

CAPHRI IN EXCELLENT HEALTH

ANNUAL
REPORT
2010

caphri

School for Public Health
and Primary Care

**SCHOOL
FOR PUBLIC
HEALTH AND
PRIMARY
CARE**

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01

PREFACE

CAPHRI is proud to present the CAPHRI Annual Report 2010, which describes much progress and many achievements in the fields of primary care, innovation of care and public health. In 2010, the External Review Committee (ERC) awarded CAPHRI with an overall score of 'excellent'. One of the contributing factors to this score was the strong combination of research quality and societal relevance. The ERC made 8 recommendations to maintain and further develop the quality of research and to improve the organisational strategy of CAPHRI.

We are very grateful for all the hard work delivered by the staff members of CAPHRI. Without the dedication of our staff members, we could not have shown such progress and improvement. We feel confident that CAPHRI will continue this positive movement towards more and better results.

This Annual Report has been divided into several chapters, starting with a chapter giving some general information about CAPHRI. This chapter also describes how CAPHRI's policy of increased internationalisation has led to world-wide recognition and popularity among prospective PhD candidates. The next chapter presents the reaction of CAPHRI staff members to the excellence rating and recommendations of the ERC through interviews with Prof. Onno van Schayck, Prof. Rob de Bie, Dr Silvia Evers and Prof. Nanne de Vries.

One of the recommendations of the ERC concerns the breeding ground policy of CAPHRI, including the Health Sciences Research Master (HSRM) programme and the PhD Co-ordinator. CAPHRI's breeding ground policy involves the recognition, stimulation and support of talents among its (research) Master students, PhD candidates and research staff and the provision of opportunities to excel. The ERC considers this breeding ground policy to be of excellent quality and recommends that the Board of the Maastricht University Medical Centre+ (Maastricht UMC+) and the Dean of Maastricht University facilitate this breeding ground with all means possible. Chapter 4 of this Annual Report includes an interview with Dr Christel van Gool and Dr Hannerieke van der Boom, who both play an important role in the breeding ground policy. Five interviews with talents working on different levels follow: a Master student, a PhD candidate, a Postdoc researcher and two researchers who have obtained a VENI or VIDI grant.

The next chapter is about the innovation of CAPHRI research. Interviews with Dr Tim Welting, Dr Christian Hoebe and Prof. Geert-Jan Dinant are included. Tim Welting and his research group worked on the possibilities of cartilage regeneration to replace areas of missing cartilage in patients. One of the results was a method for generating new cartilage in the knee cap. Christian Hoebe and his research group studied sexually transmitted diseases and infectious disease control. One of their results was finding the cause and the source of the Q fever epidemic in South Limburg. Geert-Jan Dinant is a CAPHRI programme leader involved in the development of the Centre for Care Technology Research (CCTR) and is a specialist in the diagnosis and treatment of many disorders in the field of general practice. The research carried out with his research group showed, amongst other things, that the prescription of antibiotics for pneumonia and for a lower respiratory infection is often unnecessary.

The following three chapters concern the programmes within the three clusters of CAPHRI: Primary Care, Innovation of Care and Public Health. Each programme's mission statement, 3 highlights and 3 top publications of 2010 are presented. General information on the programmes can be found on the CAPHRI website: www.caphri.nl.

Prof. Onno van Schayck
Scientific Director

02.A

GENERAL INFORMATION

About CAPHRI

The School for Public Health and Primary Care (CAPHRI) is the largest of the five research schools in the Faculty of Health, Medicine & Life Sciences (FHML), Maastricht UMC+. CAPHRI coordinates research, PhD training and Master education in the following departments: General Practice, Epidemiology, Methodology and Statistics, International Health, Health Education and Health Promotion, Health Organisation, Policy and Economics, Orthopaedic Surgery, Rehabilitation, Social Medicine and Health, Ethics and Society, and Health Care and Nursing Science.

CAPHRI is divided into three clusters, which all consist of closely related research programmes in terms of subject matter, conceptual framework, study population, type of intervention or research methodology. A research programme is a coherent group of research projects, supervised by a team of senior researchers and coordinated by a programme leader. The three clusters are:

- Primary Care
- Innovation of Care
- Public Health

Each cluster has a cluster co-ordinator. In total, the three clusters consist of 17 programmes.

Mission Statement

The mission of CAPHRI is to provide high-quality research and teaching focused on health care innovation, ranging from prevention to rehabilitation and leading to improvement of the population's health.

CAPHRI research and teaching is concerned with the overall improvement of the health of the population from the point of view of the professional, the patient and society. The focus is on interventions in the chain of care, starting with prevention and primary care, and ending with aftercare and rehabilitation. CAPHRI wants to obtain knowledge on the effectiveness of interventions, the degree to which the interventions meet the needs of prospective patients and the implementation of effective interventions in health care practices. Other research is devoted to the evaluation of the interventions from an economic and a normative perspective.

The main focus of CAPHRI lies with the following chronic diseases: chronic lung diseases (asthma and COPD), cardiovascular diseases, rheumatic diseases, musculo-skeletal disorders, diabetes, and common mental diseases (such as depression). New forms of organisation (such as transmural or integrated care) are being developed, and new intermediate professions are being created (such as the specialised nurse).

Assessment of CAPHRI research and education

Every six years an independent committee assesses the quality of graduate schools in the Netherlands according to the Standard Evaluation Protocol (SEP), the national guideline which is set by the Royal Netherlands Academy of Arts and Sciences (KNAW), the Association of Universities in the Netherlands (VSNU) and Netherlands Organisation for Scientific Research (NWO). An external evaluation of CAPHRI took place in December 2010. CAPHRI received an overall score of 'excellent'. Leading national and international scientists praised the outstanding quality and social relevance of CAPHRI research and education, the qualitative and quantitative growth, the trans-disciplinary research approach, the successful breeding ground strategy and the high number of articles published in world class journals.

International cooperation

International cooperation is crucial for CAPHRI's research. Not only do many internationally renowned researchers work for CAPHRI, but CAPHRI has also implemented the policy to recruit and invest in top talent worldwide. Furthermore, CAPHRI works closely with research institutes and research groups abroad. As a result of this collaboration, many innovative concepts and applications resulting from CAPHRI research have been implemented and developed on both a national and an international level.

Each year CAPHRI researchers produce approximately 800 - 900 publications which are often quoted worldwide. According to the bibliometric study of Dutch university medical centres, publications on CAPHRI research have been cited 63% more often than the world average of publications in the same research field. This is a clear indication of the success of CAPHRI's research.

In addition, CAPHRI has received many prestigious national and international grants.

Health Sciences Research Master & other Master programmes

The Health Sciences Research Master (HSRM) is a two-year Research Master for talented students who would like to conduct scientific research. This Research Master was introduced in 2005 and is acknowledged by the NVAO (Governmental accreditation organisation). HSRM has three specialisations: Clinical Epidemiology, Social Sciences, and Health Technology Assessment. HSRM prepares students for PhD research in the field of Primary Care and Public Health.

CAPHRI also offers the following Master programmes:

- Master of Science in Public Health, with the following specialisations:
 - Health Education and Promotion (HEP)
 - Health Policy, Innovation & Management (HPIM)
 - Work and Health (W&H)
 - Epidemiology
- Master of Science in European Public Health (MEPH)
- Post-initial Master of Science in Public Health for Professionals (MPHP)
- Master of Science in Global Health

Research School: CaRe

The Netherlands School of Primary Care (CaRe) is a research school based on the collaboration between CAPHRI, the Centre for Evidence Based Practice (NCEBP) of the University Medical Centre Radboud in Nijmegen, the Institute for Research in Extramural Medicine (EMGO) of the VU Medical Centre in Amsterdam and the Netherlands Institute for Health Services Research (NIVEL) in Utrecht. The mission of CaRe is to develop scientific evidence-based knowledge in the field of primary health care, public health, health policy and transmurial care and to implement this knowledge as evidence-based practice. Additionally, CaRe is concerned with the training of PhD candidates, the co-ordination of activities between the collaborating research institutes and the development of strategies to improve the quality of health care research in primary care and public health.

Innovation within CAPHRI

Limburg Academic Collaborative Centre for Public Health

A structural partnership with GGD Zuid-Limburg, the 'Limburg Academic Collaborative Centre for Public Health', financed by ZonMw (with over €4 million in the past five years and another €1.5 million for the coming years), gives access to extensive epidemiological and youth care data sets. The Limburg Academic Collaborative Centre is targeted at exploiting these databases for research and practice.

Centre for Care Technology Research

The Centre for Care Technology Research (CCTR) was established through the collaboration between CAPHRI, Twente University and TNO (Netherlands Organisation for Applied Scientific Research). The aim of CCTR is not only to design new medical devices and to publish scientific articles about these devices, but also to contribute to the improvement and innovation of long-term extramural care, care related prevention and the creation of a durable health care system. Moreover, CCTR attempts to bridge the gap between the worlds of technology development and care practice by supporting health care organisations in the implementation of new technologies and concepts in the health care practice.

Organisational structure

CAPHRI's organisational and managerial structure supports high quality research and education.

The Scientific Director in 2010 was Prof. Onno van Schayck. The Scientific Director is responsible for policy setting, accountability and execution. Additionally, the Scientific Director is entrusted with the management and promotion of daily scientific affairs of the School. Finally, the Scientific Director evaluates the scientific output of CAPHRI through annual planning and control sessions with programme leaders and heads of departments.

CAPHRI has a bottom-up structure in which research is organised in research programmes and research clusters. The number of programmes varies: new, promising programmes may start and existing programmes may be ended if they are not scientifically successful. HRM-management is organised in departments.

The Scientific Director is assisted in the performance of his tasks by the CAPHRI Board, which is composed of a policy advisor, PhD Co-ordinator, and PR and Communications Officer, who join the weekly CAPHRI board meetings with the Scientific Director and the Managing Director.

CAPHRI's research and teaching activities are supported by its management office, whose tasks relate to financial-economic affairs, as well as coordinative, managerially preparatory, and executive duties. The management office consists of controllers, assistant controllers and secretaries. Heading the management office is the Managing Director.

The Scientific Director and the Managing Director are supported by the School Council, which meets bi-monthly and gives advice on research policy and School-related matters. The School Council consists of: CAPHRI programme leaders, heads of departments, cluster leaders, the Scientific Director and CAPHRI management. The School's Scientific Advisory Council acts as a sounding board for the Scientific Director and is made up of 6 external (inter)national experts.

Contact information: go to page 96

02.B

KEY

FIGURES

CAPHRI

2010

In 2010 the total scientific output figures have been very successful: a total of 29 PhD theses were defended, 872 publications in peer-reviewed journals were published, and more than 10 million Euros of grants were obtained, of which 17 EU grants.

Output	Publications in refereed journals				PhD-theses
	WI-1	WI-2	LE	WN	
Primary Care	345	53	11	54	12
Innovation of Care	158	44	3	41	11
Public Health	225	44	7	33	6
CAPHRI Total*	635	123	19	114	29

* excluding duplications

Funding	K€
Primary Care	2.224
Innovation of Care	4.000
Public Health	2.409
CTCM and azM	1.393
CAPHRI Total	10.027

In 2010, a total of 284 scientific staff members and 225 PhD students worked for CAPHRI.

Input	Tenured staff		Non-tenured staff		PhD-students (excluding external PhD's and research fellows)	
	f.t.e.	number*	f.t.e.	number*	f.t.e.	number*
Primary Care	22,85	94	10,48	22	34,82	41
Innovation of Care	15,15	45	20,38	39	27,30	31
Public Health	26,16	60	17,40	24	34,09	37
CAPHRI Total	64,16	199	48,26	85	96,21	109

* excluding honorary appointments

Input	Total number of Scientific staff	Total number of PhD-students (including external PhD's and research fellows)
CAPHRI Total	284	225

Each year CAPHRI researchers produce approximately 800 - 900 publications which are often quoted worldwide.

Key figures CAPHRI 2010 (d.d. 31-12-2010) per programme*

Primary Care

	Publications in refereed journals (WI-1 publications)	PhD-theses	Funding (Research and contracts)
Programme 1: Epidemiology of musculoskeletal disorders (R.A. de Bie / L. van Rhijn)	51,0	4,5	€ 659.432
Programme 2: Diagnosis and treatment of frequently occurring diseases in primary care (G.J. Dinant / M. v.d. Akker)	43,0	6,0	€ 278.653
Programme 3: Effectiveness of diagnosis and intervention in patients with rheumatic diseases (S. van der Linden / R. Landewé)	32,0	0,0	€ -
Programme 4: Clinical Epidemiology (M. Prins)	77,0	3,3	€ 282.707
Programme 5: Asthma and COPD (Gj. Wesseling / J. Muris)	29,0	3,0	€ 929.911
Programme 6: Infections and antibiotic resistance in primary care (C. Bruggeman)	14,0	2,0	€ 73.301
Programme 7: Rehabilitation Medicine (R. Smeets)	37,0	2,0	€ 1.100

* Please note that these figures per programme contain some duplications, as publications for example are often written by authors from different programmes, and PhD-students are often supervised by supervisors from different departments.

Innovation of Care

	Publications in refereed journals (WI-1 publications)	PhD-theses	Funding (Research and contracts)
Programme 1: Innovations in health care for the elderly (J. Hamers / R. Kempen)	62,0	8,5	€ 2.147.733
Programme 2: Redesigning Health Care (B. Vrijhoef / N. Schaper)	28,5	2,5	€ 764.310
Programme 3: Health Technology Assessment (HTA) (S. Evers)	29,0	3,3	€ 354.103
Programme 4: Implementation of Evidence (T. van der Weijden)	32,0	5,0	€ 335.455

Public Health

	Publications in refereed journals (WI-1 publications)	PhD-theses	Funding (Research and contracts)
Programme 1: Design and analysis of studies in health sciences (M. Berger / G. van Breukelen)	44,0	0,0	€ 49.179
Programme 2: Occupational Epidemiology (I.J. Kant)	20,0	0,2	€ 20.484
Programme 3: Health, Ethics and Society (K. Horstman)	11,0	3,0	€ 385.825
Programme 4: Health Promotion and Health Communication (N. de Vries / H. de Vries)	77,0	9,0	€ 1.231.769
Programme 5: Comparative Health (H. Brand)	3,0	0,0	€ 159.619
Programme 6: Social Medicine and Public Health Genomics (A. Scherpbier / A. Brand)	16,0	2,0	€ 554.043

02.C

THE INTERNATIONAL CHARACTER OF CAPHRI

CAPHRI's policy of increased internationalisation has certainly paid off. The School now enjoys a worldwide recognition and is wildly popular with prospective PhD candidates. "We are being approached almost every day by people from around the world interested in following a PhD programme at CAPHRI," says Scientific Director Prof. Onno van Schayck.

The international character of CAPHRI is reflected in various ways. The following figures are of particular interest:

- Of the 225 internal and external PhD candidates, 40 percent are non-Dutch
- CAPHRI collaborates with high-quality international research groups in over forty countries
- Each year, three international visiting professors are appointed
- CAPHRI is currently involved in forty research projects subsidised by EU Grants, with several co-ordinated by CAPHRI.

According to Van Schayck, several factors have contributed to the success of this internationalisation policy. "First and foremost is the international character of Maastricht University. We are proud to be part of the most international University in Europe," he says. CAPHRI is a very active proponent of that international character. "We strongly encouraged the appointment of visiting professors and now welcome three new professors each year."

Another possible explanation for this international success according to Van Schayck, is the School's research themes. The world is becoming increasingly aware that existing healthcare systems focused on curative care do not effectively address existing problems. To illustrate his point, Van Schayck mentions China and India, two countries experiencing rapid economic growth and therefore capable of offering excellent hospital care in larger cities. "But quality healthcare in rural areas is often lacking. They are slowly realising that primary care must be improved and that preventative treatment is becoming increasingly important. And these just happen to be our key research themes."

Countries like China and India are therefore showing greater interest in the PhD positions offered by CAPHRI. "Indians are usually drawn to positions in the United States, so this increased interest is certainly surprising."

The result of this internationalisation is an increasingly diverse group of PhD candidates with various cultural backgrounds – something that is wonderfully illustrated on the following pages.

A variety of cultural backgrounds



VENEZUELA

Alana Proctor
(Dutch/Venezuelan background)
Dept. of Health Ethics & Society



USA

Viola Voncken
(Residing in the USA)
Dept. of General Practice



GERMANY

Silke Metzelthin
Dept. of Nursing and Care



IRELAND

Chibuzo Opara
Dept. of International Health



THE NETHERLANDS

Maria Woolderink
CAPHRI PhD representative
Dept. of Health Organisation,
Policy & Economics



SERBIA

Katarina Putnik
CAPHRI PhD representative
Dept. of Social Medicine /
Dept. of Epidemiology



SYRIA

Basema Afram
(Dutch/Syrian background)
Dept. of Nursing and Care



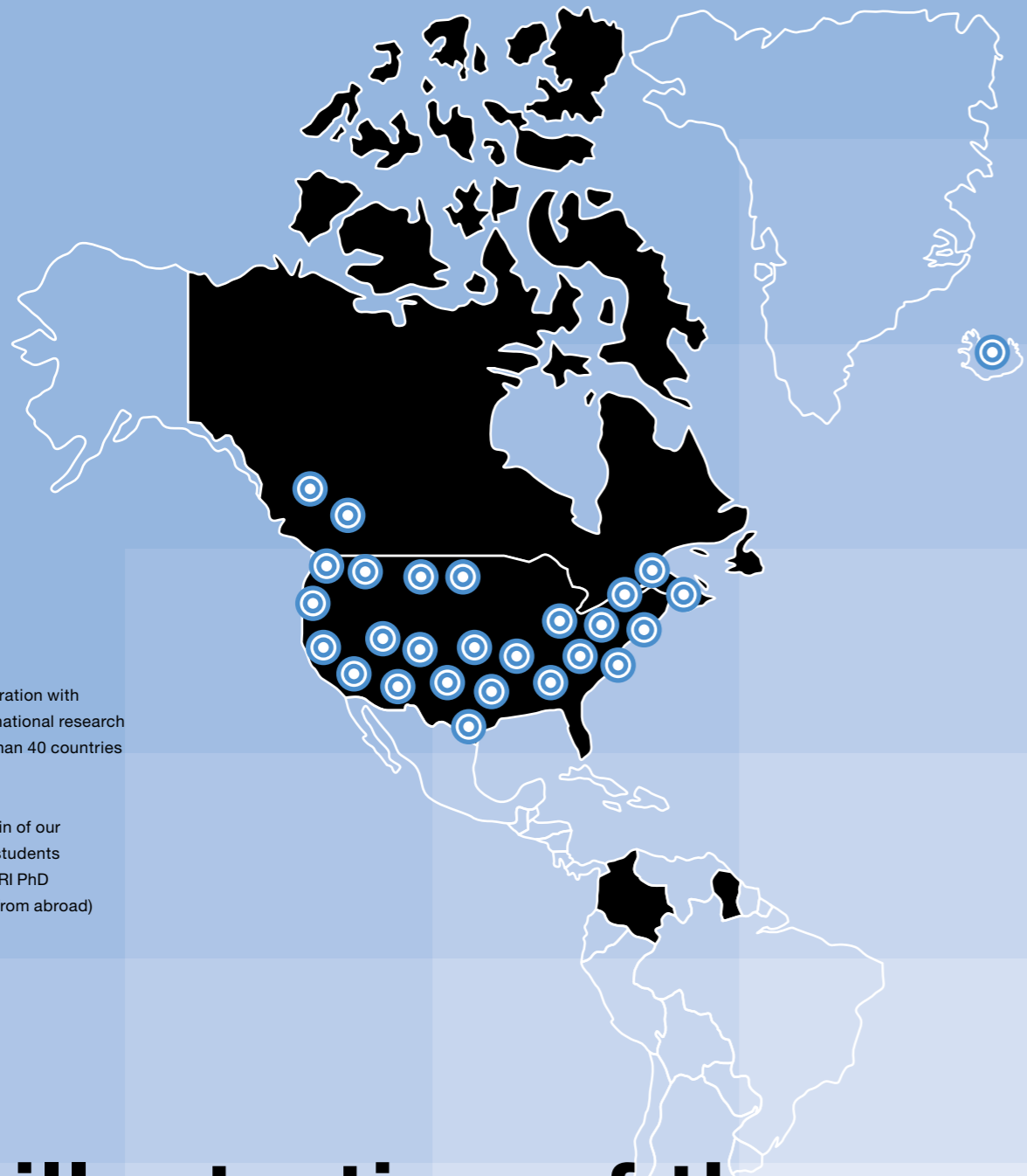
RUSSIA

Vladimir Gordeev
Dept. of Health Organisation,
Policy & Economics



PHILIPPINES

Gerald Ramos
Dept. of General Practice



LEGEND

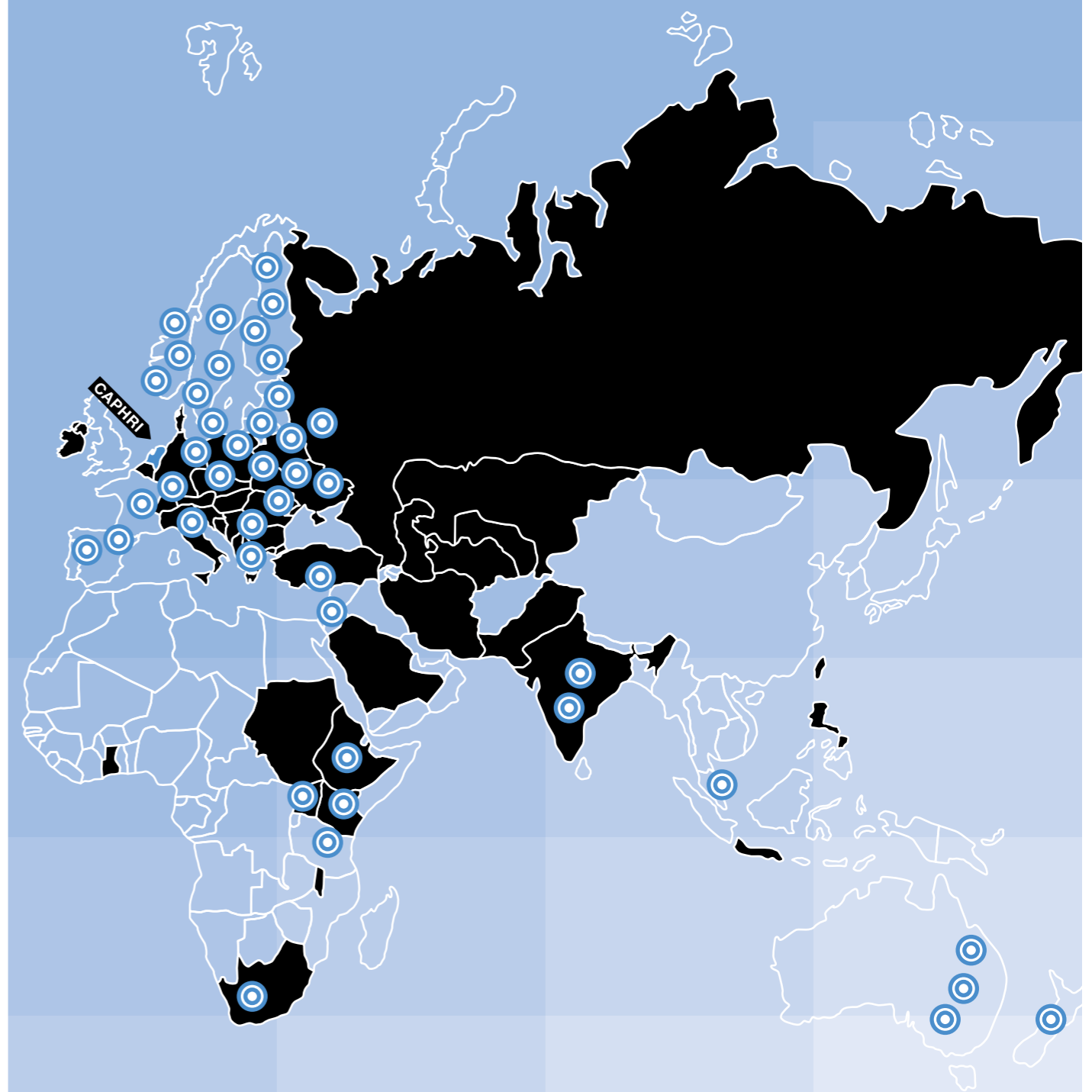


Structural cooperation with top-quality international research groups in more than 40 countries



Countries of origin of our non-Dutch PhD students (40% of all CAPHRI PhD students comes from abroad)

An illustration of the international character of CAPHRI



03 ERC

INTERVIEW WITH

Prof. Onno van Schayck
Scientific Director

Prof. Rob de Bie
Programme leader and Director of Education

Dr Silvia Evers
Programme leader

Prof. Nanne de Vries
Programme leader and Cluster leader

Interview with Prof. Onno van Schayck,
Scientific Director of CAPHRI

**“Now is the time
to be proud”**



INTERVIEW

“Sometimes it’s good to be modest and sometimes you need to be proud. With an overall score of ‘excellent’ for the recent audit, that time is now. This is a wonderful achievement and I would like to congratulate all CAPHRI staff members on this great success. We were able to achieve this thanks to their dedication and motivation. They worked very hard for this.”

“CAPHRI’s excellence rating is due in part to recent events and developments, in my opinion. The realisation that our wonderful healthcare system no longer functions well has become a very real concern in the Netherlands. The same is true for the realisation that we should start seeking new solutions for outpatient care and public healthcare. We must now place much more emphasis on prevention than we ever did before. And these just so happen to be the research areas in which CAPHRI specialises.

This high score only confirms that we are on the right track. It is the ultimate reward for years of hard work. Following significant budget cuts, we had to scramble back up the research ladder and find a permanent position within the world of academia in Maastricht. The notion that people should be trained for more than just curative care has been translated into an institution-wide policy. The goal is to ensure that future doctors will also work to prevent illnesses instead of just treating them.”

Flexibility

“We have demonstrated in recent years that CAPHRI is extremely flexible and quick to jump at new opportunities. If ZonMw submits a new programme proposal, for example, our staff will respond within days, which is in part due to the fact that we contribute considerably to the ZonMw research agenda. Half of our staff are financed by external resources, of which half are employed by ZonMw and the Netherlands Organisation for Scientific Research (NWO). Our flexible organisational structure contributes to our acquisition of external funds. Although our seventeen programme leaders work under the supervision of the scientific director, they are also granted a great deal of freedom. This allows them to anticipate new developments in advance and shape ideas created through a bottom-up approach.

The External Review Committee was just as enthusiastic about our organisational structure and flexibility as they were about the multidisciplinary (or even revolutionary and transdisciplinary, as they named it, as borders between

disciplines are vanishing in CAPHRI research) nature of our research. We conduct broad-scale research in a range of academic disciplines, from philosophy to mathematics. These disciplines work together effortlessly and efficiently to create new ideas. According to the Review Committee, this helps explain our numerous publications in leading journals like Nature, Science and The Lancet.”

Testing ground

“The Review Committee made several recommendations and, although this might sound strange, I believe the most important one was to house CAPHRI in one building. I couldn’t agree more, and not just because one building would improve our internal and external recognition. The most important thing to remember is that research ideas are never born behind closed office doors, but at the office coffee machine. It’s all about cooperation. Meeting each other and exchanging opinions creates new ideas for innovative research projects that could help us maintain our leading position. That’s why it’s not good that currently our staff is divided over eight different locations.

There is one more important reason for housing CAPHRI in one building: I would love to transform the ground floor of that building into a healthcare station. This would help exemplify and solidify the type of research we are conducting. This area could for example be home to a clinic dedicated to helping people quit smoking, an area where travellers could get vaccinations, a general practitioner’s office, or a clinic specialising in sexually transmitted diseases. This healthcare station could become a kind of testing ground where we could transform our research ideas into practical applications and get immediate feedback. I also agree with the Review Committee that we must now enter into a period of consolidation. We have grown tremendously over the past few years but we don’t want our organisation to get too big and compromise our collaboration efforts. I also fully agree with the recommendation that we should acquire more external resources and start valorising our knowledge to a greater extent than we do now. Not only must we translate our knowledge into practical applications, we must also ensure that this knowledge translates into sound business applications and creates more jobs. If we succeed in this, I have no doubt that we will maintain our position of excellence.” ■

Interview with Prof. Rob de Bie, Professor of Physiotherapy
Research and Programme leader of Epidemiology of
musculoskeletal disorders

**“We should jump at all
available opportunities
in order to conduct
more innovative
research”**



INTERVIEW

How do you feel about CAPHRI's excellence rating?

“It is the crowning glory for all the hard work we put in. We are a large, multidisciplinary School, active in various disciplines and we have to excel in each one. This is no easy task and the fact that we succeeded is wonderful. In recent years we've worked hard to meet this goal and we now have to work even harder to maintain the success we achieved. So, back to business I say!”

What does this rating mean for CAPHRI?

“It means we need to keep doing our best and keep growing. And by growing I don't just mean in terms of volume, but also in terms of ideas. The financial climate is also a contributing factor. We have to keep developing new initiatives. I think the design of our research programmes certainly helps. We keep our research groups small to facilitate contact and collaboration between group members and other research groups. Also, the fact that our employees come from different backgrounds facilitates the development of new ideas.”

What major (recent) developments do you believe contributed to the success of the External Review?

“The healthcare system should stop thinking in terms of domains. We are facing an increasing number of chronically ill patients – often people suffering from multiple diseases. We must therefore create a solid patient network and develop a system of integrated care. As a School, we have clearly demonstrated that this is where our strengths lie. We also work in close collaboration with first-, second- and third-line care practitioners. We are not your typical office-bound researchers; we rather immerse ourselves in the field and are extremely well equipped to assess the cost-effectiveness of healthcare. Furthermore, CAPHRI is strongly committed to simplifying the guidelines developed in research trials so these can be easily applied in practice.”

Which conclusions and recommendations offered by the Review Committee do you find most relevant for your own discipline?

“The Review Committee literally recommended we should ‘support platform research activities that underpin technology innovation and transfer.’ They were therefore suggesting we improve the way we use our available talent and potential, which is the most important recommendation in my opinion. We are a very diverse School and should use our knowledge to the best of our ability to put the patient in the foreground and create tailored solutions. Let me illustrate this point with an example of a patient

suffering from multiple symptoms, for example a COPD patient who also has arthritis and high blood pressure. The pulmonologist tells the patient to exercise more, but because his knees hurt he can't. The medical guidelines therefore focus on only one of his problems, whereas we should be working on creating a coherent treatment plan that addresses all of his symptoms. This is what is known as personal medicine – an area in which technical possibilities can play a supportive role. CAPHRI boasts all of the necessary knowledge and is currently working on developing this knowledge to include supportive technologies. The Committee's recommendations remind us that we're on the right track.”

Now that CAPHRI has reached the top, what should it do to stay there?

“I think we should jump at all available opportunities in order to conduct more innovative research. I also believe we can work at valorising our knowledge to a greater extent than we are currently doing. We're simply not doing enough at the moment, certainly given our economic climate. Indirect government funding is slowly trickling to a halt and we'll soon be forced to tap into other financial resources instead. Developing and marketing our own products will allow us to continue conducting innovative research.” ■

Interview with Dr Silvia Evers, Associate Professor of Health Technology Assessment and Programme leader of Health Technology Assessment

“I think of this score as just another big assignment”



INTERVIEW

How do you feel about CAPHRI's excellence rating?

“Great, it's always nice to get good grades! And we worked really hard for it. CAPHRI does a lot of excellent research and I think the External Review Committee saw this. Now we have to make sure that we maintain our success.”

What does this rating mean for CAPHRI?

“I think of this score as another big assignment. There's always room for improvement. We just came out of a period of rapid growth and development and are now entering into a period of consolidation that calls for structural improvements. This was also the opinion of the Review Committee.”

What major (recent) developments do you believe contributed to the success of the External Review?

“To put it very simply: twenty years ago all research focused on clinical care for adult patients in acute settings. Very little attention was paid to younger and older patients and even less attention was devoted to prevention, rehabilitation and integrated care. The translation of scientific knowledge into practical healthcare applications also garnered little interest. In my own field, the economic aspects of treatment were largely ignored – it was all about efficiency.

This has changed dramatically. At CAPHRI we are conducting innovative research in all of the aforementioned fields. If you look at the field of healthcare innovation, you'll see that we included geriatric care in our Innovations in Healthcare for the Elderly programme; in our Redesigning Healthcare programme we focus on integrated care; and in our Implementation of Evidence programme we research how to translate scientific results into practical applications. In my own field of Health Assessment Technology (HTA), I have found that economic issues are becoming increasingly important, particularly during periods of financial and staff shortages. We not only have to consider effective treatment options, but also cost-effective solutions. This is why the HTA offered members of the Health Care Insurance Board (CVZ) additional training courses over the past two years: they needed our knowledge in order to develop basic insurance packages. Our work is very socially relevant in these cases, but many more examples like this one can be found in our other academic programmes. Another good example is the research currently being conducted on banning fixation restraints in nursing homes.

Our research is of both social and scientific relevance. This is reflected in the many awards granted by leading journals, the Netherlands Organisation for Health Research and Development (ZonMw) and the industry for the innovative nature of our research. This undoubtedly contributed to our high score.”

Which conclusions and recommendations offered by the Review Committee do you find most relevant for your own discipline?

“If I may quote the Review Committee, their report literally states: ‘If organisational change is being considered, it might be helpful to give key methodological platforms more visibility and autonomy.’ This is a very important recommendation in my opinion. You can't expect researchers to know about every methodological development, which is why we often play a consultative role. We have to give this function a boost. By investing more resources, we can ensure that these methodological platforms become more visible. This will allow us to encourage more researchers to apply the latest methodological developments.”

Now that CAPHRI has reached the top, what should it do to stay there?

“The current policy focuses largely on Master's students, PhD students, postdoctoral researchers and professors. I agree with the Review Committee that this is indeed a good policy, but more attention could be paid to Associate and Assistant Professors with high career aspirations. Particularly in these times of budget cuts, which put even more pressure on this group, it is important to consider how this group can be encouraged and maintained.” ■

Interview with Prof. Nanne de Vries, Professor of Health Promotion and Programme leader of Health Promotion and Health Communication

“Now is not the time to be complacent”



INTERVIEW

How do you feel about CAPHRI's excellence rating?

“I think we all worked very hard for it. Our employees are all very professional. The two VENI's and one VIDI we received prove that investing in our researchers pays off. I also believe that our friendly atmosphere contributed to our success: we were able to strike a good balance between academic freedom and assessing people based on scientific performance. We also succeeded in recruiting people based on academic merit, as was the case with the appointment of our visiting professors.”

What does this rating mean for CAPHRI?

“It means that now is not the time to be complacent. We should celebrate the win and then get back to work. This is quite a challenge. In the past we managed to make a link between prevention and primary care. Those studying to become general practitioners have gained insight into prevention techniques and can now bridge the gap between medical approaches and health promotion. Health promoters are also gaining further insight into healthcare needs. Whereas health promotion was largely considered a counter-movement several years ago, it now moves in unison with the medical profession. This combination of prevention and primary care makes CAPHRI unique and innovative. We are creating a new type of professional, which is something I believe should receive further emphasis.”

What major (recent) developments do you believe contributed to the success of the External Review?

“Whereas we used to represent the ‘soft sector’, various areas within the public health sector have been extensively developed, such as the field of workforce epidemiology. The establishment of the Academic Collaborative Centre for Public Health Limburg, in collaboration with the South Limburg Public Health Service GGD, was also significant as it allowed us to bridge another important gap: by conducting research the GGD professionals gained academic interest, which made collaboration much easier. Although this collaboration may not immediately yield high-quality scientific results, the social impact of the research conducted by the academic workstation is significant. It increases the potential for future collaborations and therefore also the realisation of new developments. The goal of the new Health Campus is to bridge the gap between academic theory and society – a goal that is now being broadly accepted and implemented.”

Which conclusions and recommendations offered by the Review Committee do you find most relevant for your own discipline?

“I guess, what jumps to mind is the new kind of professional that we are training, which, at this stage, is not sufficiently known to the outside world. We need to emphasise this in our profile. I think the Review Committee also sees the relevance of this. The public health programme should build bridges and encourage cooperation not only with the medical field, but also with society in general. I agree with the Review Committee that CAPHRI should be housed in one building to encourage further collaboration. This could lead to new combinations and the development of new research concepts. After all, the office coffee machine always seems to be the spot where everything happens.”

Now that CAPHRI has reached the top, what should it do to stay there?

“I like to compare our school with the city of Amsterdam; a city built on stilts. If you want to build a city high in the air, the stilts better be good. This is also true of our School: if we really want to reach our peak, our foundation has to be solid. I think we've succeeded in laying this foundation in recent years, but I also think that we need to make large-scale investments. On the other hand, budget cuts have forced us to make some serious decisions in recent years. In my opinion, we should start making even bigger investments in talent.” ■

04 CAPHRI'S BREEDING GROUND POLICY

CAPHRI successful in scouting, coaching and preserving talent

INTERVIEW WITH

Dr Hannerieke van der Boom
PhD Co-ordinator
Dr Christel van Gool
Programme Co-ordinator HSRM

Ms Claudia Buntrock
MPhil – Master student

Ms Marla Woolderink
MSc – PhD student

Dr Daniëlle Groffen
Postdoc

Dr Rik Crutzen
VENI

Dr Jenny Slatman
VIDI

Interview with Dr Hannerieke van der Boom, PhD Co-ordinator
and Dr Christel van Gool, Programme Co-ordinator for the Health
Sciences Research Master

“Supervising Master’s students and PhD candidates is extremely important”



1 For the academic year 2011-2012 the Master even received over 50 applications, of whom 16 were admitted.

2 The TRACK system was developed by CAPHRI and has since become a model for other research schools within and outside Maastricht University.

INTERVIEW

CAPHRI cherishes talent. The policy implemented by the research school not only focuses on scouting such talent, but also on coaching and preserving it. Or, as the External Review Committee concluded, ‘CAPHRI has a successful breeding ground strategy as a continuum from the master’s programme to the postdoctoral programme via its PhD policy.’ Christel van Gool and Hannerieke van der Boom both play important roles in this breeding ground policy.

“I think the Committee’s conclusion was fantastic and well-deserved. The close involvement of CAPHRI’s programme leaders in education helps us scout new talent early on,” says Van Gool, Programme Co-ordinator for the Health Sciences Research Master. PhD Co-ordinator Van der Boom agrees: “The committee members were very impressed with the PhD candidates they spoke to; impressed with their talent, their enthusiasm and their experience abroad. They called them ambassadors of the CAPHRI approach.”

CAPHRI deliberately invests in scouting, coaching and preserving talent across the board, from Master’s students to postdoctoral staff. “We don’t just stand idly by and watch Master’s students and PhD candidates develop their talent, but we coach them, even if this coaching could be further expanded,” Van Gool explains. At the time, she was closely involved in the design of the research master launched in 2005. Each year, eight to twelve students start this Master’s programme and, on average, successfully complete it within two years.¹

High quality

The idea behind this research master is to recognise and facilitate talent so that CAPHRI students can make a swift and smooth transition to PhD candidacy. Master’s students are therefore fully prepared for their PhD research. The first year of the research master emphasises academic theory and the second year focuses largely on internships, occasionally supplemented by an internship abroad. Most students that start a continuing PhD programme have already completed some of the necessary research, are familiar with the professional field and have had an article published.

Master’s students that successfully complete the programme are in high demand at other universities and institutions, at home and abroad. More than 80 percent of these students end up in research and 60 percent win prestigious grants. The career opportunities for these

graduates are also impressive, as was expressed by the visiting Review Committee: ‘The job possibilities for CAPHRI graduates are excellent and indirectly reflect the high quality of the programme.’

Master’s students looking to transition from PhD candidacy to the workforce can count on CAPHRI for assistance. Van der Boom was appointed as PhD Co-ordinator in August 2009 and supports the current about 300 internal and external PhD students. “Students often start the programme extremely focused and goal-oriented and are used to fast ways of (media) communication. However, during their trajectory, they need to develop a professional, academic attitude towards research and teamwork, and for this good supervision and coaching are very important.”

Talent

Annual meetings with PhD students are standard components of this coaching. “With these meetings, talents and any potential problems can be detected early on. This minimises drop-out rates, and if students do choose to quit, they tend to do so at an earlier stage,” Van der Boom explains. CAPHRI has invested in a PhD Quality and monitoring system and a digital PhD TRACK system that PhD candidates and supervisors should use to track their progress and offer feedback on the quality of the supervision.²

Van der Boom regularly consults with two PhD student representatives at CAPHRI and candidates have access to a confidential contact person. The PhD policy may certainly be considered a success: all graduates since 2002 have found work and 70 percent continue to conduct research, often at a high level.

CAPHRI works hard to keep its talented PhD graduates by investing in five postdoctoral positions per year and encouraging researchers to seek prestigious subsidies. According to both co-ordinators, the challenge now is to maintain this high quality at all levels. “We should be looking at how to improve our role,” says Van Gool. “Ideally, we should start scouting talent in the bachelor phase and encourage talented students to continue with research.” Another important point for consideration, according to Van der Boom, is training the supervisors. “It’s a good idea to not only support PhD students, but also to facilitate and support our supervisors by providing opportunities for coaching and reflection on their way of supervision.” ■

Interview with Claudia Buntrock, MPhil, Master's student following the Health Sciences Research Master

“This research master was a great choice”



INTERVIEW

Claudia Buntrock is very enthusiastic about the Health Sciences Research Master. “It was a great choice,” says the second-year Master’s student who is interested in pursuing a career in scientific research.

This insight grew gradually, says the Master’s student from Waurichen, near Aachen, Germany, who deliberately opted to study in Maastricht. “I chose Maastricht because of the attraction of the city itself, the University’s problem-based learning approach and the opportunity to follow an English-language European Public Health Bachelor’s programme. In secondary school I was very interested in the European Union and how European countries can cooperate and learn from one another.”

During her Bachelor’s internship, she collaborated on a research project that examined how immigrants experience the Dutch healthcare system. “That’s when I realised how much I loved analysing data and then it became clear that I wanted to pursue a career in research.” She decided to register for the Health Sciences Research Master. “During the interview I showed how intrinsically motivated I was to start the programme.”

She was accepted and was the only student to opt for the Health Technology Assessment profile; an excellent choice she soon realised. “This Master is a great preparation for scientific research. In the first year you learn how to write research proposals, how to deal with criticism and how to offer your own feedback. The supervision was just as great during the first year as it was during the second, when I interned at the Trimbos Institute in Utrecht.” She also finds the courses to be extremely useful. “Because I was the only one who chose the HTA profile, I was also the only Master’s student that registered for the course in Theoretical Foundations and Methodological Challenges in Health Technology Assessment in the first year. They decided to go ahead with the course anyway.”

Buntrock has since elaborated on her research proposal and will apply for a grant from ZonMw in 2011. Her theme is the high frequency of depression in first generation Turks and Moroccans in the Netherlands. In 2003, the Trimbos Institute introduced a new course entitled Light Days, Dark Days (Lichte Dagen, Donkere Dagen), which focuses on this specific target group. During her internship at Trimbos, Buntrock helped design and adapt this course.

Her research will focus on identifying the clinical effects and the cost-effectiveness of the course. “I hope to receive my degree based on my research into this cost-effectiveness.” ■

“If you show initiative, you will be rewarded at CAPHRI”



INTERVIEW

Marla Woolderink started her PhD research in 2010 on digital aid in the mental healthcare system. She is very enthusiastic about the level of support she received from CAPHRI. “They provided me with both substantive and financial support. If you show initiative, you will certainly be rewarded at CAPHRI.”

Marla Woolderink was not at all surprised when CAPHRI received its excellence rating. “The School is certainly on the right track. The output of PhD candidates is qualitatively good and we work hard to maintain this. Our quality demands are very high.”

Woolderink studied Health Sciences and Law and deliberately chose the Health Sciences Research Master. “I felt that I could do more in the field of social work than I could in the field of law and was very interested in the economic factors that influence healthcare.” She opted for the Health Technology Assessment profile. “The beauty of this research master is that you can prepare your own research and choose your own topic in consultation with your supervisors. If you manage to obtain a grant within two years, you can start researching your subject and graduate.”

ZonMw approved the grant application and after several months of volunteer work in South America, she was able to start her research. Her study focuses on online youth assistance for children of addicted parents (aged 16-25) and children of parents with psychiatric problems. Experience has shown that these children run a significantly higher risk of developing problems later in life. Providing these children with an online course, offering them information, guidance and support and putting them in contact with their peers may help prevent such situations in future. The online course was developed by the Trimbos Institute in Utrecht, in collaboration with nation-wide mental health institutions that determine who is eligible for support. Participants can complete the programme with direct online assistance from various experts at specific times.

Woolderink is currently researching the cost-effectiveness of this course. In preparation for her study, she completed a four-year internship at the London School of Economics during the second year of her research master. “CAPHRI supported me throughout my internship and partially funded my time abroad,” she says. The London School of Economics is also involved in the research project. “I am particularly drawn to the collaboration with practical institutions and scientific research schools,” Woolderink explains. “As a PhD student at CAPHRI, you have your pick of jobs at home and abroad. And this is precisely the position I want to be in.” ■

“I’m grateful CAPHRI invested in me”



INTERVIEW

Daniëlle Groffen discovered her research ambitions early on; ambitions she soon realised were highly valued by CAPHRI. “I’m grateful CAPHRI invested in me,” says the postdoctoral researcher.

Daniëlle Groffen’s career at CAPHRI illustrates the opinion of the External Review Committee regarding the School’s successful policy of scouting, coaching and preserving talent. Groffen realised her passion for research while studying at Fontys Hogeschool in Eindhoven and decided to enrol in the Master of Public Health, specialisation Health Care Studies, in Maastricht. “But after finishing my Master’s programme I didn’t feel like I was really ready for scientific research. That was when the two-year Health Sciences Research Master was introduced at CAPHRI – exactly what I was looking for.” Her resume and cover letter were enthusiastically received and she was accepted into the programme.

Groffen used this Master’s programme to lay the foundation for her PhD research on material and psychosocial explanations for socioeconomic health differences in elderly people. She drafted a research proposal during the first year of the programme and wrote her first article during the second year. It was also in her second year that she was told she could continue her research as a PhD candidate at CAPHRI. “The research master really prepared me for the PhD programme and I had already taken several statistics and epidemiology courses.”

As a result, her dissertation was approved in August 2010 and her formal defence is scheduled for 2011. The most important finding according to Groffen: psychosocial factors are even more influential than material factors on the wellbeing of elderly people with a low socioeconomic status (SES). Poor living conditions and a lack of control over one’s life can cause stress, and that stress is only exacerbated when people see that others have it better.

While simple solutions to these problems do not exist, Groffen believes that simply making a few lifestyle changes is not enough. “That is merely treating the symptoms,” she says. Reducing large-scale, structural differences in income could help, but may not be enough. “We should try to reposition these lower SES groups in society – not by sending everyone to the psychologist, but by entering into a dialogue with them.”

As a postdoctoral researcher, Groffen will be using her CAPHRI grant to participate in the exchange programme offered by the National Institute on Aging (NIA) in Bethesda, near Washington, USA. There she will research the assumption that individuals with low socioeconomic status experience dangerously high cortisol levels throughout the day. ■

Interview with Dr Rik Crutzen, who was awarded a VENI Grant for research on online health promotion

“The Internet offers far more opportunities than we are currently using”



INTERVIEW

How do you ensure that visitors actually use the available programmes on a health promotion website? This was the key question in the research project that landed CAPHRI researcher Rik Crutzen a €250,000 VENI Grant in 2010. “The Internet offers far more opportunities than we are currently using,” he said.

The VENI Grant has allowed Rik Crutzen to combine his two disciplines: psychology and e-communication. He obtained a psychology degree from Maastricht University and graduated cum laude in e-communications at K.U. Leuven (Katholieke University Leuven). Crutzen covers both of these aspects in his research project. “I combine the technical possibilities of the Internet with the psychological question of how people deal with this medium. My research primarily focuses on how one can fully utilise these possibilities to ensure that people actually use the website.”

Crutzen started his PhD project at CAPHRI in 2006 and now works as a postdoctoral researcher. His VENI research is a continuation of his PhD research on Internet use. “The Internet has the ability to reach a huge audience, so this medium is being used more frequently as a tool to improve health.”

Dissertation

According to Crutzen, three key conditions must be met in order to successfully promote health via online resources. For example, if you want to quit smoking you must first visit a website dedicated to helping people quit. You should then complete the entire programme and return to the site frequently if the programme recommends it. “My dissertation was the result of explorative research. I now plan on going into more detail and focusing on the second step: how to make sure people actually complete the programme.”

Crutzen believes that many sites assume that all information must be perceived as useful. “But in terms of prevention, that may not always be the best approach. Perhaps there is a greater need for entertainment than for information, thereby requiring greater emphasis on the entertainment aspect. In that case, you would have to find the right balance between fun and usefulness.”

Interactive

Crutzen refers to the interactive online game as a good example of an educational resource that aims to inform children of the risks of sexually transmitted diseases. “I want to research the elements that make these websites so successful. How can you be sure your website actually speaks to your target audience?” According to Crutzen, this is a standard consideration in the marketing world and an issue that is regularly addressed and experimented with. “The world of science could learn a lot from this,” says Crutzen, who plans on using part of his grant to launch a number of experimental websites. “I’d like to make several versions of the same website – one that guides the user through the various steps and another that gives them more freedom.”

According to Crutzen, many healthcare organisations are interested in using the Internet for prevention and interventions but are unsure of how to do this effectively. “I see a lot of organisations, such as youth health centres, struggle with this issue,” Crutzen says. This is another reason he is pleased with his VENI Grant. “This grant will allow me to start my own research line and work on translating technical possibilities into practical applications.” ■

“My aim is to demand attention for embodiment in health and medicine”



INTERVIEW

How do people identify with their body after it has been damaged by medical interventions? Do they still experience a sense of bodily wholeness, or has this diminished as a result of the medical intervention? These are the key questions in ‘Bodily Integrity in Blemished Bodies’ by philosopher Jenny Slatman, who obtained a VIDI Grant from the Netherlands Organisation for Scientific Research (NWO) in 2010.

Jenny Slatman, Associate Professor in the Department of Health, Ethics and Society, believes this to be an innovative research study because it suggests an expansion of the concept of bodily integrity in medical ethics. To illustrate this, she mentions the frequency with which women are informed of the possibilities of reconstructive surgery following a mastectomy. After being informed, the women either consent to it or they do not. From a medical ethics perspective, this is entirely appropriate in her opinion. “But what’s missing from this informed consent is whether the treatment option corresponds with how the woman experiences her body; whether she truly views her ‘blemished’ body as less whole or wholly incomplete. The healthcare system tends to focus on sickness and health, but there is little to no room for embodiment. That is precisely what I hope to garner attention for.”

Embodiment

Slatman started her career as a physiotherapist in Amsterdam. She later decided to combine her day job with a philosophy study because she felt the physiotherapy profession viewed the body in a very mechanical way. After her study, she began researching the relationship between physical expression and art, and graduated cum laude in 2001. She then came to Maastricht University to conduct postdoctoral research within The Mediated Body project at the Faculty of Arts and Social Sciences (FASoS) and joined CAPHRI in 2008. “I wanted to expand my theoretical framework and apply my knowledge in practice and I was offered the opportunity to do so at CAPHRI.”

Her research concentrates on the question of how people experience their bodies. The research project that landed her a VIDI Grant and two research assistants is a stellar example of this. “We focus on patients with head, neck and breast cancer – all of which leave obvious physical traces. We plan on researching how these patients experience and identify with their bodies. I want to create an open forum to discuss this bodily experience.” To Slatman, this is an important issue as the ever-growing group of cancer survivors often experience bodily damage as a result of medical interventions. Another important issue is our contemporary culture in which individuals with psychical abnormalities often fail to meet social standards. The research will therefore also tackle the question of how and to what extent contemporary culture influences a patient’s decision.

Practical application

Slatman hopes to translate the results of this study into practical applications in a follow-up stage. These applications may include revising information brochures for cancer patients or developing guidelines to help healthcare professionals encourage patients to reflect on their bodily experiences when making treatment decisions. Her proposal was awarded mainly because of her interdisciplinary approach. Medical professionals at the Oncology Centre at Maastricht UMC+ and the Antoni van Leeuwenhoek Hospital in Amsterdam, who are also participating in this research, were positively surprised by her approach. “I noticed that other researchers awarded similar grants also had somewhat unusual profiles. Just like me, they are often trained in different disciplines.” Looking back, she realises that CAPHRI took some risks in hiring her and allowing her to write this rather idiosyncratic research proposal. “It could also have turned out wrong,” she explains. The VIDI Grant reveals just how valuable and rewarding external talent scouting can be. “CAPHRI would certainly benefit from integrating this into their policy.” ■

05

INNOVATION

WITHIN

CAPHRI

INTERVIEW WITH

Dr Tim Welting
Flexibility in orthopaedic care

Dr Christian Hoebe
Q fever epidemic

Prof. Geert-Jan Dinant
CCTR

Interview with Dr Tim Welting who researches possibilities for cartilage regeneration

“We are flexible to the needs of the clinic”



INTERVIEW

Responding flexibly to developments in orthopaedic care is typical of the research conducted by Tim Welting and his colleagues. “We address clinical questions in the laboratory but also ensure that the lab results are linked back to the clinic. That’s why good cooperation is so important,” says Welting.

As head of the Orthopaedic Research Laboratory, Welting has worked on effective collaboration for years with great success. In just a few short years, his research group has grown from two to eight members and collaboration with the Trial Bureau at Maastricht UMC+ – led by Dr Chris Arts – has improved significantly at all levels. It is precisely this collaboration that Welting, a biochemist, finds so important. Welting graduated from Radboud University, Nijmegen in 2007 with his fundamental research on dwarfism. “I realised then that I wanted to translate fundamental research into practical applications and make a contribution to the field of healthcare. That’s why I decided to come to Maastricht – for their research on cartilage regeneration.”

Everyday ailments

At the Trial Bureau, the main focus is on improving orthopaedic care and researching osteoarthritic treatment options, infections and spinal problems. “We deal with the everyday ailments many people, and therefore many general practitioners, face on a daily basis. In 2010, I told the Review Committee that this is exactly why our research is so perfectly suited to CAPHRI. As a School we are closely involved in primary care.”

Welting specialised in cartilage defects and skeletal development and is quick to draw a comparison between the skeletons of humans and sharks: “The difference between people and sharks is that most of a shark’s skeleton is made up of cartilage. It never gets converted into bone, as is the case with human skeletons. Human cartilage undergoes a process called ossification that only stops after puberty, when our bodies are fully grown. This process does not occur in every part of the human skeleton, however: it does not happen in our joints, for example, which is why we have cartilage there.”

According to Welting, many orthopaedic cartilage defects can be traced back to problems during the ossification process. Understanding this process can therefore help us treat the defects. We now know that the pain associated with arthritis, for example, is caused by cartilage deterioration.

Welting and his colleagues are researching the possibilities of cartilage regeneration to replace areas of missing cartilage in patients. Significant strides have been made in this field in recent years. In 2010, Welting’s research group published an article in PNAS detailing the results of their research on lab rabbits. During these experiments, the researchers injected gel under the periosteum to generate new cartilage. The cartilage was then harvested and transplanted into a specially-made hole in the kneecap of the same rabbit. The result: new cartilage in the kneecap.

Anti-inflammatories

This discovery was a great success, but this is not where the story ends. “This new cartilage can also undergo ossification, which defeats the purpose. That’s why we are trying to figure out how to prevent or slow down the ossification process.”

A first step in the right direction was made thanks to collaboration with the clinic. They discovered a surprising side-effect in patients given specific anti-inflammatories: the ossification process slowed down. “We were able to substantiate this clinical observation with scientific research,” Welting explains. Using animal testing techniques, the group hopes to conduct further research into the effects of anti-inflammatories. “The question is: if these anti-inflammatories really do slow down the ossification process, how does this effect skeletal development? Younger patients in particular could run a significantly high risk of stunted growth as a potential side effect of these drugs.”

Welting also mentioned his plans for translating his research on rabbits into a human research study. He is now awaiting grant approval for this. “I have no doubt that these results will have a significant social impact.” ■

Interview with Dr Christian Hoebe, head of the Department of Infectious Disease Control and researcher

“The real world as a guideline for infectious disease research”



INTERVIEW

“Cooperation between the scientific and practical application of infectious disease control is a must for innovative research on infectious diseases”, says Christian Hoebe. “We should link new practical developments with the arsenal of scientific information available to us.”

Hoebe is head of the Department of Infectious Disease Control at the South Limburg Public Health Service GGD, a department that has been conducting research on infectious diseases for many years. The collaboration between science and practice is well established here, as research is being conducted under the supervision of CAPHRI. According to Hoebe, this is a good thing because innovative research on infectious diseases is much needed. After all, new diseases continue to emerge and old ones tend to reappear regularly, albeit in different forms. The reason: changing behavioural patterns and fluctuating circumstances including environmental changes and the fact that our food is flown in from all corners of the world. “Our knowledge is far from sufficient when new developments arise. That’s why it’s so important that we conduct practical scientific research to generate new knowledge; knowledge that can not only be applied regionally, but also nationally and internationally.”

Q fever

The research conducted by Hoebe and his colleagues focuses on sexually transmitted diseases (STDs) and infectious disease control. A significant example is their research on the Q fever epidemic in South Limburg which, according to Hoebe, is the direct result of the considerable increase in intensive goat farming in the Netherlands. “The epidemic could be easily traced to one source – a goat milk farm in Voerendaal. This situation is particularly unique when compared to North Brabant, where several farms suffered from Q fever outbreaks.”

In 2010, Hoebe and his colleagues received a €240.000 grant from ZonMw to conduct scientific research on the data collected before and during the regional epidemic. “Because there was one source, we could accurately trace how the bacteria could spread throughout the region. This was the first quantitative research project of its kind in the world.”

Volker Hackert, an infectious disease specialist, will defend his PhD thesis based on this research. The first results have since been published and reveal that people could contract the disease by visiting infected farms or through primary transmission via the air. These results also revealed the possibility of secondary transmission: people that were exposed to the bacteria at home via clothes worn by housemates who had visited the infected farm.

The extremely contagious nature of Q fever was also reflected by the number of GGD employees infected after visiting the farm and fourteen percent of the people involved in cleaning it. “Our research tells us which steps we can take to prevent the bacteria from spreading next time.” Additional research is also being conducted on the susceptibility of children to Q fever and on improving the system of public communication during such an epidemic.

Swingers

Scientific research on STDs also provides several striking examples. An increase in online sales of home STD tests prompted the researchers to assess the quality of certain Chlamydia tests. This research resulted in the much-cited 2010 publication in ‘Sexually Transmitted Infections’ by PhD candidate Laura van Dommelen. Her conclusion: the tests do not work.

Another good example is the swinger research conducted by Anne-Marie Niekamp, PhD candidate and STD & Sexual Health Co-ordinator at the Department of Infectious Disease Control. Swingers are heterosexual couples that have sex with other people. The exact number of swingers remains unclear, but it certainly involves a significantly large group. In 2010, the research group published an article in ‘Sexually Transmitted Infections’ that added swingers to the list of people at high risk for developing STDs – a study that garnered a great deal of media attention. Swingers undoubtedly have a higher risk for developing STDs than peers that do not swing. This is particularly true for older swingers.

According to Christian Hoebe, these are all examples of research studies with significant scientific and social relevance. “That’s why I’m so proud of the fantastic score CAPHRI received and the fact that we are affiliated with this School. It allows us to continue our innovative research on infectious diseases.” ■

Interview with Prof. Geert-Jan Dinant, general practitioner and CAPHRI researcher

“Huge breakthroughs are possible in the field of diagnostics”



INTERVIEW

CAPHRI is one of the key architects of CCTR, the Centre for Care Technology Research. In this new knowledge centre, Maastricht UMC+, Twente University and TNO work together to meet a collective goal: the development of innovative techniques for chronically ill patients in outpatient locations such as home care settings and general practitioners' offices. At the CCTR, CAPHRI's Geert-Jan Dinant is co-directing the research studies on innovative diagnostic techniques.

“I believe the CCTR can help resolve the inefficient way we sometimes handle various disorders,” says Geert-Jan Dinant. As a general practitioner, he has been combining practical patient care with scientific research for 25 years. “That combination was a deliberate choice,” he says, “as education, research and patient care influence each other, meaning one thing can teach you how to handle the other better.”

For his research, Dinant specialised in the diagnosis and treatment of many common disorders in his field, with particular emphasis on diagnostics. His research group examines issues of significant scientific and social relevance. One important example of this is the research being conducted by Dr Rogier Hopstaken on the clinical application of a simple blood test (finger prick test) to rule out infections in general and those that cause pneumonia in particular. The motivation behind this research is that three out of four patients diagnosed with pneumonia did not actually have the disease. His research revealed that general practitioners could rule out pneumonia using a simple blood test and therefore avoid prescribing unnecessary antibiotics.

Antibiotic use

Dr Jochen Cals continued this research project by focusing on patients with acute coughs that indicated a lower respiratory infection. These patients were also prescribed unnecessary antibiotics. Cals demonstrated that the combination of a finger prick test to rule out any infections paired with communications training for general practitioners led to a decrease in the amount of antibiotics required. Cals obtained his PhD in 2009 and was awarded a ZonMw pearl and the CaRe Dissertation Prize one year later for his research. “What makes these examples so salient is that such a tiny piece of technology as a finger prick test can lead to such great things. In my opinion, that is precisely what the CCTR should strive for.”

The Review Committee was very enthusiastic about the CCTR and concluded the following in their visitation report: ‘This is research policy at its best, offers high value for tax payers’ money and high returns on investment for healthcare research.’ The CCTR has three areas of specialisation: diagnostics, therapy and monitoring. Dinant shares his position as head of the diagnostics specialty with Prof. Edward Dompeling, a pulmonary paediatrician at Maastricht UMC+. Two main themes have been identified within their field, infections (e.g. respiratory infections and meningitis) and cardiometabolic health (cardiovascular disease and diabetes). “The examples I mentioned earlier reveal that huge breakthroughs are possible in the field of diagnostics. I think that our field could develop tests similar to that of the finger prick test.”

Heart attack

According to Dinant, a good example in the field of cardiovascular health is the problem of patients visiting their doctors for acute chest pain. Sometimes it is clear that something is very wrong, other times it is simply a false alarm. “But for a large proportion of these patients I can’t rule out the possibility of a serious problem with any certainty, so I have to call an ambulance. These people all need to be examined in the hospital.’ Clinical practice has taught us that three in four people do not have serious symptoms. ‘We are therefore very interested in developing a test that general practitioners could use to rule out the possibility of a heart attack in patients experiencing acute chest pain.’

According to Dinant, the CCTR should also focus on unexplained symptoms, heredity, self-diagnosis and clear lines of communication with the patient. The needs of both the patient and the practitioner should serve as the foundation of this research. “After all, the doctor must be able to apply the innovations that science produces.” ■

06

CLUSTER PRIMARY CARE

PRIMARY CARE

The main objective of this Cluster of multidisciplinary research programmes is to optimise outcomes for patients.

Research is focused on effect evaluation and innovation of diagnostic decision making, treatment and rehabilitation, applied in a primary care context and at the interface of primary and secondary care, in order to improve clinical management. In addition to original observational and intervention studies, much work is being carried out into the synthesis and evaluation of available knowledge (systematic reviews). The emphasis is on the research of chronic illness with a considerable burden of illness in the community, focusing on problems of the locomotor tract, the respiratory tract, the cardiovascular tract and the gastrointestinal tract. The programme structure also acknowledges that expertise regarding frequently presented symptoms and infectious disease management is very important in related differential diagnosis and management decisions. As the epidemiological basis of primary care research is very important, this is also represented in the programme structure. Furthermore, while the research methodology and statistical analysis used are comparable in the different programmes, sharing and exchange of knowledge between the programmes in the area of clinical epidemiology and health technology assessment is crucial.

Diagnostic decision-making in primary care settings usually marks the first step in professional care and is a key determinant of its effectiveness and cost-effectiveness. Diagnostics are important for recognising or excluding disease, predicting clinical course treatment effectiveness, and deciding on further – often more invasive and expensive – diagnostics, treatment and referral. Within the unselected spectrum of morbidity presented in primary health care, differential diagnosis is essentially different from that of patients referred to secondary care. Also, especially in the elderly chronic patient, co-morbidity and multi-morbidity are important in evaluating the validity and informativeness of testing. Moreover, the methodology of diagnostic research, especially in early clinical stages, as in primary care, is far less developed than the methodology of therapeutic research. Given these specific challenges, in this Cluster, diagnostic research and its clinical epidemiological methodology is paid substantial attention, in relation to the four main clinical domains. The research includes the whole range of history taking, physical examination, additional laboratory testing, and diagnostic strategies and protocols. In addition, innovative non- or minimally

invasive diagnostic technologies are tested as to their effectiveness and feasibility in primary care settings.

The central objective of the therapeutic management research is the innovation and evaluation of generalist-oriented primary care and ambulatory interventions, including rehabilitation care. Effectiveness and cost-effectiveness of newly developed and already existing – but insufficiently evaluated – interventions (general practice, physiotherapy, outpatient clinic, and community nursing, in mono- and multidisciplinary contexts) are studied. Potentials, limitations, and adverse effects of new (particularly non- and minimally invasive) are investigated. Attention is paid to long term adverse effects of chronic medication, especially in the context of polypharmacy, with a specific interest in controlling and reducing multimедication in chronic patients. Furthermore, addressing comorbidity and multimorbidity is important in therapeutic decisionmaking and patient follow-up. The research often requires an experimental design with long term follow-up, based on available primary care cohorts, registries and databases, such as the Registration Network of Family Practices (RNH) and the Smile study (Study of Medical Information and Lifestyles). Given the specific complexities of experimental research in primary care and ambulatory settings for chronic patients, much effort is also invested in methodology research and development.

Primary outcome parameters are health and well-being of patients, including quality of life and functional status. Emphasis is put on chronic disorders in the aforementioned four domains. In relation to this, frequently occurring functional symptoms and problems, that are often important in differential diagnosis, management, clinical course and health outcome, are also studied. ■

Programme: Epidemiology of musculoskeletal disorders

Programme leaders: Prof. Rob de Bie and Prof. Lodewijk van Rhijn

MISSION

To obtain knowledge about the occurrence, prognosis and treatment of musculoskeletal disorders in the transmural setting.

TOP-3 PUBLICATIONS

Allet L, Armand S, Aminian K, Pataky Z, Golay A, Bie RA de, Bruin ED de. An exercise intervention to improve diabetic patients' gait in a real-life environment. *Gait Posture* 2010; 32(2): 185-90

Allet L, Armand S, Bie RA de, Golay A, Monnin D, Aminian K, Staal JB, Bruin ED de. The gait and balance of patients with diabetes can be improved: a randomised controlled trial. *Diabetologia* 2010; 53(3): 458-66

Nicolăi SP, Leffers P, Kruidenier LM, Bie RA de, Prins MH, Tejjink JA. Extending the Range of Treadmill Testing For Patients with Intermittent Claudication. *Med Sci Sports Exerc* 2010; 42(4): 640-5



HIGHLIGHTS

Chair Guideline International Network (G-I-N)

In August 2010, senior researcher Dr Philip van der Wees was appointed as Chair of the Guidelines International Network (G-I-N, www.g-i-n.net), the world leading organisation for stimulating the development and implementation of clinical practice guidelines. Within G-I-N, 86 organisational members and 87 individual members collaborate in developing standards and methods to improve the quality of health care using clinical practice guidelines. G-I-N owns the world's largest database of clinical guidelines with more than 8.000 documents. Van der Wees' appointment to this international organisation is valuable for Dutch health care. According to van der Wees, "clinical guidelines are very important for health care, which stimulated me to contribute to leading this international community of guideline developers, implementers and users. In the Netherlands we play a significant role in the field of clinical practice guidelines." Along with professional bodies of physicians, physical therapists, nurses and other professionals, CAPHRI plays a vital role in the development, implementation and evaluation of clinical guidelines in the Netherlands. At the national level, the Council for Quality of Healthcare (*Regieraad Kwaliteit van Zorg*) aims to stimulate coherence in development and implementation of clinical guidelines. In the near future international cooperation will be secured, further intensified and expanded. Van der Wees has been selected as fellow for the Commonwealth Fund's Harkness Fellowships 2011-12.

Success in BMM's* Young Investigator Call

Dr Chris Arts obtained €1.9 million for his research into a new method to treat patients with a spinal deformation called 'idiopathic scoliosis'. Deformities of the spinal column severely limit patients in their activities and compromise their life expectancy. The novelty of this research is the 3-D correction of the scoliotic spinal deformity through the use of new surgical techniques combined with Dyneema Purity® fibres. As well as advantages for patients, this technique may also decrease the number of surgical procedures necessary.

* BMM: BioMedical Materials

Clinical highlight: Osteochondral repair by de novo generated ectopic cartilage

Emans PJ, Welting TJM, Caron MMJ, van Rhijn LW

When left untreated, osteochondral defects (OD) lead to Osteoarthritis in 100% of the cases. Clinical implementation of cell-based cartilage repair is currently hampered by the costs and logistics involved with isolation and expansion of cells and variability in quality of the engineered tissue. We recently proposed a novel paradigm for de novo engineering of cartilaginous tissues, the In Vivo Bioreactor (IVB). Within the IVB a gel is injected between bone and periosteum. This gel serves as a trigger for neo-tissue development. We demonstrated that large volumes of extra-articular cartilage (EAC) can be engineered de novo within IVB without cell implantation and administration of growth factors. Our work shows that EAC is obtained within 3-weeks post injection of agarose in the IVB, and can be press-fit into an osteochondral defect, where it undergoes endochondral remodelling with complete lateral and sub-chondral integration. The implanted EAC showed no calcification even after 9 months and showed a superior osteochondral repair compared to controls. Our latest findings indicate that inflammation can initiate of chondrogenesis of progenitor cells in general and cartilage in the IVB in particular. We aim to further unravel the potency of inflammation induced neo-cartilage formation and bring this novel approach to the clinic. ■

Programme: Diagnosis and treatment of frequently occurring diseases in primary care

Programme leaders: Prof. Geert-Jan Dinant and Dr Marjan van den Akker

MISSION

To perform clinical research in prevention, diagnosis, treatment and prognosis, with patient health as the central outcome variable.



HIGHLIGHT

Dr Jochen Cals, who received a cum laude for his PhD thesis on respiratory tract infection (2009), collected a series of prizes for his scientific work. Among those, his publication in the BMJ made him Finalist for The BMJ Group Awards – Research Paper of the Year. He received the ZonMw Pearl for exemplary and outstanding research undertaken by an AIOThO, the Rabobank Prize for the best PhD thesis produced by a researcher from Maastricht University, the PhD Dissertation Prize of the Netherlands School of Primary Care Research (CaRe), the Heert Dokter Prize of the Dutch College of General Practitioners for the best research article in Huisarts en Wetenschap and the Telesphorus prize of the Dutch College of General Practitioners for the best PhD thesis written by a general practitioner or trainee. He is currently also nominated for the André Knottnerus Award for the best PhD thesis produced by a researcher of CAPHRI. ■

TOP-3 PUBLICATIONS

Bruel A van den, Haj-Hassan T, Thompson M, Buntinx F, Mant D, European Res Network Recognising S. Diagnostic value of clinical features at presentation to identify serious infection in children in developed countries: a systematic review.
Lancet 2010; 375(9717): 834-45

Kiemeney LA, Sulem P, Besenbacher S, Vermeulen SH, Sigurdsson A, Thorleifsson G, Gudbjartsson DF, Stacey SN, Gudmundsson J, Zanon C, Kostic J, Masson G, Bjarnason H, Palsson ST, Skarphedinsson OB, Gudjonsson SA, Witjes JA, Grotenhuis AJ, Verhaegh GW, Bishop DT, Sak SC, Choudhury A, Elliott F, Barrett JH, Hurst CD, de Verdier PJ, Ryk C, Rudnai P, Gurzau E, Koppova K, Vineis P, Polidoro S, Guarrera S, Sacerdote C, Campagna M, Placidi D, Arici C, Zeegers MP, Kellen E, Gutierrez BS, Sanz-Velez JI, Sanchez-Zalabardo M, Valdivia G, Garcia-Prats MD, Hengstler JG, Blaszkewicz M, Dietrich H, Ophoff RA, van den Berg LH, Alexiusdottir K, Kristjansson K, Geirsson G, Nikulasson S, Petursdottir V, Kong A, Thorgeirsson T, Mungan NA, Lindblom A, van Es MA, Porru S, Buntinx F, Golka K, Mayordomo JI, Kumar R, Matullo G, Steineck G, Kiltie AE, Aben KK, Jonsson E, Thorsteinsdottir U, Knowles MA, Rafnar T, Stefansson K. A sequence variant at 4p16.3 confers susceptibility to urinary bladder cancer.
Nat Genet 2010; 42(5): 415-9

Sylvester RJ, Brausi MA, Kirkels WJ, Hoeltl W, Calais Da Silva F, Powell PH, Prescott S, Kirkali Z, Beek C van de, Gorlia T, Reijke TM de. Long-Term Efficacy Results of EORTC Genito-Urinary Group Randomized Phase 3 Study 30911 Comparing Intravesical Instillations of Epirubicin, Bacillus Calmette-Guerin, and Bacillus Calmette-Guerin plus Isoniazid in Patients with Intermediate- and High-Risk Stage Ta T1 Urothelial Carcinoma of the Bladder.
Eur Urol 2010; 57(5): 766-73

Programme: Effectiveness of diagnosis and intervention in patients with rheumatic diseases

Programme leaders: Prof. Sjef van der Linden and Prof. Robert Landewé

MISSION

To study the prevalence and different mechanisms of antibiotic resistance of micro-organisms in general practice patients, nursing home residents and healthy persons.

TOP-3 PUBLICATIONS

Boonen A, Brinkhuizen T, Landewé R, Heijde D van der, Severens JL. Impact of ankylosing spondylitis on sick leave, presenteeism and unpaid productivity, and estimation of the societal cost.
Ann Rheum Dis 2010; 69(6): 1123-8

Boonen A, Braun J, Horst Bruinsma I E van der, Huang F, Maksymowych W, Kostanjsek N, Cieza A, Stucki G, Heijde D van der. ASAS/WHO ICF Core Sets for ankylosing spondylitis (AS): how to classify the impact of AS on functioning and health.
Ann Rheum Dis 2010; 69(1): 102-7

Machado P, Landewé R, Braun J, Hermann K-GA, Baker D, Heijde D van der. Both structural damage and inflammation of the spine contribute to impairment of spinal mobility in patients with ankylosing spondylitis.
Ann Rheum Dis 2010; 69(8): 1465-70



HIGHLIGHTS

New diagnostic criteria for axial and peripheral spondyloarthritis (SpA)

After 5 years of preparation, working on completing a large international prospective cohort study and analysing the data, new classification criteria for axial SpA and peripheral SpA have seen the light. These new criteria, which complement or replace existing criteria, have received worldwide endorsement, and will hopefully result in a more timely diagnosis of SpA, so that the burden of illness, due to an average delay in diagnosis of 9 years, will improve markedly.

These criteria have now been published and will influence the programme as they will serve as inclusion criteria in a new prospective study in patients with early SpA that will aim at predicting and improving outcomes.

EULAR recommendations for the role of the nurse in the management of chronic inflammatory arthritis

In rheumatology, nurses often act as the interface between the patient and other members of the multidisciplinary team, but the content of their professional contributions may neither be visible nor obvious to many other professionals or to patients. In some countries, rheumatology nursing has developed to become a recognised speciality with nurses undertaking advanced and extended roles. In others, rheumatology nursing as a speciality does not exist at a basic level. In 2010, a EULAR Task Force, comprised of a multidisciplinary expert panel, developed EULAR recommendations for the role of the nurse in the management of patients with chronic inflammatory arthritis, identified a research agenda and determined an educational agenda. The EULAR has asked Dr Astrid van Tubergen to co-chair this process as a clinical epidemiologist.

The International Classification of Functioning Disability and Health Core Sets for ankylosing spondylitis

With the approval by the WHO of the International Classification of Functioning Disability and Health (ICF) in 2002, the biopsychosocial model of disease was accepted as a model for health. In addition, a classification to describe the units that are necessary to achieve full health became available. To make the classification applicable in medicine, comprehensive and brief Core Sets have been developed, that aim are selections of the full IC classification and represent what is typical and relevant for functioning and health in specific disease. Based on 4 preparative studies, the comprehensive and brief Core Sets for AS have been defined under the leadership of dr. Annelies Boonen and results have now been published. These Core Sets serve as the external reference for function and are now available for use within clinical settings. ■

Programme: Clinical Epidemiology
Programme leader: Prof. Martin Prins

MISSION

To use and improve methodology for leading edge clinical studies.

TOP-3 PUBLICATIONS

Vos CB de, Pisters R, Nieuwlaat R, Prins MH, Tieleman RG, Coelen RJS, Heijkant AC van den, Allessie MA, Crijns HJGM. Progression from paroxysmal to persistent atrial fibrillation Clinical correlates and prognosis. J Am Coll Cardiol 2010; 55(8): 725-31

Sep S, Verbeek J, Koek G, Smits L, Spaanderman M, Peeters L. Clinical differences between early-onset HELLP syndrome and early-onset preeclampsia during pregnancy and at least 6 months postpartum. Am J Obstet Gynecol 2010; 202(3): 271.e1-5

Ruiterkamp J, Voogd AC, Bosscha K, Tjan-Heijnen VCG, Ernst MF. Impact of breast surgery on survival in patients with distant metastases at initial presentation: a systematic review of the literature. Breast Cancer Res Treat 2010; 120(1): 9-16



CLUSTER PRIMARY CARE

HIGHLIGHTS

Shrinking parameters complicate the prediction of recurrent preeclampsia

On April 8, 2010, Simone Sep defended her PhD thesis entitled Recurrent preeclampsia. Prediction, risk counseling and methodological challenges. She discovered that predicting recurrence of preeclampsia is a complicated endeavor, not only because the etiology of preeclampsia is still enigmatic, but also because regression parameters for predictive variables tend to be underestimated in recurrence risk research. The latter finding has important implications for all studies of recurrent outcomes, whether inside or outside the realm of medicine.

Do preconception prediction models invalidate themselves?

Prediction models have been developed that can estimate the risk of a (recurrent) adverse outcome in a new pregnancy, such as preeclampsia, low birth weight, or congenital malformations. Suppose that couples learning that they have a high risk of the outcome choose not to become pregnant, how does this affect future performance of the prediction model? Sander van Kuijk, MSc, carried out a simulation study and found that sensitivity and specificity of the model can change under the influence of this selective fertility phenomenon. The shape of the Receiver Operating Characteristic (AUC), the Area Under the Curve (AUC), and positive/negative predictive values, however, remain unchanged. Sander published his findings in Paediatric and Perinatal Epidemiology.

Improving the prediction of the risk of coronary heart disease

In December 2010, Audrey Merry successfully defended her thesis: 'Coronary heart disease in the Netherlands. Incidence, etiology and risk prediction'. This research was based on the CAREMA cardiovascular registry, Maastricht. It describes the recalibration and improvement of the SCORE risk function and diverse associations between risk factors and different manifestations of coronary heart disease. ■

Programme: Asthma and COPD

Programme leaders: Prof. Geertjan Wesseling and Dr Jean Muris

MISSION

To strengthen prevention and minimise the occurrence of **ASTHMA and COPD**, and to identify risk factors and appropriate management at an early stage.

TOP-3 PUBLICATIONS

Anandan C, Nurmatov U, Schayck CP van, Sheikh A. Is the prevalence of asthma declining? Systematic review of epidemiological studies. *Allergy* 2010; 65(2): 152-67

Bottema RWB, Kerkhof M, Reijmerink NE, Thijs C, Smit HA, Schayck CP van, Brunekreef B, Oosterhout AJ van, Postma DS, Koppelman GH. Gene-gene interaction in regulatory T-cell function in atopy and asthma development in childhood. *J Allergy Clin Immunol* 2010; 126(2): 338-46, 346.e1-10

Vaessen-Verberne AA, Berg NJ van den, Nierop JC van, Brackel HJ, Gerrits GP, Hop WC, Duiverman EJ, Hendriks JJE, Jöbsis Q, COMBO Study Group. Combination therapy salmeterol/fluticasone versus doubling dose of fluticasone in children with asthma. *Am J Respir Crit Care Med* 2010; 182(10): 1221-7



CLUSTER PRIMARY CARE

HIGHLIGHTS

Publishing Success

An article, written by Dr John Penders et al was published in the JACI journal. This paper on host-microbial interactions in childhood atopy is one of the first dealing with this subject. Another noteworthy paper was produced by Kim van de Kant on wheezing in preschool children. In this, she shows that wheezing is associated with increased levels of cytokines/chemokines in exhaled breath condensate.

- Penders J, Thijs C, Mommers M, Stobberingh EE, Dompeling E, Reijmerink NE, van den Brandt PA, Kerkhof M, Koppelman GH, Postma DSJ. Host-microbial interactions in childhood atopy: toll-like receptor 4 (TLR4), CD14, and fecal *Escherichia coli*. *J Allergy Clin Immunol*. 2010;125(1):231-6.e1-5
- van de Kant KD, Klaassen EM, Jöbsis Q, Koers K, Rijkers GT, van der Grinten CP, van Schayck OC, Passos VL, Dompeling E. Wheezing in preschool children is associated with increased levels of cytokines/chemokines in exhaled breath condensate. *J Allergy Clin Immunol*. 2010;126(3):669-71

Awards

Kim van de Kant, MSc, received a travel grant and two poster awards at the European Academy of Allergy and Clinical Immunology (EAACI) conference in London. Her poster presentations were awarded for being 'outstanding' and included the first data of the Asthma DEtection and Monitoring (ADEM) study in which inflammatory markers in exhaled breath in wheezing preschool children are studied.

Supervisor of the Year!

Prof. Edward Dompeling was nominated by his PhD students for the CAPHRI 'supervisor award'. It was a great honour for the programme that the award was given to Edward at the occasion of the annual CAPHRI Research Meeting, expressing the gratitude of his students for his personal way of coaching. ■

Programme: Infections and antibiotic resistance in primary care

Programme leader: Prof. Cathrien Bruggeman

MISSION

To study the prevalence and different mechanisms of antibiotic resistance of micro-organisms in general practice patients, nursing home residents and healthy persons.

TOP-3 PUBLICATIONS

Heijer CDJ den, Donker GA, Maes J, Stobberingh EE. Antibiotic susceptibility of unselected uropathogenic *Escherichia coli* from female Dutch general practice patients: a comparison of two surveys with a 5 year interval.

J Antimicrob Chemother. 2010 Oct;65(10):2128-33

Croes S, Beisser PS, Neef C, Bruggeman CA, Stobberingh EE. Unpredictable effects of rifampin as an adjunctive agent in elimination of rifampin-susceptible and -resistant *Staphylococcus aureus* strains grown in biofilms.

Antimicrob Agent Chemother 2010, 54(9): 3907-12

Penders J, Thijs C, Mommers M, Stobberingh EE, Dompeling E, Reijmerink NE, Brandt PA van den, Kerkhof M, Koppelman GH, Postma DS. Host-microbial interactions in childhood atopy: toll-like receptor 4 (TLR4), CD14, and fecal *Escherichia coli*.

J Allergy Clin Immunol 2010; 125(1): 231-6.e1-5



CLUSTER PRIMARY CARE

HIGHLIGHTS

2010 was marked by the start of 2 multicentre studies: the EUprevent MRSA and the APRES project.

Cross border safety

By forming networks, the EUprevent MRSA project intends to enable the free exchange of patients between the various healthcare organisations in the Euregion, leading to an increase of patient safety.

Two of the present obstructions for free exchange of patients between these cross border healthcare organisations are the difference in prevalence of antibiotic resistance of micro-organisms and the difference in infection preventive measurements. Subprojects, of which the department of Medical Microbiology is the project leader, aim to gain an understanding of the occurrence of antibiotic resistant micro-organisms within and outside healthcare organisations and the spread of these pathogens inside and between these organisations in the Euregion. These findings will be the basis to adjust and harmonise the existing protocols and regulations.

The bacterial clinical isolates come from 3 hospitals in Germany, Belgium and the Netherlands. Also included are the indicator bacteria *Escherichia coli* and *Staphylococcus aureus*, isolated from urine and nose samples from residents of nursing homes and patients of general medical practices in the three countries.

The collection of the isolates is almost completed and the first results have been presented at a national symposium.

Antimicrobial resistance and antimicrobial policy

The APRES (the appropriateness of antibiotic prescription in relation to antibiotic resistance) project intends to provide data on the prevalence and antibiotic resistance of *Staphylococcus aureus* and *Streptococcus pneumoniae* isolated from nasal swabs from patients attending general practitioners without an infectious complaint, and to compare the results with the antibiotic prescription of the general practitioner. Where appropriate, the guidelines concerning the treatment of *S. aureus* (skin infections) and *S. pneumoniae* (respiratory tract infections) will be adapted based on the resistance data of the isolated micro-organisms. The APRES project is funded by the European Union, and the participants are, in addition to the department of Medical Microbiology (work package

leader for the prevalence and resistance of the 2 micro-organisms), the University of Nottingham, the University of Antwerp and the NIVEL (project leader). The project is performed in 9 countries in Europe and in each country 20 general practitioners collected nasal swabs of 200 patients. The results of the susceptibility data of ~10.000 isolates will be available in 2013.

Measuring the impact of human papilloma virus (HPV) vaccination in the Netherlands

In 2010 the Dutch Centre for Infectious Disease Control recruited the support of the department of Medical Microbiology at Maastricht UMC+ (MMB) and the Public Health Service South-Limburg (GGD-ZL), to study possible divergences in HPV epidemiology after introduction of the HPV vaccination in the Netherlands. This vaccination was recently introduced as part of the Dutch national vaccination programme. As an essential part in establishing HPV epidemiology prior to the introduction of the HPV vaccination, ~5.500 genital samples from young persons from 16 to 29 years old were tested for presence and genotype of HPV. The genital samples were acquired from a national ZonMw funded project called Chlamydia Screening Implementation, in which the Maastricht UMC+ and GGD-ZL participated. All diagnostics and genotyping was performed at Maastricht UMC+. The role and involvement of the department of MMB and the GGD-ZL in this project have established their potential as a diagnostic research laboratory in the area of HPV epidemiology, as well as forging viable collaborations with the HPV working group within the Dutch Centre for Infectious Disease Control. Finally, additional collaborative projects in the area of HPV epidemiology, as well as regarding other sexually transmitted diseases, have been arranged or are being established. ■

Programme: Rehabilitation Medicine
Programme leader: Prof. Rob Smeets

MISSION

To study and to improve the diagnosis and treatment of patients with physical impairments due to disease, congenital disease or trauma, resulting in a permanent reduction in daily functioning and social participation.

TOP-3 PUBLICATIONS

Verbunt Jeanine A, Smeets Rob J, Wittink Harriet M.
Cause or effect? Deconditioning and chronic low back pain.
Pain 2010; 149(3): 428-30

Huijnen IP, Verbunt JA, Peters ML, Delespaul P, Kindermans HP, Roelofs J, Goossens M, Seelen HA.
Do depression and pain intensity interfere with physical activity in daily life in patients with Chronic Low Back Pain?
Pain 2010; 150(1): 161-6

Timmermans AA, Spooren AI, Kingma H, Seelen HA.
Influence of task-oriented training content on skilled arm-hand performance in stroke: a systematic review.
Neurorehabil Neural Repair 2010;24(9):858-70



CLUSTER PRIMARY CARE

HIGHLIGHTS

High research output

2010 was a busy and productive year for the Rehabilitation Medicine research group with 32 WI-1 publications, 4 WI-2 publications, 12 WN publications, several book chapters and many presentations (oral, posters) and invited lectures/refreshers courses given at international conferences. Furthermore, most members of our group are reviewers for many international journals, but also national and international funding agencies (e.g. ZonMw, Johanna Kinderfonds, Arthritis Research Council) and CBO-guideline committees. The research group also established stronger collaborations with international research groups in the field of chronic musculoskeletal pain and arm-hand functioning in adults and particularly children. One of our PhD students and a trainee in Rehabilitation Medicine won the prize of best free paper presentation at the International Annual Dutch Rehabilitation Medicine conference.

Co-skeletal pain rehabilitation conference a great success

The national conference on proceedings of chronic musculoskeletal pain rehabilitation research was organised by our research group in collaboration with the department of Rehabilitation Medicine azM on November 25th 2010, and was attended by 175 researchers/care providers working the field of pain medicine/rehabilitation. Among the speakers were two members of our programme who finished their PhD projects and two internationally renowned researchers on musculoskeletal pain. The attendees evaluated this conference of high quality and were very satisfied. We have the intention to organise another new conference by the end of 2011, as two members of our research group will end their PhD projects within the research line chronic pain research line.

New research collaboration

Associate Professor Dr Jeanine Verbunt visited the Liberty Mutual Research Institute, center for disability research in Hopkinton and the Harvard Medical School in Boston as a research fellow for 3 months. On behalf of our research programme she was able to forge a research collaboration between both institutes. ■

07 CLUSTER INNOVATION OF CARE

INNOVATION OF CARE

Innovation of Care focuses on the development of new approaches (technologies, interventions, strategies and models) in health care, especially for dependent patients and consumers in vulnerable situations (patients with chronic diseases, frail elderly) or in the situation of complex patient preference-sensitive decision making. The aim is to improve care, by describing and interpreting problems, developing interventions and strategies, and stimulating practitioners to make use of interventions which have proven to be effective. These interventions can be located at various places in the chain of care (from prevention and primary care to specialist care and after care). Attention is paid to the organisation of care, to changing roles of professionals (for example nurses taking over traditional tasks of physicians) and to the changing position of the patient and consumer, who can play an active role in their care process. Innovations are developed in close cooperation with practitioners and patient and consumer groups. This strengthens the practical applicability and provides a firm basis for implementation.

Innovations are evaluated from various perspectives: effectiveness, cost-effectiveness and normative consequences (concerning the responsibilities of professionals and patients) and pay attention to content, process and structure. ■

Programme: Innovations in health care for the elderly

Programme leader: Prof. Jan Hamers and Prof. Ruud Kempen

MISSION

To develop and disseminate knowledge and expertise on psychosocial, clinical and environmental determinants of health care problems, need of care, social participation, independency and quality of life among older persons and to develop, evaluate and implement interventions to slow down processes of disablement and improve socialisation of health care.

TOP-3 PUBLICATIONS

Verbeek H, Zwakhalen SMG, van Rossum E, Ambergen T, Kempen GIJM, Hamers JPH. Dementia care redesigned: effects of small-scale living facilities on residents, their family caregivers, and staff.
J Am Med Assoc 2010; 11: 662-70

Gobbens RJ, van Assen MA, Luijkx KG, Wijnen-Sponselee MT, Schols JM. Determinants of frailty.
J Am Med Dir Assoc 2010; 11: 356-64

Smeulders ESTF, Haastregt JCM van, Ambergen T, Lencer NHKM, Janssen-Boyne JJJ, Gorgels APM, Stoffers HEJH, Lodewijks-van der Bolt CLB, Eijk JThM van, Kempen GIJM. Nurse-led self-management group programme for patients with congestive heart failure: randomized controlled trial.
J Adv Nurs 2010; 66: 1487-99



CLUSTER INNOVATION OF CARE

HIGHLIGHTS

EXBELT: belt restraint reduction in nursing homes

In September 2010, the results of the EXBELT-study (funded by ZonMw) were presented. This was also the start of a national campaign entitled 'niet fixeren is een kunst' (using no restraints is an art) in which the result of EXBELT were communicated in regional meetings with nursing home staff, including presentations by young Dutch artists, who had used belts in artwork.

EXBELT is a complex, multi-component intervention including four components: institutional policy change discouraging use of belt restraints; nursing home staff education; consultation by a nurse specialist aimed at nursing home staff; and, availability of alternative interventions. EXBELT was tested in a quasi-experimental design in 26 psychogeriatric wards in nursing homes. EXBELT resulted in a 50% decrease in belt use. Furthermore, no new belts were used in the intervention wards after 8 months, while in the control group 20% new belts were applied. Finally, EXBELT also led to the reduction of other restraint measures, such as full-enclosure bedrails and sleep suits, without increasing the use of other physical restraints, psychoactive drug use, or falls and fall-related injuries. In December 2010, the Dutch Inspectorate recommended for EXBELT to be implemented in all Dutch nursing homes.

Small-scale homelike care environments for people with dementia

'Klein is niet zomaar beter' (Small is not necessarily better) was the headline of a large background article in NRC handelsblad (Dutch newspaper) on December 7, 2010. In this article, the results of our large study on small-scale homelike care environments for people with dementia were discussed.

The purpose of the study was to evaluate the effects of small-scale living facilities in dementia care on residents, family caregivers and staff. Therefore, small scale living facilities were compared with regular psychogeriatric nursing home wards in a quasi-experimental study. For residents, main outcomes were quality of life, neuropsychiatric symptoms and agitation. Main outcomes measures for family caregivers included perceived burden, satisfaction and involvement in care. Main outcome measures for staff

were job satisfaction and motivation. The study was unable to demonstrate convincing overall effects of small scale living facilities. Therefore it was concluded that these facilities may not be a final solution to accomplish high-quality dementia care and that other options should be considered.

This study was financed by the nursing home organisations MeanderGroep, Vivre, Sevagram, Orbis and De Zorggroep, and the Province of Limburg and CAPHRI.

Fear of falling in old age

In 2003 a randomised controlled trial, funded by the ZonMw National Ageing Programme 'Succesvol Ouder Worden', was started at CAPHRI to develop and evaluate a cognitive behavioural group programme ('Zicht op Evenwicht') to reduce fear of falling and avoidance of activity in old age. The outcomes of this study - published in 12 WI-1 articles and a PhD thesis (Dr G.A.R. Zijlstra) - were very positive and highly promising. In 2010, 'Zicht op Evenwicht' was the first intervention applied in home care to receive the RIVM's Dutch national certificate of highly qualified and acknowledged interventions³, and was also implemented nationwide in the health care setting in close collaboration with the Trimbos Institute, Utrecht⁴. The objective is to implement the programme in at least 50% of the more than 60 Dutch home care organisations by the end of 2011. The research line will be continued until at least mid-2012 by the development and systematic evaluation of an adapted individual in-home version of the group approach particularly for frail community-living older persons. ■

3 www.loketgezondleven.nl/i-database/interventies/z/11031/

4 www.zichtopevenwicht.nl

Programme: Redesigning Health Care

Programme leaders: Dr Bert Vrijhoef and Dr Nicolaas Schaper

MISSION

To design a future-proof health care system, which meets the needs of patients, while safeguarding the affordability of good quality health care research.



CLUSTER INNOVATION OF CARE

TOP-3 PUBLICATIONS

Hendriks JML, De Wit R, Vrijhoef HJM, Tieleman RG, Crijns HJ. An integrated chronic care program for patients with atrial fibrillation Study protocol and methodology for an ongoing prospective randomised controlled trial.

Int J Nurs Stud 2010; 47(10): 1310-6

Voogdt-Pruis HR, Gorgels APM, Ree JW, Hoef EFM, Beusmans GH. Patient perceptions of nurse-delivered cardiovascular prevention: cross-sectional survey within a randomised trial.

Int J Nurs Stud 2010; 47(10): 1237-44

Sayre MR, Koster RW, Botha M, Cave DM, Cudnik MT, Handley AJ, Hatanaka T, Hazinski MF, Jacobs I, Monsieurs K, Morley PT, Nolan JP, Travers A, Gorgels AP. Adult Basic Life Support Chapter Collaborators. Part 5: adult basic life support: 2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations.

Circulation 2010; 122(16 suppl 2): S298-324

Programme: Health Technology Assessment (HTA)

Programme leader: Dr Silvia Evers

MISSION

To methodologically develop and study the functioning of the health care system from an economic perspective and to perform economic evaluation studies, in order to support decision makers when deciding about health care innovations.

TOP-3 PUBLICATIONS

Grutters JPC, Joore MA, Wiegman EM, Langendijk JA, De Ruysscher D, Hochstenbag M, Botterweck A, Lambin P, Pijls-Johannesma M. Health-related quality of life in patients surviving non-small cell lung cancer. *Thorax* 2010; 65(10):903-7

Gerhards SAH, Graaf LE de, Jacobs LE, Severens JL, Huijbers MJ, Arntz A, Riper H, Widdershoven G, Metsemakers JFM, Evers SMAA. Economic evaluation of online computerised cognitive-behavioural therapy without support for depression in primary care: randomised trial. *Br J Psychiatry* 2010; 196(4): 310-8

Knies S, Severens JL, Ament AJHA, Evers SMAA. The Transferability of Valuing Lost Productivity across Jurisdictions. Differences between National Pharmacoeconomic Guidelines. *Value Health* 2010; 13(5): 519-27



CLUSTER INNOVATION OF CARE

HIGHLIGHTS

Young Researchers in the spotlight

Dr Janneke Grutters was voted winner of the national Pfizer HTAcademy 2010/2011, as well as for the international Pfizer HTAcademy scholarship prize. She submitted a project on the subject of heterogeneity in HTA entitled 'Every person is unique: the role of heterogeneity in health technology assessment'. In this scholarship, graduates at the start of their academic careers from Belgium, Germany, the Netherlands and Switzerland are invited to apply for the HTAcademy scholarship.

Dr Ties Hoomans has won the International Society for Pharmacoeconomics and Outcomes Research (ISPOR) Research Excellence Award 2010 for his publication in *Value in Health* (*Value Health* 2009;12(2):315-24). Hoomans' research centres on the economic evaluation of health care technologies, with specific interest in implementation research and decision analysis. He has presented innovative methods for assessing the value of actively implementing evidence based care.

Marzena Tambor, MSc, won a prize for her oral presentation at ASPHER - young researchers forum. During this conference, Marzena Tambor presented her work on 'Attitudes towards formal patient payments for public health care services in six CEE countries - Bulgaria, Hungary, Lithuania, Poland, Romania and Ukraine'.

Assessment of Patient Payment Policies and projection of their efficiency, equity and quality effects: The case of Central and Eastern Europe (ASSPRO CEE 2007)

2010 was significant for the project 'Assessment of Patient Payment Policies and projection of their efficiency, equity and quality effects: The case of Central and Eastern Europe' (ASSPRO CEE 2007), funded by European Commission (€ 1.446.496) and coordinated by CAPHRI researchers Dr Milena Pavlova, Prof. Wim Groot and Prof. Frits van Merode, as they hosted an international seminar entitled: 'Out-of-pocket payments in Central and Eastern Europe' in Maastricht. This seminar was attended by researchers and policy makers from the participating partners' countries: Bulgaria, Lithuania, Hungary, Poland, Romania, Ukraine and the Netherlands. The PhD researchers from the HTA programme working on this

project (Sonila Tomini, Vladimir Gordeev, Elka Atanasova, Tetiana Stepurko, Andriy Danyliv, Petra Baji and Marzena Tambor) had the opportunity to present their work and discuss their results with international experts such as Dr Bernd Rechel (European Observatory on Health Systems and Policies, WHO), Dr Maureen Lewis (Advisor Development Economics Operations and Strategy; The World Bank), and Halina Walasek (Scientific and Policy Officer; European Commission; Directorate-General for Research).

International methodological courses

During the last decades, members of the HTA programme have been giving courses to disseminate their methodological knowledge. In recent years the focus was more on courses within the Netherlands for different stakeholders (pharmaceuticals firms, Health care Insurance Board). In 2009 and 2010 we developed several international courses focusing on the general methods for HTA (both on model and trial-based economic evaluation), as well as more specifically on transferability of economic evaluation results.

The general HTA methods course was given as a 3 days course in Malta in the 'Clinical Leadership Programme' in February, 2010. This course was organised by the Ministry for Social Policy of Malta. An extended version of this HTA course (1 week) was given at the School of Public Health, National University 'Kyiv-Mohyla Academy', Kiev, Ukraine. Based on, amongst others, the PhD work of Dr Saskia Knies a course entitled 'Transferability of Cost-Effectiveness Data between Countries' was developed. This course, which focuses on methods to assess transferability of costs, effects and cost-effectiveness estimates, is given yearly as a pre-conference course during the conference of the International Society for Pharmacoeconomics and Outcomes Research. The general courses, as well as the more specific transferability courses, were regarded as very stimulating and evaluated as very positive by all participants. ■

Programme: Implementation of Evidence

Programme leader: Prof. Trudy van der Weijden

MISSION

To evaluate appropriate methods for development of clinician and patient centred clinical practice guidelines and indicators, to study determinants of variation in the quality of clinicians' performance and to consider (cost) effectiveness of implementation strategies to improve the quality of care.

TOP-3 PUBLICATIONS

de Kok M, Weijden T van der, Voogd AC, Dirksen CD, van de Velde CJH, Roukema JA, Finaly-Marais C, van der Ent FW, Meyenfeldt MF von. Implementation of a short-stay programme after breast cancer surgery. *Br J Surg* 2010; 97(2): 189-94

Houben Paul HH, Weijden T van der, Winkens Ron AG, Grol Richard PTM. Cascade effects of laboratory testing are found to be rare in low disease probability situations: prospective cohort study. *J Clin Epidemiol* 2010; 63(4): 452-8

Koelewijn-van Loon MS, Van der Weijden T, Ronda G, Van Steenkiste B, Winkens B, Elwyn G, Grol R. Improving lifestyle and risk perception through patient involvement in nurse-led cardiovascular risk management: a cluster-randomized controlled trial in primary care. *Prev Med* 2010; 50(1-2):35-44



HIGHLIGHTS

18/03: Research on Shared Decision Making awarded by ZonMw

The IMPALA project (thesis of Marije Koelewijn, May 2010) was rewarded with a ZonMw Pearl. This study regards the involvement of patients in cardiovascular risk management in general practice. The award was presented to Prof. Trudy van der Weijden in Domus Medica Utrecht, in the presence of Prof. Onno van Schayck and Dr Marije Koelewijn.

26/11: Invitational Conference on Clinical Practice Guidelines

How can preferences of health care professionals and patients be related?

Working title: 'Shared Decision Making, *vinders of kramp in the buik (butterflies in the tummy or stomach cramps)?*'

Chair: Prof. Richard Grol.

Lectures:

- Dr Marije Koelewijn: How to make clinical practice guidelines sensitive for patient preferences?
- Dr Huibert Tange: How to make patients sensitive for guidelines recommendations? The role of social media and networks.
- Dr Loes van Bokhoven: The (im)possibilities of relating professionals' and patients' preferences.

This was followed by discussions in subgroups and a plenary wrap-up. Over 60 participants from all Dutch UMCs contributed to the discussions in subgroups.

13/12: SMS project call for implementation project granted by Diabetes Fund 'Stem van de Patient': Implementation of a nurse-led self-management support programme among patients with diabetes in primary care: inquiry into efficiency

In chronic care, psychosocial problems of patients mostly remain undetected and under-treated. A self-management support (SMS) programme appeared to reduce depressive symptoms and improve patients' quality of life (DELTA study 945-03-047). For integration in primary care, two challenges remain:

- 1) a feasible method to detect patients in need for SMS, and
- 2) execution of SMS by practice nurses instead of research nurses as in DELTA. Intervention: practice nurses receive training in systematic/stepped care detection of psychosocial problems. If problems exist patients receive SMS. Design: Pragmatic 2-armed cluster RCT with a baseline measurement and follow-ups after 3 and 12 months. Population: 46 practice nurses and their eligible diabetic patients (N=460; 10 per practice nurse). Outcome measures: perceived daily functioning (effectiveness), costs from a societal perspective (cost-effectiveness), and process parameters regarding integration in regular care (process evaluation). ■

08

CLUSTER PUBLIC HEALTH

PUBLIC HEALTH

Public Health has been defined by the RGO (2003) as 'The science and art of preventing disease, prolonging life and promoting health through the organised efforts of society'. These efforts consist of collective measures in various areas, necessary to improve public health and to maximize the outcome of care on public health with the ultimate goal of enhancing quality of life. Although interventions may be very diverse, they should all be firmly based in theory and evidence. The cluster Public Health wants to contribute to this scientific base; to translate theory and evidence into tailored solutions for societal health problems; to develop instruments and tools for sustainable and effective interventions, and to deliver these solutions effectively to individuals, organisations and national bodies. The cluster Public Health aims to develop new models, theory, methodology and tools for the enhancement of Quality of Life. Sustainable change is assumed to presuppose equity in health and health care, and the development of evidence base and best practices. ■

Programme: Design and analysis of studies in health sciences
Programme leader: Prof. Martijn Berger and Dr Gerard van Breukelen

MISSION

To improve three stages in the quality of health sciences research: the design stage of a study, the measurement stage and the final data analysis stage.

TOP-3 PUBLICATIONS

Maus B, Van Breukelen GJP, Goebel R, Berger MPF. Robustness of optimal design of fMRI experiments with application of a genetic algorithm. *Neuroimage* 2010; 49(3): 2433-43

Viechtbauer W. Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software* 2010; 36(3): 1-48

Alonso A, Litieri S, Molenberghs G. Testing for Misspecification in Generalized Linear Mixed Models. *Biostatistics* 2010; 11(4): 771-86



HIGHLIGHTS

KNAW colloquium 'Cost efficient and optimal designs for social and biomedical sciences'

In line with the goal to develop methods for the improvement of health sciences studies and to offer health science researchers guidelines to improve the designs of their studies, the programme leaders (Prof. Martijn Berger and Dr Gerard van Breukelen) successfully submitted a proposal to organise a KNAW colloquium with the purpose of bringing together experts on optimal design methods from different fields and exchanging knowledge on design problems. The Royal Netherlands Academy of Arts and Sciences (KNAW) accepted the proposal and granted € 23.000 for the colloquium.

NWO/MaGW grant 'Efficient two-stage and multistage multilevel designs: More power for the same price'

Dr Gerard van Breukelen and Prof. Martijn Berger successfully obtained a grant in the Open Competition of NWO/MaGW. This research project will focus on designs where data are collected in two or more stages. This way it will be possible to improve the power of the tests for effects and keep to sample size as small as possible. ■

Publications on optimal designs for social and biomedical research

Many CAPHRI studies are based on a cluster randomised design and binary outcomes. Two researchers who have studied design improvements for cluster randomised trials with binary outcomes are Dr Math Candel and Dr Gerard van Breukelen. Their joint work has resulted in two top-publications in statistical journals:

- Candel MJMM, Van Breukelen GJP. D-optimality of unequal versus equal cluster sizes for mixed linear regression analysis of randomized trials with clusters in one treatment arm. *Computational Statistics and Data Analysis* 2010; 54: 1906-20
- Candel MJMM, Van Breukelen GJP. Sample size adjustments for varying cluster sizes in cluster randomized trials with binary outcomes analyzed with second-order PQL mixed logistic regression. *Stat Med* 2010; 29(14): 1488-501

Programme: Occupational Epidemiology

Programme leader: Prof. IJmert Kant

MISSION

To expand the knowledge on the relation between work and health in order to improve the health and well being of the working population through evidence-based strategies for prevention, treatment and socio-medical counselling of employees.

TOP-3 PUBLICATIONS

Leone Stephanie S, Wessely Simon, Huibers Marcus JH, Knottnerus J André and Kant IJmert. Two sides of the same coin? On the history and phenomenology of chronic fatigue and burnout.

Psychol Health Epub 2010 Apr 29; DOI: 10.1080/08870440903494191

Lexis MAS, Jansen NWH, Huibers MJH, Amelvoort LGPM van, Berkouwer A, Tjin A Ton G, Brandt PA van den, Kant IJ. Prevention of long-term sickness absence and major depression in high-risk employees: a randomised controlled trial.

Occup Environ Med 2010; doi: 10.1136/oem.2010.057877

Jansen NW, Mohren DC, van Amelvoort LG, Janssen N, Kant I. Changes in working time arrangements over time as a consequence of work-family conflict.

Chronobiol Int 2010; 27(5):1045-61



CLUSTER PUBLIC HEALTH

HIGHLIGHTS

Inauguration of Prof. Kant

On July 1st 2010, IJmert Kant held his inaugural lecture entitled 'Van hard werken is nog nooit iemand dood gegaan' (original quote in English by David Ogilvy: 'Hard work never killed a man. Men die of boredom. They do not die of hard work'). In the lecture, the importance of a healthy psychosocial work environment for workers was emphasised. Kant stated that for the prevention of adverse health outcomes among workers, more insight is needed into the complex interplay of risk factors in the work environment during the whole working career. This requires large-scale observational studies. Moreover, Kant pleads for a more pro-active approach to be adopted in occupational medicine to prevent both adverse health effects and outcomes such as prolonged sick leave and work disability. The establishment of this Chair acknowledges and reinforces the scientific work and also strengthens the position of the programme Occupational Epidemiology.

Screening and subsequent early intervention successful in preventing depression and sick leave

In 2010 the results of a Randomised Controlled Trial on the efficacy of a preventive strategy on screening and subsequent early intervention in the prevention of depression and sick leave were published. The results clearly showed a significant difference in total sickness absence duration between the intervention and control group over 12 months of follow-up: a reduction of 46%. Statistically significant and clinically relevant differences in depressive complaints were found in favour of the intervention group. This study demonstrated, once again, that a more pro-active approach in the occupational health setting, using screening and subsequent early intervention, is beneficial and successful in the prevention of adverse health effects and for improving workers' well-being.

Start of Knowledge network Public Health Limburg

After extensive explorations of, and discussion about, the relevance and feasibility, the green light was given for the establishment of the 'Knowledge network Public Health Limburg' in July 2010. The core partners of this network are the regional public health services North and South Limburg, the Province of Limburg and the Occupational Epidemiology research programme. The main goal of this network is to improve public health, health policy and research through the combining of data and the sharing of expertise. As such, the network will contribute to a further underpinning of integrated public health policy and will facilitate public health research. ■

Programme: Health, Ethics and Society

Programme leader: Prof. Klasien Horstman

MISSION

To reflect philosophically, ethically and historically on developments in biomedical and public health technologies and the social consequences thereof (e.g. privacy, exclusion), and to contribute to public governance, legal arrangements, social robustness and normative guidance of these innovations.

TOP-3 PUBLICATIONS

Aarden E, van Hoyweghen I, Horstman K. Solidarity in practices of provision. Distributing access to genetic technologies in health care in Germany, the Netherlands and the United Kingdom.

New Genetics and Society 2010; 29(4): 369-88

Dondorp WJ, de Wert G, Pennings G, Shenfield F, Devroey P, Tarlatzis B, Barri P, ESHRE Task Force Ethics L. Lifestyle-related factors and access to medically assisted reproduction.

Hum Reprod 2010; 25(3): 578-83

Nieuwenhoven L, Klinge I. Scientific Excellence in applying sex- and gender-sensitive methods in biomedical and health research.

J Womens Health 2010; 19(2): 313-21



CLUSTER PUBLIC HEALTH

HIGHLIGHTS

First VIDI grant for CAPHRI

In 2010 Dr Jenny Slatman was awarded a prestigious VIDI grant of NWO/Humanities (€ 800.000) for her project Bodily Integrity in Blemished Bodies. This project aims at developing an innovative perspective on health care ethics, while taking experiences of bodily identity and wholeness seriously. The concept of a person in this approach articulates the fact that identity is not just an issue of cognitions, but of an embodied identity. Taking embodied self-experience as a starting point for normative questions, such as the questions of adequate interventions and optimal decision-making, it offers a promising perspective to gain insight into the conditions under which various interventions contribute to bodily well-being in people with disfigurements. Although this VIDI project is limited to cases of disfiguring cancer, the proposed approach will, in the long-term, also be applied to explore other issues, such as the feasibility and desirability of interventions that aim at lifestyle change in public health.

Talent in top journals

In the HES programme we are developing a publication strategy that aims not only at publishing in the top journals of our discipline, but also at publishing in top journals of healthcare and medicine in general. The flourishing research lines of two of our CAPHRI talents, Dr Van Hoyweghen and Dr Penders, has had, for instance, a spin off in contributions to discussions in Nature and JAMA:

- Penders B, Vermeulen N, Parker JN. To make progress we must remember and learn from the past.
Nature 2010; 463: 157
- Van Hoyweghen I, Bartholomé Y. Balancing responsibilities in health care.
JAMA 2010; 304(11): 1165-6

Nomination for 'Most important person in Dutch public health in 2010'

The societal impact of our research programme is high. As an example the inaugural lecture of Prof. Klasien Horstman 25 June 2010 'Fat children, tired employees, strange viruses. Philosophy of public health in the 21st century' and her publications and interviews in Dutch national newspapers had - in a short time - a big impact on Dutch public health professionals. Her analysis of the developments of public health, diagnosis of current problems, and recommendations stimulated developing a new way of working in public health that takes citizens perspectives more seriously. The Dutch Public Health Federation and Public Health Netherland nominated her as 'the most influential person of Dutch Public Health' and she was chosen second (to compare, the Minister of Health was chosen fifth). As Klasien Horstman has no institutional position within the professional field of public health, the nomination demonstrates the power of ideas: critical philosophical analyses can have a huge impact in actual health care practices. In other words, nothing is so practical as a good concept. ■

Programme: Health Promotion and Health Communication
Programme leader: Prof. Nanne de Vries and Prof. Hein de Vries

MISSION

To conduct research aiming at developing, testing and implementing new health promoting interventions for the adoption of a healthy lifestyle in the general public and in patients.

TOP-3 PUBLICATIONS

Van der Geer S, Reijers HA, Van Tuijl HFJM, De Vries H, Krekels GAM. Need for a new skin cancer management strategy. Arch Dermatol 2010; 146(3): 332-6

Gubbels JS, Kremers SPJ, Stafiau A, Dagnelie PC, De Vries NK, Van Buuren S, Thijs C. Child-care use and the association with body mass index and overweight in children from 7 months to 2 years of age. Int J Obes 2010; 34(10): 1480-6

Van 't Riet J, Crutzen R, De Vries H. Investigating Predictors of Visiting, Using, and Revisiting an Online Health-Communication Program: A Longitudinal Study. J Med Internet Res 2010; 12(3): e37



CLUSTER PUBLIC HEALTH

HIGHLIGHTS

Two VENI projects

Two researchers from the programme won their prestigious VENI-grants this year. Dr Liesbeth van Osch will study processes of translating motivation into action. She will focus on the role of planning strategies, how these can help people to remind themselves of their intentions, to act on intentions, to maintain behaviour change, and how to overcome barriers and relapses, and on ways to support patients and the general public in developing such strategies. The overarching theme of Dr Rik Crutzen's research is how technological innovations can be used to greatest effect in the field of health promotion to increase the public health impact of these innovations. He studies effects of both content factors and of design of e-health applications using an innovative theoretical model that specifies how these lead to optimal use and re-use, and to persuasion and behaviour change.

Endowed chair 'Tobacco control research'

Prof. Marc Willemsen, head of research at the Dutch Campaign against Smoking 'STIVORO', was appointed on the endowed chair 'Tobacco control research' and also held his inaugural lecture 'Smoking in the Netherlands: the downside of tolerance'. He emphasises that Dutch national policies against smoking are suboptimal, that knowledge in the Dutch population about the effects of smoking lags behind compared to other countries, and that national policies are relatively lenient. He argues for combining both individually oriented and population oriented interventions in an integrative approach. His research will focus on the effects of interventions, both psychologically (for the individual) but also more socio-logically (at the population level) and on the policy process regarding tobacco use. His appointment is one of the results of the long-standing cooperation between STIVORO and this programme. Furthermore, the appointment fits with the strategy of CAPHRI to develop a focus on addiction, also supported by the appointments of visiting professors Robert West and Peter Anderson.

Output record and social impact

The programme has achieved a remarkable new record in scientific output in 2010. Researchers were involved in a total of 196 scientific works, including 107 WI-1 publications. The list also includes 6 PhD dissertations that were publicly defended over the last year at Maastricht University. Apart from this scientific output, social visibility and impact of the programme remains high. The international relations deserve a special note. The programme works with (external) PhD students from Cyprus, Switzerland, Germany, Sudan, Lebanon, Kenya, Tanzania, Ghana, Nigeria, Rwanda, South Africa, Indonesia, Colombia and Saudi-Arabia. The programme is proud that all foreign students who defended their PhD have remained working in their homelands, thereby contributing to the foundation of a truly international scientific public health community. ■

Programme: Comparative Health

Programme leader: Prof. Helmut Brand

MISSION

To translate local, regional and national health developments into a wider European and global context and to influence national, transnational and European policy and institutes.

TOP-3 PUBLICATIONS

Brand H, Krafft T. The Icelandic ash cloud and other erupting health threats: what role for syndromic surveillance?

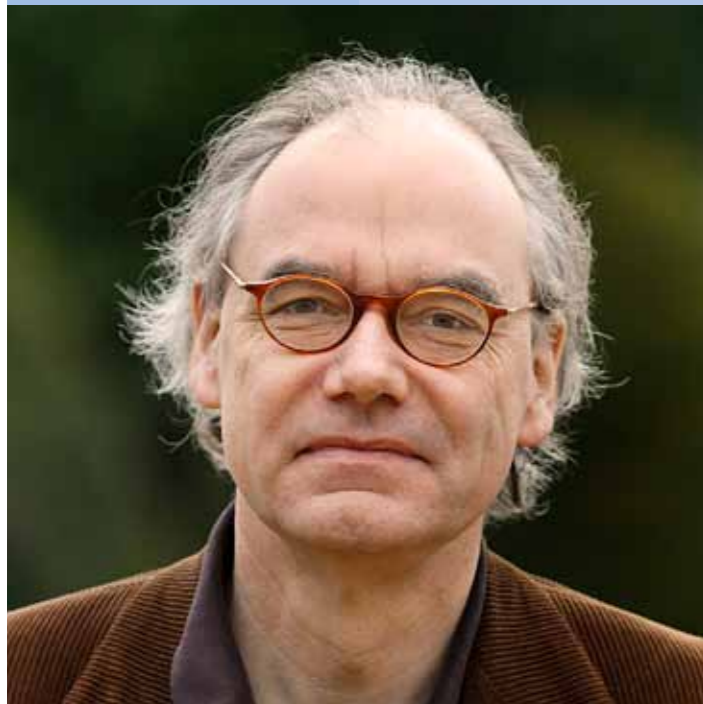
Eur J Public Health 2010; 20(4): 367-8

Burazeri G, Kark JD. Alcohol intake and its correlates in a transitional predominantly Muslim population in southeastern Europe.

Addict Behav 2010; 35(7): 706-13

Brand H. From 'Public Health in Europe' to 'European Public Health'.

Eur J Public Health 2010; 20(2): 127-8



CLUSTER PUBLIC HEALTH

HIGHLIGHTS

Developing Public Health Capacity within the EU

The study was built on the combined expertise of six organisations, under the leadership of the Department of International Health of Maastricht University. It performed a review and systematic mapping of the capacity of EU Member States for developing and implementing public health policies and interventions; identifying strengths, weaknesses, opportunities and threats for public health in the EU; and making recommendations for policy and action.

ECOMA

Cross-border issues are a major topic for the Department, and the EUREGIO Maas-Rhine offers many opportunities to study those phenomena. The project ECOMA evaluates the cooperation between two hospitals in Aachen and Maastricht thereby delivering insights and inputs for the hospitals and stakeholders in the region, but also discussing more general opportunities and challenges for cross-border cooperation between hospitals across Europe. Therefore, ECOMA has strong links with EUREGIO II (cooperation in border-regions) and the PhD project "Hospitals in the process of European cooperation and integration".

New project strand: PH workforce development (InGPInQI, LEPHIE)

While 'Health PROMeTHEUS' analysed the migration patterns of health care professionals in Europe, two further projects address the qualifications and developments of skills and competencies of Public Health professional under the EU Lifelong Learning Programme. LEPHIE addresses the development of PH leadership, while the upcoming InGPInQI is focused on general practitioners and quality insurance issues. Both projects develop and explore e-learning and blended learning tools and materials. They are closely related with the project 'Developing Public Health capacities in Europe'. ■

Programme: Public Health Genomics
Programme leader: Prof. Angela Brand

MISSION

To respond to the very pressing need for the development of effective personalised healthcare by systematically and timely translating genome-based knowledge and technologies into public health, health policies, and healthcare as a whole.

TOP-3 PUBLICATIONS

Rosenkötter N, Vondeling H, Blancquaert I, Mekel OC, Kristensen FB, Brand A. The contribution of health technology assessment, health needs assessment, and health impact assessment to the assessment and translation of technologies in the field of public health genomics. *Public Health Genomics Epub* 2010 Oct 8; DOI: 10.1159/000318317

Burke W, Burton H, Hall AE, Karmali M, Khoury MJ, Knoppers B, Meslin EM, Stanley F, Wright CF, Zimmern RL, Ickworth Group. Extending the reach of public health genomics: what should be the agenda for public health in an era of genome-based and 'personalized' medicine? *Genet Med* 2010; 12(12): 785-91

Takaku S, Terabe M, Ambrosino E, Peng J, Lonning S, McPherson JM, Berzofsky JA. Blockade of TGF-beta enhances tumor vaccine efficacy mediated by CD8(+) T cells. *Int J Cancer* 2010; 126(7): 1666-74



CLUSTER PUBLIC HEALTH

HIGHLIGHTS

Flagship Project

The ITFoM (IT Future of Medicine) is highly innovative and visionary and is one of the biggest European projects, in which the IPHG (PI Prof. Angela Brand) and the group of Prof. Jos Kleinjans are partners. It is one of six pilot projects in the European Future and Emerging Technologies (FET) flagship scheme. These projects are vying for € 1 billion funding over ten years in order to generate a scientific revolution. The ITFoM aims to achieve a scientific breakthrough ('the virtual human' combining Systems Biology and IT solutions). It will develop ways to apply research data more efficiently in health care. A consortium of over 20 academic institutions and industrial partners with unparalleled expertise in ICT, the life sciences, public health and medicine have come together to create the roadmap that will bring this vision to life (www.itfom.eu). The project was recently featured on Nature News ('European researchers chase billion-euro technology prize'. A. Abbot, Published online 8 March 2011).

Fellowships

Recently, a highly prestigious Marie-Curie Fellowship, the Intra-European Fellowship (IEF), was awarded within the IPHG. The research project P4-MEDICINE@EU (Fellow Tomris Cesuroglu, Scientific Supervisor Prof. Angela Brand) aims at evaluating a Best Practice Model for Personalised Health Care within Public Health Genomics.

Furthermore, the IPHG is currently hosting a visiting senior researcher and former Rockefeller Graduate from the Eastern Mediterranean University (Cyprus), Associate Professor Bahar Taneri, with a grant from the EU, working on a new Public Health Genomics model integrating behavioural genomics.

High European Public Health Impact Publications

In 2010, the IPHG (Prof. Angela Brand) was invited by the Editor-in-Chief of the European Journal of Public Health (EJPH) to write an Editorial as well as three Viewpoint articles on Public Health Genomics and future challenges. European and international key persons in the field of academia, governmental bodies and the European Commission, such as Muin Khoury (CDC, Atlanta, USA), Nuria Malats (Spanish National Cancer Research Centre (CNIO), Madrid, Spain), Murielle Bochud (Institute for Social and Preventive Medicine, Lausanne, Switzerland) and Paola Testori-Coggi (Director General for Health and Consumers, European Commission, Brussels, Belgium) contributed to the success and high impact of the following publications:

- Brand A. Public Health Genomics— public health goes personalized? (Editorial)
Eur J Public Health 2011; 21(1):2-3
- Schulte in den Bäumen T, Khoury M. Genome-based knowledge and public health: the vision of tomorrow and the challenge of today. (Viewpoint)
Eur J Public Health 2011; 21(1):4-5
- Bochud M, Malats N. Public health genomics and the challenges for epidemiology. (Viewpoint)
Eur J Public Health 2011; 21(1):5-6
- Coggi PT. A European view on the future of personalised medicine in the EU. (Viewpoint)
Eur J Public Health 2011; 21(1):6-7

09

LIST OF ABBREVIATIONS

LIST OF ABBREVIATIONS

AIOTHO	Arts in opleiding tot huisarts en onderzoeker (trainee for GP and researcher)
BMJ	British Medical Journal
CaRe	The Netherlands School of Primary Care
CCTR	The Centre for Care Technology Research
COPD	Chronic Obstructive Pulmonary Disease
CVZ	Health Care Insurance Board
EMGO	The Institute for Research in Extramural Medicine
ERC	External Review Committee
FASoS	Faculty of Arts and Social Sciences
FHML	Faculty of Health, Medicine & Life Sciences
GGD	Geneeskundige Gezondheidsdienst (Regional Health Organisation)
HTA	Health Technology Assessment
HEP	Health Education and Promotion
HES	Health Ethics and Society
HPIM	Health Policy, Innovation & Management
HSRM	Health Sciences Research Master
KNAW	Koninklijke Nederlandse Akademie van Wetenschappen (Royal Netherlands Academy of Arts and Sciences)
LE	Letter to the Editor
MEPH	Master of Science in European Public Health
MPHP	Post-initial Master of Science in Public Health for Professionals
NCEBP	Nijmegen Centre for Evidence Based Practice
NIA	The National Institute on Aging
NIVEL	Netherlands Institute for Health Services Research
NVAO	Governmental accreditation organisation
NWO	The Netherlands Organisation for Scientific Research
RGO	Regionale Gezondheidsorganisatie
RNH	Registration Network of Family Practices
RIVM	Rijksinstituut voor Volksgezondheid en Milieu (National Institute for Public Health and the Environment)
SEP	Standard Evaluation Protocol
SES	Socioeconomic Status
SMILE study	Study of Medical Information and Lifestyles
SMS	Self-management Support
STDs	Sexually Transmitted Diseases
TNO	Netherlands Organisation for Applied Scientific Research
TRACK	Digital PhD Quality and Monitoring System
Trimbos	Centre of Expertise on Mental Health and Addiction
VSNU	Association of Universities in the Netherlands
W&H	Work and Health
WHO	Work Health Organization
WI-1	International Peer-reviewed articles in Journals with impact factor
WI-2	International Peer-reviewed articles in Journals without impact factor
WN	Publication in Peer-reviewed Dutch Journal
ZonMw	Zorg Onderzoek Nederland en Medische Wetenschappen (The Netherlands Organisation for Health Research and Development)

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