

Global Health Research

*Report from a Planning
Committee commissioned by the
Research Council of Norway*

November 2004

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Forord

Ny satsing på Global helseforskning

Anslag over totale ressurser internasjonalt til medisinsk og helsefaglig forskning har vist at mindre enn 10 % av forskningsressurser er rettet mot 90 % av den globale sykdomsbyrde. Dette omtales ofte som 10/90-gapet. Hvis denne markerte skjevhet i fordelingen av forskningsressurser skal endres, må den nasjonale forskningsinnsatsen i industrilandene, som disponerer størstedelen av ressursene, i mye større grad rettes mot globale helseproblemstillinger. Her har Norge, som rikt industriland, et klart internasjonalt ansvar. Programsatsingen på Global helseforskning er en del av den nasjonale innsatsen for å følge opp dette ansvaret. Divisjonsstyret for Store satsinger i Norges forskningsråd opprettet 21.04.2004 en programplankomité som fikk i oppdrag å utarbeide forslag til programplan for et nytt program på Global helseforskning.

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Komitéen leverte i november 2004 forslaget til programplan. Programplanen tar utgangspunkt i at Norge pr. i dag kun bruker 5% av helseforskningsmidlene på sykdommer som står for 90% av den globale sykdomsbyrden. Norge har med andre ord et 5-90 gap. Det er et klart behov for at Norge i større grad bidrar til en bedring av ressursfordelingen. Det første målet må derfor være å få Norge opp på et globalt gjennomsnitt hva angår forskningsinnsatsen på dette viktige området.

Divisjonsstyret for Store satsinger vedtok 21.01.2005 at "Programplanen for global helse er et godt grunnlag for opprettelsen av et program på området 2006 – 2010... Dette er et viktig område, og det må arbeides for å få opp volumet på forskningsinnsatsen". Programplanens ambisiøse mål er at Norge skal komme opp på et 10-90 nivå innen 2010. Forskningsrådet vil følge opp denne ambisjonen i den ordinære budsjettbehandlingen i den grad bevilgninger fra myndighetene tillater det.

Norges forskningsråd, April 2005

Karin Refsnes
direktør
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1. Summary

Less than 10% of the amount invested in health research globally is devoted to research on health problems that account for 90% of the global disease burden. In Norway this fraction is estimated to be only 5%. To reduce this gap, the planning committee proposes that the Norwegian government establishes a research programme for global health research, by an allocation of funds through the Research Council of Norway: NOK 20 million in 2006 increasing to NOK 52 million in 2010. This is necessary to bring Norway to the average international level in global health research. The programme will prioritize support to the best research groups in order to build sustainable research institutions with the potential of reaching the international forefront.

1.1 Background

Over the last decades, marginalised populations in low- and middle-income countries have experienced an increasing burden of disease and disability, especially due to the HIV/AIDS epidemic, which has caused a decrease in life expectancy of more than 10 years in many countries. In addition, other poverty-related diseases remain prevalent, especially respiratory and diarrhoeal diseases, malnutrition, tuberculosis, malaria, and maternal and perinatal health problems. Concurrently, a collapse of the health systems has been observed in many countries, with an increasing disparity between policies and activities, primarily due to a lack of implementation capacity.

Norway in its development co-operation policy has increasingly focused on measures to fight poverty and to improve health and education for marginalised populations in low-income countries. With 0.9% of GNI being spent on development co-operation, Norway is a highly esteemed actor on the global arena on these issues. It is important that this engagement is based on solid knowledge.

In addition to our global responsibility, Norway needs to have strong competence in global health research also for the benefit of our own population. Globalisation increases the volume of people and goods moving across the globe with the consequence of increased risk of spreading infectious diseases. An investment in this area will contribute to the knowledge necessary to reduce the global burden of poverty-related health problems and at the same time strengthen our capacity to better tackle the same diseases in a national context.

The Global Forum for Health Research has since its creation in 1998 repeatedly drawn attention to the expression “the 10/90 gap”. This refers to the fact that of the USD 73 billion invested annually in health research by public and private sectors globally, less than 10 % is devoted to research into the health problems that account for 90% of the global disease burden. An estimate made by the Research Council of Norway showed that *in Norway only approximately 5%* of the funds for health research were directed to research on diseases and health problems of developing countries.

In the report to the Norwegian parliament no. 35 (2003-2004) the government articulated strongly for the need of increased investment in global health research. Referring to the 5/90 gap, the report concludes that the government will establish a research programme in order to increase Norwegian public and private research institutions' efforts to solve global health problems. After the report was released, the Minister of Education and Research, the Minister of International Development and the Minister of Health in a joint newspaper article reiterated very strongly the arguments for establishing a new research programme on global health research in Norway in order to reduce the 5/90 gap.

On this background, the Board of the Division for Strategic Priorities in the Research Council of Norway commissioned in its meeting of 20 April, 2004, a planning committee for global health research. The committee was asked to develop a proposal for a programme for global health research under the Research Council of Norway, describing the aims, priorities and plan of action.

1.2 Proposed actions

The planning committee proposes that the Norwegian government should establish a new research programme for global health research funded through the Research Council of Norway and recommends the following actions:

- During 2005, develop and adopt a co-ordinated strategy for global health research with research training as an integrated part, based on the recommendations from the planning committee.
- Secure increased funding of global health research through public funding from relevant ministries through the Research Council of Norway and other relevant institutions. To reduce the 5/90 gap, the funds for global health research as a proportion of total funds allocated to health research in Norway, should be increased from less than 5% to:
 - 7% by 2006
 - 10% by 2010
 - 15% by 2015

The investments needed to achieve these aims are:

- 2006: 20 million through the Research Council + 7 million from institutions
- 2010: 52 million through the Research Council + 23 million from institutions
- 2015: 100 million through the Research Council + 40 million from institutions
- By 2010, establish 1-3 large strategic institution based initiatives in global health research, based on strong institutional involvement and funding.
- Strengthen other research groups at Norwegian universities, university colleges and other institutions involved in high-quality global health research within the priority areas of the programme.
- Stimulate increased contributions from the private sector in Norway for public-private partnerships in global health research.
- Strengthen co-operation with institutions in low- and middle-income countries and contribute to capacity building and prevention of brain-drain from local institutions.
- Strengthen co-ordination among Norwegian institutions through establishing a *Norwegian Forum for Global Health Research*.

1.3 Activities to be supported

The committee proposes that the activities to be supported under the programme fall under the following **definition of global health research**:

Research aiming to improve health and health care for marginalised populations in low- and middle-income countries focusing on

- *Development and evaluation of new methods for prevention, diagnosis, treatment and care*
- *More efficient and equitable use of existing methods for prevention, diagnosis, treatment and care*
- *Improved equity in health through research on interventions that address structural and individual determinants of poor health*
- *Improved quality, equity, accessibility and affordability of health care through health policy and systems research*

2. Introduction

The Board of the Division for Strategic Priorities in the Research Council of Norway commissioned in its meeting of 20 April 2004 a planning committee for global health research. The committee was asked to develop a proposal for a programme for global health research under the Research Council of Norway, describing the main aims, priorities and plan of action.

The complete terms of reference (ToR) are given in *annex 1* (in Norwegian). The committee had four meetings, three in Oslo, one in Bergen. In addition, a conference on global health research was held in Bergen 21 – 22 September 2004. At this conference important challenges in global health research as well as the priorities of Norwegian institutions in this field were presented and discussed (*annex 2*). In addition, a mapping of current global health research activities at Norwegian institutions was conducted (*annex 3*).

The report *Global helseforskning: Tid for å styrke norsk satsing*¹ has been important as basis for the work of the committee in outlining the current proposal for a new research programme.

2.1 The need for global health research

Over the last decades, marginalised populations in low- and middle-income countries have experienced an increasing burden of disease and disability, especially due to the HIV/AIDS epidemic, which has caused a decrease in life expectancy of more than 10 years in many countries. In addition, other poverty-related diseases remain prevalent, especially respiratory and diarrhoeal diseases, malnutrition, tuberculosis, malaria, and maternal and perinatal health problems. Concurrently, a collapse of the health systems

¹ *Global helseforskning: Tid for å styrke norsk satsing* (2003) Report from a working group appointed by the Ministry of Health, Ministry of Education and Research and Ministry of Foreign Affairs.

has been observed in many countries, with an increasing disparity between policies and activities, primarily due to a lack of implementation capacity.² Many reforms introduced in the health systems have often not been evidence-based and introduction of structural adjustment programmes, rapid decentralisation and cost-sharing has in many areas caused a disruption of even well functioning services.

Health related research has been essential in the work to improve health and quality of life as well as health care services in different parts of the world. Research has been the basis for developing vaccines and drugs which have resulted in cost-effective prevention and treatment of many diseases. These measures have contributed to improved child survival and increased life expectancy also in the poorer part of the world, until the AIDS epidemic reversed this development.

Poverty is closely connected to poor health, both as an important cause and as a consequence. One of the critical roles of global health research is to ensure that the measures proposed to help break the vicious circle of poor health and poverty are based on solid evidence, so that the resources available to fund these measures are used in the most efficient and effective way possible. The negative impact of globalisation on health, e.g. diseases being spread by people and goods moving across the globe must also be met by evidence-based measures.

Many actors working on the global health arena have for long understood this challenging role of global health research. Still, however, health research in Norway as well as in other industrialised countries has to a very low extent been directed against diseases and health problems common in developing countries. Health research has suffered from overall lack of funding and a huge discrepancy between the magnitude of the allocation of research funding and the need for research on diseases and conditions accounting for the highest global disease burden. This was first noted by the Commission on Health Research for Development in its report of 1990.³

The Global Forum for Health Research has since its creation in 1998 repeatedly drawn attention to the expression “*the 10/90 gap*”. This refers to the fact of the USD 73 billion invested annually in health research by public and private sectors globally, less than 10% is devoted to research into the health problems that account for 90% of the global disease burden.⁴ The 10/90 report on health research for 2003 - 2004, points again to the urgent need for correcting the 10/90 gap, from a humanitarian as well as from an economic viewpoint; the rates of economic return from investment in health and health research are often multiple of the rates of return from public investment in other sectors of the economy.

² Travis P. et.al. 2004. Overcoming health-systems constraints to achieve the Millennium Development Goals. *Lancet* 2004; 364:900-06

³ Commission on Health Research for Development (1990) *Health research: essential link to equity in development* Oxford: Oxford University Press

⁴ Global Forum for Health Research (2004) *The 10/90 report on health research 2003-2004* Geneva: Global Forum for Health Research

2.2. The Norwegian situation

Norway has increasingly in its development co-operation policy focused on measures to fight poverty and to improve health and education for marginalised populations in low-income countries. With 0.9% of GNI being spent on development co-operation, Norway is a highly esteemed actor on the global arena on these issues. It is important that this engagement and the measures proposed are based on solid knowledge.

However, the programmes on global health research through the Research Council of Norway have been rather small and a long-term national strategy for this area is still lacking. In 1994 the Research Council of Norway established a research programme on health and population in developing countries. Through a total investment of NOK 14 million over 3 years, it supported projects and capacity building on PhD level and contributed to the development of research activities in this field, especially at the universities of Oslo and Bergen. However, the programme was not prolonged after 1996. Some health projects have been supported through the programme for development research at the Research Council *Globalisation and marginalisation: Multi- and interdisciplinary development paths in the South*. A total of NOK 19.7 million for the period 1999–2007 have been allocated to health related research from this programme. In addition, NOK 7 million of the so-called "Lerheim scholarships" has been allocated to health research.

Still, the total investments in this area have been rather small. *An estimate made by the Research Council of Norway showed that only approximately 5% of the funds for Norwegian health research were directed to research on diseases and health problems of developing countries.*⁵ Also in the other Nordic countries the funding of global health research is modest.⁶ There is thus an urgent need for increased funding to strengthen and develop Norwegian competence and capacity in global health and health research. Global health knowledge is a common public good, and Norway, as one of the richest countries in the world, has a particular responsibility to contribute to this field.

There are several observations and challenges to be noted in this regard:

- Global health research is relevant for several ministries and other parts of the government.
- For a stronger involvement in this area, better co-ordination is needed of the responsibilities between the Ministry of Health and Care Services, Ministry of Foreign Affairs, Ministry of Education and Research, the Directorate for Health and Social Affairs and NORAD.
- A more systematic dialogue is needed between the government and the research institutions in this field to ensure that research based knowledge and competence are utilized in a better way.

⁵ Valen, Ragna 2001. Kan medisinsk forskning bidra til global utjevning? *Tidsskrift for den norske lægeforening* 2001; 121:1772

⁶ In 2002, the medical research councils in Finland, Sweden and Norway used in the range of 2-4 % of the budgets on health and medical research on global health research. In Denmark the figure was estimated to approximately 6 %. In Sweden, global health research, both in-country and in developing countries, was financed with €14 million through SIDA/SAREC. In Denmark, a separate council supports research in and with developing countries (source: Research Council of Norway).

- Norway has few and relatively small research institutions in the field of global health research, and few institutions in Norway have global health research as a strategic priority. Several research activities are therefore fragmented without the necessary long-term sustainability.
- There are few private initiatives in global health research in Norway.

There is hence a great need to strengthen high quality research institutions in the field of global health research to develop institutions to an international level in quality and size. The best basis for an increased investment in this area is found at the University of Bergen and University of Oslo. In a recent international evaluation of public health and health services research at Norwegian institutions conducted by the Research Council of Norway, activities in the field of global health research was evaluated to be of very high quality. However, in an international context, groups for global health research groups at Norwegian institutions are small and need to be strengthened to reach the international forefront. This was also noted by a recent international evaluation

“It is hoped that the recent increased national focus on international health will enhance the possibility of stronger funding of Norwegian research institutions and further strengthen collaborations that have been developed with European institutions.”⁷

2.3. Important guiding principles

Several public documents point to the need for research relevant to the fight against poverty and poverty-related diseases, e.g. *Fighting Poverty: The Norwegian Government's Action Plan for Combating Poverty in the South towards 2015*.⁸ Research challenges in poverty reduction are discussed in the 2003 report from the planning committee on this topic.⁹ The most comprehensive report that articulates the need for global health research is the report to the Norwegian parliament no. 35 (2003-2004) *Fighting Poverty Together: A Comprehensive Development Policy*. The report describes the situation in sub-Saharan Africa, where communicable diseases and health problems related to pregnancy, deliveries and malnutrition account for 66% of the disease burden, whereas these diseases account for only 8% in industrialised countries. Although respiratory diseases, diarrhoea, tuberculosis and malaria account for some 20% of the global disease burden, less than 1% of the total private and public research funding is allocated to these health problems.

Referring to the 10/90 gap, the report reiterates that in Norway only approximately 5% of the funds for health research are spent on research that accounts for 90% of the global disease burden. On this background, the report concludes: *The government will establish*

⁷ Research Council of Norway 2004. *Evaluation of clinical, epidemiological, public health, health-related and psychological research in Norway: Public health and health services research. Panel 2*, page 29

⁸ The Norwegian Ministry of Foreign Affairs. 2002. *Fighting Poverty – The Norwegian Government's Action Plan for Combating Poverty in the South towards 2015*. Oslo: Ministry of Foreign Affairs

⁹ Alf Morten Jerve (chairperson) [et al.]. 2003. *Breaking the circle: which way out of poverty? : Report from the Planning Committee to consider research on poverty reduction*. This report defined poverty research as a subset of development research. Within the poverty research a further distinction was made between *poverty focused* and *poverty relevant* research and research on global health problems is an example of research relevant for poverty reduction.

*a research programme in order to increase Norwegian public and private research institutions' efforts to solve global health problems.*¹⁰ After the report was released the Minister of Education and Research, the Minister of International Development and the Minister of Health in a joint article in the newspaper Verdens Gang 26 April, 2004, argued for establishing a new research programme: *It is according to our view neither morally nor politically acceptable the almost 90% of the resources for research is used for finding solutions for 10% of the global disease burden.* Pointing to the “5/90” gap in Norway they stated: *It is not desirable that a rich country like Norway spend around 5% of resources (for health research) on poverty-related diseases, when we have research groups in the international forefront with the knowledge that could contribute to solve many of the health problems among the poor. This is not acceptable and we plan to change this situation!*¹¹

This priority is also consistent with the overall vision specified in the 2004 strategic paper from the Research Council of Norway stating: *Research shall be a force in the development of the Norwegian society. At the same time, Norway, as the world's richest country, has an obligation to contribute to the international knowledge production.*¹² In order to improve the quality of the research the Research Council of Norway in its strategic document points to the need for funding that:¹³

- To a greater extent strengthen the best research institutions
- Contributes to improved leadership of research by the use of strategic funds
- Strengthens new development in science through encouragement of interdisciplinary activities
- Establishes mechanisms to attract the best international researchers to Norway within research areas of high priority.

In addition to our global responsibility, Norway needs to have strong competence in global health research for the benefit of our own population. The report to the Norwegian parliament no. 19 (2002-2003) on globalisation stated that increased trade and travel activities increase the risk of spreading diseases. Globalisation increases the volume of people and goods moving across the globe with the consequence of increased risk of spreading diseases.¹⁴ More than half of the new cases of TB detected in Norway are found among immigrants from high burden countries. In the last years, some cases of multi-drug resistant TB have also been reported. Norwegian health institutions need focus on these and similar diseases to maintain and update appropriate diagnostic and treatment procedures.

¹⁰ Report No. 35 (2003-2004) to the Storting *Fighting Poverty Together: A Comprehensive Development Policy* (page 69) stating "Regjeringen vil: etablere et forskningsprogram for å øke norske offentlige og private forskningsinstitusjoners innsats for å løse globale helseproblemer."

¹¹ "Det er etter vårt syn verken moralsk eller politisk riktig at nærmere 90% av forskningsressursene går til å finne botemidler for bare 10% av verdens sykdom og helseproblemer. Det er heller ikke ønskelig at et rikt land som Norge bare skal bruke om lag 5% av sine tilsvarende ressurser på dette, når vi har forskningsmiljøer i internasjonal toppklasse med fagkunnskaper som kunne bidra til å løse mange av de fattiges helseproblemer. Det er ikke holdbart og vi har tenkt å gjøre noe med det!"

¹² Norges forskningsråd (2004) *Forskning flytter grenser: Strategi for Norges forskningsråd*, page 4

¹³ Norges forskningsråd (2004) *Forskning flytter grenser: Strategi for Norges forskningsråd*, page 9

¹⁴ Report No. 19 (2002-2003) to the Storting *En verden av muligheter – globaliseringens tidsalder og dens utfordringer*, page 123

The aim should be to positively influence the research gap by contributing to the international knowledge production in order to reduce the burden of poverty-related health problems and at the same time strengthen our capacity and knowledge on how to better tackle the same diseases in a national context.

3. Aims

The overall aim for a Norwegian strategy in the field of global health research will be to develop sustainable Norwegian research institutions of high international standard that are able to develop new knowledge that contributes to improved health and health care and reduced poverty. Health problems and health care among marginalised populations in low- and middle-income countries, as well as poverty-related diseases, will therefore be the focus of the research activities under this programme. Thus, the proposed research programme will be in accordance with the Government's Action Plan¹⁵ in relation to the fight against poverty and other documents referred to above in the introduction.

The overall aim of the research programme is to develop strong and sustainable research institutions and research groups working on global health research that

- Can contribute to global knowledge production on priority areas for global health research and thus contribute to reduce the "10/90 gap"
- Have the necessary research capacity and competence to be attractive partners for international co-operation in the development of research capacity and essential national health research programmes in low- and middle-income countries
- Have the necessary experience and infrastructure for research training and supervision for PhD students from developed and developing countries
- Can contribute to research and evidence-based knowledge to support Norwegian and international policy development in the field of global health, through systematic co-operation with Norad, relevant ministries and funding agencies

These overall aims can be achieved by the following actions by the Norwegian government:

- During 2005, develop and adopt a co-ordinated strategy for global health research with research training as an integrated part, based on the recommendations from the current report
- Secure increased funding of global health research through public funding from relevant ministries through the Research Council of Norway and other relevant institutions. To reduce the 5/90 gap, the funds for global health research as a proportion of total funds allocated to health research in Norway, should be increased from less than 5% to:
 - 7% by 2006
 - 10% by 2010
 - 15% by 2015

¹⁵ The Norwegian Ministry of Foreign Affairs. 2002. Fighting Poverty – The Norwegian Government's Action Plan for Combating Poverty in the South towards 2015. Oslo: Ministry of Foreign Affairs.

The investments needed to achieve these aims are:

- 2006: 20 million through the Research Council + 7 million from institutions
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- By 2010, establish 1-3 large strategic institution based initiatives in global health research, based on strong institutional involvement and funding.
- Strengthen other research groups at Norwegian universities, university colleges and other institutions involved in high-quality global health research within the priority areas of the programme.
- Stimulate increased contributions from the private sector in Norway for public-private partnerships in global health research.
- Strengthen co-operation with institutions in low- and middle-income countries and contribute to capacity building and prevention of brain drain from local institutions.
- Strengthen co-ordination among Norwegian institutions through the establishment of a national forum for global health research.

4. International initiatives

The international community has reacted to the deterioration in health and health care in many poor countries through several new initiatives for improved policy and funding:

- The UN has proposed the *Millennium Development Goals* (MDG) in order to increase efforts in the fight against poverty. The MDGs are strongly supported by Norway. Half of the aims are health-related. These targets are, by the year 2015, to:
 - Reduce by half the proportion of people who suffer from hunger
 - Reduce by two thirds the mortality rate among children under five
 - Reduce by three quarters the ratio of women dying in childbirth
 - Halt and begin to reverse the spread of HIV/AIDS and the incidence of malaria and other major diseases
- The report from WHO *Macroeconomic and Health: Investing in Health for Economic Development*¹⁶, pointed to the need for increased investment to fight poverty-related diseases. The report points to the need for research to develop new interventions and health systems research.

Several *global funds* for health have recently been established through partnerships between various stakeholders. These funds attract resources from private initiatives, governments and multilateral sources, in addition to funds through the UN organisations. These initiatives provide important support for tasks not receiving adequate resources through the traditional channels:

¹⁶ WHO 2001. *Macroeconomics and health : investing in health for economic development. Report of the Commission on Macroeconomics and Health*. Geneva: World health organization

- The *Global Alliance for Immunisation and Vaccination (GAVI)*¹⁷ is a public-private partnership where Norway has contributed with substantial funding together with other partners, the World Bank, WHO and UNICEF, and private contributors (the Bill and Melinda Gates Foundation and the Rockefeller Fund). The main aim is to reduce child morbidity and mortality through improved vaccination coverage. Other goals are to develop new vaccines and improve usage of existing vaccines through clinical trials and health systems research.
- The *Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM)*¹⁸ is an international, independent public-private partnership designed to attract funding to finance the fight against AIDS, tuberculosis and malaria. The objectives are to support effective interventions against these diseases. The Global Fund has committed \$ 3 billion in 128 countries.
- The *Grand Challenges in Global Health*¹⁹ initiative is based on the recognition that poor health is one of the greatest impediments to international development. The grand challenges initiative is funded by the Bill and Melinda Gates Foundation and managed by the Foundation for the National Institutes of Health. The programme brings together scientific and technology communities to develop solutions to critical scientific and technological problems in global health.
- The *European and Developing Countries Clinical Trials Partnership (EDCTP)*²⁰ initiative intends to combine research and clinical intervention work to combat HIV/AIDS, malaria and tuberculosis through development of new medical products, microbicides and vaccines. The EDCTP was created by 15 European countries to establish a long-term, sustainable and genuine partnership with countries in the South, in particular sub-Saharan countries. The EDCTP operates as a separate legal entity with its own guidelines, including calls for proposals and appropriate selection and evaluation procedures. Norway is committed to this programme and has contributed with resources, both organisational and scientific. The Ministry of Health and Care Services is represented on the board of EDCTP.

Norway contributes significantly to research programmes through WHO, World Bank, UNDP and UNICEF. Norway contributes also to the *International AIDS Vaccine Initiative (IAVI)* as well as to research for development of new and improved delivery of existing vaccines through support to GAVI and related activities. Further, Norway supports the GFATM and the *International Partnership on Microbicides (IPM)*.

In the 2005 budget proposal the Ministry of Foreign Affairs suggest to support the following global funds in the health sector:²¹

¹⁷ www.vaccinealliance.org

¹⁸ www.theglobalfund.org

¹⁹ www.grandchallengesgh.org

²⁰ www.edctp.org

²¹ <http://www.statsbudsjettet.dep.no/2005/dokumenter/html/stp1/ud/kap8.htm#d0e7114>

Global Alliance for Immunization and Vaccination (GAVI):	NOK 300 million
Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM)	NOK 126.5 million
International AIDS Vaccine Initiative (IAVI)	NOK 25 million
International Partnership on Microbicides (IPM)	NOK 20 million

In sum, Norway supports many international initiatives established to fight poverty and poverty-related diseases. However, investment in global health research through Norwegian institutions does not match this high international profile. There is a great need for research to monitor the implementation and the effect of the different initiatives on the disease burden and the function of the health system in the targeted countries. These countries suffer from a substantial lack of research capacity due to weak institutions with poor infrastructure and international brain drain that makes it difficult to develop sustainable research groups.

An important aim of increased Norwegian funding of global health research is therefore also to build strong partnerships with research institutions in low- and middle-income countries that can contribute to capacity building in a way that prevents continued brain-drain from these countries. A change from project-based and short-term funding to institution-based, long-term funding is necessary to achieve this aim. Norway, a leading country when it comes to funding of development co-operation with a special focus on health and education, should also be in the lead when it comes to research efforts to improve the effectiveness of these large and important investments.

5. Global health research in Norway

The committee undertook a survey of Global health research at Norwegian institutions by the use of questionnaires sent to relevant institutions and research groups. The main results are presented in *annex 3*. The survey showed that a majority of global health research in Norway is conducted by the universities, in particular at the University of Bergen and University of Oslo. Most of the research programmes at these two institutions are run in collaboration with institutions for higher learning and/or ministries in low- and middle-income countries, and capacity building and staff development are important parts of the programmes. Both institutions run master- and PhD programmes for students from the South and Norway. In addition, there are research groups in the field of global health research attached to the University of Tromsø and the Norwegian University of Science and Technology (NTNU), Trondheim, as well as research groups at some of the university colleges, the Norwegian Institute of Public Health, the National Health Services Research Centre and a few private companies.

5.1 University of Oslo

Most of the activities take place at the Faculty of Medicine, Institute of General Practice and Community Medicine with its sections for *International Community Health, Medical Anthropology and Social Medicine* and *Preventive Medicine and Epidemiology*. Researchers at these sections and researchers in the field of global health research at other

institutes at the Faculty of Medicine, at the Norwegian Institute of Public Health and Norwegian Health Service Research Centre collaborate through the network GLOBINF. This network encompasses 14 professors/associate professors and 11 senior researchers with their main research activities in the field of global health research. A total of 18 research groups reported activities in global health research. In addition to these groups with research activities falling within the core of the definition of global health research, a variety of other groups are reported by University of Oslo that touches some aspects of the definition.

Institute of General Practice and Community Medicine reports 8 PhD graduates in the period 2001-2004. Seven other research groups reported from 1 to 3 PhD graduates in the same period.

Under GLOBINF, multidisciplinary groups are established in the fields of HIV/AIDS, reproductive health, TB, meningitis and health service research. Other fields of research include projects on psychiatric and psychological problems in relation to violence and marginalization, psychosocial interventions among children, and a relatively large programme on improving health information systems in poor countries. In addition to the GLOBINF network, a Centre for Vaccinology and Immunotherapy (CEVI) has been established at the Faculty of Medicine as a prioritized interdisciplinary thematic area of relevance for global health research. Ullevål University Hospital has established advanced laboratory methods for documenting effects of vaccines and immunotherapy, and the hospital is involved in such evaluation related to infectious diseases.

5.2 University of Bergen

University of Bergen has developed a clear strategy for global health research which has been a prioritized field at the university as part of development research being one of the main strategic areas. As part of this strategy, the Centre for International Health (CIH) was established in 1988 by the faculties of medicine, odontology and psychology. CIH has an overall responsibility to run, initiate and co-ordinate global health research at different departments at all faculties. It collaborates closely with several departments, in particular with the Department of Public Health and Primary Health Care at the Faculty of Medicine and the Research Centre for Health Promotion (HEMIL) at the Faculty of Psychology. The HEMIL centre runs a master programme in health promotion for international students. Centre for Women and Gender Research and Centre for International Poverty Research are also involved in projects relevant for global health. The CIH collaborates also with a recently established Unit for International Co-operation at Haukeland University Hospital on programmes related to clinical medicine, in particular in relation to capacity building.

At University of Bergen, 15 professors, one associate professor, 4 senior researchers and 8 postdoctoral fellows have global health research as their main research activity. Most of these are either directly employed at or work in the research networks co-ordinated by CIH. Seventeen research groups reported activities in global health research. Twelve of the research groups reported from 1 to 4 PhD graduates in the period 2001-2004, fourteen of these were attached to CIH.

The research fields cover several of the major global health problems that primarily affect poor populations. There are relatively large interdisciplinary groups involved in research in the fields of child health and nutrition, reproductive health, HIV/AIDS, TB, vaccine development, health policy and systems research, health promotion and oral health in a global perspective. In addition there are programmes in occupational health, microbiology and pathology, some of them attached to the topics specified above.

Intervention studies and field trials for testing of new interventions for treatment and prevention is a central area of research in several programmes, in particular in projects dealing with childhood infections and nutrition. CIH co-ordinates a large EU-funded network for development of vaccines against malaria (European Malaria Vaccine Initiative). The staff at CIH serves as consultants to the Ministry of Health on the European and Developing Countries Clinical Trials Partnership (EDCTP). In a recent international evaluation of clinical and public health research at Norwegian institutions conducted by the Research Council of Norway, the research activities at CIH were ranked with the highest mark (“excellent”).

5.3 Norwegian University of Science and Technology (NTNU)

NTNU reports one associate professor with global health research as the main activity. 15 professors and 10 associate professors are reported to be involved in global health research as part time activity. The Faculty of Medicine contributes in the multi-disciplinary programme on African studies at NTNU. At the Faculty of Social Sciences and Technology Management a variety of activities are reported from the following departments: Department of Sociology and Political Science, Department for Social Work and Health Science, Department of Geography, Department of Psychology and Department of Anthropology. Department of Geography is involved in a larger NUFU-funded project with components of global health research.

5.4 University of Tromsø

The Centre for International Health at University of Tromsø was established in 2003, and is a joint department of University of Tromsø and the University Hospital of North Norway. Activities within global health research are supported and coordinated by this centre. One associate professor and one senior researcher are reported to have global health research as the main activity. Six professors, five associate professors and eight senior researchers are reported to work on global health research on a part-time basis. One project on HIV/AIDS is reported. Further, Tromsø Mine Victim Resource Center (TMC) has reported relevant activities. Many activities are reported from projects in north-western parts of Russia, mainly in the areas of environmental factors, life style and chronic disease epidemiology. The Norwegian Centre for Telemedicine in Tromsø is a WHO Collaboration Centre for Telemedicine.

5.5 University colleges

Oslo University College reports activities in global health research at the Centre for Multicultural and International Studies, established in 2000. The research group *Global Health Research* at this centre is involved in research in several relevant areas. Oslo University College also reports research activities at several faculties.

Bergen University College reports that one of the major research areas at the Faculty of Health and Social Sciences is research on reproductive health and gender relations. The programme was established in 2003 with a global profile with particular emphasis on problems connected to poverty, gender inequality and reproductive health in Africa.

Agder University College reports that international cooperation is an integrated part of the activities and is involved in research on infectious diseases and health in sustainable development.

Akershus University College is involved research on several aspects of food and nutrition security.

5.6 Norwegian Institute of Public Health

The Norwegian Institute of Public Health is a WHO Collaborating Centre for Reference and Research on meningococci and the institute is in the international forefront in the development and research on meningococcal vaccines, also for developing countries. Norwegian Institute of Public Health also reports activities on control of tuberculosis (TB), molecular epidemiology of HIV-1, mucosal immunization, food and waterborne diseases, particulate air pollution and health and effects of early nutrition on long term health.

5.7 Norwegian Health Services Research Centre

The Norwegian Health Services Research Centre (NHSRC) was established in 2004. The centre is involved in research to facilitate the use of research evidence in decision-making at all levels of the health services. NHSRC is partner in the GLOBINF network.

5.8 National schools of higher learning

Diakonhjemmet University College has research related activities and consultancies related to international health and social work.

Agricultural University of Norway applies a broad definition of global health research and argues that most of the agricultural research activities are relevant for health.

Norwegian School of Veterinary Science reports research activities on food safety and environmental toxicology.

5.9 Institutes, hospitals and other institutions

Sørlandet Hospital, Kristiansand, has reported relevant research activities, mainly in field of HIV/AIDS. Research on global health has also been reported by SINTEF Health, Chr. Michelsen Institute (CMI), Fafo Institute for Applied International Studies, the National Veterinary Institute and the School of Mission and Theology.

5. 10 Private sector

Bionor Immuno AS was the largest private company that reported activity in global health research. The major focus of the company is to develop effective peptide based immunotherapies against HIV.

Lauras AS is a research based biotechnology company that aims to develop and commercialize immunomodulating drugs to treat HIV and other immunodeficiencies based on proprietary technologies.

6. Types of activities eligible for support

Global health research should deal with issues that are important to the fight against poverty. Research that reduces the burden of poverty-related health problems and improves health and health care for marginalised population groups in poor countries should therefore have priority. This will contribute to correct the 10/90 gap in research funding and contribute to a stronger basis for Norway's international engagement in the fight against poverty and poverty-related diseases. The thematic areas to be supported should be in accordance with the priorities of the relevant ministries, as well as with the Norwegian research institutions' strengths and possibilities for further development of global health research as a part of a co-ordinated national research strategy.

On this background the committee has developed the following **definition of global health research** to be supported under the programme.

Research aiming to improve health and health care for marginalised populations in low- and middle- income countries focusing on

- *Development and evaluation of new methods for prevention, diagnosis, treatment and care*
- *More efficient and equitable use of existing methods for prevention, diagnosis, treatment and care*
- *Improved equity in health through research on interventions that address structural and individual determinants of poor health*
- *Improved quality, equity, accessibility and affordability of health care through health policy and systems research*

This overall definition will involve research that falls within the following specific areas:

Development and evaluation of new methods for prevention, diagnosis, treatment and care

- Basic biomedical research, including immunology and vaccinology, and studies of biological effects and adverse reactions of new vaccines, drugs, and diagnostics for poverty-related diseases (phase I-II trials)

- Field trials/clinical trials to establish efficacy and determine safety in the target population in the evaluation of new interventions²² (phase III trials)
- Post-marketing studies to confirm safety and evaluate effectiveness after introducing new interventions in the health system (phase IV studies)

More efficient and equitable use of existing methods for prevention, diagnosis, treatment and care

- Evaluation of effectiveness of existing interventions with emphasis on quality and equity in the delivery and use
- Cost-effectiveness and phase IV studies of different interventions
- Studies on strategies that address barriers and facilitators for the use of interventions in different socio-cultural settings
- Evaluation of different strategies for implementing interventions

Improved equity in health through research on interventions that address structural and individual determinants of poor health

- Studies of disease burden and determinants of poor health as basis for interventions to improve health and reduce inequities in health
- Evaluation of health promotion activities and other strategies that address structural and individual factors of importance for ill health in different socio-cultural settings
- Studies on effects of intervention programmes on disease determinants and disease occurrence

Improved quality, equity, accessibility and affordability of the health care system through health policy and systems research

- Research to monitor and improve the quality of the health system with emphasis on reducing inequities in health care
- Evaluation of different strategies for quality improvement
- Research to monitor quality and distribution of human resources according to needs at different levels of the health system and evaluation of strategies to prevent brain drain within and between countries
- Research on processes of priority setting in policy, planning, funding and implementation at the local, national and international level
- Research on ethical issues in relations to accountability, legitimacy and trustworthiness of the health services
- Research to identify effects of international policy and the donor priorities on health and health care.

²² The term "new interventions" encompasses interventions in humans with unlicensed products, e.g. prototype drugs and vaccines as well as interventions with already licensed products, such as existing drugs used in new dosages, combinations, and ways of administration or on new indications. The term also encompasses non-pharmaceutical interventions such as bed nets or other commodities as well as interventions to modify risk behaviour.

The term *essential national health research*, developed by the Commission on Health Research for Development in 1990²³, has been used in relation to health research in low-income countries. Several reports have pointed to the need for low-income countries to establish systems and capacity for health research essential for improvement of health and health care in their own country. These research systems should be developed through institutional collaboration. The term encompasses country-specific research necessary to describe the health and health care and evaluate intervention programmes within the different countries, as well as global health research defined as research on poverty-related health problems of more general value for many countries.

A new research programme for global health research in Norway should support general global health research as well country-specific research. As far as possible, research projects should be performed in collaboration with institutions in low-income countries. When it comes to prioritising among thematic areas, there are several considerations of importance. A new programme for global health research should focus on:

- *Health problems that account for the largest part of the disease burden*
In Africa, 66% of the disease burden is due to infectious diseases, maternal and child health problems and malnutrition. Marginalised population groups in poor countries are severely affected.
- *Research for improving implementation capacity*
The greatest challenge as seen from the perspective of low- and middle-income countries is a collapsing health system and lack of implementation capacity of already developed methods for intervention. At the conference on global health research arranged by the Research Council of Norway in Bergen, September 2004, the Minister of international development, Hilde F. Johnson focused on the need for research in this area. A recent editorial in the *Lancet* also calls for research on delivery strategies in order to translate knowledge and policy into effective implementation.²⁴ The editorial stresses the need for research to build evidence for reducing inequity, preventing brain-drain and to create sustainable funding mechanisms for health systems in poor countries.
- *Thematic areas where Norway is strongly involved in health programmes or international programmes of global health research*
Examples are research related to the fight against major infectious diseases (HIV/AIDS, tuberculosis, diarrhoea, airborne- and other infectious diseases) in addition to nutrition and maternal and child health. Further, health policy and systems research and research related to programmes such as the GAVI and the EDCTP will be relevant areas in this context.
- *Thematic areas where Norway has capacity and competence to be in the international forefront*

²³ Commission on Health Research for Development (1990) *Health research: essential link to equity in development* Oxford: Oxford University Press

²⁴ Editorial: Mexico 2004: Global health needs a new research agenda. *Lancet* 2004; 364:1555

In the recent international evaluation of public health and health services research, conducted by the Research Council of Norway, one centre for global health research in Norway was given the highest mark (“excellent”). However, the research groups are still small and it was pointed out that the centre need to be strengthened in order to be sustainable and in the forefront internationally in this field. Increased national collaboration and development of networks in global health research was also recommended. From the mapping of global health research at Norwegian institutions the strongest involvement was found on following areas: Child health and nutrition, HIV/AIDS, tuberculosis, reproductive health, health policy and systems research, vaccinology (from basic research to implementation of programmes) and clinical trials/field trials for development and evaluation of new interventions.

The committee will recommend that the programme is developed under the general frame of the overall definition of global health research, and that priority areas will depend on the strategic priority areas and capacity of Norwegian institutions to perform high quality research in this field. Research projects to be supported should be developed in co-operation with international leading researchers and with institutions in low- and middle-income countries, and capacity building on the PhD level should be an integrated part.

7. Resource requirements and modes of support

In the international evaluation of public health and health services research at Norwegian institutions conducted by the Research Council of Norway, one of the main recommendations was the following:

The panel would like to see globalisation and its impact on population health as a future theme and strategy for research. The current research training programs in international health should be continued and could be augmented by funds for scholarships for international students. Further support should be provided to develop the Centre for International Health into a leading centre for global health in Scandinavia and among the leading centres in Europe. The development of a national network for international health could further strengthen the successful cooperation between different institutions.²⁵

Based on this recommendation and the considerations discussed in Chapter 6, the committee proposes that the programme should support strategic institution-based initiatives on global health research, channelled through institutions that have the potential to reach the forefront internationally. In addition, the programme should support high quality research groups attached to Norwegian institutions, research collaboration with institutions in low- and middle-income countries and research networks.

²⁵ Research Council of Norway 2004. *Evaluation of clinical, epidemiological, public health, health-related and psychological research in Norway: Public health and health services research. Panel 2, page 10*

7.1 Support to strategic institution-based initiatives

In the 2004 strategy paper of the Research Council of Norway it is stated that research institutions in Norway are often small. To avoid fragmentation of research activities it is necessary to support the best research institutions.²⁶ *University of Bergen* through its Centre for International Health (CIH) constitutes the largest and strongest institution for global health research in Norway. Through CIH's collaboration with the Research Centre for Health Promotion, the Centre for Women and Gender studies and several departments at different faculties at *University of Bergen*, and through extensive international collaboration, multidisciplinary research groups have been established on several thematic areas. Global health research at *University of Oslo* is also relatively strong at the Department of General Practice and Community Medicine, especially at the Section for International Community Health and collaborating institutions in Norway and internationally. Through the GLOBINF initiative, the co-ordination of activities in global health research is now improving. There are also some strong research groups attached to other research institutions in Norway, but most of these groups are less likely to be internationally competitive in this field in the near future.

However, research groups and institutions involved in global health research in Norway are in general small and need to be strengthened to become sustainable and competitive in an international context. In order to create strong national initiatives in global health research, collaboration across institutions in Norway is important. The networks based at the universities in Oslo and Bergen have complementary competence on several areas, and new initiatives should strengthen existing and support new collaborative initiatives between these two institutions as well as with other research institutions in Norway.

In view of these considerations and the overall aim of building sustainable research institutions on a high international level, the committee recommends that support is given to 1 - 3 strategic institution-based initiatives in global health research through relatively large and long-term funding (5 + 5 years periods). To have a significant effect, a relatively large investment in the form of institutional support will be necessary.

The main criteria for achieving support should be

- Scientific quality and relevance of the proposal
- Strengths of the research teams/institution
- A long term strategy for developing the field of global health research at the institution behind the proposal
- A plan for institutional funding of positions and infrastructure

Further, collaboration with and involvement of other Norwegian institutions will strengthen the proposal. Strong international collaboration in the field of global health research and programme links with institutions in low- and middle-income countries is also important. Such collaboration should include capacity building on PhD level for candidates from these institutions. Documentation of the necessary multidisciplinary competence in relation to the proposed thematic areas is important. A programme

²⁶ "I større grad enn i dag satse på de beste forskningsmiljøene", from Norges forskningsråd (2004) *Forskning flytter grenser: Strategi for Norges forskningsråd*, page 9

coordinator/research director responsible for scientific and administrative leadership should be identified. Her/his scientific record should be strong and will be evaluated. The proposal(s) to be supported will be selected after evaluation by an international review committee appointed by the Research Council of Norway.

The outcome for this part of the programme should be that by 2010, 1 - 3 centres in Norway should be among the leading centres for global health research in Europe, reaching the international forefront on certain thematic areas. To achieve this, an investment of NOK 4 - 8 million annually per centre from 2006, in addition to institutional funding of 2 - 4 million annually, and a gradual increase in support during the first 5-year period 2006-2010 will be necessary. The initiatives should be evaluated after five years and given the possibility for five more years of funding (2011-2015). After this second period the hosting institutions should take over the full funding responsibilities.

In total, this part of the programme will require a support through the Research Council of approximately NOK 12 million for 2006, increasing to NOK 30 million in 2010, with an institutional contribution increasing from NOK 4 million to NOK 16 million in the same period.

7.2 Support of projects on selected thematic areas

In addition to the support to strategic institution-based initiatives there is a need for support to research groups on selected important areas of global health research. Such support should be channelled to research groups that are internationally in the forefront or have the potential to reach this level. Assessment of project quality and relevance will be the basis for such support. These projects should supplement the large strategic support described under 7.1.

Based on the mapping of global health research in Norway, the planning committee estimates a need of supporting 6-8 such projects. Examples of thematic areas in which strong research groups have been identified are: Child health and nutrition, HIV/AIDS, tuberculosis, reproductive health, health policy and systems research, vaccinology (from basic research to implementation of programmes) and clinical trials/field trials for development and evaluation of new interventions. On some of these thematic areas, competent researchers/research groups are found at several institutions in Norway.

The committee proposes to support 2 - 4 projects from 2006, each of NOK 1 - 3 million annually. The support should be increased to 6 - 8 such projects by 2010. Support to run a national network on the thematic area in question could be part of the proposal (see paragraph 7.4 below).

The main criteria for achieving support will be scientific quality of the proposal and the strength of the research team. Involvement of two or more Norwegian institutions will strengthen the proposal and is of particular importance in larger applications that also include network functions. For such applications the institutions should document substantial contribution to the programme. The institutional support can also take the

form of an institutional commitment to continue funding the staff (senior researchers/postdoctoral fellows) on the project through university positions after the initial period of funding from the Research Council.

In addition to these larger thematic projects, it should be possible to apply for free projects, e.g. PhD studentships, post doctoral fellowships etc. This should also support capacity building at PhD - and postdoctoral-level for Norwegian candidates attached to collaborative programmes with institutions in low- and middle-income countries funded from other sources (e.g. NUFU, EU or other funds). This could be seen as a continuation of the so-called “Lerheim scholarships”. For such applications involving limited support, additional institutional support should not be a condition for funding.

In total, support of thematic research projects and free projects will require funding of approximately NOK 7 million per year from 2006, increasing to 18 million in 2010, in addition to an estimated contribution from the institutions increasing from NOK 3 million in 2007 to NOK 7 million in 2010.

7.3 Support for collaboration with institutions in low- and middle-income countries

Support of the research programmes specified above should in most instances be combined with support to secure a strong collaboration with institutions in low- and middle-income countries. Capacity building in collaboration with these institutions is of particular importance.

The total resource requirements for this part of the programme will depend on how large fraction of funding for such collaboration can be supported through combination with NUFU support or other sources of funding of capacity building (e.g. the “quota” programme). *The committee recommends that a separate NUFU programme for global health research is established in the next NUFU contract period.* Such a NUFU-programme will be important in order to secure the necessary collaboration with institutions in low- and middle-income countries, as a supplement to the proposed programme through the Research Council.

The planning committee recommends that the proposed programme should fund collaboration with senior scientists and capacity building on PhD level for candidates from institutions in low- and middle-income countries. Such collaboration can in part be funded through the large initiatives and projects specified under paragraph 7.1 and 7.2. In addition, funding for these activities should be sought through the NUFU programme or other funding agencies, e.g. Ministry of Foreign Affairs/NORAD.

7.4. Research networks nationally and internationally

There is need for stronger collaboration within and across research groups in Norway as well as in relation to certain international initiatives like EDCTP, GAVI and others. Support for improved national networking is required in important areas where much research is ongoing, e.g. child health and nutrition, HIV/AIDS, tuberculosis, vaccine

related research, reproductive health and health systems and policy research. These networks could be established as part of the institution-based initiatives or the thematic projects specified under paragraphs 7.1 and 7.2 above. A national co-ordination of these activities requires administrative support. With an estimated need for 2 network coordinators in 2006 increasing to 6 by 2010, and a cost of approximately NOK 0.5 million per co-ordinating unit, the total amount required for this purpose will be NOK 1 million in 2006, increasing to NOK 3 million in 2010. This support and funding should be integrated into the funded proposals under 7.1 and 7.2.

7.5. A national forum for global health research

Better co-ordination of Norwegian activities in global health and global health research is needed. Through the proposed programme, new activities in global health research will be initiated at Norwegian institutions. As a consequence, there will be a stronger requirement for national exchange of information to improve research collaboration between institutions and to disseminate knowledge to central authorities in health and development. Important issues to be dealt with in such a forum would be to:

- Improve knowledge exchange and collaboration in research among Norwegian institutions in the field of global health
- Improve dissemination of knowledge to the government, relevant ministries and central authorities dealing with global health issues and identification of policy-relevant areas by dissemination in the other direction.
- Improve collaboration on global health issues among research institutions, the government and the NGO sector.
- Contribute to international processes and initiatives in the field of global health and health research.
- Be a forum for development of evidence-based policy on international health issues
- Keep a inventory of research activities and resources used for global health research in Norway
- Organise conferences on global health research at a regular basis in collaboration with the Board of the new global health research programme at the Research Council of Norway

This national forum would need a small secretariat with a total budget of approximately NOK 1-2 million annually. The funding for this could come from several sources (e.g. Ministry of Foreign Affairs/NORAD, Ministry of Health and Care Services, the Directorate for Health and Social Affairs, NUFU and the Research Council). To get the forum started the Research Council should provide some funding in 2005 (NOK 0.5 million) and start discussions with the above-mentioned institutions with the aim to establish the forum by the autumn of 2005.

7.6 Total funding requirements, 2006-2010

Based on the estimates given above, the necessary investment through the Research Council will be NOK 20 million in 2006 increasing to NOK 52 million by 2010 (see table). As indicated by the figures in paragraphs 7.1 – 7.5, approximately 60% of the total

should be allocated to strategic institutions-based initiatives, 30% to projects on selected thematic areas and 10% to networks and for initiating a global forum for global health research.

The contributions from the institutions should in the period 2006 - 2010 be increased from NOK 7 million to NOK 23 million annually. By these measures, the additional resources available for global health research in Norway will increase from NOK 27 million in 2006 to NOK 75 million in 2010 (see table).

Year	Governmental support through the Research Council (NOK million)	From the institutions (NOK million)	Total (NOK million)
2006	20	7	27
2007	30	10	40
2008	40	15	55
2009	45	20	65
2010	52	23	75

It has been estimated that Norway spends NOK 70 - 90 million annually on global health research in the university sector.²⁷ An increase of NOK 75 million per year by 2010 will improve Norway's contributions to global health research of relevance to poor populations from less than 5% to almost 10% of the total spending on health research in Norway. The planning committee emphasises the need for a long-term sustained commitment for public funding to this area. In order to reduce the 10/90 gap, the planning committee proposes a further increase in the Norwegian contributions to reach a minimum of 15% by 2015. This will require that the investments through the Research Council and the institutions by the year 2015 are doubled.

The proposed research strategy requires increased involvement of Norwegian research institutions in global health research. It is hoped that this may result in increased spending in this field, over and above what has been specified in the estimated proportion of funding from the institutions. Further, funding for global health research from the private sector is very small in Norway. The planning committee will strongly recommend initiatives from the government that stimulates contributions from the private sector for public-private partnerships in global health research. In addition, the possibility of private donations to a fund related to the programme should be explored. Such initiatives have potentials for mobilising funds that will come in addition to the proposed public funding specified in the table above.

The funding of global health research in Norway should be monitored and reported to the Research Council of Norway at regular intervals.

²⁷ *Global helseforskning: Tid for å styrke norsk satsing* (2003) Report from a working group appointed by the Ministry of Health, Ministry of Education and Research and Ministry of Foreign Affairs.

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Annex 1 Terms of reference

Mandat, Programplankomité GLOBHEL

Programplankomiten skal utarbeide forslag til programplan for GLOBHEL – Forskningsrådets program for Global helseforskning. Programmets tentative faglige rammer er skissert i rapporten *Global helseforskning: tid for å styrke norsk satsing..*

En programplan skal utdype programmets mål, faglige prioriteringer og innhold, samt overordnede gjennomføringsplan. Programplanen skal være et kortfattet (ca. 10 siders) strategisk dokument som skisserer "de store linjer" for Global helseforskning i et perspektiv på 5-6 år, og knytter den norske forskningen til den internasjonale forskningen på global helseproblematikk.

Planen skal adressere følgende elementer:

- Innledning: med bakgrunn, forskningsutfordringer, kortfattet beskrivelse av kunnskapsstatus, tilstandsbeskrivelse og oversikt over norske forskningsmiljøer.
- Målbare mål og delmål, både i forhold til kunnskapsproduksjon og utvikling av forskningsmiljøene.
- Faglige prioriteringer, dvs. tematiske satsingsområder innen programmet.
- Strategiske tiltak, dvs. tiltak knyttet til kvalitet i forskningen, internasjonal tilknytning, rekruttering og kompetanseutvikling, integrasjon og samarbeid mellom fag og institusjoner, formidling og samfunnskontakt.
- Avgrensninger og behov for komplementære aktiviteter, herunder forholdet mellom Global helseforskning og den øvrige utviklings- og helseforskning, avgrensning mot og synergier med andre nasjonale og internasjonale forskningsprogrammer og aktiviteter.
- Overordnede budsjettmessige prioriteringer og vurderinger knyttet til finansieringsbehov og finansieringskilder, inkludert forslag til prioriteringer under ulike budsjettscenarier.

Programplankomiten bes i tillegg:

- Utarbeide forslag til utlysningstekst for 2005 som et vedlegg til programplanen
- Planlegge et seminar om global helseforskning i Norge høsten 2004.

Komiteen står fritt til å innhente råd og bruke kompetanse utenfor komitens rekke. Forslag til programplan ferdigstilles innen 01.11.04.

Viktige dokumenter og faglige innspill

- Kamp mot fattigdom! Regjeringens handlingsplan for bekjempelse av fattigdom i sør mot 2015 (Utenriksdepartementet, 2002)
- Forskning ved et tidsskille, St. meld. 39 (1998-1999)
- Nasjonal handlingsplan for bærekraftig utvikling, (Finansdepartementet 2003)
- Helse i utviklingssamarbeidet: prioriterte tema og arenaer for Norads arbeid (Norad, 2003)
- Global Helseforskning: Tid for å styrke norsk satsing (2003)

- Norsk utviklingsforskning – utviklingstrekk og utfordringer (Norges forskningsråd, 2000)
- Breaking the circle: which ways out of poverty? (Norges forskningsråd, 2004).
- Programplan, Globalisering og marginalisering. Fler- og tverrfaglig forskning om utviklingsveier i Sør (UTISOR).

Annex 2 Conference: Global health research: International challenges and Norwegian contributions



Global health research
International challenges and Norwegian contributions
Bergen, 21 – 22 September 2004

Tuesday 21 September 2004 Auditorium, Haukeland University Hospital (session in cooperation with GAVI seminar)		
14.00 – 14.10	Introduction	Tore Godal, GAVI Secretariat and Roy H. Gabrielsen, Research Council of Norway
14.10 – 14.45	Health, Economics, and Poverty: Immunization as a Development Priority	David Bloom, Clarence James Gamble Professor of Economics and Demography, Department of Population and International Health, Harvard School of Public Health
14.45 – 15.15	Global health research - the South perspective	Professor David Sanders, School of Public Health, University of the Western Cape, South Africa
15.15 – 15.45	Strategies to increase global coverage of essential vaccines	Bjarne Bjorvatn, Professor, Centre for international health, University of Bergen
15.45 – 16.15	Barriers to equitable vaccine delivery	Ingvar Theo Olsen, Director Centre for Health and Social Development (HESO)
16.15 – 16.30	Break	
16.30 – 16.45	European Malaria Vaccine Initiative – a model for funding of global health research	Professor Bernt Lindtjørn, Director, Centre for International Health, University of Bergen
16.45 – 17.00	Norwegian support to health research on poverty related health problems – current situation and future plans	Roy H. Gabrielsen, Division director, Division for science, Research Council of Norway
17.00 – 17.15	Concluding remarks	Halvor Sommerfelt, Professor, Centre for international health, University of Bergen
19.00	Conference dinner (by invitation)	

Wednesday 22 September 2004 Scandic Bergen City (Bergen Kongress Senter), Håkonsgaten 3-5, Bergen		
08.30 – 09.00	REGISTRATION	
09.00 – 09.10	Introduction	Professor Gunnar Kvåle, Chair of the planning committee on global health research
09.10 – 09.50	The role of Global health research in the fight against poverty	Hilde F. Johnson, Minister of International Development, Ministry of Foreign Affairs
09.50 – 10.20	Global Health Research at Norwegian Institutions: strengths, weaknesses, opportunities and threats. Visions for the future	Sigrun Møgedal, Senior advisor, Norwegian Agency for Development Cooperation (NORAD)
10.20 – 10.40	Coffee/Tea	
10.40 – 12.00	Global Health Research: A priority area at Norwegian institutions? Panel discussion	
	Gunnar Bjune, Professor, University of Oslo	
	Kirsti Koch Christensen, Rector, University of Bergen	
	Berit Rostad, Associate Professor, Norwegian University of Science and Technology (NTNU)	
	Tore Jarl Gutteberg, Professor, University of Tromsø	
	Unni Knutstad, Deputy rector, Oslo University College	
	Eli Bergsvik, Rector, Bergen University College	
	Preben Aavitsland, Department Director, Norwegian Institute of Public Health	
	Atle Fretheim, Researcher, Coordinator International Health, National Health Services Research Centre	
	Birger Sørensen, CEO, Bionor Immuno AS	
	Kurt Hanevik, Board member, Doctors without borders, Norway	
	Sissel Hodne Steen, Director of Department for Human Development and Service Delivery, NORA	
	Tom Skauge, Head of Section, The Norwegian Centre for International Cooperation in Higher Education (SIU)	
	Ragna Valen, Director, Clinical Medicine and Public Health, Division for Science, Research Council of Norway	
12.00 – 13.00	Lunch	
13.00 – 13.15	Comments by Professor David Sanders, University of the Western Cape	
13.15 – 15.00	Panel discussion continues - questions from the planning committee and conference participants	
15.00 – 15.15	Coffee/Tea	
15.15 – 15.45	Global health research - priority areas and the role of Norwegian institutions	Elisabeth Aspaker, State Secretary, Ministry of Health
15.45 – 16.00	Closing remarks	Professor Ib C. Bygbjerg, Department of International Health, Institute of Public Health, University of Copenhagen, Denmark

Global health research International challenges and Norwegian contributions Bergen, 21 – 22 September 2004

Tuesday 21 September, venue: Haukeland University Hospital

The afternoon session was in cooperation with a GAVI seminar 20 – 21 September. David Sanders' lecture was commissioned by the Research Council of Norway, available on <http://www.forskningradet.no/CSSStorage/Vedlegg/David%20Sanders.ppt>. Roy H. Gabrielsen gave his lecture as Division Director in the Research Council of Norway, available on <http://www.forskningradet.no/CSSStorage/Vedlegg/Roy%20Gabrielsen.ppt>.

Wednesday 22 September, venue: Scandic Bergen City

The conference was chaired by Professor Gunnar Kvåle and Professor Johanne Sundby, chair and member of the planning committee on global health research.

Hilde Frafjord Johnson, Minister of International Development *The Role of Global Health Research in the Fight against Poverty: Why do we need a new research programme on global health issues?*

Hilde Frafjord Johnson opened the speech by stating that there is an obvious link between poverty and poor health; ill health creates poverty and poverty leads to ill health and that this link has been neglected in mainstream development policies. Further, the MDGs can only be reached by a strong focus health issues. Johnson pointed to childhood diseases, reproductive conditions, TB, malaria, HIV-AIDS and other neglected tropical diseases as areas that need particular attention and research. She further pointed at access to and utilization of health services, health systems research, service delivery, priorities in resource constrained environments and financial management and health personnel issues as important areas.

It was referred to recent *Report to the Storting* which states that a new programme on global health research will be established. This should be a joint effort between the public and the private sector, between the funding agencies and the research institutions and several ministries. The activities under the new programme should be coherent and consistent to make a much more marked profile of Norwegian health research of relevance globally and the programme should build on strong partnerships with developing countries to make sure that the poor will gain lasting benefits, Hilde Frafjord Johnson emphasized.

The speech is available on www.odin.no/ud/norsk/aktuelt/taler/statsraad_b/032171-090276/dok-bn.html

Following the speech, questions were raised by representatives of University of Oslo and University of Bergen on some aspects of the speech.

Sigrun Møgedal, Senior advisor, NORAD and member of the planning committee
Global Health Research at Norwegian Institutions: Strengths, weaknesses, opportunities and threats. Visions for the future

Sigrun Møgedal gave an overview of global health research in Norway and outlined important aspects in strengthening the research capacity. Among opportunities is to better utilize the already existing research capacity through closer collaboration between institutions. Further, Møgedal pointed out that an impediment to effective research on poverty related problems is the structure of research financing. Further, the global initiatives occupy much of the space for new opportunities in global health research and that the drive for results on single challenges make use of significant funding. Møgedal concluded by emphasizing the critical role of trained health personnel.

Panel discussion

Following the two introductory lectures, the institutions presented their activities in global health research and their various roles in doing research, making use of the results of the research or as institutions financing research. The following gave brief summaries of the activities at their institutions: Gunnar Bjune, University of Oslo Kirsti Koch Christensen, University of Bergen, Berit Rostad, Norwegian University of Science and Technology (NTNU), Tore Jarl Gutteberg, University of Tromsø, Unni Knutstad, Oslo University College, Eli Bergsvik, Bergen University College, Preben Aavitsland, Norwegian Institute of Public Health, Atle Fretheim, National Health Services Research Centre, Birger Sørensen, Bionor Immuno AS, Kurt Hanevik, Doctors Without Borders (MSF), Sissel Hodne Steen, NORAD, Tom Skauge, The Norwegian Centre for International Cooperation in Higher Education (SIU), Ragna Valen, Research Council of Norway (see conference programme for titles and positions).

Professor David Sanders, University of the Western Cape, South Africa, commented briefly on the presentations given by the Norwegian institutions. David Sanders held out the importance of policy relevant research. Also, research on implementation was emphasized. Research should be driven by the need of the South but it should be the responsibility of the bodies that set research priorities to identify and fill the gaps in health research. Capacity must be developed at all levels, including the community level as there huge desire for public health work at this level. Brain drain is one important factor reducing the capacity for effective health care in many developing countries.

The panel discussion continued with questions from the planning committee and conference participants. The chair, Professor Gunnar Kvåle initiated the panel discussion by asking how to develop a strong commitment from the institutions to channel resources into global health research. Further interventions and answers from Frik Sundstøl, Halvor Sommerfelt, Christopher Oleke, Peter Rombout, Bernt Lindtjørn, Wenche Barth Eide, Tore Jarl Gutteberg, Sissel Hodne Steen, Birger Sørensen, Gunnar Bjune, Kirsti Koch Christensen, David Sanders, Tom Skauge, Sigrun Møgedal, Rune Nilsen, Thorkild Thylleskär, Knut Høltedahl, Tharald Hetland and Francis Namisi.

The discussion was rounded off by finishing remarks from the panel and comments from David Sanders.

Elisabeth Aspaker, State Secretary, Ministry of Health: *Global health research – priority areas and the role of Norwegian institutions*

In the speech, Aspaker outlined reasons for increase in Norway's involvement in global health research. It was held out that evidence based health interventions contribute importantly to reduce poverty in an increasingly global world. Further, the Ministry of Health has its share of the responsibility to support the processes that will contribute to meet the targets of the UN millennium development goals and the ministry will support the development of the research programme on global health, Aspaker said.

The speech is available on

<http://www.forskningsradet.no/CSSStorage/Vedlegg/Globhelkonf%20-%20Aspaker.doc>

Ib C. Bygbjerg, Professor, University of Copenhagen and member of the planning committee: *Concluding remarks*

The presentations by the institutions leave a portrait or mosaic made up of few major pieces and many more minor, sometimes barely visible, fragments. The Universities of Oslo and Bergen are centrally placed, with other universities and university colleges and institutions in the background, although a variety of research topics are covered, to a varying degree.

Ib C. Bygbjerg stressed that the need for a broad approach and to look beyond the Millennium Development Goals is very important in a world in fast transition, with the burden of non-communicable diseases doubling in developing countries by year 2025. It was strongly advocated for more research collaboration beyond traditional country- and academic borders

In brief, Bygbjerg held out, Norway has a potential for a much more marked profile in research for improved global health, but there is need for perspectives or focal points, as well as incentives. The new proposed programme may be an important tool in reaching this goal.

Further information on the conference is available on

<http://www.forskningsradet.no/forport/application?pageid=Visningsside&childAssetType=GenerellArtikkel&childId=1095880536286>

Annex 3 Norwegian research institutions involved in global health research

The ToR for the planning committee included producing and overview of activities in Norway on global health research. This annex is based on information given by the institutions response to a request from the planning committee.

The institutions were asked to report activities falling within the definition of global health research. Three different forms were developed for mapping the research activities:

Form A: information from the institutions, e.g. universities, university colleges etc.

Form B: information from research groups within the institutions reporting on form A

Form C: information from the private sector, i.e. outside the universities

In designing the survey, the committee decided that the survey units should be research groups, i.e. larger projects with distinct funding and research activities. The intention was to grasp the picture of activities on the level above the individual researchers and below the larger institutions. In June, a formal request for information was sent from the Research Council of Norway to all institutions thought to have activities falling within the definition. In addition, already identified research groups were contacted directly by e-mail by the Research Council.

It was planned to use form A from the universities in this attachment. As the quality of the responses to these forms varied, it was not possible to use these forms as they were received. Information on *number of researchers involved in global health research* (table 2 from selected forms A and B) has been included. In addition, a qualitative summary of the research has been included (omitted were the reported activities are found to not be relevant, i.e. not falling within the given definition of global health research). These summaries have been sent back to the relevant institutions for check and proof reading.

The number of researchers working on global health research is given by the institutions. Some institutions have applied a very broad definition and included activities with relevance for health but not falling within a conservative use of the definition. Comparing the figures on number of researchers is thus difficult.

Some research groups and institutions have given detailed data on *main areas of research* (form B, table 3). The picture emerging from this information is that what is reported as global health research cover a variety of research areas. It is difficult to point out any particular trend from this information.

The most difficult information to compile was *current funding of global health research* (form B, table 4). It is not possible to point out any particular trend without doing a thorough check on the reported figures.

Information on *main collaborating institutions* (form B, tables 5A and 5B) show that extensive collaboration has been established between Norwegian institutions and research

institutions both in other industrialized countries and institutions in low- and middle-income countries.

Information on *number of degrees in the field of global health research from the group in the period 2001-2004* (form B, table 6) show that the larger institutes, centre and networks, e.g. Institute of General Practice and Community Medicine and GLOBINF in Oslo and Centre for International Health in Bergen report a high number of Master and PhD degrees. These institutions also report a large number of students working on their degrees. As for other institutions, many, also outside the university sector, report a smaller number of PhD degrees.

Information on *5 relevant publications in the field of global health research from the group published in the period 2001-2004* (form B, table 7) has been used for assessing the quality of the publications from the research groups. Where the research groups have reported publications in international peer reviewed journals it is mentioned in the text.

It is emphasised that the information is *reported by the institutions*. **All figures and descriptions of activities should be read as self-reported.**

For a summary of the activities of the institutions, see the main report, chapter 5.

University of Oslo

GLOBINF

GLOBINF is a virtual research centre consisting of approximately 30 researchers from the Medical Faculty, University of Oslo, Norwegian Institute of Public Health and the Norwegian Health Services Research Centre. The research within GLOBINF is thematically concentrated around:

- HIV/AIDS – (i) vaccine development/testing and (ii) preventive efforts targeting at adolescents and MTCT
- Tuberculosis – (i) vaccine development/testing, (ii) epidemiological modelling and (iii) testing of strategies for treatment.
- Meningitis – vaccine development/testing
- Health services research – (i) strategies for implementation and (ii) competence building in the South.

GLOBINF was established in 2002 as one of the prioritized research areas at the Faculty of Medicine. The focus has been to strengthen and building the relations between research groups involved in international health research as well as initiating and stimulating to new activities. GLOBINF partners are involved in several ongoing research projects. In addition to these, the partners are planning a number of new initiatives. Acknowledging the limited resources available for global health research, GLOBINF has been concerned about stimulating the partners to collaborate and develop new projects. In 2003 and 2004, 12 new initiatives between different partners received seed-money from GLOBINF. Some of these initiatives have already materialized into concrete research projects and applications, and one of them received grant from the Research Council in 2004.

GLOBINF reports the following number of researchers in global health research:²⁸

Position	Number of researchers	
	Global health research as main activity (≥ 50 %)	Global health research as part time activity (20 – 49 %)
Professors	11	1
Associate Professors	3	
Senior researchers	11	9
Postdoc fellows		

GLOBINF reports approximately 10 PhD and 70 Master degrees in the period 2001-2004. In 2003, GLOBINF researchers published 39 articles in scientific journals, had 10 presentations at national and international conferences and 5 other disseminations.²⁹

²⁸ The GLOBINF network overlaps with other research activities at University of Oslo and the numbers of researchers reported by GLOBINF and other departments should therefore not be summarized.

²⁹ information from GLOBINF website

<http://www.med.uio.no/tematisk/globinf/Globinf%20publications/index.html>

Institute of General Practice and Community Medicine, Faculty of Medicine

The three sections of Institute of General Practice and Community Medicine, *International Community Health, Medical Anthropology and Social Medicine* and *Preventive Medicine and Epidemiology* reports the following number of researchers in global health research:

Position	Number of researchers	
	Global health research as main activity ($\geq 50\%$)	Global health research as part time activity (20 – 49 %)
Professors	6	3
Associate Professors	2	
Senior researchers		1
Postdoc fellows	3	

In the period 2001-2004, 8 PhDs and 66 Master degrees were completed.

Section for International Health is the largest unit working in this area, and draws upon scholars from the entire Faculty of medicine and beyond. The M. Phil. program in International Community Health is the core activity at the Section for International Health. The research topics are chosen in collaboration with institutions in the home country of the student. Activities are mainly in these main areas: reproductive health and HIV, tuberculosis and primary health systems, chronic diseases and nutrition. Cross-cutting with the main activity areas are the issues of implementation of programs into health systems, especially health information systems, addressing gaps in basic research and new tools for development. The research is methodologically varied, using epidemiology, anthropology, information systems and macroeconomics. Development projects or specific health programs are studied by approaches similar to those used in evaluations. Science based evaluation have been developed to a field of research. International and national trends in health issues and priorities are adopted through active collaboration with WHO and other international agencies and with NORAD and Norwegian NGOs. The unit also hosts many doctoral students working in these or related areas, often in collaboration with other institutions (National Institute of Public Health, Informatics, Health management etc).

Section for International Health has institutional agreements with Malawi, Botswana, Zimbabwe, Sudan, Ethiopia, Bangladesh, Vietnam and others have been established. The group reports publications in international peer reviewed journals.

Section for Medical Anthropology and Social Medicine is involved in research collaboration in Botswana and South Africa. In Botswana the collaborating partner is Ministry of Health, Research Unit. One topic of research is health perception among the San people. Another topic relates to quality of drug prescribing in primary health care in Botswana. In South Africa the research topic is living conditions among people with disabilities, a project in collaboration with SINTEF and University of Cape Town. The group reports publications in international peer reviewed journals.

Section for Preventive Medicine and Epidemiology has been involved in global health research since early 1990. The main research projects have been in co-operation with universities and other research institutions in Botswana, Tanzania, Palestine and China (China inland and Tibet). There is high activity in the co-operation with Palestine and China which aims at initiate research projects based on local need, training of faculty members and health personnel in research methods and project planning, through courses and research projects, supervision of Master- and PhD-students. The research areas include diseases and health behaviour related to the process of urbanization. Other main areas of research are mental health, hepatitis B, over/under nutrition, asthma and occupational health.

The group reports publications in international peer reviewed journals.

Also at the Institute of General Practice and Community Medicine is the project “Urban Health” with collaboration with diabetic associations in Bangladesh and Pakistan.

Other research groups at University of Oslo

Other research groups report in total the following number of researchers in global health (figures in table include: The Biotechnology Centre of Oslo, The Centre for Vaccinology and Immunotherapy (CEVI), Institute of Basic Medical Sciences, Department of Obstetrics and Gynecology, Institute of immunology, Centre for imported and tropical diseases, Institute of Health Management and Health Economics, Department of Psychology, School of Pharmacy, Department of Chemistry, Department of Informatics)

	Professors	Associate professors	Senior researchers	Postdoc. fellows
Main activity	4	4	1	1
Part-time activity	16	5	1	2

The Biotechnology Centre of Oslo

The Biotechnology Centre of Oslo aim to develop drugs for immunomodulating therapy in HIV and other immuno-deficiencies based on proprietary technology. The work aim for treatment protocols that can help eradicate HIV by immune stimulation in combination with HAART or therapeutic vaccination or that by administration before HAART possibly could postpone HAART.

The group reports publications in international peer reviewed journals.

Faculty of Medicine

Thematic group: The Centre for Vaccinology and Immunotherapy (CEVI), Faculty Division, Rikshospitalet University Hospital

The Centre for Vaccinology and Immunotherapy (CEVI) aims at developing strategies to modulate, enhance and exploit adaptive immunity, including regulatory and effector mechanisms, particularly those operating at mucosal surfaces. To achieve this aim, the group will place emphasis on the characterisation of antigen-presenting cell (APC) subsets with different functional properties. The reason is that APCs appear to be decisive for induction of productive immunity as well as tolerance. Novel delivery methods for vaccines based on engineered antibody molecules will be employed, especially

“Troybodies” that can target APCs for efficient T-cell stimulation. Another approach will be generation of phage display-selected peptides that can target defined receptors (e.g. the pIgR) for delivery of tailored minibodies or therapeutic agents. The uncovered principles will be exploited to develop both active and passive vaccines against mucosal infections and cancer. The group will also try to develop suppressive immunotherapy for chronic inflammatory diseases and allergy. This thematic group consists of 5 university laboratories with complementary technologies and interests, facilitating collaboration with substantial added value. The group has links to the Natl. Inst. of Publ. Health that masters additional vaccine technologies, and also interaction with 3 biotech companies, thereby obtaining financial support and facilitating commercialisation and clinical application of novel ideas.

The group reports publications in international peer reviewed journals.

Institute of Basic Medical Sciences

Department of Nutrition reports two research groups. One research group is integrated into GLOBINF and is focusing adolescent HIV/AIDS prevention, through collaboration with research institutions particular in Tanzania and South-Africa, built through the NORAD funded MUTAN and the EU funded ARNHe-network. This research group reports two projects, the NUFU funded *Community Health Development: An Intervention Study among Young People in Kahe 2002-2006* and the EU-funded project *Promoting sexual and reproductive health. School based HIV/AIDS intervention in sub-Saharan Africa (SATZ)*. Also as part of this research group is PhD study on MTCT in Tanzania and a postdoc study in South Africa. The group reports publications in international peer reviewed journals.

The second research group at Department of Nutrition is project *the human right to adequate food and health in development*. In 2000, Department of nutrition became partner in the new interdisciplinary *International Project on the Right to Food in Development* and through this project collaborates with the Norwegian Centre for Human Rights and Akershus University College. The group reports one publications in an international peer reviewed journal, book chapters and editor of a forthcoming book.

Faculty Division, Rikshospitalet University Hospital

Department of Obstetrics and Gynecology reports the research group International Center for Women and Children's health and Prevention of Infection. The department has built an extensive collaboration and network with different research groups in Africa, Asia and Eastern Europe. The work has focused on the influence of different infections on maternal and fetal health. The activity has included epidemiological studies, clinical evaluations, therapeutic interventions and quality assurance work. The group reports publications in international peer reviewed journals.

Institute of immunology reports studies of immunological aspects of tuberculosis and leprosy, and of their causative organisms, *Mycobacterium tuberculosis* and *Mycobacterium leprae*, in collaboration with the Armauer Hansen Research Institute (AHRI) in Addis Ababa, Ethiopia. The group reports publications in international peer reviewed journals.

Faculty Division, Ullevål University Hospital

Centre for imported and tropical diseases is mainly undertaking research projects at the PhD level, and reports the following projects, female genital schistosomiasis (Zimbabwe), molecular epidemiology of *Mycobacterium tuberculosis* (Bangladesh), morbidity studies of *Schistosoma mansoni* (Ethiopia) and immunological and inflammatory responses in malaria infection. The centre also reports studies on African tick bite fever, studies in cooperation with TropNetEurop and HIV-studies in Haydom, Tanzania. The group reports publications in international peer reviewed journals.

Institute of Health Management and Health Economics

Department of Health Management and Health Economics reports research activities aiming at studying health insurance reform and health care management in China at an initial stage.

Department of Psychology, Faculty of Social Sciences

HIV/AIDS community based research group: The research group is part of a NUFU-funded collaboration between the Department of psychology and University of the North, South Africa. Another project is a longitudinal participatory intervention aimed at meeting the needs of HIV positive.

PTSD, health and cognition: The research group has a focus on the psychological effects of the war in Bosnia. The overarching research topic is the psychological effect of war trauma. One main research area is the evaluation of psychosocial intervention programmes for traumatised children. Another research topic is the cognitive effects of war traumas.

The group reports publications in international peer reviewed journals.

School of Pharmacy, Faculty of Mathematics and Natural Sciences

The project *Medicinal Plants in Mali: Ethnobotany, Phytochemistry and Biological activity* is based on the cultural situation of the people and Mali and attempts to build on their own treatment traditions for improvement of health.

The group reports publications in international peer reviewed journals.

Department of Chemistry, Faculty of Mathematics and Natural Sciences

Research on new drugs against TB. The group reports publications in international peer reviewed journals.

Department of Informatics, Faculty of Mathematics and Natural Sciences

The reported activities in global health research are carried out within the framework of the *Health Information Systems Programme (HISP)*. HISP is a large research programme funded by NUFU and is an important part of the research strategy of the department. HISP is a network programme and is based on collaboration with a number of universities in developing countries and the health authorities in these countries. The group reports publications in international peer reviewed journals.

University of Bergen

University of Bergen reports the following number of researchers involved in global health research:

Position	Number of researchers	
	Global health research as main activity ($\geq 50\%$)	Global health research as part time activity (20 – 49 %)
Professors	15	15
Associate Professors	1	6
Senior researchers	4	1
Postdoc fellows	8	

University of Bergen also reports 63 PhD students and 65 Master students (more than 90 % of these have global health the main research activity).

Centre for International Health (CIH)

Research and training programmes at the Centre for International Health (CIH) focus on poverty related health problems in low- and middle-income countries. CIH coordinates research on international health at the University of Bergen. A wide approach to deal with the issue of international health that includes the promotion of health, prevention and treatment of diseases, palliative care, rehabilitation and health policy and management of health services is applied. The topics targeted by the students or researchers cover a wide range of disciplines, such as public health, clinical and nursing sciences, nutrition, tropical medicine, medical anthropology, demography, epidemiology, and health economy.

Centre for International Health reports the following number of researchers:

Position	Number of researchers	
	Global health research as main activity ($\geq 50\%$)	Global health research as part time activity (20 – 49 %)
Professors	9	4
Associate Professors		
Senior researchers	2	1
Postdoc fellows	5	

The main research groups are in the field of Essential Global Health Research. The focus is on the major global health problems that primarily affect poor populations, such as child health and malnutrition, reproductive health, HIV/AIDS, tuberculosis, vaccine preventable diseases, health policy and systems research and health promotion.

The research programmes are run in close collaboration with institutions for higher learning and/or ministries in low- and middle-income countries, and capacity building

and staff development are important parts of the programmes. The teaching and training programmes at the CIH cover both undergraduate and postgraduate teaching. The training programmes include Master programmes in International Health, in Health Promotion and in Dentistry, and a PhD programme.

The following research groups are reported at Centre for International Health:

TB-HIV-Ethiopia

In Ethiopia, CIH is working with governmental institutions and NGOs to establish model centres for HIV care and treatment. The aim is to evaluate how antiretroviral therapy in resource poor settings may enhance effective prevention programmes. The project "Challenges of tuberculosis control in Southern Ethiopia" aims at clarifying the implications of introducing DOTS to the tuberculosis control programme in the region. The group reports publications in international peer reviewed journals.

Tanzanian-Norwegian Health Systems and Reproductive Health Research Group

The reproductive health group was established as a follow-up of the Tanzanian-Norwegian HIV/AIDS programme funded by NORAD for the period 1988-1996. The programme has been funded by grants from the Norwegian Research Council and NUFU. Two projects are reported by this research group: 1) *Community health development: An intervention study among young people in Kahe* (see also information from Department of Nutrition, University of Oslo), 2) *Health systems research in relation to reproductive health services – Registry based reproductive health research*. This group also initiated the project *Burden of disease among the poor in Tanzania. Consequences for priorities in curative and preventive health services* which is known in collaboration with Department of Public Health and Primary Health Care

The research group has also run a large epidemiological study on maternal health and perinatal and infant mortality in the Hanang and Mbulu districts in Tanzania since 1994. The project is continued with a focus on prevention of HIV/AIDS. The group reports publications in international peer reviewed journals.

Childhood diarrheal disease and nutrition (CDDN) group

The childhood diarrheal disease and nutrition group at the CIH has for over a decade performed studies related to child health and nutrition in developing countries. Through international collaborative ventures with research teams in India, Nepal, Guinea-Bissau, South Africa, Europe, and the United States, the group has completed and undertakes research aimed at improving diarrhea management, reducing the incidence of severe diarrhea and pneumonia and promoting adequate childhood nutrition. This research ranges from basic biological studies through vaccine trials measuring the effect of zinc supplementation or depletion on immune responses to vaccine antigens through large-scale field trials that measure the efficacy and effectiveness of zinc supplementation to prevent and treat the most important infectious diseases in childhood, including diarrhea and pneumonia.

The group reports publications in international peer reviewed journals.

Child Health and Nutrition

The research group focuses on Essential Child Health and Nutrition in sub-Saharan Africa, both community-based and clinic-based research on improved care and nutrition at home and improved care at the clinic and the use of Portable Information Technology in training and research in low-income countries.

Collaborative research projects on Child Health and Nutrition in the context of HIV: 1) NUFU-collaboration with Dept of Paediatrics & Child Health, Makerere University and 2) PROMISE EBF, a new INCO (EU) project with South Africa, Zambia, Uganda, Burkina Faso, France, Sweden and Norway and 3) Collaboration with WHO in the development of a software for handheld computers for data collection using the new WHO growth standard for pre-school children.

The group reports publications in international peer reviewed journals.

Pathology and immunology of tuberculosis

The group has been working in the area of TB pathology for a few years. The main focus is in pathological diagnosis, immune response, HIV-TB coinfection and molecular detection of Mycobacterium in tissue sections. Strong collaborative links are established with other research groups at the University of Bergen especially. The group also collaborates with Colorado State University, USA, University of Stellenbosch, South Africa and the National Institute for Medical Research in Dar es Salaam, Tanzania.

The group reports publications in international peer reviewed journals.

Oral health in a global perspective

The project aims at 1) providing information necessary for the planning and implementation of oral health interventions, 2) implement and monitor oral health intervention projects and 3) evaluate intervention approaches. The main partners involved are Muhimbili University College of Health Sciences, Tanzania and Makerere University, Uganda.

The group reports publications in international peer reviewed journals.

HIV-related research

The project *Searching for effective HIV-prevention in sub-Saharan Africa: focusing on local contexts* is multidisciplinary research (epidemiology, psychology, anthropology and health system research). The project is linked with established co-operation programmes in research and capacity building between CIH and institutions in the South and funded by NUFU and EU. Accordingly, research is going on in different sites to capture the sharp differentials in the dynamics and trends of HIV transmission in the region.

Besides having a general population approach, the project includes components targeting young people and the family. This includes the prevention of mother-to-child transmission of HIV and interventions related to community approaches to support orphans and the need to prevent exploitation, abuse and HIV transmission.

The group reports publications in international peer reviewed journals.

Other research groups at University of Bergen

Research Centre for Health Promotion. Faculty of Psychology

The Research Centre for Health Promotion has been involved in research with partners in developing countries, particularly in sub-Saharan Africa, since it was established in 1988. *Multicultural Venues of Empowerment in Health and Education: Applying local cultural perspectives on global social challenges.* The group consists of researchers from Research Centre for Health Promotion, Section for Educational Research, Department of Psychosocial Science, Centre for Child Welfare Studies and individual researchers from other departments in the Faculty of Psychology. The group has 12 ongoing externally funded research projects within the umbrella of the group on the topics of prevention of and coping with HIV/AIDS, prevention of and coping with political violence, and topics of empowerment, education and enabling learning environments. The group co-operates with universities in 10 African countries and the Middle East.

The group reports publications in international peer reviewed journals.

Promoting Sexual and Reproductive Health – School-based HIV/AIDS prevention in sub-Saharan Africa. Seven universities in Europe (Norway, Sweden, the Netherlands) and Africa (Tanzania and South Africa) collaborate on a research project aiming at developing and evaluating an intervention programme on HIV/AIDS prevention targeting adolescents aged 12-14. The project runs in the period 2002 - 2006 and is funded by EU (Fifth Framework Programme - INCO).

Both research groups report publications in international peer reviewed journals.

Research Centre for Health Promotion reports that the following two research areas are given priority: 1) studies related to HIV/AIDS in sub-Saharan Africa and 2) coping with political violence. Research in these two broad areas will be strengthened.

The group reports publications in international peer reviewed journals.

Department of Public Health and Primary Health Care

At Department of Public Health and Primary Health Care the research group *Priority setting in global health* has in collaboration with Centre for International Health established a cross-disciplinary research group concerned with priority setting in global health. The group works on the development of criteria for priority setting in health, case studies on priority setting, evidence-based health policy and planning, involving laypersons in priority setting, burden of disease studies, and economic evaluations of health interventions. The goals of the research group are: 1) To conduct high impact research, 2) To establish *Priority setting in global health* as an international research group on priority setting and planning in global health, 3) To build capacity in low-income countries through master and Ph.D. programs for interdisciplinary research on priority setting and planning. The group reports publications in international peer reviewed journals.

Two of the sections at the department have relevant global health activities:

Section of Nursing Science has substantial activity in the NUFU funded programme: *Gender, generation and communication in times of AIDS: the potential of 'modern' and 'traditional' institutions* engaged with issues of HIV prevention and AIDS care in a context of a the HIV/AIDS situation in East Africa. The activities involve institution building-, capacity building-, research and dissemination on both the East African and the

Scandinavian side. An emphasis is placed on culturally informed approaches to the pandemic. The initiative particularly explores the assumed potential inherent in 'traditional' as well as 'modern' institutions in coping with and empowering communities in HIV prevention and AIDS care.

Section for Occupational Medicine reports a research group consisting of participants from University of Bergen, Norway and Muhimbili University College of Health Science, Tanzania. The broad objective of the study will be to explore that extent of occupational related diseases among employees exposed to dusts and irritants in the textile, coffee and mining industry with the purpose of providing a scientific basis for setting priorities for occupational health and safety policies in Tanzania. The study also aims at capacity building of trained personnel who will provide the theoretical and technical skills, and material resources to the collaborating institutions.

Bergen Oral Cancer group, Faculty of dentistry, reports the following activities: 1) To investigate if there are differences on the gene- and protein level between tumours of oral cancer from Sudanese snuff-dippers, non-snuff-dippers, and Norwegians, 2) To investigate the effect of toombak on organotypic cell cultures of oral mucosa, 3) To investigate the effect of khat on leukemic cell lines and organotypic cell cultures of oral mucosa.

The group reports publications in international peer reviewed journals.

The Faculty of Dentistry also reports a project on *Reducing the risk of hepatitis and HIV cross-infection of patients in Eastern Europe*. The project has been developed in response to the identification of a major health problem in Romania, the Republic of Moldova and the Slovak Republic where hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV infections are spreading rapidly.

See also information on *Oral health in a global perspective* in the section on Centre for International Health.

Section of Microbiology and Immunology, The Gade Institute

The Molecular Bacteriology and Immunology group reports research on: 1) Enteric Diseases: identification and characterisation of virulence factors of diarrhoeagenic Escherichia coli; studies on the genetic regulation of expression of virulence factors in enterotoxigenic Escherichia coli; as part of a collaborative network phase I and phase II studies on the development of improved oral vaccines for intestinal pathogens. 2) Rapid Diagnostics: development and evaluation of rapid diagnostic methods for the detection and genotypic characterisation of bacterial pathogens. 3) Mycobacterial Diseases: Tuberculosis-related research has recently been established as one of the priority areas within the group. The group reports publications in international peer reviewed journals. The Mycobacterial immunology and proteomics group reports research on constituents of tubercle bacilli that are important for development of a new vaccine against tuberculosis, new diagnostic methods for tuberculosis and for development of new drugs against tuberculosis. The group reports publications in international peer reviewed journals. The Gade institute has a long tradition for cooperation with Tanzania and Uganda and Centre for International Health.

Institute of medicine, Haukeland University Hospital

Infectious Disease Research group conducts clinical research on bacterial infections, particularly nosocomial infections. Also basal bacteriological molecular epidemiology, clinical epidemiology and clinical research on co-infections with tuberculosis and HIV-research in Norway and developing countries. The group reports publications in international peer reviewed journals.

The Stein Rokkan Centre for Social Studies

The Stein Rokkan Centre for Social Studies reports *Programme for Health Economics in Bergen* which is a co-operation between University of Bergen (Department of Economics and Department of Public Health and Primary Health) and Norwegian School of Economics and Business Administration. The Stein Rokkan Centre for Social Studies holds the administrative responsibility. The research activities involve 1) Incentives and organisation of the health sector, 2) Evaluation of medical treatment programmes, 3) Resources and inequalities in health. The group plan to increase focus on health related research of relevance for developing countries, with special focus on sub-Saharan Africa and Nepal.

Norwegian University of Science and Technology (NTNU)

NTNU reports the following number of researchers involved in global health research:

Position	Number of researchers	
	Global health research as main activity ($\geq 50\%$)	Global health research as part time activity (20 – 49 %)
Professors		15
Associate professors	1	10
Senior researchers		
Postdoc. fellows	2	1

Faculty of Medicine

The Faculty of Medicine contributes in the multi-disciplinary BA programme African Studies at NTNU through the course *Health in Africa*. The BA programme is currently being expanded to a Master programme. A number of medical students have chosen international health as their field of research for the mandatory student thesis (Jordan, Kenya, South-Africa, Mozambique, Malawi).

Since 1999 the Faculty of medicine has been involved in collaboration with Jordan University of Science and Technology. Research collaboration is being explored within the fields of genetics, obstetrics, women's health and neurosurgery. The faculty intends to establish cooperation with a medical faculty in a third world country.

Department of Community Medicine and General Practice

The department reports projects on cervical cancer in Mozambique and women and violence in Jordan. The group reports publications in international peer reviewed journals.

Department of Laboratory Medicine, Children's and Women's Health

The department reports a research project in women's health, on group B streptococcal infections in pregnant women.

Faculty of Social Sciences and Technology Management

The majority of the activities in global health research reported by NTNU take place at Faculty of Social Sciences and Technology Management (compare the table below and the table for NTNU above). Researchers involved in global health research:

Position	Number of researchers	
	Global health research as main activity ($\geq 50\%$)	Global health research as part time activity (20 – 49 %)
Professors		14
Associate professors	1	8
Senior researchers		
Postdoc. fellows	2	1

Department of Sociology and Political Science

The department reports the research group *Medical sociology*. One of the research topics has been screening programs, their histories and effects, including global health effects. Another research group on welfare studies also touches on global health issues from time to time. A project in progress concerning global health issues is *Social Inequalities in Health in South Eastern Europe*.

Department of Social Work and Health Science

The department reports research activities on suicidal behaviour relevant for initiating suicide preventive efforts in developing countries (Ghana and Uganda).

The *Psychosomatic Research Group* is concentrated on (a) comparative studies of health, health beliefs and psychological well being, and (b) coronary heart disease development in third world countries and modern western societies.

The group reports publications in international peer reviewed journals.

Department of Geography

As part of a larger NUFU project *The new faces of poverty in Ghana 2003- 2007* with two sub-projects are relevant for global health. *Poverty and diseases* has a particular focus on HIV/AIDS and poverty and *Buruli ulcer* and poverty. The sub-project *Perception and use of health services* focus on the health care system as a specific arena and will examine its implications for various groups.

Department of Psychology

The department reports research activities on suicidal behaviour relevant for initiating suicide preventive efforts in developing countries (Ghana and Uganda). This is a project in cooperation with Department for Social Work and Health Science. Other reported research activities are HIV-related neuropsychological problems in Zimbabwe, conflict management in South Africa and the export of poorer standards for occupational safety to developing countries (India).

The group reports publications in international peer reviewed journals.

Department of Social Anthropology

The department reports research on medical pluralism, communication within health institutions, epidemics and cultural history and health and working life.

The faculty will coordinate and support initiatives from research groups across departments towards the university or external bodies. Among such initiatives in the coming year will be coordinated projects with the themes “globalisation” and “welfare”. Department based projects within the field of global health research will profit from synergy effect with these.

University of Tromsø

University of Tromsø reports the following number of researchers involved in global health research, by position:

Position	Number of researchers	
	Global health research as main activity ($\geq 50\%$)	Global health research as part time activity (20 – 49 %)
Professors		6
Associate professors	1	5
Senior researchers	1	8
Postdoc. fellows		

University of Tromsø reports the following fields of interest: consequences of war, community medicine and public health, infectious diseases, sexually transmitted diseases (STD), HIV treatment protocols persistent toxic substances in the environment; programs for pregnancy care and child health, complementary and alternative medicine and health situation for indigenous people.

The strategy of Faculty of Medicine, University of Tromsø and the University Hospital of North Norway is to coordinate, focus on, and contribute to strengthening the competence in global health research. Priorities will be given to research areas that are of special interest to the Tromsø milieu, due to special competence in the research groups, and research that have relevance in relation to the global and national priorities within this field.

University of Tromsø and the University Hospital of North Norway will strengthen the organisational support of this work. The following established centres and departments would give special attention to this field:

- Centre for International Health
- National Research Center on Complementary and Alternative Medicine (NAFKAM), an independent unit under the Faculty of Medicine
- The Norwegian Mine Victim Resource Center, a WHO associated centre
- The Centre for Peace Studies
- The Department of Microbiology, University Hospital of North Norway and Department of Microbiology and Virology, University of Tromsø
- The Norwegian Centre for Telemedicine

The Tromsø health research milieu has a long experience with collaboration with Northwest Russia. Results and experience from this work in addition to “triple approach” with partners in Norway, Russia and countries in the South give us knowledge that is of great importance in the global health research work.

Since 1989, the *Institute of Community Medicine* has developed an extensive cooperation with the Northern State Medical University in Arkhangelsk, Russia. Several joint projects have been carried through, .e.g. on prevalence of alcoholism in working groups and

alcohol drinking, life style, stress and poverty effects on general health in the north of Russia. Also with a focus on Russia is the *Research Group of Environmental Medicine and Reproductive Health*. The group reports publications in international peer reviewed journals.

The *Ngaoundere-Tromsø HIV/AIDS research group* monitors and encourage compliance with HIV treatment protocols to obtain clinically good results including primary prevention in the newborn. An electronic registration form for patients has been developed.

Another project in which scientific staff of Institute of Community Medicine is involved is the NUFU funded *Maya competence building* project in Guatemala.

Tromsø Mine Victim Resource Center (TMC)

TMC reports improving trauma care in the rural South as main objective. TMC is an action research centre working to find ways to save lives and limbs in victims of mines, war, disasters and accidents. TMC is organised as a network of European trauma care doctors and local health workers in the South. Also, TMC reports developing models for low-tech and low-cost trauma systems in low-resource communities. The group reports publications in international peer reviewed journals.

Norwegian Centre for Telemedicine

The Norwegian Centre for Telemedicine (NST) is a research and development centre that aims to gather, produce and provide knowledge about telemedicine and ehealth both nationally and internationally. The NST works actively to ensure that telemedicine and ehealth services are integrated into health service provision. In 2002, the WHO designated the NST as its first Collaborating Centre for Telemedicine. NST reports activities in Afghanistan, Palestine, Sri Lanka, Russia and the Baltic Sea region.

University Colleges

Oslo University College

Oslo University College reports activities in global health research at the Centre for Multicultural and International Studies. The research group *Global Health Research* at this centre is engaged in research in the fields of (1) water and development; (2) development, food security and sustainability; (3) psychological adjustment problems among indigenous people; (4) health care and the multicultural challenge.

Faculty of Nursing reports the research group *Pain- and quality of life research* with some activities in Russia.

Faculty of Health Sciences reports two research groups on rehabilitation (1) among people with activity limitations in Malawi and (2) of people affected by stroke in Australia.

Faculty of Education reports the *Centre for International Education* having one project in cooperation with the School of Education in Cape Town with the main issue the relation between HIV/AIDS and education.

Faculty of Business, Administration and Social work reports the research group *Inclusive Welfare Policies*.

The *Energy and Environment* research group at the Engineering department does research on indoor air climate, in particular on the effect of particulate matter, humidity and fungi, e.g. in China.

Oslo University College reports one professor having global health research as the main activity. Further, in total 19 professor and associate professors are reported to be involved in activities Oslo University College have found to fall with the definition of global health research.

Bergen University College

One of the major research areas at the Faculty of Health and Social Sciences is research on reproductive health and gender relations. This program was established in 2003 and has a clear global profile with particular emphasis on problems connected to poverty, gender inequality and reproductive health in Africa. Major research areas are:

- HIV/AIDS, prevention and care including problems associated with mother-to-child transmission, adolescent sexuality, orphans and new counselling and treatment regimes.
- Fertility management including new reproductive technologies
- Sexuality, reproduction, pregnancy and birth
- Health systems, including formal and informal health care, treatment regimes and ideologies
-

Bergen University College reports reports one associate professor having global health research as the main activity and. One professor is reported to have global health research as part-time activity.

Bergen University College has committed itself to support research on reproductive health within a collaborative research and competence building project funded by NUFU up to 2006.

Agder University College

Agder University College reports that internationalisation shall be an integrated part the activities and will be incorporated into strategies, action plans, and quality assurance systems at all levels of the organisation. Agder University College reports 3 professors and 3 associate professors having global health research as part time activity.

School of Management reports the research group *Health in sustainable development*. The research group has three main fields of research: Conflicting ethics in development aid and development research; sustainable development, and the role of health, food production and nutritional activities; and methodological issues connected to global health research, in particular qualitative research in cross-cultural contexts. The research group is on a longer term basis planning a particular Master programme in International Health Management. The group reports publications in international peer reviewed journals and book chapters.

Faculty of Health and Sports reports the research group *International infectious disease* linked to the national and international network established in cooperation with Sørlandet Sykehus RH. The research topics are clinical, epidemiological and community related cross-professional research on communicable health problems in the poor countries. The group reports publications in international peer reviewed journals.

The faculty also reports a project on *AIDS, Ethics, Stigma and Human Rights in Botswana*

Akershus University College

Akershus University College is involved in research in a nutrition program with the aim to contribute to improve food security and development of public nutrition services for Western Sahara refugees in Algeria. Akershus University College also has ongoing research in Mali, including studies on the food and nutrition security situation and the factors affecting the situation, in a remote area. Dietary assessment methodology is an important part of this research. As an important tool in nutrition assessment, a Food Composition Table and Database for Mali, is developed and published. Another research area is links between HIV/AIDS and food and nutrition security. A last but increasingly important research area is food and nutrition as human rights. The College has a research program on this in collaboration with the University of Oslo, Department of Nutrition Research and Norwegian Centre for Human Rights. Akershus University College publishes mainly in international peer reviewed journals.

Other university colleges

Harstad University College has plans for research on strategies for HIV/AIDS treatment and care in Ghana.

Sør-Trøndelag University College reports a project on rehabilitation of victims of trafficking in Serbia in collaboration with Fafo AIS.

Other reported university colleges reported that they have no relevant activity or reported activity judged not to fall within the definition of global health research.

The Norwegian Institute of Public Health

Norwegian Institute of Public Health is a WHO Collaborating Centre for Reference and Research on meningococci. This involves an extensive collaboration with several African countries in the surveillance of the meningococcal diseases. The institute is in the international forefront in the development and research on meningococcal vaccines, also for developing countries. The institute also reports activities on control of tuberculosis (TB) in developing countries and Russia. The following activities are reported:

Department of Infectious Disease Epidemiology: Epidemiology and clinical management of food and waterborne diseases.

Department of Airborne Infections: Meningococcal vaccine research; surveillance of meningococcal disease; control of tuberculosis.

Department of Foodborne Infections: Research in DNA-based surveillance of food borne bacterial pathogens on an international scale, and research in mechanisms underlying antimicrobial resistance and global spread of resistance.

Department of Genes and Environment: Partner in the upcoming EU project EARNEST: “Early nutrition programming – an integrated research project”.

Department of Vaccination and Immunity: Projects are reported on the following topics: Development of a cost-effective method for the detection of antibodies in air-dried saliva samples, development of more effective tools and strategies for the global control of tuberculosis, use of saliva-based methods in HIV-testing and for investigating measles immunity. In addition, projects on needle-free and mucosal immunization with different candidate vaccines are running.

Norwegian Institute of Public Health reports the following number of researchers in global health research:

Position	Number of researchers	
	Global health research as main activity (≥ 50 %)	Global health research as part time activity (20 – 49 %)
Professors		4
Associate Professors		
Senior researchers	1	5
Postdoc fellows		

Several of the research groups report publications in international peer reviewed journals.

The Norwegian Health Services Research Centre

The Norwegian Health Services Research Centre (NHSRC) was established in 2004. Its mission is to facilitate the use of research evidence in decision making at all levels of the health services. NHSRC is partner in the GLOBINF network. Two departments report activity in global health research.

Informed Choice Research Department: The research focuses on developing and evaluating ways of helping people to make informed choices about healthcare. The department is partner in the EU funded project Pragmatic Randomized Controlled Trials in Healthcare (Practihc).

Reviews and Dissemination Department: The main activities of the department are the preparation of Health Technology Assessments (HTAs) and systematic reviews of health care interventions, as well as dissemination of research based information. NHSRC reports 3 senior researchers having global health research as a part-time activity. NHSRC reports publications in international peer reviewed journals.

National schools of higher learning

Diakonhjemmet University College

Department of Research and Development, international unit works specifically with research, research related activities as well as consultancies related to international health and social work. The area of study is sub-Saharan Africa and the focus is on health and social issues in relation to the HIV/AIDS pandemic. Thematic areas for research are: *Children, AIDS and Communal Coping Strategies* uses a child centred perspective to address the needs of orphaned children in the wake of the steadily evolving HIV/AIDS pandemic. The project examines different communal coping strategies.

Broken Bodies Healing communities. Issues in Community, ritual care and ethics in church based contextual responses to HIV/AIDS in South Africa This research project addresses how a community with its different faith based organizations deal with the evolving social crisis in the wake of the pandemic.

Norwegian School of Veterinary Science

The Norwegian School of Veterinary Science reports two projects: 1) Tanzania Agricultural Research Project: Food Security and Household Income for Smallholder Farmers in Tanzania - Applied research with Emphasis on Women and 2) Collaborative Research in Environmental Toxicology and Zoonotic Diseases: a South-North Veterinary Network.

Norwegian School of Veterinary Science reports one professor with global health research as the main activity, and four professors and one associate professor with global health research as part time activity.

Agricultural University of Norway

Agricultural University of Norway applied a broad definition of global health research. By applying an extended definition of health Agricultural University of Norway argues that most of the research activities are relevant for health. Poverty and health is closely connected and Agricultural University of Norway states that the institution will increase its research on these topics.

In total 34 professor and associate professors are reported to be involved in activities the Agricultural University of Norway have found to fall with the definition of global health research. In addition, 7 senior researchers are involved in the reported activities.

The Centre for International Environment and Development Studies (NORAGRIC) reports the *Lungwena agriculture and health group* in collaboration the College of Medicine and other constituent colleges in the University of Malawi and University of Oslo. The objective of the research is to assess how agricultural practices could improve food security and to assess the impact on the health of the community.

NORAGRIC also has research improving human nutrition through development of appropriate farming systems.

Department of Ecology and Natural Resource Management reports

- *Heavy metals and POPs in fish; ecotoxicology* related to fish, environmental pollutants (heavy metals and persistent organic pollutants) and human consumption of fish. Projects in Ethiopia and Nepal. Combined studies on fish ecology, pollutants levels in different fish species and the use of different species in human consumption.

Department of Animal and Aquacultural Sciences reports

- *Product Quality*: research in Tanzania on the role of goat milk in postponing development of AIDS among HIV infected patients.

Department of economics and resource management reports

- Activities on health economics, health concerns in consumer decision-making and poverty and health.

Department of Plant and Environmental Sciences reports

- *Environmental impact assessment of Trace metals and Radionuclides*: environmental impact and risks from contaminants in vulnerable ecosystems linking exposure to early biological effects
- *Food plants*: plant production, handling, post-harvest, processing and quality analyses.
- *Hydrology and limnology*: the relation between hydrology and water quality of surface water, including water resources used for drinking water.
- *Heavy metals in food chain trace elements in food plants*: investigations of transfer of toxic metals to food and fodder crops with implications for animal and human health.
- *Fusarium resistance and mycotoxins*: research on, e.g. *Fusarium* and mycotoxins in cereals in Ethiopia.

Department of Chemistry, Biotechnology and Food Science reports

- *Dairy technology and food quality*: technology of dairy production, including fermentation and food safety aspects.
- *Bioactive components in Foods*: functional and biological activities of milk, whey and milk products, fish, meat and plants.

Department of Mathematical Sciences and Technology reports

- *Eco-technology*: minimising the potential for negative environmental and health consequences of recirculation of organic waste and water

Department of Landscape Architecture and Spatial Planning reports

- Research group *Green structure planning*

Institutes, hospitals and other institutions

Sørlandet Hospital

Sørlandet Hospital has established a sisterhood agreement with the Haydom Lutheran Hospital in Tanzania is representing a major focus of international activity for the hospital. This includes mutual competence building of staff. Research projects have been established as a part of the collaboration. A major research project follows the effects of antiretroviral treatment of AIDS at Haydom. The research leader at Sørlandet Hospital also holds a professorship at Agder University College and was previously professor of international community health at University of Oslo and establisher of Competence Centre of Imported and Tropical Diseases at Ullevål University Hospital. He still keeps up PhD supervision and research collaboration linked to both Oslo and Bergen. Sørlandet Hospital has an agreement on collaboration with Ullevål Hospital on global health research.

SINTEF Health

SINTEF Health is part of the larger SINTEF Group and is responsible for the strategic focus on international health. SINTEF Health has since 1998 been active in disability and rehabilitation projects, research and evaluations in Palestine, Senegal, Eritrea, South Africa, Namibia, Zimbabwe and Malawi. Two main long-term R & D activities are studies on living conditions among people with disabilities in Southern Africa, and the development of Local Rehabilitation Workshops for production of technical devices for disabled people in Zimbabwe and Namibia. Close collaboration with National universities, African and Norwegian NGO's are central to this activity. These studies include testing of the International Classification of Functioning, Disability and Health (ICF) components, collection and analyses of data on health and use of health services.

Chr. Michelsen Institute (CMI)

Researchers at Chr. Michelsen Institute (CMI) have been involved in projects on health related policies, economic development and health (e.g. effects of AIDS), and donor involvement in the health sector. CMI has recently made efforts to make global health research a more prominent research area.

Fafo Institute for Applied International Studies

Fafo AIS reports two associate professor and one senior researchers having global health research as their main activity. Living condition surveys in deprived populations and in areas of conflict is the main bulk of the work done at Fafo AIS. The most recent works include large household surveys in Haiti, China, South Africa, Kola peninsula, Jordan and Iraq, and among children in armed conflict situations. In all living conditions surveys, Fafo AIS co-operates extensively with the national statistical offices, Ministry of Health and other relevant ministries. The co-operation includes training and local competence building.

National Veterinary Institute

The global health related activities at the National Veterinary Institute are focused on zoonoses with emphasis on mycobacterial infections, both tuberculosis and infections with atypical mycobacteria like *Mycobacterium avium* which are playing a key role in HIV/AIDS-patients. The National Veterinary Institute is collaborating in a NUFU-project headed by Norwegian School of Veterinary Science (NVH) within tuberculosis and brucellosis in cattle and humans. Three senior researchers have global health as part time activity. The National Veterinary Institute reports publications in international peer reviewed journals.

Centre for Health and Social Development (HeSo)

Centre for Health and Social Development (HeSo) is a multi-disciplinary resource centre for international health and social development. HeSo is primarily involved in evaluations, reviews and applied research on social changes, health systems, vaccine and HIV/AIDS with focus on sustainability, equity and poverty reduction commissioned by NGOs, developments agencies and international organizations.

The School of Mission and Theology

The Centre for Intercultural Communication, at the School of Mission and Theology, Stavanger is involved in a university co-operation with University of Toliara, Madagascar and Stavanger University College. Research on traditional treatment, modern treatment and religious treatment. The Centre for Intercultural Communication also reports a project on fighting AIDS in co-operation with Evangelical Lutheran Church (EELC) in Cameroon.

Private sector

Bionor Immuno AS

Bionor Immuno AS is a multidisciplinary drug discovery company located in Skien. The major focus of the company is to develop effective peptide based immunotherapies, against HIV. Bionor Immuno's peptide-based immunotherapy approach uses an immunisation strategy involving intradermal injections targeting dendritic cells of the skin.

Bionor Immuno AS currently has two peptide-based immunotherapy candidates for HIV infection, (Vacc-4x and Vacc-5q) under clinical development. Vacc-4x has recently completed a phase II clinical trial. The peptides are safe and induce strong immune responses to HIV that have allowed for significantly prolonged periods in the absence of HAART (average 17 months so far). Noteworthy those patients that showed the strongest immune responses to Vacc-4x had improved CD4 counts and significantly lower viral load ($p=0.04$) compared those with low responses. Vacc-5q is currently undergoing a phase I/II clinical trial that will be completed at the end of 2004.

Bionor Immuno AS reports one professor, one associate professor and one senior researcher with global health research as the main activity.

Bionor Immuno AS reports publications in international peer reviewed journals.

Lauras

Lauras is a Norwegian research based biotechnology company that aims to develop and commercialize immunomodulating drugs to treat HIV and other immunodeficiencies based on proprietary technologies. Lauras is developing immunomodulating therapy that will improve the immune function by reversing the HIV-induced immunodeficiency. The therapy is based on drugs that affect the cAMP signal pathway regulating the immune response inside the white blood cells (T cells).

Lauras has filed a PCT patent application on the use of existing drugs, **Cox-2 inhibitors**, in immunomodulating therapy for treating or preventing a disorder typified by an immunodeficiency, particularly HIV, AIDS or related conditions. This application is based on data from animal studies on disease models (mouse AIDS model) and data from phase II clinical trials with HIV-infected patients on HAART therapy: Lauras has also filed patent applications on **new drugs** for immunostimulation. Such drugs restore the immune function by blocking the cAMP signal pathway recently demonstrated and characterized by the scientists behind the company:

Lauras reports one professor, one associate professor and two senior researchers with global health research as the main activity and one professor having global health research as part-time activity.

Lauras reports publications in international peer reviewed journals.

Form A Institutional mapping of main activities in the field of global health research

Institution:	
Address:	
E-mail::	
Website:	

1. Brief description of Global health research at the institution (< 400 words)

Current strategy for this field of research at the institution and visions for the future.
Main thematic areas that are/or will be prioritised.

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2. Number of researchers and research fellows involved in global health research, by position

Position	Number of researchers	
	Global health research as main activity ($\geq 50\%$)	Global health research as part time activity (20 – 49 %)
Professors		
Associate Professors		
Senior researchers		
Postdoc fellows		
PhD students		
TOTAL		

3. Numbers of researchers involved in global health research by area of research (include only permanent staff, funded by the institution, i.e. Professors, Associate Professors and Senior researchers)

Area of research	Number of researchers	
	Global health research as main activity ($\geq 50\%$)	Global health research as part time activity (20 – 49 %)
Basic and preclinical research		
Clinical research		
Epidemiology/clinical trials/field trials		
Disease prevention/health promotion		
Culture and health		
Health policy and systems research		
Health economics		
Other (specify)		
TOTAL		

4. Current funding of global health research (budget 2004) in NOK 1000

Total funding:	
From own institution (excl. salaries)	
External funds, total:	
External funds (incl. salaries), by source (include funds for all partner institutions)	
EU	
Research Council of Norway	
NUFU	
NORAD	
Other (specify):	

Form B Research groups in global health research

Department:	
Address:	
E-mail:	
Website:	
Name of research group:	
Leader of research group:	
E-mail	

1. Brief description of the activities of the research group (< 300 words)

--

2. Number of researchers involved in global health research, by position

Position	Number of researchers	
	Global health research as main activity ($\geq 50\%$)	Global health research as part time activity (20 – 49 %)
Professors		
Associate Professors		
Senior researchers		
Postdoc fellows		
PhD students		
Master students		
TOTAL		

3. Main areas of research (indicate approx. proportion (%) of activities in the different research fields)

Basic and preclinical research	
Clinical research	
Epidemiology/clinical trials/field trials	
Disease prevention/health promotion	
Culture and health	
Health policy and systems research	
Health economics	
Other (specify)	

4. Current funding of global health research (budget 2004) in NOK 1000

Total funding:	
From own institution (excl. salaries)	
External funds, total:	
External funds (incl. salaries), by source (include funds for all partner institutions)	
EU	
Research Council of Norway	
NUFU	
NORAD	
Other (specify):	

5 A. Main collaborating institutions in low and middle income countries

1.
2.
3.

5 B. Main collaborating institutions in other countries

1.
2.
3.

6. Number of degrees in the field of Global health research from the group in the period 2001-2004

Master degrees	
PhDs	

7. List of maximum 5 relevant publications in the field of Global health research from the group published in the period 2001-2004

1.
2.
3.
4.
5.

Form C Institutional mapping of global health research (outside the university sector)

Institution/company:	
Address:	
E-mail:	
Website:	
Name of research group:	
Leader of research group:	
E-mail:	

1. Brief description of Global health research at the institution/company (< 300 words)

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2. Number of researchers involved in global health research, by position

Position	Number of researchers	
	Global health research as main activity ($\geq 50\%$)	Global health research as part time activity (20 – 49 %)
Professors		
Associate Professors		
Senior researchers		
Postdoc fellows		
PhD students		
Master students		
TOTAL		

3. Main areas of research (indicate approx. proportion (%) of activities in the different research fields)

Basic and preclinical research	
Clinical research	
Epidemiology/clinical trials/field trials	
Disease prevention/health promotion	
Culture and health	
Health policy and systems research	
Health economics	
Other (specify)	

4. Current funding of global health research (budget 2004) in NOK 1000

Total funding:	
From own institution (excl. salaries)	
External funds, total:	
External funds (incl. salaries), by source (include funds for all partner institutions)	
EU	
Research Council of Norway	
NUFU	
NORAD	
Other (specify):	

5 A. Main collaborating institutions in low and middle income countries

1.
2.
3.

5 B. Main collaborating institutions in other countries

1.
2.
3.

6. Number of degrees in the field of Global health research from the group in the period 2001-2004

Master degrees	
PhDs	

7. List of maximum 5 relevant publications in the field of Global health research from the group published in the period 2001-2004

1.
2.
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