



INSTITUTE
OF TROPICAL
MEDICINE
ANTWERP

Annual report

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Global Science for Health Worldwide

Tropical diseases, HIV/AIDS, tuberculosis and inadequate health care influence the lives of billions of people worldwide.

The Institute of Tropical Medicine in Antwerp, Belgium, promotes the advancement of science and health for all, through innovative research, advanced education, professional services and capacity building of partner institutions in the South.

For us, scientific excellence and societal impact are two sides of the same coin.

2020 Annual report

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Our values

Excellence & Relevance

We strive to stand at the international forefront in key scientific domains and pursue the highest quality in research, education and services with the ultimate aim to solve actual health problems.

Integrity

We want to comply with international ethical standards and aim for critical sense, honesty and transparency in all our activities.

Fairness

We value equity, diversity, solidarity and well-being of students and employees and in partnerships.

Sustainability & Persistence

We aim for longterm progress without compromising the ability of future generations.



Our vision

Equal chances at a healthy life for all.



Our mission

Scientific progress in tropical medicine and public health.



Our core tasks

Scientific research; higher education; medical and scientific service provision.

Foreword by the Chair

Cathy Berx

2020 has been an exceptional year in so many ways. Despite its many hardships, never have I learnt so much about how the pieces of our global puzzle fit together and how relevant the work of ITM and its employees is to face public health threats. I am so honoured to have been able to reside over the governance bodies of the Institute during this time, and all the achievements that have been so diligently delivered throughout this intense year.

To begin, I would like to congratulate our Director Marc-Alain Widdowson for his marked commitment in his first full year of leadership that has provided the Institute and its employees the needed pragmatism and clear direction through this extraordinary period. Similarly, I would like to thank the members of the Management Committee and every single employee in their teams for taking on the year with such remarkable gusto, despite it being full of many personal sacrifices. The intense interest and willingness to be involved in understanding and mitigating the pandemic for the public good was palpable and outstanding.

Through my role as Governor of the Province of Antwerp, I know how much your engagement, energy, scientific research and knowledge helped and is still helping authorities manage this very real threat to public health. At the same time, I am also impressed at your ability to maintain focus on the overall priorities of the Institute despite this larger than life but very necessary distraction.

I am happy and proud that your work brought the illustrious visits of the King and Queen of the Belgians and the Flemish Minister Hilde Crevits to the Institute in 2020. It was very gratifying that we were also able to offer them face masks made of African fabrics by the hands of our dedicated staff.

On a governance level, our biggest challenge lay in mitigating the risks for the Institute during this tumultuous year, and in finding the best ways of working to ensure the organisation could move ahead. Thankfully, we welcomed to our ranks a new General Manager, Ann Peters. She has been instrumental in supporting Marc-Alain and the Management Committee in its daily running of the Institute. Particular management tasks completed during this pandemic-stained year included securing the safety of the staff, students and the visitors to the Institute, ensuring that our research remained unwavering in all areas while accommodating pandemic research, and reorienting some clinical staff to support pandemic activities while maintaining their regular commitments.

In this environment, I was very pleased to see the General Council being a stable body that had moved beyond its initial 'teething problems' linked to its first years of establishment. It is now a well-functioning team that has the right structure to be able to gather the many unique and diverse voices from around the world that it encompasses. These voices help ITM to stay true to its mission and vision. Since March 2020, our meetings always concluded with an epidemiological update of the pandemic from around the world, which was incredibly enriching for all

“ I know how much your engagement, energy, scientific research and knowledge helped and is still helping authorities manage this very real threat to public health.

I am also impressed at your ability to maintain focus on the overall priorities of the Institute despite this larger than life but very necessary distraction.

involved. As always, I would like to express my gratitude for their excellent contribution throughout the year. Similarly, my thanks go to the members of the Board, who, despite their many other high-level professional commitments, were always there to make the key decisions of the Institute, also when they had to be expediated due to urgent COVID-19 related requests. As always, your commitment to and support of the Institute is highly valued.

Looking to 2021 – let's see what it will bring. According to the experts the pandemic will remain for some time to come. Along with its commitment to fighting this particular infectious disease, I am pleased to say that ITM has the team, structure and public support to continue in its search for excellence in research, education and clinical services in the science of tropical medicine, and to increasingly demonstrate its extraordinary value to health systems in an inextricably linked globalised world.

Cathy Berx

Governor of the Province of Antwerp
Chair of the Board of Governors of ITM

Director's note

Marc-Alain Widdowson

In last year's publication I said I was looking forward to an 'exciting 2020'. Has this wish come true in my first full year as Director, the same year a global pandemic took the world by storm? We were not expecting to put our research ambition of emerging and re-emerging diseases, formulated in late 2019, to work so soon. But despite the year being hard on us all both mentally and physically, as I look back, I see clearly how these unexpectedly difficult circumstances, which imposed themselves on us all in 2020, have allowed us at ITM to show our strengths.

I saw with pride how we were able to harness and support the immediate engagement of everyone at the Institute. Our staff wholeheartedly and eagerly put their knowledge and skills behind the new COVID-19 demands and opportunities, taking advantage of funds we freed up, while staying focused on ITM's priorities set out in our new 2020-2024 policy plans. We demonstrated how nimble our Institute can be in pivoting to help face the world's biggest threats, while remaining firmly anchored in our scientific expertise, in our reputation as a respected partner, in our values and in our exceptional and experienced staff.

In Belgium, ITM supported many aspects of the COVID-19 public health response and research projects of immediate relevance. This included, among many other efforts, the adoption of the COVID-19 assay, clinical support to the Antwerp University Hospital (UZA), advice on treatment and diagnostics to national authorities, work on contact tracing and serology and the development of new partnerships.

We have further developed our ambitions to work with vaccines and are involved in a major clinical trial of a COVID-19 vaccine. Additionally, our multidisciplinary and comprehensive approach on vaccines, now embodied in the newly formed Centre for Global Vaccinology, includes research on vaccine hesitancy in Belgium, and also involves hard-to-reach local minority populations in the Antwerp area.



Worldwide, we have also continued in strengthening our collaborative partnerships that are the cornerstone for our work. Along with webinars and touchpoints throughout the year, we brought partners, experts and alumni together for our first ever virtual Colloquium on 'Implications of COVID-19 for Global and Local Health and Beyond'.

We also launched our 'CREDO' project in the Democratic Republic of the Congo (DRC). To support our Congolese partners, we procured additional funding from the Belgian Directorate-General for Development Cooperation and Humanitarian Aid (DGD) to deal with emerging and re-emerging diseases. We have also reinforced our scientific collaboration with our Congolese partners by strengthening the administrative and scientific team in Kinshasa.

We are also pleased to have established a 'Commission on Decolonisation' to explore ITM's history, our current attitudes in working with partners and how we want to act

moving ahead to ensure the longevity of our worldwide collaborations. This is a staff-led initiative that represents all sectors of ITM staff.

On the educational front, we launched a new Master of Science in Tropical Medicine and students were enthusiastic to come and study in Antwerp. In light of the circumstances, we were forced to adapt our education towards virtual learning throughout the year. This has led to our developing a strategy to further digitalise our education to engage even more students.

On an organisational note, we continued to welcome new senior academic staff and unit heads. In March we were also lucky to have Ann Peters join us as General Manager who has energetically begun to review management practices and agreements so we can meet the increased ambitions of ITM.

So, it is in adversity that we have shown our worth. This said, let's hope that 2021 sees the world find its way out

of the pandemic, despite the variants that are raising their heads. As always, and as the uneven distribution of vaccines across the world is making the challenges so blatant, our Institute will be working to help address challenges of equity in public health services, disease prevention and treatment across the globe, with special attention to lower resource settings and vulnerable populations. We are proud to do this in collaboration with people and institutes with similar passions across the world, continuing our push for 'Global Science for Health Worldwide'.

Before I sign off, I want to thank Cathy Berx and the Board of Governors, for their unwavering support and advice, and the General Council, which we will be increasingly turning to for strategic input.

And to end, dare I hope again for an exciting 2021?!

Marc-Alain Widdowson
Director

DEVELOPMENT COOPERATION



19

Institutional partners

RESEARCH

387

Scientific publications



DEPARTMENT OF
CLINICAL SCIENCES

DEPARTMENT OF
PUBLIC HEALTH

DEPARTMENT OF
BIOMEDICAL SCIENCES

MEDICAL SERVICES



28,864

Patient consultations

EDUCATION

417

Students in 2020



ITM under the lens

**Pathogens,
Patients,
Populations
= P³**

Our three scientific departments focus on Pathogens, Patients and Populations (P³) and all contribute to our four core tasks of research, education, medical services and development cooperation.

Worldwide impact

Development cooperation

Within our multi-year (2017-2021) framework agreement with the Directorate-General Development Cooperation and Humanitarian Aid (DGD), ITM is responsible for a comprehensive scientific capacity building programme that includes medical, veterinary and scientific training, and research and capacity building. Our partner organisations range from universities and public health institutes to hospitals and disease control programmes.

Facing the COVID-19 pandemic, all collaborations were affected with programme activities being adapted, postponed or reoriented due to lockdown mobility restrictions and partners assuming extra responsibilities in the local or national response to crisis.

Anticipating the spread of the coronavirus pandemic and possible other outbreaks in the DRC, DGD granted an important additional funding for 'CREDO', a complementary programme for 'Building Scientific and Research Capacity to Respond to Emerging and Re-emerging Diseases (COVID-19)'.

The pandemic did not stop ITM and its partners from looking at future collaborations. We signed a Memorandum of Understanding with the Institute of Public Health in Bangalore, India, member of ITM's Alliance for Education in Tropical Medicine and International Public Health.

Latin America

- Bolivia ●
- Cuba ●●
- Ecuador ●
- Peru ●●

Legend

- Institutional capacity building supported by DGD
- Institutional capacity building supported by Flanders
- Alliance of education and exchange



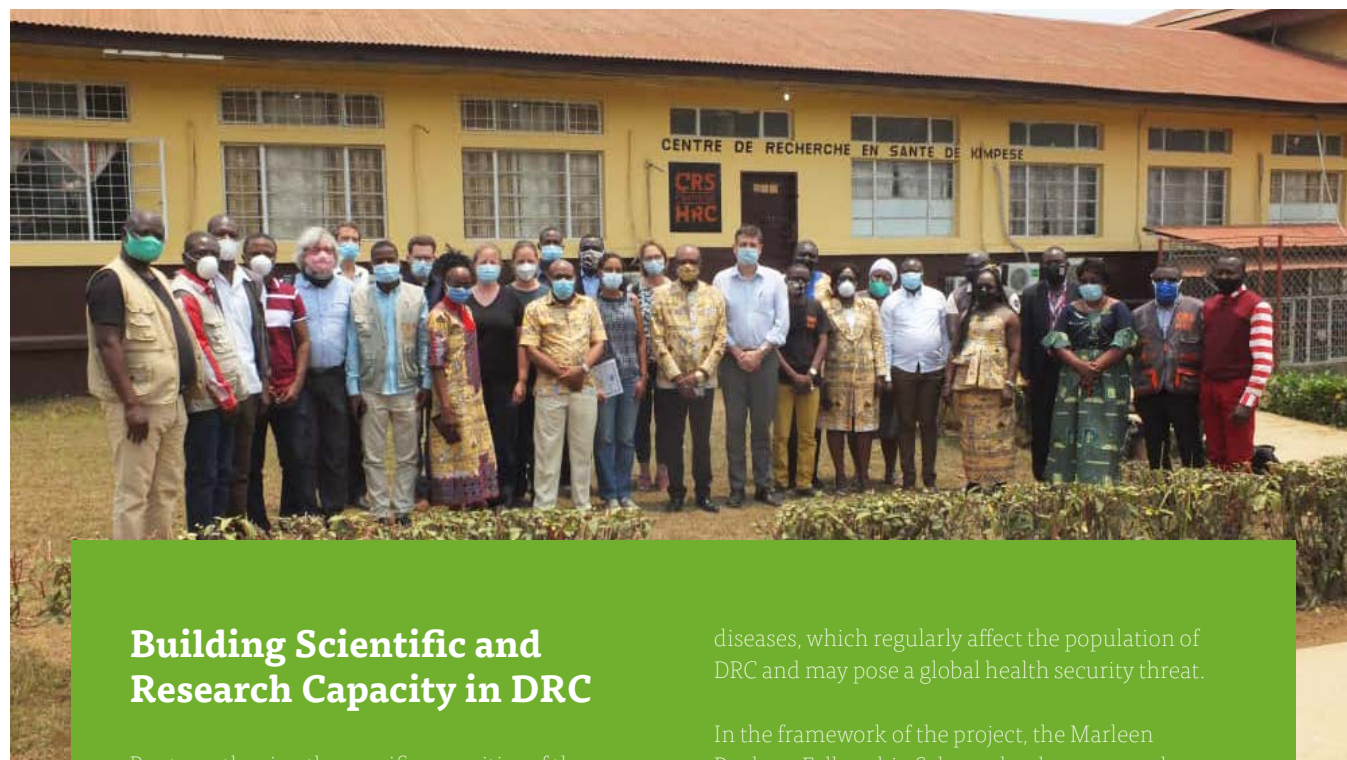
Scan the QR-code for the interactive map.

Asia

- Cambodia ●●
- India ●
- Indonesia ●
- Nepal ●
- Vietnam ●●

Africa

- Benin ●●
- Burkina Faso ●●
- DRC ●●
- Ethiopia ●●
- Guinea ●●
- Ivory Coast ●
- Morocco ●
- Mozambique ●●
- Senegal ●
- South Africa ●●
- Uganda ●



Building Scientific and Research Capacity in DRC

By strengthening the specific capacities of three partner institutions and those of potential new partners, the CREDO project will contribute to the appropriate preparation and reaction to the consequences of COVID-19 and other emerging

diseases, which regularly affect the population of DRC and may pose a global health security threat.

In the framework of the project, the Marleen Boelaert Fellowship Scheme has been created to help identify promising research staff at an early stage in their career and provide post-doctoral experience to strengthen the capacities and skills of Congolese researchers.



Courses on study design and research methodology in Cuba

In January, the short course on 'Qualitative research and introduction to mixed methods designs for disease control' took place at the ITM partner Pedro Kourí Institute of Tropical Medicine (IPK), Havana, Cuba, with the aim to provide masters' students with different research paradigms and methods, to design appropriate methodological approaches.

Researchers from the National Institute of Hygiene, Epidemiology and Microbiology (INHEM) in Havana and ITM are collaborating on the project 'Quality assessment of care of type 2 diabetic patients and interventions to optimise care at the primary level in two Cuban provinces'. INHEM researchers organised a workshop in March to provide the wider project team with the tools to design and evaluate the upcoming intervention.



A treatment study of cutaneous leishmaniasis with miltefosine - a first ever in Africa

ITM and Ethiopian partners conducted a treatment study of cutaneous leishmaniasis (CL), the first ever such study in the African continent. CL results in relatively severe lesions, which are hard to treat.

Currently, most patients are treated with pentavalent antimonials, although effectiveness seems poor. Researchers systematically recorded outcomes and side-effects for patients with CL lesions that required systemic treatment

and who were treated with the medicine miltefosine, in a prospective study in two hospitals in Ethiopia.

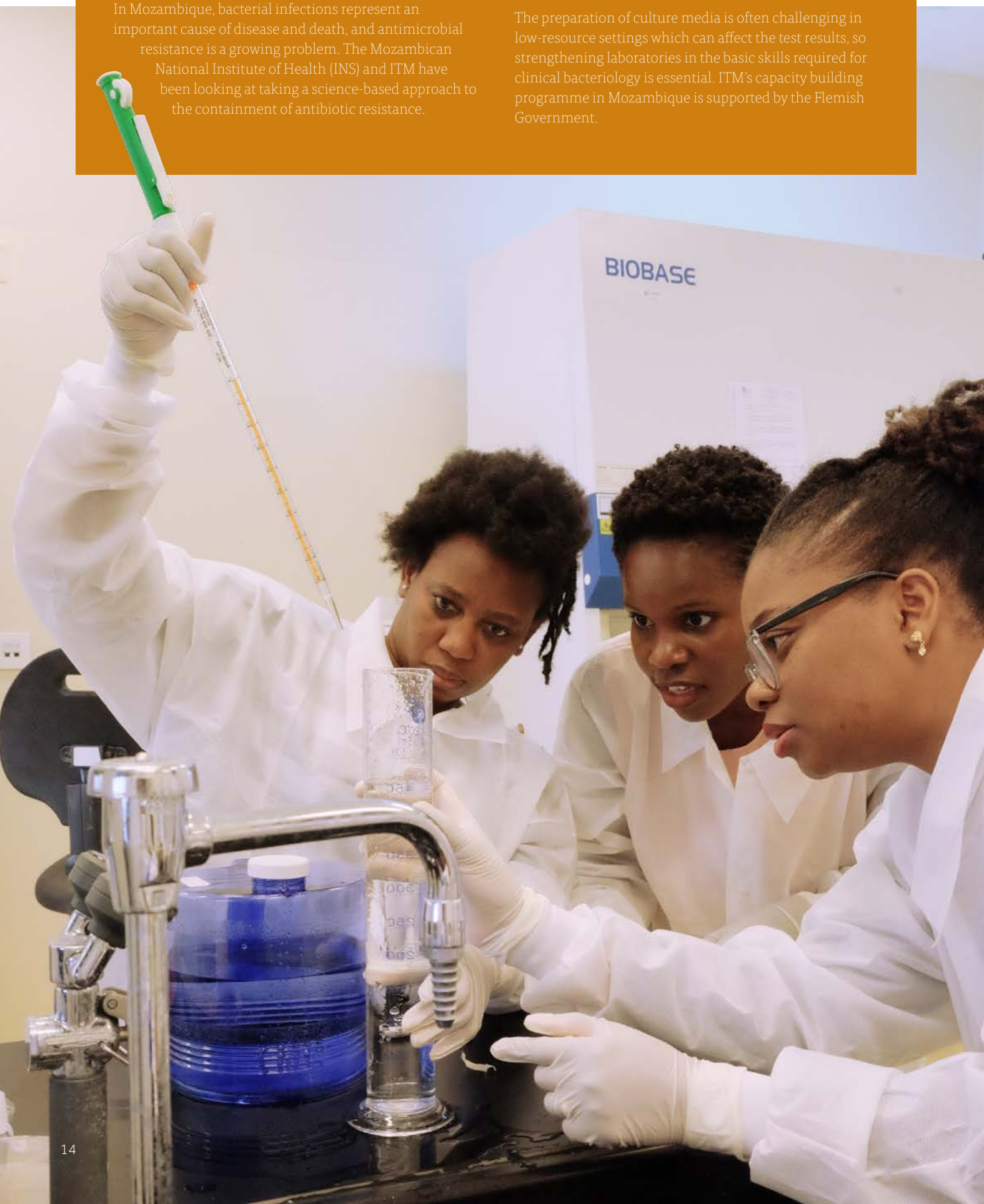
Based on the results, researchers propose to include miltefosine in future clinical trials, but to adapt the treatment regimen using combination therapy or treatment extension to improve overall outcomes and reduce relapse.

Fighting antimicrobial resistance in Mozambique

In Mozambique, bacterial infections represent an important cause of disease and death, and antimicrobial resistance is a growing problem. The Mozambican National Institute of Health (INS) and ITM have been looking at taking a science-based approach to the containment of antibiotic resistance.

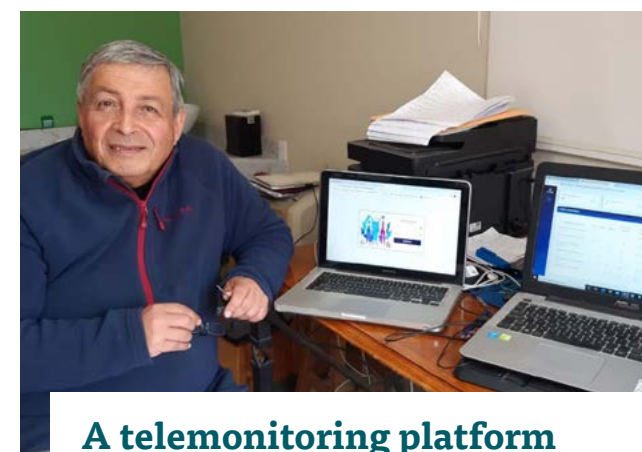
Together they organised a workshop on bacterial culture media preparation in February, to train lab technicians of INS and of the Mavalane General Hospital in Maputo.

The preparation of culture media is often challenging in low-resource settings which can affect the test results, so strengthening laboratories in the basic skills required for clinical bacteriology is essential. ITM's capacity building programme in Mozambique is supported by the Flemish Government.



ITM wins Digitalisation for Development prize

Our institute was recognised with the 'D4D - Digitalisation for Development' prize in October for the joint project 'Smart Glasses 4 Health' in the DRC. This innovative initiative integrates different strategies to improve patient care and make better referrals in the rural district of Kingandu. Using high-tech smart glasses linked to a smartphone, nurses and midwives in remote health centres can get live advice from a medical doctor in the district hospital during consultations. The project is a collaboration between Memisa and technical partners Iristick and Avanti. ITM alumna Elies Van Belle (Director of Memisa) and Steven Serneels (Iristick) received the award from the Minister of Development Cooperation, Meryame Kitir.



A telemonitoring platform for COVID-19 patients in Peru

A platform for remote clinical monitoring of COVID-19 patients was designed by the Instituto de Medicina Tropical Alexander von Humboldt (IMTA vH) and a team of IT collaborators. It is dedicated to optimising the care of patients with COVID-19 symptoms that do not require hospitalisation. Patients are classified to either receive daily automated messages or phone calls by doctors working from home. Thanks to the collaboration based on the ITM-DGD framework agreement, the latest version of the tool has been able to monitor over 2400 patients with more than 8500 follow-ups, as it allows for contact tracing and evaluation of antibiotic use and self-medication.

Development cooperation at a glance

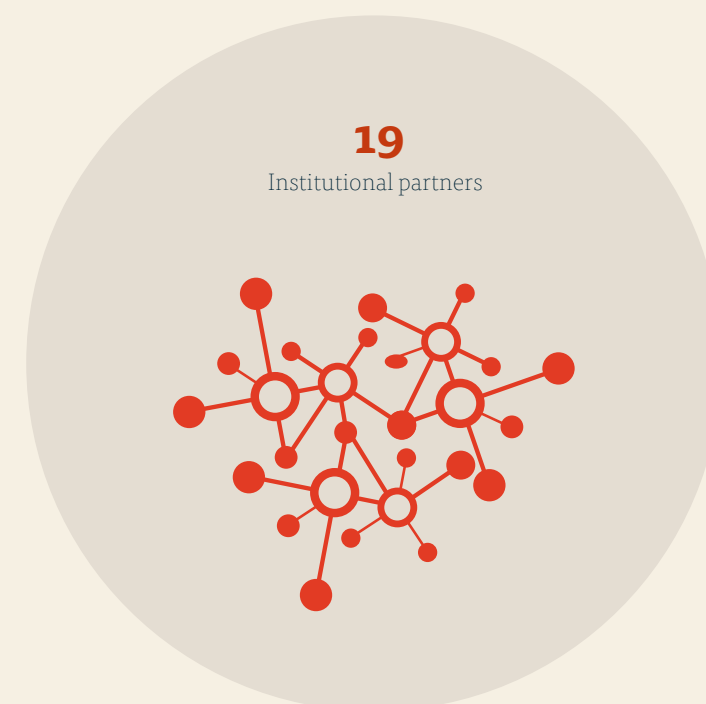
11

Partner countries



19

Institutional partners



COVID-19 timeline

It is ITM's ambition to provide top-notch medical care and laboratory services in the expertise domain of tropical infectious diseases for patients in Belgium. The uniquely challenging year of 2020 definitely provided our Institute with ample opportunities to live up to this aspiration.

With travelling - and thus our Travel Clinic activities - coming to a screeching halt in the spring, ITM physicians, infectious disease specialists, virologists and laboratory staff immersed themselves in the immediate clinical response to the unfolding COVID-19 pandemic. They were

followed by our epidemiologists, public health researchers and other experts, and many people working on national and international research projects.

While several of our ongoing international clinical trials experienced disruption, ITM's Clinical Trials Unit, evaluated as the country's best in 2017, began supporting the emerging COVID-19-related trials, in Belgium and abroad. Likewise, our multidisciplinary Outbreak Research Team put its epidemic expertise to use during the unprecedented coronavirus pandemic. Below an overview of our numerous COVID-19-related activities.



Research

Impact of the pandemic on maternal and newborn health care

Public health researchers began to assess the impact of the pandemic on maternal and newborn health care worldwide. Findings of a recurring online survey, filled out by health professionals across the globe, **showed an alarming decline in the use of services**, and the availability and quality of maternal and newborn care. In addition, progress made in recent decades is in danger of being reversed.



Research

Researchers from ITM, UZA and the University of Antwerp launched a study to understand **immune responses** in mild and severe COVID-19 patients and to find out the 'right' immune response for a vaccine more quickly.

March

April

May



Medical services

ITM's immediate response to COVID-19

- Physicians provided clinical support to UZA (Antwerp University Hospital).
- Laboratory technicians were reoriented and trained to analyse COVID-19 samples.
- Infectious disease experts began coordinating the Belgian treatment guidelines for hospitals and general practitioners.
- Teaching staff shifted courses to online education almost overnight.



Research

Public health researchers started coordinating a project on the **impact of COVID-19 on three ethnic minority groups** in Antwerp.

Medical services

ITM and Sciensano began investigating the **number of COVID-19 infections among healthcare workers** in Belgian hospitals. In early May, 8.4% of health workers had antibodies to SARS-CoV-2.

Education

We launched the **ITM alumni webinar series**, with alumni presenting their impressions on the COVID-19 outbreak in their countries and highlighting their engagement in the fight against the pandemic.



Development cooperation

Health Policy Professor Wim Van Damme, who was in the DRC when the pandemic hit the African continent, decided it best to stay there and **support the first response of ITM's partner institutes** and acted as advisor to the Congolese government on its coronavirus response.



Research

Do COVID-19 antibodies protect against new infection?

The Research Foundation Flanders (FWO) awarded a COVID-19 research grant to ITM's virologists **to study whether antibodies protect against new COVID-19 infection**. The team collaborated with the University of Antwerp and Sciensano to look at antibody responses in COVID-19 patients, investigated whether the antibodies can neutralise the virus, mapped the longevity of antibody responses and the functionality of the antibody-producing memory B-cells which are essential to quickly mount antibody numbers upon re-exposure.

Research

Our epidemiologists began **analysing contact tracing data** for the Common Community Commission of the Brussels-Capital Region to help identify clusters of cases and risk factors of infection.

Development cooperation

ITM's Department of Public Health, the Ghana Health Service and the West African Health Organisation joined forces in a two-year, International Development Research-funded project to **map out existing evidence and its use in informing responses to COVID-19**, in six countries in West and Central Africa.

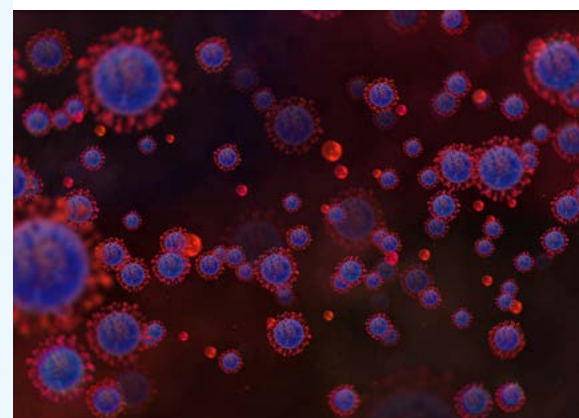


Research

ITM epidemiologists conducted a **retrospective analysis of COVID-19 data** collected during the first COVID-19 wave in long-term elderly care facilities. They examined which institutional factors contributed to outbreaks in the different institutions. The research is funded by the Agency of Care and Health of the Flemish Ministry of Health.

Research

ITM virologists joined **two other COVID-19 FWO-projects** led by the University of Antwerp. The research aims to improve epidemiological assessments, to determine the course of COVID-19 disease and to roll out targeted COVID-19 vaccination campaigns.



Research

The European Commission awarded the only COVID-19 coordination and support action to the UnCoVer consortium, which is coordinated by ITM. UnCoVer is a network of 29 research institutions in 18 countries, **collecting data derived from the provision of care to COVID-19 patients across Europe and internationally**. These real-world data will allow for studies into patient's characteristics, risk factors, safety and effectiveness of treatments and potential strategies against COVID-19 in real settings.

unCoVer

June

August

November

December



Development cooperation

AfriCoVER

EDCTP (European & Developing Countries Clinical Trials Partnership) awarded a COVID-19 research grant to ITM's Outbreak Research Team to study **how the COVID-19 viral disease spreads in a low-income peri-urban community in Mozambique**, and who is most affected by the disease in sub-Saharan Africa. The project, called AfriCoVER, is a collaboration with Instituto Nacional de Saúde in Mozambique, ITM's partner supported by the Flemish Government to build research capacity, the Institut de Recherche pour le Développement (Research Institute for Development) in France and the University Medical Centre in the Netherlands.



Research

Mapping vaccine hesitancy

FWO awarded a COVID-19 research grant to ITM's Medical Anthropology Unit to **map vaccine hesitancy in Belgium**. The research is based on an open dialogue with the population and public health authorities and an analysis of social media posts.

The results will help the roll-out of an effective and targeted national COVID-19 vaccination campaign. The research is conducted in collaboration with with KU Leuven (Catholic University of Leuven), the London School of Hygiene and Tropical Medicine and l'Institut Pasteur (Pasteur Institute) in Paris.



Development cooperation

ANTICOV

ANTICOV, the largest COVID-19 clinical trial to date in Africa, was launched by the public-private partnership Drugs for Neglected Diseases initiative (DNDi). ITM, together with thirteen African countries and an international network of research institutions, **will test repurposed medications for mild and moderate cases of COVID-19** in the hope of preventing hospitalisation for those afflicted. The clinical trial is being carried out at 19 sites in 13 countries and is funded by UnitAid. ITM will also conduct ancillary studies on household transmission and on immunology of SARS-CoV-2 in six countries.



Medical services

Ensemble-2

ITM, as one of six Belgian test centres recruiting participants, **started a phase 3 clinical trial to assess a COVID-19 vaccine developed by Johnson & Johnson**. Researchers want to evaluate the level of protection offered by the vaccine and assess the candidate vaccine in various cohorts, including people with chronic diseases. Vaccines are a priority for ITM. Our expertise covers the different aspects of the vaccination process, from inoculations in the travel clinic to clinical studies and scientific research into microbiological, immunological and anthropological issues.

Research & innovation

Scientific progress in the fields of tropical medicine and international health is at the heart of our Institute's academic mission. ITM's research activities range from basic to operational research and ultimately all aim to tackle important health challenges; one of which in 2020 undoubtedly was the COVID-19 pandemic. Our particular focus is on low-resource settings and vulnerable populations.

Our research policy in 2020–2024 underpins our pursuit of conducting excellent and relevant science, with continued emphasis on equitable partnerships throughout the world. Our research aims to respond to the formidable challenges and opportunities in today's rapidly changing world: researching (re-)emerging infections and outbreaks, taking on antimicrobial resistance (in viruses, bacteria and parasites), accelerating disease elimination, and designing sustainable health systems and strategies.



Vector-borne diseases



Vector-borne diseases

The new insectarium as multidisciplinary research hub

The outbreaks of Zika virus disease and yellow fever in 2015–2016 have highlighted the global public health challenges we face from upsurges of insect-borne diseases. Due to climate change, globalisation, environmental and social factors, the insects and the diseases that they can transmit, are spreading worldwide.

ITM is home to more than 1000 mosquitoes and flies in a unique ultra-modern insectary infrastructure set up in 2020. Scientists are carrying out research on the interactions between pathogens, insects, humans and the environment. This allows the Institute to contribute to the prevention, detection and control of insect-borne infectious disease outbreaks. The Flemish Ministry of Economy, Innovation and Science provided key funding for the facility, and Minister Hilde Crevits visited the insectary to see its progress in July.

ITM's investigation into a case of malaria infection in Belgium

In September, an elderly couple in Kampenhout, Belgium died of malaria. Unusually, the couple caught the disease at home, not while travelling. In all probability, they both received a bite from an infected malaria mosquito that reached our country via an airplane.

In order to confirm this hypothesis, ITM scientists from varying disciplines investigated how this exceptional infection could take place. The MEMO (mosquito monitoring) team checked whether the indigenous *Anopheles* mosquito, which can transmit malaria in laboratory conditions, could be found in Kampenhout. The Unit of Malariology received blood samples from the deceased couple and investigated where the malaria parasite causing the infection came from. Thanks to the multidisciplinary research of ITM, and a census of surrounding mosquito species, it was officially confirmed by the Agency of Care and Health of the Flemish Ministry of Health that the couple was not infected by an indigenous malaria mosquito and that further transmission was unlikely.



Neglected tropical diseases

Exposing link between climate change and the emergence of leishmania strains

Since the 1980s, ITM scientists and Peruvian partners have been studying the molecular epidemiology of leishmaniasis. This infectious disease, existing for thousands of years, is caused by a parasite and spreads via sandflies. Leishmaniasis causes severe mutilations of the skin or intestines and can lead to death.

Researchers of ITM and the Instituto de Medicina Tropical 'Alexander von Humboldt' in Lima have undertaken studies into the parasite in the Peruvian Andes.

Frozen samples were brought back to life and, thanks to modern technology, the entire genome was read.

This study is a very rare and well-founded example of ecological speciation. The researchers found new indications that the emergence of new diseases and climate change go hand in hand. Because of global warming and globalisation, we will see more and more tropical diseases emerging in our regions.

Van den Broeck et al., PNAS, 2020

Neglected tropical diseases

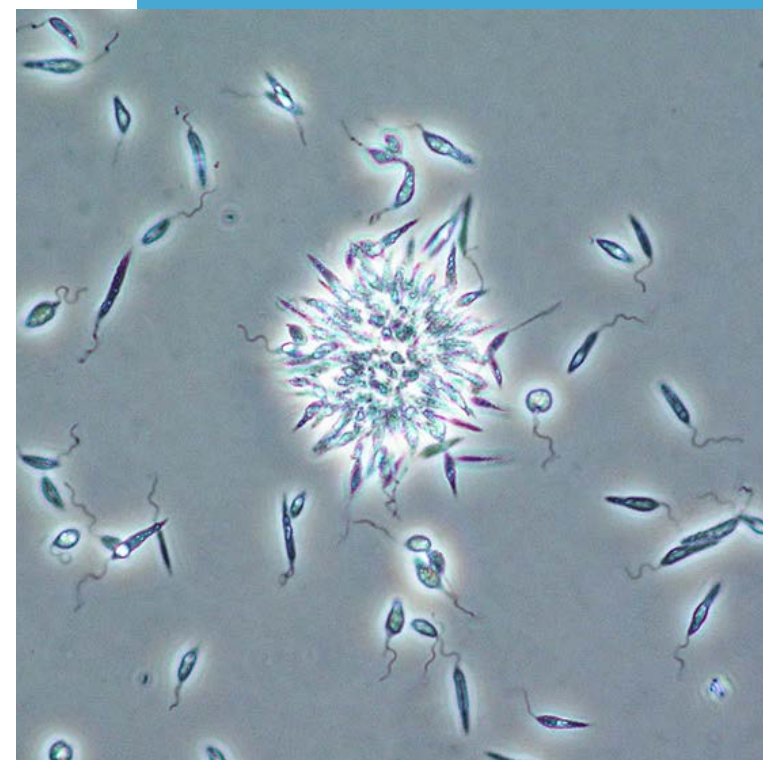
Preventing new epidemics through molecular surveillance

Molecular surveillance is essential for controlling infectious diseases but for neglected tropical diseases this methodology remains underexploited. ITM researchers studied its relevance for ongoing elimination programmes in the cases of leishmaniasis, sleeping sickness and Chagas disease, and highlighted its potential in preventing new epidemics.

Molecular surveillance is based on genetic methods that identify the genome of a pathogen and provides extremely detailed and reliable data. Therefore, the origin of an epidemic and its transmission route can be identified and measures can be taken.

Over the last decade, ITM has invested in studies of the genome of parasites responsible for neglected diseases. The financial support of the Flemish Government's Department of Economy, Science and Innovation made this possible.

Domagalska & Dujardin, Trends in Parasitology, 2020





Neglected tropical diseases

New diagnostics for sleeping sickness

For years, ITM has been at the forefront of the fight against human African trypanosomiasis (HAT) or sleeping sickness. Our researchers continue to develop new diagnostics and innovative control strategies. Every year, several hundred gambiense-HAT cases are reported in Africa, with the vast majority in the DRC. ITM is working with its Congolese partners to eliminate the disease by 2030.

To measure elimination success with prevalences close to zero, highly specific and sensitive diagnostics are necessary. Such a test exists in the form of an antibody-mediated complement lysis test, the trypanolysis test, but biosafety issues and technological requirements prevent its large-scale use. ITM researchers developed a new, highly specific and sensitive test (inhibition ELISA) that is applicable in regional laboratories in gambiense-HAT endemic countries. The project is funded by DGD and the Bill & Melinda Gates Foundation.

Geerts et al., Clinical Infectious Diseases, 2020

Antimicrobial resistance

Exposing false resistance problem of tuberculosis

With around 1.5 million deaths a year, tuberculosis (TB) is the world's deadliest infectious disease. Rifampicin is the most effective drug against TB, yet it no longer works against all TB strains. Detecting resistance to this drug as early as possible is crucial for selecting the right treatment for TB patients.

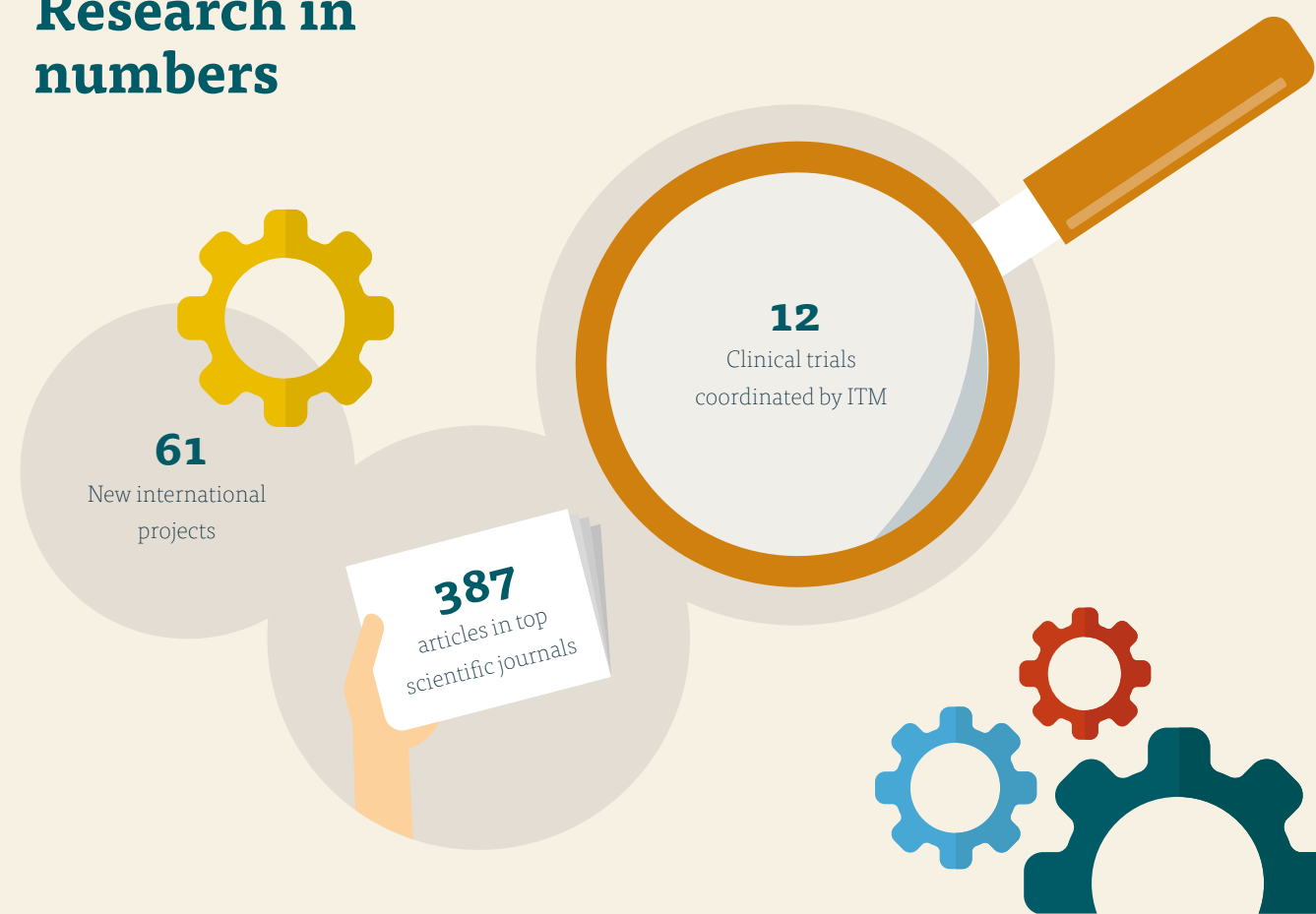
One of our PhD students and a fellow biologist supervising the national TB reference laboratory in Rwanda, exposed a serious problem in Rwandan patients with tests that detect resistance to TB drugs. Half of the tested persons infected with resistant TB were falsely diagnosed and did not get the correct treatment. Based on this finding, the National TB Programme in Rwanda changed its diagnostic algorithm and patients now receive proper care.

ITM's research on TB is world-renowned. Our institute has the largest public collection of TB strains for research.

Ngabonziza et al, The Lancet Microbe, 2020



Research in numbers



Antimicrobial resistance

Understanding antibiotic use to combat antimicrobial resistance

ITM has antimicrobial resistance (AMR) high on its agenda. In a recent study, researchers looked into antibiotic use in patients with persistent fever before seeking medical care in a hospital in low- and middle-income countries (LMIC), and found that 'Watch' antibiotics were widely used in certain LMICs, such as Nepal and Cambodia. According to the World Health Organization, the 'Watch' group includes clinically important antibiotics that are at relatively high risk of selection of bacterial resistance, and they should be prioritised as key targets of antibiotic stewardship programmes and monitoring.

This study informed other ongoing research at ITM, which, in collaboration with partners Institut National pour la Recherche Biomedicale (INRB – National Institute for Biomedical Research), Centre de Recherche en Santé de Kimpese (CRSK – Health Research Centre of Kimpese), and Clinical Research Unit of Nanoro (CRUN), aims to look into antibiotic use in the community in the DRC and Burkina Faso, and compare this to hospital use. The ultimate goal is to find out how best to optimise antibiotic use in order to prevent a further increase in AMR.

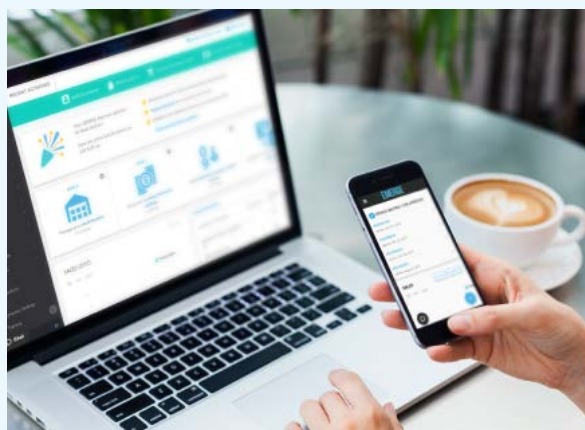
Ingelbeen et al., Clinical Microbiology and Infection, 2020



HIV

#Letstalkpositive2020 campaign

In the run-up to World AIDS Day on 1 December, ITM launched a mouth mask campaign which invited people to change the negative discourse about living with HIV, to provide support to the affected community. Annually, around 3000 people with HIV are being followed up at ITM's HIV/STI clinic.



HIV

Digital follow-up system for stable HIV patients

Stable HIV patients can be monitored remotely via a secure app that allows them to view their laboratory results. The GP carries out the monitoring in close collaboration with the patient. A two-year pilot project at ITM showed that this digital monitoring is highly appreciated by HIV patients and has no negative impact on the quality of care. On the basis of the laboratory results, the doctor determines whether the patient is stable and informs the patient of the results via the secure app. If the patient agrees, he or she will be able to get a remote consultation and receive his/her prescriptions by post or electronically. The digital follow-up is the result of 'EmERGE', an EU-funded research project. The new monitoring method was also tested and approved in HIV clinics in England, Croatia, Spain and Portugal.

Partnerships

Seed funding from ITM's 'Joint Pump Priming Programme' inspires nine new cross-organisational research projects

In order to further strengthen ITM's partnerships in Flanders and beyond, the 2020 edition of our Joint Pump Priming Programme (JPPP) stimulated ITM researchers to submit a joint application with outside researchers who are willing to co-invest in the development of a new research idea. Nine joint projects were approved and include collaborations with the Catholic University of Leuven on malaria transmission; the Charles University in Prague, Czech Republic on *Leishmania* lifecycle; Nagasaki University, Japan on stillbirths and newborn health; University of Antwerp on COVID-19, chemsex, and West Nile neuro-invasive disease; University of Colorado and Harvard University, US on drug resistance in tuberculosis; and the University of Tartu, Estonia on SARS-CoV-2 fitness.



Acceptability and feasibility of PrEP in West Africa

For several years, ITM has been conducting research on oral pre-exposure prophylaxis (PrEP), a preventive method which entails the use of antiretroviral medication among HIV negative individuals. A study conducted in Côte d'Ivoire, Burkina Faso, Mali and Togo showed that the use of daily and event-driven oral PrEP among MSM (men having sex with men) at high risk for HIV infection, substantially reduced HIV incidence. As a conclusion, PrEP is considered feasible in these settings and is recommended for further implementation.

In collaboration with local research teams, ITM researchers are also conducting a qualitative research project to anticipate the PrEP roll-out in these countries. Preliminary findings suggest that the anticipated risk of being seen using PrEP may limit its uptake and use, due to its associations with homosexuality, HIV and promiscuity. For these MSM, long-acting PrEP modalities such as implants or injectable PrEP may be a highly promising additional strategy.



ITM signs Memorandum of Understanding with Thailand

On 20 January, ITM and a delegation of four Thai scientists from the government and the health sector reaffirmed their joint commitment to academic cooperation. Additionally, both parties agreed to look at possible collaborations in the field of public health research.



Partnerships

FWO awards scholarships to three PhD candidates to conduct data-driven infectious disease research

In 2020, FWO awarded a PhD Scholarship to three junior researchers who will conduct a joint research project at ITM and the University of Antwerp.

All three PhD projects will use and develop computational methods, data mining and machine learning algorithms

for advanced parasitic and viral disease research. In the Department of Clinical Sciences, Anna Postovskaya will work on T-cell receptor-based diagnostics for viral diseases, while Nicky de Vrij will work on *Leishmania* epitope repertoire of the human T-cell response. In the Department of Biomedical Sciences, Yasmina Drissi El Boukili will work on factors that impact *Plasmodium falciparum* sexual conversion.

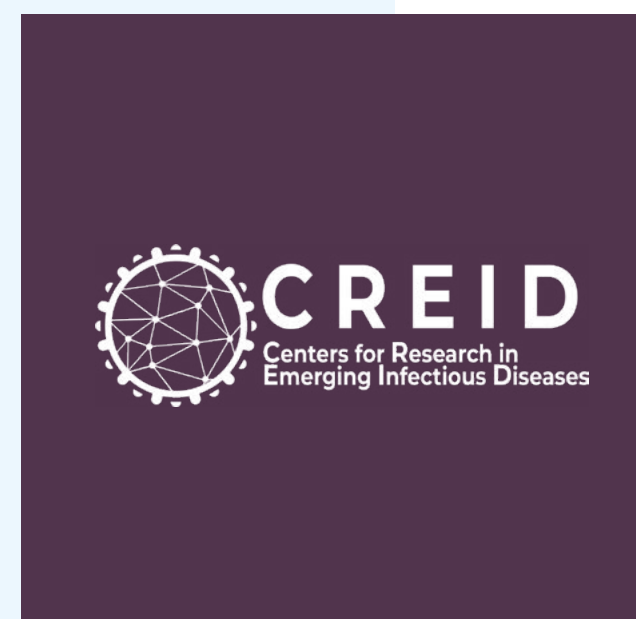
The computational component of the research in all projects will be guided by the expertise of the University of Antwerp data science lab led by Professor Laukens.

Partnerships

ITM and partner INRB join the new NIH Centers for Research in Emerging Infectious Diseases

In line with ITM's research priority on (re-)emerging infections and outbreaks, we have joined a new international partnership. In 2020, the US National Institutes of Health (NIH) established ten new Centers for Research in Emerging Infectious Diseases (CREID) across the globe.

The goal of this new global network is to conduct multidisciplinary research into how and where viruses and other pathogens emerge from wildlife and spill over to cause disease in human beings. Each CREID centre involves collaborations with research institutions from the North and South that focus on diseases relevant to specific regions. ITM and the DRC-based Institut Nationale de Recherche Biomédicale are collaborators in the East and Central Africa centre. In 2021 they will jointly start investigations on Rift Valley fever and Middle East respiratory syndrome (MERS).



Journal highlights



A sister lineage of the *Mycobacterium tuberculosis* complex discovered in the African Great Lakes region

Ngabonziza *et al.*

"The human- and animal-adapted lineages of the *Mycobacterium tuberculosis* complex (MTBC) are thought to have expanded from a common progenitor in Africa. However, the molecular events that accompanied this emergence remain largely unknown. Here, we describe two MTBC strains isolated from patients with multidrug resistant tuberculosis, representing an as-yet-unknown lineage, named Lineage 8 (L8), seemingly restricted to the African Great Lakes region. Using genome-based phylogenetic reconstruction, we show that L8 is a sister clade to the known MTBC lineages."



Chloroquine and Hydroxychloroquine for the Prevention or Treatment of COVID-19 in Africa: Caution for Inappropriate Off-label Use in Healthcare Settings

Abena *et al.*

"To date, there are no proven, clinically effective pharmacological treatments against COVID-19, but multiple ongoing trials are evaluating novel and repurposed drugs. Among the repurposed drugs being rapidly investigated are the commonly used antimalarial and anti-inflammatory drugs chloroquine (CQ) and hydroxychloroquine (HCQ). These drugs have become the focus of global scientific, media, and political attention despite the lack of randomized controlled trials supporting their efficacy against COVID-19. Chloroquine has been used worldwide for about 75 years, and it is listed by the WHO as an essential medicine for malaria, whereas HCQ is widely used to treat autoimmune diseases such as systemic lupus erythematosus (SLE) and rheumatoid arthritis (RA).⁷ Both drugs have an established clinical safety profile, but their efficacy and safety for COVID-19 treatment or prevention remain to be defined."



The Journal of Infectious Diseases

Population-Level Antimicrobial Consumption Is Associated With Decreased Antimicrobial Susceptibility in *Neisseria gonorrhoeae* in 24 European Countries: An Ecological Analysis

Kenyon *et al.*

"There are substantial variations between different populations in the susceptibility of *Neisseria gonorrhoeae* to antimicrobials, and the reasons for this are largely unexplored. We aimed to assess whether the population-level consumption of antimicrobials is a contributory factor."



THE LANCET Global Health

Impact of the visceral leishmaniasis elimination initiative on *Leishmania donovani* transmission in Nepal: a 10-year repeat survey

Cloots *et al.*

"Nepal launched a visceral *leishmaniasis* (also known as kala-azar) elimination initiative in 2005. We primarily aimed to assess whether transmission of *Leishmania donovani* had decreased since the launch of the initiative. We also assessed the validity of the direct agglutination test (DAT) as a marker of infection, in view of future surveillance systems."



Artemisinin exposure at the ring or trophozoite stage impacts *Plasmodium falciparum* sexual conversion differently

Portugaliza *et al.*

"Malaria transmission is dependent on the formation of gametocytes in the human blood. The sexual conversion rate, the proportion of asexual parasites that convert into gametocytes at each multiplication cycle, is variable and reflects the relative parasite investment between transmission and maintaining the infection. The impact of environmental factors such as drugs on sexual conversion rates is not well understood. We developed a robust assay using gametocyte-reporter parasite lines to accurately measure the impact of drugs on sexual conversion rates, independently from their gametocytocidal activity."



BMJ Global Health

Voices from the frontline: findings from a thematic analysis of a rapid online global survey of maternal and newborn health professionals facing the COVID-19 pandemic

Seeman *et al.*

"The COVID-19 pandemic has substantially impacted maternity care provision worldwide. Studies based on modelling estimated large indirect effects of the pandemic on services and health outcomes. The objective of this study was to prospectively document experiences of frontline maternal and newborn healthcare providers. We conducted a global, cross-sectional study of maternal and newborn health professionals via an online survey disseminated through professional networks and social media in 12 languages."



Education

It is ITM's ambition to be a vibrant, global open campus that offers science-driven and societally relevant post-graduate training, in the field of tropical medicine, international public health and tropical animal health. Flexible and blended learning, international mobility and tailored student support are at the heart of ITM's educational vision.

Every year, more than 500 students and PhD researchers are trained at ITM in expert short and post-graduate courses, advanced master's courses and doctoral

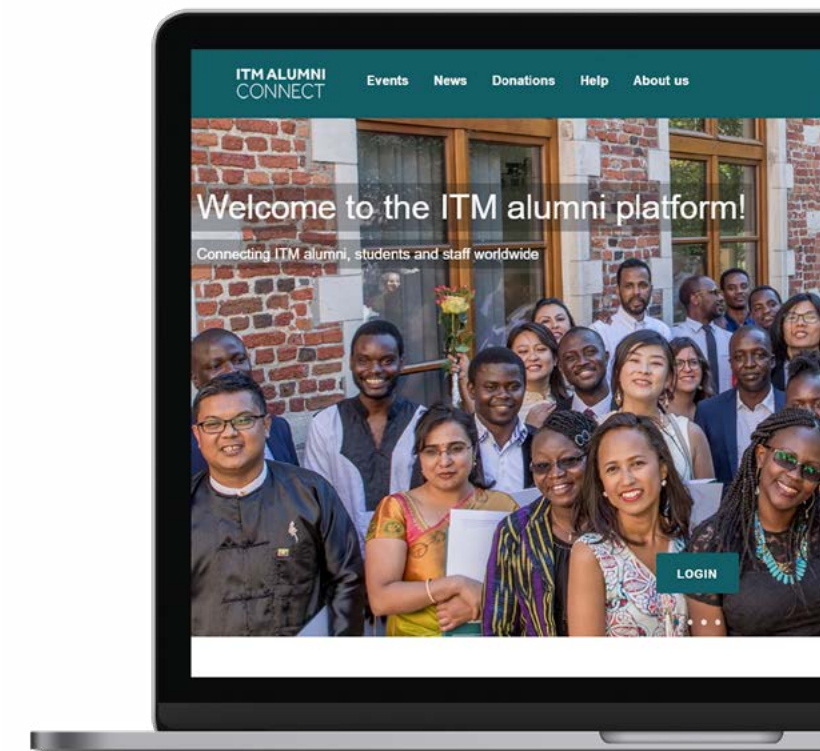
programmes. In 2020, COVID-19 made it all a little different. ITM quickly switched to online teaching, and later to a hybrid format, where participants could attend classes either online, or face-to-face. This allowed for fewer participants per classroom, and for others to join even if they were unable to travel to Antwerp or were in quarantine.

This experience has opened up new opportunities for the future, among them increased flexibility and the widening of our student pool.

New online hub for the alumni community

2020 saw the launch of an online alumni platform (<https://itmalumni.org>) connecting ITM alumni, students and staff in a virtual hub. More than 1 600 ITM community members have joined. The platform's primary aim is to foster interdisciplinary exchange, scientific and sector-related knowledge-sharing, international collaborations and social networking between ITM community members.

Although planned, the COVID-19 crisis accelerated the need for such a virtual networking space to connect its members from all around the world. In 2021, ITM will launch an accompanying app making networking even easier!

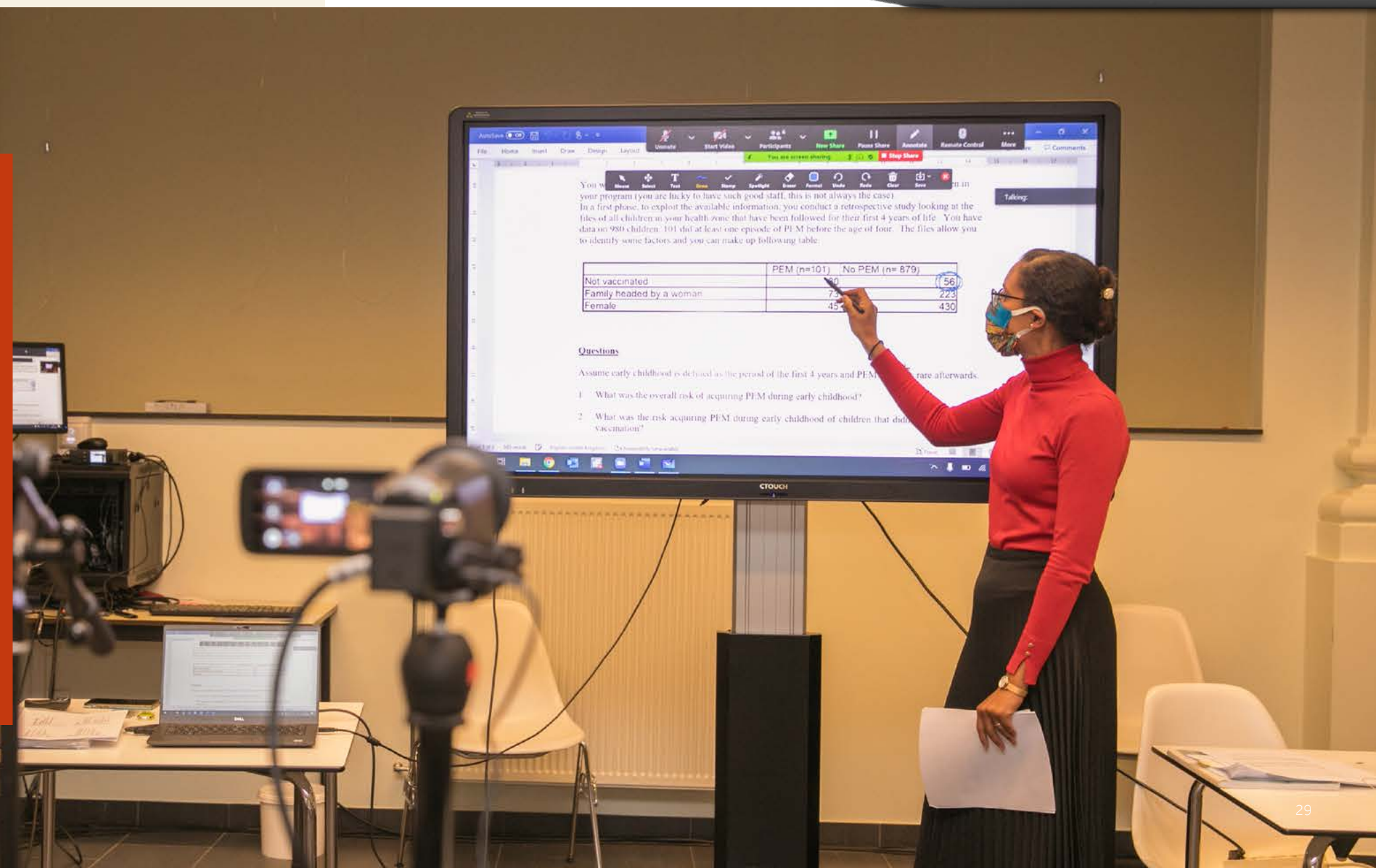


Courses go digital

In March 2020, lecturers and course coordinators, with a tremendous collective effort, shifted overnight to online teaching for the on-campus master's students. Short course students were encouraged to return home and continue their courses online. Short course participants yet to start were offered the possibility to shift to online learning or postpone their registration with some courses being postponed altogether.

To adapt teaching activities to the reality of the coronavirus pandemic, ITM implemented a 'flipping the classroom' principle with fewer contact hours and more guided self-study. We also made investments into the digital professionalisation of teaching staff and infrastructure. This allowed us to switch between face-to-face teaching and learning, hybrid teaching (some students face-to-face, others online) and interactive synchronous online classes.

We aim to further develop our longer-term digitalisation policy in view of the learnings from the corona crisis and the ensuing changes in the demand of students, expectations from lecturers and other stakeholders, and also as a future-proof strategy to expand and diversify our student body.



First batch of students in the new MSc in Tropical Medicine begin

In September, the first 20 students started our Master of Science in Tropical Medicine (MTM) programme. With four continents represented and an average age of 33, this new crop of students is expected to graduate by August 2021. Their thesis will be in the format of a manuscript ready for submission. The theses will cover a wide range of topics from

high-tech lab research on tropical pathogens to strategies for improving diagnostics, and patients' management and care in tropical settings.

The new programme responds to the students' requests for more specialisation in the biomedical and clinical sciences research fields. The programme also responds to developments within the professional world, such as the need to increase the number of specialised professionals in tropical medicine, the availability of research technologies in low-resource environments and the occurrence of tropical diseases in regions not defined as tropical.



ITM alumni win prize for global research of the Province of Antwerp

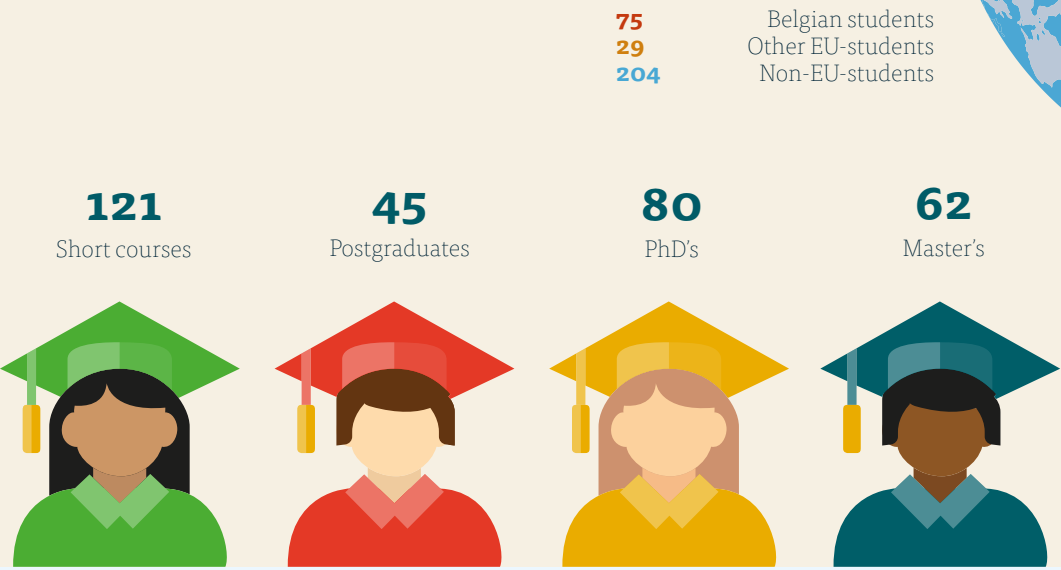
Four former ITM master's students, graduates of our MSc in Public Health and MSc in Tropical Animal Health (2019-2020) have been awarded the 2020 Prize for Global Research of the Province of Antwerp. Through this award, honouring people since 1996, the Province of Antwerp looks to stimulate research relating to the Global South.

The Prize for Global Research is awarded yearly to 'master-after-master'-students of ITM and the Institute of Development Policy (IOB) - University of Antwerp, whose master's thesis focuses on topics such as economy, politics,

society, culture, environment, (public) health or medicine (human and animal). Central to the selection criteria are relevance to development and quality and originality of the master theses.

The four ITM laureates are: Orawan Tawaytibhongs (Thailand), Eugène Vernyuy Yeika (Cameroon), Olujuwon Justin Ibiloye (Nigeria) and Luna Gongal (Nepal).

Student body



Staff community

Welcome, Ann!

"I started at ITM as General Manager exactly one year ago, two weeks before the lockdown. Getting to know an organisation, colleagues, different stakeholders in full "COVID-mode" has definitely been a unique challenge. I gradually became more familiar with ITM, an internationally reputed institute with warm, motivated staff who are willing to go the extra mile. Students shifted flexibly to digital classrooms, departments and units were able to continue their work despite the financial impact, and COVID-19 forced us all to adapt to new digital work environments and simplified administrative processes.

The pandemic did not only bring hardship; it also set ITM on the road to evolve into a more efficient, transparent organisation. Warm initiatives such as the 'mouth mask sewing team', the musical Snowball Sampling Sessions, and the coffee truck at the end of the summer lightened



up the year. For the coming years, I expect to take further steps in modernising ITM processes in order to create a work environment in which scientific, administrative and technical staff can work in an open, respectful culture. And in 2021 I wish to meet all my colleagues in real life!"

1500 ITM mouth masks – a collective effort

In spring of 2020, a volunteer team of 25 seamstresses and seamsters, all employees of ITM, joined forces to help keep colleagues safe during the pandemic. In one month they sewed 1500 masks - three for each employee.



Arrivals and departures

As in every organisation new faces emerge every year, whilst other dedicated ones retire from our ranks. In 2020 we proudly welcomed professor **Dieter Heylen** (on the right). Since August he is responsible for the brand new Unit of Eco-modelling within the Department of Biomedical Sciences, which will model and simulate vector-borne diseases via mathematical tools. This helps to understand the underlying dynamics and key drivers of a disease and to predict the impact and the risk factors in a certain area or time period.

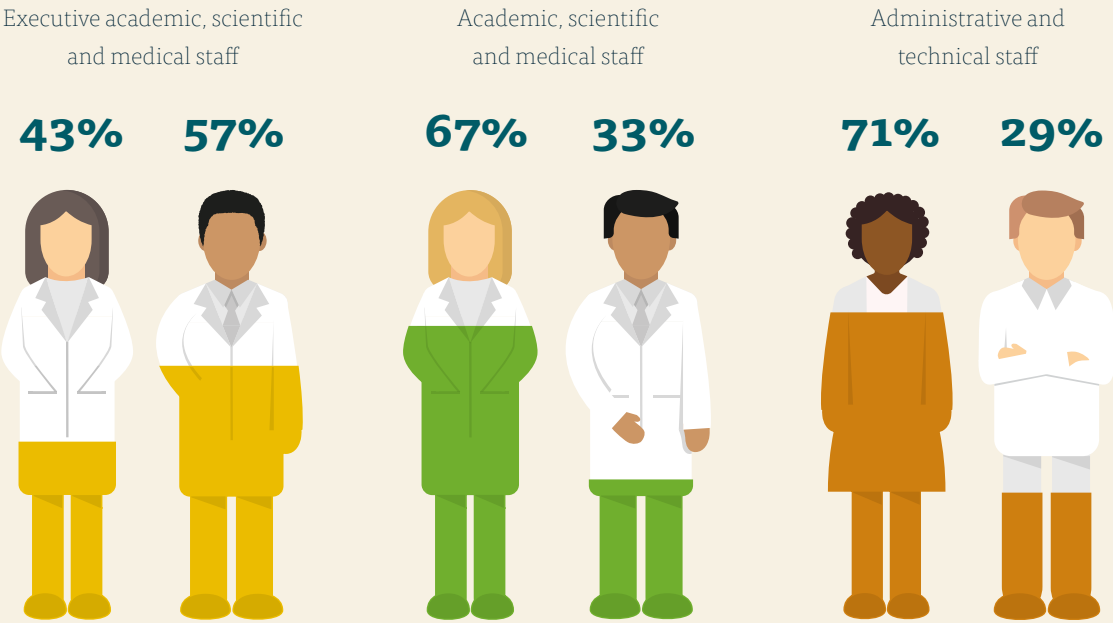
Also, in 2020, epidemiologist **Epcó Hasker** (on the left) was appointed as Professor of Tropical Infectious Diseases.

He has been working at the Department of Public Health since 2008 and has vast research expertise in diseases such as tuberculosis, leprosy and leishmaniasis.

With this welcome, we also sent a warm appreciation to retiring professor **Luc Kestens** (in the middle), Head of the Unit of Immunology, who has been committed to ITM for a spectacular 42 years. Because of his interest in immunology, Luc had been involved in HIV research since the early days of the HIV pandemic in 1983. In 1985, he was the first to publish the lack of association between HIV and the endemic form of Kaposi's Sarcoma in Eastern Africa. Since 1985, his main research focus was the immunopathogenesis of HIV.



Staff composition



Legacy of Marleen Boelaert

Marleen started her career as a doctor in remote areas of Sudan and realised that for some diseases affecting poor people little progress had been made since many decades and that the progress made did not reach those most in need.

Today we are battling a pandemic of a disease that nobody had ever heard of just over one year ago, but already several effective vaccines are available, to some at least. For diseases like sleeping sickness (human African trypanosomiasis or HAT) and kala-azar (visceral leishmaniasis or VL) progress has been slower but great progress has been made over the past decade. Less than ten years ago, HAT was treated with a drug that killed up to 10% of those taking it.

Thanks to the relentless efforts of Marleen and people she inspired, HAT can now be treated with a non-toxic single dose oral drug. On the Indian subcontinent, tens of thousands each year were suffering from kala-azar, a deadly disease, without proper access to diagnosis and treatment. Now the disease is under control, primarily because of rapid diagnostic tests and treatment made available at the lowest levels of the public health system, again with a major contribution from Marleen.

Professor Boelaert was the head of ITM's Department of Public Health from 2011-2014. She sadly passed away in June, 2020. In her honour, ITM has set up the Professor Marleen Boelaert Fellowship Scheme to support grants and research into neglected tropical diseases in DRC.



Five distinguished academics granted honorary titles

ITM works with scientists and academics from institutes all around the world, people who demonstrate clear, substantive and ongoing commitments to our mission and vision. In addition to our institutional collaborations, we also want to recognise individual academics and scientists, thus increasing the visibility of valued collaborations and further supporting current and future ones. The recognition of excellence in these partnerships also contributes to ITM's ambition to be a vibrant open global campus.

In order to endorse partnerships that include an external (inter)national scientist or academic, our Institute awards honorary appointments. In 2020, we were please to grant the following titles:

ITM Honorary Professor



John F May

George Mason University

ITM Honorary Fellow



Emmanuel André

KU Leuven



Conor Meehan

University of Bradford



Patricia Kingori

University of Oxford



Freddie Ssengooba

Makerere University School of Public Health



FWO support boosts international research

In 2020, ITM received two FWO postdoctoral fellowships for three years, with Sara Van Belle and Chiara Trevisan successfully applying. Through this, the Research Foundation of Flanders (FWO) boosts the independent, international careers of local researchers.

The project of Sara Van Belle is about understanding the macro-contextual conditions and social mechanisms across informal settlements in Africa (Kampala, Uganda) and Asia (India, Delhi). She will study adolescent girls in informal settlements and slums and their lack of safety.

Chiara Trevisan's research focuses on the use of games and gamified learning to prevent and control foodborne diseases. Children gain knowledge and become aware of risky behaviors and ways of preventing them in a fun way and could turn out to be ambassadors of behavior change. For this multidisciplinary project in an endemic area in Zambia, the pork tapeworm, as number one foodborne parasite, will be used as a model.

Event highlights

30 January

DRC commemorated the third National HAT Day, to raise awareness of sleeping sickness and synergise the necessary actions to achieve elimination. The elimination efforts are supported by international partners, among them ITM.

23 June

The King and Queen of the Belgians visited ITM to learn about our response to COVID-19, medical services, re-research projects, training programmes and the importance of international cooperation.

10 July

The Flemish Vice Minister-President and Minister of Economy, Science and Innovation, Hilde Crevits visited us to get an insight into our innovative research projects with social impact.

27-29 October

The annual ITM Colloquium was held virtually for the first time. Experts from around the world shared their views and experiences of the COVID-19 pandemic.

December

'Besmet' (Infected) - documentary series demonstrates ITM's role in global health

In four episodes, the documentary series 'Besmet' highlights major health challenges faced on a local and international scale and ITM's search for solutions. The result of more than a hundred filming days spread over three years and four trips to three continents, offer a unique behind-the-scenes look at the Institute. The documentary brings to light the pressures that global health is currently under and how important ITM's role is in addressing these challenges - today more than ever. Besides the science itself, viewers get to know the people behind it and the solid and valuable cooperations between ITM and its international partners. 'Besmet' appeared in December on the Flemish public television network, Canvas.



23 June



30 January



December

27-29 October



10 July



Guaranteeing high quality analyses in our 14 laboratories

The ITM laboratories are highly regarded as scientific centres of reference on tropical diseases both nationally and internationally and work to improve services for patient care locally. In our high-security biosafety level 3+ (BSL3+) labs we have the infrastructure to research dangerous pathogens such as tuberculosis and the Ebola virus.

Our reference laboratories are acknowledged by the national governmental organisations and various international

organisations such as the World Health Organization. This means ITM's lab analyses meet the highest of quality standards and our organisation is appreciated for its scientific advice on tropical diseases locally and worldwide.

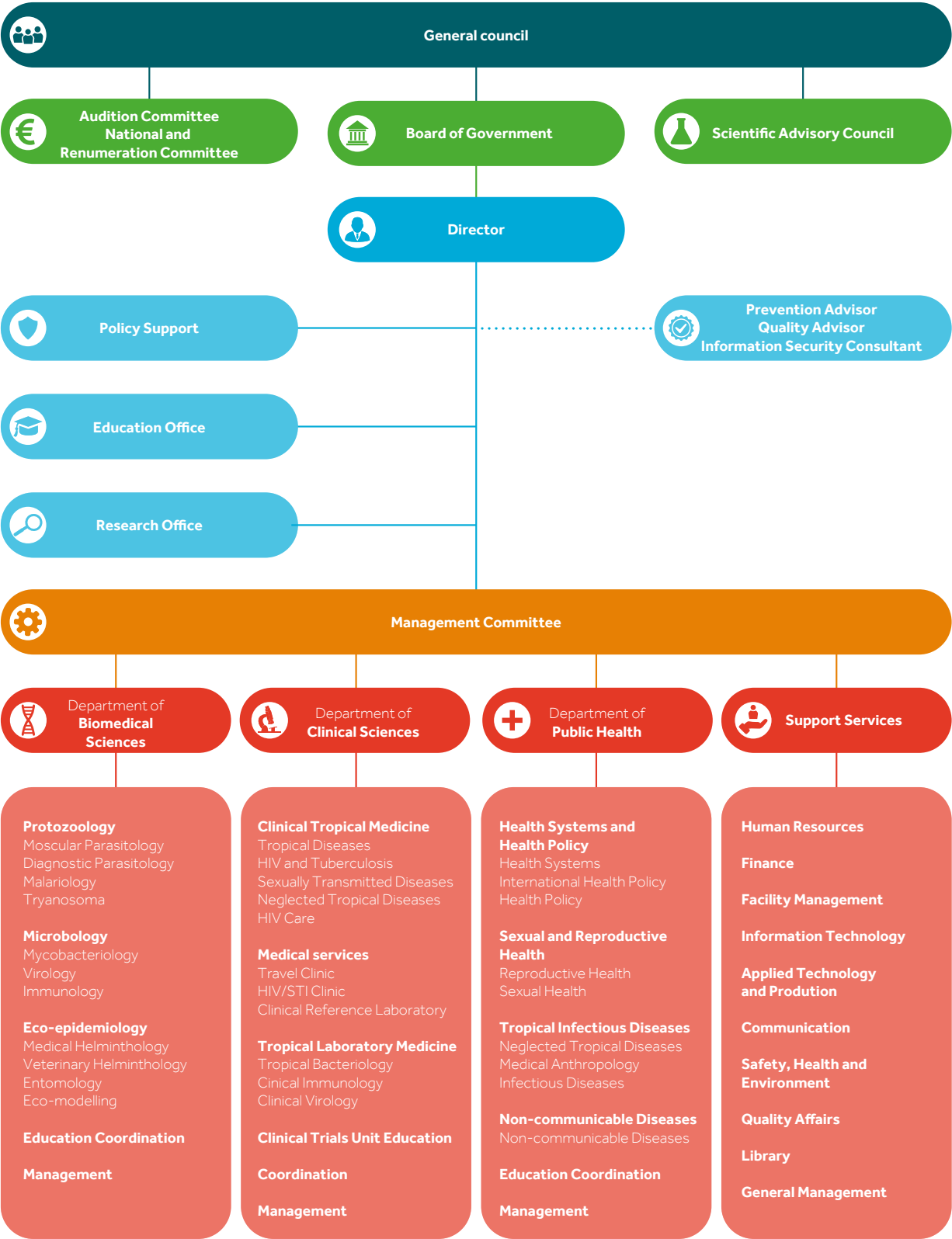
In 2020 our labs successfully prolonged their accreditation status. Along with this our laboratories are now also accredited to perform virus neutralisation tests for the group of viruses including yellow fever or Zika. This test identifies a past infection of these viruses. We also increased our overall laboratory testing capacity to withstand the demands of the COVID-19 pandemic in Belgium.

- 01. **National Reference Centre for Arboviruses**
- 02. **National Reference Centre for Sexually Transmitted Diseases**
(*Treponema pallidum*, *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Mycoplasma genitalium*)
- 03. **National Reference Centre for Rickettsia and Anaplasma**
(consortium with Koningin Astrid Militair Hospitaal – Queen Astrid Military Hospital)
- 04. **National Reference Centre for Coxiella burnetii and Bartonella**
(consortium with UCL Saint-Luc et CODA)
- 05. **National AIDS Reference Laboratory**
- 06. **WHO Testing Laboratory**
- 07. **WHO Collaborating Centre for HIV/AIDS Diagnostics and Laboratory Support**

- 08. **National Reference Laboratory for Infectious and Tropical Diseases**
- 09. **BCCM/ITM Mycobacteria Collection**
- 10. **WHO TB Supranational Reference Laboratory - Coordinating Center**
- 11. **OIE Reference Laboratory for Surra**
- 12. **WHO Collaborating Centre for Research and Training in Human African Trypanosomiasis Diagnostics**
- 13. **National Reference Laboratory for Parasites**
(*Trichinella*, *Echinococcus* and *Anisakis*)
- 14. **FAO Reference Centre for Animal Trypanosomiasis and its Vectors**

Organogram

This organisational chart reflects the state of affairs on 31 December, 2020.



Our figures

	2020	2019	2018
ITM in the world			
Institutional partners	19	19	19
Reference laboratories	14	14	14
Diagnostic tests sent across the world	2,098,004	2,364,546	2,364,546
Staff at ITM			
Academic, scientific and medical staff	166	166	173
Administrative and technical staff	281	265	257
Male/female (M/F) ratio (%)	33/67	33/67	33/67
M/F ratio executive academic, scientific and medical staff (%)	57/43	59/41	64/34
M/F ratio academic, scientific and medical staff (%)	33/67	32/68	32/68
M/F ratio administrative and technical staff (%)	29/71	29/71	30/70
Research			
Scientific excellence and impact			
Papers in scientific journals	387	311	322
New international research projects	61	31	38
International research consortia led by ITM	9	7	7
Innovative research projects running with the support of Flanders	20	12	21
Clinical trials coordinated by ITM	12	11	12
Education*			
Master			
Master students	62	62	69
Master students Public Health	43	39	46
Master students Tropical Animal Health	19	23	23
Nationalities			
Belgian	4	1	1
Other EU countries	2	2	3
Non-EU countries	56	59	65
Postgraduate			
Postgraduate students	45	117	139
Postgraduate Tropical Medicine for Bachelors in Nursing and Midwifery	0	59	77
Postgraduate Certificate in Tropical Medicine and International Health	45	58	62
Nationalities			
Belgian	36	73	83
Other EU countries	7	27	37
Non-EU countries	2	17	19

Short courses			
Short course students	121	196	185
Nationalities			
Belgian	17	1	1
Other EU countries	11	2	3
Non-EU countries	93	59	65
PhD students			
On-going PhD's at ITM (31/12/2020)	80	83	89
Nationalities			
Belgian	18	20	16
Other EU countries	9	8	11
Non-EU countries	53	55	62
PhD dissertations in 2020	16	19	30
Interns and master thesis students**			
Interns	109	117	126
Nationalities			
Belgian	37	44	51
Other EU countries	14	17	15
Non-EU countries	58	56	60
Master thesis students*	10	17	13
Nationalities			
Belgian	5	9	6
Other EU countries	3	3	4
Non-EU countries	2	5	3

*Due to the COVID-19 pandemic, some of our short and postgraduate courses were cancelled in 2020, which accounts for the relatively low number of students.

** University students who have written their master thesis at ITM

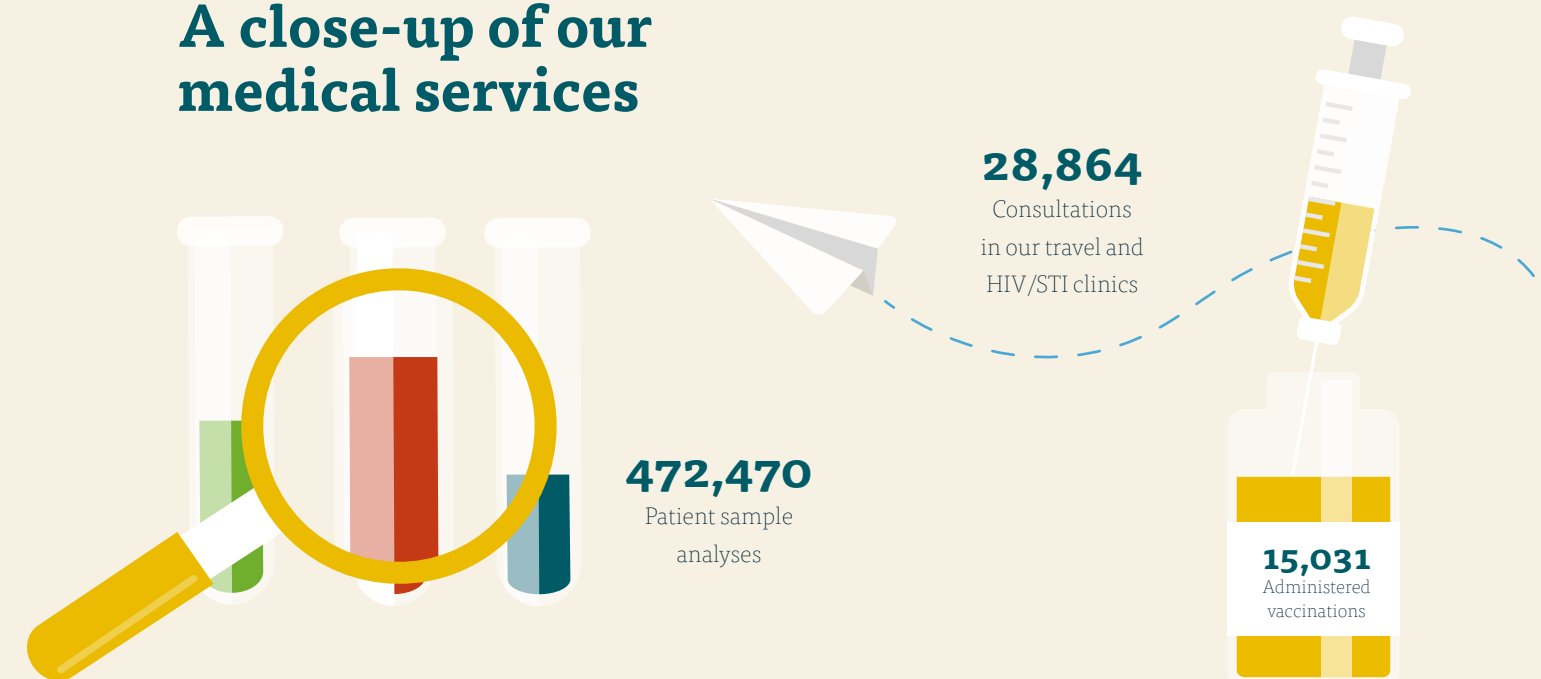
	2020	2019	2018
Medical services*			
Consultations			
Consultations in 2020	28,864	42,398	38,593
HIV (%)	14%	14%	6%
PrEP (%)	9%	7%	6%
STD (%)	10%	7%	6%
Pre-travel (%)	21%	51%	51%
Helpcenter (%)	7%	8%	7%
Post travel, pediatrics (%)	13%	14%	14%
COVID-19 (%)	17%		
By phone (%)	9%		
Patient samples			
Analyses including HIV/STD samples	472,470 analyses for 41,093 patient contacts	589,391 analyses for 43,480 patient contacts	588,355 analyses for 40,501 patients
Analyses as National Reference Centre for the Diagnosis of Infectious and Tropical Diseases (KRL)	78,039	121,047	123,204
Newly diagnosed HIV infections in the National HIV/STD Reference Laboratory	272	313	302
Travel medicine			
Visitors and patients for travel advice and vaccinations	6,159	21,563	19,653
Administered vaccinations	15,031	48,751	45,997
Top 5 diseases for which visitors got vaccinated (%)	1.Yellow fever 30% 2. Hepatitis A 22% 3. Tetanus & diphteria 17% 4. Polio & pertussis 14% 5. Rabies 7%	1.Yellow fever 53% 2. Hepatitis A 43% 3. Tetanus & diphteria 26% 4. Polio & pertussis 26% 5. Rabies 21%	1. Yellow fever 62% 2. Hepatitis A 57% 3. Tetanus & diphteria 32% 4. Polio & pertussis 27% 5. Rabies 25%
People returning from the South who came to our clinic with medical symptoms	3,694	5,835	5,569
Page views on travel medicine website	487,136	421,434	465,178
New users in Wanda (travel medicine) app	19,856		
User engagement (interactions) in Wanda app	120,606		
Calls to the travel phone	1,016	13,508	14,669
Acquired HIV infections**			
HIV reference center			
Patients in follow-up	3,008	3,054	2,976
Average age	48	48	47
Nationality (%)	Europe & North America 67% Asia 4% Africa 22% Latin America 5% Unknown 2%	Europe & North America 68% Asia 4% Africa 22% Latin America 4% Unknown 2%	Europe & North America 68% Asia 4% Africa 22% Latin America 4% Unknown 2%

*Due to the COVID-19 lockdown, in 2020 much less consultations took place than in a 'regular year'.

**The decrease in the number of performed HIV tests is attributed to the shift towards PrEP.

Gender ratio (M/F %)	75/25	75/25	75/25
Number of newly registered HIV patients	148	163	168
Helpcenter - Low-threshold centre			
Visitors	1,496	2,459	2,336
Priority target groups At the moment of the publication the 2020 figures are close estimates	MSM: 401 Migrants (outside Europe): 607 Commercial sex workers (CSW): 23 Clients of CSW: 93 IVDU (intravenous drug users): 9 Persons with occasional sexual contacts: 1,216 Group sex: 764	MSM: 1,048 Migrants (outside Europe): 619 Commercial sex workers (CSW): 54 Clients of CSW: 276 IVDU (intravenous drug users): 20 Persons with occasional sexual contacts: 1,370 Group sex: 547	MSM: 748 Migrants from high endemic regions: 864 Commercial sex workers and their partners: 30 IUVI (intravenous drug users) and partners: 80 persons with occasional sexual contacts: 1,699 or multiple partners: 1,076
HIV tests performed	381	1,724	2,122
Newly diagnosed HIV infections	6	16	18
Swab2Know programme			
Collected oral fluid tests	417	906	945
Newly diagnosed HIV infections	2	4	4

A close-up of our medical services



Balance sheet

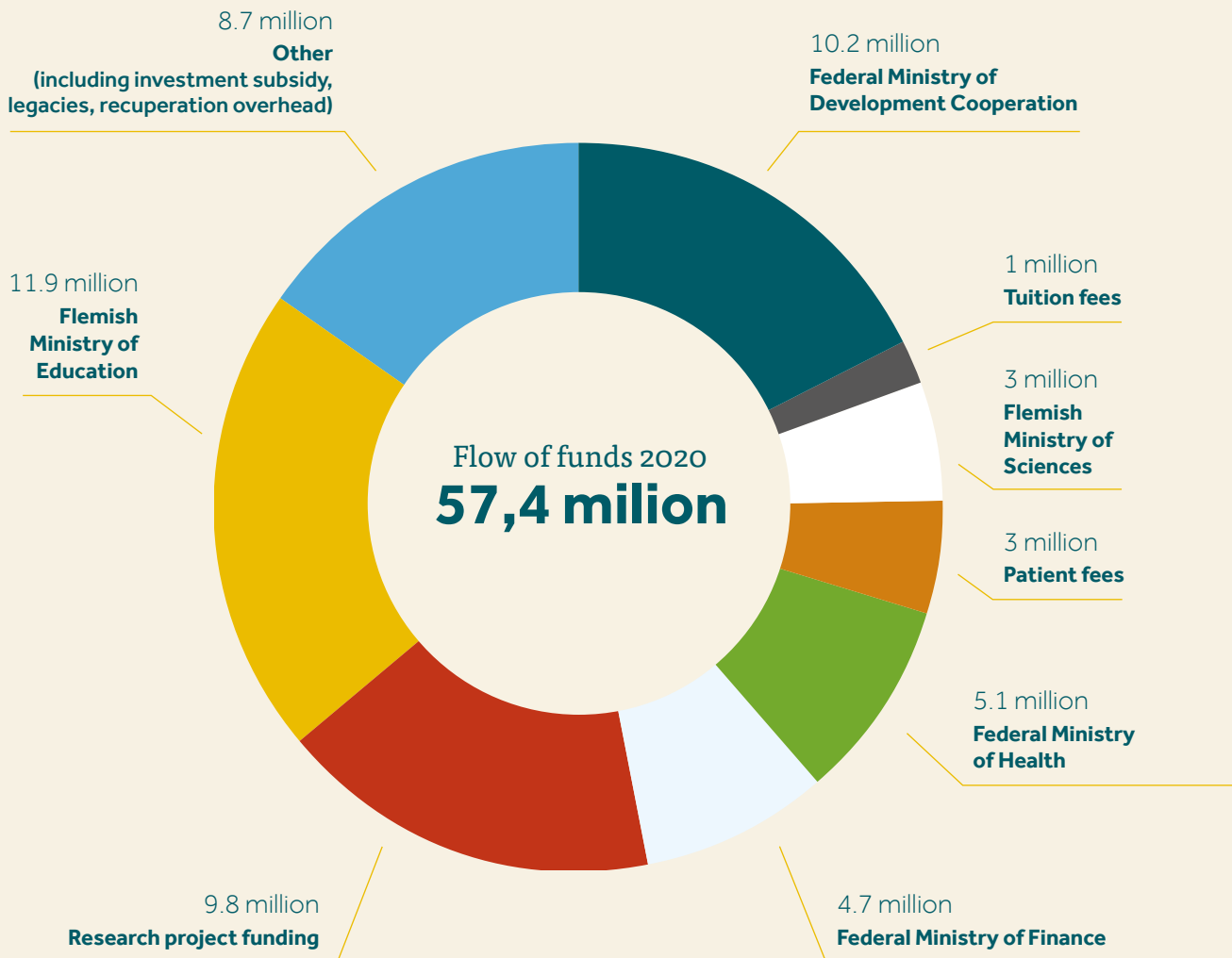
Assets	2020	2019	2018
Fixed assets	29,365,282	29,919,454	30,503,080
<i>Intangible fixed assets</i>	0	0	0
<i>Tangible fixed assets</i>	29,365,282	29,919,454	30,503,080
Land and buildings	27,780,984	28,500,113	28,515,396
Plants, machinery and equipment	21,638	66,396	80,914
Furniture and motor vehicles	1,158,434	849,129	1,023,523
Leasing	0	0	0
Assets in course of construction and payments on account	404,226	503,815	883,247
<i>Financial fixed assets</i>	0	0	0
Current assets	35,195,301	30,322,319	37,674,405
<i>Stock and orders-in-progress</i>	1,580,511	2,009,329	1,704,609
Stock	334,259	424,547	462,875
Orders in progress (projects in progress)	1,246,252	1,584,782	1,241,734
<i>Debtors due in one year or less</i>	2,474,229	2,561,885	2,232,607
Trade receivables	2,366,953	2,498,309	2,101,797
Other debtors	107,276	63,577	130,810
<i>Investments</i>	2,480,371	2,480,371	2,480,371
<i>Cash and bank balances</i>	26,748,907	21,390,700	29,756,325
<i>Prepayments an accrued income</i>	1,911,283	1,880,034	1,500,493
Total assets	64,560,583	60,241,774	68,177,485

Liabilities			
Capital and reserves	28,964,857	27,408,986	27,148,529
<i>Funds of the foundation</i>	345,712	345,712	345,712
<i>Revaluation surpluses</i>	11,891,000	11,891,000	11,891,000
Earmarked funds	6,223,548	8,118,675	8,119,575
Profit (Loss) brought forward	9,282,301	5,739,908	5,387,157
Capital grant	1,222,296	1,313,691	1,405,085
Provisions	387,467	1,472,621	2,099,551
<i>Provisions for liabilities and charges</i>	387,467	1,472,621	2,099,551
Provisions for pensions and similar obligations	103,025	1,099,169	1,247,979
Other provisions	284,442	373,452	851,572
Debts	35,208,259	31,360,167	38,929,405
<i>Creditors due in over one year</i>	8,192,185	8,956,097	9,697,083
Financial debts	8,192,185	8,956,097	9,697,083
<i>Creditors due in one year or less</i>	25,228,926	20,450,841	28,065,051
Creditors becoming due within one year	763,911	740,884	718,642

Trade payables	2,650,432	2,565,898	4,587,003
Received advanced payments (project funding)	17,924,805	18,973,731	11,502,681
Debts in reference to taxes, salaries and social contributions	3,751,586	3,714,339	3,733,313
Various debts	138,192	36,968	52,362
Accruals and deferred Income	1,787,148	1,953,229	1,167,271
Total liabilities	64,560,583	60,241,774	68,177,485

Our financials

All financial figures are in euro.



Profit & loss account

	2020	2019	2018
Operating income (+)	52,331,241	55,151,368	53,129,704
Turnover	16,328,828	18,048,071	7,035,195
Work and services in progress (additions +, withdrawals -)	5,828,446	8,773,473	-3,439,145
Member fees, funds, legacies and subsidies	23,187,787	14,615,889	31,927,897
Other operating income	6,986,180	13,713,934	17,605,757
Operating expenses (-)	50,317,409	54,552,689	53,959,554
(Cost of) goods for resale & raw materials	6,454,373	7,333,046	6,013,340
(Cost of) goods and services	11,783,594	15,633,428	16,103,270
Personnel expenses	31,889,450	30,999,280	30,737,810
Depreciation and impairments on fixed assets	1,218,758	1,314,963	1,588,422
Impairments on current assets and provisions for liabilities and charges (additions +, withdrawals -)	-1,265,154	-728,180	-781,808
Other operating expenses	236,388	152	298,520
Operating profit (loss)	2,013,832	598,680	-829,850
Financial income (+)	122,375	103,391	314,817
Revenue from current assets	1,216	3,378	3,097
Other financial revenue	121,159	100,013	311,720
Financial expenses (-)	329,423	346,759	559,805
Costs of debts	286,080	307,798	328,819
Other financial costs	43,343	38,961	230,986
Profit (Loss) from regular company activities	1,806,784	355,312	-1,074,838
Exceptional income (+)	0	11,864	326,711
Write-back of amortisations and depreciations on fixed assets	0	11,864	0
Other exceptional income	0	0	326,711
Exceptional expenses (-)	159,519	15,325	808
Exceptional amortisations and depreciations on fixed assets	0	15,325	0
Other exceptional expenses	159,519	0	0
Profit (Loss) of the financial year	1,647,265	351,851	-720,163

Our institutional partners and global alliances

- Institutional capacity building supported by DGD
- Institutional capacity building supported by Flanders
- Alliance of education and exchange

Latin America

1. Post-Graduate Medical School, Universidad Mayor de San Simon (UMSS), Cochabamba, **Bolivia** ○
2. Instituto Nacional de Higiene, Epidemiologia y Microbiologia (INHEM), Havana, **Cuba** ○ ●
3. Instituto Pedro Kouri (IPK), Havana, **Cuba** ○ ●
4. Institute of Public Health, Pontificia Universidad Católica del Ecuador (PUCE), Quito, **Ecuador** ○
5. Instituto de Medicina Tropical "Alexander von Humboldt" (IMTAvH), Universidad Cayetano Heredia, Lima, **Peru** ○ ●

Africa

6. Laboratoire de Référence des Mycobactéries (LRM), Cotonou, **Benin** ○ ●
7. Clinical Research Unit of Nanoro (CRUN), including Centre Muraz, **Burkina Faso** ○ ●
8. Institut National de Recherche Biomédicale (INRB), Ministère de la Santé Publique, Kinshasa, **DRC** ○ ●
9. Programme National de Lutte contre la Trypanosomiase Humaine (PNLTHA), Kinshasa, **DRC** ○ ●
10. École de Santé Publique (ESP), Université de Lubumbashi, Lubumbashi, **DRC** ○ ●
11. Centre de Recherche Sanitaire de Kimpese (CRSK), Kimpese, **DRC** ○ ●
12. College of Medicine and Health Sciences, University of Gondar, Gondar, **Ethiopia** ○ ●
13. Centre National de Formation et Recherche de Maferinyah, **Guinea** ○ ●
14. École Nationale Supérieure de Statistique et de Economie Appliquée (ENSEA), Abidjan, **Ivory Coast** ●
15. École Nationale de Santé Publique (ENSP) Rabat, **Morocco** ○
16. Instituto Nacional de Saúde (INS), Maputo, **Mozambique** ○ ●
17. Laboratoires de Virologie, Bactériologie et Parasitologie, Université de Dakar, Dakar, **Senegal** ○
18. School of Public Health, University of Western Cape (UWC), Cape Town, **South Africa** ○ ●
19. Department of Veterinary Tropical Diseases (DVRD), University of Pretoria (DVTD), Pretoria, **South Africa** ○ ●
20. School of Public Health (SPH - MUCHS), Makerere University College of Health Sciences, Kampala, **Uganda** ○

Asia

21. Sihanouk Hospital Center of HOPE (SHCH), Phnom Penh, **Cambodia** ○ ●
22. National Centre for HIV/Aids, Dermatology and STD's (NCHADS), Phnom Penh, **Cambodia** ○ ●
23. National Centre for Parasitology, Entomology and Malaria Control (NMC), Phnom Penh, **Cambodia** ○ ●
24. National Institute of Public Health (NIPH), Phnom Penh, **Cambodia** ○ ●
25. Institute of Public Health (IPH), Bangalore, **India** ○
26. Center for Tropical Medicine, Faculty of Medicine, Gadjah Mada University, Yogyakarta, **Indonesia** ○
27. B.P. Koirala Institute of Health Sciences (BPKIHS), Dharan, **Nepal** ○
28. National Institute of Malariology, Parasitology and Entomology (NIMPE), Hanoi, **Vietnam** ○ ●



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