# CAPHRI ANNUAL REPORT 2024

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# Content

# PREFACE

# A year of impact

As Director of the Care and Public Health Research Institute (CAPHRI), I am proud to present the annual report of our institute. CAPHRI began 2024 on a strong note, receiving a highly positive evaluation from the external review committee. The Chair of the ERC stated: “I speak for the entire committee in congratulating CAPHRI on ensuring a very good level of performance across the following assessment criteria: research quality, societal relevance, and viability.”

Throughout the year 2024, we were awarded several prestigious grants, including a Vidi grant and major NWO grants. Our PhD candidates also received multiple awards in recognition of the outstanding quality of their dissertations.

We further strengthened our collaboration with regional health and care organisations through our Living Labs. In 2024, two new Living Labs have been established, the Living Lab Community Nursing Care Limburg and Living Lab Family Medicine - $HO_3$RIZON.

In addition to regional partnerships, we deepened our collaboration with national and international partners, including Zuyd University of Applied Sciences, the Netherlands School of Public Health and Care Research (CaRe), and the Centre for Health and Society at Heinrich Heine University Düsseldorf in Germany.

At CAPHRI, we find it essential that our researchers work in a positive and stimulating environment. That is why we dedicated our annual Research Day to the theme “Fostering Wellbeing in Our CAPHRI Community.”

We hope you enjoy reading our annual report.

On behalf of the CAPHRI community,

Silvia Evers
Scientific Director, Care and Public Health Research Institute

October 2025

*Scientific Director Silvia Evers and Managing Director Sabina Bulic*

# ABOUT CAPHRI

# Mission and Vision

**CAPHRI strives to create a healthy society for everyone by providing high quality research to improve the individual quality of life and innovate healthcare and public health. Building a bridge between our research and society has our highest priority.**

Our innovative work focuses on prevention, prognostic studies, and intervention research, ranging from public and primary healthcare to person-oriented, long-term care.

Our research addresses local, regional, national, European, and global topics, and is thematically embedded in six research lines. In all of our work, we are guided by our core values:

### We care for health and wellbeing

We believe that health, care, and wellbeing are crucial elements of resilient individuals and successful societies.

### We value cooperation and inclusion

It is our conviction that true innovation happens when people from different backgrounds, perspectives, and capabilities come together.

### Our research has societal relevance

While generating new knowledge is essential, we are particularly focused on ensuring this knowledge creates real societal impact. We see knowledge as a means to an end, and therefore actively share our findings with the wider public through publications, public education, and outreach initiatives.

# Research Lines

**CAPHRI's research is structured around six thematic Research Lines (RLs). In each line, multidisciplinary teams of researchers from different discipline-oriented departments collaborate to tackle key challenges**

Each RL is led by a Chair and a Vice-Chair, and comprises researchers from various departments. The Research Lines are the lifeblood of CAPHRI, driving our research output and activities.

**Ageing and Long-Term Care (ALTC)**


**Creating Value-Based Health Care (VHC)**

**Functioning, Participation and Rehabilitation (FPR)**

**Health Inequities and Societal Participation (HISP)**

**Optimising Patient Care (OPC)**

**Promoting Health and Personalised Care (PHPC)**

# CAPHRI's Organisational Structure and Governance

**CAPHRI operates within the Faculty of Health, Medicine and Life Sciences (FHML). The overall governance of the institute rests with the CAPHRI Management Board, which consists of the Scientific Director and the Managing Director.**

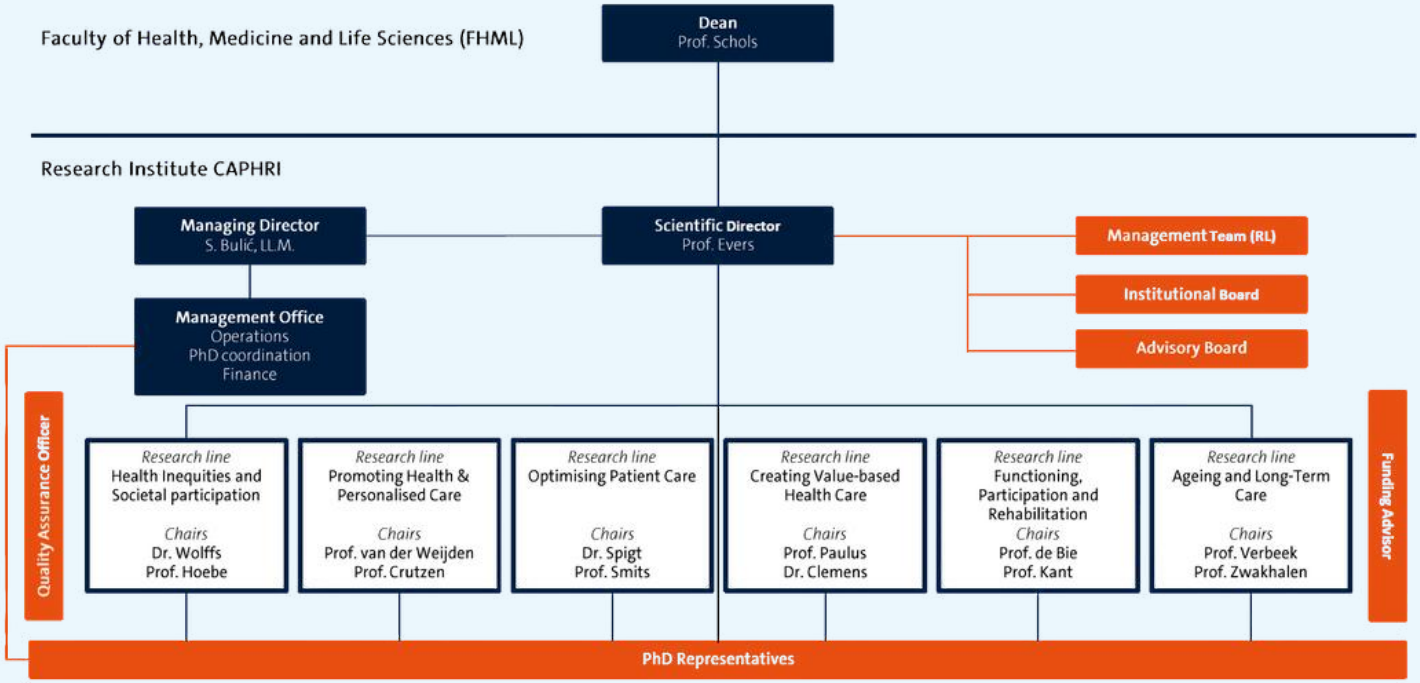
The Scientific Director holds final accountability for all strategic and academic matters and reports directly to the Dean. The Managing Director oversees operational management and day-to-day business, supported by the Management Office (handling Finance, Operations, and PhD Coordination).

Our governance structure includes external oversight from an Institutional Board and advice from an Advisory Board, ensuring robust strategic direction. Essential functional support is provided by a Quality Assurance Officer and a Funding Advisor.

### Management and Research Lines

The CAPHRI Management Team, which was formerly known as the RL-leaders meeting, was established in early 2022 to provide additional emphasis to team management and to emphasise the equal roles of all its members.

The Management Team comprises the six RL Chairs and the Management Board, ensuring short communication lines between the RLs and the Management Board. The Management Team provides input, maintains oversight across activities, develops policies, etc. The individual RL Chairs hold the responsibility for the scientific and financial management of their respective RL, while ensuring accountability to the Management Board.




**Core Departments**
Epidemiology
Family Medicine
Health Promotion
Health Services Research
Health, Ethics and Society
International Health
Methodology and Statistics
Orthopaedic Surgery
Rehabilitation
Social Medicine
Clinical Epidemiology and Medical Technology Assessment

**Associated Departments**
Internal Medicine / Rheumatology
Medical Microbiology, Infectious Diseases & Infection Prevention

**Living Labs and Centers**

**Commissions**
Science Commission est. 2023
Communication Commission est. 2023
International Collaboration Commission
Quality Assurance Committee

# CAPHRI Chairs

| Research Line | Name | Title Chair |
|---|---|---|
| FPR | Chris Arts | Orthopaedics, in particular Translational Biomaterials Research |
| FPR | Rob de Bie | Research in Physiotherapy |
| PHPC | Loes van Bokhoven | Interprofessional Collaboration and Learning in Primary Healthcare |
| FPR | Annelies Boonen | Rheumatology |
| HISP | Hans Bosma | Social Epidemiology |
| VHC | Helmut Brand | European Public Health |
| OPC | Piet van den Brandt | Epidemiology |
| PHPC | Gerard van Breukelen | Methodology and Statistics |
| PHPC | Jako Burgers | Promoting Personalised Care in Clinical Practice Guidelines |
| OPC | Jochen Cals | Effective Diagnostics in Family Medicine |
| PHPC | Matty Crone | Health Promotion, focussing specifically on the Connection between Prevention and Care |
| PHPC | Rik Crutzen | Behaviour Change & Technology |

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|---|---|---|
| VHC | Kasia Czabanowska | Public Health Leadership and Workforce Development |
| VHC | Carmen Dirksen | Health Technology Assessment of Clinical Interventions |
| OPC | Edward Dompeling | Early Diagnosis, in particular Monitoring and Treatment of Lung Diseases in Childhood |
| VHC | Silvia Evers | Public Health Technology Assessment |
| VHC | Wim Groot | Health Economics |
| ALTC | Jan Hamers | Care of Older People |
| ALTC | Jeroen Hendriks | Nursing Science, in particular focused on Integrated Care |
| HISP | Christian Hoebe | Social Medicine, in particular Infectious Disease Control |
| HISP | Paul Hofman | Forensic and Post-mortem Radiology |
| HISP | Klasien Horstman | Philosophy of Public Health |
| ALTC | Daisy Janssen | Old Age Medicine with special focus on Personalised Care for People with Advanced Chronic Organ Failure |
| VHC | Judith de Jong | Healthcare System and Governance |
| VHC | Manuela Joore | Health Technology Assessment and Decision Making |
| FPR | Ijmert Kant | Epidemiology, in particular Occupational Epidemiology |
| HISP | Anja Krumeich | Translational Ethnographics in Global Health and Education |

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|---|---|---|
| FPR | Ton Lenssen | Clinical Physiotherapy |
| VHC | Frits van Merode | Logistics and Operational Management in Healthcare |
| OPC | Jean Muris | Family Medicine |
| PHPC | Gera Nagelhout | Health and Wellbeing of People with a Lower Socioeconomic Position |
| PHPC | Marianne Niewenhuijze | Midwifery |
| VHC | Aggie Paulus | Economics of Education and Healthcare |
| VHC | Milena Pavlova | Health Economics and Equity |
| PHPC | Jany Rademakers | Health Literacy and Patient Participation |
| FPR | Lodewijk van Rhijn | Orthopaedics |
| HISP | Angelique de Rijk | Work and Health, specialising in Re-integration into Work |
| VHC | Dirk Ruwaard | Public Health and Health Care Innovation |
| HISP | Paul Savelkoul | Medical Microbiology |
| OPC | Onno van Schayck | Preventive Medicine |
| ALTC | Jos Schols | Geriatrics |
| FPR | Rob Smeets | Rehabilitation Medicine |

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|---|---|---|
| OPC | Luc Smits | Clinical Epidemiology and Risk-Based Care |
| VHC | Marieke Spreeuwenberg | Health Innovation and Digital Transformation |
| OPC | Joep Teijink | Integrated Care in Vascular Disease |
| FPR | Astrid Tubergen | Outcomes and Innovation in Rheumatology Practices |
| ALTC | Hilde Verbeek | Long-Term Care Environments |
| FPR | Jeanine Verbunt | Rehabilitation Medicine |
| FPR | Tim Welting | Experimental Orthopaedics, in particular Molecular Cartilage Biology |
| PHPC | Trudy van der Weijden | Implementation of Clinical Practice Guidelines |
| PHPC | Guido de Wert | Ethics of Reproductive Medicine and Genetic Research |
| FPR | Paul Willems | Integrated Spinal Care |
| PHPC | Marc Willemsen | Tobacco Control Research |
| OPC | Maurice Zeegers | Complex Genetics and Epidemiology |
| ALTC | Sandra Zwakhalen | Nursing Science, in particular focused on Geriatric Care at Home |

# MEET OUR NEW PROFESSORS

# Health Promotion; the connection between Prevention and Care

**Prof. dr. Matty Crone is concerned with syndemic vulnerability in individuals and populations. A syndemic means 1) that health problems co-occur in individuals or populations, 2) that these health problems interact and lead to a greater burden of disease or worse health than expected, and 3) that social and individual processes create the conditions in which health problems cluster and interact.**

Even if health problems cluster in vulnerable populations, it is now often unclear whether they just co-occur or whether one causes the other and potentially leads to a greater burden of disease.

This syndemic vulnerability often cannot be addressed with medical screening and treatments alone or with only individual behavioral change programmes. It requires a more holistic approach.

Prof. dr. Matty Crone focuses her research on:

- Understanding how clustering and interacting health problems arise and how social and individual circumstances play a role in this.
- Developing and evaluating preventive and care programs to support health and well-being in case of syndemic vulnerability.
- To strengthen the implementation, sustainability and reach of successful programs.

Together with the LUMC, Utrecht University and the Amsterdam UMC, she will investigate in the coming years how and which system dynamics play a role in the clustering of health problems and in health inequalities, and which promising intervention there are to achieve systems for health. In this she actively cooperates with, among others, residents, patients, health care providers and policy makers.

→ View academic publications

# Bridging Academic Research and Patient-Centred Integrated Care

**Prof. dr. Jeroen Hendriks is the new Professor of Nursing Science, specialising in Integrated Care. This appointment signifies a major commitment to strengthening the academic foundation of nursing and ensuring innovative research translates directly into superior patient care.**

Hendriks' expertise is centred on developing and evaluating new care models for chronic cardiovascular conditions, specifically atrial fibrillation (AF). His core philosophy, Integrated Care, advocates for a holistic approach that connects person-centred care, multidisciplinary teams, and technology. He strongly advocates for the central, driving role of nurses in coordinating this complex care and fostering patient empowerment.

His research challenges traditional models by focusing on how academic findings can be immediately translated into improved patient outcomes and more future-proof nursing services. This work aims to solidify the academic basis of clinical care and ensure that nursing practice is at the forefront of innovation.

Prof. dr. Jeroen Hendriks focuses his research on:

- Developing and evaluating Integrated Care models that empower nurses to manage complex chronic conditions like AF.
- Strengthening the infrastructure for nursing and multidisciplinary research across the hospital and community setting.
- Investigating the effective implementation and sustainability of innovative findings, ensuring research-based improvements reach the patient.

His collaborative efforts with the Department of Nursing, HSR, and CAPHRI reinforce the connection between UM's academic climate and clinical care, underscoring a joint commitment to an evidence-based, patient-centred future for healthcare.

→ View academic publications

# From Digital Innovation to Healthcare Impact

**Prof. dr. Marieke Spreeuwenberg, professor of Healthcare Innovation and Digital Transformation, is dedicated to making healthcare more appropriate and affordable through digital technology. Her research aligns directly with the societal need to transform care, focusing on the strategic shift toward hybrid care—a purposeful mix of in-person and remote digital services.**

The driving philosophy is simple: “do it yourself if possible, at home if possible, and digitally if possible.” Digital technology has proven its immense value, enabling solutions like remote monitoring of chronic patients, which significantly reduces the need for hospital visits. However, embedding these solutions as a standard form of care presents numerous challenges for healthcare organizations.

Prof. dr. Spreeuwenberg's work, rooted in her background in psychology and statistics, provides the crucial knowledge needed to overcome these barriers. Her research focuses on three key areas:

- Innovating and Evaluating Digital Solutions: She acquires knowledge on the development, implementation, and evaluation of digital and data-driven healthcare innovations, ensuring they genuinely benefit patients and care providers.
- Strategic Implementation: Her work identifies the essential implementation strategies that healthcare organizations must follow to successfully transition to appropriate, hybrid healthcare models.
- Cultivating Future Expertise: She is actively engaged in training future bridge-builders through education, ensuring that new healthcare professionals have the strategic skills needed to lead this ongoing digital transformation.

Prof. dr. Spreeuwenberg's research is thus essential for moving beyond simply adopting new technology to achieving real, sustained impact in healthcare delivery.

→ View academic publications

# Translating Biomaterials: Orthopaedic Solutions from Lab to Clinic

**Prof. Dr. Chris Arts, Professor of Translational Biomaterials Research, focuses on solving complex orthopaedic challenges through material science. His research, embedded within the CAPHRI research line Functioning, Participation, and Rehabilitation, centers on the intricate interplay of biomaterials, biology, and biomechanics—a field known as mechanobiology.**

The core of his research addresses the vital question: What is the most optimal way for a medical implant to integrate with bone, and how do we design materials that enhance the body's natural healing?

This translational work, which includes both fundamental inquiry and direct patient application, is currently focused on three clinical indication areas:

- Combating Antimicrobial Resistance (AMR): Developing innovative material technologies, such as coatings and 3D printing techniques, to prevent and treat implant-related infections and the escalating problem of antibiotic resistance.
- Healing Bone Defects: Creating specialized biomaterials and using additive manufacturing to promote successful bone regeneration in large defects that would otherwise fail to heal.
- Treating Spinal Deformities: Designing and implementing advanced biomaterials and implants for the improved correction and fusion in complex spinal surgeries, such as for scoliosis.

In his role, Prof. Arts actively builds and leads large, multidisciplinary consortia—such as the NWA-ORC DARTBAC and Interreg Prosperos-II projects—to connect academic, clinical, and industrial partners. This concerted effort ensures research rapidly translates into new technologies and improved patient care for bone defects, infection prevention, and spinal deformities.

→ View academic publications

PHD
COMMUNITY

# PhD Community

**Within CAPHRI, we aim at optimising the development of PhD candidates by investing in training, support, and supervision. We train highly employable and skilled PhD candidates for independent research positions in the academic, industrial, and governmental labour market and systematically contribute to workforce capacity building of professionals.**

## PhD Community

A total of 491 PhD candidates ( 92 internal PhD candidates, 49 PhD candidates employed by UM/MUMC+ and 350 external PhD candidate (all types) is part of our CAPHRI Community [as per December 31, 2024]. And in 2024 we welcomed an additional 84 new candidates. In this year, CAPHRI was involved in 72 PhD theses. Congratulations to all these PhD candidates on their outstanding achievements!
Additionally, many of our PhD students have been rewarded for their work over the past year:

- **Marla Hahnraths** (PHPC, Department of Family Medicine) won the **CAPHRI Dissertation Award 2023** for her PhD thesis titled "*The Integration of Health Promotion in Primary School Settings: Challenges and Opportunities*". She was nominated for this award together with **Emmelie Hazelzet** (HISP, Department of Social Medicine) and **Nannan Li** (VHC/FPR, Department of Health Services Research).

- **Emmelie Hazelzet** (HISP, Department of Social Medicine) won the **CaRe-award 2024** for her PhD thesis, titled "*Promoting sustainable employability of employees in low-skilled jobs. Development, implementation, and evaluation of a dialogue-based intervention"*.

- **Michelle Verheijden** (PHPC, Department of Family Medicine) won the **CAPHRI Poster Award 2024** and **Yara Sievers** (PHPC, Department of Health Promotion) won the **CAPHRI Public Poster Award 2024**.

- **Kasper Hermans** (FPR, Department of Rheumatology) won the award for the **Best Oral Abstract Presentation** during the 14th International Congress on Spondyloarthritides.

- **Lieke Maas** (VHC, Department of Health Services Research) won the **Young Investigator Award** and **Lakshmi Nagendra** (VHC, Department of International Health) received the **Pierre Meunier Young Scientist** award during the World Congress of Osteoporosis.

## PhD Representation and support

CAPHRI is strongly committed to representing and supporting its PhD candidates. In 2024, we closely collaborated with a team of 5 PhD representatives: Diogo Lopes Leao (VHC, Department of Health Services Research), Quincy Merx (ALT-C, Department of Health Services Research), Chrissy Moonen (HISP, Department of Social Medicine), Esther van Santbrink (FPR, Department of Epidemiology) and Giselle Menting (PHPC, Department of Health Promotion). The representatives organise both formal and informal events to strengthen the PhD community. In 2024 they have organised a webinar (''A practical guide for your PhD Journey'), the Spring Meeting ('An Insider's Guide to your PhD Journey'),the Kick-off Academic Year Meeting ('Networking workshop') and social events (bouldering and a PhD Christmas celebration). In addition, they communicate news, updates, and opportunities through the monthly PhD POST, UMployee and personal communication within their research line and department. Finally, they voice the PhD perspective in quarterly meetings with the CAPHRI management, but also during regular meetings at the faculty and university level. In addition, CAPHRI has two confidential contact persons: Inge Houkes (HISP, Department of Social Medicine) and Milena Pavlova (VHC, Department of Health Services Research). They offer independent advice, support and confidential guidance to PhD candidates seeking advice, or facing challenges.

# PhD Dissertations 2024

*Clicking a research line will take you directly to the dedicated webpage of all associated PhD dissertations*

## Ageing and Long-Term Care

Managing everyday life: exploring the essential components of reablement and user experiences
**Ines Mouchaers**

Are we walking or just talking? Enhancing relatonship-centered care in nursing homes
**Johanna Rutten**

The place to be - Guiding the activation of a community to facilitate ageing in place
**Katinka Pani-Harreman**

The transition from home to a nursing home: the perspectives and experiences of older people with dementia, informal caregivers and professional caregivers
**Lindsay Groenvynck**

Undervalued & Unexplored - Underpinning and Guiding Nursing Care in Activities of Daily Living
**Svenja Cremer**

Deprescribing in nursing home residents: when less is more?
**Anne Visser**

## Creating Value-Based Health Care

Exploring lisfranc injuries: From surgical choices to patient perspectives and economic implications
**Noortje van den Boom**

The utilization of maternal health services in primary healthcare settings: findings from Indonesia
**Herwansyah**

Enhancing efficiency in epilepsy care: a health technology assessment perspective
**Hoi Yau Chan**

Together towards timely dementia diagnoses: the need for and value of shared decision-making
**Iris Linden**

Identifying and capturing intersectoral costs and benefits relating to sexual health
**Lena Schnitzler**

Identification of unmet care needs, treatment preferences and health economic implications to optimize disease management outcomes in the field of chronic inflammatory skin diseases
**Damon Willems**

Health outcomes measurement for value-based healthcare: evidence from Saudi Arabia
**Rawia Abdalla**

Cardiovascular & pulmonary rehabilitation in lebanon
**Rebecca Farah**

Health economic evaluations of innovations in anterior segment eye surgery
**Rob Simons**

The role of European Union enlargement in mortality convergence across Europe
**Rok Hrzic**

Sacral neuromodulation for idiopathic slow-transit constipation
**Stella Heemskerk**

Perceptions of quality and satisfaction with primary healthcare in Ukraine
**Valentyna Anufriyeva**

Optimizing quality of care in fracture patients at high risk of new fractures and patients with drug-resistant epilepsy eligible for resective brain surgery: Patient-centered care and economic assessments
**Lieke Maas**

Healthy schools, flourishing students: exploring the role of schools in shaping students' lifestyle, health, and educational performance
**Lisanne Vonk**

Rethinking electronic health record implementation in Germany: A value-based health system approach
**Tugce Schmitt**

Assessment of comorbid depression in patients with diabetes: An analysis of instruments, costs, patterns of health care use and future utilization
**Ute Linnenkamp**

**Functioning, Participation and Rehabilitation**

Moving beyond exercise oncology rehabilitation
**Anouk Tanja Rudy Weemaes**

Towards a shared understanding of chronic pain: patient–practitioner interaction in interdisciplinary pain rehabilitation
**Baukje Stinesen**

Surgical site infections of orthopaedic implants
**Daniël Janssen**

Patient-specific instrumentation: shaping the future of knee arthroplasty?
**Daphne Schoenmakers**

Treatment of conservative therapy resistant calcifying tendinitis of the shoulder: Evaluation of minimal invasive and surgical treatment options
**Freek Verstraelen**

Effectiveness and cost-effectiveness in lumbar spine surgery
**Ruud Droeghaag**

Physical activity, participation and healthrelated quality of life in chronic fatigue syndrome and multiple osteochondromas
**Kuni Vergauwen**

Unlocking the transition: Prognostic modeling for chronic neck pain in primary care
**Martine Janine Verwoerd**

Unravelling the role of and the interrelation between somatosensory functioning and metabolic factors in chronic (postsurgical) osteoarthritis pain
**Lotte Meert**

Biomarkers in cartilage repair and osteoarthritis: mass spectrometry (imaging) for the detection of possible diagnostic and therapeutic biomarkers for cartilage repair and osteoarthritis development
**Mirella Haartmans**

Heterogeneity in individuals with knee osteoarthritis awaiting total knee arthroplasty and its impact on outcome from a biopsychosocial perspective
**Sophie Vervullens**

Work-related support for people with chronic diseases in clinical care: work in progress
**Maarten Butink**

Gait function in spinal cord injury: Assessing and improving gait function after spinal cord injury
**Romina Willi**

Sacroiliac joint dysfunction: is fusion the solution?
**Sem Hermans**

Stent-screw-Assisted Internal Fixation (SAIF): Minimally-Invasive Vertebral Body Reconstruction in Extensive Neoplastic and Osteoporotic Lesions
**Alessandro Cianfoni**

Outcomes of anterior cervical spine surgery: a valérization
**Valérie Schuermans**

Calcification and calcium-containing crystals in Osteoarthritis; a molecular exploration of a crystal clear connection
**Roderick Stassen**

## Health Inequities and Societal Participation

Development and evaluation of the 'Medical Advice for Sick-reported Students Primary School' (MASS-PS) intervention
**Esther Pijl**

Unravelling vaccination behaviour: observational and experimental studies
**Veja Widdershoven**

Work-related support for people with chronic diseases in clinical care: work in progress
**Maarten Butink**

Imaging in perinatal death: The role of mri in fetal autopsy; Future or fiction?
**Maud Tijssen**

Mapping and optimising infection prevention and control in long-term and primary care: a systems perspective
**Matthew Davies**

Improving infectious disease control in care facilities: studies on infection prevention, antimicrobial resistance and COVID-19
**Mitch van Hensbergen**

Income inequality and socioeconomic differences in adolescents' health and health-behavior in post-Communist countries of Europe
**Armen Torchyan**

Postmortem computed tomography and Imaging-guided biopsy: Exploring applications and limitations in clinical practice
**Max Mentink**

Unravelling pandemic drivers: whole genome sequencing and routinely collected data is key in analyzing COVID-19 transmission and management
**Koen Gorgels**

Connections that count: Unraveling the impact of social networks on health and the role in pandemic preparedness
**Lisanne Steijvers**

Men and women's participation in resolution of land based conflicts in Mt. Elgon Region, Kenya
**Benson Mutuku Muthama**

Mapping and optimising infection prevention and control in long-term and primary care: a systems perspective
**Famke Houben**

## Optimising Patient Care

Impact of maternal malnutrition on adverse pregnancy and infant outcomes
**Deepa Ravi**

The epidemiology of tinnitus in Italy and Europe: Burden, risk factors, and implications for public health
**Carlotta Jarach**

Epidemiology and determinants of obesity in aly and Europe before and after the Covid-19 era
**Chiara Stival**

ABCC: Easy as 1-2-3? Studying the implementation of a digital innovation in Dutch general practices
**Danny Claessens**

Optimization of care for patients with superficial basal cell carcinoma
**Lieke van Delft**

Digital self-management support for patients with esophageal cancer
**Daniëlle Adriaans**

Critical appraisal of sports genetics: With an emphasis on endurance sports
**Magdalena Schellenberg**

Psychosocial environment during the perinatal period and its adverse impact on mother and child health
**Prafulla Shriyan**

Optimizing person-centered chronic care: Lessons learned from the COVID-19 pandemic
**Jeroen Gruiskens**

Advancing quality of recovery: truncal fascial plane blocks in perioperative care
**Renee van den Broek**

## Promoting Health & Personalised Care

An exploration of factors influencing cannabis use among Andalusian adolescents
**María del Carmen Torrejón Guirado**

Ehealth intervention to optimize adherence in late adolescents and young adults with type 1 diabetes: content development and preparing adoption
**Hanan AlBurno**

Bridging the age gap: impact of age on treatment, survival and patient outcomes in older patients with cancer
**Doris van Abbema**

Understanding implementation of whole-school health promotion
**Gerjanne Vennegoor**

New insights into the diagnostic workup of oropharyngeal dysphagia in head and neck cancer patients: Integration of fiberoptic endoscopic evaluation of swallowing and patient-reported outcome measures for clinical decision making
**Sorina R. Simon**

Cyclic evaluation of web-based public health interventions
**Gido Metz**

Guideline development on healthcare related testing
**Margaretha Tuut**

Postpartum depression in the UAE: insights, challenges, and pathways to support
**Nivine Hanach**

Optimizing person-centered chronic care: Lessons learned from the COVID-19 pandemic
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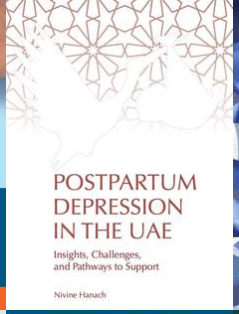
From policy to practice: how tobacco taxation affects smoking behaviour
**Cloé Geboers**

From dialogue to decision: Exploring medical options, benefits and harms, and patient preferences in different clinical contexts
**Romy Richter**

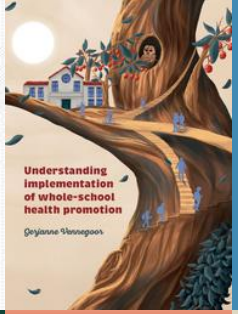
Patient involvement as a two-way street: How patients can be prepared for and benefit from involvement in healthcare professionals' training
**Sjim Willem Adriaan Romme**

My, your or our decision? Exploring, understanding, and optimizing the decision-making process for couples at risk of transmitting a genetic disease to their offspring
**Yil Severijns**


GUIDELINE DEVELOPMENT ON HEALTHCARE RELATED TESTING
Mariska Tuut


POSTPARTUM DEPRESSION IN THE UAE
Insights, Challenges, and Pathways to Support
Nivine Hanach


CYCLIC EVALUATION OF WEB-BASED PUBLIC HEALTH INTERVENTIONS
Gido Metz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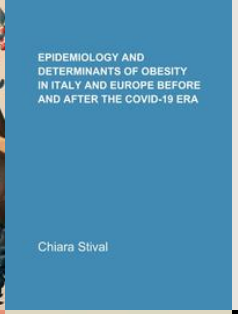
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How tobacco taxation affects smoking behaviour


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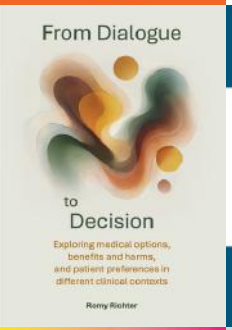
From Dialogue
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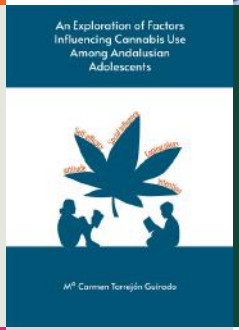
An Exploration of Factors Influencing Cannabis Use Among Andalusian Adolescents
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Patient involvement as a two-way street


My, your or our decision?
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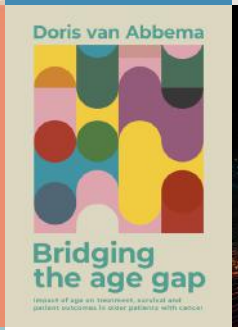
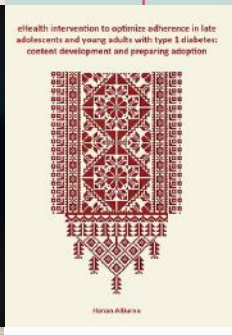
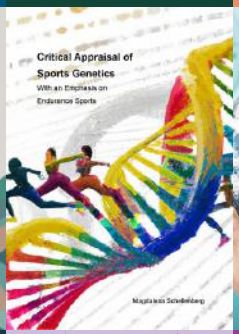

Doris van Abbema
Bridging the age gap


NEW INSIGHTS INTO THE DIAGNOSTIC WORKUP OF OROPHARYNGEAL DYSPHAGIA IN HEAD AND NECK CANCER PATIENTS
Sorina R. Simon


eHealth intervention to optimize adherence in late adolescents and young adults with type 1 diabetes: content development and preparing adoption

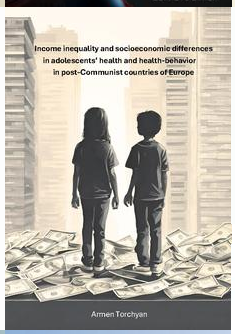

ADVANCING QUALITY OF RECOVERY
TRUNCAL FASCIAL PLANE BLOCKS IN PERIOPERATIVE CARE
RENEE VAN DEN BROEK


THE EPIDEMIOLOGY OF TINNITUS IN ITALY AND EUROPE
Burden, risk factors, and implications for public health
Carlotta Micaela Jaradi

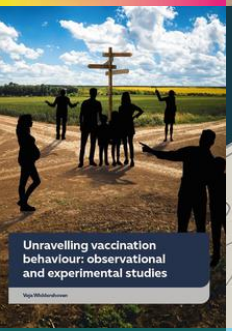

Critical Appraisal of Sports Genetics
With an Emphasis on Endurance Sports

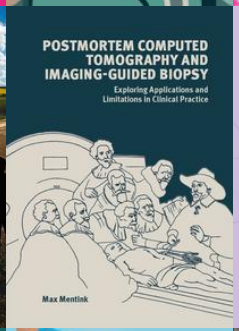

Optimizing person-centered chronic care
Lessons learned from the COVID-19 pandemic


ABCC: Easy as 1-2-3?
Studying the implementation of a digital innovation in Dutch general practices
DANNY CLAESSENS


Income inequality and socioeconomic differences in adolescents' health and health-behavior in post-Communist countries of Europe
Armen Torchyan


Towards a Shared Understanding of Chronic Pain
Patient-Practitioner Interaction in Interdisciplinary Pain Rehabilitation
Baukje Olbrecht

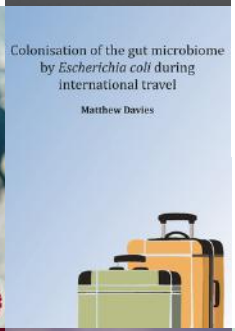

Unravelling vaccination behaviour: observational and experimental studies

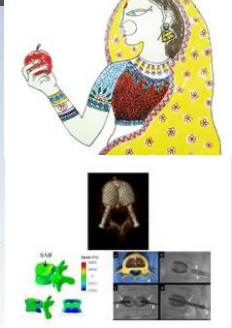

POSTMORTEM COMPUTED TOMOGRAPHY AND IMAGING-GUIDED BIOPSY
Exploring Applications and Limitations in Clinical Practice
Max Mentink

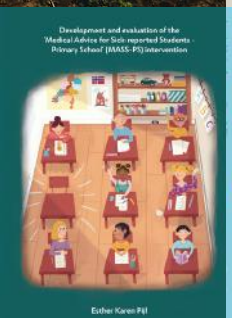

Connections that count: Unravelling the impact of social networks on health and the role in pandemic preparedness


GENDER EMPOWERMENT FOR MEN'S AND WOMEN'S PARTICIPATION IN THE RESOLUTION OF LAND BASED CONFLICTS IN MT ELGON REGION, KENYA


Unravelling Pandemic Drivers

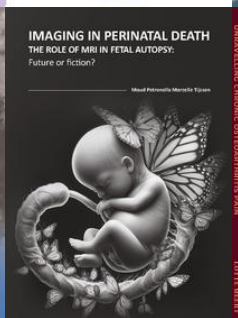

Colonisation of the gut microbiome by Escherichia coli during international travel
Matthew Davies


Impact of Maternal Malnutrition on Adverse Pregnancy and Infant Outcomes

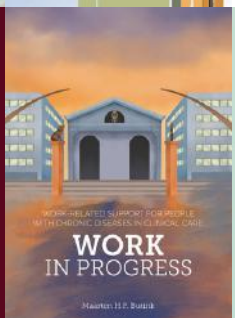

Development and evaluation of the 'Medical Advice for Sick-reported Students - Primary School' (MASS-PS) intervention
Esther Karen Pil


Improving infectious disease control in care facilities

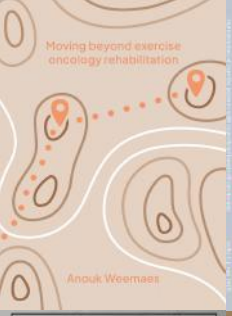

Roderick H.M.J. Stassen

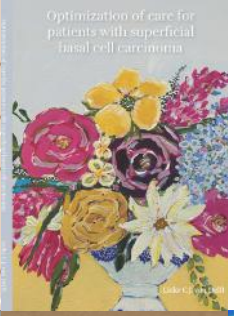

IMAGING IN PERINATAL DEATH
THE ROLE OF MRI IN FETAL AUTOPSY:
Future or fiction?

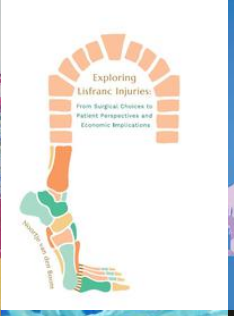

Unravelling the role of and the interrelation between somatosensory functioning and metabolic factors in chronic (postsurgical) osteoarthritis pain
LOTTE MEERT

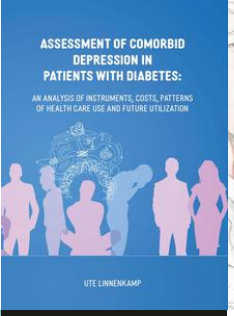

WORK IN PROGRESS

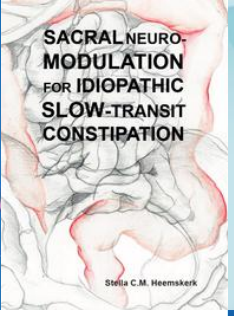

Mapping and optimising infection prevention and control in long-term and primary care
A systems perspective

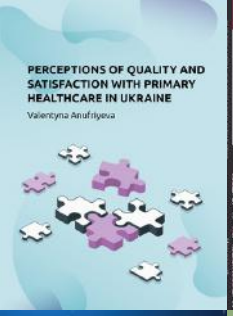

Moving beyond exercise oncology rehabilitation
Anouk Weemaes

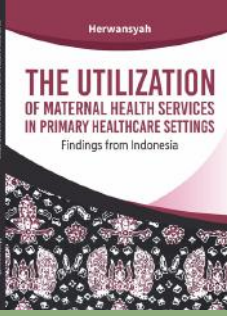

Optimization of care for patients with superficial basal cell carcinoma

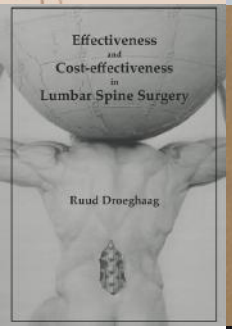

Exploring Lisfranc Injuries:
From Surgical Choices to Patient Perspectives and Economic Implications

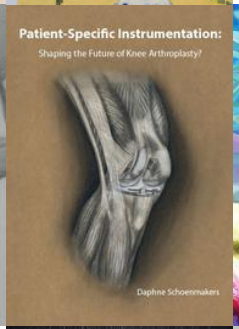

ASSESSMENT OF COMORBID DEPRESSION IN PATIENTS WITH DIABETES:
AN ANALYSIS OF INSTRUMENTS, COSTS, PATTERNS OF HEALTH CARE USE AND FUTURE UTILIZATION
UTE LINNENKAMP

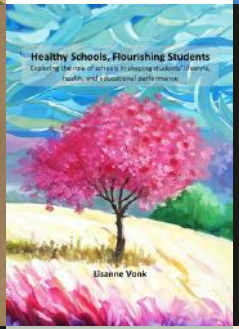

SACRAL NEURO-MODULATION FOR IDIOPATHIC SLOW-TRANSIT CONSTIPATION
Stella C.M. Heemskerk

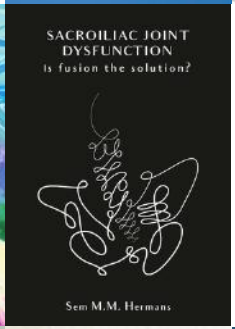

PERCEPTIONS OF QUALITY AND SATISFACTION WITH PRIMARY HEALTHCARE IN UKRAINE
Valentyna Anufriyeva

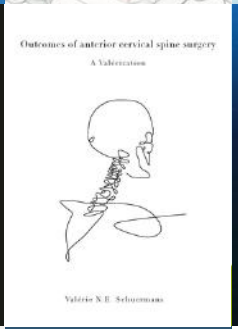

Herwansyah
THE UTILIZATION
OF MATERNAL HEALTH SERVICES
IN PRIMARY HEALTHCARE SETTINGS
Findings from Indonesia

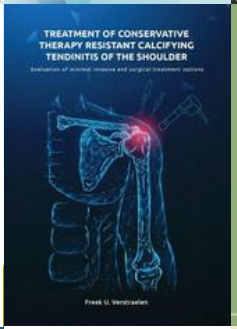

Effectiveness and Cost-effectiveness in Lumbar Spine Surgery
Ruud Droeghaag


Patient-Specific Instrumentation:
Shaping the Future of Knee Arthroplasty?
Daphne Schoenmakers

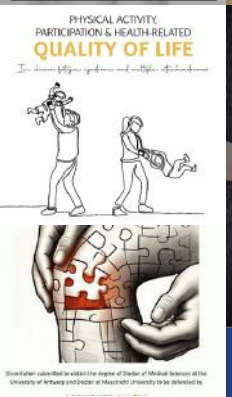

Healthy Schools, Flourishing Students
Lisanne Vonk


SACROILIAC JOINT DYSFUNCTION
Is fusion the solution?
Sem M.M. Hermans

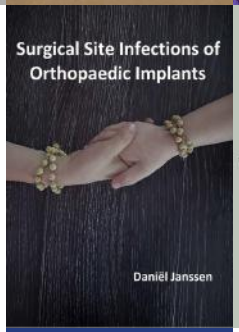

Outcomes of anterior cervical spine surgery
A Valkenaeken

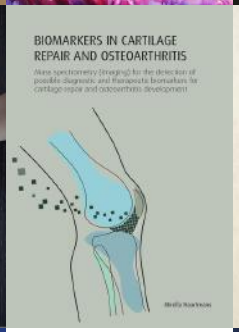

TREATMENT OF CONSERVATIVE THERAPY RESISTANT CALCIFYING TENDINITIS OF THE SHOULDER


Together towards timely dementia diagnoses
Iris Linden

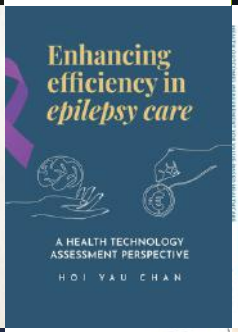

PHYSICAL ACTIVITY, PARTICIPATION & HEALTH-RELATED QUALITY OF LIFE

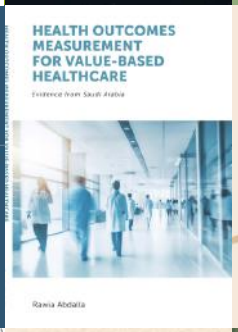



Surgical Site Infections of Orthopaedic Implants
Daniël Janssen

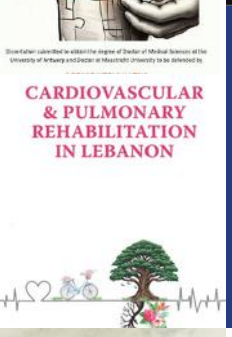

BIOMARKERS IN CARTILAGE REPAIR AND OSTEOARTHRITIS


Health economic evaluations of innovations in anterior segment eye surgery
Rob Simons

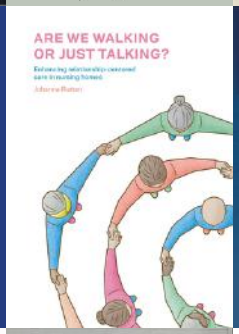

Enhancing efficiency in epilepsy care
A HEALTH TECHNOLOGY ASSESSMENT PERSPECTIVE
HOI YAU CHAN


HEALTH OUTCOMES MEASUREMENT FOR VALUE-BASED HEALTHCARE
Rawia Abdalla

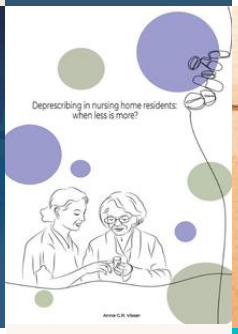

Identifying and Capturing Intersectoral Costs and Benefits Relating to Sexual Health
Lena Schnitzler


CARDIOVASCULAR & PULMONARY REHABILITATION IN LEBANON


The role of European Union enlargement in mortality convergence across Europe
Rok Hrzic


ARE WE WALKING OR JUST TALKING?

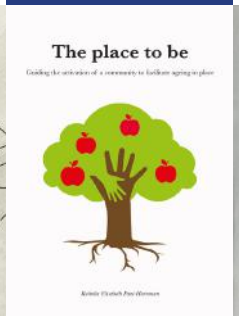

Identification of unmet care needs, treatment preferences and health economic implications to optimize disease management outcomes in the field of chronic inflammatory skin diseases
Dimon Willems

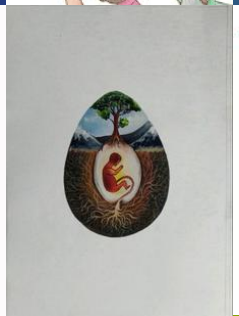

Deprescribing in nursing home residents: when less is more?

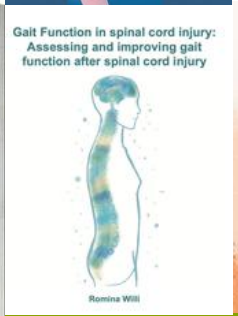

MANAGING EVERYDAY LIFE
Ines Mauchaers

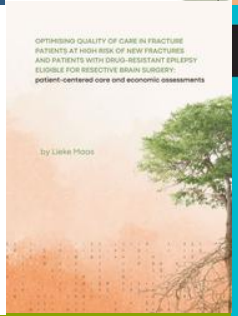

The transition from home to a nursing home
Lindsay Groenvynck


Undervalued & Unexplored
Underpinning and Guiding Nursing Care in Activities of Daily Living
Svenja Cremer


The place to be




Gait Function in spinal cord injury: Assessing and improving gait function after spinal cord injury
Romina Wild


OPTIMISING QUALITY OF CARE IN FRACTURE PATIENTS AT HIGH RISK OF NEW FRACTURES AND PATIENTS WITH DRUG-RESISTANT EPILEPSY ELIGIBLE FOR RESECTIVE BRAIN SURGERY:
patient-centered care and economic assessments
by Lieke Maas


RETHINKING ELECTRONIC HEALTH RECORD IMPLEMENTATION IN GERMANY:
A VALUE-BASED HEALTH SYSTEM APPROACH
TUGCE SCHMITT


Unlocking the Transition:
Prognostic Modeling for Chronic Neck Pain in Primary Care

# CAPHRI RESEARCH DAY

# A Foundation for Community Wellbeing

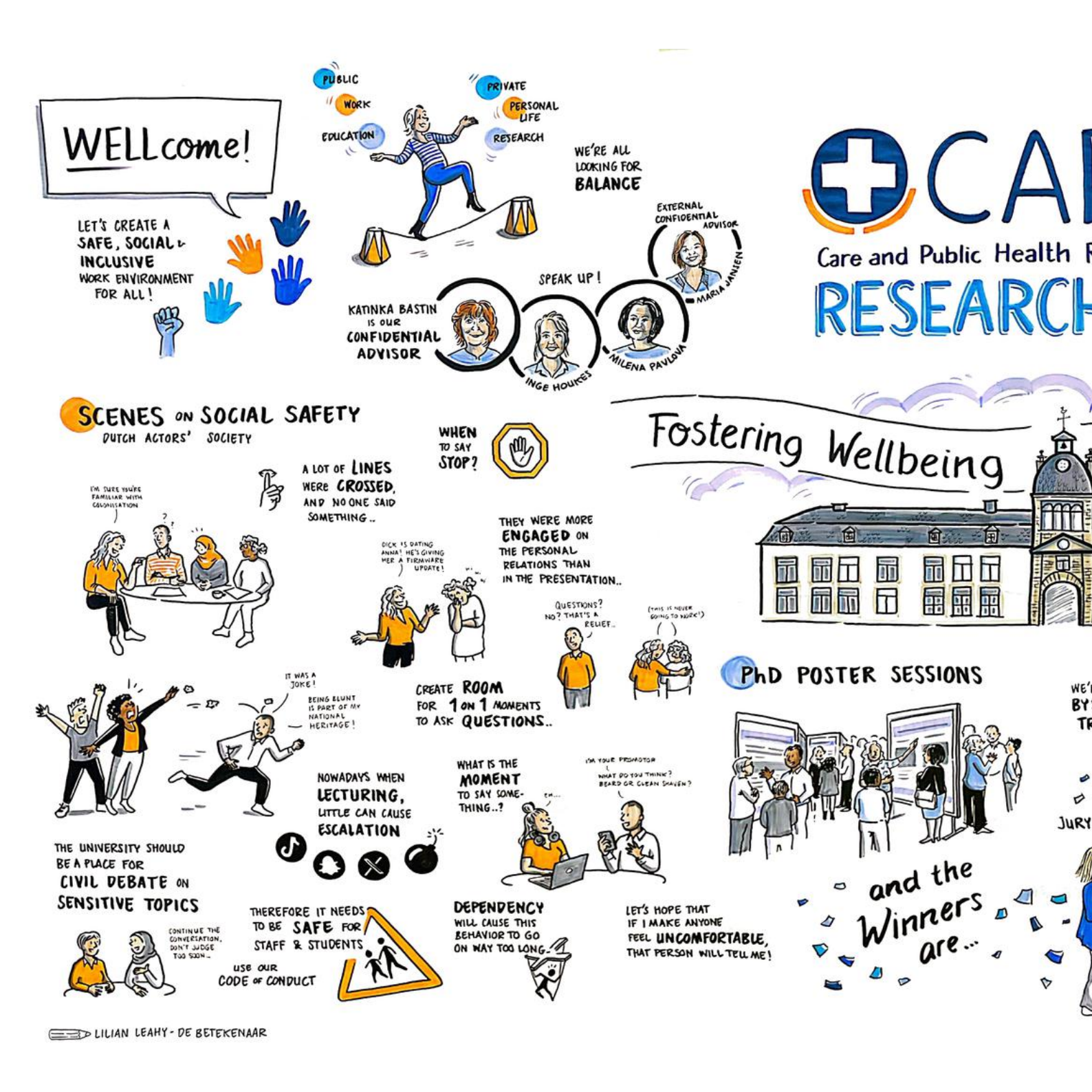
**The CAPHRI Research Day 2024, held on Wednesday, June 19, at Kasteel Vaeshartelt, successfully convened our community members under the essential theme, "Fostering Wellbeing in the CAPHRI Community." The annual event provided a vital forum for sharing, interaction, and deep reflection on institutional values of diversity, equity, and inclusion.**

A key highlight was the interactive morning session featuring the Dutch Actors' Society and their performance, 'Scenes on Social Safety.' These short scenes vividly illustrated various forms of unacceptable behaviour, prompting a highly engaged and often provocative discussion among all attendees. The session's central question—Do you feel free to express yourself at CAPHRI without fear of repercussion or reprisal?—underscored the institute's commitment to addressing social safety head-on.

Feedback from the discussions strongly confirmed that this theme is vital and active within the CAPHRI community. Participants emphasized the importance of addressing social safety together, strengthening our belief that the Research Day served as a powerful starting point. This collective momentum reinforces CAPHRI's resolve to pursue further dialogue, concrete action, and structural change in the years ahead to ensure a supportive environment for all.

In the afternoon, the focus shifted to academic excellence with the lively PhD Poster Session and a series of themed workshops. We were delighted to conclude the day with the prestigious Award Ceremony.

Congratulations were extended to Marla Hahnraths for winning the CAPHRI Dissertation Award 2024, Michelle Verheijden for securing the CAPHRI Poster Award 2024, and Yara Sievers for the CAPHRI Public Poster Award 2024.


WELLcome!
LET'S CREATE A SAFE, SOCIAL & INCLUSIVE WORK ENVIRONMENT FOR ALL!
PUBLIC
WORK
EDUCATION
PRIVATE
PERSONAL LIFE
RESEARCH
WE'RE ALL LOOKING FOR BALANCE
CA
Care and Public Health R
RESEARCH
EXTERNAL CONFIDENTIAL ADVISOR
MARIA JANSEN
SPEAK UP!
KATINKA BASTIN IS OUR CONFIDENTIAL ADVISOR
INGE HOUKES
MILENA PAVLOVA
SCENES ON SOCIAL SAFETY
DUTCH ACTORS' SOCIETY
WHEN TO SAY STOP?
A LOT OF LINES WERE CROSSED, AND NO ONE SAID SOMETHING..
I'M SURE YOU'RE FAMILIAR WITH COLONISATION
DICK IS DATING ANNA! HE'S GIVING HER A FIRMWARE UPDATE!
THEY WERE MORE ENGAGED ON THE PERSONAL RELATIONS THAN IN THE PRESENTATION..
QUESTIONS? NO? THAT'S A RELIEF..
(THIS IS NEVER GOING TO WORK!)
Fostering Wellbeing
IT WAS A JOKE!
BEING BLUNT IS PART OF MY NATIONAL HERITAGE!
CREATE ROOM FOR 1 ON 1 MOMENTS TO ASK QUESTIONS..
PhD POSTER SESSIONS
NOWADAYS WHEN LECTURING, LITTLE CAN CAUSE ESCALATION
WHAT IS THE MOMENT TO SAY SOMETHING..?
EM...
I'M YOUR PROMOTOR
WHAT DO YOU THINK? BEARD OR CLEAN SHAVEN?
THE UNIVERSITY SHOULD BE A PLACE FOR CIVIL DEBATE ON SENSITIVE TOPICS
CONTINUE THE CONVERSATION, DON'T JUDGE TOO SOON..
THEREFORE IT NEEDS TO BE SAFE FOR STAFF & STUDENTS
USE OUR CODE OF CONDUCT
DEPENDENCY WILL CAUSE THIS BEHAVIOR TO GO ON WAY TOO LONG
LET'S HOPE THAT IF I MAKE ANYONE FEEL UNCOMFORTABLE, THAT PERSON WILL TELL ME!
and the Winners are...
JURY
LILIAN LEAHY - DE BETEKENAAR

# PHRI

Research Institute

H DAY 2024

in our CAPHRI community

Kasteel Vaeshartelt

LL TAKE UP A STANDER RAINING

IT'S THE BEGINNING, AND NOT THE END!

AWARD

PUBLIC AWARD

DISSERTATION AWARD

MICHELLE VERHEYDEN

YARA SIEVERS

MARLA HAHNRATHS

## WORKSHOP SOCIAL SAFETY

JOEP PETERS & KATINKA BASTIN

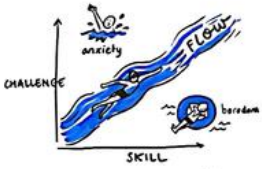
WHAT IS UNDESIRABLE BEHAVIOR?


THE VICTIM DECIDES WHERE THE BOUNDARY IS BETWEEN DESIRABLE AND UNDESIRABLE

DISCUSS AS A TEAM WHAT DESIRABLE & UNDESIRABLE BEHAVIOR IS


## WORKSHOP WORK ENGAGEMENT

LUC RENIERKENS




GAIN CYCLE


WORK ENGAGEMENT:

VIGOR ✓

DEDICATION ✓

ABSORPTION ✓

## WORKSHOP ETHICS & INTEGRITY

MARTIJN EDURS

THE DILEMMA GAME

BE OPEN AND TRANSPARENT ABOUT ISSUES RELATED TO RESEARCH ETHICS & INTEGRITY


## WORKSHOP TEAM COMMUNICATIONS

TESSA VAN HOURIK & HANNEKE WESSELS


GOOD RESEARCH PRACTICES ARE A SHARED RESPONSIBILITY

AND LET'S LEARN FROM MISTAKES


OPEN COMMUNICATION IS KEY TO TEAM SUCCESS

## WORKSHOP GENERATION GAP

ANGELIQUE DE RIJK


NEVER BEFORE SO MANY GENERATIONS WORKED TOGETHER

DIFFERENT IDEAS ARE MORE RELATED TO PHASE OF LIFE AND HISTORICAL TIMES, THAN TO GENERATION

WE ALL NEED TO COMMIT TO MUTUAL UNDERSTANDING


# CASE STUDIES

# Reablement in Action: Shifting Long-Term Care Focus

**Demographic changes compel us to reconsider what it means to grow older together. Increasing numbers of people are reaching later life, often continuing to participate actively and meaningfully in society. Nonetheless, ageing can bring changes in health, abilities, and resources, which may affect autonomy, purpose, and participation—values placed at the heart of daily life by many older adults.**

Reablement is firmly rooted in these values. Rather than focusing on deficits or the inevitable increase in care needs, this approach starts from what people are able and wish to do. In collaboration with their social networks and professionals, older adults explore ways to build on their strengths, skills and resources. The primary aim is to promote autonomy and participation in day-to-day and social activities, even in the face of physical or cognitive decline.

This approach signifies a major shift: from passively receiving care (*"caring for..."*) to active engagement in the care process (*"caring with..."*). By putting participation at the centre, reablement enables more appropriate support and reduces unnecessary reliance on health and social care services.

## Project Details

**Funding Providers**
ZonMw
JPND

**Contact Person**
Dr. Silke Metzelthin

**Involved Research Lines**
Ageing and Long-Term Care (ALTC)
Creating Value-Base Health Care (VHC)

**Involved Living Lab**
Limburg Living Lab in Ageing and Long-Term Care

## Establishing the Evidence Base: From Concept to Implementation

CAPHRI's research line *Ageing and Long-term Care* (ALTC) has taken a pioneering role in reablement research in the Netherlands. Under the guidance of Vice-Chair dr. Silke Metzelthin, the team has dedicated nearly fifteen years to this area, beginning with her PhD research, which was subsequently expanded internationally.

Collaboration with the Limburg Living Lab in Ageing and Long-term Care led to the creation of the first Dutch reablement programme, *Blijf Actief Thuis* (Stay Active at Home), which drew on international expertise and was tailored to the Dutch context. This programme was trialled in a cluster randomised controlled trial at MeanderGroep Zuid-Limburg and served as the subject of the first Dutch PhD thesis on reablement.

CAPHRI has also played a crucial role in establishing clear definitions for reablement. In 2018, dr. Metzelthin led a Delphi study that produced a widely cited international definition. Further research—including two subsequent PhD projects—resulted in the Dutch definition and the I-MANAGE model. In the Dutch context, reablement is now defined as a time-limited intervention for anyone with care needs, delivered by an interdisciplinary team working in close partnership with the individual and their social network. The intervention addresses both resources and barriers, gives explicit support to informal carers, and is tailored and evaluated at regular intervals, ideally leading to discontinuation of care once independence is regained.

## Proven Results: Impact Across All Care Settings

Over the past years, ALTC researchers have evaluated reablement programmes in a variety of settings, including the home, hospitals and nursing homes, with findings confirming that reablement is not only feasible and effective, but also cost-effective.

In West and Midden-Brabant, more than 1,000 clients participated in the *Langer Actief Thuis* programme. More than half regained their independence, and over a quarter required less professional care. In Kerkrade, adjustments to household support services for 393 clients resulted in a 17% reduction in support needs, and higher levels of client satisfaction.

A cluster randomised controlled trial in nursing homes revealed that professionals inspired clients to remain active more effectively, with these effects persisting three months after the intervention. Notably, the intervention proved cost-effective, yielding a cost saving of €584 per client over six months. Joint research with UMC Utrecht in hospitals demonstrated that the mean length of stay was 3.3 days shorter for the intervention group, while the proportion of patients discharged to home was higher than in the control group (38% compared to 29%).

### Driving National Policy and Professional Adoption

The ALTC team regularly publishes in national journals and recently produced a Reablement Compass—a practical guide summarising findings and best practices for those seeking to implement reablement outside academia. The team members are regularly consulted by the media, speak at national conferences, and provide ongoing advice to long-term care providers, insurers, municipalities, and the Dutch Ministry of Health, Welfare and Sport (VWS).

> *Participating in the national reablement network that has been set-up by CAPHRI's researchers has accelerated the further development of our reablement program. In a community of practice we learn from each another, inspire each other, and share information so we don't have to reinvent the wheel.*
>
> **Sigrid van Haaster, Project Manager Reablement at Samen.**

CAPHRI researchers have published more than thirty-five peer-reviewed articles on reablement in prominent journals and have contributed two chapters to an international reablement textbook. They are also active members of the international ReAble Network, which connects over fifty researchers across twelve countries.

Recognition of reablement's value has led the Ministry of Health, Welfare and Sport to allocate €3.2 million about reablement for knowledge collection and dissemination. Dr Metzelthin contributed to the design of the corresponding ZonMw programme. CAPHRI now leads the national evaluation of sixteen ZonMw-funded reablement projects and has

helped set up a national reablement network. In partnership with network members, the team also produced a policy brief containing concrete recommendations for expanding reablement further across the Netherlands. The brief, endorsed by more than thirty organisations, influenced the *Hoofdlijnenakkoord Ouderenzorg* (National Care Agreement), which now identifies reablement as a key priority for sustainable care.

In collaboration with Zuyd Professional, CAPHRI's Limburg Living Lab scaled up implementation of the ZELF-programme—an evidence-based reablement programme now used by thirteen organisations across the Netherlands. Efforts are also underway to embed reablement in vocational, applied and academic curricula, ensuring that future professionals are equipped with the necessary competencies.

### A Global Horizon: Including People with Dementia

Dr Silke Metzelthin launched the ReableDEM research group in 2023, bringing together experts from England, Australia, Sweden, Norway and Denmark to promote the global implementation of reablement, including for vulnerable groups such as people living with dementia, who are often excluded from these services. The collaboration has already produced a position paper, policy brief and a collection of dementia care resources, with plans to expand the network to Germany, Turkey and the Czech Republic.

Through this comprehensive and ongoing programme, CAPHRI has made a substantial and widely recognised contribution to advancing the evidence base for reablement—integrating scientific understanding into daily care practice, shaping national policy and embedding reablement in professional education. These achievements establish a firm foundation for a sustainable long-term care system that places autonomy, participation and meaningful ageing at its core.

**Important output**

- Buma, L. E., Mouchaers, I., Zwakhalen, S. M., Vluggen, S., Satink, T., & Metzelthin, S. F. (2025). Defining reablement in the Dutch context: A modified Delphi study. Journal of Multidisciplinary Healthcare, 18, 2859–2873.
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- Buma, L. E., Vluggen, S., Zwakhalen, S., Mouchaers, I., Satink, T., & Metzelthin, S. F. (2022). Effects on clients' daily functioning and common features of reablement interventions: A systematic literature review. European Journal of Ageing, 19, 903–929.
- Bergström, A., Vik, K., Haak, M., Metzelthin, S., Graff, L., & Hjelle, K. M. (2022). The jigsaw puzzle of activities for mastering daily life: Service recipients' and professionals' perceptions of gains and changes attributed to reablement—A qualitative metasynthesis. Scandinavian Journal of Occupational Therapy. Advance online publication.

**In the media**

- Infographic on Reablement
- Rostgaard, T., Parsons, J., & Tuntland, H. (Eds.). (2023). Reablement in long-term care for older people: International perspectives and future directions (1st ed.). Bristol University Press.
- TvZ-dossier Reablement. Tijdschrift voor Verpleegkundigen. Geraadpleegd op 02.09.2025, van https://www.tvznext.nl/
- (PDF) Policy Brief - Reablement meeting the challenges facing dementia services
- Catalogus_ReableDEM.pdf
- Symposium 'Reablement: nieuw toverwoord in de zorg of veelbelovend zorgconcept? ', 14 september 2022, Maastricht.
- Symposium 'Reablement in New Zeeland en Nederland. Van Kiwis naar klompen.', 13 september, Maastricht.
- Bestuurderslunch 'Passende zorg d.m.v. reablement', 12 september 2024, Oirschoot.
- Symposium 'Samen bouwen aan de toekomst van reablement in Nederland', 27 mei, 2025, Maastricht.

# Bridging Borders, Building Capacity: Shaping Research and Healthcare in Ethiopia

**Since 2006, CAPHRI, Maastricht University, has fostered a powerful and enduring collaboration with Ethiopian researchers, aiming to strengthen local research capacity and directly address the nation's most pressing health challenges. What began with Dr. Mark Spigt supervising a single PhD student—Araya Abrha Medhanyie from Mekelle University, who proudly graduated in 2010—has flourished into a vibrant programme involving over 20 Ethiopian PhD candidates and a vast network of academic and healthcare institutions.**

## Ethiopia: A Nation Undergoing Rapid Transformation

Ethiopia, a country with a rich history, diverse geography, and amazing culture, is widely recognised as the origin of some of the world's earliest human ancestors. With a population of about 130 million, it is a centre of linguistic and cultural diversity. The nation faces significant challenges, including widespread poverty, climate variability, and internal conflicts.

In response, Ethiopia is putting serious effort into building its higher education system and strengthening healthcare. The country has expanded from just two universities before 1990 to more than 30 today. This rapid growth has created an urgent demand for qualified staff, necessitating a need for trained lecturers and researchers with PhDs to keep the system running. Furthermore, public health institutions—such as the Ethiopian Public Health Institute (EPHI) and the Ministry of Health—require stronger research capacity and skilled professionals to effectively shape national health policy and practice.

## Research Focused on Real-World Challenges

The Ethiopian researchers in the programme come from various universities, governmental organisations, and non-

governmental organisations (NGOs). Crucially, their studies are conducted locally and focus on pressing regional health challenges. For instance, undernutrition, particularly among children and pregnant women, remains a major concern, often linked to women's social position and access to healthcare. Similarly, infectious diseases such as tuberculosis and HIV/AIDS continue to have a significant impact. The research is specifically designed to align as closely as possible with routine care, ensuring that findings can be translated into practical improvements in healthcare delivery. Most projects are financed locally, and collaboration is extended to other departments and research lines within CAPHRI, such as Health Promotion, Epidemiology, and Health Services Research.


## Sustaining the Impact: From Mentee to Mentor

The true success of this long-term programme is its growing and lasting impact on institutional capacity. Former PhD students now hold key academic and leadership positions across the country, where they manage, research, teach, and mentor, inspiring new generations of students. Together with them, the CAPHRI team is supervising an increasing number of PhD candidates, further strengthening local research capacity in a self-sustaining manner. The collaboration also extends to postgraduate education: each year, 5–8 Master's students from Maastricht (Medicine/Global Health) travel to Ethiopia for their scientific internship.

> *The capacity building program strengthens EPHI in public health emergency management, research, national laboratory systems, grant mobilization, and partner coordination. By investing in people and systems, this program empowers EPHI to serve as Ethiopia's hub for evidence, innovation, and resilience*
>
> **Sileshi Demelash, Public Health Expert**

Working alongside the PhD candidates, they gain invaluable research experience and benefit from an enriching cultural exchange.

## Policy and Practice: Translating Findings into Action

The evidence generated through this partnership has directly influenced national health policy and global recommendations. For instance, the studies by Dr. Araya Abrha Medhanyie and co-workers about the role of Health Extension Workers (HEWs) in maternal health services were used and mentioned in a key document from the Ministry of Health Ethiopia: "Realizing Universal Health Coverage through Primary Health Care: A Roadmap for Optimizing the Ethiopian Health Extension Program, 2020–2035." Furthermore, the evidence on HEWs' experiences with mHealth, training, and supervision was used in a WHO brief (Optimizing the Ethiopian Health Extension Programme: Strategies to address workforce challenges, 2023) that synthesises government reports and academic studies to recommend workforce strategies. This direct route to policy demonstrates the practical, real-world value of locally led research.

### Project Details

**Contact Person**
Dr. Mark Spigt

**Involved Research Line**
Optimising Patient Care (OPC)

**Important output**

- Tuberculosis case detection by trained inmate peer educators in a resource-limited prison setting in Ethiopia: a cluster-randomised trial. Adane K, Spigt M, Winkens B, Dinant GJ. Lancet Glob Health. 2019 Apr;7(4) https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(18)30477-7/fulltext
- Why do women prefer home births in Ethiopia? Shiferaw S, Spigt M, Godefrooij M, Melkamu Y, Tekie M. BMC Pregnancy Childbirth. 2013 Jan 16;13:5 https://link.springer.com/article/10.1186/1471-2393-13-5
- Efficacy of Handwashing with Soap and Nail Clipping on Intestinal Parasitic Infections in School-Aged Children: A Factorial Cluster Randomized Controlled Trial. Mahmud MA, Spigt M, Bezabih AM, Pavon IL, Dinant GJ, Velasco RB. PLoS Med. 2015 Jun 9;12(6) https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001837
- The role of health extension workers in improving utilization of maternal health services in rural areas in Ethiopia: a cross sectional study. Medhanyie A, Spigt M, Kifle Y, Schaay N, Sanders D, Blanco R, GeertJan D, Berhane Y. BMC Health Serv Res. 2012 Oct 8;12:352 https://link.springer.com/article/10.1186/1472-6963-12-352

# Integration of Work-Related Care in clinical practice

**Despite medical advances, a persistent gap remains between work participation rates for people with chronic conditions and the general population. In the Netherlands, only 50–65% of individuals with a chronic illness are in paid employment, compared with 73% in the general population. Those in work often report more sickness absence, reduced productivity, and functional limitations. This enduring disparity signals an urgent need for targeted support to enable healthy, sustained employment**

## Shifting Responsibility: The Need for Clinical Integration

Recent Dutch policy changes place sustainable work participation firmly within the remit of all healthcare providers—not only occupational or insurance physicians. Clinicians in regular healthcare settings can support work ability from diagnosis through recovery, enabling timely, personalised interventions. This is crucial given that about half the working population has no, or only temporary, access to occupational health services.

### Project Details

**Funding Providers**
Abbvie Pharmaceuticals
The Next Step Alliance MUMC+

**Contact Persons**
Prof. Angelique de Rijk (Work and Health), and Prof. Annelies Boonen (Rheumatology)

**Involved Research Lines**
Functioning, Participation and Rehabilitation (FPR)
Health Inequities and Societal Participation (HISP)

## Developing the Maastricht Work-Related Care (WRC) Intervention

Led by Professor Angelique de Rijk (Work and Health, Maastricht University) and Professor Annelies Boonen (Rheumatology, MUMC+), CAPHRI set out to design, implement, and evaluate a clinical intervention supporting people with

long-term health conditions to remain at work and avoid long-term absence.

Using the Intervention Mapping framework, the team created Maastricht Work-Related Care (WRC)—an evidence-based programme to encourage healthcare professionals to proactively monitor their patients' work participation. Grounded in familiar clinical reasoning processes, WRC is supported by tailored educational materials and training modules. Medical specialists assess the need for WRC during hospital consultations, while specialised nurses integrate practical work-related support into routine appointments.

The project follows an action research approach, refining the intervention through continuous collaboration and feedback from patients, clinicians, and other stakeholders.

## Establishing the 'Work and Health' Clinic

On 14 December 2024, MUMC+ launched its dedicated "Work and Health" clinic at the Brugpoli to address complex work-related issues that go beyond the expertise of the treating specialist or nurse. Research shows that while the number of patients requiring this specialist input is small, the clinic's existence makes work-related issues more visible and easier to address within routine care.


## CAPHRI's Contribution and Future Outlook

By bridging hospital care with societal needs, CAPHRI advances prevention and sustainable health while deepening its collaboration with the academic hospital. Its structured approach supports behavioural change among clinicians, guides complex intervention development, and ensures rigorous evaluation, including economic impact assessment.

Next steps include scaling WRC across all hospital departments, extending the approach to '1.5-line' care (collaborative primary–secondary care), and gathering robust evidence of clinical and cost-effectiveness. Demonstrating the economic case is essential to secure permanent funding for the small but vital investment of time needed to deliver WRC in hospital settings.

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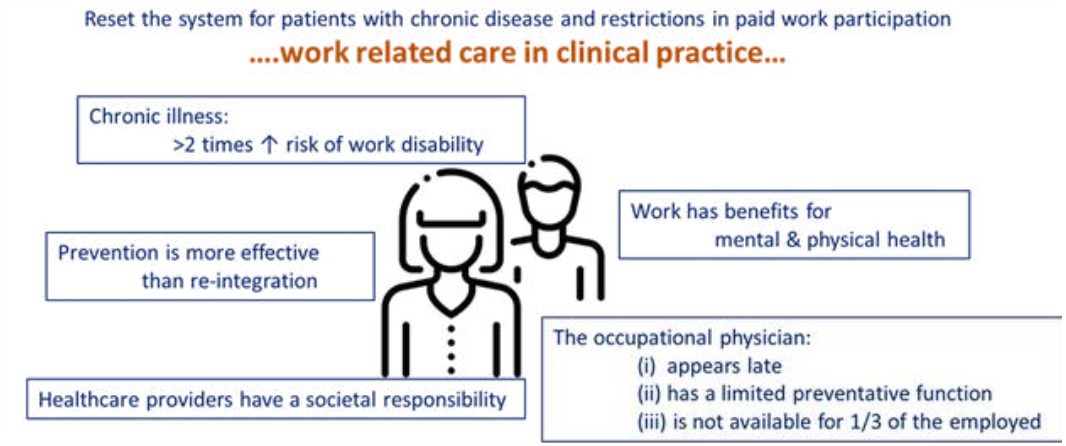

**Important output**

Research products for peers:

- Training materials (manual, folders, video pitches)available upon request (see email PI)
- Werk en Wijzer voor zorgverleners (developed with 10 partners, chaired by UM): flowchart for publicly available occupational health support for diverse groups.
- Medisch Contact: Gezonde en duurzame arbeidsparticipatie is ook een zaal voor de medisch specialist
- Nederlands Tijdschrift voor Geneeskunde: Lindenburg I, de Kock Kee, Ingrid Fakkert, Veronique van Zelm, Boonen Annelies. 'Tien vragen over': Arbeidsgerichte zorg (accepted for publication)

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- Butink M, Boekel L, Boonen A, de Rijk A, Wolbink G, Webers C. Work participation and the COVID-19 pandemic: an observational study in people with inflammatory rheumatic diseases and population controls. Rheumatol Adv Pract. 2024 Mar 9;8(2):rkae026. doi: 10.1093/rap/rkae026. PMID: 38566834; PMCID:PMC10987210.
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- Butink M, Dona D, Boonen A, Peters M, Baadjou V, Senden T, de Rijk A. Work-related support in clinical care for patients with a chronic disease: development of an intervention. J Occup Rehabil. 2022 Dec;32(4):705-717. doi: 10.1007/s10926-022-10032-z. Epub 2022 May 20. Erratum in: J Occup Rehabil. 2023 Mar;33(1):226. doi: 10.1007/s10926-022-10053-8. PMID: 35596102; PMCID: PMC9668761.
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- Lemlijn-Slenter, A. H., van Iperen, L. P., Wijnands, K. A., Wolter, N., de Rijk, A. E., & Masclee, A. A. (2025). Is Health Status in Patients With Chronic Disorders of the Gastrointestinal System Disease-Specific? Results From an Integral Approach. Neurogastroenterology & Motility, e15021.
- Lemlijn-Slenter, A. H., Wijnands, K. A., van der Hamsvoort, G., van Iperen, L. P., Wolter, N., de Rijk, A. E., & Masclee, A. A. (2024). Positive health: An integrated quantitative approach in patients with chronic gastrointestinal and hepato-pancreatico-biliary disorders. World Journal of Gastroenterology, 30(28), 3418.
- Lemlijn-Slenter AHWM, Wijnands KAP, de Rijk A, Masclee AAM. Mapping positive health in patients with gastrointestinal disorders. BMJ Open 2021; 11: e052688


**In the media**

- Podcast “Practice what you preach Arbeidsgerichte zorg: AbbVie lanceert podcastserie over Arbeidsgerichte Zorg in samenwerking met Skipr en Zorgvisie | AbbVie
- Podcast Arbeidsgerichte zorg met Annelies Boonen en Angelique de Rijk: https://www.zorgvisie.nl/podcast/partners-voor-zorg-arbeidsgerichte-zorg-geeft-lucht-op-de-krappe-arbeidsmarkt/
- Youtube video Qruxx Q&A Arbeidsgerichte zorg #2
- Hecht. Angelique de rijk: Meedoen aan de Maatschappij: The Next step preventie projecten : UMC033_WEB_Hecht.pdf
- DOQ; Arts aan het Woord. Annelies Boonen: Arbeidsgerichte zorg hoort thuis in de spreekkamer Annelies Boonen - DOQ
- ReumaMagazine: Tijdschrift uitgegeven door Reumazorg voor patiënten met reumatische aandoening. Interview in Reuma en werk, 15 september 2024

Ruben Drost (VHC)

Angelique de Rijk (HISP)

Lisette Huveneers (VHC)

Silvia Evers (VHC)

Aggie Paulus (VHC)

# Something Old, Something New: Measuring the Real Labour Cost of Healthcare Innovation

**CAPHRI researchers are redefining how we assess the true workforce impact of new healthcare technologies, moving beyond simple time measurements to ensure innovations genuinely support a sustainable workforce.**

## The Pressing Need: Moving Beyond the 'Time-Only' Trap

Healthcare systems worldwide face the challenge of introducing new technologies without fully understanding their impact on staff. Current Health Technology Assessment (HTA) methods, which guide adoption decisions, rely almost entirely on simple time-based measurements—such as real-time recording or retrospective task estimation.

This approach, however, has several flaws. As the National Healthcare Institute (ZiN) in the Netherlands recently emphasised, implementation decisions must explicitly weigh each technology's labour impact. The existing 'time-only' focus misses the broader picture: the complexity of tasks, their perceived value to caregivers, and crucially, their effect on sustainable employability.

### Project Details

**Funding Providers**
ZonMw

**Contact Persons**
Dr. Ruben Drost
Lisette Huveneers, MSc

**Involved Research Lines**
Value-Based Health Care (VHC)
Health Inequity and Social Participation (HISP)

**Involved Living Lab**
Living Lab Work and Health

In many cases new technologies counterintuitively increase workload or stress, worsening labour shortages across the sector.

## A Multidimensional Solution for Sustainable Healthcare

Recognising these limitations, CAPHRI researchers have launched an initiative to fill this crucial methodological gap. The project aims to develop a comprehensive, versatile tool that redefines how labour input is measured.

This outcome metric will capture three key dimensions for policymakers, researchers, and practitioners: Time Investments, Task Substitution (who performs which tasks, including shifts between professionals or technology), and Work Satisfaction/ Appreciation (how innovations influence caregiver well-being and perceived quality of work).

By integrating perspectives from work and organisational psychology, nursing sciences, health economics, and public health, the initiative significantly advances HTA methodology. The colla-boration between CAPHRI's research lines Creating Value-Based Health Care (VHC) and Health Inequity and Social Participation (HISP) highlights the essential need for a holistic, multidisciplinary view of sustainable employability in healthcare.

> *Measuring labour input in healthcare innovations is vital to ensure new technologies truly ease workloads rather than add to them. This collaboration marks an important step towards more sustainable, people-centred healthcare.*
>
> **Prof. dr. Angelique de Rijk**

## Driving the Quadruple Aim: Impact and Dissemination

The project embodies CAPHRI's commitment to the Quadruple Aim: improving patient experience, population

health, cost-effectiveness, and—critically—the work-life of healthcare providers. Its societal goal is clear: promoting sustainable employability amid increasing labour shortages to safeguard high-quality patient care.

The project will deliver a validated tool to measure labour input in healthcare innovations, including an estimation module. Together with inputs to ZonMw and ZiN policy reports, findings will be disseminated through peer-reviewed journals and major international conferences on HTA, public health, and occupational psychology.

Beyond scientific dissemination, the project's societal outreach will focus on practice and policy application. It foresees a practical instrument for policymakers and administrators, training sessions and masterclasses for frontline professionals (such as rheumatology nurses and home care workers), and integration into living labs and centers like AWH-Z and AKAG-ZON and MaastrichtHETA. By actively engaging with national and international partners, the project aims to influence policy and practical discussions on sustainable employability while attracting the public's attention to this urgent challenge.

**Important output**

The primary scientific output will be a validated measurement tool for labor input in healthcare innovations, including an a priori estimation module. Expected outputs include:

- Peer-reviewed journal articles on the methodology and case studies
- Presentations at international conferences (HTA/health economics, public health, occupational psychology)
- Data sets for labor input in case studies (hospital and home care)
- Contributions to ZonMw and ZiN policy reports

**In the media**

The project is expected to gain attention due to the urgency of labor shortages in healthcare. Media dissemination will focus on:

- National newspapers and professional magazines (e.g. Zorgvisie)
- Blogs and forums addressing sustainable employability
- To promote our new tool, collaboration with health organizations and policy makers (e.g. Ministry of Health, ZonMw and Zorginstituut Nederland (ZiN) is key.

# Dementia Prevention, Personalised: How Behavioural Science is Powering Digital Health

**Technology-assisted health interventions are gaining global traction, yet a critical challenge remains: why do many fail to deliver sustained behaviour change? As the adage goes: "For every complex problem there is an answer that is clear, simple, and wrong" (H. L. Mencken). In digital health, the 'simple answer' is often just awareness-raising, yet this rarely translates into lasting action.**

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## Project Details

**Funding Providers**
Horizon Europe
ZonMw
NFU Sectorplan

**Contact Persons**
Dr. Jeroen Bruinsma
Prof. dr. Rik Crutzen

**Involved Research Lines**
Promoting Health and Personal Care (PHPC)

Within CAPHRI's Promoting Health and Personalised Care (PHPC) research line, Dr Jeroen Bruinsma and Prof. Dr Rik Crutzen are tackling this head-on. They contend that successful digital interventions must move beyond general advice and embed

appropriate behaviour change methods to address the psychological determinants—the specific factors that explain why people do what they do, and whether they can change it.

This research focuses on one of the most complex areas of public health: dementia prevention, where lifestyle changes can drastically influence cognitive health, but the benefits feel abstract and distant.

## Getting Personal: Identifying Motivational Levers

The first systematic step in designing effective interventions is understanding the 'why'. The CAPHRI team, using systematic planning approaches like Intervention Mapping, conducted interviews and questionnaires to explore older adults' perceptions of dementia risk.

The findings were revealing: people often perceive dementia risk as multifactorial and abstract, developing decades in the future, leaving them feeling they have little influence over it. Crucially, research indicated that simply focusing on risk perception alone is not a successful motivator for change.

Instead, the CAPHRI approach pivoted to focus on strengthening people's sense of control over their behaviour and building their self-confidence to initiate and sustain changes.

These insights were instrumental in the co-creation of the LETHE App, a digitally-supported lifestyle intervention. Older adults at risk for dementia were iteratively involved in the co-design process via an Advisory Board, ensuring the technology felt relevant and feasible. The resulting App integrates several key features: Self-monitoring through a weekly score and feedback messages, Tiny Habits that people can try out, and personalised push-notifications based on unobtrusive adherence measurement via Fitbit and other tech. This intervention, which also includes a clinician dashboard for tailored in-person support, has recently been pilot-tested in a two-year Randomised Control Trial across Austria, Italy, Sweden, and Finland.

## Rethinking Cognitive and Social Activity

Many dementia prevention programmes focus on standard behaviours like physical activity and nutrition. However, they frequently miss the opportunity to prioritise

cognitive and social activities, which are known to significantly boost cognitive reserve.

Interventions that do promote mental stimulation are often too simplistic, relying on one-size-fits-all 'brain training'. The PhD project of Giselle Menting specifically addresses this gap by working to conceptualise what it really means to be cognitively and socially active. This involves developing clear definitions, measurement guidelines, a new questionnaire, and intervention materials to promote these activities, all of which will be implemented in existing technology-assisted platforms like LETHE.

### Towards Inclusive Health: Addressing Socioeconomic Inequality

Dementia, like many health conditions, is intrinsically linked to socioeconomic inequality. Current digital health interventions often fail to reach, or adequately serve, certain groups.

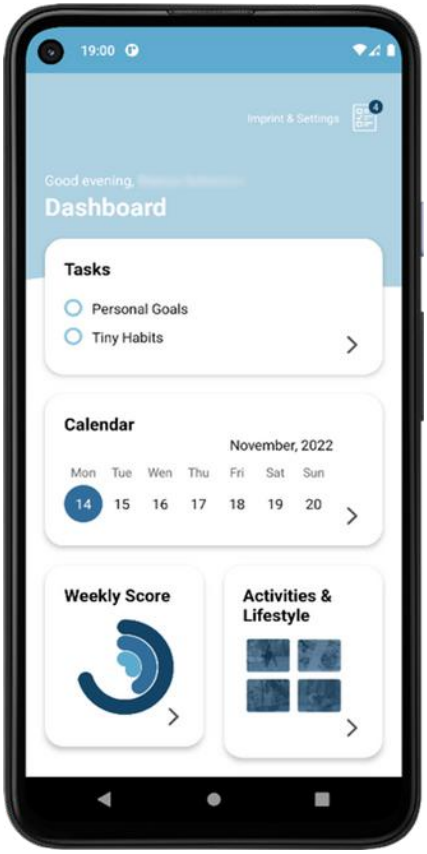
The team's research highlights that achieving inclusivity goes beyond simply documenting differences in disease rates; it requires accounting for socioeconomic differences in the psychological determinants that influence behaviour. This ensures a more personalised and effective use of behaviour change techniques. This was the focus of Angelica d'Sa's MSc thesis and subsequent in-depth interviews conducted by Giselle Menting with middle-aged and older adults from diverse cultural backgrounds and limited financial means, even recruiting through foodbanks. These crucial insights are being used to formulate directions for how interventions can better account for cultural and socioeconomic diversity.

This work has broad applicability, with the CAPHRI team sharing insights through collaborations in the Sectorplan Prevention community to improve equity in areas like prehabilitation for patients undergoing surgery by working together with dr. Marcel den Dulk and dr. Melissa Voorn.

### The Next Frontier: Predicting Adherence

Adherence is often monitored retrospectively: tracking who attended sessions or how often they used an App. This approach is fundamentally reactive, offering support only after a challenge has occurred.

The CAPHRI team is now focused on shifting the paradigm towards predictive models. By combining reactive data with predictive analytics—including exploring the use of AI-




*App Dashboard that is part of the LETHE intervention*

driven adherence analytics using data from the LETHE intervention—they aim to anticipate adherence difficulties before they actually happen.

This proactive approach, developed in close collaboration with technical experts such as Dr Markus Bödenler and Vassilis Loukas, allows for earlier, more personalised support for both participants and intervention providers. Ultimately, this maximises the potential for behaviour change and intervention impact: impact = reach x effect

This work demonstrates a core commitment to move beyond generic interventions and leverage science to empower every individual, regardless of background, to take control of their cognitive health. Ultimately, the team isn't just designing digital tools; they're building the evidence base for a future where personalised behavioural science makes dementia prevention not just a goal, but a reality.

**Important output**

- Bruinsma, J., & Crutzen, R. (2025) Digital Interventions for Public Health: A Systematic Planning Approach. In Digital Public Health: Interdisciplinary Perspectives.
- Bruinsma, J., et al., (2023) Public Perspectives on Lifestyle-Related Behavior Change for Dementia Risk Reduction: An Exploratory Qualitative Study in The Netherlands.
- Bruinsma, J., et al., (2024) Socio-Cognitive Determinants of Lifestyle Behavior in the Context of Dementia Risk Reduction: A Population-Based Study in the Netherlands.
- Hilberger, H., et al., Design of a Mobile App and a Clinical Trial Management System for Cognitive Health and Dementia Risk Reduction: User-Centered Design Approach.
- Rosenberg, A., et al., (2025) A digitally supported multimodal lifestyle program to promote brain health among older adults (the LETHE randomized controlled feasibility trial): study design, progress, and first results.
- Bruinsma, J., et al., (2024) Social activities in multidomain dementia prevention interventions: insights from practice and a blueprint for the future.
- Bruinsma, J., et al., (2025) A rapid scoping review on operationalizing cognitive and social activities in research on dementia risk reduction.
- Menting, G.G.A., et al., (2024: Project Page). Preserving Cognitive Abilities during Aging and Dementia Risk Reduction: Conceptualization, Measurement, and Promotion of Cognitive and Social Activities.
- D'Sa, A., et al., (2025: pre-print) Socioeconomic differences in dementia risk, lifestyle, and relevant determinants of behavior.
- Menting, G.G.A., et al., (2024: Pre-Registration) Preserving cognitive abilities during aging and reducing dementia risk: A qualitative study on what people mean by being cognitively and socially active.

**In the media**

- Limburgs Dagblad (2024). Leven met het vonnis dementie.
- Dementia in Europe magazine (2025). Dementia risk reduction in the EU-funded LETHE project.
- Route Regio (2022): gezocht, 40-plussers voor onderzoek hersengezondheid.

# NUMBERS TELL THE STORY

# Key figures

| STAFF AT SCHOOL LEVEL | |
|---|---|
| **School** | **N/FTE 2024** |
| Scientific staff FHML | 132 / 53 fte |
| Scientific staff academic hospital | 13 / 3,1 fte |
| Postdocs | 66 / 38,1 fte |
| Internal PhD-students | 72 / 64,9 fte |
| *Total research staff* | *283 / 159 fte* |
| | |
| Support staff (research) | 44 / 26,2 fte |
| Support staff (managerial) | 11 / 9,5 fte |
| *Total support staff* | *55 / 35,7 fte* |
| | |
| *Total staff incl. academic hospital* | 338 / 194,7 fte |
| *Total staff excl. academic hospital* | 325 / 191,7 fte |
| | |
| External PhD students | 425 |
| Honorary professor | 21 |
| Visiting fellows/professors | N/A |

| FUNDING 2024 | | |
|---|---|---|
| **Funding 2024** | **FTE** | **%** |
| (1) Direct funding | 43.7 | 28% |
| (2) Research grants | 44.9 | 29% |
| (3) Contract research | 40.6 | 26% |
| (4) Other | 25.9 | 17% |
| *Total* | *155.1* | *100%* |

| TURNOVER | | |
|---|---|---|
| **Turnover 2024 (x1000)** | **€** | **%** |
| Government funding (direct) | 12,225 | 39% |
| Revenues contract education | 6,376 | 20% |
| KNAW/NWO/ZonMw (indirect government funding) | 4,604 | 15% |
| Other research revenues (Third party funding) | 5,064 | 16% |
| Other revenues | 1,965 | 6% |
| Internal settlements | 1,412 | 4% |
| *Total* | *31,646* | *100%* |

# BEYOND 2024

# A look ahead

While preparing the 2024 annual report, we are already looking ahead to the midterm review in 2026. This review will provide an important moment to reflect on CAPHRI's progress in addressing the recommendations of the External Review Committee, as outlined in the CAPHRI Strategic Action Plan 2024.

In the coming period, we will focus on consolidating our strategic directions by strengthening interdisciplinary collaboration, enhancing the visibility and societal relevance of our research, and fostering an open and responsible academic culture. Continued investment in our researchers—particularly early-career staff and PhD candidates—will remain key to ensuring sustainable growth and excellence.

These efforts will prepare CAPHRI to demonstrate tangible progress and a clear vision for the years ahead during the 2026 midterm evaluation.

As we look to the future, we remain confident that through the dedication and expertise of our researchers and staff, and the strong network of our partners, CAPHRI will continue to make a substantial contribution to generating and translating knowledge for a better quality of life and public health. We eagerly anticipate the opportunities 2026 will bring to further advance our mission and impact.

*Management Office*