

Self Evaluation 2004 - 2006

Mid-term Evaluation

School for Public Health and Primary Care: Caphri

- A: Documentation at the level of the School
- B: Documentation at the level of the Clusters and Research Programmes

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Introduction

The School for Public Health and Primary Care: Caphri is part of the Faculty of Health, Medicine and Life Sciences FHML of Maastricht University. A School is defined as an organizational unit of substantial size in which researchers, PhD-students and masters students work together to perform high quality research and education. The School for Public Health and Primary Care: Caphri was officially established on the 1st of July 2007, simultaneously with the other FHML graduate Schools, and can be seen as a further development of the pre-existing research institute Caphri. In addition to research, the School is responsible for training researchers and providing (research) master-level education. To enhance readability throughout this document 'the School for Public Health and Primary Care: Caphri' will be simply referred to as 'the School' or 'Caphri'.

On a national level, Caphri participates in the Research School CaRe (Netherlands School of Primary Care Research) and in the Research School WTMC (Science, Technology and Modern Culture). Both Schools are officially acknowledged by the KNAW (Royal Netherlands Academy of Arts and Sciences) and are centres for high quality training of PhD students and for national and international research collaboration.

This self-evaluation report of the School follows the Standard Evaluation Protocol (SEP), which is developed as an evaluation system for public funded research in the Netherlands and approved by the Royal Academy of Arts and Sciences, the Netherlands Foundation for Scientific Research (NWO) and the Association for Co-operating Dutch Universities (VSNU).

In December 2004, the research institute Caphri was evaluated by an External Review Committee (ERC), installed by the University's Executive Board. The conclusions of the ERC were presented in an official report, which was received by Caphri in May 2005 (see annex 2). The ERC concluded that Caphri's research was very good (the overall rating was 4) and even excellent in some areas, but the Institutes' structure was too complex. In response to this review, the directional and managerial board of Caphri decided to follow up on this advice and change its internal research structure and strategy. Most importantly, the division structure was replaced by a programme structure. The fundamental change in policy view is that a research programme is most productive if directed bottom-up, starting from the 'research work floor' unit, in which enthusiastic and qualified researchers work together on a well-defined area of research. In this policy approach, the programme leader (in cooperation with his or her principal investigators) has responsibility for the development of the research programme, the research lines within the programme, and the projects belonging to the programme. The major effect of this change of policy has been that instead of the former 5 divisions, 22 programmes were started. In order to make the major research areas visible, the programmes were headed under three clusters: Primary Care, Innovation of Care and Public Health. Over the past three years, 15 programmes have reached a stable phase, 2 are still relatively small in size, and 5 have been ended as separate programmes and will continue as part of other programmes. The current programme structure has proven to fit in with the prevailing research culture within what is now the School of Primary Care and Public Health: Caphri and has helped to create a more positive research atmosphere. Caphri is now at a stage where it is time to evaluate its work and structure and a mid-term review is an excellent opportunity for doing this.

This self-evaluation report is produced in preparation of the mid-term evaluation, which according to the SEP protocol has to be done three years after the ERC-report appeared. An important objective of this review is to see whether the programme structure works well and contributes to a solution to the problems recognized in the last external review. An important aspect of the programme structure that needs attention is the clustering, cohesion and number of programmes. The quality of the programmes as well as the overall quality of research in the context of a dynamic local, national and international environment is also a topic on which the School would like to have feedback.

Research within the School focuses on primary care, innovation of care and public health. These areas require research methods that are different from biomedical research. Possibilities for publication and funding are also different. This is relevant for the interpretation of the School's performance. It is also relevant for its research strategy. The mid-term evaluation may assist the School to reflect on these matters and, if necessary, adapt its policy.

The School's research is being developed in close collaboration with partners in the field of healthcare. Networks in transmurial care are currently being established and expanded. In this context, the future merger between the faculty FHLM and the academic hospital into a University Medical Centre (UMC+) will provide new opportunities and challenges. The School is interested in feedback on its policy in this changing environment.

Both in the context of the University and in the national and international context there is a tendency towards large-scale activities, such as EU-projects, Top Institutes and Centres of Excellence. The School sees opportunities for further development in this context. The Faculty supports the School to develop a Centre of Excellence in the area of Primary Care. This means that the School should aim to belong to the European top 10 in selected substantial areas of research. The School believes that it is possible to maintain and further develop the high quality of primary care research and to develop such a Centre. The mid-term review may give input for the School's policy regarding large-scale initiatives for the coming years.

Against this dynamic background the advice of an external review committee will be used as a major tool for the Board and Management of the School to sustain and improve the quality of its research and education programmes and to underpin strategic decisions. Therefore, despite the fact that the SEP does not prescribe an external review committee for a mid-term evaluation, it was decided that the feed-back of a committee of national peers could help the School to further improve and clarify its strategy.

A. Documentation regarding the School

The School for Public Health and Primary Care: Caphri is currently one of five graduate Schools embedded within the Faculty of Health, Medicine and Life Sciences of Maastricht University. Its research domains are public health and primary care, focusing on chronic diseases. The emphasis lies on multidisciplinary applied research with a primary interest in health outcomes relevant to individuals in an extra- and transmurial setting. The School coordinates research and master education activities from the Departments of General Practice, Epidemiology, Health Education and Health Promotion, Health Policy and Management, Health Ethics and Society, Nursing and Care, Methods and Statistics, Orthopaedics, Rehabilitation and (in the near future) the departments of Social Medicine and International Health. These departments are preferentially labelled to the School by the Faculty Board since the major part of their research and teaching is in the area of primary care and public health. Traditionally however, the School collaborates with staff from other FHML-departments as well. This collaboration will continue although some departments (such as Anatomy, Internal Medicine, Medical Microbiology and Urology) are now included as departments within other Schools. The multidisciplinary research projects are organized in research programmes, which are grouped in three clusters: Primary Care, Innovation of Care, and Public Health. The aim of the School is to excel in scientific quality as well as in societal relevance.

The School currently has an annual budget of about 12 million Euros, of which 55 % is obtained from different external granting agencies. Of the scientific personnel (141,36 full time equivalents) 31 % consists of tenured senior staff. The School collaborates intensively with many national and international partners and is the founding participant of the Research School of Primary Care Research (CaRe). It also participates in the Research School WTMC (Science, Technology and Modern Culture).

A.1 Mission statement

The aim of the School for Public Health and Primary Care: Caphri is:

High-quality research and teaching focused on health care innovation, ranging from prevention to rehabilitation, from a patient, professional and societal perspective, leading to improvement of health and well-being of the population.

Research and teaching in the School are devoted to contribute to improvements in the area of public health and primary care. The School focuses on interventions in the chain of care, starting with prevention and primary care, and ending with aftercare and rehabilitation. The aim of the research is to get insight into the effectiveness of interventions, and their adequacy in meeting prospective patients' needs. Specific attention is paid to the implementation of such evidence based interventions. Interventions are also evaluated from an economic perspective (Health Technology Assessment) and a normative perspective (e.g. consequences for professional and patient roles and responsibilities). The research topics require both basic and applied research developing new theoretical frameworks, multivariate models, methodologies and designs to meet the complexities of primary care and public health practice.

The School focuses on chronic diseases. The main diseases are chronic lung diseases (COPD), cardiovascular diseases, rheumatic diseases, musculoskeletal disorders, diabetes, and common mental diseases (such as depression). The success of acute medicine has led to a rise in the number of patients with chronic diseases implying the need for integrated care, both between health care institutions and between professionals. New forms of organization (such as transmural or integrated care) are being developed, and new intermediate professions are being created (such as the specialized nurse). The primary care physician plays a prominent role in the delivery of integrated care, assisted by new professionals (e.g. primary care nurses and nurse practitioners). The role of the patient is also changing. A patient who suffers from a chronic disease has to learn to cope with dependencies, and find ways to function and participate in society. The change in emphasis from acute care to chronic care implies new challenges for prevention. Chronic diseases are often related to lifestyle. Prevention and management of chronic diseases require research into lifestyle determinants which takes environmental behavioural and biological elements (genetics) into account. This calls for new forms of cooperation between researchers from various disciplines while the application of results in practice requires new forms of cooperation between professionals (GPs, nurses and specialists). New insights in for example molecular medicine will be implemented in primary care. In the future preventive medicine will have an essential impact on primary care influencing the actual care provided by GPs and nurses including educational elements (e.g. genetic counselling) and motivational interviewing.

A.2 Leadership

As from the 1st of July 2007 the research institute Caphri is officially named 'the School for Public Health and Primary Care: Caphri'. The establishment of the School can be seen as a natural extension of the research institute, now becoming responsible for providing masters-level education in addition to high-quality multidisciplinary research. Throughout this transition the aim is to maintain and further develop a managerial structure which will guarantee and support high quality research and education.

The External Review Committee concluded in 2005 that the "...managerial structure of the institute and its environment, although historically explainable, seems to be too complex to be effective. Apart from the central management there are divisions, clusters, departments, programmes and emerging research lines, resulting in a diffusion of responsibilities." We followed the advice of the Review Committee by eliminating one managerial layer, i.e. the division level. We have chosen a bottom-up structure in which research is organized by emphasizing the natural research unit, the research programme. The scientific output and the management of all programmes are evaluated every year by the directors of the School through planning and control sessions. The number of programmes is flexible, new promising programmes may start and existing programmes may be stopped if they are not scientifically successful.

Scientific directors

The School has a scientific director and a scientific co-director. They have the responsibility for policy setting, execution and accountability and complement each other in their managerial duties. The scientific director and co-director are entrusted with the promotion and management of daily scientific affairs of the research institute. Next to this, they are responsible for the organization and coordination of the research programme's and the curricula concerning PhD students Trainee Research Assistants and Postdoctoral Research Fellows (Postdocs).

Managing Directors

The Managing Directors are responsible for those components of the School's daily affairs, which do not concern scientific content. The tasks relate to financial economic affairs as well as coordinative, managerially preparatory, and executive duties. In addition, they assist the Scientific Directors in the performance of their task.

Scientific Director:

Prof. Dr. Guy Widdershoven, PhD
Professor in Ethics of Healthcare
Department of Health, Ethics and Society

Scientific Co-director:

Prof. Dr. Onno van Schayck, PhD
Professor of Preventive Medicine, Department of General Practice

Managing Directors

Astrid Frissen, head (since 1-9-2007)
Monique van Thienen (until 1-12-2007)
Erie van den Heuvel

Programme leaders

The School's research is organized in research programmes. A research programme is a coherent group of research projects, supervised by a team of senior researchers. By organizing the research bottom up successful researchers are stimulated to develop their research ideas for which they feel responsible. Once appointed as programme leaders they are responsible for the performance and management of these research ideas as implemented in the research programmes. The strength of the programme-structure is that it stimulates cooperation between researchers on a daily basis and enables a continuous exchange of expertise and mutual support in developing project proposals, performing project research and educating and monitoring the progress of young researchers as well as scouting research talent. In each programme, 5-10 senior investigators, PhD students, junior researchers, post-docs and support staff, work closely together on related multidisciplinary research projects. The programme leader is responsible for the scientific content and the management of the programme. The programme leader takes care of the strategy of the programme, the continuity of projects, and has the final responsibility for the scientific quality and management of each of the projects. Programme leaders are responsible for the quality and quantity of the output of the programme. Moreover, the programme leaders participate actively in the development and implementation of the research policy of the school.

Cluster coordinators

Research programmes that are closely related in terms of subject matter, conceptual framework, study population, type of intervention or research methodology are grouped together in three clusters: Primary Care, Innovation of Care, and Public Health. By grouping the programmes in clusters, the main areas of research of the School become visible. Each cluster has a cluster coordinator. The coordinator chairs the regular meeting of the programme leaders in the cluster and represents the cluster in public. The cluster coordinators do not have a management responsibility. The explicit strategy of the School is to avoid an additional management layer between the programmes and the directors. The current coordinators are Prof. dr. Andre Knottnerus (Primary Care), Prof. dr. Cor Spreeuwenberg (Innovation of Care), and Prof. dr. Nanne De Vries (Public Health).

Scientific committee

The scientific committee advises the directors, either on request or on its own initiative about the research policy of the School. At this moment the scientific committee has 8 members, including the chair. The chairman is prof. dr. Nanne de Vries. The scientific committee meets every two months.

Programme coordination of PhD training and Master education

The school is responsible for education and training of its PhD students. Students can attend courses within the CaRe research school, or at FHML level. The School directs a two-year NVAO accredited Health Sciences Research Master (HSRM) for top-level students, which offers a broad orientated scientific training course for future researchers, and prepares for a PhD education or research-orientated positions.

The School is responsible for the content of the following public health master programmes:

- a) Epidemiology
- b) Health Education and Promotion
- c) Health Policy, Economics and Management
- d) Health Services Innovation
- e) Work and Health

Scientific Council / School Council

Until recently the Scientific Council consisted of the scientific director, the scientific co-director, 3 programme leaders, a representative of the PhD students and a representative of the support staff. Because of the establishment of the School for Public Health and Primary Care: Caphri the Scientific Council is to be replaced by a School Council. In the new School Council the following persons will participate:

- the scientific director and co-director
- the three cluster coordinators
- the programme leaders of the Master programmes of the School
- the heads of the departments in the School

The Council, invited or uninvited, is entitled to call the scientific directors' attention to matters which are of direct importance to the School and give advise on it.

Advisory Council

The School's Advisory Council gives advice, whether requested or of its own account, on research policy, both from a content and an organizational point of view. The Council acts as a sounding board for the directors and for units of the institute. The Advisory Council has 6 members, including the chair (see figure). Two members are also head of department in the School. Since the heads of department will take place in the School Council, they will be replaced by external experts.

Members of the Advisory Council:

- H.F.J.M. Crebolder, MD, PhD, Chairman, Emeritus Professor of General Practice, University Maastricht
- G.J. Kok, PhD, Professor of Psychology and Professor of Aids Prevention and Health Education, University Maastricht
- G.A.M. van den Bos, PhD, Professor of Social Health Care and Chronic disease, University of Amsterdam and Rijksinstituut voor Volksgezondheid en Milieu
- H.C.W. de Vet, PhD, EMGO institute, Free University of Amsterdam
- (J. Metsemakers, PhD, MD, Professor of General Practice)
- (R. Vos, PhD, MD, Professor of Theory of Health Sciences)

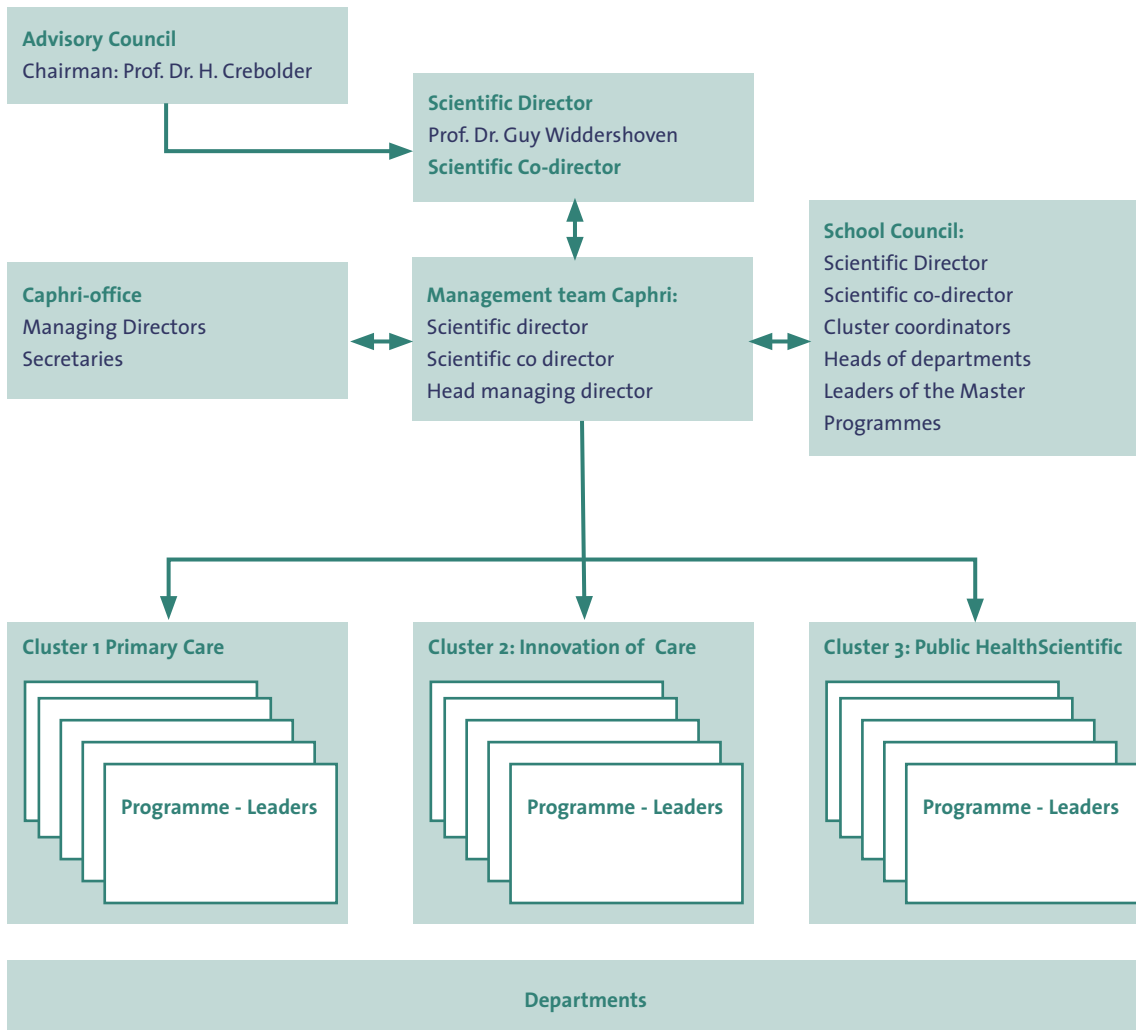
Participating Departments

According to the latest faculty policy document, altogether 11 departments of the F-HML and the Academic Hospital Maastricht are preferentially labelled to Caphri. This is illustrated in figure 2.1

Participating Departments in the School for Public Health and Primary Care: Caphri

1. Health Organisation, Policy and Economics
2. Epidemiology
3. Methodology and Statistics
4. International Health (in development)
5. Health Education and Health Promotion
6. General Practice
7. Orthopedics
8. Rehabilitation
9. Social Medicine (in development)
10. Health, Ethics and Society
11. Nursing and Care

figure 2.1: Participating departments



A.2.1. Communication

Internal communication

Communication within the School aims at content, policy and management. Content issues are discussed within the programmes. Each programme organizes regular meetings to discuss scientific developments, study results, and methodological and practical issues related to the area of research. Content issues are presented and discussed at the annual School Conference, to which all researchers are invited. The programme contains general presentations and parallel sessions for the three clusters. In the parallel sessions specific research projects are presented and discussed.

Policy issues are discussed in the quarterly meeting with the programme leaders. Once a year, a full day meeting with programme leaders is organized to discuss future policy issues. Four times a year, the School Council meets, to discuss policy and managerial developments. The Advisory Board meets twice a year to discuss policy issues with the directors.

Twice a year a Planning and Control meeting between the directors and the individual research programme leaders takes place. One meeting focuses on past performance, the other one on strategic and policy issues at the level of the programme. Obtained programme funding, output and PhD defences per programme are important issues. The programme leaders regularly communicate with the managing directors of the School about managerial issues concerning the projects within the programme.

Twice a year the directors and the individual master programme leaders including the director of the Health Science Research Master meet. In this meeting, the content of the programme and the output (number of students) are discussed.

Twice a year there is a meeting with each chair of the departments individually about the department's achievements in research and master education. On the basis of the department's contribution to research and teaching programmes, the level of input of the direct funding for the next year is established. In case of a decrease, the department has one year to accommodate.

External communication

Progress and policy concerning research and master teaching are discussed with the Faculty Board in a Planning and Control Cycle (three times a year).

A.2.2. Quality control

The aim of the School's research policy is to optimise the quality of research. This can only be achieved if researchers enjoy working at the School and if there is a positive working climate. The School must therefore create the right conditions in order to be able to help employees perform optimally. The scientific directors and the managing directors feel responsible for creating this positive working climate, in which the performance of employees is rewarded. The School's strategy to improve research performance is directed at the level of the programmes. Each programme is expected to meet a set of output criteria. The main criteria are: scientific publications (especially in high impact journals), acquired funds, supervision of (PhD) projects and societal impact (such as guidelines, reports, and committee memberships). The criteria are included as Annex 4. If a programme does not meet the criteria over a three year period of time, it will be discontinued. The programme structure is flexible; it enables the School to start new research, and to end lines of research that are not productive (any more).

The scientific committee is a crucial element of the quality process. The committee advises the directors, either on request or on its own initiative, about the research policy of the School. The scientific committee is specifically asked to safeguard the scientific quality of submitted projects, especially those PhD projects funded by central means of the university and projects that will be submitted for prestigious research funding (especially for governmental organizations such as NWO (Vernieuwingsimpuls), STW and EU-projects).

The School has developed a handbook for the management of its research programmes and projects. The handbook serves as a guide for programme leaders. It structures the communication between programme leaders and managing directors. A special assessment tool has been developed to give insight into the financial situation and forecast of the projects in the research programmes. This tool enables the managing directors and programme leaders to get a timely and good overview of the programme's financial and managerial position. The handbook and the assessment tool are set as an example for other UM Schools and research institutes. The handbook is included as Annex 4.

A.3. Strategy and Policy

A.3.1. Historical Perspective

Caphri (Care and Public Health Research Institute) was established in 2003 as a merger between the Research Institute ExTra of the Faculty of Medicine and the Research Institute HEALTH of the Faculty of Health Sciences. Both research institutes were founded in 1994.

Since the founding of Maastricht University, special attention has been paid to primary care. This focus had led to innovative and successful research in the area of general practice medicine and prevention. This research was later coordinated in two research institutes: ExTra and HEALTH respectively. Both institutes cooperated in research and both participated in the initiative to establish a national Research School (CaRe).

Between 1994 and 2003, the scope of research has widened from primary care as a separate domain to processes of transmural care (focusing on the chain of care, including prevention and self-care, primary care, specialist care), covering the range from prevention to aftercare and rehabilitation (including societal aspects of health and the organisation of health care systems). As a consequence of these developments, research topics in ExTra and HEALTH became more and more closely related. For this as well as for strategic reasons, a process of merger was set in motion, resulting in one new institute: Caphri.

Since July 1st 2007, Caphri has been transformed into a graduate School, the School of Public Health and Primary Care: Caphri. As the name Caphri enjoys a certain reputation in- and outside the country, it has remained visible in the naming of the School.

A.3.2. Developments within Maastricht University

The 2007-2010 strategic programme of Maastricht University (UM) aims at realizing a substantial strengthening of the focus and quality of research. Recently, the Faculties of Health Sciences and Medicine have merged and the cooperation with the academic hospital is strengthened. As a consequence research institutes will be transformed into Schools.

A.3.2.1 FHML

The FHML has been founded on the 1st of January 2007. It is the result of a merger between the former faculties of Health Sciences and Medicine, and the School for Life Sciences. The main reasons for this merger were a new vision of health and health care, the creation of an excellent partner for strategic educational and research alliances, an effective internal organisation, and the introduction of a strong university component in the future Maastricht UMC+, which is expected to be established in 2008. The new faculty will be able to play a leading role at the national as well as international level. The merger will combine the various fields of expertise and strengthen the multidisciplinary and interdisciplinary approach to education and research.

In order to raise the quality and practical utilization of the research carried out, the FHML has chosen to work on a limited number of research themes, on which the available research capacity is focused. This policy targeting focus, mass and quality is very much in tune with the policy lines advocated nationally as well as the UM's new strategic programme Spotlight on Talent and the azM's strategic programme named azMove. By phasing out the weaker components, more possibilities are created for strengthening the main themes chosen. The goal is to develop recognized centres of excellence in a limited number of research areas. FHML has chosen thus far to investigate the establishment of two centres of excellence: Carim (cardiovascular diseases) and Caphri (primary care).

A.3.2.2 University Medical Centre Maastricht: MUMC+

Maastricht UMC+ (under development) is the last university medical centre to be established in the Netherlands since 1998. Of all eight UMCs, Maastricht UMC (MUMC+) is the university medical centre with the broadest orientation, which can be directly linked to its history, which differs from that of the other UMCs. MUMC+ is not simply the result of a cooperative venture or merger between a university hospital and a faculty of medicine but covers a broader spectrum. The former Faculty of Health Sciences (now part of the FHML) was actually home to Europe’s broadest and most cohesive programme for health science research and education, including research and education in the molecular life sciences.

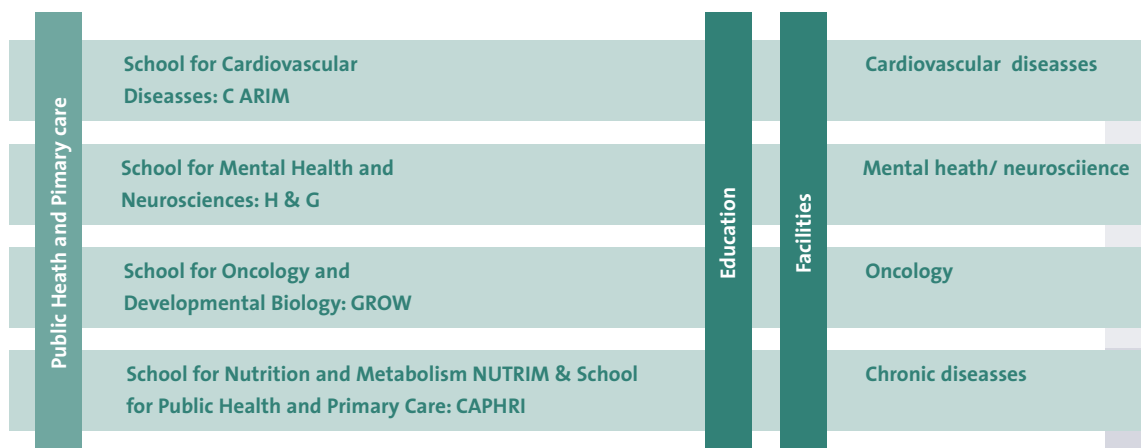
One of the most important goals of MUMC+ is to link successful research themes with academic patient care. This linkage takes place within multidisciplinary ‘chains for care, education, training and research’ (Dutch acronym: ZKOs). Within these ZKOs, the research and educational activities in the Schools and the academic patient care in the RVEs (Dutch acronym for result accountable units ‘resultaat verantwoordelijke eenheden’) are combined and managed in an integrated centre.

Four ZKOs have been defined which delineate the areas in which Maastricht UMC+ has special expertise. These ZKOs focus on disorders with a high prevalence and serious health implications for many patients. The four ZKOs are:

- ZKO Cardiovascular diseases;
- ZKO Mental Health and Neurosciences;
- ZKO Oncology;
- ZKO Chronic diseases.

The School for Public Health and Primary Care: Caphri will contribute substantially to each of the ZKOs. It functions as a linking profile. The prominent position of public health and primary care is crucial for the distinctive profile adopted by Maastricht UMC+: an approach which does not limit itself to specialised medicine, but adopts an integrated approach to the entire spectrum of health and disease. In addition to recovery and follow-up care, it also includes health promotion and disease prevention in relation to care, education and research.

Figure 3.1. Interrelationship of ZKOs and linking profile of Public Health & Primary Care



For the next three years, the School for Public Health and Primary Care: Caphri intends to concentrate on the ZKO’s Chronic Diseases and Cardiovascular Diseases. These two ZKOs are further developed than the other two. Moreover, the School’s research covers the whole continuum from health promotion and disease prevention to after care and rehabilitation in these two particular areas. The School will, however, also contribute to the other two ZKOs. All programmes are expected to focus 80% of their capacity on the four ZKO’s, while 20% of their research budget provided by direct government funding remains available for (mostly fundamental) research involving a specific Public Health and Primary Care -related discipline.

A.3.2.3 Cooperation between Schools

In line with national and international trends, the Faculty of Health, Medicine and Life Sciences (FHML) has opted for the school model as point of departure for structuring research and education. The School for Public Health and Primary Care: Caphri is one of 5 FHML graduate schools.

The other four Schools are:

- School for Cardiovascular Diseases: CARIM;
- School for Mental Health and Neurosciences: Brain and Behaviour (Dutch acronym: H&G);
- School for Oncology and Developmental Biology: GROW;
- School for Nutrition and Metabolism: NUTRIM;

The School for Public health and Primary Care cooperates with all FHML-schools, but traditionally has most links with the School for Nutrition and Metabolism: Nutrim and the School for Cardiovascular Diseases: CARIM.

A.3.2.4 Facilities

The School has actively developed facilities for large scale longitudinal studies on determinants of health as one of its main research strategies. The complexity of interactive factors, individual (e.g. genetic) and social factors demands the generation of long term, broad designed population studies, which enable to study causalities and outcomes in complex patients. The School therefore has put much energy into developing both large scale infrastructural facilities such as RNH and SMILE as well as more specialized, highly profiled and specialized cohort and database studies on specific disease areas, profiting from the strong profile of UM and FHML history being very prominent in primary care. One of the very important infrastructural facilities is the 'Regional Network of General Practitioners' (RNH) in the southern province of the Netherlands, Limburg. This is an extensive computerized network of general practices, with a basic, long term for more than 15 years collected population of over 100,000 participants, providing a strong infrastructure for population sampling and clinical epidemiological studies. The second infrastructural facility, modelled on RNH, is the 'Study of Medical Information and Lifestyle in Eindhoven' (SMILE), which started in 2003¹, also a network of general practices, yet located in the province of Brabant, particularly in the region of Eindhoven, encompassing over 30.000 patients, in which longitudinal data on life style, health status and health care use are collected through questionnaires, and are linked with the patient's medical file. This enables scientists to perform research into the interaction of social, medical and psychological factors of health and disease and to construct respective health (care) interventions to influence these factors. SMILE aims to develop new ways of integrating public health and primary care research.

Several specialised cohort studies and underlying databases have been developed (i.e. a cohort study among 12.000 employees focusing on prolonged fatigue (PVA) and a cohort study on 7500 pregnant women and their offspring (PPBS and KOALA, respectively). A cohort of initially 5000 Diabetes patients is under construction in cooperation with the graduate school CARIM and the regional diabetes care structure, DIAMAND. Finally, the structural collaboration with the Regional Public Health Service will give access to extensive epidemiological and youth care data sets; the Limburg Academic Centre for Public Health is targeted at exploiting these databases for research and practice.

A.3.3. Research focus

Primary care is a central research topic at Maastricht University, with a strong tradition of extramural research and more recent developments in transmural research. In the area of public health, prevention and health promotion, research on determinants of health behaviour is well developed. Innovation of care for chronically ill people, especially the elderly, is an important topic of research. Evidence-based health care has received a strong input through clinical epidemiology and Health Technology Assessment (HTA). Research into normative aspects and the integration of care and public health provides added value to more quantitative analyses of developments in health and health care. The main aim of the School is to stimulate

¹ Preceded by BES in 2000

further development of research in these areas and to promote cooperation with other Schools in the context of FHML and MUMC+.

Primary care research of Maastricht University has a long-standing history of success. The scientific output of the cluster Primary Care has been excellent in the past years and the expectations for the future are excellent as well. The quality of research in the area of primary care is the outcome of cooperation over the boundaries of the clusters. Research on innovation of care, for instance new models for cooperation between primary care and secondary care, are important elements of the School's primary care expertise. Issues in the domain of public health, for instance communication about risks and prevention, are part of the School's research in primary care. Our aim is to establish a Centre of Excellence in Primary Care in a period of five years. In order to develop a Centre of Excellence, the School will specifically focus on the following areas in the next period of time:

- a) Stimulating transmural research and academic practice networks.
- b) Strengthening the generic cohort infrastructure.
- c) Developing major initiatives in new and promising areas of primary care.

Next to these focused activities, the School will further the quality of research by two generic activities:

- d) Organizing visiting professorships and academic exchange.
- e) Scouting and supporting talented staff.

The School will also focus on establishing partnerships with economic and societal parties:

- f) Valorisation of knowledge

Ad a). Stimulating transmural research and academic practice networks

Within the context of MUMC+, the School will contribute to research in each of the four ZKOs. In the next three years, the School aims to develop the profile Public Health and Primary Care especially in the ZKO Chronic Diseases, and the ZKO Cardiovascular Diseases since these two cover research topics which have already proven to be fruitful in past cooperation. An important aim of the School is to (further) develop academic practice networks. The networks with general practitioners (RNH, SMILE) will be continued and stimulated to develop new research. A network for elderly care, ACZIO (Academisch Centrum voor Zorginnovatie voor Ouderen – Academic Centre for Care Innovation for the Elderly) was established in 2007. This network will serve as a basis for regional cooperation, and serve as a vehicle for further national cooperation within CaRe. At the national level Caphri participates in The Netherlands Institute For Healthy and Successful Ageing (TI-GO): a multidisciplinary collaborative venture involving internationally recognized scientific groups, industrial partners and health care organizations. In the area of Public Health, there is a longstanding cooperation with the Regional Public Health Service (GGD Zuid-Limburg) which resulted in the establishment of the Limburg Academic Centre for Public Health, granted from a national programme in 2005. Transmural research will be stimulated by an internal competition for PhD projects.

Ad b). Strengthening of cohort infrastructure

Characteristic of Primary Care and Public Health research is the use of cohorts. The academic practice networks serve as a basis for gathering cohort data on a continuous base. Next to several successful specialized cohort studies, the School has two facilities which provide data that can be used more generally, namely RNH and SMILE. In the next period, these cohorts will be strengthened regarding project leadership, data management, scientific output and financial basis.

Ad c). Developing initiatives for acquiring large funds

Although the School is quite successful in acquiring funds, especially governmental funding (ZonMw), most initiatives are rather small. In line with University and Faculty policy, the aim is to develop larger initiatives, together with economic partners (e.g. CTMM). These initiatives transcend clusters of programmes. Currently two initiatives are being developed: Genetics and addiction, and Innovation of care for the elderly. These initiatives are set up in cooperation with other schools within the FHML.

Ad d.) Organizing visiting professorships and academic exchange

Expertise in primary care can be further developed by exchange of experienced researchers. Therefore we will set up a system of visiting professorships, in which distinguished researchers from abroad visit the School in order to develop joint projects and give advice to (junior) staff. We will also stimulate academic exchange by supporting the organisation of international symposia.

Ad e). Scouting and supporting talented staff

Caphri values an efficient HRM-strategy and is willing to invest in it. Part of the strategy is to recognize, stimulate and support talented staff and retain them by offering suitable career opportunities. The School distinguishes three categories of talented staff:

1. Talented junior researchers
2. High potentials
3. Established top researchers

The HRM-strategy is closely linked to the Caphri quality system. On the basis of the central criteria, i.e. publications, defended PhD-theses and earning power, the output of individual researchers is assessed. This enables us to identify top researchers and high potentials. Recently a monitoring system was set up to monitor progress of the PhD research projects, which helps to recognize the most talented junior researchers. The School's Research Master Programme can also be seen as an excellent source of talented junior researchers. On a yearly basis the programme leaders and scientific directors meet to discuss career opportunities for talented junior researchers and high potentials. Furthermore, Caphri wants to stimulate and support talented staff by allowing them time and opportunity to excel. The School for instance provides funds for preparing grant proposals (especially NWO Vernieuwingsimpuls). Another way to invest in talented PhD-students and postdoc's is to provide possibilities to travel abroad for academic purposes for a period of time. In paragraph 7.1.1 the established top researchers and high potentials are mentioned.

Ad f). Valorisation of knowledge

The School focuses on the economic valorisation of knowledge and the transfer of socially applicable knowledge. The recently acquired contract with ABN Amro Arbo Services and Achmea insurances for the so-called 'Balansmeter'-project (coordinated by Dr. IJmert Kant) in which the knowledge of this carefully constructed research instrument has been translated into a contract is an excellent example. The contract (estimated value of 1,5 -2,5 million euro over a 5 year period) involves valorisation, exploitation and further development of the Balansmeter. Next to economic valorisation, Caphri also promotes societal valorisation. The point of departure in both areas will always be the School's own strength and research focus.

A.3.4. PhD-training and Research Master

The School participates in the Research School CaRe (Netherlands School of Primary Care Research). New PhD students each year follow an introduction course, which provides an overview of the area of research. This group forms a cohort; PhD students meet every year to follow new courses and exchange experiences. Within the CaRe programme, PhD students can specialize in two tracks: the Epidemiology profile and the Social Science profile. The School also participates in the Research School WTMC (Science, Technology and Modern Culture). This School organizes its teaching in intensive one-week courses for PhD students in the first two years. For PhD-students an additional advantage of participating in courses organized by a research School (CaRe of WTMC) is that it stimulates academic networking in national perspective, which is important in their future careers. Both Schools are officially acknowledged by the KNAW.

Research Master – programme coordinator: Prof.dr. R. de Bie

The School has developed a Research Master for outstanding students, which has been acknowledged by NVAO (Governmental accreditation organisation). In the Research Master, students follow a two year training, which prepares them for PhD research in the field of Primary Care and Public Health. The HSRM offers training at the MPhil level and distinguishes three separate tracks: a (Clinical) Epidemiological, a Health Technology Assessment (HTA) and a Social Sciences profile with a common initial phase strongly related to the Health Sciences Research disciplines. The research master starts with a core curriculum of mandatory modules reflecting knowledge that is considered important for a common foundation of health sciences

researchers. In the second half of the first year the various specialties are shaped by means of profile specific modules. The entire second year is used for scientific practical training. The modules of the HSRM are open to PhD students of the School for Public Health and Primary Care: Caphri, the research School Care and other professionals in the field. The Research Master started with 8 students in 2005; in 2006 the student intake was 5 and in 2007 10 students have registered.

In the supervision of the PhD students future plans and ambitions are monitored and evaluated. When appropriate the PhD-students/junior researchers are stimulated and supported to apply for internal research funding of the faculty (Kootstra fellowship and Talent) which may result in a post-doc appointment. A following step is to stimulate and support the post-doc researcher to apply for a next grant (when possible a Veni-grant). Junior researchers are stimulated to have foreign research experience during these periods. The programme leader has a very important role in this process as he may decide to stimulate this process by granting extra financial means for talented researchers.

A.3.5. Master Programmes

The Master of Public Health programme, resorting under the School for Public Health and Primary Care: Caphri, provides a rigorous academic training that emphasizes the acquisition of essential analytical skills and conceptual knowledge to understand the complexities of the public health domain.

Students choose one of five specialisations (which will briefly be detailed below):

- a) Epidemiology
- b) Health Education and Promotion
- c) Health Policy, Economics and Management
- d) Health Services Innovation
- e) Work and Health

Table: Student intake per year (full-time plus part-time programmes)

	2005	2006	2007 ²
Epidemiology	16	20	16
Health Education and Promotion	26	50	42
Health Policy, Economics and Management	33	61	62
Health Services Innovation	11	17	27
Work and Health	16	20	11

Epidemiology - programme coordinator: Dr. M. van Dongen.

The specialisation Epidemiology covers the full range of theoretical knowledge, practical and analytical skills, and experience that is required to become a certified epidemiologist at the master level. Participating students and health professionals are thoroughly initiated in the theoretical concepts, methods and techniques, and interpretation of epidemiological research focusing on the diagnosis, the etiology, or the outcomes and prognosis of diseases in humans, also including the efficacy of preventive and therapeutic interventions. In addition to the theoretical components, part of the curriculum is used to offer an introduction into some of the major fields of application of epidemiological research, e.g. cardiovascular diseases, cancer, infectious diseases, and musculoskeletal disorders.

The Epidemiology programme has been approved as one of the designated programmes in scientific education for students and health professionals who want to apply for registration as a certified Epidemiologist-A (MSc/MA level). This register is maintained by the Netherlands Epidemiology Society since 1993, in order to keep track of epidemiologists with sufficient scientific and practical training, who are capable of conducting epidemiological research or providing consultancy services or policy support in the field of (public) health.

² These are preliminary figures; in December the official figures will be released.

Health Education and Promotion - programme coordinator: Prof. Dr. N. de Vries

The specialisation Health Education and Promotion aims to understand various influences on health and develop interventions targeted at changing them. Based on an ecological approach (combining influences at the level of the individual, the group, the community, the organization, society and even the supranational level) a planned approach to intervention development is advocated, based on theory and evidence. The core of the curriculum consists of the application of behavioural and social sciences in the development of interventions using planning models such as Intervention Mapping. Since every aspect of the development process makes use of various types of research - desk research, qualitative research, and quantitative research - much attention is given to teaching research skills.

The specialisation in Health Education and Promotion offers interdisciplinary activities: elements from Psychology and Communication Science are combined with knowledge of Epidemiology, Biomedical Sciences, Sociology, Political Science and Management Sciences.

Health Policy, Economics and Management – programme coordinator: Prof. Dr. H. Maarse

The specialisation Health Policy, Economics and Management studies current trends and developments in the health care sector. Practical skills and knowledge are emphasized by an interdisciplinary faculty that include the following disciplines: Health Economics, Political Science, Business Administration, Health Law, Health Care Science, Logistics and Operations Management, Organisation and Financial Management. The programme introduces themes and issues linked to resolving management and health problems. It focuses on the health care system, the position of government, management institutions, health (care) insurance companies and patient perspectives. Throughout the programme ample attention is given to the international health care situation.

Health Services Innovation – programme coordinator: Dr. B Vrijhoef

The specialisation HSI prepares students to become innovative professionals who are able to influence the future direction of healthcare and to transform the current system as the means to improve health outcomes and costs for patients and providers, as well as better integrate the different components of the healthcare system. Students are trained to get competent in designing, applying and testing innovative processes and products. Innovative thinking, planning and managing, implementing, and evaluation are emphasised throughout the course. The curriculum incorporates the latest trends in healthcare and the opportunity to network with professionals and experts in the field of HSI. HSI fits well with the new vision on health and health care by the FHML. As a consequence of several developments this new vision is, following the World Health Organisation, being described as integrated care. Illness and impairment are no longer at the centre, but health, health risks and wellness gain more attention. In addition, traditional distinctions like treatment and prevention, cure and care, and inpatient and outpatient care gradually fade away. Future health care is not aimed just at the patient, but is increasingly paying attention to people with characteristics or in conditions which are threatening their health.

Work and Health – programme coordinator: Prof. dr. F. Nijhuis

Managing problems associated with work and health has developed into an independent, multidisciplinary field of expertise. Effective prevention of hazards in the field of work and health seems to be difficult to put into practice. The formulation of theories and (knowledge of) empirical research with respect to both the factors that promote or obstruct the health of workers as well as management and intervention, are essential if one is to achieve effective prevention. For this reason the specialisation Work and Health creates a link between a practical focus and academic, multidisciplinary, scientific orientation. Analysing the quality of work in a broader organizational and social context is the fundamental principle of this course. Students study the relationship between work, health, and sickness, with a special attention on employees at risk, older employees, and employees with a chronic disease or with functional impairments. Based on the ICF model, participation and rehabilitation are key issues in studying the relationship between the demands and requirements of the work and the possibilities of the employee. They foster programmes designed to prevent work-related absenteeism and promote (re)integration into the labour force. Students receive training in the implementation aspects of intervention programmes and their evaluation.

A.3.6. Strategic goals 2008-2010

In line with our research focus (A.3.3), we have the following strategic goals for 2008-2010:

- Furthering the quality of primary care research, in order to prepare the status of a Centre of Excellence in Primary Care
- Making transmural research into a distinct characteristic of MUMC+, through cooperation with other Schools, especially in the area of Chronic Diseases and Cardiovascular Diseases
- Establishing visible and productive academic practice networks in the region, especially in the areas of public health and ageing
- Strengthening the infrastructure and the output of generic cohort research (RNH, SMILE)
- Acquiring substantial funding, based on matching, in the two designated area of Genetics and addiction, and Innovation of care for the elderly
- Supporting high potentials and talented junior researchers
- Furthering valorisation of knowledge
- Promoting the interaction between research and teaching in the School's Master programmes

A.4 Researchers and other personnel

The overview of the research input in the School (table 4.1) shows a reduction in the number of staff over the last three years (both tenured and non-tenured staff and PhD-students). The decrease in tenured staff is a consequence of the decrease in direct funding by the former Faculty of Medicine in 2003. This has led to a reduction of staff from all departments participating in the School. The decrease has been most drastic in the cluster Public Health. The decrease in non tenured staff and PhD-students who have a formal PhD contract is caused by declining budgets of external funding agencies.

Note that the number of yearly defended dissertations is higher than may be expected from the number of PhD students, since PhD-graduates who did not have a formal contract with The School were included in the School's outcome as well.

Table 4.1: Overview of researchers and other personnel at the institutional level

(fte / year)	2004	2005	2006
Institutional level			
Tenured staff	57,69	52,34	43,58
Non-tenured staff	60,98	47,04	49,68
PhD students	60,75	51,20	48,10
Total research staff	179,42	150,58	141,36
Supporting staff	38,31	28,34	24,39
Total staff	216,03	178,92	165,75

Table 4.2 Overview of researchers and other personnel at the cluster level

(fte / year)	2004	2005	2006
Cluster 1: Primary Care			
Tenured staff	23,88	20,24	20,54
Non-tenured staff	9,93	6,20	9,75
PhD Students	17,23	10,10	10,00
Total research staff	51,04	36,54	40,29
Supporting staff	27,22	17,90	16,94
Total staff	78,26	54,44	57,23
Cluster 2: Innovation of Care			
Tenured staff	17,76	15,75	14,29
Non-tenured staff	24,71	20,74	27,23
PhD Students	19,89	17,60	18,30
Total research staff	62,36	54,09	59,82
Supporting staff	6,47	5,89	4,85
Total staff	68,83	59,98	64,67
Cluster 3: Public Health			
Tenured staff	16,05	16,35	8,75
Non-tenured staff	26,34	20,10	12,70
PhD Students	23,63	23,50	19,80
Total research staff	66,02	59,95	41,25
Supporting staff	4,62	4,55	2,60
Total staff	70,64	64,50	43,85

A.4.1 Recruitment and training of staff and PhD-students

Most scientific staff is recruited by selecting talented PhD-students and providing them a suitable career opportunity. Recently a system was set up to monitor progress of the research projects. One purpose of the system is to prevent a possible delay of the PhD period, but another very important aim is to recruit the most talented researchers. Every year all talented junior and senior researchers in all research programmes and the career possibilities of these researchers are discussed by the programme leaders with the scientific directors of the School.

It is important to recruit promising researchers as soon as possible. A new and very important tool for this purpose is the 2-year Health Sciences Research Master (HSRM) which offers a broad scientific training programme for researchers at top master's level. The HSRM is an excellent preparation for those students who are eager to pursue their career as researcher.

A.5 Resources, Funding and Facilities

The income, broken down according to the funding mechanisms (direct funding, research funding and contracts) for the school, are presented annually in a budget and in a final statement to the Faculty of Health, Medicine and Life Sciences. Table 5.1 provides an overview of resources and funding for the years 2004-2006. The School does not have a comfortable financial situation. The budget has been under pressure from restrictions in funding by the university and by external funding agencies. The internal budgeting system by the university has changed twice in the past three years. This resulted in a smaller increase in funding than expected. This, in combination with decreasing external funding, has led to deficits for Caphri. These have largely been overcome by decreasing personnel costs. Yet, the financial situation is still precarious. In the years to come the financial situation is expected to improve. A large part of funding comes from external sources. A weakness is the large number of relatively small projects. Given the decreasing availability of external funds, the ratio of small projects might even rise. This underlines the importance of focusing on a limited number of larger funding possibilities.

Table 5.1: Funding at the institute level

Funding	2004		2005		2006	
	k€	%	k€	%	k€	%
Direct funding	5.184	41	5.306	43	5.472	47
Research funds	3.304	26	2.749	22	2.403	21
Contracts	4.275	33	4.380	35	3.823	32
Other funding						
Total	12.763	100%	12.435	100%	11.698	100%
Expenditure						
Personnel costs	9.710	72	9.278	69	8.570	71
Other costs	3.860	28	4.235	31	3.563	29
Total	13.570	100%	13.513	100%	12.133	100%

Explanation table 5.1

Direct funding: funds provided directly by the Faculty FHML for research and exploitation

Research funds: funds received in competition from national and international foundations (NWO, ZonMW, KNAW, ESF)

Contracts: funds from third parties for specific research activities, from charities, EU-framework programmes, industry, etc.

Other funding: includes interest from property, legacies, etc.

Personnel costs: all wages, salaries of the personnel including the social security charges, the donation to the provision "wachtgelden" (= reduced pay in case of unemployment), the cost of temporary workers or agency staff and other personnel costs such as allowances for child care and commuter travel. Only those personnel costs for personnel appointed directly for the projects at the University of Maastricht are included under the heading 'personnel costs'.

Other costs: Outsourced work and/or work by third parties, is accounted for under the item 'other costs' (for the School, this applies to personnel of the hospital, for example).

Table 5.2: Funding at the cluster level

Funding cluster level		2004	2005	2006
		k€	k€	k€
Cluster 1	Primary Care	532	601	520
	Research funds			
	Contracts	1.815	1.983	1.280
Cluster 2	Innovation of Care			
	Research funds	1.271	710	552
	Contracts	1.256	1.774	1.842
Cluster 3	Public Health			
	Research funds	1.502	1.438	1.330
	Contracts	1.203	623	702
Total		7.579	7.129	6.226

A.6 Processes in Research, Internal and External Collaboration

A.6.1 Collaboration at a national level

External collaboration on a national level focuses primarily on our partners in the Research School CaRe. There are many research projects in which CaRe partners work together. There are collaborative projects with Nijmegen (EBP), Utrecht (Nivel) and Amsterdam (EMGO). The participation in the Research School WTMC is relevant for societal and normative research.

There is also cooperation with other universities in The Netherlands. An example is the collaboration with the University of Groningen in studies on asthma and COPD (recently a collaborative TOP application was granted) and with Rotterdam on HTA studies (iMTA) and on Health Education. There is a structural relationship with Pfizer inc and Boehringer Ingelheim inc. which has resulted in a nationwide research programme, called Picasso for COPD. The research funding part of Picasso will be placed under the umbrella of ZonMw from early 2008. Furthermore there is a strategic linkage as core member of the NWO funded Dutch Centre of Excellence for Society and Genomics.

There are strong links with regional care providers, for instance with primary care practices (RNH, SMILE), institutions for care for the elderly (ACZIO) and Regional Public Health Services, both in the Limburg region and elsewhere. The School has structural ties with health promoting agencies such as STIVORO (the Dutch Anti-Smoking agency), IVO (the Dutch Institute for Addiction Research), local, regional and national institutes for Mental Health and different patient organizations and professional organizations.

Obviously, these are just some of the most prominent examples of the School's collaboration at a national level.

A.6.2 Collaboration at an international level

International cooperation is important for the School's research. All research programmes have strong relationships with research groups abroad. An illustrative example of an established international collaboration is the so-called Brisbane International Initiative (BII) which is chaired by the School. The purpose of the BII is to stimulate research in primary care worldwide. There are liaisons with academic primary care groups worldwide, in particular the World Organization of family doctors. A comprehensive curriculum for primary care research training and an advanced international training context for PhD and MSc research students has been developed. In 2007 The School will be hosting the European General practice Respiratory Infection Network (GRIN) Conference. The School plays an important role in GRIN, illustrated by relevant international publications on the subject. Another example is the participation in the Executive Committee of the International Primary Care Respiratory Group and the development of International Guidelines for the diagnosis and treatment of asthma, rhinitis and COPD in primary care chaired by the School and the EU COST B29 action for acute exacerbations of COPD.

The School has a longstanding tradition of cooperation with the Centre for Health Promotion and Prevention Research, School of Public Health of the University of Texas, Houston. Furthermore there are structural ties with the London School of Hygiene and Tropical Medicine, the Centre for Chronic Care in Seattle and the World Health Organization. Traditionally there has been much collaboration with researchers in developing countries, notably sub-Saharan Africa. Recently a Memorandum Of Understanding (MOU) was signed between the Medical Research Council of the Republic of South Africa (MRC) and the Universiteit Maastricht with the aim to promote academic exchange and cooperation between the parties in various fields of mutual interest within the Health Sciences.

The school is one of the four leading partners in the annual summer schools for European PhD students, organized by the European Academy of Nursing Science, in which leading scientists of 20 European Universities are participating, and financed by the European Union (Marie Curie).

Again, this overview gives only an impression of some of the most salient examples of international collaboration.

A.7. Academic reputation

Various methods are available for determining the quality of scientific research. It is, for example, possible to base the assessment on the number of prizes awarded, the number of PhD dissertations, or the competitive earning power for external funding (KNAW, NWO, CBF). The FHML uses the following criteria to assess the quality of the scientific research within its Schools:

- the extent to which the FHML Schools participate in research schools recognized by the KNAW;
- the parameters generated by the annual planning and control cycle, including an (annual) bibliometric analysis and international benchmark;
- the results of the evaluations and site visits of the research institutes in accordance with the Standard Evaluation Protocol 2003-2009 for Public Research Organisations (SEP) .

The parameters for the planning and control cycle (referred to above) are related to the relationship between the input, i.e. resources provided by direct government funding, and the output, e.g. publications, PhD dissertations, and the ability to attract external funding. The parameters provide insight into the international profile of the organization and its competitive position. These parameters, such as the number of peer-reviewed publications (WI-1) and its impact, the number of theses and the earning power are translated into the following standards, set by the FHML for each of the 5 Schools:

- an average of six WI-1 publications per year per full-time academic researcher (fte) paid for by direct government funding (average over three years)
- 1.5 PhD graduates per three years per full-time academic researcher (fte) paid for by direct government funding (0.5/year)
- earning power for external funding at a ratio of 1:1, i.e. the amount of funding attracted per academic researcher is equal to the average personnel costs of such a researcher

A.7.1. Qualitative analysis based on standard parameters

In 2006, the School for Public Health and Primary Care: Caphri published 420 peer-reviewed articles (WI-1). With an average impact score of 2.9, these articles had a higher impact than the average (2.3) value in the relevant scientific fields within which the school publishes. The School strives to score at least a factor of 1.5 times the average impact score in the relevant fields. However for multi-disciplinary research it proves to be relatively difficult to score in a mono-disciplinary journal with a high impact factor. The number of publications per year per fulltime academic staff paid for by direct government funding has to be measured over a period of three years. For the School the average number of WI-1 publications per year per full-time equivalent academic researcher in the period 2004-2006 was 9,6 which is considerably higher than the target value (6,0). Researchers in cluster 3 (Public Health) have published twice as much as was expected from them according to the FHML-criteria.

Table 7.1 : Average number of publications per year, per fte direct funding (measured in time-period 2004 - 2006)

	Average WI-1 over 3 years per year/staff
School PHPC	9,6
Cluster 1: Primary Care	11,2
Cluster 2: Innovation of Care	8,3
Cluster 3: Public Health	12,1
Benchmark FHML	6,0

The number of PhD graduates at the School for Public Health and Primary Care in 2006 was 21. The average number of PhD graduates per academic researcher has been measured for the period 2004 – 2006. Whilst the target value is 1,5 PhD graduates per three years per full time academic staff paid for by direct government funding, the School scored 1,9.

The amount of external funding attracted within the competitive areas of indirect government funding and contract funding was circa 3,5 million euros yearly. Looking at the earning power (UMA³) per academic staff, the School does fully comply to the FHML standard. The earning power (UMA) for the entire School, divided by full time staff paid for by direct government funding was € 79.566,= compared to the FHML target value of € 77.574,=. The School scores high in attracting highly prestigious research funds: 48% (€ 2.620.656,=) of the total amount of funds received from NWO, ZonMW and KNAW by the FHML (€ 5.504.182,=) was brought in by the School.

A.7.1.1 Established top researchers

Based on the criteria for determining the quality of scientific research (publications, defended PhD-theses and earning power) mentioned in A.3.3, Caphri has identified in 2006 its established top researchers. The names on top of the list are:

1. Onno van Schayck
2. Andre Knottnerus
3. Jlmert Kant
4. Hein de Vries
5. Guy Widdershoven

It is Caphri's policy to support the established top researchers in developing their research programme, and to stimulate them to set up larger research initiatives. An important role for them is to coach young talented staff. In this way junior staff will benefit from the expertise of the established top researchers.

Another category of talented staff is that of high potentials. These researchers are younger than the established top researchers: approximately between 40 and 45 years of age. They score high in terms of publications and earning power and are expected to be the next generation of top researchers. The list of names is not exhaustive. A few names to be mentioned here are:

- Rob de Bie
- Hans Severens
- Tineke Abma
- Jan Hamers
- Trudy van der Weijden

A.7.2. Bibliometric analysis

The UMCs collectively decided to use the number and quality of the scientific publications as point of departure. At the request of the Dutch Federation of University Medical Centres (NFU), the Centre for Science and Technology Studies (CWTS) carries out bibliometric analyses of the research done at the UMCs. These analyses are based on the number of publications and their quality, measured as a function of the quality of the scientific journals publishing the work and the number of references. The data obtained is then compared to international benchmark data for the biomedical sciences. The goal is to determine a relationship between the input (the resources available for carrying out research) and the output.

Bibliometric analysis has been shown to be a potentially useful indicator for past scientific quality. For the School of Public Health and Primary Care: Caphri however, there is a problem that not all research is biomedical. This may bias results since a) publication lags and citation delays are larger in the fields of public health and primary care; b) specific publications are categorized in biomedical fields while actually they are social scientific papers. Moreover, several areas of the School's research are in a phase of development. Therefore, the bibliometric analysis presented below should be regarded as a rough indication of scientific quality, not as a final assessment.

³ UMA: Abbreviation used by the Universiteit Maastricht to indicate the research funds and contracts that are received in competition.

The most recent bibliometric analysis was performed by the Centre for Science and Technology Studies (CWTS) for the period 1997-2005⁴. The analyses were performed at the level of the UMC as a whole, at the level of the Schools and their subsequent divisions or research themes and at the level of the departments. Their prime important indicator, the so called CPP/FCSm, is the ratio of the average number of citations per publication corrected for self-citations (CPP) and the mean field citation score (FCSm). This indicator compares the impact of publications of the institute (or division) to the world citation average in the field of research of the institute (or division).

The School has a CPP/FCSm of 1.56 for the period 1997-2005, which implies that publications have been cited 1.56 more often than the world average of publications in the same research domain. Cluster 1: Primary Care scored the highest of the three clusters with a CPP/FCS of 1.83. On the level of the FHML this was the highest CPP/FCSm score, reason why the research theme Primary Care was chosen by the Faculty Board to be developed into a Centre of Excellence.

Table 7.2: Bibliometric analysis 1997-2005

	P	C+sc	CPP+sc	CPPex	Pnc	JCSm	FCSm	CPP/ JCSm	CPP/ FCSm	JCSm/ FCSm	Self Citations	
Caphri												
1997 - 2005	2.208	24.118	10,92	8,87	28%	6,52	5,67	1,36	+	1,56	+ 1,14	19%
Primary Care												
1997-2005	1.115	14.265	12,79	10,56	27%	7,07	5,79	1,49	+	1,83	+ 1,21	17%
Innovation												
1997-2005	651	4.979	7,65	6,33	29%	5,36	5,00	1,18	+	1,27	+ 1,07	17%
Public health												
1997-2005	438	2.925	6,68	4,84	35%	4,76	4,53	1,02		1,07	1,06	27%

Overview of bibliometric indicators

P	Number of articles (normal articles, letters, notes and reviews) published in journals processed for the CD-ROM version of the ISI's Citation Indexes (CI).
C	Number of citations recorded in CI journals to all articles involved. Selfcitations are excluded.
C+sc	Number of citations recorded in CI journals to all articles involved. Selfcitations are included.
CPP	Average number of citations per publication, or citation per publication ratio. Self-citations are excluded.
%Pnc	Percentage of articles not cited during the time period considered.
JCSm	Average citation rate of all articles published in the journals in which an institute/group has published (excluding self-citations) (not printed in the data-tables).
FCSm	Average citation rate of all articles in the fields in which the institute/group is active. Also indicated as the world citation average in those fields. Fields are defined by means of ISI journal categories (excluding self-citations) (not printed in the data-tables).
CPP/FCSm	Impact of an institute/group's articles, compared to the world citation average in the (sub)fields in which the institute/group is active. A '+' ('-') symbol behind the numerical value indicates that the impact of the institute/groups' articles is significantly above (below) world average.
CPP/JCSm	Impact of an institute/group's articles, compared to the average citation rate of the institute/group's journals. A '+' ('-') symbol behind the numerical value indicates that the impact of the institute/group's articles is significantly above (below) the average citation rate of the journals concerned.
JCSm/FCSm	Impact of the journals in which an institute/group has published, compared to the world citation average in the fields covered by these journals.
SELFCTS%	Percentage of self-citations. A self-citation is defined as a citation in which the citing and the cited paper have at least one author in common (first author or co-author).

4 The analysis was published in a confidential report *Bibliometric study on Dutch Academic Medical Centres, 1997 – 2005*

A.7.3 Societal impact

The School considers it of utmost importance that its research benefits the society around us. Striving for societal impact not only justifies the School's use of public funds, but also guides the research policy. Measuring the societal impact of applied research however, is still largely experimental. Recently the School has adopted the following indicators for societal impact:

1. Clinical guidelines and health policy reports
2. Publications not contributing to citation analysis
3. Media coverage and presentations for health care professionals and non-professionals
 - 3.1. television
 - 3.2. radio
 - 3.3. newspapers
 - 3.4. magazines
 - 3.5. lectures aimed at professionals in health care settings
 - 3.6. lectures for patients or the public
 - 3.7. presentations for policy makers
 - 3.8. symposia and conferences aimed at societal target groups
4. Information on the internet
 - 4.1. website aimed at societal users
 - 4.2. website aimed at research information
5. Memberships relevant for the societal impact of research
 - 5.1. clinical guideline development and health policy reports
 - 5.2. funding agencies
 - 5.3. journal (associate) editorships
 - 5.4. international memberships
 - 5.5. collaboration with intermediary – and patient organisations in scientific research
6. Illustrative example

As from the 1st of January 2007 onwards the School has started to measure societal impact according to these indicators.

A.8 Internal validation

The committees and meetings mentioned under A.2 have an evaluative function. In this sense the biannual Planning and Control meetings between the School's scientific directors and the programme leaders are a good example of internal validation. On the basis of these biannual meetings the directors can decide to further expand or discontinue a programme as it is. Similarly, there are meetings with each chair of the departments individually about the department's achievements in research and master education. These meetings are used to evaluate the institute's policy as well as the output of the staff, both tenured and non-tenured, and could have repercussions for the department's direct funding. The Scientific committee, the Scientific Council/School Council and the Advisory Council are platforms to discuss major policy issues. The School's PhD Candidates Meeting provides feedback about issues regarding PhD training and policy issues that are specifically relevant for the students.

In order to stimulate the scientific output of the institute, a competition is organized for the best article, the best thesis and the best poster. Since 2003 (the first year of the existence of the institute), the awards have been won by the following authors:

The Caphri 2004 Philipsen Award for best publication 2003

Hopstaken RM, Muris JWM, Knottnerus JA, Kester ADM, Rinkens PELM, Dinant GJ

Contributions of symptoms, signs, erythrocyte sedimentation rate, and C-reactive protein to a diagnosis of pneumonia in acute lower respiratory tract infection

British Journal of General Practice 2003;53:358-64

The Caphri 2004 Poster Award

Ilse Mesters, Hein de Vries, Heidi Adriaanse

Capgroep Gezondheidsvoorlichting, Universiteit Maastricht

Erfelijke kanker: kennis, risicoperceptie en informatiebehoefte van de Nederlandse bevolking

The Caphri 2005 Knottnerus Award for the best thesis 2003-2004

Astrid Reubsaet

Development and evaluation of a school-based organ donation education programme

The Caphri 2005 Philipsen Award for best publication 2004

Steuten LM, Vrijhoef HJ, Merode GG van, Severens JL, Spreeuwenberg C

The Health Technology Assessment-Disease Management instrument reliably measured methodologic quality of health technology assessments of disease management

J. Clin. Epid 2004; 57:881-8

The Caphri 2005 Poster Award

Annemarie Koster

Socioeconomic differences in cognitive decline and the role of biomedical factors

The Caphri 2006 Knottnerus Award for the best thesis 2004-2005

W. Verstappen

Towards optimal test ordering in primary care

The Caphri 2006 Poster Award

Gerdine AJ Fransen, Ilse Mesters, Ellen Bonten & Jean WM Muris

The management of upper gastrointestinal symptoms: the patient's perspective

(The competition for the Philipsen award was not organized in 2006.)

A.9 External Validation

The School aims not only to contribute to scientific developments, but also to have a societal impact in the areas of integrated care and public health. A system of evaluation of societal impact is currently being developed, but it is only recently in operation. Therefore, we will present only an overview of activities and results in some of the relevant domains: guidelines, reports and committee memberships.

Clinical guidelines and health policy reports

Staff members of the School served on several committees that were established to develop clinical guidelines. Several health policy reports were published in 2004- 2006 in which staff members were involved as committee members or co-authors.

Memberships

The School's researchers are active in many boards and committees. Relevant memberships include committees of the Health Council (Gezondheidsraad) and scientific committees of ZonMW and NWO. Researchers also participate in a large number of international networks and societies.

Editorships

Staff members served as members of the editorial board of several national and international journals. The international editorships include:

- Journal of Clinical Epidemiology
- International Quarterly of Community Health Education
- International Journal of Medical Informatics
- International Journal of Nursing Studies
- International Journal of Healthcare Technology and Management
- Journal of Applied Research in Intellectual Disabilities
- Journal of Policy and Practice in Intellectual Disabilities.
- Primary Care Respiratory Journal
- Expert Review of Respiratory Medicine
- Journal Pathophys Haemostasis and Thrombosis
- Physiotherapy Reviews
- Physiotherapy
- Cochrane back review group
- Cochrane musculoskeletal diseases group
- Nursing Ethics
- Health Care Management Science
- International Journal Integrated Care (IJIC)
- BMC Implementation Science

Awards

Dr. I. Ferreira was appointed as post-doc fellowship in the framework of the Dr. E. Dekker programme from the NHS

In 2006 the "Centre of Excellence in Rheumatology 2006-2010" was appointed by EULAR (European League Against Rheumatism) to the Department of Internal Medicine, Division Rheumatology, University Hospital Maastricht.

A.10. Overview of major results

The overall results of the School are presented in the following sections.

A.10.1. PhD students and degrees

The mean study duration of PhD-graduates is 5,07⁵ Year measured over a period of 6 years (2000-2006). In table 10.1 the duration of the PhD-study is presented.

Table 10.1: Duration of the PhD-study (period 2000 - 2006)

PhD duration	Number	%
0-4 years	7	12,73
4-5 years	18	32,73
5-6 years	13	23,64
> 6 years	17	30,91
	55 ⁶	100%

A.10.2. Overview results

Table 10.2 and 10.3 give an overview of the academic results of the School for Public Health and Primary Care: Caphri.

Table 10.2 : Aggregated results of the institute (number of publications)

Number in publications / year	2004	2005	2006
Academic publications:			
A: in refereed journals	396	440	420
B in non-refereed journals	236	247	217
Total	632	687	637
Monographs	216	165	102
PhD theses	27	35,5	20,5
Professional publications & products	89	101	105

⁵ This is a weighted average, which has been corrected for differences caused by the fact that not all PhD-students have full-time contracts.

⁶ Please note that the total number of PhD-graduates includes 13 persons who do not have a full-time contract (0,8 fte instead of 1,0 fte)

Table: 10.3 Cluster results: number of publications

Number of publications / year	2004	2005	2006
Cluster 1: Primary Care			
Academic publications:			
A: in refereed journals	225	260	229
B in non-refereed journals	103	106	120
Total	328	366	349
Monographs	84	39	40
PhD theses	8	16	10,5
Professional publications & products	13	31	27
Cluster 2: Innovation of Care			
Academic publications:			
A: in refereed journals	113	108	131
B in non-refereed journals	89	114	82
Total	202	222	213
Monographs	73	75	44
PhD theses	16	10	2,5
Professional publications & products	51	47	70
Cluster 3: Public Health			
Academic publications:			
A: in refereed journals	98	100	122
B in non-refereed journals	52	40	43
Total	150	140	165
Monographs	60	57	26
PhD theses	3	9,5	7,5
Professional publications & products	29	26	17

A.11. Analysis, perspectives and expectations for the institute

This self-evaluation report summarizes the past performance and the current situation of the School. We also discussed future strategy (A.3). Below we provide a summary of both the (internal) strengths and weaknesses, and the (external) threats and opportunities. We will also draw conclusions and sketch further perspectives and expectations.

A.11.1. SWOT-analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> - Highly productive research of high scientific quality - Societal impact: research leading to substantial changes/improvement in health care delivery - Intensive interdisciplinary cooperation - Covering of wide range of health care problems, especially chronic diseases - Strong academic practice networks with practitioners and health care institutions - Highly successful in acquiring governmental funding (e.g. ZonMw) - Infrastructure for cohort studies - Programme structure (group coherence, cooperation) - Financial management system for support of project and programme leaders 	<ul style="list-style-type: none"> - Relatively large number of externally financed (often relatively small) projects - Little access to journals with high impact scores and opportunities for sufficient citation - Funding of cohort studies - Small patient population (recruitment, bias) due to geographical situation - Geographical situation: networks and recruitment of staff
Opportunities	Threats
<ul style="list-style-type: none"> - Primary Care designated as a potential Centre of Excellence - Central position of profile Public Health and Primary Care in MUMC+ - MUMC+ gives opportunities for closer cooperation with clinical groups - Rising number of patients with chronic diseases - Societal need for innovations and redesign of health care delivery - Willingness of many stakeholders to collaborate in our research - New therapies (translational medicine) - Responsibility for Master education, especially Health Sciences Research Master - PhD and Postdoc policy aimed at supporting talented junior researcher 	<ul style="list-style-type: none"> - Growing emphasis on biomedical research - Budget and other policy decisions based on a limited operationalisation of scientific quality - Decreasing availability of external funding - Decreasing structural research budgets - Short period that priorities are listed on the political agenda for health care - Fragmentation due to broad scope in clinical subjects and settings

A.11.2 Conclusions

Due to demographic developments, changes in health care provision and advancing technology, new problems will arise in the area of health care. The ageing of the population will result in an increase of the number of people with a chronic disease. There is a trend towards ultra-short hospital stays, resulting in a growing need to reshape health care provisions and secure continuity of care along the total chain of care. Prevention will become more important as the risks for chronic diseases become more prominent and the need for people to cope with these risks as well as with disease and disability increases. Genetic aspects of

health problems will give rise to new therapies, and new relationships between biomedical and translational research. The role of patients in decision making on preventive and medical interventions is shifting from passive to involved or active. As a result of these developments, the need for research in public health and primary care will grow in the near future. The expertise in performing interdisciplinary research on (and developing research methods specifically related to) effectiveness and quality of primary care, chronic illness, prevention and lifestyle will enable the School of Public Health and Primary Care: Caphri to play a distinctive role in this development. In the next five years, we aim to establish a Centre of Excellence in Primary Care.

The School has developed strong ties with extramural and transmurial care providers in academic practice networks. These networks are of growing importance in primary care and public health research. Within these networks, various stakeholders participate actively in research. They provide a context for data gathering, but also for interpretation of results and implementation of interventions which have proven to be effective. They also provide the context for cohort studies. Cohorts are a crucial element of primary care and public health research. RNH has proven to be a source for innovative research projects. SMILE is a unique cohort as it combines the assessment of medical data with data of health behaviour and life style. However, it is not easy to acquire (permanent) external funds for such facilities. Diminishing budgets will necessitate a great deal of effort to continue both facilities. During the years to come initiatives will be developed to ensure their viability.

The formation of MUMC+, which aims to integrate patient care, teaching and research in the Academic Hospital and the Faculty of Health, Medicine and Life Sciences, is an important challenge for the School. The basic ideas behind MUMC+ are very attractive: integrated care, and cooperation between professionals and researchers in important domains of health. This implies that the major elements of research of the School are acknowledged as main issues in MUMC+. The School is eager to cooperate with other schools to develop new lines of research within the chains of intra- and extramural health care which have been chosen. In the next three years, the School will especially focus on participation in the ZKO Chronic Diseases and the ZKO Cardiovascular Diseases. An issue needing special attention is the position of the Schools in general, and the School of Public Health and Primary Care: Caphri in particular. In the MUMC+ model, a balance has to be found both between health care and research, and between fundamental biological research and public health and primary care research.

The School can act as a linking pin between extramural academic practice networks and the ZKOs. This will establish a basis for cooperation between research schools and stimulates cooperation between researchers from various backgrounds. This will enable the School to develop initiatives to acquire larger funding, based on matching. In the next period two initiatives will be developed: Genetics and addiction, and Innovation of care for the elderly.

The scientific quality of research in the School is very good, as can be seen from the bibliometric analysis for the period 1997-2005. The results are excellent in the cluster Primary Care. The bibliometric analysis for Innovation of Care and Public Health needs further interpretation. Concerning the bibliometric analysis, the School has a disadvantage, given the limited access to journals with high impact factors, and the citation culture in certain areas. Societal impact is an important indicator as well. Together with the CaRe partners, the School has developed a system for measuring societal impact in order to evaluate performance in this area. The School holds the view that biological research and research in the area of public health and primary care are complementary. This requires adequate support based on an evaluation system that does justice to both types of research. We aim to actively contribute to the discussion on adequate evaluation system for research quality.

The School has set up a well functioning system of research programmes. Financial tools have been developed to support project leaders and programme leaders in monitoring research projects and research portfolios. The internal organisation of the programmes stimulates senior and junior researchers to develop their expertise in cooperation with each other. The programme structure is a good basis for the organisation and development of research. Programmes with a common focus are clustered under three headings: Primary Care, Innovation of Care, and Public Health. The focus of each of the clusters is described in part B. At the

School level, initiatives are being developed which bring together expertise from all clusters to work together to acquire funding, especially in the area of Genetics and addiction, and Innovation of care for the elderly. The development of a Centre of Excellence in Primary Care also requires cooperation at School level.

The School's financial situation is precarious. The budget is under pressure because of restrictions in funding by the university and by external funding agencies. This has led to deficits; the situation has improved in recent years and the prognosis for the coming years is good. Due to budget restrictions, the tenured staff has decreased, especially in the area of Public Health. A large part of funding comes from external sources. A weakness is the large number of relatively small projects. Given the decreasing availability of external funds, the ratio of small projects might even rise. This underlines the need to focus on a limited number of larger funding possibilities.

The responsibility of the School for master education, especially the Health Sciences Research Master, enables us to recruit talented students and to provide them with training that prepares them well for PhD research. In the coming periods, master education and training of PhD students will be further integrated. This will be organized together with the CaRe partners. We will support PhD students and Postdoc's to travel abroad for academic purposes and to prepare grants (especially Veni and Vidi).

A.11.3 Perspectives and expectations

For the next three years we have the following perspectives and expectations:

- Cooperation with care providers will become crucial in order to improve transmural research and practice; we expect to be able to combine further development of academic practice networks outside of the hospital; and further cooperation within the academic hospital, especially in the ZKO Cardiovascular diseases and the ZKO Chronic Diseases.
- The programme structure is a sound basis for development of primary care and public health research; in the years to come we expect the existing programmes to have a stable (and slightly growing) output.
- We expect to be able to develop a Centre of Excellence in the area of Primary Care, bringing together expertise in effectiveness of primary care, innovation of care and public health.
- Acquiring substantial funds, based on matching, will become important in order to further research in primary care and public health; we expect major chances in two areas: Genetics and addiction, and Innovation of care for the elderly.
- The combination of responsibility for research and (master) education will be beneficial for the relation between these two core activities of academic practice; we expect to be able to further develop the quality of master education and the training of researchers; we expect also to be able to support highly talented junior researchers in their academic development.

