CIH should strive to become a centre of excellence to support other institutes within the field.

1. Child Health and Nutrition Group

Level 2

Description

The Child Health and Nutrition group (CHN) is one of the core research groups at CIH. CHN contributes to evidence-based prevention and case management of childhood diarrhoea, sepsis, pneumonia, HIV infection, malnutrition and maternal ill health, with the overall aim to contribute to improved maternal and child health and survival in LMIC. CHN researchers collaborate with other research consortia in Norway, Europe, USA and in LMIC, and perform interdisciplinary research within fields such as public health, epidemiology with randomized clinical trials, paediatrics, microbiology, vaccine development/evaluation, molecular biology, informatics, and media sciences.

There are four permanent posts for key faculty members, who generate substantial resources and also secure a continuation of activities. These are all professors, males and above the age of 50, engaged in operational and implementation research; one person also performs translational research. During the years 2005-10, five PhDs completed with main supervision from CHN, and nine are currently enrolled in PhD programmes.

Research quality

A large number of externally funded research projects are ongoing, of which some span over a number of years (9-10 years), while others are mainly 3-year projects. CHN has a role in creating new products, to produce new vaccines at low costs to LMIC, such as EntVac, (enterotoxin of *E. coli*, *Shigella* and ETEC). Randomised controlled trials are also performed to prevent HIV transmission during breast-feeding. Open mobile electronic vaccine trial (OMEVAC), aims at improving quality of vaccine trials in low-resource settings. The funding approved of for some of the projects seem to be extensive, especially in the light of the rather few researchers in place.

Scientific publication: One of the articles has substantially contributed to global health programme recommendations and policies (Strand et al. 2002, in Pediatrics), on zinc as adjunct therapy for acute diarrhoea in children in LMIC. Further, 25 articles contributed directly or substantially to national health-programme recommendations and policy in LMIC (new or revised recommendations), published in high impact journals. In 2010, 29 publications are listed from CHN, which is more than twice as many as in the foregoing years.

Grade: Excellent.

Societal impact

The successful research performed at CHN is to develop and measure efficacy or effectiveness of interventions against diseases or practices that contribute to the disease burden among children in LMIC. Hence, the impact is great.

Recommendations

CHN is making substantial contributions in the field of childhood illnesses. CHN has several long-standing collaborations nationally and internationally and an impressive external funding. There is, however, only a limited number of core scientific staff and only temporarily funded researchers to handle the projects and the extensive funding. This makes CHN vulnerable. To make it possible to continue to be in the frontline in this successful field of research, it is recommended that such resources could be provided.

2. HIV/TB Research Group**Level 2***Description*

This research group is one of the core groups at CIH, focusing on translational, operational and implementation research within HIV and tuberculosis (TB). This research group works mainly in countries in Sub-Saharan Africa and is focused on long-term partnerships for local capacity building, strengthening of primary HIV prevention, novel interventions to diagnose and treat TB, and to develop models for how to treat TB and HIV.

The research group consists of professionals from disciplines such as epidemiology, medical anthropology, health economics, medical ethics, psychology/health promotion and paediatrics. A total of 14 professors/researchers/post-docs (four females) are affiliated with the unit, of which six are staff at CIH, all males.

Over the past five years, 28 PhD students from low income countries (LIC) and Norway, and six post-doctoral fellows were recruited. The women to men ratio is almost 50/50 now. All PhDs and post-docs are attached to research in a LMIC.

Research quality

One examples of innovative research is to offer acceptable ways of HIV testing and counselling (highly prioritised by the WHO), where this group has a leading position internationally. Another is to find ways of appropriate task sharing within health systems, for more efficient use of scarce staff resources. This group has tried out the use of lay counsellors in home-based voluntary HIV testing and counselling, and also the use of health-extension workers in TB diagnostics and treatment. Further, the group is responsible for a population-based survey with repeated data collections that has been running for many years in Zambia. Within the TB area, the focus is on TB control through improved case finding and treatment. The integration of HIV and TB control has been pointed at as a high priority area by WHO. The research performed is characterised by being multidisciplinary and focused on areas that translates into changed medical or social practice, and improved efficiency within the health system. It has been published in high-impact journals, such as AIDS, Lancet, PLoS, International Journal of Tuberculosis and Lung Diseases, BMC Public Health, International Breastfeeding Journal; 19 peer-reviewed articles in 2010 and as many as 35 in 2009.

Grade: Excellent.

Societal impact

Some of this research has resulted in policy change, e.g. in protecting pregnant girls from being expelled from school by removal of school fees. Other examples are the long-term cohort studies on a restricted number of anti-retroviral drugs for HIV treatment in Ethiopia and community involvement in TB treatment that were found to be cost-effective. Finally, the studies on adherence in prevention and care, as relates to prevention of mother-to-child transmission of HIV, where a conflict was at hand between global guidelines and local cultures, led to nationwide scaling up of the initiative.

Recommendations

This research really targets the needs of the population, as it translates research findings into medical treatment schemes that are also implemented. Some of the areas are of high priority within the WHO. The modest number of full time scientists puts, however, restrictions on project development and fund-raising. This excellent research group would benefit from having more full time researchers in place.

University of Bergen, Faculty of Psychology

Research Centre for Health Promotion and Development (HEMIL)

Level 1

Description

This center was recently reconstituted as a department – one of five – at the Faculty of Psychology at the University of Bergen (UoB). There are three research groups, of which only two are included in the present evaluation. In all, the HEMIL has 15.7 FTE academic staff and 40-50 affiliates.

There have been a number of organizational changes, back and forth between what constitutes relevant research units in the faculty. Research is carried out “despite” teaching load, however there seems to be a good “sabbatical” system in place (1/2 yr per every 3 years) for research. Permanent staff have 50% research time. The research themes are, (1) Adolescent health promotion, including survey research and intervention in settings such as schools and recreation groups; and (2) Human development, gender and health promotion research in parts of the world challenged by instability, marginalization, deprivation and inequity. Health promotion is not an obvious part of the research, but rather of teaching, in two core master and one bachelor program in health promotion. The groups have been able to attract EU funding. Mental health epidemiology will be an area of expansion.

Follow-up of previous evaluation

The previous evaluation pointed to fragmentation, and recommended consolidation of the multidisciplinary and multi-professional research, in order to be a national Center of Excellence for health promotion. Now, the research groups have been physically separated, which involves challenges to collaboration. Several strong researchers have their placement at Uni Research. The extraction of units into Uni Research has been to the detriment of the faculty-based research.

1. Social Influence Processes on Adolescent Health (SIPA)

Level 2

Description

This group considers itself a “thematic research group”, where organization and strategies are based on bottom-up research projects. The group consists of 25 persons with seven tenured positions. The age structure is somewhat younger than the other unit at HEMIL. The unit expresses difficulties in recruitment, and cites salary levels.

Primary costs are for large-scale data collection, including invaluable longitudinal surveys, although it appears that much is gained by collaboration/subcontracts to the NSSDS.

Scientific quality

The research includes a combination of quantitative and qualitative methods. The group considers the evaluation of health interventions in schools as its forte, although these activities are closer to implementation than they are to research. Some of the highest impact publications are in ageing, however those come from a recent recruitment to the group. There are many publications in national journals or as reports.

Grade: Fair/Good

Societal impact

Health promotion in adolescents and in ageing are important issues. However, it is not clear to which extent the activities of the group have had impact.

Recommendations

Groups working well together should not be split, however there is inbreeding. The group would be well served by more strategic planning and efforts toward greater mobility. They need stability, coherence, and further methodological (statistical) support, especially because they are attempting to use a variety of methodological approaches.

2. Multicultural Venues in Health and Education (MC Venues)

Level 2

Description

The group is multidisciplinary, dedicated primarily to development related challenges in low and middle income countries. It works primarily with qualitative methods. The group consists of 21 members, with seven tenured positions representing the disciplines of health promotion, sociology, human geography, anthropology, political science and education. It has been quite successful in obtaining external (including EU) funds.

Research quality

This group does important applied work that has a more modest bibliometric impact than the other units/research groups. Three key research areas are coping with extreme situations (being an orphan, HIV, political conflicts), resilience, and salutogenesis, with cross-cultural comparisons. There is also an interesting anthropological twist. There is an emphasis on book chapters rather than peer-reviewed journals.

Grade: Fair

Societal impact

The research questions are of potential importance for the society, but it is not obvious how influential the activities have been.

Recommendations

The collaboration with the CIH group should be used more extensively. Further development of the qualitative methods would be valuable.

Norwegian University of Science and Technology, Faculty of Social Science and Technology Management

Department of Social Work and Health Science

Level 1

Description

Department of Social Work and Health Science (ISH) is one of the twelve departments belonging to the Faculty of Social Sciences and Technology Management in Trondheim. The departments have a great deal of autonomy in relation to how their budgets are used and how academic areas are prioritized.

ISH is a multidisciplinary department, consisting of two closely related subject-areas: Social work and Health science. These have existed as separate units since 1975 and 1993, respectively, but were merged in 2002. ISH is the only department in the Norwegian university system with health science master and PhD programs within a social science faculty. Researchers in both social work and health science work with health, welfare and societal issues, with no clear borders between social work research and social science approaches to problems in health science. The institutional level in this evaluation is defined as the health research unit at ISH, but a clear separation of the two sub-groups for this evaluation has been difficult.

Follow-up of previous evaluation

The reorganization in 2002 was a response to a Nordic evaluation of research in social work.

1. Health Science

Level 2

Description

In the period 2005-2010, 11 scientists have been employed at ISH in permanent positions within the evaluation unit. Additionally, four researchers on temporary, external funding are included. The academic background of the scientific staff was psychology, sociology, health science and philosophy. ISH organizes three master programs (one in Health Science) and two PhD programs (one in Health Science). The PhD program in Health Science was established in 2004 and is organized in collaboration with the Faculty of Medicine. By the end of 2009, 25 students were enrolled in the PhD program in Health Science and four students obtained a PhD degree in Health Science from ISH during 2009. PhD students are recruited mainly through Nordic channels and are encouraged to spend some time abroad as part of their PhD study.

The department head is responsible for all research and educational activities at the department. Research activities are organized in research groups, each group being coordinated by a professor. Strategic priorities within health science for the next four years are: Disability and society ([re]habilitation) and Health promotion. Additionally, development of further competence in Ethnicity and health is planned. The research in the prioritized areas is organized in two research centres. Both centres have external partners and the research at

the Centre for disability and society has for years been self-financed through external funding.

Research quality

The Health Science Unit at ISH is the health science research group working in a Faculty of Social Science. This unique position has both advantages and drawbacks. It is important that the close connection with the social science research milieu is utilized, but this should be done without sacrificing the relevance of the projects from a health-science perspective. In its present form, ISH is a relatively young department, and the research profile is still being developed. The ambition at ISH is to perform and publish high quality research. Overall, the result so far seems satisfactory.

ISH is currently moving from a social science publication tradition, with monographs and anthologies, to a medical science publication tradition, with articles in peer-reviewed international journals. In the list of publications the publications are presented separately for each contributing authors. This is convenient if the Panel was to evaluate the individual researcher, but not very useful, when the evaluation unit is the research group. Overall, the number of publications seems appropriate when compared to the size of the unit.

Grade: Fair/Good

Societal impact

The present research areas Disability and society and Health promotion are of great importance for the society, as is the planned competence building on Ethnicity and health.

Recommendations

The Panel finds that the Health Science unit and the Social Science unit of ISH should be further unified. Future research should focus on gaps in our knowledge and perhaps include trials to evaluate the effect of the interventions in rehabilitation and health promotion.

Adaption to another tradition of dissemination takes time, but the Panel finds that this is a necessary step to improve the impact of the research.

Norwegian University of Science and Technology, Faculty of Medicine

Department of Public Health and General Practice and St. Olavs Hospital

Level 1

Description

The department of Public Health and General Practice is one of the five departments of the Faculty of Medicine in Trondheim. It has an appointed (as contrary to an elected) head; a construction purposefully created in order to strengthen the governance of this academic research environment. The current head has a four-year contract ending in 2013.

The department has 30 people, filling 22.1 full-time equivalents in academic research positions (above post-doc level). It consists of four subunits, each headed by a senior staff member: (1) Epidemiology (EPI); (2) Health Services Research (HSR); (3) General Practice Research (GPR); and (4) Community Health and Social Medicine (CHSM). The subunits vary substantially in the number of PhDs under supervision and defended PhD theses, as well as in output in terms of publication (see below).

The main asset of the department is three databases, the HUNT-studies, containing a broad range of personal health data at population level, and the HUNT-biobank. The research policy and strategy of the department is rather straightforward: make sure that the data of these HUNT-studies are used in as many as possible projects of the four research units. This works well for the Epidemiology unit, is promising for the Health Services Research unit and for General Practice, but is possibly not optimally used by the CHSM subunit.

The resource situation seems to be sufficient (the department doubled its turnover in 2009 compared to 2007/2008, without compromising the balance between university and external funding). The major strategic resource problem is the lack of structural funding for the future HUNT-studies. Each time, an *ad hoc* financial support structure has to be created for a follow-up study.

The department has a skewed age structure, resulting in an expectation that 1/3 of the senior staff will retire within 3-6 years.

Follow-up of previous recommendations

In the previous evaluation, the diversity and lack of focus of the research activities was criticized. The department describes that there has been progress in organizing more focus, but points to the difficulties in getting senior staff to change tracks.

Recommendations

The Panel supports the clear and straightforward policy at department level regarding the future of the research activities: to make optimal use of the data gold mine. The diversity and lack of focus that was observed in the previous evaluation has not been solved, although the management is aware of the problem. The age structure needs to be addressed.

1. Epidemiology (EPI)

Level 2

Description

The EPI unit has seven tenured positions, and resources corresponding to 9.1 person-years. The unit has extensive national and international collaboration, and has been able to attract external funds, both from the EU and NIH. However, the role is often that of a data-provider.

It consists of two subunits, established at 90 kms distance from each other. One unit, in addition to teaching and research, has the responsibility for the HUNT-databases. The bi-location is viewed as a certain, but not crucial, obstacle in the cooperation. The local demand for methodological assistance was reported to put strain on the group and limits its own research. The unit reports innovative approaches in combining HUNT-data with registry data, with a life-course perspective as regards perinatal, cardiovascular and cancer outcomes, and also an intention to strengthen the biological orientation and collaboration with the clinicians, when addressing the HUNT-data.

Financing of the biobank is a problem, funds were obtained to establish it, but not to run it. Currently the unit has 23 PhD students under supervision, and the yearly average number of defended PhD theses is 2.2.

Research quality

The research unit makes optimal use of the HUNT-databases and focuses on the longitudinal character of the data (life course research). The productivity is high, with a yearly average over the evaluation period of 35 articles. The high quality of the HUNT-data gives the group a strategic position in high-impact publications that are based on the HUNT-databases. National and international cooperation flourish.

Grade: Very Good.

Societal impact

This is only vaguely described. However, the research is of core interest for public health. The unit emphasizes its impact through high-ranked international scientific journals, although the researchers also have written popular science papers, newspaper chronicles, etc.

Recommendations

The Panel supports that the group should focus on the HUNT-data that are already available. Funds for running the biobank should be made available and seen as a national issue.

2. Health Services Research (HSR)

Level 2

Description

The HSR unit counts four persons in tenured positions, three persons in 10-20% professor-/associate professor positions, and three persons in post-doc positions, a total of 7 person-years.

The staff is divided over four topics: (1) Evaluation and interventions within organizational frameworks; (2) Health and Work Integration; (3) Health policy and health economics; and (4) Clinical health services in prevention and rehabilitation. Some of the themes are subdivided again by 'axis'. The group is well established, but diverse thematically, and lacks capacity in key areas, such as cost-benefit (there is a need to evaluate the reforms, which have been done in the Norwegian health sector).

Currently, the unit has 25 PhD students under supervision, and the yearly average number of defended PhD thesis is 2.0.

Research quality

All in all, the HSR group gives a 'scattered' impression. It was observed and positively valued that the HSR group systematically used sophisticated designs in their studies. The scientific output over the evaluation period averages 13 articles/year. The Panel noted that the unit makes proper intervention studies in under-researched areas.

Grade: Good.

Societal impact

Apart from peer-reviewed scientific journals, the group disseminates its work as popular science in newspapers, radio and television. They also contribute on national and local meetings aimed to implement research findings in clinical practice. Studies performed by the unit have been a basis for major health-care reforms.

Recommendations

During the hearing, there was some discussion about the desirability to create more focus, preferably by making optimal use of the HUNT-databases. The Panel supports this, and recommends the research groups to focus their research efforts, and to continue with the important intervention studies.

3. General Practice Research (GPR)

Level 2

Description

The nature of general practice (GP) is diversity, i.e. taking care, on the one hand, of a wealth of medical problems in an often unspecified and early stage and, on the other hand, monitoring and watching over groups of elderly patients, mostly with well-established and diagnosed chronic diseases. The focus of the GPR unit is on multi-morbidity, medical risk, and functional diseases. It has four professors and four associate professors, holding together 5 full-time positions. However, the unit finds it difficult to recruit GPs for research; the academic tradition is weak.

The HUNT-database is a gold mine, also in GP research. The unit has good national and international networks, and has produced research on risk conditions, which has attracted international attention.

The development of GP research in Norway has been stimulated by the Norwegian Ministry of Health and Care Services by funding of GP research units at the universities in Norway. The programme around these research units is intertwined with the faculty programme. The Trondheim GPR-unit focuses on 'theory building', with focus on two very diverse: (1) Risk conditions and functional diseases; and (2) Empirical studies.

Currently, the GPR unit has eight PhD students under supervision, and the yearly average number of PhD thesis is 1.0.

Research quality

The GPR unit covers a wide variety of topics; although this is the reality for GPs, it is not the proper way to establish a consistent research programme. This is a clear dilemma that should be solved at this unit. Moreover, the strong preference of GPs to combine research with daily

practice is not very helpful to create a professional research environment. The scientific output has a yearly average over the evaluation period of 7.3 articles.

Grade: Fair

Societal impact

The research field has an immense potential for societal impact. The members of the unit participate in networks for sharing knowledge, and have been co-authors of anthologies directed towards a wider public, and one of the researchers is the editor of the Norwegian Medical Digital Handbooks, for professionals and for the public.

Recommendations

For the future, there might be a potential source of growth and inspiration in combining the GP-electronic medical record data with the existing HUNT-databases. GP medical records form a treasure of its own, the potential of which is underestimated in Scandinavia.

The Panel found that the paradigm that only GPs should perform research in general practice is too restrictive, and recommends more of a population perspective, possibly through a merge or close collaboration with the social medicine unit.

4. Community Health and Social Medicine (CHSM)

Level 2

Description

This rather small unit of five tenured positions (5.2 person-years) has a focus on: (1) Social inequalities in health; (2) Occupational health; and (3) Women's health. It has good national and Nordic networks, and collaborates strongly within the department. Hitherto, most research leaders have been recruited bottom-up.

Currently the unit has 11 PhD students under supervision and the yearly average number of defended PhD theses is 1.2.

Research quality

HUNT gives a good frame-work for the research, and the research activity is high in women's health. The scientific output has a yearly average over the evaluation period of 16. The members of the group are very senior researchers with long and impressive academic careers. However, the research is fragmented, lacks coherence and is not sustainable. The recommendations from RCN 2004 have not been executed.

Grade: Fair

Societal impact

The group is very active in disseminating the results, and is frequently seen or heard in newspapers and ether media.

Recommendations

A strong collaboration or merge is recommended, with the research group on general practice. Also, the groups should focus. Further, collaboration outside Scandinavia should be considered.

Norwegian University of Science and Technology, Faculty of Medicine

Department of Neuroscience

Level 1

Description

Department of Neuroscience (INM) in Trondheim was established in 2003 through a merger of three smaller departments. Two research centres were also included from the start. In 2007, the Kavli Institute was included in INM, but currently the Kavli Institute is organized directly under the Faculty of Medicine and is considered as a separate unit in the evaluation.

The department is organized in a number of sections that reflect different medical specialities, and also geographical location and strategic research priorities. The sections are: Neurocentre; Stroke and geriatrics; Adult Psychiatry and behavioral medicine; Regional centre for child and adolescent mental health; Movement centre, Norwegian EHR research centre; Neuroscience laboratories; and CBM/Kavli Centre. Of these sections only The Norwegian EHR research centre is included in evaluations of this Panel.

The scientific staff at INM includes 15 full-time professors, 14 part-time professors, and 23 associated professors. Thirteen of the professors are above 60 years of age. By the end of 2009, the department had 19 PhD students.

Follow-up of previous evaluation

In the previous evaluation, it was concluded that the research groups were too small and that strategic research leadership was lacking. To establish larger and more effective research groups, a new strategy process was initiated in 2008. In this process overlapping research areas between different researchers were identified and, based on this mapping of activities, four different areas with a potential for research at a high international level were identified. These areas are: Neurodegenerative diseases; Headache disorders; Mobility disorders; and Psychiatry. The new research strategy has been debated in 2010 and is going to be implemented in the next couple of years. The research unit included in the level 2 evaluation of this Panel works with health informatics, and this is apparently not one of the high priority areas of the new research strategy.

1. The Norwegian Centre of Electronic Health Records Research (NSEP)

Level 2

Description

NSEP is a multidisciplinary research center and is the university program for health informatics at NTNU. NSEP is part of two strategic research programs: Information and Communication Technology and Medical Technology. The faculty at NSEP includes 10 full-time or part-time researchers. Two have a background in health sciences and are employed by the Faculty of Medicine. The others are employed by the Faculty of Information Technology, the Faculty of Mathematics and Electrical Engineering, and the Faculty of Humanities. The average age is 49. The self-evaluation contains no information on the number of PhD students currently enrolled, or on the number of PhD students, who had defended their thesis in the evaluation period.

The centre leader coordinates the activities at the centre, together with a deputy leader and the academic staff. The leader also develops and maintains contacts between the healthcare sector and the researchers at NTNU, identifies new research themes, and coordinates the development of research-grant proposals. The current research strategy at NSEP is to develop and conduct research on: 1. Workflow support; 2. Access control/information security; 3. Secondary use of health care data; 4. Electronic collaboration between health care professionals and institutions; and 5. Patient-centered information systems. The strategy for publication and communication of research results for NSEP has the annual goal of 40 high quality scientific publications, 70 external presentations and 10 popular science articles. The number of publications per year has increased during the evaluation period, but has not quite reached the strategic goal.

NSEP is the result of a multidisciplinary collaboration between researchers at NTNU and with participation of researchers from other institutions in the Trondheim area. In 2009, NSEP established a formal collaboration agreement with the hospital sector. NSEP also has collaborative projects with the national IT-health industry, and with other national health-informatics groups, as well as international collaboration with academic institutions in the UK, the US, and the Netherlands.

Research quality

NSEP seems to be a successful centre for collaboration between researchers from medicine and computer science on problems in health informatics. The centre has apparently succeeded in bridging the gap between different fields, and has established multidisciplinary approaches to research in health informatics. The results of the research have been published in a broad range of journals. The number of publications is not impressive, but has been increasing. The work at NSEP is apparently used in clinical practice, but collaboration with industry seems modest. It is not clear why this unit is part of the Department of Neuroscience.

Grade: Not graded. The Panel finds that the work carried out at NSEP is primarily technological development of use for the health sector, and a grading according to the standard of health research seems therefore not appropriate.

Societal impact

Application of computer-science knowledge on problems in health informatics is an area of great importance for the health-care system; of course, this requires a close collaboration.

Recommendations

A more focused strategy, with a few rather narrow research topics may be advantageous; however, the dynamics of the multidisciplinary research collaboration should be preserved. Evaluation of the new developments and technologies in clinical practice may be a fruitful area.

University of Tromsø, Faculty of Health Sciences

Department of Community Medicine

Level 1

Description

The University of Tromsø was recently extensively reorganized, and a new Faculty of Health Sciences was created in 2009. This process involved only minor changes for the Department of Community Medicine. The department has five research units, which represent groups covering traditional causal epidemiology in well-established local cohorts concerned with a clear set of focused disease-specific topic areas; randomised controlled trials linked to the findings and topics of the cohort epidemiology; a broad set of general practice studies concerned with education and communication issues and with clinical questions relevant to decision-making in primary care; a broad set of health service research questions; and a set of environmental, health and health-care topics related to the Arctic/Far North setting and to the peoples located there. Important infrastructure for the department is the Graduate School EPINOR and the data management system EUTRO.

The department is since 2001 host of four centres with core funding from Ministry of Health and Care Services: 1. National Research Centre in Complementary and Alternative Medicine. 2. Sami Centre for Health Research. 3. National Centre of Rural Medicine. 4. General Practice Research Unit.

The department has a good financial situation, due to the contribution from external funds (51% of total budget in 2005, to 68% in 2009).

The department has 37 professors and associate professors (of which 10 professor II). Much of the highest quality work is dependent on very senior professors, with short periods to go before possible retirement. PhD numbers are reasonable (about 40) – although variable across the research groups – and some of the groups have systematically and successfully focused on post-doctoral appointments.

Follow-up of previous recommendations

In general, the department has picked up on the previous recommendations. Most importantly, it has defined five research areas to ensure focus of effort; the success of this is difficult to judge as yet, since the two outstanding areas from before have simply been preserved and translated into two of the five new groups, each linked to one of the two main cohorts – this is sensible, but essentially preserves a successful *status quo*. Of the other three groups, two have been formed in response to the previous evaluation – namely General Practice (to give more emphasis to primary care as a topic, and to link to the local independent institute for rural health) and Arctic Health (to propel Tromsø to be a world leader on this topic) – but it is rather early days to assess.

Recommendations

There is a problem of recruitment of senior leadership in the near future, when retirements will occur. The problem looks urgent. The resources have been built up brilliantly by a few individuals and very well used; the university/faculty should consider how to invest now in expanding and strengthening the next generation of leaders, who need to exploit the cohort data in particular, and so ensure that Tromsø continues to lead internationally in chronic disease and systems epidemiology. It is a concern that the current leaders indicate that time consumed in managing resource and making it available to other researchers leaves too little time for their own research output.

The department has become more strategic in how it allocates and organises infrastructure support, and in moving towards more performance-orientated methods of resource allocation. However, there is little indication of how they are measuring or focusing on the social impact of the research, as distinct from its publication impact, or from the impact of the wider contributions of individual researchers, to such things as clinical guideline development.

1. Arctic Health Research**Level 2**

This research group is the extreme example of several senior professors at one end and a clutch of PhD students at the other; there is only one, relatively junior post-doctoral fellow in this group. The number of completed PhDs is reasonable, but very variable across the group. The group has a strong collaboration with, and development of, young Russian researchers, linked to topics (pollution, birth anomalies, oil industry) that are important; and a collaboration with other international researchers into Russian and Arctic health. Although the Russian investment reflects Norwegian financial investment in research development in Russia, the lack of a strategy of how Norway can be international research leaders on this topic (highlighted in the 2004 review) must continue to be of concern.

It also seems a pity that other parts of the department, which are investigating Sami health and rural health, could not be more integrated strategically with this group to increase critical mass in addressing high-level questions about far north-living peoples and their environment.

Research quality

The output is modest in quantity, and quite disparate in content. For example, in 2008 there were three publications in total from the group, with all three concerned with Arctic Health. In 2009 and 2010, there were 14 publications in total, but only two of them specifically concerned Arctic Health, as distinct from, i.e., more general questions on Russian health or maternal health. Some of the output, however, has been of high quality in good international journals, and so in the context of Arctic Health generally, it might be reasonable to allocate a “good” assessment; however, it is difficult to ignore the heterogeneous and restricted quantity of the output. Overall, the lack of consistent output over 5 years related to some clear central questions that the group wish to answer is of concern.

Grade: Fair

Societal impact

Potentially this is very large, and is one of the impressive potentials of this group – especially their interest in climate, pollution, birth anomalies and health effects of far northern life. The translation of this potential into measurable impacts of their current research output is less clear.

Recommendations

This is an important group, with some interesting topics identified for research, and some excellent collaborations developing, for example with young Russian researchers. However progress towards the status of international leadership on this topic is not clear from the nature and quantity of published output over the past 5 years; and whilst there is clearly much potential in their current crop of PhDs, the focused areas in which they are going to make high-impact discoveries are not yet obvious. Systematic investment in attracting mid-career high quality researchers into this field would seem to be the most important recommendation; together with a more focused strategy on the top Arctic Health topics (e.g. birth defects register; environmental health). As the verbal self-assessment also stressed, much of the research is now performed in Africa, Latin-America, etc. Thus, the Arctic Health Research unit may not be the most descriptive name for the group.

2. Epidemiology of Chronic Disease

Level 2

Description

This is a clearly organised, focused group, built around a team of 11 senior researchers, who are of mixed age and experience, and with a number of different clinical and methodological backgrounds. Their assumption of the new title in the department's 2009 re-organisation was relatively straightforward, since they presented a longstanding "traditional causal epidemiology" group, centred on the Tromsø study. This study is a well-established population cohort, with its 6th follow-up completed, focused mainly, but not exclusively, on cardiovascular disease, diabetes and osteoporosis. Their training programme is good, with a mixture of clinical and nonclinical PhDs; they share in the department's graduate programme; they have recruited a reasonable number of research fellows relative to the size of their senior staff. One possible criticism is the relatively small number of PhDs relative to their senior staff, but the group have chosen to invest proportionately more effort in building up the post-doc.

Two general features are outstanding in this group: (1) Their commitment to, and realisation of, improved data handling and access, and better outcome measurement, in the Tromsø study. The main measurable outcome of this has been the impressive number of projects using the dataset, which are led by researchers from outside Tromsø. This is likely to increase further as they push towards internet access to their data. (2) The quality and extent of international collaboration. Some of this follows from (1) above – namely that lots of people co-operate with them in using the Tromsø study. The group is also very good at collaborating in systematic pooling of data across cohorts, both nationally and internationally – the risk predictors being one of a number of outstanding productive collaboratives. One negative point, which applies to other departmental groups, is the relative paucity of temporary visiting research positions – this should be reviewed seriously, since this group offer a great opportunity for young post-doc epidemiologists from across the world to come to do collaborative projects.

Research quality

The scientific output has increased in the last couple of years, and although this has meant some dilution of the proportion of papers hitting the very top journals, the range of international high-quality papers remains very high. It is good that the epidemiology has expanded beyond its main focus on causal questions into RCTs based on the epidemiological findings, risk factor and prognostic studies, including moves into the biomarker and genetic fields, and clinical decision-making questions. The output is excellent in relation to the number of senior staff and the allocation of research time in the group. The results from the Tromsø Study have also given many spin-offs.

Grade: Very good/Excellent

Societal impact

This is a difficult area for epidemiology, and the team has taken the view that some of their published results are guiding national policy. It would be good to explore for the future how the databases might be used more specifically both to support the work of getting public health evidence into practice and of modelling the health economic impacts of doing so.

Recommendations

The Panel had some doubts about the proposed change of the name of the group to “Gender research in CVD, diabetes, and osteoporosis”. This has little advantage, given that good published work has also covered cancer and renal disease, for example, and because strategically the group may want to increasingly consider generic questions of multi-morbidity rather than those generated exclusively by traditional clinical disease phenotypes. It also might be more worthwhile to consider separating the Tromsø study costs, administration and management from the research group’s scientific programme. The study is a great international resource that deserves and would repay secure ring-fenced funding, as a research resource for the wider world, but budgeted to Tromsø. However, it seems clear that there should also be significant strategic investment to secure more protected scientific time to lead and carry out the group’s own cutting-edge research programme.

Causal epidemiology in long-term cohorts remains an important player in public health, but the group should consider how to build on the new areas of activity they have started to identify – notably risk prediction; intervention studies derived from epidemiological analyses; modelling of outcomes in their cohort data, especially health-economics analyses to directly influence health policy.

It is also important to do systematic attempts to attract young post-docs to temporary visiting research positions, from elsewhere in Norway and abroad, as a means to increase output and international reputation as a centre of excellence.

3. General Practice

Level 2

Description

In 2006, units for general practice research were established at the four medical schools in Norway and the General Practice Research Unit of Tromsø (AFE Tromsø) is now an integrated part of the General Practice Research Group (GPRG) of the department. National Centre of Rural Medicine (NSDM) was established at the department in 2007, and researchers at this centre are also associated members of the GPRG. Members of the GPRG are also cooperating with the research groups of Health Service Research and Arctic Health Research.

The human resources linked to research have increased the last 5 years and the staff of the department includes 16 academics with PhD or higher, covering 9.1 full-time positions. There are a number of senior and experienced researchers and the lack of young post-doctoral clinical researchers in general practice is noted by the group to be a weakness. The training programme, although quite small in numbers of PhDs, is well-supported and strategic in its linkage to the main research interests and resources.

Research quality

The research of the GPRG can be categorized into four themes: (1) Cancer in primary care; (2) Respiratory illness; (3) Psychiatry in primary care; and (4) Professional education and

development. Of these, research on cancer and respiratory illness are in the international frontline. GPRG has very good research projects and both international and national collaboration is impressive, especially as a component of new grants and some of the top-ranking publications.

Grade: Good

Societal impact

The topic areas of the research have substantial impact via guidelines and direct to translation in clinical practice. Researchers of the group have also central roles in the development of undergraduate and postgraduate education, are involved in the development of national guidelines, and are policy advisors for the national health authorities.

Recommendations

Although many projects are in an early phase, the department has a good volume of publications. More work on developing a really tight and focused research strategy would help to achieve to a higher level and to integrate the different groups involved in this unit.

4. Health Services Research

Level 2

Description

The group has 11 professors (four fulltime professors, three associate professors and four professor II; only two under age 55). There has, for unclear reasons, been one completed PhD in the five-year period.

The self-evaluation states that the best description of its organisation is “unorganised”. This is seen as a virtue, because each individual is free to “do their own thing”. The activities include: Epidemiology, mental health, health technology assessment, health economics, medical ethics, medical sociology, primary care, and complementary and alternative medicine (CAM).

“Very good international collaborator networks” is identified as a strength in the self-assessment, but little empirical detail is provided as evidence for this – apart from individual projects on HIV and priority setting, and apart from the evidence of the author lists on CAM publications. Also, at the hearing, it became clear that the group was involved in EU projects on the evaluation of quality of life schemes and in health economics. Further, there is a network with local health authorities.

Scientific quality

In spite of many worthy past individual achievements, the lack of structure now seems a barrier to any clear group identity and resource, to consistent high quality output, to major grant income, and - most important of all - to any sense of where the future lies.

Some individual papers and individual textbooks are of very high international standard and reflect the quality and experience of many of the individuals in this group. However, as a group there is no consistent high-hitting topic area, particularly in more recent years.

The most consistent set of publications appears to relate to work on osteoporosis in the Tromsø study, which more appropriately belongs to the chronic disease epidemiology group. The quantity of publications on CAM is impressive, but these are notoriously difficult to judge in terms of quality – one method is to consider the number that have got into non-CAM

journals – it is worthy of note that seven papers achieved this, but on only one was the group represented as first author.

Societal impact

The group briefly summarises this as related to the influence which the individual members of the group has on policy makers. However, this is not backed up by clear empirical evidence on how and where the impact has been achieved. Furthermore, this does not address the issue of the societal impact of the actual research done by this group, for which no clear arguments are provided.

Grading

Fair

Recommendations

The group identifies replacement of the senior researcher posts as a major challenge – but it is not clear what it is that would be being replaced other than highly individual positions – there are no major resourced, strategic programmes of work, into which high-quality external research fellows could be attracted, apart - perhaps - from the programme related to sickness absence and the independent National Research Centre in Complementary and Alternative Medicine.

Thus, it is difficult to see a future for this group as an active health services research group, despite the productivity of individual senior researchers in certain disparate areas of activity. The group plans integration with other at the department. The overlap of many of the more promising areas of activity (sickness certification and absence, Sami health, CAM), with parallel areas in the general practice and Arctic Health groups, suggests that a further process of integrating the best work of this group into primary care, and placing the emphasis for the future on growing methodological expertise for the whole department in areas of health services research, such as health economics, would be more productive than attempting to continue this group as it is, by simply replacing the experienced higher quality senior researchers as individuals.

5. Systems Epidemiology

Level 2

Description

This is a small, tightly organised, but highly productive group, the least ‘top heavy’ of the five research groups in the department, with two senior professors and a range of post-doctoral appointments at different levels, from a range of relevant clinical and non-clinical disciplines (pharmacy, epidemiology, molecular genetics, etc.). There are a reasonable number of PhDs, given the size of the group, and an impressive proportion of mid- and early-career scientists relative to the total size of the group.

The group has a clear focus on cancer, with a coherent programme linked to the Norwegian Women and Cancer study (NOWAC). It covers a range of cancer-related topics, mostly traditional causal epidemiology, especially nutritional and reproductive-hormonal factors; but more recently broadening to include randomized clinical trials arising from the observational studies, prognostic and biomarker studies, and health services research. Similar investment in establishing accessible data resources, as described above for the chronic disease epidemiology group, has occurred in this group, in particular for its biobank capacity and potential.

National and international collaboration dominates the style and activity of this group, with much of their research output being high-quality consortium papers (notably as part of the EPIC study, but also for a number of other collaboratives, many lead authored from outside the department. Much of their measurement of biomarkers and genes is outsourced to other groups.

Scientific quality

This group, as with the above-described Chronic Disease Epidemiology Group, was a pre-existing unit prior to the 2009 department re-organisation, and has continued its successful formula. However, there has been an interesting and successful development with the EU grant to develop 'systems epidemiology', i.e. the integration of basic science, molecular and genetic biomarker studies, and traditional lifestyle and environmental epidemiology. The personnel resources and expertise in the group seems well suited to this development.

As individuals the group members mostly have examples of first-authored papers in good quality international journals, but the very best of the papers in the impressive list are multi-author consortium papers. These have great value to science and society and to the international reputation of this group and its parent institution; however, it is still a little difficult to judge the original scientific contribution of the group to each and every one.

The context of the research of this group is excellent – clear focus on selected areas of excellence (e.g. nutrition); strong drawing on local population issues (diet, culture); genuinely multidisciplinary team; growth of projects into novel areas embodied by the idea of systems epidemiology (functional genomics, mammographic density as a surrogate for breast cancer).

Societal impact

The group's rather brief section on this lists some results, which the group state have been used in practice, although the empirical evidence of this (e.g. policy documents) and of the effect of the resulting policy are lacking.

Grade: Excellent.

Recommendations

The continuation of this strong group is important. There seems to be reasonable progress towards succession planning, based on a critical mass of mid-career researchers. However, the group itself identifies some risks: The heavy and important involvement in national and international collaboration, does, to some extent, obscure the understanding of just how much is being initiated and driven internationally by this group; some clear definitive statements on this might help the group to progress its research agenda and attract funding.

A case should perhaps be made – maybe in collaboration with the chronic disease epidemiology group – for ring-fenced support for basic, but high-quality cohort administration tasks, to allow more protected time for the Tromsø-led academic programme to be developed. Also, there is a need for support for the most valuable biobank.

Also, some consideration could be given to the desirability of expanding the size of the group, particularly with respect to its potential to act as a training ground for young epidemiologists, and to be part of a Departmental or Faculty drive to attract temporary visiting overseas researchers.

It would be a useful exercise for this group to examine the question on societal impact in more detail, since it would seem that the potential for such is high, especially as the group

moves towards individual risk prediction studies, and to more applied research questions, such as their evaluation of the national screening programme for breast cancer.

University of Tromsø, Faculty of Health Sciences,

Department of Health and Care Sciences

Level 1

Description

This is a recently formed (2010) department, resulting from the integration of the former Tromsø University College in 2009 (not evaluated in 2004; a large multidisciplinary health professional teaching and training organisation) with the University of Tromsø (UoT), and its merging with the former Department of Nursing and Health Sciences of UoT (assessed in 2004) within a renamed Faculty of Health Sciences.

Despite the merger, the new department essentially remains a large health professional teaching and training organisation, with a faculty of over 100. However, relative to the large number of teachers, the number of senior academic posts, who could be expected to provide research leadership is small.

Recommendation

The Panel got the impression that the expectation/requirement of the faculty was that all staff should be research active, or move towards being so. This is despite the fact that most of the staff were teachers and neither had the background/training, nor necessarily the inclination to do research. The Panel concluded that these expectations regarding research were unrealistic and that the faculty and the university as a whole had not provided adequate strategic direction and support following the recent mergers.

Despite the small number of research active senior academics in the department, in 2010 the department was inappropriately organised into five research groups. The list of project topics for the groups suggest that there is little control over choice of topics, which are disparate and seem driven by individual interests, rather than by core group priorities. The Panel was of the view that much bolder selection and focus on a small number of core areas is needed. This view was supported by the fact that only one of their five research groups was submitted for evaluation at level 2.

1. Research Group Individual, Institution and Society

Level 2

Description

The research group was established in August 2010, and is described as having 26 academic staff: three professors (1.4 FTE) and five associate professors, the remainder being lecturers and post-doc fellows. In addition, there are six PhD students. The group submitted CVs for 11 of these staff: one professor (0.5 FTE), two professor IIs, four associate professors, one associate professor II and three post-docs. Of these 2/11 were aged 50 years, or under. The professional background of the group members is varied, including occupational therapy, physiotherapy, nursing, bioengineering and radiography. The members have masters' level qualifications in sociology, education, nursing, health sciences, and sport science. The members of the group tend to have very substantial teaching loads, which mean that research time is difficult to protect.

Research quality

The research strategy of the group is still being developed. The general area of research will be in “health and care services”. At the present time, the research activity of the group is essentially the sum of existing individual projects brought by the group members. These tend to be characterised as focusing on “clinical work, patient and family experiences”.

The Panel was convinced of the commitment of the group to improving the quality of health care through research. However, the projects presented in the self-assessment, and discussed with the Panel, were generally descriptive surveys of experiences of small samples of patients and their families. Although these experiences are important, and worthy of research, these particular projects did not seem to address well defined research questions, which could be answered with the designs employed. The Panel was also of the view that the group lacked methodological expertise, both in qualitative and quantitative research methods. The research group had limited links or collaborations with other institutions and research groups, either in Norway or internationally.

One approach being considered by the group, to strengthen its research capacity, is to recruit further PhD students. However, the Panel was not sure that this was appropriate, as it was unclear whether there was adequate capacity to supervise these doctoral students. Instead, the Panel was of the view that strengthening of a research group required making more senior appointments.

Over the assessment period, group members had around 40 publications, less than a third of which were in peer reviewed international journals.

Grade: Weak

Societal impact

Limited.

Recommendations

The Panel strongly recommends that the faculty needs to review the place of this department (and group) in their larger research strategy. At the present time, highly committed individuals are being asked to develop a plausible research program on the basis of inadequate resources, expertise and scientific leadership, at the same time as they are being expected to deliver a very large teaching program. Given the low level of activity they are starting from, if the department is to build up research, it needs to ruthlessly focus down on three, or at most four, discrete and interconnected topics, in which they will be able to draw on the substantial expertise in other parts of the university. In addition, the scientific leadership would require strengthening.

University Hospital of North Norway

Level 1

Description

University Hospital of North Norway (UNN) has four major locations in North Norway, with altogether 6,000 employees. UNN went through a major reorganization in 2007-8 to strengthen it as a regional and university hospital for North Norway. UNN is now organized with chief executive officer, vice director, and five staff centres and 12 clinical divisions. Clinical research is organized within the staff Centre for Clinical Research and Education (CCRE). Finally, there are two additional centres: Centre for Facility Management and Services and Norwegian Centre for Integrated Care and Telemedicine.

CCRE is headed by an active researcher, and provides infrastructure and administrative resources for research, education, and innovation in UNN. Somatic research is supported by the Clinical Research Centre (CRC), including a Clinical Research Unit (CRU). CRC has 15 employees (researchers, consultants, IT-personnel), corresponding to 11 full-time equivalents, and CRU has 17 employees (study nurses, bioengineer, medical secretaries), providing 15 full-time equivalents. Psychiatric and addiction research is similarly supported by a research centre (NNPRC), with seven employees (4.7 full-time equivalents). Researchers and research groups can apply for administrative and infrastructural resources from CCRE.

Research in UNN is mainly conducted in close collaboration with University of Tromsø (UoT), Faculty of Health Sciences. This underwent a major reorganization in 2008-9, and currently there is not a perfect match between research groups in the Faculty of Health Sciences and the clinical divisions. Teaching has priority over research, but has a lower prestige. Clinicians at UNN typically report that clinical work takes most of their time and focus. This seems to be the main obstacle for progress in research. UNN has no general staff policy related to a fixed amount of time allocated to teaching and research, and these activities are administered at the department level.

Presently, both human resources and lack of time limit the research activity. Research groups are small and vulnerable, and the academic staff should also participate in teaching, administration and clinical work. UNN is a remote and relatively small hospital far north, and the recruitment situation is always challenging, although the regional health authorities have introduced measures to alleviate the situation.

Follow-up of previous recommendations

UNN as an institution was not included in the previous evaluation, but clinical research was reported from the UoT, Institute of Clinical Medicine. The evaluation report was discussed in UNN, but did not result in strategic changes. Currently, no core areas of research have been identified in the research strategy, but the Tromsø-based population studies are used extensively as a basis for clinical research. Moreover, clinical quality registries are being developed and are assumed priority area for research in the future, as a response to an appointment in 2009 of the Centre for clinical documentation and evaluation, a unit located at UNN, as a national service institution for quality registries within the health sector.

1. Norwegian Centre for Integrated Care and Telemedicine

Level 2

Description

The Research Department of the Norwegian Center for Integrated Care and Telemedicine (NST) is structured in five sections, of which four are research active and the last is a support section (software development). The focus of the research-active sections reflects the area of application: Hospital, Primary care, Home/personal, and Developing countries. The research sections receive support from NST personnel outside the Research Department. In 2007, NST was granted a centre for research-based innovation by RCN. The centre, Tromsø Telemedicine Laboratory (TTL), is mainly focused on telemedicine technology.

The head of the Research Department is an experienced, active telemedicine researcher. The scientific staff at NST comprises 41 research scientists, of which 35 have full-time position. The academic background of the staff covers Information Technology, Sociology, Medicine, Maths/Physics, Psychology, Nursing, Statistics, and Economics. The age and gender distribution seem reasonable.

Historically, research at NST has been viewed as rather academic, but this is now changing in response to views expressed by the stakeholders. A new research strategy is currently being developed. The ambition is to increase both quality and quantity of the research publications. An initial aim is an output of 4-5 papers per year per post-doctoral researcher. It should be noted that the main focus of TTL is on technology, so much of its research publications appear in journals that are not indexed by PubMed. Research staff is encouraged to present work at relevant, national and international conferences, and since 2007 researchers at TTL have given more than 60 presentations at international conferences. A recent comparison has shown that the Research Department at NST had an output per staff of the same magnitude as what is seen at comparable centres around the world, but in terms of PhD students, NST had more than other centres of similar size.

In recent years, the focus in telemedicine has changed towards personalized health care and development of tools that help people to take care of their own health. NST has a strong tradition of socially-relevant research on telemedicine and has made major contributions to innovations. Three patents are held relating to research in TTL. Current efforts in innovation are mainly organized through TTL, and include several projects that have a potential for commercialization. Industrial collaborators include several major companies (IBM, Telenor).

Recruitment of PhD students and staff has so far not been difficult, but it is clear that the research would benefit from frequent exchange visits with international collaborators. The Research Department has collaborative links with research groups in Europe and the US. The aim is to establish active collaboration with the best research groups around the world.

Research quality

The Research Department at NST has recently initiated a reorganization of its research strategy, with a number of research groups that are defined from the way the health care is organized. The publication strategy is also being revised. The research-based innovations are mainly developed through the associated TTL centre, where also the industrial collaboration takes place. It is too early to evaluate the new strategy, but the Panel believes that overall approach is sound, such that a successful implementation seems likely.

Grade: Good.

Societal impact

The unit has a great potential for valuable information technology support to the health-care system.

Recommendations

The Panel finds that the recent reorganization and the new strategy have improved NST's possibilities for carrying out relevant research. The Panel recommends that NST identifies clinical collaborators, to ensure clinical relevance of the research projects. Moreover, new interventions and support systems should be evaluated with regard to health effects.

University of Agder, Faculty of Health and Sports Science

Department of Health and Nursing Sciences

Level 1

Description

The Department of Health and Nursing Sciences is one of three departments at the Faculty of Health and Sport Sciences. The faculty focuses on physical activities and health promotion. The other two departments are Department of Public Health, Sports and Nutrition, and Department of Psychosocial Health. The Department of Health and Nursing Science has activities in Grimstad and Kristiansand, and had about 63 employees in 2009. There was a reorganization in 2009, in which the department was divided in two departments. Further, there will be a new re-organization in 2011. The department of Health and Nursing Science is organized with a head of department and an assistant head of department. At the faculty there is a Committee for research in which one professor from each department is represented, as well as the heads of the department, and the head of the faculty. This committee gives recommendations in research problems. The professors are leaders of the research groups. There are two professors I, one professor II, four associate professors I, one associate professor II and two PhD students employed at the department. A new position as a professor in health services is advertised. The head of department is leader of the research. She is an associate professor, without a PhD and not active in research.

The university is starting a course in research leadership at the faculty. There is also a course for associate professors in supervising PhD students. At the faculty, some professors have started an informal group to supervise associate professors, who want to become professors. The financial and time resources in the department are rather good, but there is a lack of academic qualifications. The department consists mainly of nursing programs on bachelor level, which demand practical and academic skills. Most of the academic staff are nurses, with a practical and academic background at master's level, above 50 years of age. The sex balance is skewed, with a female predominance. There is little tradition for researchers at the department to go abroad, but one PhD student spent six months in the US.

In 2009, the department has 8.42 DHB-points; the faculty wants to increase the points from 25.9 to 60 in 2015. Specific strategies to achieve this are: working in research groups, starting a PhD program in health science in 2011, and a master program in health science with one branch in ageing and health, increase the number of PhD students, and recruit professors and associate professors.

1. Ageing and Health

Level 2

Description

The research unit is quite new. There are two professors, two associate professors and two PhD students. The strategy is to publish as much as possible in international peer-reviewed journals. The professors and the associate professors use 45-65% of their time for research, which is financed from the faculty and RCN. The group is situated in the new Campus Grimstad, with access to new infrastructure and equipment. The research has its ground in nursing and caring, together with influences from public health, focused on elderly people.

Parts of the research are health-related; others are, for instance, ethics and nutrition. The unit has collaboration with other Norwegian and Nordic universities and colleges.

Research quality

The unit uses a network funded by RCN, with the purpose to investigate the resources of old, disabled people, who are living in their home. Two project are ongoing, one with quantitative and one with qualitative methods. Certain methodological problems are recognized, for instance low response rate. One of the professors is editor-in-chief of the journal *Nordic Nursing Research* and member of the editorial board of *Contemporary Nurse* (Australia). Another professor is chief leader of the Nordic College of Caring Sciences, which runs the *Scandinavian Journal of Caring Sciences*.

The department has published 35 articles; most of them in well-established international nursing journals. Two articles were published in Norwegian journals. One professor I is involved in 18 articles, however, some of them written already before her appointment at the unit. Some articles were published in cross-disciplinary journals. In sixteen articles, the subject was ageing and health, with a progress in 2009 and 2010.

Grade: Weak/Fair

Societal impact

Research on ageing and health has a clear societal impact, since older people is a growing age group in Western societies and, accordingly, a societal concern with regard to ill-health and socioeconomic factors. Popular science was published in Norwegian textbooks, and the unit can use the website of Centre for Caring Research, Southern Norway to disseminate results.

Recommendations

The research activities at the department are in an early phase, but have increased the last year, and there is a potential to develop the research in ageing and health. The Panel recommends the department to increase the qualifications of the academic staff before developing PhD programs. Also, it recommends focus on sound methodology in a small number of projects within the same field, as well as increased international collaboration.

University of Stavanger, Faculty of Social Sciences

Department of Health Studies

Levels 1 and 2

Description

The Department of Health Studies is the largest of five units within the faculty of this relatively young university. It is almost exclusively focused on training of nurses, and has no specified PhD-degree topic. The department has four professors; in 2010 there were 14 PhD students. Research at the department is further organized into three program areas: Social science approach to substance abuse, Coping with chronic disease, and Quality and safety in health care systems. There are other research groups and individual researchers, who seem not to have the same status as being in the three research programs.

Since becoming a university, the department has set up clear goals concerning research strategy, building on the strengths and competencies represented by the members. Following national directives, the goal is to publish at least at the same rate as at other Norwegian universities. There are some strategic recruitments in the pipeline, including two professorships in nursing science, and four adjunct professorships. The department recognizes its strengths and weaknesses, including its relatively short research tradition, difficulties in obtaining funding, and need for recruitment. Nevertheless, two of the programs participate in EU collaborations due to established networks of leading researchers.

Research quality

Most of the programs have considerably more external than internal participants. The research is a combination of more applied, policy related areas, and more basic research, with both qualitative and quantitative approaches. The programs recognize the need for more methodological expertise and being able to recruit young talents as PhD students. The strongest of the programs (as indicated by the ability to obtain research funding) is the Quality and Safety program, which also represents the strongest aggregation of research in the department. Most of the publications are in nursing-related journals. Some individuals publish almost exclusively in Norwegian language.

Grade: Fair/Good.

Societal impact

All three research programs at the department have societal relevance. The strongest one, Quality and safety in health care systems, seems to have had impact.

Recommendations

The Panel encourages further development of the field of patient safety, which seems to fill a gap in Norway, and has a good approach in “learning from the best”. The department needs to recruit better methodological expertise.

Bergen University College

Centre for Evidence Based Practice

Levels 1 and 2

Description

The Centre for Evidence Based Practice (CEBP) is a relatively new unit, started in 2006 through a strategic decision taken by the board of the Bergen University College to establish research and competence centres to promote research development. EBP was one area consciously chosen as a research area. Advisors were recruited from the UK and Australia to build up the research and training in the CEBP, which currently has four research groups: 1. Diabetes research for best practice (DIABEST); 2. Physiotherapy and Pain Research (NorPhyPain); 3. Family Research; and 4. Research on Health Services and Implementation of EBP in Education and Clinical Practice.

The overarching theme of the CEBP is to incorporate EBP into the training of health professionals, and do research on the implementation of EBP. At the same time, each of the four research areas also continue to do research and teaching within their respective professions. Per 31 Dec 2009, there were three professors, three associate professors, and three associate professors with 20% affiliations, with a total of 9 PhD students. The number of associate professors and PhD students increased during 2010-2011.

Research quality

The “Research on Health Services and Implementation of EBP in education and clinical practice” program is in many respects the core of what the Centre hopes to accomplish, and through it much of the development of the educational and implementation programs are being initiated. Due to the administrative demands put on the leader of this group, the scientific production specifically related to the topic of EBP is only now emerging. However the group has very good publications in general. The DIABEST and NorPhyPain programs both represent quite active groups that are producing good to very good, and even excellent publications in their respective professional areas in international journals, and at the same time participating in both educational and clinical applications of EBP. The role of the Family research group, and in particular the scientific link to EBP and the other activities of the Center, is much less apparent. The scientific output of this particular group is disappointingly low. The Center is increasingly developing projects across the groups.

Grade: Good/Very good.

Societal impact

Aspects of the research are of high interest for the society and its health-care systems.

Recommendations

This group showed a rare clarity of purpose, with a very well structured, goal oriented approach to building the environment (i.e. strengthening the methodology before starting on new areas, and capitalizing on the strengths of the respective researchers’ niche areas). It also has a very sound strategy regarding publication. It is strongly recommended to continue this way.

Molde University College

Faculty of Health Sciences and Social Care

Level 1

Description

Molde University College was established in 1994 and obtained the status of a scientific university college in 2010, specializing on logistics. The university college offers education in logistics at bachelor, masters and doctoral levels, and bachelors and masters programs in economics, business, administration, management, informatics, sports sciences, social sciences, and health sciences (32 programs in total). The institution enrolled 1,800 students (160 international) and 160 employees.

Molde University College has a dual leadership, with a rector and a director. The institution consists of two faculties: Faculty of Economics, Informatics and Social Science; and Faculty of Health Sciences and Social Care. The faculties were established in 2005; each of them is headed by a dean. Since 2008, the research activities are organized in 12 research groups, each headed of a professor. The groups in each faculty are coordinated by a research coordinator.

The academic staff at the faculty consists of four professors I, one professor II, four associate professors I and one associate professor II (30%). There is a variation in the academic staff in terms of competence, background, sex and nationality. Professors and associate professors are required to allocate their time as 45% research activities, 50% teaching and 5% administration. Other academic staff allocate 20% of their time to research. The employees also participate in committees, and there is collaboration between health-related research and clinical practice. There is an implemented plan for gender equality for 2009-2014, in which a mentoring program for female researchers and financial support to women, who establish and/or participate in research network, are suggested.

1. Faculty of Health Sciences and Social Care

Level 2

Description

Recently, the research activities of the Faculty of Health and Social Care was organized in four research groups related to (1) Mental health, (2) Disability, (3) Age and care for older people, and (4) Phenomenological research to vulnerable groups. The faculty has an interdisciplinary master programme, focusing on subjects that cohere with the research groups.

The research groups have the opportunity to apply funding from the institution's small grant resources from RCN. More internal funding is required to optimize the research activity in the groups. Therefore, the faculty aims at channelling the earned incentive resources from the members' publications back to the group. The faculty motivates the teaching staff to commence PhD studies, thus solving the problem with recruiting competent academic staff. One staff member has completed a PhD and four were admitted to PhD programs. They also have a broader aim to develop a PhD program related to their core areas.

Several of the professors have collaboration with regional, national institutions within the core areas. Internationally, they collaborate with China, Russia, Scotland, USA (San Francisco) and Australia. Two of the PhD students have spent research time in San Francisco and Australia.

Research quality

The production of publications increased in 2009, but the publication points still decreased, due to more external co-writers. The area of mental health is well developed and has earned international recognition. Three research projects, with focus on reducing violence in mentally ill, are currently in progress. Nine articles have been published in this field and further 11 are planned.

The Disability research effort includes a collaborative project with European partners. The disability research team is small and has published two articles on level 2. Just now, the team has got a proper contribution in form of external funding.

The research group in Ageing and care for older people has both practical and theoretical aims. They collaborate with two hospitals and one research centre in a project about the function of the language for patients with dementia, which is a part of a larger project. The group is working with the design and methodology of the study. They have applied for funding of a study of health interventions based on regular home visits of old age cohorts. Additionally, there are two research projects about people with dementia and their relatives in an initial phase. The group has also started collaboration with the local theatre and plans a series of theatre performances for persons with dementia. The group has published eight articles.

The research team of Phenomenological research towards vulnerable groups focuses on experiences of hospitalized children, psychiatric patients, people with dementia and their relatives, and organ donation at intensive-care units. Four PhD students participate in this group.

The main focus seems to be on research of mental health and ageing. The ambition connecting the theory and practice and using different methods in the research are very positive.

During the last six years, the faculty has in total published 74 articles in journals and five articles in scientific anthologies. Fifteen of them are published in national journals or books. Mostly, the journals are well-established nursing ones, but some of the publications appear in more cross-disciplinary journals, which reach wider target groups. There is a good balance between national and international publishing.

Grade: Good.

Societal impact

The research about mental health and lifelong disabilities has a significant societal impact, because these groups are increasing in the society.

Recommendations

The Faculty of Health Sciences and Social Care is in progress with regard to developing its research units. They have a target and are focused on research. Their idea to collaborate closely with the University of Bergen is very good, but there is a need of better focus - maybe more on mental health and disability and integrated phenomenology. The Panel's advice is to wait with development of a PhD program until collaboration has been established. There are good ideas about what is relevant. The Panel noted that many of the activities are suitable for RCTs - but this needs collaboration.

Oslo University College

Faculty of Health Sciences

Level 1

Description

Oslo University College (OUC) was established in 1994. The Faculty of Health Sciences is one of seven faculties. The faculty has seven bachelor studies, two master programmes, and two interdisciplinary master programs together with other faculties and external partners. A fifth master programme in physiotherapy is under development. Additionally, the Faculty of Health Sciences and the Faculty of Nursing are in the process of establishing a PhD-programme in Health and Social Participation. The disciplines physiotherapy, prosthetics and orthotics, occupational therapy, radiography, dental technology, biomedicine and pharmacy are included in the faculty.

The Faculty of Health Sciences is organized with a Faculty Division Board; the leader is a dean, who has academic and administrative responsibilities. The faculty has a Research and Development (R&D) Board consisting of a coordinator, the four research leaders and a representative for the PhD students.

There are three professors I, 18 associate professors (one 20% and one 50%) and one professor II (20%) employed at the faculty. Three PhD students have graduated at the University of Oslo, as well as 20 master students (some of them together with Norwegian University of Life Sciences), over two-three years. 75% of the assistant professors and lecturers have no formal research education. Many of the young ones are interested in starting on a PhD programme, but there are also employees who do not have such ambitions. The average age of the academic staff is 52 years, and 84% of them are women. About 9% of the academic staff are not Norwegian citizens.

The policy is that 25% of the academic staff's working time is reserved for R&D. The faculty allocates the time each employee gets for his/her research, based on a model rooted in scientific production during a period of three years. Newly employed associate professors and professors receive 30% and 45%, respectively for R&D. The working year is organized so that employees have well-delineated teaching and research periods.

The faculty has financial and supervision responsibilities for PhD students in the PhD program at the University of Oslo, and other external R&D centres. To ensure good throughput of PhD students, the faculty will offer the students that complete their thesis within the stipulated period, a six month grant to complete the ongoing PhD studies and write applications for further funding. 12% of the PhD students of the faculty have spent time abroad. All PhD students and post-doctoral positions can apply for 100,000 NOK (per annum) to support activities abroad.

1. Ageing and Health

Level 2

Description

The research unit Ageing and Health was formally established in 2008. The research activities concern elderly people living at home, at welfare service centres for the elderly, at hospitals, as well as the transition between institution and home. The group has a basis in master programs, bachelor programmes, and the Research Programme on Health, Care and

Social Welfare at the OUC. The unit is organized in eight subgroups: 1. Physical fitness, function, and cognitive impairment, 2. Evaluation, of rehabilitation, health promotion, prevention, and treatment, 3. Evaluation of measurements, psychometric validity and reliability with own statistician, and collaboration with the Norwegian Institute of Public Health, 4. Mental health, quality of life and welfare, 5. Aging: migration and ethnic relations, 6. Injury prevention, 7. Experience in health and social care: patient-, consumer and professionals perspective and 8. Oral health. This is a sub-grouping which is project oriented, mainly towards PhD projects. Each group is managed by a professor or associate professor. Aging and Health is an interdisciplinary area, which is oriented towards knowledge translation, meta-perspective regarding ethnicity, ethics, dignity, different types of services, function, quality of life and aging processes (somatic, health-related, psychological and social conditions).

The unit consists of one professor (100%), one professor II (20%), two associate professors and seven research fellows with master degree. The females dominate the group, but it is a goal to recruit researches with more mixed background. Eleven PhD students, of whom eight from the faculty, are included in the group. The professors have 45% research time and further 5% for the management of the group. The associate professors have 30% and the assistant professors 20-30% research time.

Some problems in recruiting PhD students are due to the low number of master thesis and limited resources for writing project plans when employed in the clinical field. The group has had one post-doctoral fellowship, which now has come to an end.

The unit has national and internationally collaborations with hospitals, centres, universities and an EU-network.

Research quality

All researchers in the unit intend to publish one paper in a peer-reviewed journal each year; some publish more. The researchers are referees in international scientific journals. There are several ongoing research activities.

The unit has published 75 articles, in well-established journals, on rehabilitation, physical therapy, sports, medicine, occupation, aging, caring, epidemiology, disabilities, public health, practice, health and quality of life, injury prevention, migration and social questions. The different journals elucidate the inter-disciplinary fields within which aging is included. Twelve of the articles were published in Norwegian or Swedish journals. There is a balance between international and national articles, and the group has international collaboration.

Grade: Good.

Societal impact

The unit has at several occasions presented their research findings in TV, radio and newspapers. The aim is to reach the important stakeholders.

Recommendations

Several of the research fellows have only a master degree. The proportion of associate professors with a PhD-degree should increase. The Panel noted that several other Norwegian groups are active in ageing research, and recommend the present unit to focus, in order to increase the impact.

2. Rehabilitation and Habilitation

Level 2

Description

The research unit was established in 2008 at the faculty. The research is based on a holistic concept of rehabilitation and habilitation, and has a multidisciplinary professional competence. The group is based on the master programme in Rehabilitation and Habilitation, the master programme in Mental Health Care, the bachelor Programme in Physiotherapy and Occupational therapy, and the Research Programme on Health, Care and Social Welfare at OUC. There are three subgroups at the research unit: 1. Disability and rehabilitation in the welfare state, 2. Habilitation and professional practice, and 3. Management of chronic illness and pain. Each subgroup is a part of a larger project. The most experienced researcher coordinates the research activities within each subgroup. Ongoing and planned research activities are discussed in the coordination group.

The subgroups run projects on disabled people in the welfare state, habilitation and services for children, and the management of chronic illness and pain. There are two ongoing projects funded by the RCN in these subgroups. A strong focus in the research profile of the rehabilitation is health issues and social issues, and psychosocial perspectives are emerging. Other themes of research are universal design, disability and public space. The research of habilitation embraces participatory rights of children with disabilities, socio-cultural perspective on development, participation in everyday activities, and family-centre interventions. The third subgroup is focusing on management of chronic pain and illness with regard to assessment, interventions and coping strategies.

The academic staff in the research group is one professor, five associate professors (PhDs), two senior lectures, one research assistant and seven PhD students (in health sciences and sociology). In 2011 and 2012, two more associate professors will be appointed. No applicant was competent for a full professorship. The staff is predominantly women, above age 50 and of Norwegian origin. Among the PhD students, 50% are males and 50% women.

Average time for research activities has been 40% for the research leader (associate professor), 45% for professor, 20-40% for the associate professors and senior lecturers, and about 20% for the lecturers. All associate professors and lecturers with more than 30% working time for research have external funding from RCN and/or from the Norwegian Extra Foundation for Health and Rehabilitation. Three of the PhD students are funded by the Strategic University College Programme from RCN, and four from OUC. The real time for research for the research leader and professor has been less than planned. Another problem is shortage of uninterrupted time for writing publications.

Three PhD students have spent time at research institutions abroad, in Chicago, Newcastle, Atlanta, and California. The research unit collaborates across faculty borders and with other universities in Norway. It also has networks in Denmark, Sweden, Finland, Island, UK, Ireland, US, and Australia.

Research quality

The group's strategy for publication aims at both international publications and articles in Norwegian peer-reviewed journals. Scientific books and book chapters in Norwegian are given priority, because such publications are used in courses in Norwegian bachelor and master programs. The strength of the research unit is interdisciplinary research, inter-faculty cooperation and interaction with clinical environments. The research group has competence for theoretical studies, clinical research with longitudinal designs, interventions studies, qualitative studies of processes and systematic reviews. Students from the master and

bachelor programs are included in ongoing projects. More systematic work regarding internal and external funding of PhD and post-doctoral projects is needed, and greater weight on international collaboration.

The research group has, in total, published 38 articles, books, and book chapter. Most of the articles are published in well-established journals in the areas occupational therapy, medicine, care, sociology, physiotherapy, psychosomatics, rehabilitation, public health and disability. However, the books and book chapters are often published in Norwegian; some of them in professional journals.

Grade: Fair/Good.

Societal impact

The unit considers it important to communicate its results. Hence, the research staff has produced lectures for the users of welfare services and for clinicians, chronicles in newspaper, and participated in broadcasted scientific programs and debates.

Recommendations

The Panel recommends increased focus, organization of the research time in uninterrupted periods, and stronger priority of international publications; the CHARM project may be a way to strengthen the activity in intervention studies.

3. Male Reproductive Health

Level 2

Description

The unit of Male Reproductive Health consists of one professor, two associate professors, three PhD students and one staff engineer. The group was established in 2005 with a professor as a research leader. However, she is for the period 2007-2011 Pro-Rector R&D at Oslo University College and contributes only with 20% to the research activities during this period. The daily chair of the group from 2007 is one of the associate professors. The research leader is the main supervisor for the PhD students and the associate professors are co-supervisors. All the group members are full-time employees, except for the research leader (20%). The time allocated to research activities for the two associate professors is 75%.

The laboratory facilities for doing semen analysis, genetic analysis and cell culturing are good. For more advanced technology, they use external companies. The group was established in 2005 and the members were recruited during a period of 2-3 years. Many of the laboratory methods had to be established before start of analyses of biological material. The quantitatively moderate scientific production is related to this initial process. All the members of the group are women, except one deputy associate professor. All the projects involve time-consuming laboratory work and there is often a shortage of time to write articles.

The unit is participating in international projects and networks, and the professor has been member of an expert group within the WHO. The group also collaborates with the Cancer Registry of Norway, several departments at Oslo University Hospital, Vestfold Hospital Trust, Karolinska Institute in Stockholm, and Malmö University Hospital. There are few physicians doing research within andrology in Norway, which makes it difficult to perform studies involving patients, and multicentre studies in collaboration with other countries. The unit has no external funding of its own. However, one of the main projects has obtained about 1.4 million NOK from Nordic Cancer Union in collaboration with the Cancer Registry and Karolinska Institute.

Research quality

The research of the unit is focused on male reproductive health, with male infertility and testicular cancer. They have a laboratory-based and an epidemiologic approach in the studies, which include the fields physiology, molecular, biology, statistics and epidemiology. It is expected that the ongoing projects will generate 10-15 articles.

The unit has published 16 articles in international, medical well-established journals and three international book chapters. Members of the unit have several times been invited to present results at national and international meetings.

Grade: Good.

Societal impact

The research area is highly relevant because the birth rates in many countries are low, and from a social perspective. The impact of pollutants on male fertility is a hot issue. The staff popularizes their research through chronicles, popular science journals and other media, including newspapers, television and radio. The research field attracts attention, which has resulted in a number of interviews in various kinds of media. The research leader has also contributed in textbooks and a WHO manual on standardization of semen analysis.

Recommendations

This is an important arena, where the Nordic countries may contribute significantly. The Panel is, however, concerned about the sustainability of the group, due to its small size and lack of equipment and funding. Merging with other groups, or much closer collaboration, are ways of resolving this.

Oslo University College

Faculty of Nursing

Level 1

Description

Faculty of Nursing is one of seven faculties at Oslo University College (OUC). It has the largest staff in nursing education in Norway with 1,800 students and 160 staff members. The dean is the head of administration and the academic staff, and the Faculty Board is the faculty's governing body. They have four study units consisting of bachelor and master in nursing, bachelor and master in mental health work, bachelor and advanced program and bachelor part time.

Recently, the faculty has been reorganized, purposing strengthen the link between the bachelor, master and PhD levels, and, further, to strengthen the link between research and education. Oslo University College is in a process of merging with Akershus University College, and the Faculty of Nursing will be one institution at the Faculty of Health Sciences.

The Faculty of Nursing employs five professors, three professors II and 17 associate professors. In the last couple of years, the faculty has had budget deficits and there have been budget cuts within R&D). The majority of the academic staff is women, and professional nurses with a master degree and a PhD in nursing or caring science. The average age for the professors is 56, for the associate professors 57 and for the PhD students 47. Most of them are Norwegian citizens.

The number of publications has increased, but is still low (0.27 points) compared to some other disciplines and to other faculties at OUC (0.48 points). Internal resources are limited and a larger amount of external funding is needed to produce more research. The majority of their research is funded by the Faculty of Nursing, OUC, and recruitment positions given by the Ministry of Education and Research. The number of PhD students has increased in the last years. The 25% R&D resources are mainly allocated to funding of internal PhD students (30%) and R&D projects (70%). Education tends to come first, so the academic staff experiences that it is sometimes difficult to get 25% research time.

The faculty is involved in e-health projects, which will require investments in IT infrastructure. One of these projects collaborates with the Centre for Telemedicine in Tromsø.

During 2005-2009, the faculty recruited 24 PhD students, of which one has finished the PhD degree and six are in the final stages. The PhD students are funded by Faculty of Nursing, OUC, Ministry of Education, RCN, and Health and Rehabilitation. Fourteen have been recruited from the staff and 10 externally. The faculty has three post-doctoral positions. There are few qualified applicants to the professor and post-doctoral positions. The establishment of a PhD program in Health and Society will probably increase the number of young PhD students.

The Faculty of Nursing has five strategic research areas: Pain, Quality of life in life-course perspective; Professional qualifications and professional performance in nursing and health; Dignity and ethics; and Communication and health counselling. In addition, it has four other research groups, which have been developed during 2007-2011: Group of lifestyle intervention studies; Family nursing, Mental health care; and Child research.

Recommendations

Several of the research units are very small and fragile. The merging may help in this; it will be important to combine staffing to create stronger groups. The Panel noted a scarcity of resources for supervising the PhD students, recruiting post-docs rather than more PhD students may be a way to strengthen the PhD training. The Panel also noted a clear commitment from the leadership in developing the research.

1. Pain Research

Level 2

Description

The research group is led by an associate professor with expertise in pain research. The academic staff consists of one professor, one professor II, two post-doctoral positions, three associate professors and four PhD students. The professor and the professor II are also members of the research group Quality of life in life course perspective. Two members of the group are men. The professors and associate professors are in their fifties and the average age of the PhD students is 50. The group has no external funding. Two internally funded post-doctoral grants were obtained in 2010.

The associate professors have usually 30% research time. Two of the associate professors have 20% extra time because of post-doctoral funding.

The research group has national (Oslo University Hospital, University of Oslo) and international (California, Canada) collaboration.

Research quality

The topics for the research projects is Pain and children/adolescents, Pain and cancer and Persistent musculoskeletal pain and pain coping.

The research projects have been presented nationally and internationally. The unit has arranged pain conferences for the clinical field three times. The group has produced 26 articles in international, well-established journals of palliation, nursing, disorders, caring, medicine, management, and pain. Seven articles were published in Norwegian professional journals. The production is the second lowest in OUC, but quite high compared to the resources; the main reason is that professors are supervisors for PhD students.

Three PhD students have graduated since 2005 and four have been recruited since 2005. The group claims that it needs more competent members at professor level to further develop pain research and continue the leading position in the field in the future.

Grade: Fair/Good.

Societal impact

The main goal for the unit is to expand the knowledge on implications of pain for the individual and the society, which has a societal impact.

Recommendations

To strengthen the unit, the overlap in research activities to the other units should be decreased; maybe it would be possible to merge the pain and quality of life areas. The plans to apply for external funding and to build up more academic competence are good ways to develop the unit.

2. Quality of Life in a Life Course Perspective

Level 2

Description

The research group is led by an associate professor with expertise in quality of life. The academic staff consists of four professors (one of them holds a position dedicated to quality of life and children's research), one professor II, five associate professors, nine PhD students and one post-doctoral position (employment in progress). Three of the staff are men. They are Norwegian, apart from one who is Danish. The average age of the professors is 56, associate professors 55 and PhD students 44. Some of the research projects overlap with the group on Pain Research, and some of the staff are also members of other research units in the faculty, i.e. the group of Pain research and the group of Dignity and ethics. This means that some of the staff are members of different units. This unit is one of the largest at the faculty.

Professors are given 50% research time, associate professors usually 30%, but if they got external funding time is added. One of the associate professors has 20% extra time and she has received a post-doctoral grant. Three of the PhD students are externally funded (RCN and Health and Rehabilitation), two have recruitment grants from the Ministry of Education and Research and the rest are internally funded. The unit has received external funding nationally.

Three of the associate professors and two of the PhD students have spent time at research institutions abroad (London, California). Quality of life is a core area in the new PhD program of Health and Society. The research group collaborates nationally and internationally in supervising PhD students and writing scientific articles. They publish together with researchers in Europe, North America and Australia. They are active in international network where they attend annual conferences. Two projects have formalized, international interdisciplinary contracts.

Research quality

The research in the group is directed towards psychometric testing of quality of life (QoL) instruments, descriptions and interventions with QoL as an outcome measure. The vision is to go in the front nationally and to lead in the area QoL research pertaining children and adolescents, in addition to patient groups with chronic illnesses. The research activities can be grouped into the activities psychometric studies, studies of children and adolescents, descriptive studies, cross-sectional and longitudinal, qualitative and quantitative studies and intervention studies.

The research group has published the largest amount of scientific articles at the faculty. Two PhD theses in the topic have been examined. The group have published 52 articles in international well-established journals in the area of clinical research, quality of life, medicine, caring, nursing, cancer, medicine, education, adolescents, ageing, family, trauma, pain, management, palliation and social research. They have also published four scientific articles in Norwegian and Swedish language and six in professional journals. However, the group is relative wide thematically and it has been discussed whether the research strategy should be narrowed.

Grade: Good

Societal impact

The unit brings the results back to clinical practice and uses them in their teaching of nurses.

Recommendations

The unit had a well developed international collaboration and network. Maybe it would be possible to strengthen the research by merging with the unit Pain Research. A good idea is to bring in the qualitative method into the quality of life area.

3. Professional Qualifications and Professional Nursing Performance

Level 2

Description

The research group is lead by an associate professor. The professor within this unit is a leader of the Master programme in Clinical Nursing Science and a member of the R&D committee at the faculty of Nursing. The academic staff consists of one professor, two associate professors and four PHD students. One of them is a man. The academic staff is Norwegian, except for one Danish professor. The average age of the academic staff is 59 and the average of the PhD students 55. One of the associate professors had been active at another unit during the last couple of year and the professor had just entered the position. A new professor is being recruited.

Most of the resources available for the group are funded by Faculty of Nursing and by OUC for cooperative projects between Faculty of Nursing and clinical practice. There are plans on seeking external funding. The research time is 30%, which has to be applied for. Three PhD students (two 50% and one 75%) have been recruited to this unit since 2005 and they are funded by the faculty.

The research group collaborates nationally with University of Oslo and Centre for Simulation in Stavanger, and with groups in USA, Denmark and Sweden. The collaboration with USA is funded by the American-Scandinavian Foundation. Nationally the unit is partners to Center for Education Research and Development and Center for Study of Professions at OUC and Faculty of Medicine and the Faculty of Education at the University of Oslo. This has resulted in the development of large research projects and several publications.

Research quality

The scientific production is dominated by developmental projects, in which the roles as teacher and researcher are intertwined. Various research activities are conducted within exploration of learning strategies, the role of education in qualifying professionals, and health, disease and society. The group has two ongoing PhD projects within professional qualification and two within nursing performance. Learning by simulation is of current interest. Peer learning within curriculum is a pedagogical, didactic structure that is expected to promote collaborative learning. These have previously been sparingly researched in nursing education.

The scientific production is about the same level as the other small units in the faculty. The unit has published 18 articles in international, well-established journals in the field of nursing, management, palliation, education, teaching and caring. It has also published 14 articles on Norwegian language within caring and professional journals. Further, one academic anthology was published on Norwegian language. The reasons for the relatively small production are many developmental projects, the teaching responsibilities and that the associate professors are not tutors for PhD students.

Grade: Weak.

Societal impact

Applied research by simulation may contribute to theoretical development related to learning, knowledge and competences within the context of educating professionals.

Recommendations

Learning is a difficult area for research, due to the fact that methodology for this field still is under development. There is a need for more academic qualification in the unit and the group needs collaboration with a methodologically strong environment. Research project should be more prioritized than developmental ones.

4. Dignity and Ethics

Level 2

Description

The research unit is led by a professor, who is member of the Faculty's R&D committee. The academic staff consists of two professors, one professor II, two senior researchers, three associate professors and 11 PhD students. Five of them are males. They are all Norwegian. The professors and associate professors are in their fifties and sixties, and the average age of the PhD students is 49. The unit has no post-doctoral fellow.

The professors and professor II are supervisors for all PhD students. The unit leader is supervisor for most of them. A general problem is that the resources for teaching, supervision, committee work and administration are too scarce and occupies the time for research. More supervisors for PhD students are needed. The PhD students are funded by Ministry of Education and Research, RCN and the Faculty of Nursing. Four of them are expected to finish their degree in 2011, and four have been recruited in 2009. Seven have been recruited within the faculty and four externally.

The faculty has a referendum of understanding with Åbo Akademi University in Finland. Further, the unit has collaboration with Nordic countries and China, where the plan is to apply external funding together, in order to conduct research in dignity and ethics.

Research quality

The unit is the second largest in the faculty (eight equivalent fulltime positions). The research production is at the same level as in smaller units at the faculty. The main reason for the relatively small production of articles is that eight of the PhD students write monographs and several of them have only recently been recruited. The unit has the potential to further develop the research production.

Different methods are used and the target group is patients, clients, family care givers, and health-care personnel. The central concept in ethics is dignity. Others are dependence, independence, autonomy, force and prioritizations.

The unit has both large projects supported with external funding and smaller ones supported by the faculty. One project is funded by RCN. The large projects are in collaboration between several institutions, nationally and internationally. The unit has three important ongoing projects, two of which have external, national funding.

The unit has published 15 articles in international, well-established journals in the field of caring, ethics, and nursing. Five articles were published in Norwegian professional, caring and welfare journals. One book chapter was published.

Grade: Fair/good

Societal impact

There is a growing older population and the unit has started with rehabilitation in elderly care. The area dignity and ethics is in line with the discourse in the society.

Recommendations

The unit has the potential to increase the international publishing, because of good qualification of the staff. The Panel recommends collaboration on a national and Nordic level, and - if possible - EU level, and encourages publications in international journals.

5. Communication and Health Counselling

Level 2

Description

The research group is led by an associate professor. The academic staff consists of two associate professors and three PhD students, all women. The unit is a small one compared to the other ones in the faculty. In addition, one of the PhD students overlaps with the unit of Quality of Life in a Life Course Perspective and one of the associate professors is also active in another unit. At the moment, the leader of the unit is partly on leave due to another position.

One of the PhD students and 30% of one of the associate professors are funded by RCN. The unit has recruited three PhD students since 2005, who are funded by Faculty of Nursing and RCN. The unit has been successful in recruiting young PhD students. It has no post-doctoral position. The unit leader had a post-doctoral position during 2005-2009, funded by RCN. None of the PhD students has spent time abroad and no researchers have been recruited from abroad. The unit leader is supervisor for two PhD students, the third one has an external supervisor. The PhD students are all beyond the age of 40.

The unit has national collaboration with different universities and hospitals. Internationally, it collaborates with groups in the Netherlands and Sweden. It participates in one international network.

Research quality

The research project in this unit is divided in two perspectives: 1. Acknowledgement, emotions, therapeutic alliances, confirmation, empathic communications, and professional therapeutic communication. 2. Therapeutic models for counselling, interaction and cooperation.

The research production is the lowest of the groups in the faculty, because the PhD students have not yet started to publish, and the unit has no professors. The unit has published seven articles in international well-established journals in the field of education, counselling, medicine, cognitive therapy and gerontology. There are many authors in four articles. The unit leader is involved in all publications.

Grade: Weak.

Societal impact

The faculty's research contributes to development of professional communication competency for health professionals, and good communication with patient/clients/service users.

Communication and Health Counselling is in accordance with political documents, which emphasize health promotion and treatment of patients in the municipal health-care services. The unit's web-based project has received attention in the media.

Evaluation and recommendation

The group is strategically weak, because it overlaps with all the other research areas. The unit is not sustainable in its present shape. Therefore, strategic adjustment is needed. Health counselling does not correspond to the international concept of health education.

Norwegian Institute of Public Health

Level 1

Description

Norwegian Institute of Public Health (NIPH) is a governmental institution under the Ministry of Health and Care Service, established in its present form in 2002. It is located in Oslo and Bergen. It has a total of about 200 senior researchers (though not all fulltime) and 80 PhD students. The top-management is still active in research.

The main obligation of NIPH is research, health surveillance, emergency response, communication, advice and services to the government, health services, mass media and society. It has no teaching obligations (except supervision of PhD students). NIPH has five scientific divisions: 1. Environmental medicine. 2. Epidemiology. 3. Forensic toxicology and drug abuse. 4. Infectious disease control. 5. Mental health. The institute has grown, and is presently reorganizing to improve support for research. A division for institute resources will be formed 1 January, 2011.

The aim of NIPH is to develop knowledge for disease prevention and health promotion. It has responsibility for 10 of the 15 mandatory national health registries and several large cohorts. It is co-managing a large national biobank (Biobank Norway since 2010), which is located at two places: NIPH in Oslo and NTNU (at the HUNT biobank in Levanger). It has extensive external funding (14% of the total annual budget of about 800 MNOK), including international. It has an obligation to serve external researchers, and has a wealth of national and international collaboration.

NIPH is clearly the central resource for epidemiological research in Norway. This is because its internal structure, but also due to its wide interaction with other institutes (e.g. National Institute of Occupational Health) and four Norwegian universities, which means possibilities to make use of their complementary competence and resources. All new projects are required to have international collaboration.

Follow-up of previous evaluations

See below.

Recommendations

As to the relationship between the heads of departments and leaders of research groups, there seems to be a need for a clearer structure.

Researchers at NIPH tutor many PhD students registered at universities. Considering the general Norwegian problem of too few post doc positions for young researchers, it might be useful to gradually shift towards such positions; such a development has already started.

There is limited intervention research (e.g. clinical trials) in NIPH, partly due to the instructions for the institute, though some work has been performed, e.g. in pharmaco-epidemiology. The Panel's view is that the possibilities should be further exploited, in collaboration with institutions outside NIPH.

For collaboration with outside researchers, the area of observational, etiological studies based on these unique resources at NIPH could be even more fruitful, and move ahead much faster,

had there been a national, readily accessible meta-database based on a 21st century platform, maybe with a joint data-discovery portal. There is already much information which may be extremely useful, even without further expansion. An "embryo" for regional data is already in place. It is obvious that this would require national funding. The Panel is well aware of the many problems in such an approach, in terms of, e.g., secrecy, ownership of the information and accessibility. However, the potential for the health of the population in Norway (and the world) is enormous. Thus, at least, the possibility should be considered.

1. Epidemiology

Level 2

Description

The self-assessment of the unit is well-structured and transparent. It has six departments, which also constitute research groups: 1. Medical birth registry. 2. Pharmacoepidemiology. 3. Health statistics. 4. Chronic diseases. 5. Genes and environment. 6. Biobank (now allocated to a Division for institute resources). A senior researcher is responsible for each. In externally funded projects, the responsibility stays with a project leader. The total staff is 189, among these, 52 are active researchers with a PhD degree (3 post-docs, 23 researchers corresponding to a university professor, 5 senior physicians, 13 other researchers and 8 directors). However, not all of them are full-time researchers in the division. Their research activities at NIPH would correspond to about 34 full-time research positions. In addition, 9 PhD students work full-time. About 50% of the budget is from external funding.

There are 10 research areas: 1. Osteoporosis. 2. Respiratory diseases. 3. Neurodevelopmental disorders in children. 4. Cardiovascular research. 5. Type 1 diabetes. 6. Social inequities in health. 7. Biostatistics and genetic epidemiology. 8. Obesity and physical activity. 9. Pharmacoepidemiology. 10. Perinatal health.

A major resource of the unit is the very good Norwegian registries with information on both exposures and health outcomes, *inter alia* The Cause of Death Registry, the Medical Birth Registry of Norway, and the Norwegian Prescription database. Also, the unit handles several large cohorts: the Norwegian Mother and Child Cohort (270,000 individuals: 108,000 children and their parents), the Cohort of Norway (173,236 individuals), and the Norwegian Twin Registry (about 30,000 pairs). Further, the division is responsible for and has access to large biobanks with whole blood, plasma, serum and DNA and RNA samples from the large population studies (and corresponding databases on background information), in some cases also urine and faeces.

The Division of epidemiology makes extensive use of the unique combination of the good population registry, identity of individuals in the population, the many large registries of health outcomes (causes of death, cancer, births etc.), the large cohorts and extensive biobanks. There have been general trends for increased use of biomarkers of exposure and risk and towards "modern genetic epidemiology".

The unit reports considerable cooperation with other parts of NIPH. The "outside" collaboration network is impressive, including four Norwegian universities and a series of leading research groups in the world, such as US National Institute of Health and within several projects in the framework programmes of the European Union.

For analyses in molecular biology, NIPH is dependent upon collaboration with outside laboratories; the price and quality, but also expectations to use national resources, e.g. for whole genome scanning, are then important considerations.

Follow-up of previous evaluation

In the 2004 evaluation, it was noted that the available databases were not used to their full potential, e.g. for research in general practice and health services. Also, some aspects like prevention, health promotion and intervention were lacking. Further, better use of quality registers and closer collaboration with clinicians was recommended.

Neither NIPH (level 1), nor Division of epidemiology (level 2), comment on those aspects in their self-assessments. The opinion of the Panel is that the research programme already is so ambitious and well-adapted to the unique possibilities of NIPH, that allocation of the limited resources to these additional areas would mean a dilution, which would not be advisable.

Scientific quality

There is no doubt that the research is at the frontline both nationally and - more important – internationally in all six study areas.

The quantity and quality of the scientific publication is impressive. All of the research areas publish at a high rate in international peer-reviewed journals and often in the most important ones. The publication list contains one of the most cited (N=433) articles within Norwegian health research, in a study made together with university research groups.

Grade: Excellent.

Societal impact

NIPH addresses a series of issues of central relevance for the Norwegian (and global) society. The position of NIPH as adviser to the government, health services, mass media and society allows for a direct transfer of the information to managers of all aspects of the health system.

Recommendations

There seems to be some uncertainty as regards the leadership structure in NIPH. What is the relationship between divisions, research areas and projects? The structure may need some clarification.

While the activity on epidemiology of a series of important diseases of great public health importance is impressive, there have been limited attempts to cover some other important public health problems, such as dementia, other neurological diseases and rheumatic diseases, and health aspects of the ageing of the Norwegian population. The institute is aware of this, but has not been able to allocate resources. Better funding would most likely generate valuable information in these areas. However, the basic funding from government is not going to increase, which means a reduction.

The Panel supports the allocation of resources to the studies of relationships between gene expression (including epigenetics) as reflected in biobanked material, and health outcomes, for which the division and its collaborators have unique possibilities. Also, the use of Geographical Information System (GIS) opens possibilities in the area of environmental epidemiology.

The establishment of a register of cardiovascular disease in collaboration with University of Bergen will mean most interesting possibilities for etiological research.

2. Infectious Disease Epidemiology

Level 2

Description

Department of Infectious Disease Epidemiology is part of Division for Infectious Disease Control at NIPH and was established in 2002. It contains five teams: 1. Foodborne diseases and zoonoses. 2. Bloodborne and sexually transmitted infections. 3. Childhood, respiratory, systemic and tropical disease. 4. Health-service acquired infections. 5. Administration and international resources.

The main tasks are: 1. Surveillance of infectious diseases. 2. Advice to authorities. 3. Research.

The unit has grown rapidly. Now, the staff is 35, but with only four PhDs, of whom only two have advanced research experience. However, several others are engaged in research; the total resource corresponds to 6-8 researchers. Five members of the staff are PhD students, and there are, in addition, three “external” PhD students. The senior staff members spend only a limited fraction of their time for research. Main tools are the Norwegian surveillance system for communicable diseases and the Norwegian surveillance system for hospital-acquired infections, e.g. following surgical interventions.

Follow-up of previous evaluation

Not relevant.

Scientific quality

The research belongs to three areas: 1. Descriptive studies. 2. Analytical epidemiology. 3. Reports of outbreaks. The funding of research is described as satisfactory. The unit has thorough collaboration with the microbiological reference laboratory at NIPH. There is also collaboration with the Veterinary Institute and the Food Administration. Wider national and international collaboration seems to be rather limited, though there are contacts with both the European and US Centres for Disease Prevention and Control.

The objective of the research is to support the surveillance and advice functions and to promote the scientific competence of the staff, not primarily to produce frontline knowledge. Thus, the research is almost entirely applied. This is also reflected in the publishing. The rate is good (about 4 papers per researcher-year), but a large part is descriptive studies of outbreaks, reported in Norwegian and in the European surveillance journal, though some articles have been published in international peer-reviewed journals of high impact, including most prestigious ones.

The unit has extensive collaboration with Norwegian local health authorities. Also, there is a European network of mainly descriptive character, on outbreaks and drug-resistance.

Grade: Good.

Societal impact

No doubt, the activity of the unit has a very great relevance for the Norwegian and European society.

Recommendations

The unit has large responsibilities in practical public health problems. This means that the staff members constantly have to split their minds between these and pure research. A more transparent division of the tasks might increase the effectiveness.

The research activity has increased during the rather short existence of the unit. There are ambitions to become a leading European group in epidemiology of nosocomial infections. This seems reasonable in view of the good Norwegian registers.

However, to achieve a front position, analytical epidemiology should be developed. The interaction with the unit of epidemiology at NIPH should be strengthened. Another important step in that direction is the ongoing development of mathematical modelling. Also, the staffing should be increased with experienced researchers having sufficient time for research. Further, increased collaboration with national and international universities would most likely be valuable. In this connection, the Panel noted that the unit had started to make use of geographical information systems (GIS) for epidemiology of infectious diseases; this is definitely a very promising route, in particular if it is combined with a real-time registry, using medical records from the primary health care system and hospitals.

National Institute of Occupational Health

Evaluation unit Occupational Health

Levels 1 and 2

Description

National Institute of Occupational Health (NIOH) is administratively linked to the Ministry of Labour, but with academic independence. It is a national research institute in the field of work environment and occupational health. In 2006, NIOH was organised into four departments: (1) Department of Occupational Medicine and Epidemiology; (2) Department of Chemical and Biological Working Environment; (3) Department of Musculoskeletal Disorders; and (4) Department of Organisational and Psychological Factors at Work. A director general is responsible for research administration, strategy implementation and follow-up. A research director leads each of the four rather autonomous departments.

NIOH is mainly funded by the Ministry of Labour (80%), but also from other sources. The basic funding from the ministry does not cover all necessary investments for infrastructure.

The staff has been stable, but with a rather high age (average 53 years), among the researchers, who are mainly males, with a competence as professors. The number of PhD candidates has increased in the past years. Currently, 18 PhD projects are ongoing. A 'Development programme for younger personnel at NIOH' has been ongoing during 2009-10, with 10 women and six men among the younger researchers and PhD students, who have been trained in leadership skills.

Three evaluation units have been nominated by NIOH for evaluation: Toxicology (panel 2), Occupational Health (this Panel), and Psychological and organizational factors at work (panel 6). The Occupational health unit is interdepartmental with involvement from three departments, namely: Occupational Medicine and Epidemiology, Chemical and Biological Working Environment, and Work-related Musculoskeletal Disorders.

Research quality

NIOH has been strong in quality and productivity within work environment and occupational health, and leading in the Nordic countries (which are internationally strong), measured as publication rate/researcher. The total publication rate has been increasing since 2002; in the period 2000-9, the publication rate was substantial ($>0.5\%$ of the total of scientific papers produced in Norway), considering the limited size of the institute. The scientific publications have been centred on the strategic areas outlined in a strategy paper. The focus on the relationship between exposure and health effects response is a major strength. Studies on mechanisms of action will expand in the coming years.

Grade: Very Good

Societal impact

Besides from scientific criteria, societal relevance and national needs regulate the research performed at NIOH. At national level, NIOH has a coordinating role of research activities undertaken at the occupational medicine clinics at the university hospitals and also collaborates with the Norwegian Institute of Public Health. NIOH also collaborates with industry at different branches to contribute in reducing sickness absence.

Recommendations

The 'mechanisms' research is of high interest and should be continued. Increased collaboration with university departments on statistics and measurements techniques is recommended, to further improve exposure assessments. Access to workplaces is a unique possibility and should be used to its full potential; there are, from an international perspective, unique possibilities to perform intervention studies at the work-places in Norway.

Uni Research

Uni Health

Level 1

Description

Uni Health is one of the departments of Uni Research Ltd. (Uni), which was formed as a limited company in 2003, and which is one of the largest research companies in Norway. The University of Bergen (UoB) owns 85% of the company and the Foundation owns 15%. Uni operates on a non-profit basis; any profit made is reinvested in research activities. The department is organized in fairly autonomous research units, led by a senior researcher with academic and administrative responsibilities.

Uni Health relies on external funding only. The staff consists of 115 employees; 45 of these hold a doctoral degree. Of these 45 senior researchers, 17 are qualified professors. There are 22 PhD students.

The research is organized as projects, mostly within each research unit, but also in collaboration between research units and with other organizations. The staff participates in undergraduate and graduate training, mainly for the UoB, and is also engaged in teaching activities for other academic and governmental institutions. The strategy is to do research at a high international level, which is highly relevant for the society. In Uni's strategy for 2010-2015, health research is one of three major fields, in which the company wants to strengthen and develop the research further. Uni's strategic plan states that the aim is to be known for its multidisciplinary research and the integrity of their researchers. The strategy further emphasizes that Uni should be an important and visible research policy maker, and have a high frequency of scientific publications. Researchers of the department do clinical trials, epidemiological and registry-based studies. Many of the researchers have a core interest and competence in prevention and public health. Uni has also high visibility in media.

1. Stress, Health and Rehabilitation

Level 2

The aim of the research is to understand the psychobiology of the transformation from a healthy person with common everyday health complaints, to a person in need of help, health care, and insurance benefits. The group also administers a biobank, available for all researchers in Uni.

The academic staff of the unit is multidisciplinary, aged 28-76, and balanced in terms of sex (four males, six females). There is on average one new PhD graduate every year. The department relies entirely on external funding and has only a few permanent positions; all scientists also participate in teaching and in media contacts.

Research quality

The research activities of the unit include running randomised controlled trials (RCT) in therapy, prevention, and rehabilitation, systematic development and validation of instruments (like a scoring system for subjective health complaints; the SHC inventory), development of new methods in analyses of national register data of sick leave and

predictors for health, and study socioeconomic differences in health. The unit has also studied populations working in extreme and isolated environments, like in the Arctic and in the Antarctic, as well as workers on an oil rig in the North Sea. One active research area is studies of diagnostic systems for long-term sick-leave. In this area, the unit collaborates with many international groups.

The researchers of the group published 20-30 articles yearly in 2005-10. All of these appeared in international scientific journals.

Grade: Very good.

Societal impact

The group is active in media and in extramural teaching, and dissemination of information is based on its research. The activity spans over regular newspapers, television channels, radio programs, and popular journals for the general public or the professional societies for medicine, psychology and physiotherapy. In 2010 alone, they registered 25 independent initiatives, not counting repeated publications where one media quotes another. They also have frequently updated WebPages, with news about their research results and projects, and they present their research on Facebook.

Recommendations

The Panel appreciated the highly relevant study of sick-leave, which is in progress, and which may be further expanded.

2. Research Unit for General Practice in Bergen

Level 2

Description

The Research Unit for General Practice in Bergen (Norwegian acronym: AFEB) was established in 2006, with basic funding from the Ministry of Health and Social Services. The number of personnel at the research unit has increased from one to 16, mainly due to externally funded research projects. Most are part time researchers, combining research with clinical practice. The head of the research unit holds a full-time position, and additionally has a professor II position at the Department of Public Health and Primary Health Care at the UoB. Additionally, the senior research staff counts three MDs with PhD; and all of them work part time at the research unit with a minimum position of 40%. Out of 11 PhD students, four are close to concluding their theses, four are newly recruited and the rest have published and are midways. The unit also conducts, or takes part, in a number of clinical courses for general practitioners, based on its research. The unit has collaboration with other Norwegian groups and also with some international universities and research groups.

Much of the research of the unit is based on external funding. The current financial resources are not enough to expand the research into new areas of interest to policy makers, or to retain qualified researchers once they have got their PhD. The capacity for supervision is also fully booked.

Research quality

Many of the research activities deal with different aspects of chronic diseases. Ongoing projects include various conditions, where the general practitioner is the professional in charge, such as musculoskeletal problems, depression, female pelvic problems, irritable bowel syndrome, chronic fatigue syndrome, obesity, and alcohol problems. Approaches across these disorders include multidisciplinary collaboration with the use of epidemiological methods, interventions (for issues such as drug utilization, sick-leave certification, and lifestyle counseling) and qualitative methods to explore patients' experience with symptoms and health-care services. The group published 20 scientific papers in peer-reviewed journals in 2009.

Grade: Good/Very good.

Societal impact

Members of the staff present their work in media. They also participate in the public debate concerning their research areas, write feature articles and bring material for news and feature articles in TV, radio and newspapers.

Recommendations

Increased number of senior staff and permanent positions are necessary to develop the research activity of the unit. The Panel noted the good intention in getting access to data from general practitioners.

3. National Centre for Emergency Primary Health Care

Level 2

Description

The National Centre for Emergency Primary Health Care (the Centre) was founded by the Norwegian Ministry of Health and Care Services in 2005, and it is academically linked with the Department of Public Health and Primary Health Care at the UoB and with the National Centre on Emergency Communication in Health. Main tasks are to support national and international research, establish national standards, establish and manage data registries, assess competency and improve quality nationally in the field, and take part in undergraduate and postgraduate teaching.

The research group consisted of 19 persons by end of 2009; most of them in part-time research positions combined with clinical practice. In the period of 2006-2009, the Centre has recruited five PhD students, and the first one got his PhD degree in 2010. The Centre collaborates with others, both nationally and internationally. Researchers from the Centre are also active members in a new European research network for out-of-hours primary health care.

Research quality

The Centre has a broad range of research activities within the field of emergency primary health care. At the ends of the year 2009, the Centre had 17 different ongoing research projects, whereof five were PhD projects. Many of the projects have been initiated in close collaboration with the clinical field.

The strategy of publication and dissemination is peer-reviewed articles in recognized scientific journals. The Centre also has a special report series that includes results from quality assessment projects and projects of interest for a limited group. In the period 2005-2010, there were 24 international publications, 23 in national scientific journals and one thesis. Fifteen of the researchers at the Centre were first author of those articles.

Grade: Fair/Good.

Societal impact

Because many of the research projects have been initiated in close collaboration with the clinical field, the obtained results are needed, and results are possible to apply in clinical situations. This improves the quality of given primary care, and shorten the time gap between scientific output and practical application.

Recommendation

The Panel recommends the unit to consider fusion with the unit of general practice.

4. The Grieg Academy Music Therapy Research Centre

Level 2

Description

The Grieg Academy Music Therapy Research Centre (GAMUT) was created in 2006, when Uni and the UoB collaborated in the development of the unit. The main objectives in establishing the research centre was to develop a Norwegian research centre in music therapy at an international top level, to ensure a strong research foundation for music therapy as a university discipline and to produce knowledge of relevance on the relationships between music and health.

The research is organized in projects, which are linked to key areas. Altogether 14 researchers are attached to the unit, when research fellows and more recent employees are included: two professors, four associate professors, two post-doctoral fellows, four PhD students, and two research assistants.

Four PhD candidates and two post-doctoral fellows have been recruited from 2006 to 2010. The first dissertation will be in 2011. 50 % of the researchers are recruited internationally and all researchers take part in international networks of research. Since 2008, GAMUT and the UoB is part of an international music therapy research consortium, with nine collaborating universities. Since 2008, GAMUT hosts a Nordic network on music and music therapy in care of elderly people. They also take part in the Nordic Network of Research in Music, Culture, and Health, with five collaborating universities. There are also some other international research projects.

Research quality

GAMUT performs quantitative, qualitative, and theoretical research on relationships between music, health, and wellbeing. Key areas of research are music therapy in mental health care, music therapy in children's welfare and in prisons, music therapy in neuro-rehabilitation and care of elderly people, music therapy in health promotion and community development, and meta-music therapy: theoretical research.

The main strategy of publication and dissemination is to publish in international peer-reviewed journals in music therapy and related disciplines, such as psychology and medicine. GAMUT is publisher for two international peer-reviewed journals: Nordic Journal of Music Therapy, and Voices: A World Forum for Music Therapy.

Grade: Very good.

Societal impact

GAMUT stresses knowledge transfer and communication to the public. They have, for example, arranged several open seminars for nurses, volunteers, and user associations. In the autumn 2009, they produced a film about music and the elderly. Nearly 1,000 copies of the film have so far been disseminated (upon request) to senior councils, nursing homes, and other institutions. In 2010, they have started the process of developing a systematic communication strategy, in collaboration with the Uni Health administration.

Recommendations

This group is in the international front-line of the area. The Panel recommends it to keep on bringing together qualitative and quantitative methods, and to plan formal clinical trials.

Cancer Registry of Norway

Level 1

Description

The Cancer Registry of Norway (CRN) was established in 1951 and is currently an independent institution within Oslo University Hospital. CRN runs a population-based cancer registry that covers the whole Norwegian population. In 2004, the Janus Serum Bank was moved to CRN. This is one of the oldest and largest population-based cancer research biobanks and includes currently 452,000 blood samples from 317,000 Norwegian donors. CRN also administers a number of clinical registries for selected cancers and screening programs for breast and cervical cancer. The registry data at CRN are almost 100% complete. Moreover, the ability to link registry data with other Norwegian databases provides an exceptional data source for research on cancer.

As a national institution CRN has a board and its own chapter in the national budget plan. This ensures basic funding of the registries, the screening programs, a number of researcher positions and administrative research. Considerable parts of the research activities at CRN depend on external national (RCN, NCS) as well as international (IARC, EU, NCI) funding. Industry-based funding is also seen. The number of external research projects to which CRN has delivered data and research support has increased and a data-delivery unit was established in 2006, to ensure that data are being supplied according to CRN regulations. As a national institution for cancer epidemiology, CRN also provides advice and information to relevant bodies and governmental authorities.

NCR is organized in three research departments and two staff and support departments. By the end of 2009, 140 persons were employed in 120 full-time positions. The scientific staff included 18 persons in full-time positions and two in part-time (three senior research scientists, 14 researchers with a doctoral degree, a senior statistician, and two post-doctoral fellows). Additionally, 11 persons with scientific background were engaged in part-time positions (5-20%). CRN had 11 PhD students by the end of 2009 and 10 PhDs graduated in the period 2007-2009.

The research is currently organized in three departments: Department of Etiological Research, Department of Clinical- and Registry-based Research, and Department of Screening-based Research. The two latter ones are here merged to form the Descriptive epidemiology, screening and health services related research unit. In 2005, the Strategic Council for Research (SCR) was formed to develop strategies and priorities for research projects at CRN. The overall research strategy at CRN reflects that cancer research involves laboratory-based research and clinical research, as well as epidemiological research. Moreover, the research perspective is described by the “cradle-to-grave” concept, to reflect that relevant research areas exist in all periods of life. A new director (from January 2011) has reopened a discussion on the research strategy. CRN has a long tradition for national and international research collaboration and networking. On the national level, this collaboration include with oncologic organ groups. Close collaboration between cancer registries in the Nordic countries has existed for many years and CRN has also ongoing collaboration with other international institutions, including IARC and NCI.

Follow-up of previous recommendations

Since the RCN evaluation in 2004, several older researchers have retired and now the age of 30% of the scientific staff is below 40. As a response to previous evaluation, research related to clinical outcomes and health services has been launched. Moreover, in health economics, collaboration with external research groups has resulted in a PhD degree. To improve the data on exposure assessment and occupational hygiene, collaboration with external research groups in Norway and abroad has been established.

1. Etiological Research Unit**Level 2***Description*

The head of the Department of Etiological Research is the leader of the Etiological Research Unit. By the end of 2009, the scientific staff comprised three senior research scientists, five researchers with a doctoral degree, two post-doctoral fellows and six PhD students. The age range was 38 to 60, with an equal distribution of men and women. The unit also includes data managers and research assistants, who provide valuable research support. In addition to research activities, several scientists have administrative functions in relation to the databases and biobank at CRN. The Nordic countries provide exceptional possibilities for registry-based etiological research in cancer through linkage to high-quality data in other health-related national registries. Almost all the researchers in the unit participate in at least one international collaboration.

Department of Etiological Research has research as a core activity, but is also responsible for the Janus Serum Bank, a programme for workers' compensation, and cluster evaluations. The research areas of priority of the etiological research unit are (i) critical and sensitive periods during life time; (ii) familial and hereditary aspects of cancer; (iii) cancer risk related to lifestyle, occupational exposure and environmental exposure; and (iv) statistical modeling and simulations in relation to the cancer disease process.

Research quality

The etiological research unit consists of a group of competent researchers with extensive and detailed knowledge about all aspects of the data they use for their research. Moreover, the researchers have a lot of experience in utilizing the possibilities of linkage to other registries and the unit also has supporting personnel, such that several large projects can be run simultaneously. The group participates actively in national and international collaborations and the department has published extensively in the 5-years period (280 peer-reviewed papers and book chapters). The Panel finds that the unit has responded to previous recommendations and a lot of good work has been done. The future plans that were presented to the Panel appeared promising.

Grade: Very good.

Societal impact

The research activities of the unit is of great importance for the Norwegian and international societies.

Recommendations

The unit may still improve the impact of their research by increasing the number of projects initiated and led by CRN. The Panel noted some very good ideas about how to proceed. The future (2013) relocation of CRN to a site in close connection with clinical and basic cancer research is seen as a major opportunity to expand the collaboration with clinicians and further

utilization of the clinical data. The data handling should be made more effective to free up resources for research work.

2. Descriptive Epidemiology, Screening and Health Services Related Research Unit Level 2

Description

This unit comprises two small subgroups, which are merged to comply with the evaluation guidelines. The first one focuses on breast and cervical cancer screening and human papilloma virus (HPV)-related research and is part of Department of Screening-based Research. The main areas of interest for the second subgroup are descriptive epidemiology and health-services related research. This subgroup belongs to the Department of Clinical- and Registry-based Research. Each subgroup is led by their department head. Each subgroup is presented separately in the self-evaluation and this is also done here.

By the end of 2009, the subgroup on screening-based research comprises three researchers with a doctoral degree, a senior statistician, and three PhD students. One PhD student has finished in the evaluation period. The staff has a background in medicine, statistics, radiology and biology. The research profile is closely related to the organized screening programs for breast and cervical cancer and includes also work on application of HPV tests in screening of cervical cancer. Priority is given to research on the screening process and its execution. Surrogate measures in the screening program have also been analyzed, and more direct measures of screening effectiveness are now being considered. The unit benefits from the close proximity to the epidemiologist working with the cancer incidence data and has also close connection with the medical specialist participating in the screening programs. The unit participates in several international networks on cancer screening. However, during the last three years the research has been hampered by a restricted access to screening data.

Department of Clinical- and Registry-based Research is organized in two sections: (i) Section for Registration that manages and develops the cancer registry, and (ii) Section for Research, where most of the department's research is performed. The latter section comprises two full-time researchers, a part-time (50%) statistician and two PhD students. In addition, a number of part-time (20%) researchers are connected to the subgroup. Four PhD students have defended their theses in the period 2005-9. The research in this subgroup can be divided into three categories: (i) research using the incidence registry; (ii) research using the clinical registries; and (iii) research on cancer survivors and cancer survivorship. The subgroup is broadly engaged in research collaboration including collaboration with the Nordic cancer registries, NCI and IARC. Moreover, the pharmaceutical industry has shown a growing interest in the opportunities becoming available with establishment of clinical registries.

Research quality

The Descriptive Epidemiology, Screening and Health Services Related Research Unit consists of two small subgroups that both perform high-quality research. In the evaluation period, the researchers have published a considerably number of peer-reviewed papers and book chapters.

Grade: Good/Very good.

Societal impact

The research activities of the unit is of great importance for the Norwegian and international societies.

Recommendations

The unit may still improve the impact of their research by increasing the number of projects initiated and led by CRN. The Panel noted some very good ideas about how to proceed. Also for this unit the future relocation of CRN is seen as a major opportunity to expand the collaboration with clinicians and further utilization of the clinical data. The data handling should be made more effective to free up resources for research work.

SINTEF

SINTEF Technology and Society

Level 1

Description

SINTEF Technology and Society (SINTEF TS) is one of the six research divisions of SINTEF, an independent Norwegian research organization, founded in 1950 and currently with a staff of approximately 2,100 employees. SINTEF TS has about 280 employees and consists of nine research departments, partly active in health research, and partly in other sectors. The SINTEF TS division is a result of a merger between SINTEF Health and SINTEF Technology and Society per 1 January 2009. There are four units relevant for the RCN evaluation: (1) Health Services Research; (2) Medical Technology; (3) Global Health and Welfare, and (4) Preventive Health Research. The units included in Panel 5's domain are 1. Health Services Research and 2. Global Health and Welfare.

Per 1 January 2011 the three units Health Services Research, Global Health and Welfare, and Preventive Health Research were merged into one new department, Health Research. SINTEF TS is predominantly funded by commissioned research; only 10% of its turnover is funded in terms of basic grants (currently provided by RCN, previously partly by the Ministry of Health). The self-assessment points out lack of facilities to produce scientific output with higher impact than reports to the principals.

To the Panel, some conditions for SINTEF TS (reorganizations and structure of funding) do not seem favorable for scientific output; however, these problems were played down by the SINTEF TS representatives in the hearing.

Follow-up of previous evaluation

The 2001 institute evaluation of SINTEF-Unimed suggested: (1) to reduce consultancy and advice activities, especially of the former Norwegian Hospital Institute, and (2) to reduce the diversity of research activities by creating more focus and more in-depth research programmes. Both suggestions had been addressed by SINTEF TS, but there is still room for improvements.

1. Health Services Research

Level 2

Description

The Health Services Research group is subdivided into three subunits: (1) Health Services Research (HSR); (2) Health and Labour Research (HLR); and (3) Hospital Planning, each headed by a senior researcher. The unit collaborates with Norwegian University of Science and Technology (NTNU) and University of Oslo, and has been partner in six EU projects in the last five years.

Research quality

The unit's major activity is commissioned research. This type of research leaves, according to the self-evaluation, only room for reports, and not for scientific papers. Of the three subunits HSR and HLR are engaged in research; the research activity level of the hospital planning group is considerably lower. Due to the intensive collaboration with the Norwegian

University of Science and Technology, the number of PhD students is increasing (nine currently); the PhD theses yield regular scientific output like indexed papers. The number of papers increased from six in 2005 to 12 in 2009, and nine in the first half of 2010 (from 0,5 to 1.0 per CV per year).

Grade: Fair.

Societal impact

The group is positive about the societal impact of its research: Society is willing to pay for the products, so the work is relevant for the society. The Panel supports the efforts to engage in more EU projects.

Recommendations

The SINTEF TS management is recommended to create sufficiently large, robust and programme based research groups. The research should be focused on in-depth activities, if sound scientific knowledge, and not only development, is the aim. The publishing in international, peer-reviewed journals should be encouraged.

2. Global Health and Welfare

Level 2

Description

This is a rather small unit (seven CV's submitted). The focus is more on low and middle income countries (Venezuela, South Africa, Nepal) than high income countries. The group is engaged in three overlapping and interrelated themes: (1) Increasing access to health and social services; (2) Ensuring the acceptability of health and social services; and (3) Securing equitable health and social services. Health and social services covers a range of services, including rehabilitation services for individuals with disability. The unit combines R&D in these fields in low-income countries with corresponding research activities in Norway and at a European level. In its self-assessment, the unit describes networking with NGOs and international organizations, but it is not clear how much of this that is solid scientific collaboration.

Research quality

The number of international peer-reviewed publications was four in 2005, and increased to eight in 2008 and nine in the first half year in 2010. Per CV, the rates fluctuated somewhat, but also increased from 0.56 in 2005 *via* 1.0 in 2007 to over 2 in 2010. Although the number of publications is increasing, the scientific output is not extremely impressive.

Grade: Fair.

Societal impact

The societal importance of the research questions studied by the unit is high. In the self-evaluation, the unit describes several practically important achievements in developing countries.

Recommendations

The SINTEF TS management is recommended to create sufficiently large, robust and programme based research groups. The research should be focused on in-depth activities. Publishing in international, peer-reviewed journals should be further encouraged.

Appendix A. Mandate

Mandate for the evaluation of research in biology, medicine and health in Norway 2010-2011

The Research Council of Norway (RCN) is given the task by the Ministry of Education and Research to perform subject-specific evaluations. The Division for Science has decided to evaluate research activities in biology, medicine and health and psychology in Norwegian universities, university hospitals, relevant research institutes and relevant university colleges.

Evaluations have previously been performed within these subjects/fields, in biology in 2000 and medicine and health in 2003 (published in 2004).

1. The objective of the evaluation

The main focus of the evaluation should be the scientific quality of Norwegian research within biology, medicine and health and psychology in Norwegian universities, university hospitals, relevant research institutes and relevant university colleges.

The evaluation will reinforce the role of the RCN as advisor to the Norwegian Government and relevant ministries. The evaluation will give knowledge, advice and recommendations on biological, medical and health related research and give the institutions as well as the RCN and relevant ministries a better basis for determining future priorities within and between fields of research.

Specifically, the evaluation will:

- provide a critical review of the strengths and weaknesses of the above fields, both nationally and at the level of individual research groups and academic departments.
- The scientific quality of the research will be reviewed in an international context. assess to what degree the previous evaluations have been used by the institutions in their strategic planning
- discuss to what degree the research units perform research in accordance with the strategy of their institution
- identify the research units which have achieved a high international level in their research, or have the potential to reach such a level
- identify areas of research that need to be strengthened in order to ensure that Norway in the future possesses necessary competence in areas of national importance. A key aspect is to enable the RCN to assess the situation regarding recruitment within the scientific fields
- discuss to what extent the research meets the demand for interdisciplinary research and future societal challenges

2. Organization and methods

International evaluation panels will be appointed for the following fields:

Botany-, zoology- and ecology- related disciplines
Physiology related disciplines including corresponding translational research
Molecular biology, including corresponding translational research
Clinical research, including corresponding translational research (two panels)
Public health and health-related research

Psychology and Psychiatry.

Self-assessments including information about the organization and resources, as well as future plans, will be provided by the research units. In addition the panels will be provided with bibliometric analysis. Representatives from the involved units will be invited to meet the panels for presentations and discussions.

Each of the evaluation panels will write a report with evaluations of the different research units as well as specific recommendations. These reports will be sent to the research units for factual control. In order to provide general recommendations at a national level for research within these fields, Joint Committees will be established comprising members from each of the different evaluation panels/research areas.

Specific criteria for inclusion and exclusion – see attachment.

3. Tasks of the evaluation panels

The panels are requested to

- Evaluate research activities with respect to scientific quality, national and international collaboration. Scientific quality should be the main focus
- Evaluate how the research is organized and managed.
- Submit a report with specific recommendations for the future development of research within biology/medicine/health/psychology in Norway, including means of improvement when required.

Aspects to be assessed in the panel reports:

3.1 National level

–Strengths and weaknesses

- Research cooperation nationally and internationally
- Recruitment and mobility
- General resource situation regarding funding and infrastructure
- Cooperation with other sectors of society (e.g. industry)

3.2 Institutional level

To be defined as the institution as such, or as a university department, or a research institute. Depending on the size of the institution, level 3.2. and level 3.3. may be merged. In case of two levels, level 3.2 focus on organisation and strategy, level 3.3. on research quality and production.

Organisation, research leadership and strategy

- Including follow up of recommendations given in previous evaluation/s

-Resource situation

- Funding, staffing, infrastructure and the balance between resources and research activities

-Scientific quality

- Including the description of a publication strategy

-Training, mobility and career path

- Recruitment and policies for recruitment
- Policy for mobility and career path
- Policy for gender and age balance in academic positions

-Research collaboration

- Collaboration and networking activities at national and international level including interdisciplinary and multidisciplinary research activities, as well as translational research (from basic to applied research or vice-versa)

3.3 Research units

- Organisation, research leadership and strategy
 - Including resource situation (staff and funding) and research infrastructure
- Research activities
 - Scientific quality and production
- Training, mobility and career path
 - Recruitment and policies for recruitment
 - Policy for mobility and career path
 - Gender and age balance in academic positions
- Research collaboration
 - Collaboration and networking activities at national and international level including interdisciplinary and multidisciplinary research activities, as well as translational research (from basic to applied research or vice-versa)

4. Time schedule

Panel meetings will take place in Oslo March-June 2011

Deadline for submitting draft panel reports August 2011

Deadline for submitting final reports October 2011

Deadline for joint reports November 2011

5. Miscellaneous

Other important aspects of Norwegian biological, medical and health related research that ought to be given consideration.

Attachment to the mandate

Delimitation and organisation

The panels are asked to base their evaluation on self-assessments from the research units, factual information, bibliometric analysis and hearing meetings.

Starting point for the present evaluation will be the research performed at the institutions in question. The university departments and several institutes in the institute sector are too large to be evaluated as one single research unit. In order to give an overview of the research the evaluation will be carried out as follows:

Departments at the universities and university colleges and institutes in the institute sector (named institution)

1. The institution – level 1 – describes its organisation and research strategy in a written document as well as factual information including funding, number of permanent and preliminary positions etc.
2. The level below the institutions (section, group, program etc.) is the unit that will be evaluated and which prepare the self-assessment for the research – level 2.

In some institutions the level 2 units might be placed in different panels. If so the institute structure and strategy will present their activities to all relevant panels. Large evaluations units within level 2 belonging to different panels may split in different evaluation units or will be evaluated in a panel covering the main content of their research.

The units to be evaluated at level 2 need to be units already established. However it is important that the evaluation units to be evaluated have a certain minimum size. If the research performed within two or more evaluation units belong together thematically, it may be an advantage to prepare a joint self-assessment making it clear that the self-assessment describes the research in two or more groups. Level 2 units with minor scientific activities and production, are to be described on level 1, the general description of the institute.

Research at the university hospitals

The research performed in the university hospitals is often part in integrated research units between the university and the hospital. It will normally neither be practical, nor natural to separate the self-assessment from these units. It is preferable that these integrated units give a joint self-assessment and a joint oral presentation at the hearing meetings. The universities are asked to take the main responsibility for the self-assessment when the research unit is led by a researcher who has his/her main position at the university. The same is asked from the university hospital when the research unit is led by a researcher who has his/her main position at the hospital.

Appendix B. Criteria for grading

Criteria for grading

Excellent	Research at the international front position: undertaking original research of international interest, publishing in internationally leading journals. High productivity.
Very good	Research with high degree of originality, but nonetheless falls short of the highest standards of excellence. A publication profile with a high degree of publications in internationally leading journals. High productivity and very relevant to international research within its sub-field.
Good	Research at a good international level with publications in internationally and nationally recognized journals. Research of relevance both to national and international research development.
Fair	Research that only partly meets good international standard, international publication profile is modest. Mainly national publications. Limited contribution to research
Weak	Research of insufficient quality and the publication profile is meagre: few international publications. No original research and little relevance to national problems.

Appendix C. Letter to Institutions



Se vedlagte adresseliste

Vår saksbehandler/tlf.
Berit Nygaard, +47 22037174

Vår ref.
201002437
Deres ref.

Oslo,
21. juni 2010

Fagevaluering av biologi, medisin og helsefag, inklusive psykologi invitasjon til informasjonsmøte og invitasjon til å plassere forskningsenhetene i evalueringspaneler

Det vises til tidligere informasjon om fagevalueringen i brev av 25.2.2010, samt våre nettsider om evalueringen; www.forskningsradet.no/biomedhelseevaluering

Informasjonsmøte

Vi inviterer til informasjonsmøte på Gardermoen, Radisson Blu Airport Hotel

tirsdag 24. august kl 10.30 – 15.00

Informasjonsmøtet er primært for representanter for ledelsen ved involverte fakulteter og institutter i UoH-sektoren og instituttsektoren.

Hensikten med møtet er å informere om evalueringen med fokus på organiseringen, mandatet for evalueringspanelene, egenvurderingene og faktainformasjon, tidsplan med mer. Program for møtet og lenke til påmelding legges på www.forskningsradet.no/biomedhelseevaluering i løpet av uke 26. **Påmeldingsfrist er mandag 16. august**, og det er mulig å melde seg på allerede nå <https://web.questback.com/norgesforskningsrd/kyl3fa8ebo/>. På våre nettsider vil vi i uke 32 legge utkast til faktaark og mal for egenvurdering. Kommentarer til disse dokumentene kan gis på informasjonsmøtet.

Dialog og tilbakemelding

Vi inviterer med dette institusjon/institutt til å plassere sine evalueringsenheter i de ulike panelene, se definisjon i vedlegg 3, Avgrensning og organisering. For å være sikre på at vi har etablert hensiktsmessige paneler og at vi får en noenlunde jevn fordeling av evalueringsenheter i panelene, ber vi om en tilbakemelding fra alle institusjoner/institutter med forslag til plassering av evalueringsenhetene for den enkelte institusjon/institutt så snart som mulig og senest **fredag 27. august**. Tilbakemelding til evalbiohelse@forskningsradet.no. Ta gjerne kontakt underveis ved behov.

Vi ber også om å få oppgitt en kontaktperson ved hver institusjon/institutt. Det vil blant annet være behov for dialog i etterkant av fristen slik at sammenlignbare forskningsfelt ved de forskjellige institusjonene, så langt mulig, plasseres i samme panel.

Norgesforskningsråd/
The research Council of Norway
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All post og e-post som inngår i saksbehandlingen, bes adressert til Norges forskningsråd og ikke til enkeltpersoner.

Kindly address all mail and e-mail to the Research Council of Norway, not to individual staff.

Panelinndeling

Det planlegges en inndeling i syv paneler (se vedlegg 4). Panelinndelingen er basert på Norsk inndeling av vitenskapsdisipliner (vedtatt av Universitets- og høyskolerådet i 1994) for klassifisering av forskning. I arbeidet med å rekruttere eksperter til fagpanelene er følgende kriterier lagt til grunn:

- Det enkelte panel skal dekke disiplinene innenfor panelet
- Det tilstrebes å finne eksperter med bred kompetanse som kan dekke flere områder
- Det vurderes om det er mulig å få med ett medlem i hvert panel som deltok i forrige evaluering for å bidra til kontinuitet
- Det tilstrebes at hvert panel har minst 40 % av begge kjønn
- Det tilstrebes en viss spredning i alder blant medlemmene

Det er lagt strenge habilitetsregler til grunn ved utnevning av panelmedlemmene.

Mandat for evalueringen

Mandatet for evalueringen følger vedlagt, vedlegg 3.

Utvidet tidsramme

Det har tidligere vært gitt tentativ tidsramme for evalueringen. Tidsrammen har nå blitt noe utvidet. Dette medfører at høringsmøtene blir forskjøvet til perioden 20. mars -10. juni, kun ukene uten helligdager. Den utvidede tidsrammen gir noe mer tid til dialog med miljøene og arbeidet med egenvurderingen, samt bedre tid til ferdigstilling av rapportene. Evalueringen vil være avsluttet i løpet av 2011. Se tidsplanen i vedlegg 5.

Avgrensning og organisering

Hovedfokuset i evalueringen skal være vitenskapelig kvalitet i forskningen. Evalueringen er på gruppenivå, ikke enkeltforsknernivå. Evalueringen vil bli gjennomført av fagfeller i paneler sammensatt av meritterte utenlandske forskere ("peer review") og alt materialet i evalueringen skal være på engelsk.

Evalueringen omfatter mange ulike institusjoner og antallet forskere er stort. Forskningsrådet har satt en grense for minstestørrelse for institusjon/institutt som inviteres til å delta i evalueringen. Det angitte antallet vitenskapelig ansatte gjelder innenfor hvert fagområde, dvs. innenfor biologi eller medisin og helsefag. Noen forskergrupper/forskere har deltatt i nylig gjennomførte fagevalueringer, disse skal ikke evalueres på nytt.

Kontaktpersoner i Forskningsrådet

Spørsmål i tilknytning til evalueringen kan rettes til:

- Prosjektleder Berit Nygaard, telefon 22037174, bn@forskningsradet.no – (ferie 5.7. – 9.8)

- Prosessleder Malena Bakkevold, telefon 95750533, post@malena.no – (ferie 5.7 – 16.8)

Hvert av panelene har en egen fagrådgiver, se vedlegg 4 med oversikten over panelene.

Parallelle evalueringer som berører flere av forskningsmiljøene

Formålet med fagevalueringer er å foreta en kritisk gjennomgang av forskningen med hensyn til kvalitet relatert til internasjonalt nivå, styrker og svakheter, rammebetingelser for forskningen og rekrutteringssituasjonen. I tillegg innhentes råd om hva som skal til for å styrke forskningen og hvilke prioriteringer som peker seg ut. De to første evalueringene nevnt nedenfor evaluerer spesielle satsinger i Forskningsrådets regi og overlapper bare delvis med fagevalueringen.

Evaluering av FUGE

Det er en pågående evaluering av FUGE (funksjonell genomforskning) for å se på merverdien av programmet, og bla å få innspill til det videre arbeidet med satsing på bioteknologi.

Midveisevaluering av SFF-II

Formålet med evalueringen er å bedømme de vitenskapelige resultatene sentrene har oppnådd og å gi en vurdering av planene sentrene har utarbeidet for forskningen i siste 5-årsperiode. Evalueringen finner sted i 2010 – 2011.

Midtveisevaluering av SFI

Evalueringen skal vurdere de forskningsresultater som er oppnådd og om virksomheten i senteret underbygger senterets mål. Evalueringen skal videre gi en vurdering av planene for virksomheten i den mulige siste 3-årsperioden. Evalueringen gjennomføres høsten 2010.

Evaluerings av idrettsvitenskap (sports sciences)

Parallelt med fagevalueringen vil det bli gjennomført en felles nordisk evaluering av idrettsvitenskap 2010-2011. Evalueringen blir administrativt ledet av Finlands Akademi. Forskningsrådet ønsker at relevante norske miljøer skal delta i denne evalueringen, og vi vil sende ut separat informasjon om dette. Finlands Akademi avholder et informasjonsseminar om evalueringen 17. august, kl 12.00 – 15.30 i Helsinki.

Evaluerings av deler av instituttsektoren

Fiskeri- og kystdepartementet (FKD) og Landbruks- og matdepartementet (LMD) har initiert evalueringer av deler av sin instituttsektor – se vedlegg 1

Med vennlig hilsen

Norges forskningsråd

Hilde Jerkø (sign.)
Avdelingsdirektør
Divisjon for vitenskap

Mari Nes (sign.)
Avdelingsdirektør
Divisjon for vitenskap

Vedlegg 1

Institusjonene som omfattes av fagevalueringen

Universitetene

Alle instituttene ved de medisinske fakultetene omfattes av evalueringen. Når det gjelder biologi og psykologi (bortsett fra ved UiB og UiT) vil evalueringen omfatte institutter og naturvitenskapelige museer som er deler av naturvitenskapelige og samfunnsvitenskapelige fakulteter.

Helseforetakene

Alle helseforetakene med universitetsfunksjon omfattes av evalueringen. I tillegg kommer Diakonhjemmet. For integrerte forskergrupper mellom universitetsinstitutter og helseforetak se vedlegg 2 Avgrensning og organisering. Når det gjelder øvrige helseforetak ber vi om at de regionale helseforetakene vurderer om det er andre helseforetak som faller innenfor rammene for evalueringen. Vi vil gjerne ha en dialog om disse med de regionale helseforetakene.

Instituttsektoren

For instituttsektoren generelt kan det ved enkelte institutter være at nivå 1 og nivå 2 er sammenfallende – se vedlegg 2 Avgrensning og organisering.

Forskningsrådet er kjent med at Fiskeri- og kystdepartementet (FKD) parallelt med fagevalueringen vil evaluere Havforskningsinstituttet. Havforskningsinstituttet ønsker å være en del av fagevalueringen og FKD ønsker å benytte seg av det innsamlede materialet som delinnspill til sin evaluering og i tillegg benytte panelets delrapport om instituttet fra fagevalueringen.

Landbruks- og matdepartementet (LMD) har bedt Forskningsrådet om å evaluere bla Bioforsk, Norsk institutt for skog og landskap og Veterinærinstituttet i løpet av 2010. Rapporten for denne evalueringen skal være ferdig 1. desember 2010 for å kunne være en del av grunnlaget for en ny melding til Stortinget om landbruks- og matpolitikken. Disse tre instituttene inviteres også til å delta i fagevalueringen av biologi, medisin og helsefag. Som vi skrev i vårt brev i februar er skillet mellom grunnleggende og anvendt forskning nå mindre fremtredende og det er økt samarbeid på tvers av forskningsart både innenfor biologiske fag og medisin og helsefag. Det er derfor ønskelig å evaluere hele forskningsfeltet innenfor de ulike fagområdene og institusjonene samtidig. Forskningsrådet ser det som viktig at også instituttsektoren deltar i denne brede fagevalueringen. Vi regner med at det materialet som ferdigstilles til evaluering av vitenskapelig kvalitet i LMD's evaluering vil kunne være et viktig grunnlag for materialet til fagevalueringen.

Høgskolene

Som i instituttsektoren kan det være at ved enkelte høyskoler er nivå 1 og nivå 2 sammenfallende.

Vedlegg 2

Avgrensning og organisering

Panelene skal basere sin evaluering på egenvurdering fra forskningsmiljøene, faktainformasjon, bibliometrisk analyse og møter med forskningsmiljøene.

Evalueringen vil ta utgangspunkt i instituttene og den forskningen som foregår der. Universitetsinstituttene og flere institutter i instituttsektoren er imidlertid for store og sammensatte enheter til at instituttet kan være evalueringsenheten. For at evalueringen skal gi oversikt over forskningen i *faget* gjennomføres evalueringen etter følgende modell:

Institutter i UoH-sektoren og instituttsektoren

1. Instituttet beskriver organisering og strategi for forskningen ved instituttet og gir faktainformasjon (finansiering, antall ansatte og stipendiater med mer) (nivå 1)
2. Nivået under instituttet (instituttgruppe, avdeling m.m.) *er den enheten som evalueres* og disse lager egenvurdering for forskningen (nivå 2)

Nivå 2 har ulike benevnelser ved de forskjellige institusjonene (instituttgrupper, seksjon, avdeling, forskergruppe, tematiske program m.m.). Ved enkelte institutter vil det være slik at enheter på nivå 2 hører hjemme i forskjellige paneler. I de tilfellene vil instituttbeskrivelsen følge til alle panelene. Robuste/store undergrupper på nivået under nivå 2 som *kan* høre hjemme i forskjellige paneler, plasseres der hvor hovedtyngden av forskningen hører hjemme (mestprinsippet).

Enhetene som skal evalueres på nivå 2 skal være etablerte enheter, ikke konstruerte grupper for denne evalueringen. Det er viktig at enhetene ikke er for små. Dersom instituttene ser at forskningen i forskergrupper/evalueringsenheter tematisk hører sammen, kan det være en fordel at disse forskergruppene lager en samlet egenvurdering hvor det framgår at det er en fremstilling av forskningen i flere grupper. Evalueringsenheter/forskergrupper på nivå 2 som har liten vitenskapelig aktivitet og produksjon, beskrives i instituttets (nivå 1) generelle omtale i egenvurderingen.

Minstestørrelse på institusjon/institutt som inviteres til å delta i evalueringen er:

UoH-sektoren, inklusive helseforetak med universitetsklinikkfunksjon

- 1) Minst 5 vitenskapelig ansatte (professor I, førsteamanuensis I) innenfor hvert fagområde (biologi, medisin og helsefag) eller
- 2) Minst 5 fast ansatte forskere/klinikere med doktorgradskompetanse som har 40 % eller mer av sin stilling definert som forskning

Andre helseforetak

Minst 5 fast ansatte forskere/klinikere med doktorgradskompetanse som har 40 % eller mer av sin stilling definert som forskning

Instituttsektoren

Minst 5 fast ansatte forskere med doktorgradskompetanse som har 40 % eller mer av sin stilling definert som forskning innenfor hvert fagområde (biologi, medisin og helsefag).

Forskning ved universitetssykehusene

Ved universitetssykehusene er det i svært stor grad integrerte forskergrupper/enheter mellom universitetsinstituttene og helseforetaket. Det vil normalt verken være hensiktsmessig eller naturlig å skille egenvurderingen og presentasjonen av disse enhetene. Det er ønskelig at

integreerte enheter mellom universitet og helseforetak gir en felles egenvurdering og en felles presentasjon.

Vi ber om at universitetet tar hovedansvar for egenvurdering og eventuell presentasjon når forskergruppen/enheten ledes av en som har hovedstilling ved universitetet, mens helseforetaket tar hovedansvar for egenvurdering og eventuell presentasjonen når enheten ledes av en som har hovedstilling eller hele stillingen ved helseforetaket.

Kriterier for eksklusjon

- Nylig evaluert i annen fagevaluering (eks sosiologi, økonomi, farmasi, kjemi, fysikk, geofag)
- Idrettsmedisinske fag – tas ikke med i denne evalueringen fordi en felles nordisk evaluering av idrettsvitenskap (sports sciences) vil bli gjennomført i 2010-2011.
- Sosialfaglig forskning (barnevern, sosialtjenester) inkluderes ikke i evalueringen.

Appendix D. Time Schedule for hearing meetings

Time	Institution/department	Unit
Monday 4 April		
0830-0900	<i>Panel meeting</i>	
0900-1100	Norwegian Institute of Public Health	1. Epidemiology 2. Infectious Disease Epidemiology
1100-1115	<i>Panel meeting/break</i>	
	Norwegian University of Science and Technology, Faculty of Social Science and Technology Management	
1115-1215	Department of Social Work and Health Science	1. Unit Health Science
1215-1330	<i>Panel meeting/lunch</i>	
	Norwegian University of Science and Technology, Faculty of Medicine	
1330-1500	Department of Public Health and General Practice and St. Olavs Hospital	1. Epidemiology 2. Health Services Research 3. General Practice 4. Community Health and Social Medicine
1500-1530	<i>Panel meeting/break</i>	
1530-1615	Department of Neuroscience and St. Olavs Hospital	1. The Norwegian EHR Research Centre (NSEP)
1615-1630	<i>Panel meeting/break</i>	
	SINTEF	
1630-1730	SINTEF Technology and Society	1. Health Services Research 2. Global Health and Welfare
1730-1800	<i>Panel meeting</i>	
Tuesday 5 April		
0830-0900	<i>Panel meeting</i>	
	University of Oslo, Faculty of Medicine	
0900-1100	Institute of Health and Society	1. Dep. of Health Sciences 2. Dep. of Health Management and Health Economics 3. Dep. of Nursing Science 4. Center for Medical Ethics 5. Dep. of Community Medicine 6. Dep. of General Practice/Family Medicine
1100-1115	<i>Panel meeting/break</i>	
1115-1230	Institute of Basic Medical Sciences	1. Biostatistics 2. Nutrition II
1230-1345	<i>Panel meeting/lunch</i>	

Time	Institution/department	Unit
Tuesday cont.		
	University of Tromsø, Faculty of Health Sciences	
1345-1515	<i>Department of Community Medicine</i>	1. Arctic Health Research 2. Epidemiology for Chronic Diseases 3. General Practice 4. Health Services Research 5. Systems Epidemiology
1515-1530	<i>Panel meeting/break</i>	
1530-1615	<i>Department of Health and Care Sciences</i>	1. Research Group Individual, Institution and Society
1615-1630	<i>Panel meeting/break</i>	
	University of Agder, Faculty of Health and Sports Science	
1630-1715	Department of Health and Nursing Sciences	1. Aging and Health
1715-1745	<i>Panel meeting</i>	
Wednesday 6 April		
0830-0900	<i>Panel meeting</i>	
0900-1015	National Institute of Occupational Health	1. Occupational Health
1015-1030	<i>Panel meeting/break</i>	
	University of Bergen, Faculty of Medicine and Dentistry	
1030-1145	Centre for International Health	1. Child Health and Nutrition Group (CHN) 2. HIV & TB Research Group (HIV/TB)
1145-1300	<i>Panel meeting/lunch</i>	
1300-1500	Department for Public Health and Primary Health Care and Haukeland University Hospital	1. General Practice 2. Occupational and Environmental Medicine 3. Physiotherapy 4. Nursing Science 5. Registry Based Research Groups 6. Global Health: Ethics, Economics & Culture 7. Genetic Counseling
1500-1515	<i>Panel meeting/break</i>	
	University of Bergen, Faculty of Psychology	
1515-1615	Research Centre for Health Promotion and Development (HEMIL)	1. Social Influence Processes on Adolescent Health (SIPA) 2. Multi Cultural Venues in Health and Education (MC Venues)
1615-1630	<i>Panel meeting/break</i>	
1630-1715	<i>Bergen University College</i>	1. Centre for Evidence Based Practice

1715-1745	<i>Panel meeting</i>	
Time	Institution/department	Unit
Thursday 7 April		
0830-0900	<i>Panel meeting</i>	
0900-0945	<i>Institute of Clinical Medicine, Univ. of Oslo, Oslo University Hospital</i>	1. Center for Shared Decision Making and Nursing Research 2. Biostatistics and Epidemiology
0945-1000	<i>Panel meeting/break</i>	
1000-1045	Institute of Clinical Medicine, Univ. of Oslo, Akershus University Hospital	1. Health Services Research Group
1045-1100	<i>Panel meeting/break</i>	
1100-1200	University Hospital of North Norway	1. Norwegian Centre for Integrated Care and Telemedicine
1200-1315	<i>Panel meeting/lunch</i>	
1315-1400	<i>University of Stavanger, Faculty of Social Sciences</i>	1. Department of Health Studies
1400-1415	<i>Panel meeting/break</i>	
	<i>Oslo University College</i>	
1415-1500	Faculty of Health Sciences	1. Group of Aging and Health 2. Group of Rehabilitation and Habilitation 3. Group of Male Reproductive Health
1500-1515	<i>Panel meeting/break</i>	
1515-1630	Faculty of Nursing	1. Group of Pain Research 2. Group of Quality of Life in a Life Course Perspective 3. Group of Professional Qualifications and Professional Nursing Performance 4. Group of Dignity and Ethics 5. Group of Communication and Health Counseling
1630-1700	<i>Panel meeting</i>	
Friday 8 April		
0830-0900	<i>Panel meeting</i>	
0900-1015	<i>Cancer Registry of Norway</i>	1. Etiological Research Unit 2. Descriptive Epidemiology, Screening, and Health Services Related Unit
1015-1030	<i>Panel meeting/break</i>	
	Molde University College	
1030-1115	<i>Faculty of Health Science and Social Care</i>	1. Faculty of Health Science and Social Care
1115-1230	<i>Panel meeting/lunch</i>	

Time	<i>Institution/department</i>	Unit
Friday cont.		
	Uni Research	
1230-1345	Uni Health	1. Stress, Health and Rehabilitation 2. Research Unit for General Practice in Bergen 3. National Centre for Emergency Primary Health Care 4. The Grieg Academy Music Therapy Research Centre – GAMUT
1345-1600	<i>Panel meeting and summing up</i>	

Appendix E. Overview of panels

Panel 1	Botany, zoology, and ecology related disciplines: Evolutionary biology, ethology, marine biology, limnology, plant physiology, systematics and agricultural sciences.
Panel 2	Physiology related disciplines (human and zoophysiology), including corresponding translational research: Anatomy, physiology, neurobiology, toxicology, pharmacology, embryology, nutritional physiology, pathology, basic odontological research, veterinary medicine, fish health.
Panel 3	Molecular Biology , including corresponding translational research. Microbiology, immunology, cell biology, biochemistry, molecular biology, genetics, genomics, biotechnology including breeding and bioinformatics.
Panel 4a	Clinical research , including corresponding translational research: All surgery, anaesthesiology, oncology, physical medicine and rehabilitation, gynaecology, paediatrics, dermatology and venereology, ophthalmology, otolaryngology and all clinical odontology.
Panel 4b	Clinical research , including corresponding translational research: All internal medicine (cardiology, nephrology/urology, gastroenterology, endocrinology, haematology, infectious diseases, respiratory tract diseases, geriatric medicine), neurology, rheumatology, radiology and medical imaging and other clinical medical disciplines.
Panel 5	Public health and health-related research: Public health, community dentistry and community nutrition. Epidemiology and medical statistics. Health services research, preventive medicine, nursing research, physiotherapy, occupational medicine, behavioural research and ethics, other health-related research.
Panel 6	Psychology and psychiatry: Clinical psychology, social-, community- and workplace psychology, organizational psychology, personality psychology, developmental psychology, cognitive psychology, biological psychology and forensic psychology. Psychiatry, including geriatric psychiatry, child and adolescent psychiatry, biological psychiatry, and forensic psychiatry. Behaviour research.

Appendix F. Members of panel

Staffan Skerfving	Professor emeritus, Lund University; Senior consultant, University Hospital, Lund Sweden, panel chair.
Gunilla Krantz	Associate professor ¹ , Göteborg University, Sweden.
David Leon	Professor, London School of Hygiene and Tropical Medicine, UK.
Nancy Pedersen	Professor, Karolinska institutet, Stockholm, Sweden.
Margaretha Strandmark	Professor, Karlstad University, Sweden.
Sari Voutilainen	Adjunct professor, University of Eastern Finland, Finland.
Michael Væth	Professor, Aarhus University, Denmark.
Jouke van der Zee	Maastricht University, The Netherlands.
Peter C. Croft²	Professor, Keele University, England.
Maria Albin secretary.	Associate professor, Lund University, Sweden; Panel

¹: Appointed professor spring 2011

²: Participated in the preparatory work

Appendix G. CV`s for panel members

CVs for panel members

Name:	Staffan Skerfving
Degree(s):	1. MD 2. PhD
Research field(s):	1. Food toxicology 2. Occupational medicine 3. Musculoskeletal disorders 4. Epidemiology
Present position:	Professor emeritus and senior consultant Division of Occupational and Environmental Medicine, University Hospital, Lund, Sweden

Name:	Gunilla Krantz
Degree(s):	1. MD 2. PhD
Research field(s):	1. Violence in intimate relationships in different contexts 2. Other public health related issues such as adolescent health, sexual and reproductive health
Present position:	Professor (from spring 2011) and senior lecturer Department of Public Health and Community Medicine, The Sahlgrenska Academy, University of Gothenburg, Sweden Chief medical officer, West Region Public Health Department

Name:	David A Leon
Degree(s):	1. BA (Hons) 2. PhD
Research field(s):	1. Epidemiology
Present position:	Professor of Epidemiology

	London School of Hygiene & Tropical Medicine, UK
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Name:	Nancy L. Pedersen
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Degree(s):	1. B.A. (<i>Magna cum Laude</i>) 2. M.A. 3. Ph.D.
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Research field(s):	1. Genetic epidemiology and behaviour genetics 2. Psychiatric epidemiology 3. Aging and neurodegenerative disorders
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Present position:	Professor of Genetic Epidemiology Department of Medical Epidemiology and Biostatistics, Karolinska institutet, Stockholm, Sweden Vice Dean of Research, Karolinska institutet
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Name:	Margaretha Strandmark
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Degree(s):	1. Registered Nurse 2. Dr. of Medical Sciences (Care)
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Research field(s):	1. Psychosocial health 2. Health promotion 3. Work environment (Workplace bullying)
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Present position:	Professor of Public Health Sciences Faculty of Social and Life Sciences, Karlstad University, Sweden
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Name:	Sari Voutilainen
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Degree(s):	1. MSc, Clinical Nutritionist 2. Doctor of Philosophy (Nutritional Epidemiology) 3. Leadership programme PK Joko63
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Research field(s):	Chief nutritionist of the Kuopio Ischemic Heart Disease Risk Factor (KIHD) Study. Research fields: 1. Nutritional epidemiology 2. Dietary patterns and chronic diseases 3. Healthy ageing 4. Gene-nutrient interactions
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Present position:	Adjunct Professor of Public Health, Senior Lecturer School of Medicine, Unit of Public Health and Clinical Nutrition, University of Eastern Finland, Kuopio, Finland
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Name:	Michael Væth
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Degree(s):	1. Cand. stat. (MSc) 2. Lic. scient. (PhD)
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Research field(s):	1. Medical statistics. In particular analysis of survival time data and statistical methodology for epidemiological studies 2. Extensive experience as statistical consultant in medical research
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Present position:	Professor Department of Biostatistics, Institute of Public Health, University of Aarhus, Denmark
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Name:	Jouke van der Zee
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Degree(s):	1. MSc in Sociology and Methodology 2. PhD
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Research field(s):	1. Health system research 2. Primary health care research 3. Health services research
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Present position:	Chair of primary Health Care Research, Maastricht University
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