



ANNUAL ACCOUNTS

2018

**AMSTERDAM INSTITUTE
FOR GLOBAL HEALTH
AND DEVELOPMENT**

28 November 2019





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Management Board's report

Introduction

The Amsterdam Institute for Global Health and Development (AIGHD) is an international research institute that works to develop sustainable solutions to major health problems. By taking a problem-oriented approach, AIGHD transcends the boundaries of traditional academic disciplines and integrates three fundamental activities into one institute: global health and development research, education, and policy advice.

AIGHD was initiated as a partnership between the Amsterdam UMC (Academic Medical Center [AMC]), the University of Amsterdam (UvA) and the Vrije Universiteit Amsterdam (VU). Today, it is a dynamic research and education institute that thrives on intense collaboration among experts from multiple disciplines including biomedicine, economics, and social and behavioral sciences. With its interdisciplinary and translational approach, AIGHD addresses the most critical medical, social, economic and political challenges in global health and development that cut across national and political borders.

To realize access to high quality health care for all, AIGHD collaborates closely with implementing partners and organizations from both the public and private sectors around the globe. AIGHD works by linking expertise, resources and programs from organizations involved in health-related research, education, capacity building and policy-making, bringing a 'delivery perspective' to health research and a 'quality aspect' to health care services.

Vision

We envision a world in which every person can achieve a life of good health, well-being and dignity.

Mission

We address challenges in global health and development by conducting collaborative interdisciplinary research, generating insights and solutions, and developing the next generation of global health and development leaders.

Governance Structure

AIGHD is governed by its Supervisory Board, an Executive Board and an Operational Management Team. Each group's function and members are detailed below.

Supervisory Board

- Overall responsibility for governance
- Defines the strategic direction
- Appoints and supervises the Executive Board
- Holds, at minimum, bi-annual meetings with:
 - Chair Tom van der Poll
 - Member Hans Brug (Dean, Faculty of Social and Behavioral Sciences, UVA)¹
 - Member Hans Romijn (Dean, Faculty of Medicine, UVA)
 - Member Willem Verschoor (Dean, School of Business and Economics, VU)²

Executive Board

- Executes strategy, scientific direction and policies
- Manages the organization
- Holds, at minimum, bi-annual meetings with:
 - Chair Frank Cobelens
 - Member Chris Elbers
 - Member Anita Hardon
 - Member Constance Schultsz

Operational Management Team

- Runs day-to-day operations, including finance and controls
- Carries out internal and external reporting
- Monitors progress of projects and programs
- Holds weekly meetings with
 - Chair, Executive Board Frank Cobelens
 - General Manager Friso Janssen
 - Member, Executive Board Constance Schultsz

Executive Board's Report

Successes and contributions

In 2018, the Amsterdam Institute for Global Health and Development saw important achievements in research, education and policy advice in global health and development.

The scientific output of AIGHD researchers in 2018 included 116 papers in peer-reviewed journals, including 30 first author and 31 last author papers. Also, five PhD degrees were awarded. At the close of 2018, AIGHD researchers were supervising 57 ongoing PhD projects as a promoter or co-promoter.

¹ Replaced by Agneta Fischer, acting Dean Faculty of Social and Behavioral Sciences, UVA, on 19 November 2018

² Replaced by Arjen van Witteloostuijn, Dean School of Business and Economics, VU, on 19 November 2018

Major topics of scientific output were resistance to antiretroviral drugs in low- and middle-income countries, immune response to rotavirus vaccine in relation to the gut microbiome, comorbidities in people on antiretroviral therapy, acceptability and perceptions of malaria interventions, and diagnosis, treatment and prevention of tuberculosis. Several new projects started, some of which included Pharmacovigilance Africa (PAVIA), aimed at strengthening post-marketing surveillance of adverse effects of new drugs for poverty-related diseases in four African countries; EVOLVE, focused on the development of additional drug resistance under sub-optimal treatment for drug-resistant tuberculosis (TB) in Moldova and Belarus; a cost-effectiveness analysis of new diagnostic tests for hepatitis C infection; the Agriculture Evaluation of Kenyan Farm Productivity Project, conducting an impact evaluation of an agricultural production intensification project in Kenya; and IBUA TB, investigating the impact of incorporating TB screening into an HIV test-and-treat approach on TB case finding in Tanzania.

AIGHD, under the leadership of Dr. Cate Hankins, organized the 12th INTEREST Conference on HIV in Kigali, Rwanda. This largest INTEREST Conference to date brought together nearly 600 participants from 32 countries, most of whom were from Africa. AIGHD staff were also strongly involved in the AIDS 2018 Conference, the world's largest gathering around HIV/AIDS, held in Amsterdam in July. Prof. Peter Reiss was the conference's national co-chair, and AIGHD researchers (co-)organized several conference symposia and pre-conferences. AIGHD researchers also had key roles in the Union World Conference on Lung Health, the main conference on tuberculosis, held in The Hague in October.

In 2018, AIGHD expanded its educational activities with an elective course in Global Health in the University of Amsterdam's bachelor curriculum in medicine. This three-month course included "Global Health in Context", a four-week course component on health systems, organized with the University of Ruhuna (Galle, Sri Lanka) and the Duke University Global Health Institute (Durham NC, USA).

Our work in 2018 continued to receive support by funding from the Amsterdam UMC (Academic Medical Center (AMC)), the University of Amsterdam, the Netherlands Government, the European Union, philanthropic organizations, product development partnerships, and industry sponsors.

Challenges and external conditions

Funding remains a challenge. Institutional core funding is limited to Research Priority Area (Zwaartepunt Global Health) funding from the University of Amsterdam and in-kind from the Amsterdam UMC and the UVA Faculty of Social and Behavioral Sciences through part-time staff appointments. AIGHD is otherwise completely dependent on project funds that generally provide limited coverage for overhead costs. Financial constraints and the project portfolio size known by September 2018 made the EB submit a non-balanced annual budget for 2019, taking into account natural and forced discharge of 1.6 FTE support staff and 1.2 FTE junior research staff.

Nonetheless, the year 2018 saw some positive trends. The Amsterdam UMC provided temporary funding (3 years (2018-2021)) for senior staff positions in clinical research and education, and pledged additional staff funding for 2019. We cautiously observe that investments over the past years in new research capacity, interdisciplinary meetings around research ideas for grant opportunities and strategic links for grant acquisition with our parent institutes are paying off. By the close of 2018, AIGHD had several project proposals in 2nd stage of application with various funding sources, including Horizon 2020, EDCTP, Wellcome Trust and new funding mechanisms of the Netherlands Science Organization NWO.

In the longer term, we expect to see positive effects of advocacy activities for global health research that we intensified in 2018. In the Netherlands, AIGHD continued to play a leading role in the Clingendael Global Health Initiative. At the European level, we spearheaded a meeting of representatives of leading European academic global health institutes in Brussels to set a strategy for raising the profile of global health in Horizon Europe (the 9th European scientific framework program starting in 2021) as well as a European global health research agenda. This meeting resulted in the establishment of the European Global Health Research Institutes Network (EGHRIN), in which AIGHD is among the lead partners.

Organizational developments

By the close of 2018, AIGHD had 49 staff in total. Mr. Michiel Heidenrijk stepped down as member of AIGHD's Executive Board (EB) for personal reasons; he was not replaced. The Supervisory Board remained unchanged but will see two replacements in early 2019 because of new appointments of Deans at the UVA's Faculty of Social and Behavioral Sciences and the VU's School of Business Administration and Economics. The EB has continued to meet monthly, with day-to-day management delegated to the Operational Management Team.

Two new Joep Lange Chair Holders were appointed to join the Joep Lange Chair and Fellowship Program, endowed by the Netherlands Ministry of Foreign Affairs and the Joep Lange Institute: Prof. Anna Vassall, health economist at the London School of Hygiene and Tropical Medicine (UK), and Prof. Catherine Kyobutungi, public health specialist and executive director of the African Population and Health Research Center in Nairobi, Kenya.

In July, AIGHD hosted the first meeting of its Advisory Council, consisting of Prof. Jaap Goudsmit (Chair), Prof. Debrework Zewdie, Prof. Michael Merson and Prof. Peter Piot. The discussions with the Advisory Council regarding the draft Strategic Plan 2019-2024 prompted us to revisit some of its elements, in particular with respect to AIGHD's thematic focus, our academic/institutional embedding and our long-term financial sustainability. The EB organized a number of sessions with academic and key support staff to address these elements, prepared a round of stakeholder consultations and will finalize the Strategic Plan in 2019.

The year ahead

Next year will be pivotal in several respects. AIGHD will make key choices with regard to its institutional embedding and thematic focus, and will organize activities to enlarge and strengthen its funding base. For acquisition of new project grants, we will strongly focus on EDCTP, Horizon 2020 and NWO opportunities, develop new interdisciplinary areas of work and continue to engage more researchers from AIGHD's parent institutes. For core funding, we will explore opportunities at Board level with the University of Amsterdam and VU University, and develop a strategy for accessing charity funding. AIGHD will strengthen its links with European global health institutes as part of EGHRIN and expand its research networks through stepping up its participation in the EDCTP Networks of Excellence EACCR and TESA-II.

We will continue to work on interdisciplinary research projects. Several projects will start that were awarded already in 2018: What's At Stake in the Fake, a five-year Wellcome Trust-funded study which seeks to critically re-examine the collective common-sense about fake drugs and global health and seek to understand the emergence and circulation of worries about fake drugs for global health, as well as to understand these worries' effects; i-PUSH, which looks at "Enhancing Universal Health Coverage in Kenya through Digital Innovations: A Financial and Health Diaries evaluation study of M-TIBA" by delivering a high-quality data set; and GAPS, a Wellcome Trust/DFID-funded study into key knowledge and infrastructure gaps that prevent the integration of social science research into current systems of epidemic preparedness, response and recovery, and ways to bridge them.

Research Report

AIGHD has been increasingly successful in shaping and executing interdisciplinary research projects in which we combine biomedical, sociobehavioral and economics perspectives on issues of global relevance within six thematic domains: antimicrobial resistance, disease elimination, urbanization and health, chronic care, health markets, and human development.

The scientific output of AIGHD researchers in 2018 included 116 papers in peer-reviewed journals, including 30 first author and 31 last author papers. Also, five PhD degrees were awarded. At the close of 2018, AIGHD researchers were supervising 57 ongoing PhD projects as a promoter or co-promoter.

We continue to work on interdisciplinary research projects and in 2018, saw the start of several new projects highlighted on the following pages including Agriculture Evaluation of Kenyan Farm Productivity Project, EVOLVE and IBUA TB, to name a few.

Project Highlights

Projects Completed in 2018

Financial Health Diaries

The research within this project is a good example of the interdisciplinary character of AIGHD's activities, as it brought together researchers with economic and bio-medical backgrounds to study various aspects of access to health care in Nigeria and Kenya. The project deepens and extends the analyses that were initially conducted with the Financial and Health Diaries data, a unique panel dataset collected in 2012-2013.

Three academic papers (one published, two manuscripts ready for submission) were written as part of the project. Key findings showed that for households with a weak social support network in Kenya, formal health insurance provides them with much-needed financial protection. In contrast, households embedded in a strong social network are able to smooth consumption after a health shock even when they are not insured.

In Nigeria, health insurance facilitated access to better-quality care while decreasing delays in seeking timely care, especially for the poorest households and in times of low cash-at-hand. Another important feature of Nigerian health-seeking behaviour is the reliance on informal drug sellers. Two-thirds of the time, ill people go to an unqualified patent medicine vendor, regardless of their insurance status. This leads both to suboptimal care and high out-of-pocket expenditures.

A separate policy brief explores how rural women and men in Kenya differ in their financial preparedness to cope with health shocks and their subsequent health-seeking behaviour at quality health providers. In addition, the project has produced a data user guide that enables researchers unfamiliar with the intricacies of the high-detail high-frequency Diaries data and the health insurance programme to use the dataset for further research. The project was led by AIGHD's Dr. Wendy Janssens, together with Dr. Berber Kramer from IFPRI in Washington D.C. Other AIGHD collaborators are Dr. Anja van 't Hoog, Wiesje Zikkenheiner, Thijs Yan, Heleen Nelissen and Daniella Brals.

Rota-biome: The influence of the intestinal microbiome on infant rotavirus vaccine responses in rural Ghana and urban Pakistan

Rotavirus vaccines protect children against serious rotavirus gastroenteritis, the leading cause of diarrheal mortality in children under five across the globe. However, currently licensed vaccines, while they have excellent efficacy in high-income settings, protect children in low and middle-income settings less well. This study hypothesizes that the intestinal microbiome, including the fungal, bacterial and viral microbiome, may modulate rotavirus vaccine immunogenicity in low-income settings.

In collaboration with George Armah at the Noguchi Memorial Institute at the University of Ghana and Professor Skip Virgin and Dr. Scott Handley at Washington University, we evaluated if the fungal, viral, and bacterial composition of fecal microbiome differed between infants with and without a rotavirus vaccine response. The study design was a nested, retrospective case-control study comparing the fecal microbiome diversity and composition between 93 infants at 6, 10, 11 and 14 weeks of age who did (case) and did not (control) mount a Rotarix (RVV) immune response (defined as anti-RV IgA > 20 IU/mL and absolute height of anti-RV IgA) after vaccination at 6, 10 and 14 weeks of age.

The study (as yet unpublished) demonstrated that there are significant differences in the bacterial, viral and fungal microbiota between rotavirus vaccine responders and non-responders, generating multiple

hypotheses about how the intestinal microbiome may modulate host immune responses to mucosal vaccines at young ages. This work suggests the intestinal microbiome, across all its bacterial kingdoms, are important, underappreciated determinants of the decreased rotavirus vaccine immunogenicity observed in low- and middle-income countries and may hold as yet untapped therapeutic potential. The study was lead by Dr. Vanessa Harris.

SPIN: Novel strategies and tools for antimicrobial resistance surveillance

The central objective of the SPIN project was to validate, optimize and implement the use of Lot Quality Assurance Sampling (LQAS)-based antimicrobial resistance (AMR) surveillance as a feasible strategy to inform local antimicrobial stewardship activities, and to estimate overall AMR prevalence, supported by sustainable enhancement of microbiology capacity through a Tele-microbiology approach. The studies took place in two cities on two Indonesian islands (Bandung, Java and Medan, Sumatra). The project was funded by the Royal Dutch Academy of Sciences (KNAW) through the Scientific Program Indonesia the Netherlands (SPIN).

We performed two closely interacting sub-projects. The first project focused on epidemiology and mathematical modeling, addressing the validation and optimization of the use of LQAS-based surveillance, as well as bias introduced by laboratory-based surveillance or negative cultures. The second project focused on clinical and microbiological aspects and studied the effect of results of LQAS-based surveillance on antimicrobial stewardship activities and appropriateness of empirical therapy.

The project resulted in a number of publications, including the results of the initial full-fledged prevalence survey in both community and hospital settings. The prevalence of antimicrobial resistance was found to be alarmingly high, precluding any empirical treatment with available oral antibiotics. In another publication the feasibility, sensitivity, and affordability of a population-based AMR survey using LQAS, which classifies a population as having a high or low prevalence of AMR based on a priori defined criteria was assessed. The findings indicate that LQAS-based AMR survey is a feasible, sensitive, and affordable strategy for population-based AMR surveys, providing essential data to inform local empirical treatment guidelines and antimicrobial stewardship efforts. Finally, it was shown that the use of a urine dipstick test in a *rule-out* strategy can reduce the need for urine culture and avoid the prescription of (ineffective) antibiotics in a non-urology outpatient setting. The project team included AIGHD's Prof Constance Schultsz, Dr Frank van Leth, and Marloes Nijboer.

UNU-WIDER: Inequality in India: Dimensions and Trends

India is currently achieving per capita growth rates that are historically unprecedented. Poverty reduction has also accelerated. There is concern, however, that this growth is being accompanied by rising inequality. This research project examined inequality trends and dynamics at the all-India level over three decades up to 2011/12 and contrasted these with the picture that emerges at the level of the village, or the urban block.

The project's estimation results point to rising inequality between 1983/84 and 2011/12, but to differing degrees depending on the dimension being considered and the measurement method employed. The authors show that local-level inequality (within-village, in rural areas; within-block in urban) accounts for the bulk of overall inequality in India. Understanding what occurs at the local level is thus important for understanding overall inequality.

The group of researchers wrote six research papers as well as a summary report entitled "*Inequality trends and dynamics in India: the bird's-eye and the granular perspective*". These papers were published as WIDER Working Papers and will be submitted by their authors to peer-reviewed journals. The project's analysis presents several innovative contributions that have not been available in previous studies. First, researchers examined trends both across and within the all-India level, the state level, and the microscopic village level. Second, they studied both intra- and inter-generational mobility. To accomplish these objectives, they both analysed the existing data and created new datasets such as synthetic panels at the state-region and household levels.

The project was led by Prof. Peter Lanjouw from the VU Amsterdam's School of Business and Economics. Further AIGHD collaborators were Prof. Chris Elbers and Gerton Rongen. In addition, the project group included researchers from Jawaharlal Nehru University and the Indian Statistical Institute in Delhi, the World Bank's Delhi and Washington D.C. offices and VU Amsterdam. The project was funded by the United Nations University-WIDER as part of its research programme on Inequality in the Giants.

New challenge for HIV in Africa; exacerbated immune activation during antiretroviral

Thanks to treatment with HIV inhibitors, so-called antiretroviral therapy (ART), which effectively inhibits viral replication, HIV infection has become a chronic, manageable disease for those who access treatment. This is also true for HIV-infected people in sub-Saharan Africa, where two-thirds of all HIV-infected people worldwide live. In this research project, we investigated the functioning and reconstitution of the immune system during effective, suppressive ART in African adults living with HIV. We found that recovery of cellular immunity, measured by the concentration of CD4 cells, was incomplete in a large fraction of patients and that this resulted in important health risks in the long term. One of the important underlying causes is the fact that the immune system remains dysregulated in several ways, despite effective ART. We found that various immune pathways, i.e. pro-inflammation, macrophage activation and microbial translocation, were persistently activated. We also found that several new markers, so called microRNAs, were differentially expressed in HIV-infection, and in patients with poor immune recovery (compared with optimal reconstitution). These new immunological insights offer opportunities for better recognition of people who have a dysregulated immune system. For instance, patients found to have high levels of immune activation might be flagged for more frequent laboratory monitoring and consider ART regimen change. The study findings may help guide further research on targeted, host-directed adjunct therapies, to further improve long-term prognosis of HIV-infected Africans. The project was led at AIGHD by Dr. Raph Hamers.

Project Highlights New in 2018

Agriculture Evaluation of Kenyan Farm Productivity

AIGHD was commissioned by the Netherlands Enterprise Agency (RVO) to conduct an impact evaluation of an agricultural production intensification project in Kenya. This project is partly funded from one of the subsidy facilities that RVO implements for the Dutch Ministry of Foreign Affairs. Its components include construction of distribution hubs where farmers can market their produce, farmer trainings, seedling nurseries, introduction of improved seed varieties, and an ICT platform to disseminate agricultural information to farmers. Some of its expected outcomes are increased farm productivity, for example in milk production and the harvest of green beans, and improved household food security.

AIGHD researchers Youdi Schipper and Chris Elbers have set up a so-called difference-in-difference evaluation design to assess the effects of the project. The team will measure differences over time on selected indicators, using data collected through baseline and endline household surveys. Data is collected at both a treatment group of project beneficiaries and a control group of comparable households belonging to non-treated cooperatives. Based on these data, econometric techniques provide an estimate of the project's effects on the farming households. In 2018, work has focused on detailing the evaluation design and preparing the baseline survey, which is under way in 2019. Additional AIGHD staff working on the project are Dominique Jolivet and Thijs Yan. The evaluation is part of a broader evaluation of Dutch projects on entrepreneurship for food security, in which AIGHD collaborates with PwC and SEO Amsterdam Economics.

EVOLVE : Assessing the frequency of additional drug resistance under sub-optimal treatment for drug-resistant tuberculosis

The objective of the study is to assess the frequency of additional drug resistance under sub-optimal treatment for drug-resistant tuberculosis. Most patients diagnosed with drug-resistant TB started their therapy before a full drug susceptibility testing (DST) profile is available. A proportion of these patients may initially receive a suboptimal prescription which may be revised once the full DST is known. This entails both inappropriate drugs, and/or inappropriate drug dosage. This study will monitor the effects of such inappropriate therapy on the development of additional drug resistance that will jeopardize successful treatment. For this, the Evolve project will study a cohort of patients with drug resistant TB from Moldova and Belarus, countries with a high frequency of drug resistance in TB patients. The project will compare the drug resistance profiles of patients who will start directly on appropriate therapy with those who start with inappropriate therapy. Results will be directly relevant for future treatment and monitoring guidelines. The project started in May 2018. In its first months of activities, the Evolve project has written the clinical study protocol, designed the tools for the data collection in the two clinical sites in Belarus and Moldova and trained on-site study staff.

HCV DIAGNOSTICS: Assessing incremental costs of a dual HCV antibody and care

With the advent of effective and affordable treatment for hepatitis C virus (HCV) infection, access to diagnosis of those HCV infections that require treatment has become a major priority.

This project aims to assess the health economics case for developing and introducing a dual HCV antibody and core antigen test that would allow a “one-stop” diagnosis of treatment-eligible hepatitis C. It will determine the cost-effectiveness of a potential dual HCV test, based on diagnostic pathway modelling using a simple decision tree model. This will be linked with a Markov model, the commonly-used form to examine life time costs and effectiveness of HCV treatment and health outcomes.

The project started in the summer of 2018 with two costing studies conducted in Georgia and Malaysia. The studies estimated the cost to diagnose HCV in high risk populations in each of the countries. Over the course of two weeks, several facilities were visited in each country to obtain data on the resource use and on expenditure for each input used in diagnosing patients.

In addition, the decision tree model for Georgia, including the intervention (introduction of the dual test), was developed. The decision tree divides or allocates the HCV suspected population into subpopulations that are diagnosed with HCV and need treatment and those that do not. Each step in the care cascade also allows us to attach cost so that currently we can estimate to average cost per patient detected. The study team includes Prof. Anna Vassall (lead), Prof. Frank Cobelens and Stephan Rupert and is expected to be completed in June 2019.

IBUA TB: Improving TB case detection in a rural population by linkage to a HIV test and treat program

The IBUA TB project kicked off in June 2018 with a goal of investigating the impact of incorporating tuberculosis (TB) screening into an HIV test and treat approach on TB case finding. Linking HIV and TB screening is a logical step as TB is the most common co-infection in individuals living with HIV carrying high mortality and morbidity worldwide.

In practice this means that the IBUA TB team goes together with the HIV Test and Treat team into the communities to test for HIV and TB. People who attend the testing campaign are tested for HIV and asked about TB symptoms. People who are found to be HIV positive or have one or more TB symptom but are HIV negative are referred to the TB testing point. If their signs and symptoms are deemed compatible with TB disease (“TB presumptive”) they are asked to provide a sputum sample. The sample is taken to the health facility and tested for TB using a GeneXpert machine.

As of December 2018, a total of 5,160 people were screened for TB of whom 128 (2,5%) were found to be TB presumptive. Of these 128 TB presumptive people, 80 were HIV negative and 48 were living with HIV. A total of 98 clients were able to provide sputum and 11 samples were found to be TB positive. All 11 detected TB patients were enrolled in TB care and are currently on treatment.

In addition to screening during testing campaigns, contact information of household members of the TB patients detected is provided by the client and family members are screened for TB using a Mobile-Health (M-health) system via a mobile phone. When the participant responds positively to one of the screening questions, a notification is sent to the project, a community health worker comes to the household for sputum collection and sends it for testing. As the M-health system decreased the burden of screening for both the client as the facilities, the project expanded the use of the M-health tool to be also used for contact screening of people diagnosed with TB at health facilities. The project will close in June 2019 with a meeting in Shinyanga, sharing the research results and lessons learnt with all local stakeholders.

PhArmaco Vigilance Africa (PAVIA): Improving responsible uptake of new drugs and vaccines through strengthened pharmavocigilance

The PAVIA project aims to strengthen pharmacovigilance (PV) in four African countries: Ethiopia, Nigeria, Swaziland and Tanzania, funded by EDCTP. PAVIA is a so-called Coordination and Support Mechanism, aimed at improving responsible uptake of new drugs and vaccines by strengthening local capacity for PV, that is, for recognizing, reporting, and acting on untoward effects of such products. It is meant to do so by bringing together stakeholders and coordinating ongoing activities and initiatives, in addition to providing direct support through training and technical assistance. The goal is to develop an effective system at country level for management and reporting of adverse reactions to new drugs treating multi drug-resistant tuberculosis (MDR-TB). The results and lessons learned while focusing on the treatments for MDR-TB will be transferred by PAVIA to other public health programs such as HIV and malaria.

Since the project started in March 2018, baseline situational analyses have been conducted in the four countries. The baseline assessments took a closer look at the elements relevant to health systems, policies, laws and financing; PV processes; capacity and infrastructure including training needs; baseline values for subsequent monitoring and evaluation; and stakeholder environment and communication/dissemination opportunities. The baseline assessments in Tanzania and Ethiopia were conducted in collaboration with PROFORMA, another EDCTP-funded project that aims at strengthening PV for mass drug administration and vaccination programmes. Country-specific roadmaps were prepared to analyse the findings from the baseline surveys and propose country-customized solutions and activities to address the gaps identified. During its first year, PAVIA has proactively and extensively explored opportunities for creating linkages with regional and intercontinental stakeholders such as NEPAD and its African Medicines Regulatory Harmonization Initiative (AMRHI). PAVIA is pursuing further interactions with the Pan African Clinical Trial Registry (PACTR) and is also engaging with EDCTP's Network of Excellence EACCR-2 and EXIT-TB project to further explore platforms for collaboration and sustainability of PAVIA activities. The project team includes Prof. Frank Cobelens (lead), Dominique Jolivet, Henry Tumwujukye and Remko van Leeuwen.

What's At Stake In The Fake?

Today, the idea that fake drugs threaten global health has become almost common-sensical. Often, these concerns are voiced in relation to how, for example, Africans' already poor health is further imperilled by fake Indian drugs. When the AIGHD team looked closely at the scientific literature backing up these claims, they found the claims were based on unexpectedly weak evidence.

This five-year research project, *"What's at stake in the fake? Indian pharmaceuticals, African markets and global health"*, began in 2018 and brings together academic staff and postgraduate students based at universities in the UK, South Africa, and the Netherlands. It is funded by a Wellcome Trust Collaborative Award in Humanities and Social Science.

This project will critically re-examine the collective common-sense about fake drugs and global health and seek to understand the emergence and circulation of worries about fake drugs for global health, as well

as to understand these worries' effects. In order to test initial findings, the project will carry out further research into the nature of India's pharma sector since the 1970s, with particular attention to its role as the generic drugs manufacturer for the global South. Materials will be gathered from official and unofficial published archives as well as from interviews in India with those who write policy, drugs manufacturers, pharmacists, physicians and medical representatives. Global health scholars have already noted India's generics in anti-counterfeiting activities. India's reputation in fake drug manufacturing, however, has gone largely unquestioned. Ethnographic research will focus on the circulation, regulation and consumption of pharmaceuticals in South Africa, Tanzania and India.

Findings will be published and aired at the National Bioethics Conference in India and a bespoke international medical humanities workshop. The project is led at AIGHD by Dr. René Gerrets.

Project Highlights Ongoing in 2018

HECTOR: Impact of host restriction of *E. coli* on transmission dynamics and spread of antimicrobial resistance

The prevalence of anti-microbial resistance (AMR) is increasing rapidly around the world, including bacteria colonizing healthy human and animal populations. The recent reports of plasmid mediated colistin resistance, potentially associated with colistin usage in agriculture, further raise fears of infections that are untreatable due to AMR. The commensal flora of humans and animals is a reservoir of AMR-encoding genes, and *Escherichia coli* in particular can carry multiple AMR determinants. AMR transmission within *E. coli* appears dominated by certain lineages. To what extent these are restricted to certain host species is unknown; HECTOR aims to identify determinants of host restriction of *E. coli* and their potential association with AMR transmission and prevalence.

Over the past year, HECTOR has generated a collection of 1,200 whole-genome sequences of *E. coli* isolates of multiple hosts in different countries and at different periods of time. The data include metadata such as health status of the host and phenotypical resistance data. Bioinformatic analyses of these data has started to generate knowledge of population structures of *E. coli*, including associated AMR determinants. Cluster analysis based on SNPs in the core and accessory genomes has yielded preliminary results, sufficient to inform the selection of isolates to be used in experimental studies. In the next phase of HECTOR, the team will assess the ability of the bacterium to spread between different species and if it's associated with the content of the bacterial DNA. This way, it could be possible to find parts of the DNA that might enable the bacterium to spread efficiently across species. HECTOR is also preparing for experimental studies, the results of which should provide information that can be used to parameterize mathematical models to estimate the probability of transmission of *E. coli* clones between different hosts and the likelihood that such transmission will lead to spread of AMR determinants. The HECTOR consortium is coordinated by AIGHD's Prof Constance Schultz

RISE Indonesia: Evaluating how teacher reforms in decentralized Indonesia can promote learning gains

This collaborative project, started in 2017, focuses on two issues. First, how can policy reform in the areas of teacher distribution, recruitment, training, and incentives improve student learning? Second, what reforms do innovative districts implement, how effective are these reforms in improving learning outcomes, and do they spread to other districts or the national level? AIGHD's Prof. Menno Pradhan is the Lead Researcher.

The main result in 2018 was a working paper documenting the path of Indonesian pupils through the education system in terms of their learning achievements, entitled *Indonesia Got Schooled: 15 Years of Rising Enrolment and Flat Learning Profiles*. The authors demonstrate that while Indonesia succeeded in achieving high levels of school enrolment and attainment, there's a large gap between students' mathematical ability and what they are supposed to know based on the education curriculum. The paper also highlights that students are learning little as they are promoted from grade to grade.

PhD candidate Emilie Berkhout presented these results at the RISE Annual Conference in Oxford, which brought together prominent researchers in the field of education in developing countries. The project is part of a broader program for Research on Improving Systems of Education (RISE), which investigates various countries. It is funded by the United Kingdom's Department for International Development (DFID) and Australia's Department of Foreign Affairs and Trade (DFAT). Next to AIGHD, the project consortium consists of the SMERU Institute based in Jakarta and Mathematica Policy Research of Cambridge (MA), United States. Note that AIGHD senior researcher Youdi Schipper participates in the RISE research on Tanzania. One of the activities within that project in 2018 was work on a paper analysing teacher opinions on performance pay, based on an experimental intervention.

South Sudan Nodding Syndrome Study (SSNSS): Gaining insight and knowledge into a rare childhood illness

Nodding Syndrome is an unexplained neurological illness reported in Uganda, South Sudan and Tanzania and mainly affects children for the first time when they are between five and 15 years of age. The SSNSS seeks to better understand how many children are impacted by this disease and what its causes are. Significant progress was made in 2018 with respect to field work and the hospital component of this study, despite an ongoing volatile situation in South Sudan.

In the field study, researchers continue to investigate the prevalence, incidence and distribution of NS in the Mundri area as well as natural history of NS (disease progression over a year) by collecting detailed data from compounds in that area. Over 1,200 compounds were visited by the study staff in the field study. At each location, a questionnaire was administered to selected, consenting households. The preliminary survey results indicate a current estimated prevalence of two percent. This may change as the team expands the visit area to include compounds that are further away from Lui or Mundri, as they are relatively safe to visit.

As part of the field study, eligible children are also being identified for the hospital study. The hospital study addresses the clinical picture and aetiology of NS. Currently, 40 cases and 80 controls are enrolled in the hospital study. For both the 40 diagnosed patients and control cases, samples have been taken. It is anticipated a total of 100 cases and 200 controls will be enrolled by mid-2019.

Test and Treat : Enhancing availability, access and retention in HICV care in rural Tanzania

The Test and Treat project is an operational research project conducted in partnership with the Italian NGO Doctors with Africa/CUAMM. The project is implemented in two regions in Tanzania, Shinyanga and Simiyu, working with four Diocese health facilities. The project brings together three research disciplines, clinical/epidemiological, social and economic-costing, contributing to building a sustainable model of HIV care including both a Universal Test and Treat approach and a Differentiated Care model, contributing to reaching 90-90-90.

Preliminary findings include that HIV testing campaigns have become normalized in the community and participation is considered 'responsible behaviour'. As of December 2018, a total of 127,739 tests were completed during community testing campaigns, 748 people tested positive and 328 people were linked to one of the four facilities linked to the project.

One of the reasons people fail to link is because they do not feel sick and therefore do not consider themselves in need of care. Moreover, networks around people are very influential in determining if someone links to care. Community health workers also play important roles in linking and retaining people in care. For stable patients 37 treatment clubs have been established, covering 566 members. Treatment clubs enable clients to collect in a community-based setting, reducing the burden to travel to the health facility to collect medication.

For 2019, the costing and clinical research on the project will be accelerated to gain more insight in the effectiveness of setting up HIV treatment clubs, to prevent people from travelling long distances to health care facilities.

Joep Lange Chair and Fellows Program in Global Health and Development

In 2015, the Professor Joep Lange Chair and Fellows Program in Global Health and Development was established by the Joep Lange Institute and administered by the Amsterdam Institute for Global Health and Development. This academic program is hosted at the Department of Global Health of the Academic Medical Center (University of Amsterdam), and receives support from the Dutch Ministry of Foreign Affairs. The Ministry announced its support for the Chair at the commemorative ceremony for Joep Lange and Jacqueline van Tongeren.

The Joep Lange Chair and Fellows Program brings together experts from different backgrounds and geographies to collaborate on research that will help drive change in the field of global health. This multidisciplinary approach is echoed in the rotating character of the Chair, which welcomes up to five (partly concurrent) professors from different fields of expertise over five years. In partnership with the top academic institutes in Africa, Asia, Europe and the United States, the Chairs and Fellows focus on building the knowledge base of global health and collaborate with organizations that apply these insights to improve access to quality healthcare across the globe. Each Chair works with an appointed Fellow, who helps drive the research forward.

Chairs and Research Focus – 2018 update

Prof. Dan Ariely commenced his activities as the first rotating Chair on 1 January 2017. His work focuses on implementation research in Kenya. This project looks at how to stimulate uptake of health insurance and savings for healthcare with the help of M-TIBA, a mobile health platform. Several scientific articles have been accepted by the Journal of Development Studies for a special issue of “Nudging for the SDGs”. Dr. Ting Jiang works as the Joep Lange Fellow with Dan Ariely.

Prof Mark Dybul was appointed Joep Lange Chair on 1 July 2017. His research employs a Business for Impact Approach in the fight against HIV and TB and this approach aims to optimize resources in the healthcare system and in the community, while using a data driven approach to improve care. Janneke Verheijen works as the Joep Lange Fellow with Professor Dybul. Together, they are actively fundraising to expand this area of research.

Prof. Anna Vassall was appointed Joep Lange Chair in February 2018. The objective is to work with AIGHD, the Department of Global Health (AMC) and their partners to further develop and apply methods to assess ‘value for money’ of the interventions they are piloting and implementing; ensuring that the methods used capture and value multiple impact and are relevant to a diversity of funders. Anna Vassall aims to link novel economic evaluation methods and research to the ongoing projects led by Joep Lange Institute’s (JLI) partners, in order to ultimately benefit the health and welfare of the poor. The recruitment of one Joep Lange Fellow to work in collaboration with Prof. Anna Vassall started in 2018 and resulted in the appointment of Liv Nymark in February 2019.

Prof. Catherine Kyobutungi was appointed in July 2018 as the fourth Chair of the program and commenced her work in the last quarter of the year. Her research focuses on the management and prevention of non-communicable diseases (NCDs), in particular Cardiovascular Diseases, learning from the long-term experiences of HIV management in Africa. The recruitment process of one Joep Lange Fellow to work in collaboration with Catherine Kyobutungi started in 2018.

The fifth Chair is in the process of being selected by AIGHD in consultation with the AMC’s curatorium.

Education Report

“Developing and inspiring the next generation of global health leaders”

At the undergraduate level, AIGHD coordinates the Global Health elective course for second year Bachelor of Medicine students at the Academic Medical Center (AMC), the university hospital and Faculty of Medicine at the University of Amsterdam (UvA). In the academic year 2018-2019, AIGHD is again offering two elective tracks in Global Health for the renewed medical curriculum ‘Epicurus’. This being carried out in collaboration with multiple faculties and disciplines in the Netherlands and abroad, in order to increase competence in global health and promote interdisciplinary learning. AIGHD researchers supported two bachelor thesis projects.

In collaboration with the Vrije Universiteit Amsterdam (VU), AIGHD offers the two-year Research Master in Global Health at the VU. Since 2012, AIGHD has coordinated curriculum elements of this program and continues to be an active participant of the coordinating team. Scientific internships are hosted by AIGHD for Master’s degree students, allowing students to gain ‘hands-on’, real-world skills in Global Health research. In 2018, AIGHD hosted ten such internships, many of which included international fieldwork and experiential collaboration with local communities, researchers, and institutions.

In 2018

- PhDs supervised: 57, including 5 PhD defenses
- Internships: 10

Note: Statistics for PhDs based on calendar year.
Statistics for Bachelor/Master based on the 2017-2018 academic year.

AIGHD’s Lecturers and Curriculum Developers

Dr. Guus ten Asbroek, Daniella Brals, Prof. Frank Cobelens, Dr. Marleen Hendriks, Prof. Michael Boele van Hensbroek, Dr. Anja van ‘t Hoog, Dr. Frank van Leth, Dr. Wieger Voskuil and Prof. Constance Schultsz.

In 2018, AIGHD researchers supervised 57 PhD students, of which five completed their work with a public defense and received a diploma. PhD research work is supervised (or co-supervised) by one of AIGHD’s research group leaders. These research groups leaders provide supervision and mentorship throughout the duration of the PhD, including overseeing the quality and completeness of the research. PhD students are deeply embedded within active research teams at AIGHD in the Netherlands and abroad, in fields such as infectious diseases, chronic diseases, and health systems, collaboratively working with internal and external researchers and institutions.

Alongside its involvement in Global Health education at the VU and with AMC/UvA, AIGHD also contributes to Global Health courses at the Amsterdam University of Applied Sciences (HvA) and various professional organizations and NGOs locally and globally.

To further the educational expertise at AIGHD, 4 staff members were enrolled in professional teaching education in 2018. Guus ten Asbroek was appointed principal educator at the AMC. His specific assignment concerns internationalization within the medical curriculum of AMC.

Testimonials

“I learned so much through this course; we were approached as colleagues not as students so I felt free to be more creative when it came to offering my own input and asking questions. The course provided a really good environment to learn in and our lecturers appreciated our prior learnings.”

Tessa Van Deelen, 2018 Research Master’s student on the Addressing Disease Burden in a Global Context course

“One of the great – and unique – things about working with AIGHD is that many projects are a collaboration between economists and medical doctors, which allows for both types of data to be collected and two types of expertise to be incorporated into the research.”

Dr. Zlata Tanovic, who successfully defended her PhD in 2018

"I was interested in global health, but there were not many courses about this subject in our Bachelor of Medicine. After reading the information about this project, I could see that this course provides an ideal opportunity to learn about Global Health. Besides that, this course would give me a chance to go abroad (Sri Lanka) to experience their health care systems and a chance to interact with students from the University of Ruhuna and the Duke University.

"I had four incredible weeks in Sri Lanka, where we learned about their health care systems. We had several guest lectures and it was great to work with the students from Duke University. Each week addressed a specific theme challenge, accompanied by excursions to different clinics and places. My favorite was the visit to the rubber plantation: we got to learn about the health condition of the rubber tappers and the rubber manufacturing process. All the field visits helped us in understanding how things work in practice and we learned a lot from them.

"These four weeks in Galle were really impressive and we had great, educational experience there."
Shabiga Sivanesan, Second-year Bachelor of Medicine student part of the inaugural Global Health in Context: Sri Lanka course

Policy and Communication

"Expert advice and knowledge sharing that makes a difference"

In 2018, AIGHD researchers made several contributions to health policy, both globally and domestically. This included contributions to policy documents, guidelines about disease control, treatment, and diagnostics, and activities to promote and enhance global health research and disseminate its findings.

Health & Development Policy

Peter Reiss made important contributions in the field of global HIV epidemic control through his involvement in several high-level policy panels, namely, the European AIDS Clinical Society Governing Board and guidelines panels for HIV treatment and co-morbidity management, the UNAIDS Strategic and Technical Advisory Committee to the Executive Director, and the UNAIDS Scientific Expert Panel advising the Executive Director. Catherine Hankins chaired the Scientific Advisory Group of the US National Institutes of Health (NIH) HIV Prevention Trials Network.

Anita Hardon is a member of the Steering and Advisory Group (STAG) for the World Health Organization (WHO) Department of Reproductive Health and Research. As part of this role, in 2018, she participated in several meetings with the WHO on self-care for sexual and reproductive health, in preparation for the development of a consolidated WHO guideline. Christopher Pell also conducted some of the preliminary literature reviews that provided background to the guideline.

In the field of HIV drug resistance, Tobias Rinke de Wit is co-chairing the WHO HIVResNet working group 5: a team of 25 international experts in the area of advocacy of HIVDR.

In the field of tuberculosis (TB), AIGHD researcher Frank Cobelens contributed to a WHO framework that outlines clear and scientifically sound research designs and methodologies to guide the design and testing of new TB prediction tests in order to achieve WHO endorsement.

Chris Elbers participated in the workshop 'Key Learnings Inclusive Development' organised by INCLUDE, the knowledge platform on Inclusive Development Policies established by the Dutch Ministry of Foreign Affairs. The workshop served as input for the conference 'From Research to Practice: Inclusive Development for Future Prospects in Africa' in which researchers engaged with the Ministry's policy makers.

Research Policy

The annual TBnet Academy hosted another successful two-day session in St. Petersburg. Co-chaired by Frank van Leth, TBnet is a 650-member research network that promotes TB research by sharing and developing ideas and research protocols and facilitates education. AIGHD junior researcher Marjan Molemans was awarded a grant to attend the educational event.

AIGHD was among the organizers of a meeting in Brussels of major European global health research institutes to define an agenda for Global Health research and develop a strategy for increasing the profile of Global Health in the EU's next Research Framework Programme "Horizon Europe". This led to the establishment of the European Global Health Research Institutes Network, and the publication of several position papers on Horizon Europe.

Catherine Hankins chaired the Scientific Advisory Board that provides both strategic and scientific advice to the European and Developing Countries Clinical Trials Partnership (EDCTP) and chaired the Partnerships and Capacity Building session with WHO at EDCTP's biannual forum held in Lisbon, Portugal.

Pascale Ondo continues to serve as a member of the scientific advisory group of CAPTURA (Capturing Data on Antimicrobial resistance Patterns and Trends in Use in region of Asia), a regional grant funded by the Fleming Fund to support AMR surveillance and policy. She also participated in a WHO technical consultation on *in vitro* diagnostic for antimicrobial resistance.

Remko van Leeuwen co-organized a Dutch-Belgium Vaccine Development and Technological Innovation Mission to India in collaboration with three partners from Flanders, the Dutch Embassy in New Delhi and the Netherlands Enterprise Agency. The agenda focused on vaccine development for poverty-related diseases and was also connected to the BioAsia 2018 program. The program offered the opportunity to explore possible R&D collaborations and meet decision makers from research institutes, pharmaceutical- and vaccine businesses and governmental organizations.

Domestically, the Amsterdam TuBerculosis Center (Amsterdam TBC) was launched. Co-directed by Frank Cobelens, the center is a collaboration of scientists affiliated with the Amsterdam University Medical Centers with expertise across tuberculosis (TB) who, through interdisciplinary research and education, seek to build the scientific base required to eradicate TB. From 2019, Amsterdam TBC will organize seminars on TB and provide seed and travel grants to stimulate research around this topic.

Chris Elbers and Youdi Schipper spoke at a lunch seminar of the Netherlands Enterprise Agency (RVO), which manages several international development programmes on behalf of the Ministry of Foreign Affairs. Topics discussed included collaboration on impact evaluations and project selection procedures. AIGHD has conducted (or is currently implementing) several impact evaluations for RVO, on topics such as water and sanitation, food security and entrepreneurship, and tuberculosis diagnostics.

Frank Cobelens remained active as core group member of the Clingendael Global Health Initiative that aims to get global health back on the Netherlands Government's policy agenda, and increase domestic funding for global health research, amongst other. In this context he shared a multi-stakeholder meeting around global health policy at the Ministry of Health, Welfare and Sports.

Also in 2018, AIGHD staff served on advisory boards of various Global Health initiatives: HIV Netherlands-Australia-Thailand Research Collaboration (HIVNAT), Thailand (Peter Reiss, Frank Cobelens); Research Networks for Health Innovations in Sub-Saharan Africa, German Federal Ministry of Education and Research (Frank Cobelens), Manhica Center for Medical Research, Mozambique (Frank Cobelens).

Dissemination

Frank Cobelens also served as on the Organizing Committee for the Union World Conference on Lung Health, held in The Hague for the first time, and was initiator and co-chair of its TBScience2018 preconference, a successful pilot that brought together basic, translational and clinical scientists from around the world with TB policy makers to present and discuss various scientific topics relevant to TB.

Pascale Ondo also served as scientific co-Chair of the African Society for Laboratory Medicine (ASLM) bi-annual conference ASLM2018 in Abuja, which disseminates knowledge and latest updates in diagnostics and laboratory systems and network in Africa.

In April 2018 Tobias Rinke de Wit served amongst a selected team of Dutch HIV researchers as invited speaker on HIV drug resistance during the IV Eastern European and Central Asian AIDS Conference (EECAAC 2018) in Moscow, Russia. Meetings facilitated by Dutch Ministry of Foreign Affairs.

Catherine Hankins served on the Scientific Programme Committee of [The HIV Research for Prevention \(HIV R4P 2018\)](#) conference, the only global scientific conference focused exclusively on the challenging and fast-growing field of biomedical HIV prevention research. She also co-chaired the pre-conference R4P Journalist fellows training programme.

INTEREST

12th International Workshop on HIV Treatment, Pathogenesis and Prevention Research in Resource-Limited settings

The 12th International Conference on HIV Treatment, Pathogenesis, and Prevention Research (INTEREST), co-organized by AIGHD and Virology Education, was held in Kigali, Rwanda from May 29 – June 1, 2018. INTEREST 2018 brought together nearly 600 participants from 32 countries, half of whom came from the host country.

As in the previous four years, INTEREST 2018 was dedicated to the memory of Professor Joep Lange and Jacqueline van Tongeren, who were pivotal in establishing the INTEREST meetings. They died tragically when their plane (flight MH17) was shot down over the Ukraine on July 17, 2014.

Welcoming delegates and formally opening the 12th INTEREST, the Minister of Health of Rwanda, the Honourable Diane Gashumba, highlighted the significant progress made in the response to HIV in both Rwanda and across the region, beginning with the availability of antiretroviral treatment in the early 2000s. She attributed the successes achieved in many countries in the region to factors such as task-shifting to nurses and community health workers, decentralization of HIV services, expansion and simplification of programs to prevent vertical HIV transmission, effective monitoring and evaluation using routinely collected patient data to guide decision-making, and political leadership within a culture of “always doing better”.

Taking advantage of the meeting’s intimate all-plenary format, INTEREST delegates engaged in lively debates over three and a half days on burning issues, including on ethical approaches to HIV prevention trials and the potential and pitfalls of mobile technologies in the response to HIV. Delegates explored key challenges facing the region as it seeks to end the AIDS epidemic by 2030. These included how to better tailor services and interventions to meet the needs of key populations, adolescents, and young adults; scaling up innovations such as pre-exposure prophylaxis and HIV self-testing; continuing to expand access to viral load testing for patient management and early infant diagnosis; managing comorbidities in people living with HIV as they age, as well as co-infections such as TB and viral hepatitis; approaches to differentiated care for people taking ART; and promising advances in efforts to develop an HIV vaccine and cure.

Duke University's Guido Ferrari and AIGHD's Cate Hankins, who is also INTEREST's Scientific Chair, successfully competed for an USA National Institutes of Health/Fogarty International Center grant that provided travel support for 38 young scientists chosen for oral and mini-oral abstract presentations. In addition to invited speakers and special symposia, there were 343 poster presentations.

For the third successive year, in honour of the late conference co-founder, the Joep Lange Award was presented to the African researcher with the highest-scoring abstract. Frackson Shaba of Malawi won with his study comparing the offer of conventional provider-initiated HIV testing to novel facility-based self-testing performed in the waiting area, with results given to the patient in private. The Joep Lange INTEREST award provides registration, accommodation, and travel to the next INTEREST conference. INTEREST 2019 will be held in Accra, Ghana, 14-17 May 2019.

The late Jacqueline van Tongeren's support for the arts was recognized by the availability of colourful handcrafts for sale from the local group, Inundo Association of People with Mental Disabilities.

As in previous years, many INTEREST delegates rose early in the morning to attend the Joep Lange early-career mentorship sessions, participate in themed poster discussions, and seek grantspersonship advice in sessions led by the European and Developing Countries Clinical Trial Partnership (EDCTP), US National Institutes of Health-Fogarty International Center, and France's Recherche Nord & Sud Sida-hiv Hépatites (l'ANRS).

Key Events

Global Health Symposium: Why Vaccinate?

Organized by the Amsterdam Institute for Global Health and Development, Health[e]Foundation and the Amsterdam UMC

The Why Vaccinate? symposium explored recent developments in terms of access to, and efficacy and safety vaccines to the medical and social science community and the reluctance to accept vaccines, both here in the Netherlands and worldwide. Five presenters were Seth Berkley; Jaap Goudsmit; Jaap T van Dissel; and Stuart Blume. A roundtable discussion also included Bas van den Putte and Roel Coutinho.

AIDS 2018

Organized by the International AIDS Society

In July 2018, the International AIDS Society world conference was held in Amsterdam. It was the first time since 1992 the conference has been held in the Netherlands. Peter Reiss served as local co-chair of the conference, which saw 15,000 delegates from around the world. Cate Hankins served as one of the co-chairs for Track D Social and Political Research, Law, Policy and Human Rights. As part of the conference, Eileen Moyer co-chaired the Association for Social Sciences and Humanities in HIV pre-conference, Catherine Hankins co-chaired the pre-conference IAS Journalist fellows training programme, and Frank Cobelens served as co-chair of TB2018, a pre-conference on HIV-tuberculosis co-infection. Tobias Rinke de Wit served as co-chair of HIVResNet WG5 on HIV drug resistance advocacy. Tobias also served in the abstract selection committee and delivered presentations during International AIDS Economic Network (IAEN) Preconference in July 2018.

Where we Work

We work with partners to lead and support projects around the world. The list below showcases the countries where our collaborators are based and where projects that we lead and/or support are located. The countries where our collaborators are located are underlined; the countries where we have both a

collaborating partner and a project that we lead/support are in **bold**.

| Africa | Asia & Pacific | Europe | North & South America |
|--|---|---|----------------------------------|
| Angola Botswana <u>Cameroon</u> Ethiopia Gabon Kenya Kingdom of Eswatini Malawi Mozambique <u>Namibia</u> Nigeria Rwanda South Africa South Sudan Tanzania Uganda <u>Zambia</u> <u>Zimbabwe</u> | <u>Australia</u> <u>Bangladesh</u> China India Indonesia Pakistan Thailand Vietnam | Belarus <u>Belgium</u> <u>France</u> Germany Italy Moldova Netherlands <u>Spain</u> <u>Sweden</u> <u>Switzerland</u> <u>United Kingdom</u> | <u>Brazil</u> <u>USA</u> |

Financials

The total income in 2018 amounted to EUR 5.39 million (2017: EUR 7.85 million). AIGHD ends the financial year in 2018 with a deficit of EUR 281,195 (2017: deficit of EUR 357,506) from its operational activities. After appropriation of the result the continuity reserve amounts to EUR 1,012,881 (2017: EUR 1,294,076). This reserve will be used to secure the continuity of AIGHD and/or support its statutory goals.

The financial statements have been prepared in accordance with the Guideline for Annual Reporting 640 'not-for-profit organizations' of the Dutch Accounting Standards Board. Contrary to these guidelines, the overall budget level has not been included, as budget control has been performed at project level.

AIGHD is in contact with the tax authority concerning the handling of VAT. The main point of discussion is the accuracy of VAT deductions in past declarations. We expect the outcome before the end of 2020.

Managing Risk

Risk analysis and risk mitigation remain important for AIGHD. Discussions have been initiated between the Executive Board and the Supervisory Board about AIGHD's strategy for analyzing, weighing and mitigating risks. At the institutional level risk mitigation has improved by further strengthening the annual budget cycle, including a more detailed annual budget and more frequent monitoring of expenditures. The Executive Board is currently not aware of any significant changes in the organization's internal control that occurred during 2018 that has materially affected, or is reasonably likely to materially affect, the organization's internal control over its finances. The main risk identified is the limited lifetime of the existing project portfolio and the need for replenishment of that portfolio to remain financially sustainable. With a number of new projects starting in 2018 and implementation of various strategies for grant acquisition as well as for expanding available funding for Global Health in The Netherlands and the European Union we expect to sustain if not improve our project funding base. At the project level, processes for analysis and mitigation of risks related to (new) partner institutions are in development.

Stichting Amsterdam Institute for Global Health and Development
Amsterdam

Signing of the Management Board's Report

Amsterdam, 28 November 2019

Executive Board:

F.G.J. Cobelens
(Chair)

C.T.M. Elbers

A.P. Hardon

C. Schultsz

Supervisory Board:

T. van der Poll
(Chair)

A.H. Fischer

J.A. Romijn

A. van Witteloostuijn

Financial statements

- Balance sheet
- Statement of income and expenditure
- Notes to the financial statements

Balance sheet as at 31 December 2018

(after appropriation of result)

| | Note | 31.12.2018 | 31.12.2017 |
|---------------------------------------|------|------------------|------------------|
| | | EUR | EUR |
| Assets | | | |
| Fixed assets | | | |
| Tangible fixed assets | 1 | 116,131 | 132,205 |
| Current assets | | | |
| Receivables: | | | |
| Accounts receivable | 2 | 1,110,993 | 1,638,575 |
| VAT receivable | 3 | 114,558 | 110,077 |
| Other receivables and Pre-payments | 4 | <u>1,723,031</u> | <u>875,421</u> |
| | | 2,948,582 | 2,624,073 |
| Cash and banks | 5 | <u>4,554,437</u> | <u>5,063,098</u> |
| | | <u>7,619,150</u> | <u>7,819,376</u> |

| | Note | 31.12.2018 | 31.12.2017 |
|--|------|------------------|------------------|
| | | EUR | EUR |
| Equity and liabilities | | | |
| Continuity reserve | 6 | 1,012,881 | 1,294,076 |
| Current liabilities | | | |
| Accounts payable | | 478,058 | 703,616 |
| Taxes and social security contributions | 7 | 75,445 | 37,437 |
| Deferred income | 8 | 3,841,763 | 3,540,539 |
| Other liabilities and accrued expenses | 9 | <u>2,211,003</u> | <u>2,243,708</u> |
| | | 6,606,269 | 6,525,300 |
| | | <u>7,619,150</u> | <u>7,819,376</u> |

Statement of income and expenditure 2018

| | Note | 2018 EUR | 2017 EUR |
|---|------|-------------------------|-------------------------|
| Income | 10 | 5,388,112 | 7,850,422 |
| Operating expenses: | | | |
| Direct project costs | | 1,651,398 | 3,441,035 |
| Personnel expenses | 11 | 2,748,864 | 2,793,863 |
| General and administrative expenses | 12 | 1,340,846 | 1,834,392 |
| | | <u>(352,996)</u> | <u>(218,868)</u> |
| Financial income and expenses: | | | |
| Financial income | 13 | 72,934 | 5,897 |
| Financial expenses | | <u>(1,133)</u> | <u>(144,535)</u> |
| Result | | <u><u>(281,195)</u></u> | <u><u>(357,506)</u></u> |
| Appropriation of result: | | | |
| Deducted from / added to 'Equity - Continuity reserve' | | (281,195) | (357,506) |

Stichting Amsterdam Institute for Global Health and Development
Amsterdam

Notes to the financial statements

General

Foundation

The Amsterdam Institute for Global Health and Development (AIGHD) is a not-for-profit organization based in Amsterdam, and was established on 18 December 2006.

On 14 April 2011, the legal entity was changed from the AMC CPCD Foundation to the Amsterdam Institute for Global Health and Development Foundation. AIGHD is registered with the Trade Register at the Chamber of Commerce under number 34262058.

The financial statements have been prepared in euros.

Objective

The mission of the foundation is to provide sustainable solutions to major health problems across our planet, by forging synergies between disciplines, health care delivery, research and education.

Accounting principles

General

The financial statements have been prepared in accordance with the *Guideline for annual reporting 640 "Not-for-profit organizations"* of the Dutch Accounting Standards Board ('Raad voor de Jaarverslaggeving').

The financial statements have been prepared using the historical cost convention and are based on going concern. Income and expenses are accounted for on an accrual basis. Profit is only included when realized on the balance sheet date. Liabilities and any losses originating before the end of the financial year are taken into account if they have become known before preparation of the financial statements.

If not indicated otherwise, the amounts of the accounts are stated at face value.

Tangible fixed assets

Tangible fixed assets are presented at cost less accumulated depreciation and, if applicable, less impairments. Depreciation is based on the expected future useful life and calculated as a fixed percentage of cost, taking into account any residual value. Depreciation is provided from the date an asset comes into use.

Costs for periodical major maintenance are charged to the result at the moment they arise.

Receivables

Upon initial recognition the receivables are valued at fair value and then valued at amortized cost. The fair value and amortized cost equal the face value. Provisions deemed necessary for possible bad debt losses are deducted. These provisions are determined by individual assessment of the receivables.

Stichting Amsterdam Institute for Global Health and Development
Amsterdam

Cash

The cash is valued at face value. If cash equivalents are not freely disposable, then this has been taken into account upon valuation.

Provisions

Provisions for employee benefits

The AIGHD pension scheme for staff based in the Netherlands concerns a defined contribution scheme, which is accommodated at the insurance company Delta Lloyd. The contribution to be paid is recognized in the 'Statement of income and expenditure'.

Current liabilities

Deferred income

Deferred income consists of payments from donors related to projects to be carried out decreased by the realized revenue of these projects, taking into account foreseeable losses on projects.

Principles for the determination of the result

Statement of income and expenditure

Income and expenditure are recognized as they are earned or incurred and are recorded in the financial statements of the period to which they relate.

Income

In various projects AIGHD acts as a coordinator within a consortium of beneficiaries and AIGHD as coordinator and beneficiary. Within these contracts AIGHD is as a coordinator responsible for the coordination between the beneficiaries in the consortium and the Donor.

For a proper understanding of the activities of AIGHD it's important to be transparent in the volume of the projects AIGHD coordinates. Therefore the management departs from the normal generally accepted accounting principles for recognition of revenue, based on which only the grants received related to the coordination activities would be recognized as income. In these financial statements AIGHD recognizes project income for the grants received related to the coordination activities **and** for the grants received and transferred to the other beneficiaries within the consortiums. This method of revenue recognition provides insight in the gross size of the grant projects which are coordinated by AIGHD.

Income from 'Realized income related to projects' is recognized in proportion to the completed project activities rendered on active projects, based on the cost incurred up to balance sheet date. The cost of these project activities is allocated to the same period.

Other income relates to other non-project related items.

Direct project costs

Direct project costs consist of expenses directly related to projects (out-of-pocket costs) excluding staff costs.

Recognition of transactions in foreign currency

Transactions in foreign currencies are recorded at the prevailing exchange rate on transaction date. At year-end, the assets and liabilities reading in foreign currencies are translated into euros at the rate of exchange as per that date.

Financial instruments

Financial instruments include both primary financial instruments, such as receivables and liabilities, and financial derivatives. Reference is made to the treatment per balance sheet item for the principles of primary financial instruments. AIGHD does not use derivatives and there are also no embedded derivatives. AIGHD does not apply hedge accounting.

Notes to the specific items of the balance sheet

1. Tangible fixed assets

| | 2018 EUR | 2017 EUR |
|--|----------------|----------------|
| Book value as at 1 January | 132,205 | 164 |
| Additions | - | 141,502 |
| Depreciation | (16,074) | (9,461) |
| Book value as at 31 December | <u>116,131</u> | <u>132,205</u> |
| Purchase value as at 31 December | 141,503 | 156,150 |
| Disposal of assets | - | (14,647) |
| Accumulated depreciation as at 31 December | (25,372) | (9,298) |
| Book value as at 31 December | <u>116,131</u> | <u>132,205</u> |

The depreciation of the tangible fixed assets is calculated according to the straight-line method. The depreciation percentages are based on the economic life span. For computer equipment and office furniture a depreciation of 20% is used. For refurbishment a depreciation of 10% is used.

2. Accounts receivable

| | <u>31.12.2018</u> | <u>31.12.2017</u> |
|------------------------------|-------------------|-------------------|
| | EUR | EUR |
| Accounts receivable | 1,150,093 | 1,674,258 |
| Provision for doubtful debts | (39,100) | (62,690) |
| | <u>1,110,993</u> | <u>1,611,568</u> |

3. VAT receivable

| | <u>31.12.2018</u> | <u>31.12.2017</u> |
|----------------------------|-------------------|-------------------|
| | EUR | EUR |
| Value added tax receivable | <u>114,558</u> | <u>110,077</u> |

4. Other receivables and prepayments

| | <u>31.12.2018</u> | <u>31.12.2017</u> |
|--|-------------------|-------------------|
| | EUR | EUR |
| Advances projects | 1,640,350 | 745,958 |
| Accrued income | 25,957 | 101,586 |
| Prepaid expenses | 27,344 | 16,838 |
| Deposits | 27,007 | 27,007 |
| Pension and other personnel insurances | 1,804 | 10,367 |
| Advances personnel | 540 | 615 |
| Other receivables * | 29 | 57 |
| | <u>1,723,031</u> | <u>902,428</u> |
| *) Other receivables | | |
| Other receivables before provision | 217,029 | 217,057 |
| Provision other receivables | (217,000) | (217,000) |
| | <u>29</u> | <u>57</u> |

5. Cash and banks

| | <u>31.12.2018</u> | <u>31.12.2017</u> |
|--|-------------------|-------------------|
| | EUR | EUR |
| ABN-AMRO MeesPierson - EUR | 18,500 | 20,041 |
| ABN-AMRO MeesPierson - Savings account | 2,526,557 | 3,815,971 |
| ABN-AMRO MeesPierson - USD | 2,006,886 | 1,226,773 |
| Cash | 2,494 | 313 |
| | <u>4,554,437</u> | <u>5,063,098</u> |

Funds are available in line with the different program and foundation objectives.

6. Continuity reserve

| | 2018 | 2017 |
|---------------------------|------------------|------------------|
| | EUR | EUR |
| Balance as at 1 January | 1,294,076 | 1,651,582 |
| Result for the year | (281,195) | (357,506) |
| Balance as at 31 December | <u>1,012,881</u> | <u>1,294,076</u> |

Result appropriation for the year

The negative result for the year EUR 281,195 is deducted from the continuity reserve.

The continuity reserve is available to use in line with the described objectives of the foundation as stated in article 3 of the Articles of Association.

7. Taxes and social security contributions

| | 31.12.2018 | 31.12.2017 |
|----------------------|---------------|---------------|
| | EUR | EUR |
| Salary taxes payable | <u>75,445</u> | <u>37,437</u> |

8. Deferred income

| | 31.12.2018 | 31.12.2017 |
|---|---------------------|---------------------|
| | EUR | EUR |
| Received and receivable from donors related to projects | 29,535,469 | 26,917,657 |
| Realized revenue on projects | <u>(25,693,706)</u> | <u>(23,377,118)</u> |
| | <u>3,841,763</u> | <u>3,540,539</u> |

The deferred income reflects the balance of the 'work in progress' per year-end. The 'work in progress' (contract portfolio) contains an amount of EUR 1,605,868 for by donors pre-financed projects (credit) and an amount of EUR 5,447,631 for reimbursement projects (debit).

9. Other liabilities and accrued expenses

| | 31.12.2018 | 31.12.2017 |
|----------------------------|------------------|------------------|
| | EUR | EUR |
| Accrued expenses | 1,744,232 | 1,736,693 |
| Holiday allowance and days | 187,194 | 202,724 |
| Liabilities projects | 126,744 | 135,689 |
| Salaries | 1,633 | 2,044 |
| Other liabilities | 151,200 | 166,558 |
| | <u>2,211,003</u> | <u>2,243,708</u> |

AIGHD is in contact with the tax authority concerning the handling of VAT. The main point of discussion is the accuracy of VAT deductions in past declarations. The outcome is expected before the end of 2020.

Contingent assets and liabilities

Regarding the current project portfolio, AIGHD received commitments from donors for grants of about EUR 41.6 million. Of this amount, EUR 29.5 million has been received. AIGHD has the obligation to use these funds in accordance with the contractual donor requirements.

Financial instruments

For the notes to financial instruments, reference is made to the specific item-by-item note. The main financial risks the foundation is exposed to are the currency risk, the liquidity risk and the credit risk. The foundation's financial policy is aimed at mitigating these risks.

Currency risk

The currency risk is mitigated by holding the received foreign currency pre-payments on ongoing foreign currency contracts as long as possible in the contracted foreign currency and only converting into the functional currency (EUR) based on commitments.

Liquidity risk

The liquidity risk is mitigated by monthly monitoring of the work in progress portfolio and closely monitoring and steering the deferred income position per contract.

Credit risk

The credit risk is limited as most of AIGHD's programs are prefunded. The credit risk is mitigated by banking at a governmental acquired bank (ABN-AMRO MeesPierson). For the local branch offices and partner organizations, the credit risk is mitigated by providing only a two-month rolling advance.

Notes to the specific items of the statement of income and expenditure

10. Income

| | 2018 | 2017 |
|--|------------------|------------------|
| | EUR | EUR |
| Realized income related to projects | 4,556,139 | 6,670,425 |
| Other income | 831,973 | 1,179,997 |
| | <u>5,388,112</u> | <u>7,850,422</u> |
| <i>The main 'Realized income related to projects' consists of:</i> | | |
| AGEhIV Cohort Study | 659,674 | 703,700 |
| H-TEAM | 500,248 | 732,745 |
| Shinyanga | 418,457 | 280,178 |
| HOOKVAC | 347,062 | 334,945 |
| JLI - JL Chair and Fellows Program | 130,754 | 170,168 |
| JLI - HIF | 300,462 | 272,366 |
| MC FREE | 252,174 | 233,935 |
| Rotabiome | 6,344 | 320,886 |
| COBRA | - | 1,659,426 |
| Other | 1,940,964 | 1,962,076 |
| | <u>4,556,139</u> | <u>6,670,425</u> |

Other income

The other income includes a total amount of EUR 329,000 from the University of Amsterdam (UvA) to facilitate UvA's Research Priority Area on Global Health and Development.

11. Personnel expenses

| | 2018 | 2017 |
|-------------------------------|------------------|------------------|
| | EUR | EUR |
| Salaries | 1,971,553 | 2,060,529 |
| Social security contributions | 424,206 | 385,279 |
| Pension costs | 165,272 | 166,770 |
| Other personnel expenses | 187,833 | 181,285 |
| | <u>2,748,864</u> | <u>2,793,863</u> |

In order to provide an accurate overview of the personnel expenses, these expenses have not been allocated to “direct project costs”. The “pension costs” consist of a defined contribution per employee.

12. General and administrative expenses

The ‘general and administrative expenses’ of EUR 1,340,846 mainly consist of consultancy expenses ad. EUR 428,032 and the ICT costs of EUR 122,724.

13. Financial income and expenses

| | 2018 | 2017 |
|--------------------|---------------|------------------|
| | EUR | EUR |
| Financial income | 72,934 | 5,897 |
| Financial expenses | (1,133) | (144,535) |
| | <u>71,801</u> | <u>(138,638)</u> |

Stichting Amsterdam Institute for Global Health and Development
Amsterdam

Other notes

Number of employees

The average number of full-time equivalents (FTE) during the financial year was 43 (2017: 44).

Remuneration of Board of Directors and Supervisory Board

In 2018 members of the Board of Directors and members of the Supervisory Board did not receive any remuneration.

Subsequent events

There are no subsequent events to report.

Stichting Amsterdam Institute for Global Health and Development
Amsterdam

Signing of the financial statements

Amsterdam, 28 November 2019

Executive Board:

F.G.J. Cobelens
(Chair)

C.T.M. Elbers

A.P. Hardon

C. Schultsz

Supervisory Board:

T. van der Poll
(Chair)

A.H. Fischer

J.A. Romijn

A. van Witteloostuijn

Stichting Amsterdam Institute for Global Health and Development
Amsterdam

Other information

Independent auditor's report

The independent auditor's report is recorded on the next page.

Stichting Amsterdam Institute for Global Health and Development
Amsterdam



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Independent auditor's report

To the Supervisory Board of Stichting Amsterdam Institute of Global Health

REPORT ON THE AUDIT OF THE FINANCIAL STATEMENTS 2018 INCLUDED IN THE ANNUAL REPORT

Our opinion

We have audited the accompanying financial statements 2018 of Stichting Amsterdam Institute of Global Health, based in Amsterdam.

In our opinion the accompanying financial statements give a true and fair view of the financial position of Stichting Amsterdam Institute of Global Health as at December 31, 2018, and of its result for 2018 in accordance with Dutch Accounting standard 640 "Not-for-profit organizations".

The financial statements comprise:

1. The balance sheet as at December 31, 2018.
2. Statement of income and expenditure for 2018.
3. The notes comprising a summary of the accounting policies and other explanatory information.

Basis for our opinion

We conducted our audit in accordance with Dutch law, including the Dutch Standards on Auditing. Our responsibilities under those standards are further described in the "Our responsibilities for the audit of the financial statements" section of our report.

We are independent of Stichting Amsterdam Institute of Global Health in accordance with the Wet toezicht accountantsorganisaties (Wta, Audit firms supervision act), the Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. Furthermore, we have complied with the Verordening gedrags- en beroepsregels accountants (VGBA, Dutch Code of Ethics).

We believe the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

REPORT ON THE OTHER INFORMATION INCLUDED IN THE ANNUAL REPORT

In addition to the financial statements and our auditor's report thereon, the Annual report contains other information that consists of:

- Management Board's Report.
- Other Information as required by Dutch Accounting Standard 640 "Not-for-profit organizations".

Deloitte Accountants B.V. is registered with the Trade Register of the Chamber of Commerce and Industry in Rotterdam number 24362853. Deloitte Accountants B.V. is a Netherlands affiliate of Deloitte NSE LLP, a member firm of Deloitte Touche Tohmatsu Limited.

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Based on the following procedures performed, we conclude that the other information:

- Is consistent with the financial statements and does not contain material misstatements.
- Contains the information as required by Dutch Accounting Standard 640 "not-for-profit organizations".

We have read the other information. Based on our knowledge and understanding obtained through our audit of the financial statements or otherwise, we have considered whether the other information contains material misstatements.

By performing these procedures, we comply with the requirements of Dutch Accounting Standard 640 "not-for-profit organizations" Code and the Dutch Standard 720. The scope of the procedures performed is substantially less than the scope of those performed in our audit of the financial statements.

Management is responsible for the preparation of the other information, including the Management Board's Report in accordance with Dutch Accounting Standard 640 "not-for-profit organizations", and the other information as required by Dutch Accounting Standard 640 "not-for-profit organizations".

DESCRIPTION OF RESPONSIBILITIES REGARDING THE FINANCIAL STATEMENTS

Responsibilities of management for the financial statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Dutch Accounting Standard 640 "not-for-profit organizations". Furthermore, management is responsible for such internal control as management determines is necessary to enable the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.

As part of the preparation of the financial statements, management is responsible for assessing the company's ability to continue as a going concern. Based on the financial reporting framework mentioned, management should prepare the financial statements using the going concern basis of accounting unless management either intends to liquidate the company or to cease operations, or has no realistic alternative but to do so.

Management should disclose events and circumstances that may cast significant doubt on the company's ability to continue as a going concern in the financial statements.

The Supervisory Board is responsible for overseeing the entity's financial reporting process.

Our responsibilities for the audit of the financial statements

Our objective is to plan and perform the audit assignment in a manner that allows us to obtain sufficient and appropriate audit evidence for our opinion.

Our audit has been performed with a high, but not absolute, level of assurance, which means we may not detect all material errors and fraud during our audit.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements. The materiality affects the nature, timing and extent of our audit procedures and the evaluation of the effect of identified misstatements on our opinion.



We have exercised professional judgement and have maintained professional skepticism throughout the audit, in accordance with Dutch Standards on Auditing, ethical requirements and independence requirements. Our audit included e.g.:

- Identifying and assessing the risks of material misstatement of the financial statements, whether due to fraud or error, designing and performing audit procedures responsive to those risks, and obtaining audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtaining an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control.
- Evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Concluding on the appropriateness of management's use of the going concern basis of accounting, and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the company to cease to continue as a going concern.
- Evaluating the overall presentation, structure and content of the financial statements, including the disclosures.
- Evaluating whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the Supervisory Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant findings in internal control that we identified during our audit.

We provided the Supervisory Board with a statement that we have complied with relevant ethical requirements regarding independence and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

Amsterdam, November 28, 2019

Deloitte Accountants B.V.

Signed on the original: S. Kramer

Appendix 1:

| Project title | Start date | End date | Project leader |
|--|------------|------------|----------------------------------|
| Comorbidity and aging with HIV (AGEHIV Cohort Study) | 01-01-2010 | 31-12-2021 | Prof. dr. P. Reiss |
| Novel strategies and tools for antimicrobial resistance surveillance | 01-10-2012 | 30-09-2018 | Prof. M. de Jong |
| Thematic coordination infectious disease and health; "Translating health research into health policy in Indonesia: barriers and solutions" | 01-11-2012 | 30-09-2018 | Prof. M. de Jong |
| International Doctorate in Transdisciplinary Global Health Solutions | 19-10-2012 | 19-10-2020 | Prof. dr. F.G.J. Cobelens |
| Developing and Testing a novel, low-cost, effective HOOKworm VACcine to Control Human Hookwork Infection in endemic countries | 01-10-2013 | 31-03-2019 | Dr. R. van Leeuwen |
| Sociology of Health and Aging | 01-09-2012 | 30-09-2020 | Prof. Dr. C. Schultsz |
| HIV Transmissie en Eliminatie Amsterdam (H-TEAM) study | 01-03-2014 | 31-12-2021 | Prof. dr. P. Reiss |
| ASPASIA premie - Dr. Constance Schultsz | 01-08-2014 | 31-07-2019 | Prof. Dr. C. Schultsz |
| South Sudan Nodding Syndrome Study programme: A study into the epidemiology, aetiology and outcome of nodding syndrome in South Sudan | 01-01-2015 | 31-08-2020 | Prof. dr. M. Boele van Hensbroek |
| New challenge for HIV in Africa; exacerbated immune activation during antiretroviral treatment; biomarkers and health impact | 01-01-2015 | 30-09-2018 | Dr. R. Hamers |
| EU-India research and innovation partnership on vaccine development for hookworm and other neglected tropical diseases | 01-01-2014 | 30-11-2018 | Dr. R. van Leeuwen |
| SPARKS | 01-07-2015 | 30-06-2018 | Dr. C. Hankins |
| Evaluation of the ORIO project Ghana TB Case Detection | 01-07-2016 | 31-12-2021 | Dr. F. van Leth |

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| | | | |
|--|------------|------------|-----------------------------|
| Rota-biome: the influence of the viral, fungal and bacterial microbiome on rotavirus vaccine immune responses. A retrospective study in Ghana. | 01-10-2016 | 30-09-2018 | Dr. V.C. Harris |
| 1H4F – Integrable aanpak van preventie en bestrijding van Streptococcus suis infecties in de varkenshouderij | 01-01-2016 | 31-12-2019 | Prof. Dr. C. Schultsz |
| Amsterdam MSM Hepatitis C Free | 01-12-2016 | 31-12-2020 | Dr. M. van der Valk |
| Impact Evaluation of the MASSIF Investment in Business Partners International (BPI) | 01-02-2014 | 31-10-2019 | Prof. dr. C.T.M. Elbers |
| Program for Innovative Global Prevention of Streptococcus suis. | 01-06-2017 | 30-11-2021 | Prof. Dr. C. Schultsz |
| Transnational Research Projects on the Transmission Dynamics of Antibacterial Resistance | 01-05-2017 | 30-04-2020 | Prof. Dr. C. Schultsz |
| HealthTech Park | 01-03-2016 | 31-12-2019 | Mr. M. Heidenrijk |
| Big Results Now! Research on Education System Reform in Tanzania | 01-11-2016 | 24-05-2022 | Dr. Y. Schipper |
| Improving TB case detection in a rural population by linkage to a HIV Test and Treat Programme | 31-03-2017 | 30-06-2019 | Dr. S. Hermans |
| Tanzania HIV Test & Treat in Shinyanga and Simiyu Regions | 01-04-2017 | 31-03-2022 | Prof. dr. T.F. Rinke de Wit |
| 12th INTEREST Workshop, Kigali, Rwanda, May 29 - June 1, 2018 | 01-07-2017 | 30-06-2018 | Dr. C. Hankins |
| Evaluating How Teacher Reforms in Decentralised Indonesia can Promote Learning Gains | 01-03-2017 | 31-03-2022 | Prof. dr. M.P. Pradhan |
| Women empowerment, social norms, and violence against women and girls (Pakistan) | 01-10-2016 | 30-09-2019 | Dr. W. Janssens |
| Inequality in the Giants - Inequality in India: Dimensions and Trends | 15-09-2017 | 30-11-2018 | Prof. dr. P.F. Lanjouw |
| Flexibele OIO: The impact of Host restriction of Escherichia coli on Transmission dynamics and spread of antimicrobial Resistance | 01-09-2017 | 31-08-2021 | Prof. Dr. C. Schultsz |
| Trials of Excellence in Southern Africa II | 01-09-2017 | 31-08-2020 | Prof. dr. F.G.J. Cobelens |

Stichting Amsterdam Institute for Global Health and Development
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| | | | |
|---|------------|------------|---------------------------|
| Eastern Africa Consortium for Clinical Research 2 | 01-09-2017 | 31-08-2020 | Prof. dr. F.G.J. Cobelens |
| Point-of-care diagnostics to Guide appropriate antimicrobial therapy of urinary tract infections in nursing homes | 01-05-2017 | 30-04-2018 | Dr. F. van Leth |
| Ethical Review Dilemma | 19-09-2017 | 31-08-2018 | Dr. A.H. van 't Hoog |
| Analyzing treatment effects in observational studies: comparison of methodologies | 19-09-2017 | 31-08-2018 | Dr. F. van Leth |
| Impact Evaluation of the Facility for Sustainable Entrepreneurship and Food Security | 29-11-2017 | 31-12-2023 | Dr. Y. Schipper |
| Pharmaco Vigilance Africa | 01-03-2018 | 28-02-2022 | Prof. dr. F.G.J. Cobelens |
| NIH Fogarty Grant 2018 | 01-01-2018 | 30-06-2018 | Dr. C. Hankins |
| Protecting Pyrazinamide (PZA) and fluoroquinolones (FLQ) for successful multidrug resistant tuberculosis (MDR-TB) treatment | 01-05-2018 | 31-08-2020 | Dr. F. van Leth |
| ITN Acquisition Grant | 01-10-2018 | 31-01-2019 | Dr. F. van Leth |
| Impact Evaluation of Early Childhood Interventions (Indonesia, China) | 01-07-2018 | 31-05-2019 | Prof. dr. M.P. Pradhan |
| Proposal for a modelling study to assess the potential cost-effectiveness and impact of a dual HCV Ab/Ag test | 25-06-2018 | 31-03-2019 | Prof. dr. F.G.J. Cobelens |
| What's at stake in the fake? Indian pharmaceuticals, African markets and global health | 01-10-2018 | 30-09-2023 | Dr. R. Gerrets |
| The Childhood Acute Illness & Nutrition Network | 01-10-2018 | 30-09-2019 | Dr. W. Voskuil |
| CAPRISA 018: A randomised controlled trial to assess the safety, acceptability and pharmacokinetics of a sustained-release tenofovir alafenamide sub-dermal implant for HIV prevention in women | 01-03-2018 | 01-02-2023 | Dr. C. Hankins |
| Evaluation of the Indonesian Regional Infrastructure Development Fund | 31-08-2018 | 31-08-2020 | Prof. dr. M.P. Pradhan |