Erasmus MC
University Medical Center Rotterdam

Department of Public Health

Public health: Science that matters

Activities report 2016 – 2017

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See also: www.erasmusmc.nl/public-health

Public Health: Science that matters

We certainly live in interesting times! Science is apparently under pressure to demonstrate its value. Some scientists suggest that a considerable proportion of articles that we write is simply research waste. They argue that we should produce less but better research, that gives unequivocal answers to issues relevant to users of research. Interestingly, some potential users of research have a deep distrust in science. In some societal debates, most prominently on global warming, environmental pollution and vaccination, 'fake news' and 'alternative facts' seem to be the main sources of knowledge for pressure groups and policy-makers. Who could have thought that thousands of researchers across the world had felt the need to demonstrate in 'The March for Science', championing science as a pillar of freedom and prosperity. When scientists take to the streets, there is certainly something going on.

How does the Department of Public Health respond to these interesting times ? Our activities are guided by three main principles:

1. A close collaboration between health care, research and education is an essential prerequisite for a valuable contribution of our research to a healthier population. Many projects in this activity report exemplify this guiding principle, often rooted in structural collaborations between medical practice, policy-makers, and our researchers. These collaborations ensure that we are conducive to societal needs and that we are able to conduct responsive research.

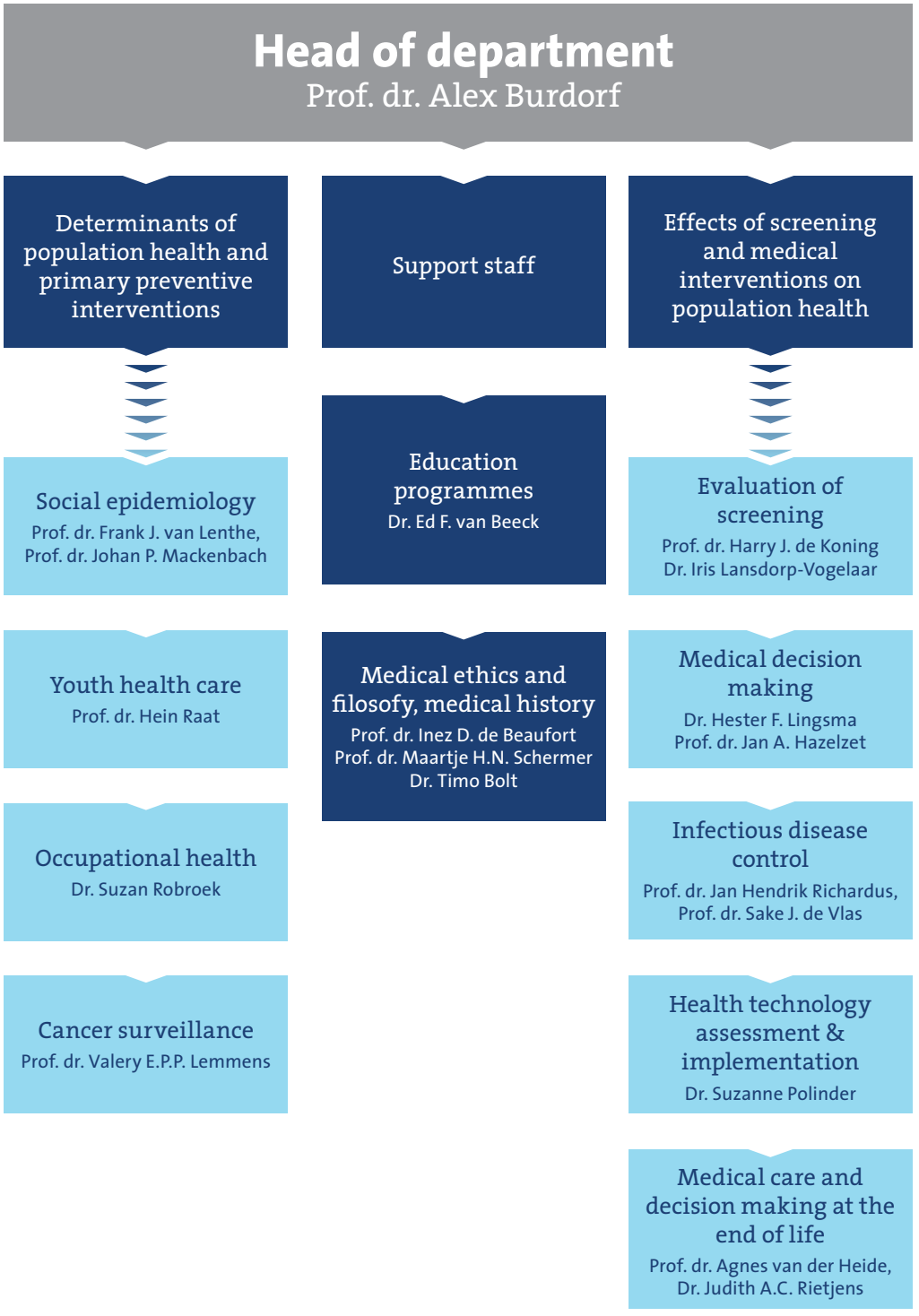
2. High-quality research and education are the best warranty for long-lasting dissemination of knowledge into best practice in public health and health care. In our opinion, research that matters is research of the highest quality with innovative methods to guarantee excellent generalisability to foster wide application.

3. Prevention is crucial for improving health at both the individual and population level. Prevention and patient care are part of a continuum, ranging from population-wide prevention programmes to highly individualized prevention integrated in treatment. Our newly founded Academic Centre for Prevention, a collaboration of health sciences and many clinical departments within Erasmus MC, will convert new insights in the causes of diseases into effective and efficient prevention.

We are pleased to see that these principles, that have guided our activities for many years, are endorsed in the recent initiative De Nationale WetenschapsAgenda and are also reflected in the recent advice of the Health Council of the Netherlands on a new orientation for research at Dutch university medical centres, "Research that makes you better". Given the extremely high contribution of external grants to our research programme, we feel sure that our research truly matters.

The Department itself is going through interesting times as well. After more than 16 very prosperous years, Johan Mackenbach has resigned as head of the Department. The introduction of new flexible workspaces is challenging our staff to be more flexible and collaborative. I sincerely hope that our physical environment can support our ambition to further develop a creative and inspiring environment for our researchers and educators to excel in research that matters.

Lex Burdorf
Head of Department


Head of department
Prof. dr. Alex Burdorf
Determinants of population health and primary preventive interventions
Support staff
Effects of screening and medical interventions on population health
Social epidemiology
Prof. dr. Frank J. van Lenthe,
Prof. dr. Johan P. Mackenbach
Education programmes
Dr. Ed F. van Beeck
Evaluation of screening
Prof. dr. Harry J. de Koning
Dr. Iris Lansdorp-Vogelaar
Youth health care
Prof. dr. Hein Raat
Medical ethics and filosofy, medical history
Prof. dr. Inez D. de Beaufort
Prof. dr. Maartje H.N. Schermer
Dr. Timo Bolt
Medical decision making
Dr. Hester F. Lingsma
Prof. dr. Jan A. Hazelzet
Occupational health
Dr. Suzan Robroek
Infectious disease control
Prof. dr. Jan Hendrik Richardus,
Prof. dr. Sake J. de Vlas
Cancer surveillance
Prof. dr. Valery E.P.P. Lemmens
Health technology assessment & implementation
Dr. Suzanne Polinder
Medical care and decision making at the end of life
Prof. dr. Agnes van der Heide,
Dr. Judith A.C. Rietjens

About the department

MISSION STATEMENT

Our mission is to conduct outstanding research and provide excellent education with a discernible impact on population health at the local, national and international level. Our goals are to produce high-quality scientific publications on relevant and innovative topics, to provide excellent education that learns students how to tackle current public health problems, and to disseminate our knowledge and expertise to support evidence-based public health policy and practice.

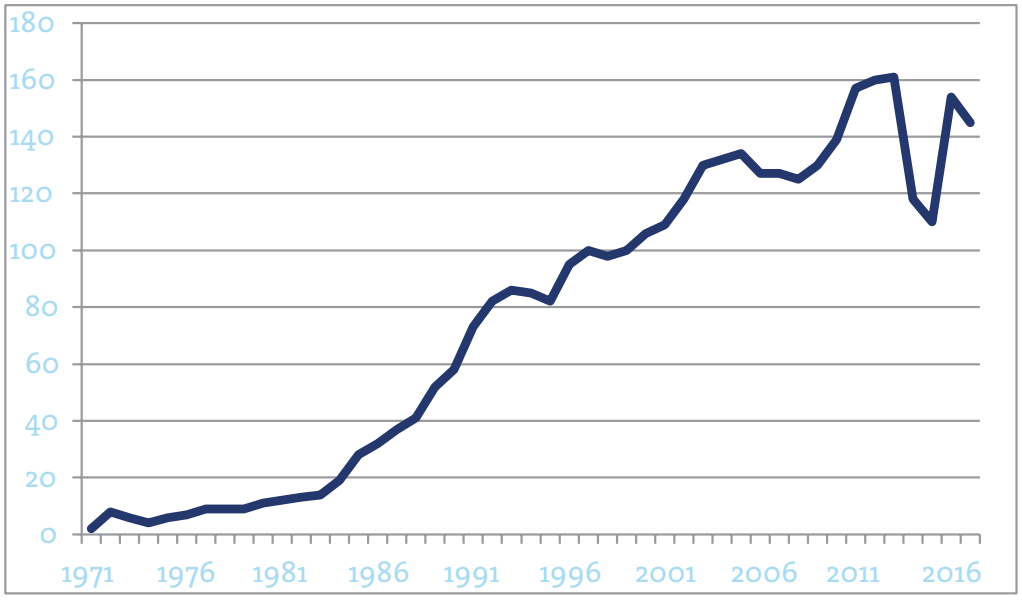
This is the 14th biennial report of the Department of Public Health (in Dutch: *Afdeling Maatschappelijke Gezondheidszorg*) of Erasmus MC, University Medical Center Rotterdam. The report's motto - 'Public Health: Science that matters' – emphasizes our ambition to contribute to population health and high-quality health care for all.

The department and its employees

After a period of decline, in the past two years the number of employees started to grow again. At the end of 2017, the department had a total of 145 staff members.

We welcomed two new professors: Dr. Frank van Lenthe was appointed professor of Social Epidemiology and Dr. Sake de Vlas was appointed professor of Infectious Disease Control. Further, Dr. Iris Lansdorp-Vogelaar, Dr. Judith Rietjens, Dr. Hester Lingsma and Dr. Suzanne Polinder were appointed as associate professors.

Due to a decrease in financial resources, our department was obliged to reorganize the support staff; obviously this had a significant impact, especially on those who were directly affected by these changes.



Number of staff members 1972-2017

Research

Our research activities are embedded in two main programmes: 'Determinants of population health and primary prevention' and 'Effects of screening and medical interventions on population health'. The aim of the 'Determinants of population health and primary prevention' is to better understand the social and physical determinants of population health, and to develop effective primary preventive interventions to improve population health. These interventions are applied in the community, schools, working environments and health care settings. The programme 'Effects of screening and medical interventions on population health' is aimed at contributing to population health by evaluating the process, effects and cost-effectiveness of health care interventions, including screening programmes, clinical interventions, palliative and end-of-life care, and efforts to control infectious disease.

Education

Our main educational activities include:

- Medical curriculum:
  - 3rd year course on population health
  - 5th year internships in public and occupational health organisations
  - leading role in the development of education on prevention, interprofessional teamwork and patient-centred care
  - several contributions to other parts of the medical curriculum
- Koers 18 project: implementation of primary and secondary prevention of cardiovascular diseases within the Erasmus MC

- Main participant in NIHES, MSc in Health Sciences, track Public Health Epidemiology
- Erasmus University minor 'Health in Rotterdam'
- Participation in Erasmus University College

Funders and projects

Important funders of the department's research programme were the European Commission, the National Institutes of Health, the Bill and Melinda Gates Foundation, the Netherlands Organization for Health Research and Development (ZonMw), the Netherlands Organization for Scientific Research (NWO), the Dutch Cancer Society (KWF), and many others.

Four of our employees received an **NWO Veni grant**: Dr. Luc Coffeng uses it to develop new methods to better understand and predict how mass drug administration can lead to elimination of parasitic worm infections; Dr. Esther de Bekker-Grob studies how to measure patients' preferences for medical interventions via discrete choice experiments (DCE), Dr. Hester Lingsma investigates between-hospital differences in treatment and outcome; and Dr. Karen Oude Hengel evaluates national policies and economic climate on health-selective employment in Europe. Dr. Judith Rietjens received an **NWO Vidi grant** to study self-management for patients with advanced illness.

Some other examples of large new research projects that were started in 2016 or 2017 are:

- MINDMAP: an international consortium investigating the impact of the urban environment on the mental wellbeing of older individuals in Europe (funded by the European Commission)

- Implementation of optimized childhood vision and hearing screening programmes in middle-income countries in Europe (funded by the European Commission)

- Research for health impact in Africa: innovating services and programmes (funded by the Trust Fonds)

- In SEFAC (Social Engagement Framework for Addressing the Chronic-disease-challenge), six countries evaluate a new approach to promote self-management for better health for individuals with a chronic condition (funded by the European Commission)

- Transmural collaboration in palliative care: a regional research-practice-education programme (funded by ZonMw)

- CIKEO is a broad consortium that studies 'effective elements' within parenting interventions in the Netherlands (funded by ZonMw)

- Stop the Transmission of Leprosy (funded by the Dream Fund of the National Postcode Lottery and coordinated by Netherlands Leprosy Relief)

- Palliative care for patients with dementia: how to improve monitoring of symptoms and medical decision-making in home care (funded by ZonMw)

- Tijdig in gesprek: development of a web-based tool to support advance care planning for the end of life (funded by ZonMw)

- Projections on eliminating neglected tropical diseases (NTDs): integrating mapping with modelling (funded by the Bill & Melinda Gates Foundation through Oxford University, UK)

Scientific impact

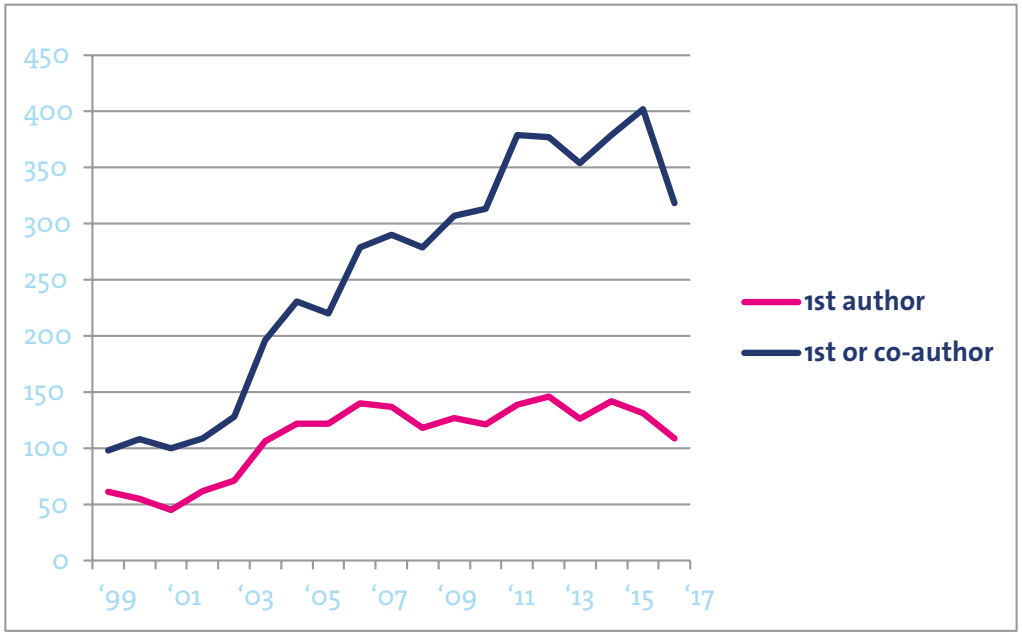
Our goal is to publish all our research findings in international peer-reviewed scientific journals. In 2016 and 2017, we published several papers in top medical journals such as the New England Journal of Medicine, the Lancet Oncology, the Lancet Neurology, the British Medical Journal, Infectious Diseases, Gastroenterology, and PLoS Medicine. In 2017, 77% of our first-author publications were published in first quartile journals, of which 40% in journals in the first decile of the impact factor distribution in their field. According to an analysis by the Centre for Science and Technology Studies (CWTS), our mean normalized citation score (MNCS) is 2.57, which means that the rate with which our publications are cited is two and a half times the world average for publications in similar fields. Our department had the highest combination of number of publications and MNCS within Erasmus MC, the so called 'brute force indicator'.

In 2016-2017, 35 PhD students managed to complete and successfully defend their PhD thesis. Dr. Kevin ten Haaf and Dr. David van Klaveren were awarded with the Cum Laude distinction.

Societal impact

Examples of areas where outcomes of research from the department had a significant societal impact:

- Socioeconomic inequalities in neglected tropical diseases
- Adolescents engage in sexual intercourse at a higher age if they have a good relationship with their parents
- Developments in the practice of euthanasia and other end of life decision making practices
- How to adequately measure quality of care
- Prevention of falling accidents among frail older people
- Methods for colorectal cancer screening and its cost-effectiveness among patients with cystic fibrosis
- New methods to screen for cervical cancer
- E-support for medical decision making, such as apps to predict stroke and advise on medical treatment and an online tool to calculate the costs and savings of fall prevention measures



Total number of papers in peer reviewed journals

Number of papers in first quartile journals

- Information on websites on, e.g., healthy living and health screening
- Contribution to numerous guidelines, e.g. on the prevention of low back pain, management of several types of cancer, and on prevention and management of mental health problems

Dr. Iris Lansdorp-Vogelaar received the Felix Burda Award for her work on colorectal cancer screening.

Our research is often conducted in close collaboration with local and national public health or health care organisations, such as the Municipal Health Services (Gemeentelijke Gezondheidsdiensten), community care services [including Centres for youth care (Centra voor Jeugd en Gezin)], occupational health services, Comprehensive Cancer Centre Netherlands (Integraal Kankercentrum Nederland), and clinical departments in Erasmus MC as well as in other hospitals, nursing homes and community health organisations .

Collaboration between academics and practitioners has been formalised in several 'academic collaborative centres' (academische werkplaatsen: see next page)

In 2017, we also invested in liveability and sustainability at other levels. To minimize the department's carbon footprint, we compensate for the CO_2 emissions from our travels related to scientific business, by supporting sustainable climate projects. Further, wherever possible, we have abandoned paper archiving.

More detailed information on the department can be found on our website (http://www.erasmusmc.nl/public-health/).

A complete list of publications can be found at:

Academic collaborative centres

Academic collaborative centres represent an important strategy for our department to directly contribute to better population health, through dissemination of scientific knowledge to policymakers and practitioners and through receiving input to ensure that our research addresses relevant gaps in knowledge.

CEPHIR

The 'Centre for Effective Public Health In the larger Rotterdam area' (CEPHIR) is the collaborative centre of the City of Rotterdam and the Department of Public Health. CEPHIR has three principal tasks:

1. Exchange of knowledge and ideas between researchers, policymakers and practitioners on current issues in public health. We organise three to four seminars each year on current topics.

2. Perform research that contributes directly to the population health policy programme in Rotterdam. In the past two years we have advised on priorities in public health in the city of Rotterdam, had meetings with city council members on air pollution policies, and joined the mayor in a 'town hall' meeting for concerned citizens.

3. Provide advice for organisations in Rotterdam and adjacent municipalities through small scientific projects (Klein maar Fijn) on the feasibility of primary prevention in primary health care and on health benefits of current public health programmes.

For more details: www.cephir.nl

Huisman Research Centre for Infectious Diseases and Public Health

The Huisman Centre is part of CEPHIR and focusses on infectious disease control in the Rotterdam area, but also at national and international level. It is a collaboration between the department of Infectious Diseases of the Municipal Public Health Service Rotterdam-Rijnmond and various departments of Erasmus MC, such as the Department of Viroscience, Microbiology & Infectious Diseases, Hepatology, and the Department of Public Health.

For more details:
www.huismanonderzoekscentrum.nl

ST-RAW

ST-RAW is one of the 12 academic workplaces 'transformation youth care' subsidised by ZonMw. ST-RAW is a network of partners in the Rotterdam-Rijnmond area with an interest in youth care and youth mental health care. ST-RAW is an extension of the former academic workplace DWARS. DWARS focussed on cultural diversity and, besides ST-RAW, DWARS is also continued in the CEPHIR academic working place.

Together, ST-RAW partners aim to share and increase knowledge necessary for early, effective and efficient youth care and youth mental health care. The partners come from academic, applied science, policy and practice settings. Various research and development projects take place under the umbrella of ST-RAW. The main focus is on empowerment and self-management of youth and their families. Knowledge is shared and discussed in four-monthly seminars.

For more details:
st-raw.nl and www.cephir.nl/dwars.htm

Palliative care

Together with the Erasmus MC Department of Medical Oncology, the Department of Public Health is one of the main partners in the Consortium for Palliative Care in the Southwest Region of the Netherlands. In this consortium we collaborate with eight regional networks for palliative care, the Netherlands Comprehensive Cancer Centre (IKNL), and educational institutions to improve the quality of palliative care. We jointly identify gaps in knowledge, perform research projects and share knowledge and experience. The consortium receives advice from a dedicated group of patient representatives. Research projects within the consortium focus on collaboration between care settings, identifying patients who are eligible for palliative care, and use of tools and strategies to optimise care and decision-making in the last phase of life. Collaboration in the area of hospice care is embedded in Cascade, a regional consortium of four inpatient hospice facilities.

For more details: email a.vanderheide@erasmusmc.nl

Two new professors introduce themselves

Social epidemiology: more than knowledge, income and health

There was a time when cardiovascular diseases and underlying unhealthy behaviour were more common among higher educational and income groups. Some decades ago, however, patterns reversed. Major causes of death, smoking, a lack of physical activity and an unhealthy diet are now more common among those with a lower socioeconomic position. Why are these patterns so robust now, and how to close the gap?

Social epidemiology plays an important role in answering these questions. Studies conducted across the life course address the fundamentally important questions of how health inequalities develop very early in life, and whether and why these still persist in old age. Health behaviour plays an important role, but why do those in lower socioeconomic groups often behave in more unhealthy ways? Is it just because living a healthy life is expensive or requires skills?

Our world is changing continuously. For example, there are many single-parent families, less permanent jobs, and an increasing number of people reside in (large) cities. What is the impact on health of such circumstances? In our work, we aim to identify family, work and living environmental conditions that contribute to socioeconomic inequalities in health and health behaviour. For this purpose, we work closely together with scientists in other fields, including geography, sociology, and economy. We have shown, for example, that financial stress is related to less self-control and more unhealthy behaviour. At the same time higher socioeconomic groups used their lifestyle to distinguish themselves from others.

There is no single solution to health inequalities, and there is also no single approach to evaluate interventions and policies for that purpose. We increasingly use natural experiments and whole-systems approaches to evaluate the equity impact of interventions and policies. Collaboration with field experts, for example via our academic collaboration CEPHIR, is therefore important.

Health inequalities are much more than a matter of knowledge or income. Strengthening the link between scientific evidence and practical solutions is what will characterise our work in the coming years. For me, bridging this gap is ‘science that matters’.

Frank J. van Lenthe
Professor of Social Epidemiology

Infectious disease modelling: it's all about interactions between people

Infectious diseases have a special place in public health research because interactions between people need to be taken into consideration. Preventing or treating infection in one person may avoid infection in others, and those already treated can be re-infected by the ones still infected. This interaction makes the epidemiology of infectious diseases particularly challenging to understand. Mathematical modelling is an established and fascinating method to study the spread of infectious diseases and to evaluate and predict the impact of interventions.

Under the leadership of Professor Dik Habbema, our research group pioneered in developing individual-based microsimulation models for infectious disease research. With this approach we can simulate the processes of transmission, natural history of disease, and control measures at the individual level, allowing inclusion of all relevant aspects that determine the impact of control efforts in real-world situations. It is my ambition to further improve and apply such models to better understand infectious disease dynamics and, in particular, to support decision-making regarding their control. Exciting new challenges include modelling of new diagnostic methods, the cascade of care, and local geographic conditions.

Infectious diseases are still a significant cause of death and disease, especially in developing countries. Although the number of deaths due to, e.g. aids and malaria, has reduced over the past decade, new infectious threats keep appearing, such as recently the Zika virus in South America. A spectacular positive development is the anticipated elimination of some so-called neglected tropical diseases (NTDs). As a main player in the international NTD Modelling Consortium, we use our models to predict the probability of and duration until the elimination of different NTDs for various control strategies and endemic situations.

Another field of public health where interaction plays an important role is the spread of unhealthy behaviours. Smoking and sport participation are often a consequence of copying close contacts and peers. From this perspective, unhealthy behaviours can be modelled as if they were an infectious agent. In collaboration with my colleague professor Frank van Lenthe, I will also further explore the potential of mathematical modelling to this field.

Sake de Vlas
Professor of Infectious Disease Modelling

Evaluation of screening

The demand for and challenges of early detection of diseases is growing rapidly due to technological developments. We aim to quantify the effects of screening for a wide range of diseases to help individuals, clinicians and policymakers make an informed choice about the potential/most optimal implementation of screening (and non-screening) participation.

Screening for diseases is a popular concept. Early detection of disease can considerably improve survival and/or quality of life. However, it can also result in false-positive test results or detection of clinically irrelevant disease, leading to unnecessary interventions. Screening can have a beneficial as well as a harmful impact on health, quality of life, and societal cost. Our research focuses on quantifying these health benefits, unfavourable side-effects, impact on quality of life, and cost consequences of introducing screening programmes.

Our investigations result in recommendations as to whether or not to introduce screening for specific diseases, and on policy decisions to introduce screening in specific ways, also in clinical care and surveillance. We have made major scientific contributions in the areas of:

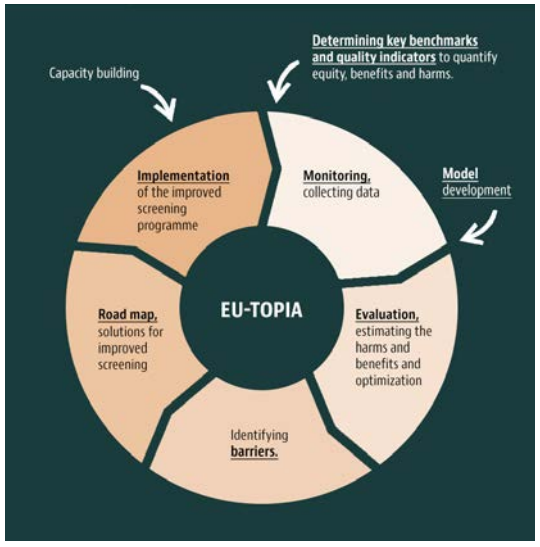
1. Designing, running and evaluating large-scale multidisciplinary population-based randomised controlled screening trials to establish the efficacy of screening. Examples include trials for screening on lung, breast and gastric cancer, and cardiovascular disease.

2. Evaluating existing (inter)national screening programmes. We are the national evaluation unit for the breast, cervical and colorectal cancer screening programmes in the Netherlands, and also evaluate programmes in the EU, US and worldwide.

3. Guiding public health policies on screening using predictions of favourable and unfavourable effects and the cost of screening, based on micro-simulation modelling (MISCAN). The United States guidelines for breast, colorectal and lung cancer screening were (in part) based on modelling by our group.

One of our highlights

In September 2017 the first successful workshop for the EU-TOPIA project was held in Budapest, with more than 100 attendees from 36 different European countries. The participants learned about the core set of indicators required to successfully monitor and evaluate a screening programme; we started collecting data on key benchmarks and quality indicators for all countries. Using experiences from a variety of European countries, we have identified the most important policy questions facing each country over the next five years. The participants found the workshop highly informative and especially appreciated meeting many people working in the same field and learning from the experiences of others. On 17-18 September 2018, the second workshop focusing on the evaluation of a screening programme will take place in Malmö, Sweden, where participants will work with a newly developed web-based evaluation tool (based on the microsimulation model MISCAN) using their own country-specific screening data.



Some of our key projects

- Towards improved screening for breast, cervical and colorectal cancer throughout Europe (EU-TOPIA): estimating the harms and benefits of existing, and possibly improved, screening programmes in the EU
- Risks or benefits of screening for cardiovascular disease (ROBINSCA-trial): a large-scale trial (40,000 persons) to investigate the effects of screening with classic risk factors (cholesterol/blood pressure) or with CT calcium scoring only (ERC Advanced Grant)
- Six projects in collaboration with the Cancer Intervention and Surveillance Modelling Network (CISNET): establishing well-validated models of the natural history of the following cancer sites: breast, cervical, colorectal, oesophageal, lung and prostate

Harry de Koning, Ida Korfage, Eveline Heijnsdijk, Iris Lansdorp –Vogelaar

KEY DATA 2016-2017

Professor	**1**
Harry de Koning	
Associate Professors	**2**
Iris Lansdorp-Vogelaar Marjolein van Ballegooijen	
Assistant Professors	**2**
Eveline Heijnsdijk Ida Korfage	
Other staff members	**32**

reference date sept 2018

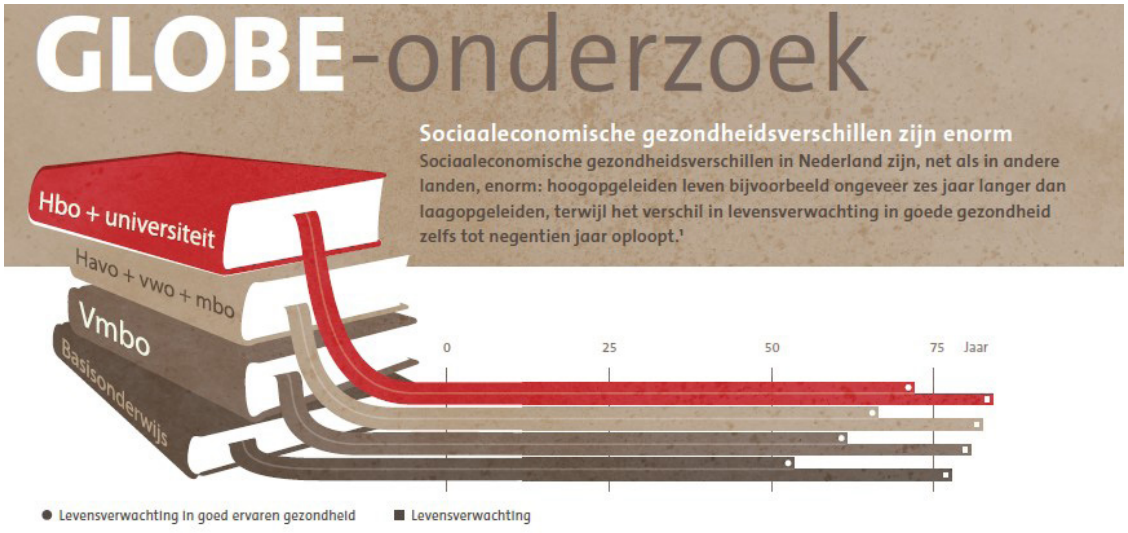
Social epidemiology

Socioeconomic inequalities in health remain a serious disappointment in an era of improved population health. Social epidemiology is essential in order to monitor and understand health inequalities, to evaluate interventions, and develop policies to reduce them.

Socioeconomic inequalities in health are a complex, stubborn and intriguing phenomenon; it is an ongoing theme where academic curiosity and societal relevance come together. Why do egalitarian societies also show health inequalities, and do health inequalities increase during a financial crisis? Why do those with a lower income tend to behave in a more unhealthy way, even when the healthy option is the cheapest option? Why do interventions seem to have so little impact on those who can benefit most from them? The research line of Social Epidemiology is in a unique position to address these questions. For example, our work in the European Demetriq and LIFEPATH projects generate up-to-date information about trends in health inequalities across the whole of Europe. Using GLOBE and Generation R cohort data, we offer new insights in the explanation of inequalities in health and health behaviour. The importance of the living environment for health and wellbeing is investigated in a European cross-city approach in our Horizon 2020 funded MINDMAP study. Natural (policy) experiments, and agent-based models are used to investigate the equity impact of interventions and policies. Tackling health inequalities takes time and requires collaboration. Academic collaborations where science, policy and field practitioners meet are, therefore, important. At the same time, the next generation of social epidemiologists that is able to take up these challenges is needed. Therefore, our teaching programmes are fully updated and available in a blended, interactive way.

One of our highlights

In 2016, it was exactly 25 years ago that the Dutch GLOBE cohort study was initiated. The GLOBE study is the only Dutch cohort study with the specific aim to understand the mechanisms and pathways of health inequalities in the Netherlands. Five major waves of data collection resulted in substantial knowledge about the causes and pathways leading to inequalities in health and health behaviour. Life course studies have shown the inter- and intra-generational transmission of health inequalities, and multilevel evidence has demonstrated an important role for the living environment. Another study based on the Scarcity Theory, shows that financial stress results in less self-control and unhealthy behaviour: the question as to whether a reduction in the underlying causes of stress will lead to an improvement in health behaviour, is central to our ongoing intervention study. If this proves positive, it may allow to identify solutions for health inequalities outside the health domain.



Om effectieve maatregelen te kunnen ontwikkelen waarmee deze sociaaleconomische gezondheidsverschillen kunnen worden verkleind, is inzicht nodig in de risicofactoren die bijdragen aan deze verschillen.

Some of our key projects

- Lifepath: this Horizon 2020 project aims to provide up-to-date facts on patterns and trends in health inequality in European countries
- MINDMAP: this Horizon 2020 project aims to elucidate the role of the urban context for the mental wellbeing of older persons living in European cities
- A systems approach for health behavioural research: this project investigates systems science for the evaluation of interventions aimed at reducing inequalities in heath behaviour

KEY DATA 2016-2017

Professors	**2**
Frank van Lenthe Johan Mackenbach	
Assistant Professors	**2**
Wilma Nusselder Tanja Houweling	
Other staff members	**10**

reference date sept 2018

Wilma Nusselder, Frank van Lenthe, Tanja Houweling, Johan Mackenbach

Infectious disease control

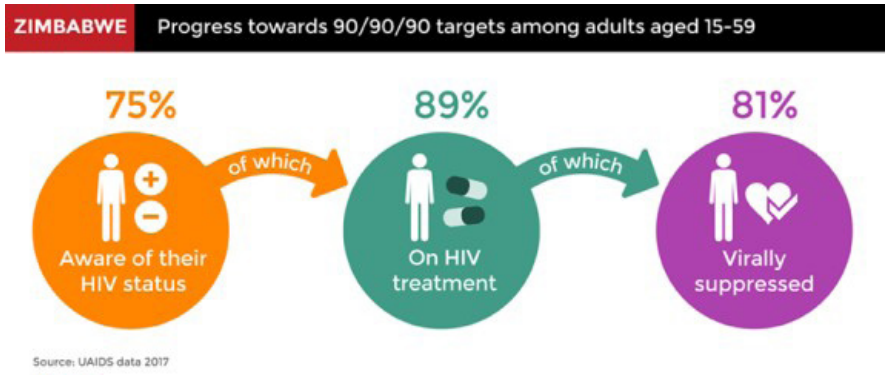
Infectious diseases remain an important global public health problem, especially in developing countries. HIV/AIDS, malaria and tuberculosis still challenge health care resources. The so-called neglected tropical diseases are far from eliminated, and newly emerging infections surprise the world continuously.

Our main research activities cover neglected tropical diseases (NTDs), including various helminth (worm) infections, leishmaniasis and leprosy, as well as tuberculosis, malaria and HIV/AIDS. Through international cooperation with scientific, governmental and non-governmental organisations, we support international control and elimination programmes for these infectious diseases. We also study infectious diseases common in migrant populations in Rotterdam, as well as hand hygiene in health care settings. Our research methodologies include mathematical modelling, epidemiological data analysis, and behavioural studies. Most NTD research is part of or linked to the NTD Modelling Consortium, a collaboration of various international modelling teams, funded by the Bill & Melinda Gates Foundation. In the past two years, the research has focused on achieving the control and elimination targets as formulated by the World Health Organization for the year 2020. Findings and insights have been published in scientific articles and have also been summarised in two well-received booklets for non-specialist readers.

With regard to leprosy, our section is also involved in field research projects on prevention of leprosy among contacts of leprosy patients using chemoprophylaxis or vaccination. These studies are funded by Netherlands Leprosy Relief, Leprosy Research Initiative, and Novartis Foundation. For the European Centre for Disease Prevention and Control, we have developed a model to support individual European countries with their policy concerning latent tuberculosis control in different high-risk groups, i.e. first-generation migrants, people who inject drugs, homeless people, and prisoners. For malaria, we have developed a statistical methodology to make vaccine trials more efficient.

One of our highlights

The HIV epidemic in Zimbabwe is one of the worst in the world. About 15% of the adult population in Zimbabwe is infected with the virus that, if left untreated, causes AIDS. Together with the Zimbabwean Ministry of Health and National AIDS Council of Zimbabwe, we evaluated the current combination HIV treatment and prevention strategies, with the aim to determine what has been achieved, and how the strategy can be further optimised. Together with local experts, we extended our STDSIM model with one of the major drivers of the epidemic – seasonal migration and associated sex work – to do justice to the large geographical heterogeneity in the Zimbabwean HIV epidemic. With this model innovation, we showed that combination HIV prevention over the period 2011-2015 was highly cost-effective, mainly due to the roll-out of antiretroviral therapy and voluntary male medical circumcision. Interventions focused on behaviour change had relatively little impact. Furthermore, we showed that focusing treatment and prevention interventions more towards key populations could further improve control of the epidemic. These results have been used as part of the development of new strategic plans of the Zimbabwean Ministry of Health.



Some of our key projects

- The Neglected Tropical Diseases Modelling Consortium, funded by the Bill & Melinda Gates Foundation (BMGF), has started its second phase; with a responsibility for four of the seven diseases, we are the largest contributing group
- Assessment of introducing programmatic latent tuberculosis control in the European Union and candidate countries: mathematical modelling and cost-effectiveness analysis, funded by the European Centre for Disease Prevention and Control (ECDC)
- Onchocerciasis and lymphatic filariasis 2020 – 2025: predicted disease burden and patient profiles, funded by the Drugs for Neglected Diseases initiative (DNDi)

KEY DATA 2016-2017

Professors	**2**
Jan Hendrik Richardus Sake de Vlas	
Assistant Professors	**2**
Wilma Stolk Luc Coffeng	
Other staff members	**20**

reference date sept 2018

Sake de Vlas, Jan Hontelez, Luc Coffeng, Wilma Stolk, Jan Hendrik Richardus

Youth health care

Our research supports the healthy growth and development of all children. We also apply our pro-active, preventive public health approach (with its combination of health and social care) to other vulnerable groups, such as individuals with multiple chronic conditions and frailty.

Our research focuses on the mechanisms that cause health inequalities among families with children and adolescents, and other vulnerable groups in the Netherlands, Europe and other countries. We innovate, implement and evaluate assessment and prediction tools for health and well-being to be applied in community health care. In addition, we implement and evaluate pro-active and self-empowering preventive programmes.

Worldwide, social and ethnic inequalities in health and health care exist. We collaborate in the Generation R birth cohort and the INRICH network to study causes of health inequalities. Our focus is on lifestyle behaviours, obesity, health-related quality of life, and trajectories of care use.

Together with professionals, policymakers and individuals we develop, implement and evaluate preventive programmes and policies for the healthy growth and development of children. In a recently initiated project (together with several partners) various health inequalities are targeted by a broad community programme aiming for the safe and healthy development of youth. At the national level, we lead a consortium integrating knowledge on the effectiveness of interventions that promote parenting; several 'effective elements' of interventions have been identified that contribute to intervention development.

Within the context of the overloaded health care and welfare systems, the ability of individuals to take care of themselves for as long as possible has become increasingly important. Therefore, we apply knowledge from child public health in various programmes supporting active and healthy ageing. In the Social Engagement Framework for Addressing the Chronic-disease-challenge (SEFAC) project, the aim is to reduce the burden of individuals with a chronic condition, and increase sustainability of the health system by supporting self-management.

Mother– and Father–Adolescent Relationships and Early Sexual Intercourse

Raquel Nogueira Avelar e Silva, MSc,[a] Daphne van de Bongardt, PhD,[b] Petra van de Looij-Jansen, PhD,[c] Anne Wijtzes, PhD,[d] Hein Raat, MD, PhD[a]

OBJECTIVES: To assess the prospective associations between mother-adolescent and father-adolescent relationship quality and early sexual intercourse initiation (ie, ≤16 years) among a large sample of Dutch adolescents.

METHODS: Two waves of data from the Rotterdam Youth Monitor, a longitudinal study in the Netherlands, were used. The analysis sample consisted of 2931 adolescents aged 12 to 16 years ($Mean_{age@T1}$ = 12.5 years, SD = 0.61; $Mean_{age@T2}$ = 14.3 years, SD = 0.60). Variables were assessed by means of self-report questionnaires. Prospective associations between mother-adolescent and father-adolescent relationships and early sexual initiation were assessed by logistic regression analyses, stratified by gender, controlling for various potential confounders.

RESULTS: We found that only girls (not boys) having a higher-quality relationship with mothers were significantly less likely to have initiated early sexual intercourse between T1 and T2. Bivariate findings showed that both girls and boys having a higher-quality relationship with their father at T1 were significantly less likely to have engaged in early sexual intercourse between T1 and T2, but when assessed multivariately, these associations were no longer significant, neither for boys nor for girls.

CONCLUSIONS: Our findings suggest that a higher-quality relationship between adolescents and their parents, especially between mothers and daughters, may help to protect against early sexual initiation. Pediatricians and other health care professionals should be able to explain to parents that early sexual intercourse initiation can be associated with negative health outcomes, but that parents can play an important role in promoting healthy sexual behaviors.

One of our highlights

Adolescents who have a good relationship with their parents have sex later than adolescents with a poorer relationship with their parents; this is the main finding of our study published in Pediatrics. This is an important finding, as adolescents who have their first sexual relationship later are more likely to experience healthier sexual development with a reduced risk of problems such as sexually transmitted infections and teen pregnancies. This is partly because they have more knowledge, skills and life experience. The study used data from the Jeugdmonitor (Youth Monitor) of the Rotterdam-Rijnmond Public Health Service, in which adolescents from 76 schools in and around Rotterdam completed a health survey. The survey included all types of questions, including a question on the quality of their relationship with their mother and father. The amount of affection, warmth and support experienced by the adolescents was determined by asking them how easily they shared their thoughts and feelings with their parents and how much they enjoyed spending time with their parents.

Some of our key projects

- Social inequalities in children's lifestyle, health and well-being: the Generation R Study
- CIKEO: Integrating knowledge on the effectivity of interventions to promote parenting
- Support QUality-care for Elderly using Ambient Living Environment Data (SQUEALED)

KEY DATA 2016-2017

Professor	**1**
Hein Raat	
Other staff members	**9**

reference date sept 2018

Hein Raat, Wilma Janssen

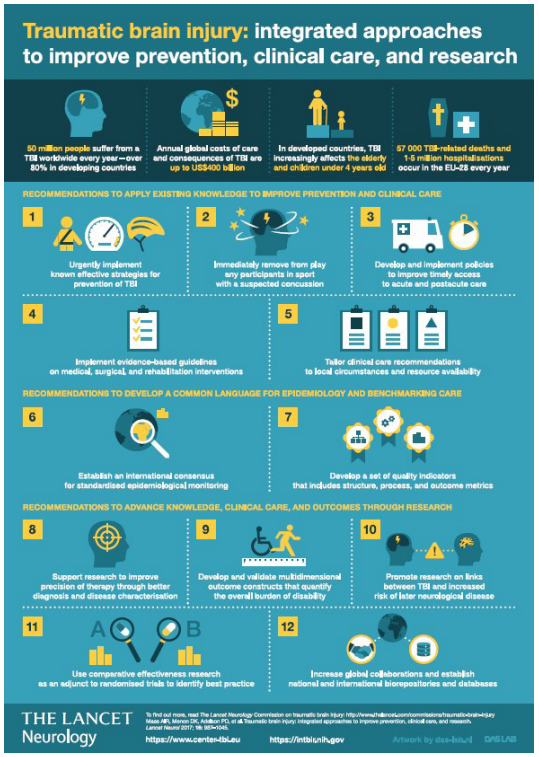
Medical decision-making

Medical decision-making aims to support patients, clinicians and health care policymakers in making the best decisions about diagnostic, therapeutic and other medical interventions.

For many interventions in health care it remains unclear what the effectiveness is and, in practice, considerable variation exists between hospitals. In addition, optimal care may also depend on patient characteristics and preferences. Our mission is to contribute to optimal evidence-based and personalised decisions in health care through outstanding quantitative research. We work on the development of quantitative methods to inform decisions. These include prediction modelling, methods for causal inference from observational data, measuring quality of care, comparative effectiveness research (CER), and Value-Based Health care. For example, we develop statistical methods to study the effectiveness of treatments based on between-hospital variation in treatment and outcomes. Another example is prediction modelling to predict treatment benefit in individual patients. We apply our methods in collaboration with multiple clinical groups within and outside Erasmus MC to directly improve patient care. For example, within Erasmus MC we implement Value-Based Health care in collaboration with various clinical departments and lead the Academic Centre for Quality of Care and Outcomes of Erasmus MC. With researchers from Erasmus University Rotterdam we collaborate on ways to create a more sustainable and effective health care system in the programme 'Smarter choices for better health'. In the national CONTRAST consortium, we aim to improve the effectiveness and safety of acute treatment for stroke. In CENTER-TBI (an international project funded by the European Union) we aim to optimise treatment for patients with traumatic brain injury.

One of our highlights

Traumatic brain injury (TBI) represents a vast (but insufficiently recognised) challenge for public health. TBI is the leading cause of mortality in young adults, and a major cause of death and disability across all ages worldwide. In high-income countries, the number of elderly people with TBI is increasing (mainly due to falls), while in low-income and middle-income countries, the burden of TBI from road traffic incidents is increasing. However, systems of care for people with TBI vary greatly, often with discontinuity and discrepancies in the chain of care. Strong evidence to support treatment guidelines and recommendations is scarce, and current treatment strategies insufficiently target the needs of individual patients, generally being based on a 'one-size-fits-all' approach. Furthermore, accurate epidemiological monitoring and robust health-economic data collection, essential to prevention programmes and health care policy, are lacking. In 2017 we contributed to a Commissioned Issue of The Lancet Neurology that highlights priorities and provides expert recommendations to reduce the global burden of TBI; emphasis was on the need to develop and implement policies to improve prevention and systems of care, and to invest in TBI research across a range of disciplines to determine best practice, and facilitate individualised management strategies.



Some of our key projects

- CENTER-TBI: a prospective longitudinal observational study on traumatic brain injury
- 'Turning differences into evidence': exploiting between-hospital differences to study treatment effects
- Consortium Quality of Care of the National Federation of University Hospitals (NFU): improving patients' outcomes and experiences in Dutch university hospitals

KEY DATA 2016-2017

Professors	**2**
Ewout Steyerberg Jan Hazelzet	
Associate Professor	**1**
Hester Lingsma	
Other staff members	**20**

reference date sept 2018

Jan Hazelzet, Hester Lingsma, Ewout Steyerberg

Medical care and decision-making at the end of life

Public health includes the aim of achieving a 'good' death that is supported by high-quality end-of-life care and decision-making, and by empowering severely ill patients and their families to adequately communicate with health care professionals.

Medical care and decision-making at the end of life are prominent in both the societal and scientific debate. Contemporary societal issues in end-of-life care include:

- the ageing population with patients dying from chronic deteriorating illnesses such as cancer, organ failure or dementia,
- the medicalisation of dying and the fragmentation of care that involve challenges in communication and cooperation, and
- an increasing emphasis on patient engagement and self-determination.

Examples of frequently discussed topics are the acceptability of euthanasia, the contribution of palliative care, overuse and underuse of medical treatment at the end of life, the (cost)effectiveness of end-of-life care, and advance care planning. Our group has performed many studies designed to describe and elucidate these complex phenomena, as well as experimental studies to evaluate interventions aimed at improving the quality of care and decision-making. Studies on end-of-life care involve various thought-provoking ethical and methodological challenges. Our research projects include: quantitative and qualitative studies on symptoms and quality of life; medication management; palliative care in hospitals; collaboration between settings; management of cardiac devices; spiritual care; prognostication; advance care planning; and self-management. In these investigations, we collaborate with partners throughout the Netherlands, Europe and beyond. At the regional level, we participate in a consortium dedicated to improve the quality of palliative and end-of-life care in the southwest region of the Netherlands. We also participate in a regional academic network of hospice facilities.

One of our highlights

Advance care planning (ACP) is increasingly recognised as an important strategy to promote care at the end of life, that adequately addresses the needs and preferences of patients and their families. Our publication in 'Lancet Oncology' presents the standard of what ACP entails, and how it should be studied and implemented. Based on the input of 109 experts from Europe, North America and Australia in a formal Delphi consensus process, ACP was defined as enabling individuals to define goals and preferences for future medical treatment and care, to discuss these goals and preferences with family and health care providers, and to record and review these preferences if appropriate. This Lancet publication received considerable attention and is/will be translated into Dutch, Italian, Spanish, Japanese and Korean. Details of this study were presented during congresses in Europe, Canada and Japan.

Some of our key projects

- ACTION: a six-country cluster-randomised trial to evaluate an innovative advance care planning programme among patients with advanced cancer
- TSPZ: a regional action research programme to improve collaboration between settings in palliative care
- VIDI: a mixed-methods research programme that examines which patients with advanced cancer have more difficulties with self-management, why this is the case, and how they can best be supported

KEY DATA 2016-2017

Professor	**1**
Agnes van der Heide	
Associate Professor	**1**
Judith Rietjens	
Assistant Professor	**1**
Ida Korfage	
Other staff members	**11**

reference date sept 2018

Ida Korfage, Agnes van der Heide, Judith Rietjens

Occupational health

It is an important challenge to enable persons to work longer in good health. Paid employment is one of the most important determinants of health and health inequalities.

Society has to deal with large health inequalities in paid employment. Our research aims to contribute to the challenge of creating an inclusive labour market for all social groups. Important questions addressed by our research are: How important is work for health and how important is health for work? Is working until old age healthy or not? Which factors determine work ability and sustainable employment during the working life? How can workers with chronic diseases remain productive at work? What interventions and policies are needed to enhance sustainable employability? and how (cost-)effective are these interventions and policies? We analyse data from large-scale epidemiological studies with state-of-the-art methods, and design, implement and evaluate interventions for sustainable employability among both unemployed and employed persons. To gain insight into the long-term effectiveness of interventions, and the consequences for the working life expectancy, we apply a life-course approach. Our studies also focus on vulnerable groups, e.g. individuals with chronic health problems, long-term unemployed individuals, and workers in a low socioeconomic position. One project resulted in the guideline 'Work as medicine' for mental health care professionals, with the goal to improve the care for persons with mental health problems. In the Fit4Work study among previously unemployed persons with common mental health problems, we demonstrated the importance of return to paid employment for health and happiness.

One of our highlights

In 2016 we published a synthesis of scientific knowledge on 'Work(ing) is healthy' (commissioned by ZonMw). This synthesis provides an overview of knowledge on educational inequalities in work and health. It provided input for a grant programme and received attention from several stakeholders. The report concludes with four recommendations for the research agenda concerning health promotion of workers in low socioeconomic position:

1. Effectiveness of interventions: what works for whom?
2. Participation in interventions: who, when and why?
3. Suitable evaluation techniques: what constitutes sufficient evidence?
4. Collaboration in academic centres: initiate scientific experiments, learn, and evaluate

The guideline 'Work as medicine' for mental health care professionals helps individuals with mental health problems to find answers concerning nine themes regarding work and health.

Some of our key projects

- EUR Fellowship: estimating working life expectancy and exploring critical mechanisms for sustainable employability
- WORKLONG: impact of interventions and policies on prolonging a healthy working life
- Fit4Work: evaluation of an intervention aimed at re-integration into paid employment of persons with health problems

KEY DATA 2016-2017

Professor	**1**
Lex Burdorf	
Assistant Professor	**1**
Suzan Robroek	
Other staff members	**4**

reference date sept 2018

Suzan Robroek, Lex Burdorf

Health technology assessment & implementation

The aim is to improve the quality and efficiency of health care by studying the cost-effectiveness of curative and preventive interventions and contributing to their implementation.

Our work consists of a unique combination of health economic, epidemiological and behavioural research, and of methodological development and implementation. This multi-faceted approach allows to support evidence-based efficiency of curative and preventive care. The aim is to simultaneously optimise health outcomes by improving treatment for patients, while keeping health care costs as low as possible. Two major pillars of our work are the improvement and application of methods to measure outcome (quality of life, burden of disease, costs, efficiency), and the implementation and evaluation of (prevention) interventions within health care.

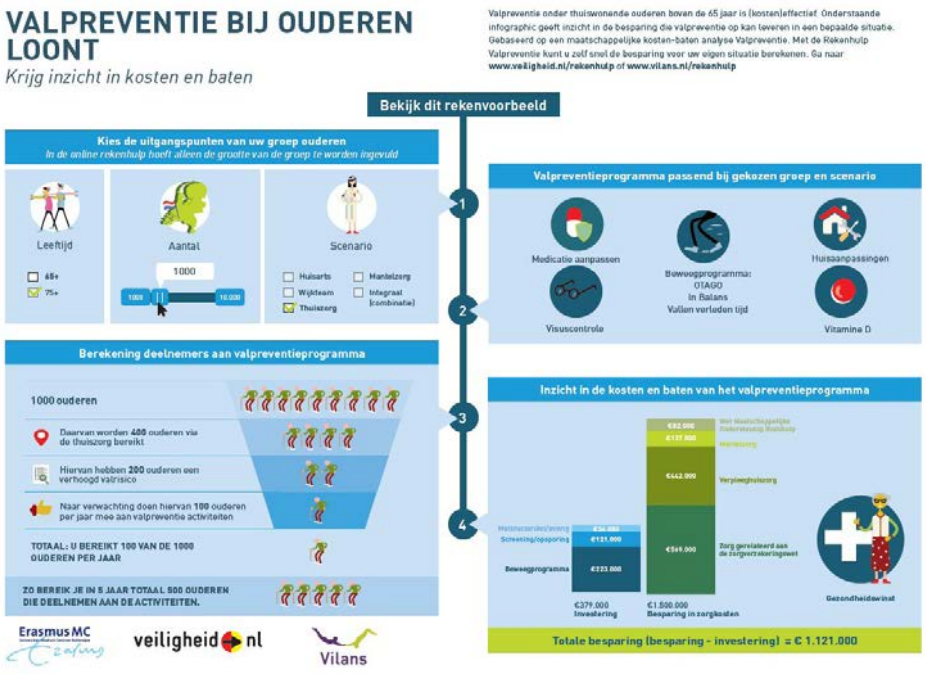
Our research includes methodological innovations to optimise the measurement of outcomes and efficiency, e.g. regarding disability weights, choice of instruments, cost-utility analysis, social cost-benefit analysis, and implementation research. This work aims to support the optimisation of evidence-based care and prevention.

In addition, we support prevention with epidemiologic, economic and social research focusing on vulnerable groups (e.g. elderly, obesity, low socioeconomic status) and translating this research into daily practice, thereby providing better care for our patients.

Main areas of application are injuries, hospital-acquired infections and other common causes of ill health, such as obesity, falls and diabetes.

One of our highlights

Ageing societies are confronted with increasing numbers of elderly experiencing fall-related injuries. Preventive measures can be beneficial in reducing falls and the related health care costs and burden for these elderly persons. Since fall prevention interventions incur costs for sectors in society that differ from those actually benefitting from the derived advantages, we performed a social cost-benefit analysis (SCBA). A SCBA identifies the costs and benefits of societal domains affected by the interventions, making explicit which sector pays and which sector benefits. Structural implementation of evidence-based falls prevention among Dutch elderly can lead to considerable health benefits, combined with net cost savings. Depending on the policy scenario, slightly more than 50% of the savings end up at health care insurers, slightly less than 50% of the savings end up at 'WLZ' (long-term care), and about 10% at 'WMO' (the municipalities). The age of the target group and the effectiveness of falls prevention interventions mainly determine the outcomes of the SCBA. The SCBA provides guidance to policymakers on the most optimal fall prevention programmes for the elderly. To convey the complex information generated by the SCBA, a website (including a web-based tool) and an infographic (see Figure) were developed by Safety Netherlands.



The infographic presents the steps of the SCBA based on one policy scenario. Fall prevention in the home care scenario for 1,000 elderly persons aged 75+ years, based on a multifactorial intervention, will result in net benefits of €44,000.

Some of our key projects

- CENTER-TBI: examining the quality of life and recovery patterns after TBI and develop a set of disability weights by severity level
- Euroqol Research Foundation: generating solid research on methodology improvement regarding quality of life and burden of disease measurements
- Koers18: implementation of cardiovascular disease prevention within Erasmus MC and translating this research into daily practice, thereby providing better care for our patients

KEY DATA 2016-2017

Associate Professor	**1**
Suzanne Polinder	
Other staff members	**9**

reference date sept 2018

Suzanne Polinder

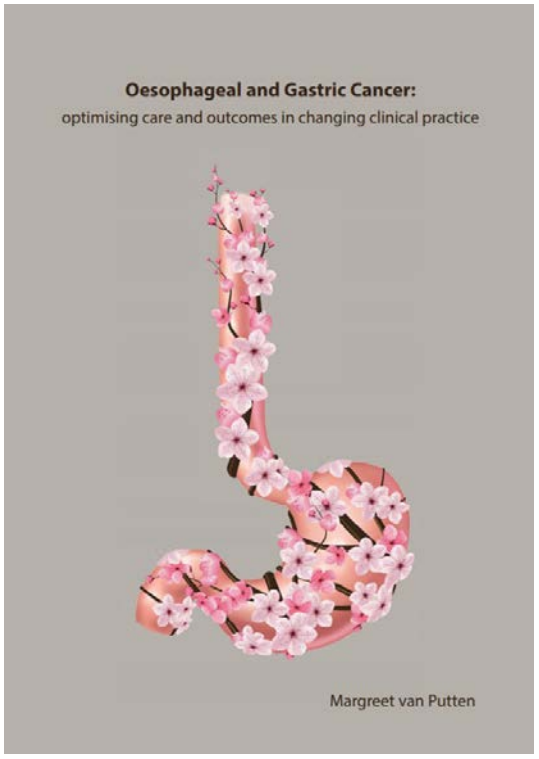
Cancer surveillance

Cancer is the main cause of death in the Netherlands and the number of people diagnosed with cancer continues to rise. We analyse the quality of oncological care and variation between institutions and across regions, with the ultimate aim of saving lives and improving the quality of life of patients with cancer.

Survival of individuals with cancer has been increasing in the last decades. However, our research has shown that there is room for further improvement in terms of diagnostics, treatment and follow-up. There are large institutional and regional variations with respect to quality of care, especially in terms of adequate diagnosis and referral for curative treatment. Working in close collaboration, the Department of Public Health and the Netherlands Comprehensive Cancer Organisation (IKNL) investigated the impact on treatment and survival of important developments in oncology, ranging from centralisation of care and measurement of quality indicators, and the introduction of new, often expensive medications. There is a special focus on quality of care in children and cost-effectiveness of treatment and follow-up of patients with skin cancer. Furthermore, based on reliable data, existing variations in treatment and outcome between hospitals have been calculated, made transparent, and discussed within the Comprehensive Cancer Network (CCN) Southwest Netherlands (EMBRAZE, a cooperation of Erasmus MC and hospitals in the provinces of Zeeland and Noord-Brabant). Quality of oncological care in CCN Southwest is being evaluated and monitored making use of data from the Netherlands Cancer Registry, data which are discussed at regional cancer specific meetings with medical professionals.

One of our highlights

One of our PhD theses was featured in the NOS news.1 This thesis revealed that survival of patients with oesophageal cancer has almost doubled in the last 10 years, also thanks to centralisation of surgical care. However, patients with gastric or oesophageal cancer are still being diagnosed in every hospital in the Netherlands. Probably due to the lack of disease-specific knowledge and expertise in hospitals where curative treatment of gastric or oesophageal cancer is (no longer) given, patients are often not referred to a centre of excellence for further diagnostics or a curative treatment. Inadequate referral decreases the chance of survival of hundreds of patients each year. More intense cooperation at a regional level, for example by means of regional multidisciplinary team meetings, is warranted.



Some of our key projects

- Progress against childhood cancer in the Netherlands: a KiKa financed study in which progress against childhood cancer is evaluated, thereby also identifying room for improvement
- Reducing skin cancer costs: by studying (cost)effectiveness of treatment and follow-up of (non-melanoma) skin cancer, clinicians and policymakers can make better informed decisions, enabling reduction in costs and increased quality of care
- Reducing variation in treatment and outcome of cancer: despite increased survival rates there is still room for improvement in cancer management

Valery Lemmens

KEY DATA 2016-2017

Professor	**1**
Valery Lemmens	
Assistant Professor	**1**
Esther Baquero Prieto-de Vries	
Other staff members	**2**

reference date sept 2018

Education and training

Future physicians will face a considerable increase in the numbers of patients with multiple chronic diseases and will need skills in teamwork, shared decision-making, prevention and population health, as well as in maintaining the quality, safety and efficacy of health care.

It is internationally recognised that current health care systems have to adapt to cope with the most important health problems of the 21st century. Ageing societies, and a substantial increase in the number of patients with (multiple) chronic diseases (often related to lifestyle and the environment and amenable to prevention), make a strong demand for alternative health care models. Future physicians will need to be highly skilled team players who can function well in a system, with more focus on prevention and general care, participation as main outcome, and able to bridge the gap between the medical and social domains. In our department, the Education and Training section offers an adaptation of the Erasmus MC curriculum that aims to meet these new demands. In 2016-2017 we implemented the 'Collaboration for Optimal Care and Prevention' trajectory, in which students learn why and how they can prevent disease and deliver optimal care at both the individual and population level. Core elements include training in interprofessional collaboration, shared decision-making, prevention and population health, as well as the quality, safety and efficiency of health care. This training is offered from the first (year 1) through to the last (year 6) of the medical education programme. The major building blocks include training sessions on interprofessional collaboration (years 2, 3 and 4), a theme entitled 'Physician and society' (year 3), a community project (year 3) and an internship 'Social medicine' (year 5).

Our highlights

In 2016 a student project, supervised by our department, provoked considerable media attention. Third-year medical students conducted community projects commissioned by various societal organisations (see below), including the Royal Society to Rescue People from Drowning. Since its foundation in 1767 this Society has encouraged prevention, rescue and the resuscitation of drowning victims. Our students were able to show that drowning is a rapidly increasing problem among users of (for example) mobility scooters and formulated policy recommendations, including compulsory testing of an individual driver's ability.

Another highlight in 2016/2017 was the implementation of two interprofessional team training sessions for mixed groups of nursing students and second-year medical students to prepare the latter for their first experience in health care. This initiative is based on close collaboration between our department and the patient safety officers of Sophia's Children's Hospital. It involves teaching by teams of physicians and nurses from various clinical departments of Erasmus MC, by members of our department, and by safety experts from the Netherlands Aerospace Centre. The second-year training sessions are part of a series throughout the curriculum, supported by e-modules and a 'serious' game. Nursing students and medical students were very positive about this novel teaching approach (see quote below) which led to a nomination of our department for the MORE teaching innovation lustrum award in 2017.

Quote from medical student in Scanner: "I really learned that, as a doctor, you have to rely on and trust the nurses, who spend much more time with the patient than the doctor and really need to be able to identify and act on patient's needs."

Some of our key projects

- Theme Physician and society: theoretical education on the principles and practice of prevention and population health and the functioning of health care systems (Bachelor, year 3)
- Community project: student group projects commissioned by societal organisations to provide answers to relevant questions in public health practice and develop health advocacy skills (Bachelor, year 3)
- Internship Social Medicine: practical on-site training in social medicine, including occupational health, infectious diseases, maternal and child health, environmental health, and forensic medicine (Master, year 5)

KEY DATA 2016-2017

Associate Professor	**1**
Ed van Beeck	
Other staff members	**4**

reference date sept 2018

Ed van Beeck, Vicki Erasmus, Suzie Otto

Support and administration

First row: Sanne Ruseler, Judith Spek, Marianne Quak, Alice Griffioen – Kisjes, Arry de Bruijn.
Second row: Farsia Mokiem, Petra de Vries, Yvonne van Loon, Kai Rock Ho.
Third row: Marieke van Rijs, Kees Noordsij – Wagenaar, Anja Bik, Frank Santegoets, Jan Alberts, Roel Faber, Johan Verhoek

Research support office

The research support office underpins all stages of research projects in a practical way. From acquisition, implementation and execution to the final archiving after completion of the project, the office has a wide experience and gives advice and practical hands-on support. The office is specialised in the administrative procedures of EU projects and supports the Horizon 2020 projects that are co-ordinated by the department in many ways, whether it is the organisation of international workshops or adherence to ethical requirements. In the past two years the research office has developed procedures to increase awareness of adequately handling personal data.

IT

At the Department of Public Health, integrity of data has always had the highest priority. In 2016 we started distinguishing and separating raw data, that may include personal information, and data for analysis that can never reveal the identity of study participants. The employee who makes the data anonymous is the only person who has access to the raw data. After anonymization, an IT employee ensures a strict closure of the gate.

We have also implemented so-called distributed analysis software. For example, we have implemented the statistical program R to enable analysis of datasets that are distributed over different servers inside and outside the Erasmus MC. In addition, no user has access to the complete datasets from others, but the results of an analysis (aggregated data) can be used.

Education and training support

Due to newly developed education and training activities in the medical education programme, the administrative support staff of the Education and Training section of our department had to manage a considerable amount of changes.

New timetable programmes were expanded to schedule all teaching activities in a new learning trajectory 'Collaboration for Optimal Care and Prevention' (COCP). In addition, we developed interprofessional team training sessions with staff of several hospital wards. We welcomed a new programme to register the attendance of students for mandatory lectures (i.e. Academy Attendance) and also developed a new grading system for our community projects and the bachelor essay.

In short, the education support staff embraced many challenges. We were given the opportunity to get in touch with a wide variety of people, from researchers and medical practitioners to students, and to share our passion for education with them.

Secretariat

In the last few years, the secretariat of the Department of Public Health has experienced a shift in focus of areas and requests. More attention has been paid to organising and planning as compared to the 'classical' secretarial work activities and routines. Congresses, seminars and project meetings are organised. Furthermore, the secretariat has an important role in complex developments, such as the recent move of the department, the implementation of flex working, and the upcoming 50th anniversary of the department.

KEY DATA 2016-2017

Secretariat

Sanne Ruseler
Judith Spek
Yvonne van Loon
Marieke van Rijs (coördinator)

IT

Roel Faber
Frank Santegoets
Jan Alberts
Roel Oostveen
Kees Noordsij-Wagenaar
Johan Verhoek
Alwin Koedoot

Research Support Office

Petra de Vries
Kai Rock Ho

Education support

Alice Griffioen-Kisjes
Cynthia Verduijn-Persoon
Anja Bik

Staffadvisor operational management

Farsia Mokiem

Support (other)

Arry de Bruijn
Marianne Quak

Managing director of the Theme Health Sciences

Koos Lubbe

Personnel (theme Health Sciences)

Solange Degenaar
Andreas Engelhard
William Barthelemy

Finance (theme Health Sciences)

Edgar Dutrieux
Gladys Echter
Femke Schipdam-Kleijkamp
Esra Tunca
Jurgen Seekles
Adoni Floropoulos (coördinator)

reference date sept 2018

Employees in the spotlight

Insights into how people think and the motives behind their actions have always fascinated me. I have been particularly interested in how culture shapes our values and behaviour and how that is reflected in the way people deal with challenging circumstances. When I came across the opportunity of a PhD trajectory investigating the mental well-being and decision-making of patients near the end of life, I was eager to get involved.

Decision-making near the end of life is a complex and a highly individual process. Being aware of the individual patient and their needs can contribute to the improvement of patient care. I was involved in a trial investigating the effects of an advance care planning intervention in six European countries. In that study, I mainly focused on the quality of life and the coping of patients with advanced cancer. It has been a very rewarding experience to work with researchers of different backgrounds (both scientifically as well as culturally) on this important topic. I also had the chance to collaborate with a research group in New York City, again, giving me the opportunity to get to know more about the cultural influence on care near the end of life.

The strength of the Department of Public Health lies in the quality and standards of scientific research, which is held high by - and would not be possible without - its employers. It is inspiring to work among so many dedicated and smart people of different backgrounds who, every day, give their best to produce science that matters.

Lea Jabbarian, PhD student

The 2003 outbreak of severe acute respiratory syndrome shocked the Chinese government into reforming its public health system and motivated me, among many other medical students, to be enrolled into the field. Since then, although the topic and my location changes from time to time, I have been lucky in staying continuously in the challenging yet exciting field of public health.

In 2011, I moved from Beijing to Rotterdam and started a PhD project at the research group Infectious Disease Control at the Department of Public Health. Four years later I defended my thesis on identifying determinants of HIV-related behaviours among high-risk general populations, as well as exploring behavioural change techniques bridging these determinants into effective and practical HIV prevention interventions. After my PhD, I had a taste of working outside of academia, studying the preventive effect of cleaning wipes on nosocomial infections at the R&D branch of a Swedish hygiene company. Since my return to the department in 2016, I have been working on assessing the impact of a hand hygiene intervention, which was implemented alongside my PhD project, aimed at preventing children in China from getting hand, foot and mouth disease.

Not too long ago, I joined the newly launched research group Efficiency of Care, where I investigate how to better implement preventive screening programmes for improving patients' quality of life at the Erasmus MC. I am grateful for being a part of the team that embraces diversity and innovations to solve puzzles in today's challenges of public health interventions.

Xiaona (Nana) Liu, postdoctoral researcher

After my medical training I specialized in tropical medicine. My seven years work in hospitals in the Netherlands and in Kenya stimulated my interest in public health.

Of course, it was exciting and satisfying to be a hospital clinician and to save human lives in operating theatres. But, especially in Kenya, it became clear to me that most hospital patients would not have had been there if their behaviour and living conditions had been more focused on health.

Malnourishment, cholera, typhoid, tuberculosis, poliomyelitis, measles, pertussis, meningitis and HIV/AIDS, burns and (traffic) accidents, can be prevented. Cervical cancer was the result of child marriage and polygamy due to inadequate human rights, lack of education, and lack of control of sexually transmitted diseases. Many obstetric problems can be prevented with good prenatal care and timely access to obstetrical care.

The often low interest within hospitals for questions and answers about the health of people outside hospital intrigued me. Therefore, I opted for Johns Hopkins public health education and worked for 33 years in public health, epidemiology, environmental medicine and infectious disease control.

The public health and safety regions of Midden-Limburg and Rotterdam-Rijnmond, and Maastricht and Aachen University and Erasmus MC gave me the opportunity to combine public health practice with education and research. This resulted in a PhD degree in the Department of Public Health in 2008.

Patterns of disease in the Netherlands also deserve public health attention. Therefore, I hope that some of the students that I was allowed to teach, have taken my enthusiasm for and messages about the importance of public health.

Paul Mertens, physician and teacher

I joined the Department of Public Health after graduating from Delft University of Technology and started my PhD project on methodological issues around the development, validation and updating of diagnostic and prognostic models. My focus was on how to interpret the findings of external validation studies and the extension of existing prediction models with promising new predictors.

After a short break where I worked at the University Hospital Antwerp, I returned to Rotterdam in my current role as a statistical advisor. Currently, I advise researchers in the department on the statistical analyses that need to be performed and - if analyses get very complicated - I lend a helping hand. This is an interesting and challenging job due to the wide range of research being performed by the different research groups: no two research projects are the same.

Besides advising the researchers in our department, I am also involved in various collaborations with other departments, in particular the Department of Urology, where I am involved in the 'Movember Global Action Plan' for men with localized prostate cancer. This project aims to improve the management of men with low-risk prostate cancer and reduce the burden of overtreatment.

I am looking forward to further collaboration during the coming years and to keeping research at the department at high quality by helping to implement new and innovative statistical methods to address important challenges in the field of public health.

Daan Nieboer, statistician and PhD student

Publications in the spotlight

Our goal is to publish all our research findings in international peer-reviewed scientific journals. In 2017, 77% of our first-author publications were published in first quartile journals, of which 40% in journals in the first decile of the impact factor distribution in their field. Some examples of important publications are listed below. A full list of scientific publications can be found at https://www.erasmusmc.nl/public-health/publications-collaborations/scientific-pub/

Evaluation of screening

The distribution of ductal carcinoma in situ (DCIS) grade in 4232 women and its impact on overdiagnosis in breast cancer screening
By: PA van Luijt, et al.
In: Breast Cancer Research, 2016

Real-Time Monitoring of Results During First Year of Dutch Colorectal Cancer Screening Program and Optimization by Altering Fecal Immunochemical Test Cut-Off Levels
By: E Toes-Zoutendijk, et al.
In: Gastroenterology, 2017

Do Men and Women Need to Be Screened Differently with Fecal Immunochemical Testing? A Cost-Effectiveness Analysis
By: MPV van der Meulen, et al.
In: Cancer Epidemiology, Biomarkers and Prevention, 2017

The efficacy of prostate-specific antigen screening: Impact of key components in the ERSPC and PLCO trials
By: HJ de Koning, et al.
In: Cancer, 2018

Risk prediction models for selection of lung cancer screening candidates: A retrospective validation study
By: K ten Haaf, et al.
In: PLoS Medicine, 2017

Risk stratification based on screening history: the NELSON lung cancer screening study
By: U Yousaf-Khan, et al.
In: Thorax 2017

Social epidemiology

Changes in mortality inequalities over two decades: Register based study of European countries
By: JP Mackenbach, et al.
In: British Medical Journal, 2016

Work-family trajectories and the higher cardiovascular risk of American women relative to women in 13 European countries
By: K van Hedel, et al.
In: American Journal of Public Health, 2016

Effect of tobacco control policies on perinatal and child health: a systematic review and meta-analysis.
By: T Faber, et al.
In: Lancet Public Health, 2017

The equity impact of community women's groups to reduce neonatal mortality: a meta-analysis of four cluster randomized trials
By: TAJ Houweling, et al.
In: International Journal of Epidemiology, 2017

Does social distinction contribute to socioeconomic inequalities in diet: the case of 'superfoods' consumption.
By: J Oude Groeniger, et al.
In: International Journal of Behavioral Nutrition and Physical Activity, 2017

Assessing the impact of natural policy experiments on socioeconomic inequalities in health: how to apply commonly used quantitative analytical methods
By: Y Hu, et al.
In: BMC Medical Research Methodology, 2017

Youth health care

Associations between Nausea, Vomiting, Fatigue and Health-Related Quality of Life of Women in Early Pregnancy: The Generation R Study
By: G Bai, et al.
In: PLoS One, 2016

A prospective study on the variation in falling and fall risk among community-dwelling older citizens in 12 European countries
By: CB Franse, et al.
In: BMJ Open, 2017

Mother- and Father-Adolescent Relationships and Early Sexual Intercourse
By: ESR Nogueira Avelar, et al.
In: Pediatrics, 2016

Personalized Web-Based Advice in Combination With Well-Child Visits to Prevent Overweight in Young Children: Cluster Randomized Controlled Trial
By: A van Grieken, et al.
In: Journal of Medical Internet Research, 2017

Meal-Skipping Behaviors and Body Fat in 6-Year-Old Children
By: AI Wijtzes, et al.
In: Journal of Pediatrics, 2016

Socioeconomic differences in children's television viewing trajectory: A population-based prospective cohort study
By: J Yang-Huang, et al.
In: PLoS One, 2017

Infectious disease control

Effectiveness of 32 versus 20 weeks of prednisolone in leprosy patients with recent nerve function impairment: A randomized controlled trial
By: I Wagenaar, et al.
In: PLoS Neglected Tropical Diseases, 2017

The Power of Malaria Vaccine Trials Using Controlled Human Malaria Infection
By: LE Coffeng, et al.
In: PLoS Computational Biology, 2017

Finding undiagnosed leprosy cases
By: DJ Blok, et al.
In: Lancet Infectious Diseases, 2016

Changing HIV treatment eligibility under health system constraints in sub-Saharan Africa: investment needs, population health gains, and cost-effectiveness
By: JA Hontelez, et al.
In: Aids, 2016

Public Health Benefits of Routine Human Papillomavirus Vaccination for Adults in the Netherlands: A Mathematical Modeling Study
By: SM Matthijsse, et al.
In: Journal of Infectious Diseases, 2016

Concerted Efforts to Control or Eliminate Neglected Tropical Diseases: How Much Health Will Be Gained?
By: SJ de Vlas, et al.
In: PLoS Neglected Tropical Diseases, 2016

Medical decision making

Traumatic brain injury: integrated approaches to improve prevention, clinical care, and research

By: AIR Maas, et al.

In: Lancet Neurology, 2017

Regression Discontinuity Design: Simulation and Application in Two Cardiovascular Trials with Continuous Outcomes.

By: N van Leeuwen, et al.

In: Epidemiology, 2016

Selection of patients for intra-arterial treatment for acute ischaemic stroke: development and validation of a clinical decision tool in two randomised trials

By: E Venema, et al.

In: British Medical Journal, 2017

Risk adjustment models for short-term outcomes after surgical resection for oesophagogastric cancer

By: C Fischer, et al.

In: British Journal of Surgery, 2016

Causes and Consequences of Treatment Variation in Moderate and Severe Traumatic Brain Injury: A Multicenter Study

By: MC Cnossen, et al.

In: Critical Care Medicine, 2017

A new concordance measure for risk prediction models in external validation settings

By: D van Klaveren, et al.

In: Statistics in Medicine, 2016

Medical care and decision making at the end of life

End-of-Life Decisions in the Netherlands over 25 Years

By: A van der Heide, et al.

In: New England Journal of Medicine, 2017

Definition and recommendations for advance care planning: an international consensus supported by the European Association for Palliative Care

By: JAC Rietjens, et al.

In: Lancet Oncology, 2017

No Negative Impact of Palliative Sedation on Relatives' Experience of the Dying Phase and Their Wellbeing after the Patient's Death: An Observational Study

By: SM Bruinsma, et al.

In: PLoS One, 2016

Understanding the Continuation of Potentially Inappropriate Medications at the End of Life: Perspectives from Individuals and Their Relatives and Physicians

By: EC Geijteman, et al.

In: Journal of the American Geriatric Society, 2016

The prevalence and associated distress of physical and psychological symptoms in patients with advanced heart failure attending a South African medical center

By: ME Lokker, et al.

In: Journal of Cardiovascular Nursing, 2016

Effect of palliative care nurse champions on the quality of dying in the hospital according to bereaved relatives: A controlled before-and-after study

By: FE Witkamp, et al.

In: Palliative Medicine, 2016

Occupational health

The benefits of paid employment among persons with common mental health problems: evidence for the selection and causation mechanism

By: M Schuring, et al.

In: Scandinavian Journal of Work and Environmental Health, 2017

Influence of obesity and physical workload on disability benefits among construction workers followed up for 37 years

By: SJW Robroek, et al.

In: Occupational and Environmental Medicine, 2017

The influence of poor health on competing exit routes from paid employment among older workers in 11 European countries

By: KG Reeuwijk, et al.

In: Scandinavian Journal of Work and Environmental Health, 2017

Cardiovascular disease, diabetes and early exit from paid employment in Europe; the impact of work-related factors

By: TA Kouwenhoven-Pasmooij, et al.

In: International Journal of Cardiology, 2016

To RCT or not to RCT: evidence on effectiveness of return-to-work interventions

By: A Burdorf, et al.

In: : Scandinavian Journal of Work and Environmental Health, 2016

Work as treatment? The effectiveness of re-employment programmes for unemployed persons with severe mental health problems on health and quality of life: a systematic review and meta-analysis

By: RM van Rijn, et al.

In: Occupational and Environmental Medicine, 2016

Health technology assessment & implementation

The economic burden of injury: Health care and productivity costs of injuries in the Netherlands

By: S Polinder, et al.

In: Accident Analysis & Prevention, 2016

The global burden of injury: incidence, mortality, disability-adjusted life years and time trends from the Global Burden of Disease study 2013

By: JA Haagsma, et al.

In: Injury Prevention, 2016

Mortality prediction models in the general trauma population: A systematic review

By: L de Munter, et al.

In: Injury, 2017

Falls prevention activities among community-dwelling elderly in the Netherlands: A Delphi study

By: BF Olij, et al.

In: Injury, 2017

Years of life lost due to traumatic brain injury in Europe: A cross-sectional analysis of 16 countries

By: M Majdan, et al.

In: PLoS Medicine, 2017

Prevalence of and Risk Factors for Anxiety and Depressive Disorders after Traumatic Brain Injury: A Systematic Review

By: AC Scholten, et al.

In: Journal of Neurotrauma, 2016

Cancer surveillance

Resection of pancreatic cancer in Europe and USA: an international large-scale study highlighting large variations
By: L Huang, et al.
In: Gut, 2017

Nationwide outcomes in patients undergoing surgical exploration without resection for pancreatic cancer
By: LGM van der Geest, et al.
In: British Journal of Surgery, 2017

Recurrence-free and overall survival among elderly stage III colon cancer patients treated with CAPOX or capecitabine monotherapy
By: FN van Erning, et al.
In: International Journal of Cancer, 2017

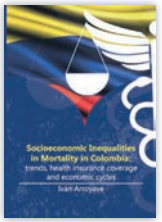
Challenging the dogma of colorectal peritoneal metastases as an untreatable condition: Results of a population-based study
By: LG Razenberg, et al.
In: European Journal of Cancer, 2016

Elderly Patients Strongly Benefit from Centralization of Pancreatic Cancer Surgery: A Population-Based Study
By: LG van der Geest, et al.
In: Annals of Surgical Oncology, 2016

Hospital of diagnosis and probability of having surgical treatment for resectable gastric cancer
By: M van Putten, et al.
In: British Journal of Surgery, 2016

PHD Theses 2016-2017

2016



Ivan Arroyave. Socioeconomic inequalities in mortality in Colombia. Rotterdam, 07-01-2016.

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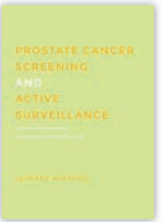

Leonard Bokhorst. Prostate cancer screening and active surveillance: Can we increase survival without doing too much harm? Rotterdam, 22-06-2016.

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Yannan Hu. Social and political determinants of population health in Europe. Rotterdam, 14-09-2016.

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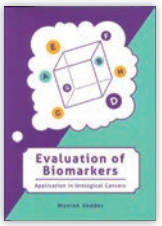

Moniek Vedder. Evaluation of Biomarkers. Rotterdam, 13-01-2016.

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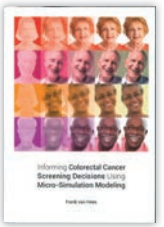

Frank van Hees. Informing colorectal cancer screening decisions using micro-simulation modeling. Rotterdam, 28-06-2016.

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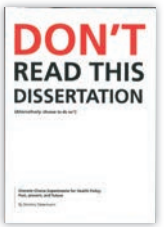

Domino Determann. Discrete choice experiments for health policy: Past, present, and future. Rotterdam, 28-09-2016.

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Kirsten Rozemeijer. The Effects of new screening tests in the Dutch cervical cancer screening programme. Rotterdam, 21-01-2016.

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Harald Miedema. Course, prognosis and management of nonspecific musculoskeletal disorders. Rotterdam, 06-07-2016.

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Annemieke Scholten. Outcome after traumatic brain injury. Rotterdam, 31-08-2016.

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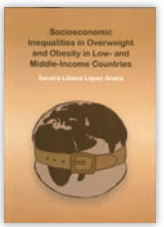

Sandra Lopez Arana. Socioeconomic Inequalities in overweight and obesity in low- and middle-income countries. Rotterdam, 01-11-2016.

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Inge Wagenaar. Risk factors, early detection and treatment of neuropathy in leprosy. Rotterdam, 02-11-2016.

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Dennis de Putter. Hand and wrist Injuries: Trends and societal consequences. Rotterdam, 16-11-2016.

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Paula van Luijt. Overdiagnosis in the Dutch and Norwegian breast cancer screening program. Rotterdam, 29-11-2016.

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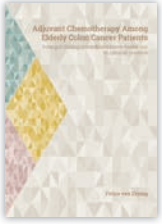

Felice van Erning. Adjuvant chemotherapy among elderly colon cancer patients: From gut feeling towards evidence-based use in clinical practice. Rotterdam, 21-12-2016.

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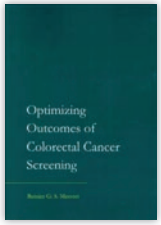

Reinier Meester. Optimizing outcomes of colorectal cancer screening. Rotterdam, 04-01-2017.

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Tjeerd van der Ploeg. Prediction of medical outcomes with modern modelling techniques. Rotterdam, 11-01-2017.

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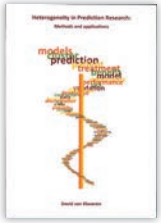

David van Klaveren. Heterogeneity in prediction research: Methods and applications. Rotterdam, 13-01-2017.

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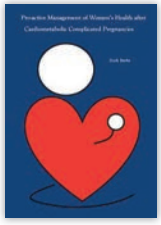

Durk Berks. Pro-active management of women's health after cardiometabolic complicated pregnancies. Rotterdam, 17-01-2017.

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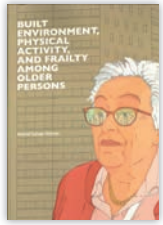

Astrid Etman. Built environment, Physical activity, and frailty among older persons. Rotterdam, 22-02-2017.

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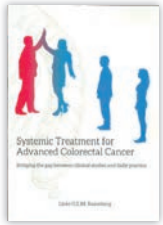

Lieke Razenberg. Systemic treatment for advanced colorectal cancer: Bridging the gap between clinical studies and daily practice. Rotterdam, 12-04-2017.

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Nienke Bernards. Hard to digest? : Treatment and survival of patients with metastatic upper gastrointestinal cancer. Rotterdam, 13-04-2017.

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Steffie Naber. Reducing harms and increasing benefits of screening for cervical cancer and colorectal cancer – A Model-based Approach. Rotterdam, 19-04-2017.

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Suzette Matthijsse. The impact of HPV vaccination on HPV and cervical cancer in the Netherlands. Rotterdam, 03-05-2017.

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Laura Dwyer-Lindgren. Geographic patterns and disparities in health-related behaviors and outcomes in the United States. Rotterdam, 11-10-2017.

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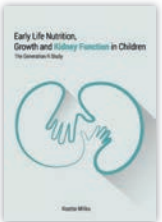

Kozeta Miliku. Early life nutrition, growth and kidney function in children: The Generation R Study. Rotterdam 24-05-2017.

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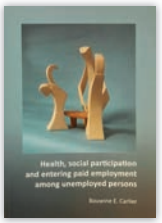

Bouwine Carlier. Health, social participation and entering paid employment among unemployed persons. Rotterdam, 31-10-2017.

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Vivian Kruitwagen- van de Gaar. Promoting healthy behaviours among children living in disadvantaged neighbourhoods. Development and evaluation of a social marketing intervention: The 'Water Campaign'. Rotterdam, 30-05-2017.

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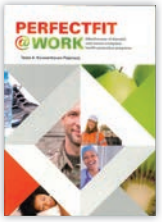

Tessa Kouwenhoven-Pasmooij. Perfectfit @ work: Effectiveness of blended web-based workplace health promotion programs. Rotterdam, 28-11-2017.

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Tiago Carvalho Delgado Marques. Harms and benefits of prostate cancer screening and active surveillance. Rotterdam, 28-06-2017.

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Kevin ten Haaf. Lung cancer screening: Optimization through risk stratification. Rotterdam, 07-12-2017.

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Colophon

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Clare Aitken, David Blok, Vicki Erasmus, Juanita Haagsma, Agnes van der Heide, Tanja Houweling, Farsia Mokiem, Soraya Janssen and Marieke van Rijs. Department of Public Health, Erasmus MC, University Medical Center Rotterdam, the Netherlands

Lay-out
Reclamebureau 390
Front cover image
Piet Smaal, © Erasmus MC

Photography
Levien Willemse, Rotterdam

Language
Laraine Visser-Isles | The Language Bureau, Rotterdam

Printed by
IVA Groep BV, Rotterdam

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