Annual Report 2020







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"LSHTM demonstrates exceptional leadership in global health and continues its extraordinary efforts to enhance knowledge transfer through capacity-building of public health professionals in developing countries. As a leading public health institution, it is no wonder why many public health students from Africa continue to pursue their advanced studies at the LSHTM, in hopes of returning to the continent to build a stronger, safer Africa."

> Dr John Nkengasong Director of African Centres for Disease Control and Prevention



"LSHTM is a remarkable institution – it has a long history yet is constantly reinventing itself and looking to the future. Since joining MRC I have learned a great deal from Peter Piot and my colleagues in the MRC Units in The Gambia and Uganda. It is a privilege to work in partnership to improve human health through world-class research."

> **Professor Fiona Watt Executive Chair of the Medical Research Council**



"Amidst the fog of uncertainty and distrust brought upon by the COVID-19 pandemic, LSHTM continues to be a shining beacon of reason and leadership, directing the very best public health research and education to help countries and communities around the world to identify effective and culturally-appropriate strategies grounded in evidence, equity, and humanity. This is possible only because of the trust built from decades of interactions between LSHTM's academics working on the ground, in jurisdictions across six continents that often have the greatest health needs, with public health implementors and policy makers. Keep up the exceptional work LSHTM, you are truly an inspiration to public health institutions worldwide!"

> Professor Teo Yik Ying Dean of the Saw Swee Hock School of Public Health, National University of Singapore

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2020 has been a historic and indeed a transformative year for the world. It will long be remembered for the tragic consequences of the COVID-19 pandemic, for the renewed emphasis on racial and other forms of inequality, and as an unprecedented year for scientific progress and collaboration.

The COVID-19 pandemic is the greatest challenge in peacetime for more than 100 years. It has touched every part of our global community. Never before has our School's mission, research and education been so vital and I am proud of the way we have stepped up to the challenge.

Our experts have been at the forefront of national and international efforts, from modelling the spread and impact of the virus, to tracking attitudes and sentiments around vaccines, to revealing the extent of the harsh inequalities in society that COVID-19 has exposed.

Our COVID-19 free online course (or MOOC), developed rapidly in the early phases of the outbreak, ended up reaching over 208,000 participants around the globe. And I was so proud to see the efforts of LSHTM alumni who have been leading response efforts in their own institutions and countries around the world.

I am proud that we have been able to secure high quality education throughout the pandemic. This was undoubtedly a particularly challenging year for both our student body and our teaching staff who deserve all our thanks for all their hard work and dedication in adapting to the rapid transformation to digital learning in truly unprecedented circumstances.

Aside from the direct impact of COVID, we remain resolutely focused on other major health challenges including, of course, the escalating climate crisis and its impact on health. As we prepare for next year's UN Climate Change Conference of the Parties (COP26), our Centre on Climate Change and Planetary Health will play a key role in continuing to generate evidence-based solutions for planetary health whilst also promoting feasible actions to increase our School's sustainability.

We welcomed a new Chair of Council this year, Don Robert, who is also also the Chairman of the London Stock Exchange Group (LSEG). Don Robert brings a wealth of experience in global business operations, leadership, innovation and governance, that will be of tremendous benefit as we further strengthen our research, teaching, and partnerships around the world.



Joining as independent members of Council this year we also welcomed Mohamed Osman of Spring Impact and formerly of the Elton John Foundation; Angela Darlington, CEO of Aviva and Mike Turner of the Wellcome Trust. Mishal Khan and Effua Usuf joined as elected members of Council and I am particularly pleased that we now have a Council representative from the MRC Units.

My thanks to our outgoing Council members Jon Roper, Ann Grant, Richard White and Alison Grant for their excellent contributions over the years and also to John O'Donnell for serving as Acting Chairman of Council.

This year we have been making important strides in our commitments to equality in our School. It is vital that we continue to examine and act on inequity, both inside and outside of LSHTM. Our Council and Senior Leadership Team is fully committed to delivering meaningful action, some of which is already underway, including but not limited to, the establishment of a new Diversity and Inclusion Committee (a committee of our Council), reviews of our bullying and harassment policy, improving our understanding and teaching of our colonial history and more. I look forward to further engagement with the wider School community as this critical work progresses.

2021 will be my last year serving as Director of LSHTM to a position that I have been enormously privileged to hold. The challenges that we have faced this year have underscored the importance of our community. We deeply appreciate the generous support of our philanthropic donors that have continued to enable us to offer scholarships, improve our buildings and critically, to expand our research worldwide. To our staff and students thank you for your extraordinary dedication and commitment to improving health worldwide.

Thanks to unprecedented and rapid scientific breakthroughs we now have vaccines to control the COVID-19 pandemic. Therefore we can look forward to 2021 with renewed hope and optimism.



Professor Peter Piot KCMG Director, LSHTM

Foreword

It is a great honour to become Chair of the London School of Hygiene & Tropical Medicine. Joining in April 2020 in the midst of a global pandemic has highlighted just how important this unique institution is, and the critical role played by our talented staff and students. In the past year, LSHTM's work has been more visible than ever before, and our world-class research and expertise are serving not only to address the most urgent and pressing health challenges, but are also playing a key role in shaping a better and more prepared post-COVID-19 world.

The past year has been a time of great uncertainty as we all come to terms with the changed reality of COVID-19. We have had to rapidly navigate and adapt to new patterns of work, living and learning. But the importance of our enduring mission to improve health and health equity in the UK and worldwide remains central to all we do. I'd like to thank all those who work at and with LSHTM for their dedication, innovation and professionalism, which makes everything we do possible.

I have been particularly struck by the strength of our global alumni community and its overwhelming response to the pandemic over the last 12 months. Not only can our graduates be found leading the response in governments, NGOs, hospital wards and in vaccine rollout, but an unprecedented number are supporting their alma mater by volunteering to mentor students, participating in crowdsourced modelling, joining us virtually for events, and donating to support students in need. This terrific response is indicative of the quality and depth of teaching that students receive and the impact that connections forged at LSHTM can have for decades to come.

As a leading voice during the pandemic, we now have the opportunity and obligation to build upon our wealth of expertise and experience during this crucial time for global health. Looking ahead, it is evident that how the world now prepares, reacts and responds to global challenges will define whether we're on a sustainable trajectory. Issues such as pandemic preparedness, climate change, chronic conditions and infectious disease bear on every aspect of our existence from

national security and global stability to the economy, people's lifestyle and livelihoods, mental and physical health and life expectancy.

Our ambitious new initiative - Securing the Future of Global Health - will significantly reduce the human and economic cost of the greatest threats of our age. The initiative encompasses our two newest centres, the Centre for Epidemic Preparedness and Response, and the Centre on Climate Change and Planetary Health. To achieve this, we will need to raise £53 million, helping us to create the necessary capital infrastructure and to recruit the rising stars and more established leaders in the relevant fields. We are eager to take on this fundraising challenge in 2021.

LSHTM is uniquely placed to research, inform and advocate on a global scale to mitigate the impact of the global health threats which affect everybody, but so often disproportionately affect the most vulnerable and disadvantaged in our society. We also recognise that inequalities within our own School need to be urgently addressed and I am pleased that this essential work is now underway as a priority for our Council.

We have much to be proud of in 2020 and I am grateful for the leadership of our Director, Peter Piot, during such difficult times. Peter has overseen a period of great transformation at LSHTM during his tenure, and as we now enter his final year as Director, he leaves our School in a unique position to make a real difference to the health of all in our forever changed world.



Don Robert Chair of Council, LSHTM

LSHTM's expertise ranges from the molecular to the global, the theoretical to the applied, the analytical to the political. In 2020, our scientists published more than 3,100 research articles, of which around 600 were on COVID-19. Here is a selection of highlights from across the Faculty of Epidemiology & Population Health, the Faculty of Infectious & Tropical Diseases, the Faculty of Public Health & Policy, MRC Unit The Gambia at LSHTM, and the MRC/UVRI & LSHTM Uganda Research Unit. Many of our research outputs are produced in collaboration with partners in the UK and around the world.

3rd in the world public health (1st in the UK) ShanghaiRanking's Global Ranking of Academic Subjects 2020

UK's top university for the proportion of academic research with women listed as authors, and third in Europe for publishing open access research 2020 CWTS Leiden Ranking

3rd in the world for public, environmental & occupational health, 4th in the world for infectious diseases, 11th in the world for social sciences & public health US News Best Global Universities Ranking 2021

Top funders for new research grants awarded to LSHTM 2018/19



£40.7m		£15.8m
£26.2m	European Union	£12.9m
£01.1m	US Federal Funding	£4.1m
£21.1M	PATH	£4.1m
£19.4m	World Health Organization	£2.5m
£16.4m		
	£26.2m £21.1m £19.4m £16.4m	£26.2m European Union US Federal Funding £21.1m £19.4m £19.4m World Health Organization

Research

3



Uganda	£11.8m
	••••••

Income from new research grants is phased over a number of years according to the grant duration. Research income data for 2019/20 is shown on page 18.

Research

Focus on: COVID-19

LSHTM researchers from across the globe are working around the clock to generate vital data on COVID-19 and its potential impact. The scientific community has shown an unprecedented combination of dedication, collaboration and transparency to help tackle the crisis, and LSHTM is proud to be at the forefront of the response.

Understanding how transmissible COVID-19 is, and how quickly it might spread, was crucial information for policymakers in the early days of the pandemic. The estimates generated by our world-leading mathematical modellers supported governments to make evidence-based decisions on how best to protect their citizens and control the disease.

The modelling team's output is vast, including showing that backward contact tracing could help double the effectiveness of the UK's NHS test & trace system, revealing the urgent need for routine immunisation to continue during the pandemic, and examining potential response strategies for African countries.

of a long-haul flight that provided the first genetic evidence of in-flight transmission of the SARS-CoV-2 virus. In May 2020, a new analysis of the worldwide effort to sequence the coronavirus genome revealed the scale of the genetic changes that were occurring in the virus as it was spreading across the world.

Launched in the Spring, the 'Hygiene Hub' links science to action to help save lives during COVID-19. Simple hygiene practices are one of most effective measures to reduce transmission of the virus. However, hygiene habits However, the stopping of flights and rapid closure and policies vary around the world greatly, depending especially on available resources. This online portal, hosted by LSHTM, provides 'real-time' support and latest evidence for hygiene intervention actors around the world, assisting on the development and execution of potentially lifesaving strategies.

Experts in The Gambia and Uganda continue to support government and continental COVID-19 responses. In Uganda, the MRC Unit and partners evaluated SARS CoV-2 rapid diagnostic tests and PCR kits, and generated the first Ugandan SARS-CoV-2 full genomes through rapid local sequencing. This helped Uganda to understand the disease, and monitor and control virus transmission. The Unit is also securing test reagents and personal protective equipment on behalf of the World Health Organization (WHO) in support of the national testing effort.



In The Gambia, our MRC Unit ran the country's only COVID-19 diagnostics centre and remained so until June 2020 when the National Public Health Laboratories began testing, following technical and equipment support from the Unit's laboratory team. The Unit provided Working with partners in Hong Kong, LSHTM led analysis crucial clinical care for COVID-19 patients and produced 3D-printed PPE and cloth face masks in collaboration with local businesses. The Unit continues to support the Gambian Ministry of Health's preparations for a national COVID-19 vaccination programme.

> In March 2020, The UK Public Health Rapid Support Team deployed to Africa CDC (Ethiopia), WHO Western Pacific Regional Office (the Philippines) and WHO Nepal to support the COVID-19 response.

of borders globally, meant the team quickly adapted to remote working, continuing the support they had initiated with colleagues overseas.

This coordinated package of remote support has continued alongside in-person deployments where possible. These include to Bangladesh to assist WHO's Sub Office in Cox's Bazar, and to The Gambia, to support the Ministry of Health to conduct a joint rapid assessment on COVID-19 response with colleagues from Africa CDC.

This is just a snapshot of the work of our staff, students and alumni in tackling the COVID-19 pandemic.

Find out more at lshtm.ac.uk/coronavirus.

Infectious disease

Antiretroviral therapy is failing to treat one-third of HIV patients in a Malawi hospital, according to research published in The Lancet HIV. Dr Ankur Gupta-Wright and colleagues called for new rapid tests to combat HIV drug resistance in sub-Saharan Africa. In Uganda, an African-led trial launched to test two ways of preventing HIV at the same time. The PrEPVacc trial with Chief Investigator Prof Pontiano Kaleebu is evaluating the provision of both HIV vaccines and pre-exposure prophylaxis (PrEP) at the same time.

TB cases and deaths were predicted to spike due to COVID-19 as a result of disruptions to health services and delays to diagnosis and treatment. Dr Finn McQuaid and colleagues estimated at least 110,000 additional

deaths from TB in China, India and South Africa unless health services are maintained and strengthened.

A 100-year-old malaria mystery was solved using neuroimaging techniques. Dr Sam Wassmer and colleagues found that cerebral malaria causes death in adults by triggering oxygen-deprivation in the brain. The findings pave the way for neuronal survival-enhancing approaches to be trialled alongside existing anti-malarial treatments. Meanwhile, giving preventive drugs to school-age children in Africa was shown to halve malaria infections and cases of anaemia. The research was published in The Lancet Global Health by Dr Matthew Chico and colleagues. With 400,000 deaths from



Mosquito collection in Indonesia, Credit: World Mosquito Program

malaria every year, preventive drugs could be an important tool alongside insecticide treated bednets and a malaria vaccine.

Infecting Aedes aegypti mosquitoes with Wolbachia bacteria reduces their ability to transmit the dengue virus. Dengue is the most rapidly spreading mosquito-borne disease in the world. Prof Nicholas Jewell was the statistician on The World Mosquito Program's gold-standard trial in Indonesia, which demonstrated a 77% reduction in the incidence of virologically-confirmed dengue.

Genome sequencing shed light on the re-emergence of the bacterium that causes Yaws, a neglected tropical disease of the skin, bones and joints. Research from Prof Nick Thomson and colleagues published in The Lancet Microbe found that re-emergence of Yaws just a few years after a mass drug administration elimination campaign was caused by three distinct types of the bacteria. This was likely the result of latent infections in asymptomatic individuals who didn't receive treatment. The results have important implications for Yaws disease control strategies and surveillance.

In The Gambia, a new, affordable pneumococcal conjugate vaccine (PCV) was found to be safe and effective in adults, toddlers and infants in phase 1/2 trials. PCV vaccines protect children from pneumonia one of the leading causes of death in children under five - but their high cost makes them difficult for low- and middle-income countries to afford. Dr Ed Clarke and colleagues' findings support the progression of this lower cost PCV to phase 3 trial and licensing.

Research



A field worker uses a thermal imaging camera to measure mother and her unborn baby's temperature in Keneba. The Gambia, as part of a study looking at the impact of heat stress on health. Credit: Louis Lesson/LSHTM



Environment, climate change and health

Daily exposure to ground level ozone in cities worldwide is associated with an increased risk of death but stricter air quality standards could prevent thousands of deaths each year. Research from Professor Antonio Gasparrini in The BMJ highlighted the urgent need for stricter regulations on emissions, and a global commitment to reduce ozone pollution.

A detailed map of air pollution across Great Britain was revealed using artificial intelligence and satellite technologies. Currently, scientists rely on often inaccurate groundbased monitors to measure air pollution, but the innovative technique from Dr Rochelle Schneider and colleagues could help revolutionise our understanding of how air pollution affects the nation's health. The team next intend to combine the data with local health records and use epidemiological analysis

to reveal a highly granular picture of the association between air pollution and health outcomes across Great Britain.

An evaluation of England's heatwave plan found most excess deaths and hospital admissions in hot weather took place outside of the plan's heatwave alert periods. The findings from Prof Nicholas Mays and colleagues suggest efforts to reduce the adverse effects of hot weather should focus on the summer season rather than heatwaves alone.

Over the last fifty years global food supply has changed dramatically, resulting in stark differences in food systems and diets around the world. New research from Dr Rosemary Green and colleagues has improved our understanding of global food supply patterns and could help boost health and sustainability. The team's

mapping of multidimensional patterns provide important new evidence on the changing global food system. This paves the way for detailed estimates on the environmental impacts such as on soil nutrients, water systems and greenhouse gas emissions around the world.

Research from Dr Pauline Scheelbeek and colleagues in italics found one third of UK fruit and vegetables are imported from climate-vulnerable countries. The team to call for a radical rethink of trade strategies to ensure people in the UK have continued access to fruit and vegetables. Also in the UK, the first analysis of the UK government-recommended 'Eatwell Guide', published in BMJ Open, found the diet could reduce your risk of dying early and lower your environmental footprint, but too few people are following the guidelines.

Chronic conditions and diseases

Using machine learning to predict survival for patients with life-shortening conditions was found to be as effective as using traditional statistical methods. Professor Ruth Keogh and colleagues applied machine learning to cystic fibrosis registry data. Their results show the method can now be applied to other conditions that have health-related administrative databases.

Screening entire populations for breast and ovarian cancer gene mutations

Health systems and economics

A new report has found the health and future of every child and adolescent worldwide is under immediate threat from ecological degradation, climate change and exploitative marketing practices that push heavily processed fast food, sugary drinks, alcohol and tobacco at children. The authors of A Future for the World's Children?, including Dr Dina Balabanov and Dr Timothy Powell-Jackson, highlighted that progress had stalled and called for inclusive health systems

፟፟፟፟፟፟ Health across the life course

One stillbirth occurs every 16 seconds and COVID-19-related health service disruptions could worsen the situation, potentially adding nearly 200,000 more stillbirths over a 12-month period. In the first ever joint UN estimates on stillbirths, Dr Hannah Blencowe and colleagues found that without urgent action, 20 million more babies will be stillborn by 2030. They called for concrete investment and dedicated efforts to strengthen policy and programmes.

Identifying anxiety in those with depression could be key to developing successful mental health programmes in low- and middle-income countries. Using data from a trial of the Friendship

persisting inequalities. Analysis of stock market returns by Dr Cherry Law and colleagues found the sugar levy had no lasting negative impacts on the UK soft drinks industry, despite widespread industry fears the tax would harm their businesses. The levy was introduced as part of the UK Government's plan to address childhood obesity and related conditions such as diabetes and heart disease.

income countries.

sessions are delivered by lay health and colleagues found that persistent depression is more likely in those who

could prevent millions more breast and ovarian cancer cases across the world compared to current clinical practice. Dr Rosa Legood and colleagues also found that **cancer gene testing** is cost effective in high and upper-middle

Every month delay in cancer treatment was estimated to raise the risk of death by around 10%, in research published in The BMJ by Dr Ajay Aggarwal, and colleagues. The findings are important

for understanding of the impact of cancer treatment delay caused by the COVID-19 pandemic.

HPV vaccination was found to prevent 26% more cervical cancer cases and 51% more deaths than previous estimates, in research by Dr Kaja Abbas and colleagues published in The Lancet Global Health. The team urged for more African countries to introduce and scale-up HPV vaccination.

and social institutions to combat

British households purchasing high volumes of sugary or diet drinks were more likely to have low socio-economic status, higher body mass index and less healthy food purchases. The insight into shopping habits from Dr Nicolas Berger and colleagues study in PLOS Medicine should help support the design of better targeted approaches to reducing sugar consumption, and ultimately improve health.

Bench in Zimbabwe - where counselling workers on a wooden bench within the grounds of a clinic - Dr Dixon Chibanda also experience symptoms of anxiety.

The largest global vaccine confidence survey revealed hesitancy hotspots and found that public confidence in vaccines varies widely around the world. The Vaccine Confidence Project found signs that public trust may be improving in parts of Europe, but several countries experiencing political instability and religious extremism were seeing growing scepticism that vaccines are safe.

A new way of giving tranexamic acid (TXA) through intramuscular injection could help frontline responders save the lives of trauma victims, according to research from Prof lan Roberts and colleagues. TXA prevents severe bleeding after injury by inhibiting blood clot breakdown but previously required intravenous injection. As every 15-minute treatment delay reduces its lifesaving potential by 10%, the new method of intramuscular injection could greatly expand access to urgent treatment, especially in low- and middleincome countries where most trauma deaths occur.

School Centres

Cross-institution networks of academics, collaborating and innovating to address global health challenges.



Centre members have contributed evidence on the impact of COVID-19 on chronic conditions. including the effect on cancer survival, health systems, and healthcare workers. We're also developing guidance for adapting health services for chronic conditions in humanitarian crisis settings. We've created a database of COVID-19 and chronic conditions res on our website.

✓ @LSHTM_CGCC

CENTRE FOR GLOBAL Centre for Globa Mental Health

Placing mental health on the global agenda.

2020 highlighted inequities and power imbalances that contribute to mental, neurological and substance use conditions and the inadequate voices given to those with lived experience CGMH is scaling up our work in humanitarian settings, on co-production mental health implications of COVID-19, and decolonising GMH

9 @GMentalHealth



Research and advocacy to end TB.

TB Centre airborne disease experts played pivotal roles in COVID-19 policy and planning, as well as clinical support, across multiple countries. Members also conducted several major surveys and modelling analyses of the impact of COVID-19 disruptions on TB services and burden

♥ @LSHTM_TB



Our members have been analysing the spread of the COVID-19 pandemic since the earliest days of the outbreak. Their insights into patterns of transmission, behavioural responses and control measures have informed the global response, and our data and analysis are open to collaborators around the world

ANTIMICROBIAL RESISTANCE CENTRE

The COVID-19 pandemic has impacted the emergence and spread of drug-resistant pathogens globally, due to pressures on healthcare services, the treatmer of COVID-19 patients with antibiotics and social-distancing measures. This year the AMR Centre has been gathering the evidence as it emerges and contributing to research and discussions on this complex relationship.

♥ @LSHTM_AMR

•VaC

We developed a popular COVID-19

vaccine tracker to map the progress

towards vaccines against SARS-

CoV-2; studied the impact of the

pandemic on routine immunisation

globally; surveyed the acceptability

of COVID-19 vaccines in the UK and

explained to the public how vaccine

J@LSHTM_AMR

Centre on Climate Change &

The Centre has grown substantially

this year, forging a Planetary Health

Fellowship scheme with Stanford

University and planning a Planetary

Health MSc. The Centre co-hosted

health conference in The Gambia

and contributed to major externa

events including London Climate

Action Week and the 'Race to Zero'

♥ @LSHTM_Planet

Improving global health practice

Since the emergence of COVID-19,

the Centre has been approached

seeking advice on good evaluation

transmission. We have held several

workshops to "crowd source" ideas

and suggest appropriate methods

У @LSHTMEvaluation

design for different community-

based responses to reducing

participatory evaluation design

by numerous organisations

Centre for

Evaluation

a highly successful planetary

campaign.

<u>(</u>

through evaluation

Planetary Health

trials are actually done, how we

know that vaccines are safe

and what's in them

Health in Humanitarian Crises Centre

Improving the health of populations affected by humanitarian crises.

We launched the COVID-19 Humanitarian Platform, in collaboration with partners, facilitating knowledge exchange and hosting guidance documents for humanitarian actors. This equips field workers with the tools and resources to appropriately respond to the pandemic

CENTRE for STATISTICAL METHODOLOGY

CSM organised several events on causal machine learning, including a 1-day Masterclass, and a public lecture by Prof Mark van der Laan (joint with Alan Turing Institute). The Centre also held a popula series of seminars on COVID-19 and statistical methodology, which included a talk by Professor Sir David Speigelhalter

✓ @LSHTMstatmethod



Providing an authoritative nic voice on malaria

A year in which seasonal preventive treatment - a control method pioneered by LSHTM and West African researchers. now implemented annually in 13 countries - was shown to have halved malaria deaths in children

@LSHTM_malaria



Contributing to historical understanding of public health policy and practice

We continued our research into LSHTM's colonial past and developed lectures for staff and students on the historical context o 'decolonising global health'. We also developed historical analysis relevant to the COVID-19 pandemic through talks, articles and funded research

Applied Genomics Centre

TAGC has expanded the genomics environment at LSHTM, allowing access to high-throughput sequencing technologies and analytical methods to understand the 'omics underpinning noncommunicable and infectious diseases. We seek to enable localised solutions particularly in Africa and Asia. The Centre organises monthly clinics, has an 'omics data analysis course, and co-organises monthly seminars.

tagc.lshtm.ac.uk



Improving health of women, children worldwide

Focusing on the collateral impact of COVID-19, we worked to maintain essential health services to protect the most vulnerable. Innovations from our NEST-360 partnership are being repurposed to help manage the pandemic. Debra Jackson was appointed as our first 'Takeda Chair in Global Child Health'

♥ @MARCH_LSHTM

LSHTM is home to a large number of active research groupings and networks, working to address major public and global health challenges. These include the Centre For Health Economics In London, the Gender Violence and Health Centre, the International Centre for Evidence in Disability, and the International Centre for Eye Health. Find out more about these and many others at lshtm.ac.uk/research

Launching in 2021, the Centre for Epidemic Preparedness and Response (CEPR) will gather and synergise global expertise to focus on the prevention of, and response to, outbreaks and epidemics. The Centre will explore key areas of investigatior provide innovative training, and offer insight into all aspects of outbreak response to students, healthcare professionals, organisations and policy makers. Through its research activities and action on the ground, the CEPR will significantly reduce the human and economic cost of epidemics.

Partnerships

Working in partnership is central to achieving our mission. Our partnerships in the UK and across high-, middleand low-income countries deliver health and socioeconomic benefits across the world, especially in the most disadvantaged communities.



We ran a second call of our African partnership grants scheme, funded through our Wellcome Institutional Strategic Support Fund. Three proposals were awarded

funding to support collaborative activity with our MRC Units and partners in Africa.



Following the appointment of a new Director at the Africa Health Research Institute. South Africa, we formalised our longstanding relationship through the creation of a new partnership liaison committee.

We continued to work with Ethiopian

partners on projects with embedded capacity development activities, including coaching Ministry of Health analysts, training

PhD students at several Ethiopian universities and establishing advanced laboratory support.



We expanded our work in adolescent health with the Mwanza Intervention Trials Unit with the launch of a new three-year study on menstrual health among secondary school girls in Tanzania.



LSHTM's Professor Rashida Ferrand played a key role in the COVID-19 response in Zimbabwe, working with partners and colleagues to establish a special COVID-19

unit at the main hospital in Harare and crowd-sourcing funding to maintain clinical services. Meanwhile, in Zambia, LSHTM staff helped to develop the Zambian National Health Research Authority's "COVID-19 Research and Innovation Plan for Zambia".



We continued to support the strengthening of connections between the MRC Unit The Gambia and regional partners, hosting visits to London from the Nigerian Institute for

Medical Research and the Centre National de Recherche et de Formation sur le Paludisme, Burkina Faso.



The China Medical Board awarded a grant of US\$950,000 to LSHTM to run a Global Health Leadership Development Programme for Chinese health professionals. Scholars

will undertake training at both LSHTM and a partner institution in a low or middle income country and thus foster new multilateral institutional relationships.

Our partnership with Hong Kong University (HKU) was strengthened with the launch of a major new project to create a "Laboratory of Data Discovery for Health (D24H)" in Hong

Kong. The project is led by HKU and LSHTM researchers are Co-PIs on two of its five programmes. Meanwhile, in London, seven HKU undergraduate medical students completed a year of intercalated Master's study with us.

In order to further develop our presence in India, we started exploring the creation of an LSHTM South Asia Centre in Hyderabad, with the support of the Government of

Telangana State. Our relationship with the Government of Telangana was consolidated through the signing of a Memorandum of Understanding at the BioAsia 2020 conference in Hyderabad.



We made a new parallel appointment with the National University of Singapore, with the aim of strengthening collaboration in the area of comparative health systems.



We recruited five more students to our Joint PhD programme for Global Health with Nagasaki University, bringing the total number of students registered to 15.



LSHTM and Charité Global Health launched a joint Global Health Lecture Series bringing together leading scientists from the UK, Germany and further afield to present

cutting-edge research on pressing global health issues and to discuss the implications of their work for policy and practice.



LSHTM joined the European Global Health Research Institutes Network (EGHRIN), new network of leading research institutions in Europe with a shared aim of promoting

and advocating for global health research and innovation.



We started to explore a new partnership with the Institute of Tropical Medicine, Antwerp, and organised an online event showcasing ITM's expertise in biomedical sciences,

clinical sciences and public health.



We became one of the first academic partners of the International Digital Health & AI Research Collaborative (I-DAIR), a new global platform aiming to enable inclusive,

impactful, and responsible research into digital health and artificial intelligence for health.

Education



Our students in 2019 on the steps of Keppel Street, London.

A transformative year for education at LSHTM began in early 2020 as COVID-19 took hold around the world. With many LSHTM experts involved in the global response to COVID-19, we were guided by the best scientific advice on how the outbreak would likely unfold and therefore impact our teaching, allowing us to make early decisions that ensured our students continued their education programmes safely and at the highest quality.

Staff worked tirelessly to move our face-to-face teaching and student support to digital delivery, and for the final term of 2019/20, all teaching and exams at our London campus moved online. Our **Doctoral College** held their first virtual Research Degree Poster Day and moved vivas online.

With ongoing expert scientific advice indicating the effects of the pandemic would continue well into 2021, in June 2020 we were among the first UK universities to announce we would be delivering teaching digitally for the start of the new academic year. This move was supported with investment in an education change programme including module digitisation and Digital Learning Champions. The success of this work has strengthened the future of our digital education delivery beyond 2021 and accelerated our plans to offer programmes with a greater blend of campus and online learning.

COVID-19 not only affected how we taught, but also what we taught. Experts from the UK Public Health Rapid Support Team developed a

new free online course 'COVID-19: Tackling the Novel Coronavirus', providing an understanding of the emergence of COVID-19 and how we respond to it going forward. It became the second largest ever course launched on FutureLearn with more than 200,000 users when it first ran in March-April 2020. We plan to launch credit bearing courses on the FutureLearn platform in 2021, including one on pandemic responsiveness.

LSHTM has always proudly trained future health leaders, managers and researchers who share our mission to improve health worldwide, and this was nowhere more evident than among the hundreds of students who volunteered to help with LSHTM's COVID-19 research response

764

intensive MSc (formerly London-based)

doctoral candidates 2020/21

486

Students by region

Region	Doctoral	MSc (intensive)	Online learning
Africa	83	76	490
Central and Eastern Asia, Middle East	25	45	300
UK	192	351	877
Europe (non-UK)	83	129	866
North and Central America (inc. Caribbean)	78	112	850
South America	4	7	65
South Asia	11	25	121
South East Asia & Oceania	10	18	309

*Region data for 1 MSc student unknown

alongside their studies. More than 1,000 members of our student and alumni community volunteered to support rapid data collection in response to outbreak. One project produces a World Health Organization database of global interventions in response to the pandemic, allowing international comparisons and informing response efforts.

2020 will not only be remembered for COVID-19, but also for the global Black Lives Matter movement, which placed racism in the spotlight. In response, we have placed special emphasis on decolonising our curriculum and developing an inclusive education framework for those involved in teaching, a review of teaching materials, development

of an anti-racist education framework, and recruitment of a new role within our Centre for Excellence in Learning and Teaching to oversee this work and ensure we measure progress and impact in achieving racial equality.

As our new academic year began with a virtual 'Welcome Week' in September 2020, we proudly welcomed our first ever cohort to the new MSc in Health Data Science. Funded by Health Data Research UK, the MSc will train a new generation of scientists in quantitative, computational, and practical data management skills applicable to the public and private sector, helping to address the skills shortage in data science.





Staff community

The talented and committed staff at LSHTM are the heart of our organisation. The COVID-19 pandemic has presented numerous challenges and opportunities for the LSHTM community. In the UK we moved to remote working for most of our staff from March 2020, while staff in The Gambia and Uganda have responded with great creativity, flexibility and resilience for the Units to remain operational during these challenging times.

The wellbeing of our community continues to be at the forefront of our minds, and we have launched a number of new wellbeing support initiatives as well as virtual platforms to keep us connected. We have been

immensely grateful to colleagues who have remained on site to conduct crucial research in laboratories and keep our buildings running safely. Many staff involved directly in COVID-19 research have worked tirelessly to provide worldleading expertise to support response efforts globally, and many other staff have worked diligently and tenaciously to ensure we continue to deliver across our other areas of work and continue in our mission to improve health worldwide through research and education.

In June, as the global scourge that is racism was brought into sharp focus following George Floyd's senseless death, we renewed our commitment to tackling racism and other forms

of discrimination. Many discussions have taken place at different levels across LSHTM, which have kept equality, diversity and inclusion in our mainstream dialogue. We have created a new Council committee on Diversity & Inclusion and have committed to an independent external review of racial inequality at LSHTM. We continue to work hard to improve understanding of LSHTM's colonial history, and how it influences contemporary partnerships, education and research activities and practices. We have introduced new tools, reviews and monitoring across our operations with a view to making further progress. There is much more to do and learning to be had - this is just the beginning of a process of change.

In memory of Deepthi Wickremasinghe, Gita Ramjee and Val Curtis



Deepthi Wickremasinghe

In April, we were deeply saddened by the death of Reverend Deepthi Wickremasinghe, chaplain for LSHTM and Research Fellow with the IDEAS project, who made important scientific contributions to our understanding of sustainability for improved health.



Gita Ramjee

April also marked the death of Honorary Professor Gita Ramjee, a leading scientist in the field of HIV prevention who was an inspirational role model for young scientists and women scientists.

In October, our community mourned the loss of Professor Val Curtis, Director of the Environmental Health Group at

Val Curtis LSHTM and lovingly known as 'The Queen of Hygiene'. Over an incredible career of more than 30 years, Val led research that put hygiene behaviour change including handwashing on the political agenda across the world, and advocated that decent toilets be made normal for everyone, everywhere.

Notable awards and honours

- · January Professor Tumani Corrah awarded an Honorary KBE by Her Majesty The Queen in recognition of his services to medical research in sub-Saharan Africa.
- · May Professors Pontiano Kaleebu and Helen Weiss elected as Fellows of the Academy of Medical Sciences.
- August Dr Kate Gallagher received Sabin's Rising Star Award for work expanding access to immunisation through thoughtful research and advocacy.
- October Professor Graham Medley awarded an OBE by Her Majesty The Queen for services to infectious disease control, particularly the COVID-19 response in the UK, and Professor Emma Thomson was awarded an OBE

for services to the NHS during the COVID-19 response. Professor Martin Antonio elected as a Fellow to the African Academy of Sciences. Professor Daniel Bausch voted President-Elect of the American Society of Tropical Medicine & Hygiene.

November - Professor Val Curtis posthumously awarded WaterAid's President's Award, signed by its President, HRH The Prince of Wales. Professor Pontiano Kaleebu awarded a recognition of excellence from the Ugandan Ministry of Science, Technology and Innovation for leadership and dedication to the technical fight against COVID-19 and other viruses in Uganda.

Congratulations to our new Professorial appointments in 2020

- Anil Koul, Professor of Translational Discovery
- ♦ Roger Hewson, Professor in Molecular Virology
- Oebra Jackson, Takeda Chair in Global Child Health
- ♦ Emma Thomson, Clinical Professor in Emerging Viruses
- ♦ Carole Presern, Professor of the Practice of Global Health

- Dina Balabanova, Professor of Health Systems and Policy
- Heidi Stöckl, Professor of Social Epidemiology
- Fern Terris-Prestholt, Professor of Health Economics
- Cecile Knai, Professor of Public Health Policy
- Matthew Egan, Professor of Public Health

External appointment Internal appointment

\mathbb{Y} 2020 LSHTM Director's Award winners

Outstanding innovation in education -Dr Lioba Hirsch, Research Fellow, and Claire Rogers, Head of Teaching and Diagnostic Unit (joint winners)

Excellence in developing students as researchers - Alison Elliott, Professor of Tropical Medicine

Public engagement - Dr Fiona Cresswell for public engagement activities on HIV in Uganda

Early career research - Dr Sam Abbott

Outstanding contribution to LSHTM Research - Matthew Burton, Professor of International Eye Health, and **Richard White, Professor of Infectious** Disease Modelling (joint winners)

Excellence for learning, teaching, assessment or the wider student experience - Dr Dalya Marks, Assistant Professor in Public Health, and the LSHTM MOOC team for 'COVID-19: Tackling the Novel

Staff by area of LSHTM (data as of 31 July 2020):



- Stefan Flasche, Professor of Vaccine Epidemiology
- Sebastian Funk, Professor of Infectious Disease Dynamics
- · Elizabeth Williamson, Professor of Biostatistics and Health Data Science
- · Shelley Lees, Professor of Anthropology in Public Health
- Virginia Bond, Professor of Anthropology of Public Health
- Susana Campino, Professor of Genomics and Infectious Diseases
- Katharina Kranzer, Clinical Professor of Infectious **Disease Epidemiology**

Coronavirus' (joint winners)

Outstanding professional services team - COVID-19 clinical response team for the MRC Unit in the Gambia

Outstanding research team -Centre for Mathematical Modelling of Infectious Diseases COVID-19 working group

Outstanding contribution to LSHTM professional services - Steve Sutterby, Assistant Research Finance Manager

Outstanding contribution to society -Rashida Ferrand, Professor of International Health

LSHTM on the global stage

Our experts have been providing independent and authoritative advice to policymakers around the world to inform the response to COVID-19. LSHTM has 17 members on the UK Government's Scientific Advisory Group for Emergencies (SAGE) expert advisory groups as well as three experts on the new World Health Organization SAGE Working Group on COVID-19 vaccines.

Prof Peter Piot was appointed to the post of Special Advisor to the President of the European **Commission**, Ursula van der Leyen, on research and innovation for COVID-19. Prof Piot testified to the UK House of Lords Science & Technology Select Committee inquiry into the 'Science of COVID-19' and numerous other LSHTM experts also submitted evidence and spoke at other parliamentary inquiries on COVID-19.

HRH The Duchess of Cornwall met the medical detection dogs being trained to sniff out COVID-19 as part of a project led by LSHTM. During the visit

The Duchess watched a demonstration of passive screening by the dogs, which - should the trial be successful could be carried out at points of entry and public places.

LSHTM's COVID-19 vaccine candidate tracker was hugely popular with policymakers, researchers and the public. It provides a database of vaccine candidates, clinical trial timelines and published trial reports.

The Vaccine Confidence Project established Team Halo, a campaign on Tik Tok and Instagram where scientists working on COVID-19 vaccines made short videos explaining their part in the vaccine effort. The #TeamHalo project is a collaboration with UN Verified Initiative and Gavi, the Vaccine Alliance, providing education on vaccines and putting the spotlight on the experts working around the clock to help end the pandemic.

The Vaccine Confidence Project was also the recipient of a Facebook research award for combatting

misinformation and polarization. With the COVID-19 pandemic not being just a health problem but also fueling an infodemic on an unprecedented scale, the team was awarded for their project on the contagion of misinformation.

Professor Heidi Larson, Director of the Vaccine Confidence Project, spoke at the New York Times annual summit alongside Bill Gates and Pfizer's Albert Bourla. The panel discussed the latest breakthroughs in the development of COVID-19 vaccines and the challenges of distributing it, both in terms of logistics and winning public trust. Prof Larson also spoke at the World Economic Forum in Davos about how vaccine hesitancy is driving a resurgence of preventable disease.

A new report by LSHTM researchers and parliamentarians from the UK's influential All-Party Parliamentary Group on Global Health argued the UK can play an even greater role in health globally. The report noted that further planning, collaboration and targeted investment would enable the UK to

become a truly global centre for health and health science.

LSHTM joined organisations across the UK calling for a 'Decade of Health' as part of a campaign led by the Bill & Melinda Gates Foundations to demonstrate the importance of science, innovation and collaboration. The mass media campaign highlighted people and projects working to make the world healthier and safer, showing what could be achieved to improve health for all with renewed support for global health in the next 10 years. The campaign profiled the work of LSHTM experts in leading the way for science and innovation for handwashing and

133,763 news stories about

LSHTM in newspapers,

TV, radio and online around

the world in 2020 (471%) increase on 2019)

No.1 most influential Twitter

account for UK and Ireland Universities (May 2020,

Edurank)

190,000+ followers on @ LSHTM Facebook, Twitter,

Instagram and LinkedIn

13th most popular science podcast in the UK on Spotify

for LSHTM Viral, with episodes listened to in 170+ countries

around the world

100.000+ views of our live

COVID-19 Q&As streamed on Twitter and YouTube.

and for which we won the Health and Wellness Campaign award at the 2020 Women in

Marketing Awards

32,000 alumni working to improve health around the world environmental hygiene, antimicrobial resistance, pandemic preparedness and response, eye heath, vaccines, and climate change and planetary health.

A Planetary Health conference was held in The Gambia, uniting scientists and policy makers to develop and deliver critical actions to safeguard health from environmental change. The first-of-its-kind event in the climate change hotspot of West Africa also provided mentorship and training for young scientists whose work on planetary health will be crucial for the future.





(print, broadcast and online)





Richard Hatchet (CEPI), Prof Heidi Larson and Lars Rebien Sorensen (Novo Nordisk Foundation) speaking at the World Economic Forum in January 2020. Credit: World Economic Forum/Walter Duerst

A new resolution on 'Defeating Meningitis by 2030' was been approved at the World Health Assembly. Meningitis remains a global public health challenge, with an estimated five million new cases and 290,000 deaths annually. Professors Sir Brian Greenwood, Joy Lawn and Beate Kampmann were part of the taskforce behind the resolution.

The 2020 Global AIDS Update report from the United Nations set new targets for ending AIDS. It highlighted the work of LSHTM's PopART trial which used a 'universal test and treat' strategy combined with prevention to reduce HIV infections.

Online media coverage about COVID-19 in 2020

University of Oxford	509,181
Imperial College London	176,353
• LSHTM	96,109
 Johns Hopkins 	63,264
Harvard T.H. Chan School of Public Health	49,433
Liverpool School of Tropical Medicine	6,586
(data from Meltwater)	

LSHTM total annual media coverage



Innovation

Innovation across all our activities remains vital to address infectious and chronic conditions. Working across sectors and regions we have progressed work on malaria, tuberculosis and vaccine development through strengthening our local partnerships in the Bloomsbury SET programme (Research England Connecting Capability Fund) and with our national partners in the Tropical Infectious Disease Consortium (MRC Confidence in Concept Award).

The dedicated Vaccines Manufacturing Innovation Centre (VMIC), in which we are a partner,

was enhanced through an additional £131m from the UK Government to fast-track construction and create a virtual manufacturing centre until construction is complete. UK Prime Minister Boris Johnson visited the rapidly developing VMIC construction site in September 2020.

Our Wellcome Institutional **Translation Partnership Award**

provided dedicated seed funding to progress work on diagnostics, drug discovery and vaccine development along the translational pipeline.

Our new innovation training programme has equipped our researchers with knowledge on creating impact, intellectual property and progressing along the bench to bedside pipeline, while our virtual Dragon's Den Style Innovation Funding Competition gave budding innovators the opportunity to pitch for up to £5,000 to take their transformational ideas closer to impact.

Our spinouts have continued to transform our ideas and specialist knowledge into innovative products and services. ArkVax, which pioneers an innovative bacterial glycoengineering platform, successfully competed for 5 months support from the Accelerate@ Babraham Start-up Programme.



Professor James Logan (Director of ARCTEC) with Matt Hancock (Secretary of State for Health and Social Care) Dr Claire Guest (Medical Detection Dogs) and Asher (COVID-19 detection trial dog).

ARCTEC has driven innovation and social impact in vector control and public health. This includes developing engaging and educational programmes tailored to different population groups, such as using mobile communication to educate families in Mali on how to keep their homes safe from vector borne diseases and COVID-19, and building COVID-19 understanding in children by creating age-tailored communication materials. ARCTEC launched the Global Vector Hub (Beta), to support health workers and researchers working on vector control programmes during the pandemic.

The ARCTEC team are also leading game-changing research, funded by the Department of Health & Social Care, investigating whether dogs can be trained to detect COVID-19. If successful, the specially-trained dogs could be used as a new rapid, non-invasive testing measure for COVID-19.

Peek's community eye health programmes in Pakistan and Zimbabwe are scaling up, with programmes in two regions of Pakistan collectively seeing close to 1,000 patients per day. Peek has also developed a smartphone-based algorithm for community volunteers based on the WHO AFRO PEC algorithm. Following successful piloting in Kenya, this algorithm has been incorporated into Peek's platform to support identification at the doorstep, referral to and triage with basic treatment at primary health units with onward referral to the district eye hospital. In partnership with LSHTM's International Centre for Eye Health, the Peek team developed remote programme design, training and support capabilities to enhance evidence-based decision making in health care service delivery across their growing network of eye care programmes.

As we enter 2021, we will continue to explore, enable and embed innovation across our activities to meet the ongoing and new challenges in global health.

Financial summary 2019/20

Total annual income 2019/20:

UK Research and Innovation	£41.4m
Research England / Office for Students Core Research & Teaching	£29.3m
UK government health and international development	£22.5m
Tuition fees	£21.8m
Bill & Melinda Gates Foundation	£19.7m
European Union research	£13.5m
Other income	£15.9m
Vellcome Trust	£12.4m
Donations	£9.9m
Other funded research	£52.8m

Total annual operating income 2019/20:

Total annual operating expenditure 2019/20:

Total research income 2019/20 for MRC Unit The Gambia at LSHTM £20.5m

UK Research & Innovation	£13.5m
Charities	£3.5m
Other funded research	£2.4m
European Union research	£0.8m
UK government health and international development	£0.3m
· · · · · · · · · · · · · · · · · · ·	

Income growth



earch income for 2019/20 \pounds 168.4m. The total value of new research grants awarded to LSHTM 2019/20 was £181.2m (page 4), which is then phased over a number of years according to the grant duration.

£242.9m

£238.1m

Total research income 2019/20 MRC/UVRI & LSHTM Uganda Research Unit £10.5m

5.2m
1.6m
:1.6m
.1.2m
:0.9m

Organisational chart as of January 2020



Progress powered by philanthropy

bridge epidemiology, public health, consumer insights, and behaviour change to drive action with partners worldwide. With leadership from inaugural Chair Peter Piot, and a global

network of collaborators, the RGHI will see our School be a convening body bringing together visiting lecturers, fellows, policy makers, and influencers from around the world. The partnership will train the next generation of hygiene health experts and recruit both rising stars and established leaders working in hygiene health.

Last year more than 940 individuals, companies and charitable trusts donated to LSHTM — more than in any previous year. 500 of these donors gave for the first time, highlighting the crucial role played by our School in a challenging year. Our growing community of donors enabled us to focus efforts in developing LSHTM in three primary areas:

Known for its world-leading research, postgraduate studies

LSHTM continually strives to deliver research and teaching

of the highest quality. Philanthropy is vitally important to our

mission and our ability to effect lasting, positive change.

The generosity of our donors is helping us to enrich the

lives of people and communities across the globe. From

scholarships and teaching to world-class facilities and

impact across our School.

coronavirus-related work, donor support is having a real

and continuing education in public and global health,

- Investing in staff to build on our research strengths and support novel and emerging thinking in health.
- · Providing opportunities for the very best students to study at LSHTM and gain the skills to become future leaders in global health.
- · Creating outstanding facilities that support our growth for years to come.

Philanthropy enables LSHTM to do more, faster, and is vital in helping us deploy research in real time in response to crises, develop innovative programmes for major health threats and train future generations of public and global health leaders and researchers. The highlights below demonstrate how visionary and inspirational support can bring transformational change, both within and beyond LSHTM. Thank you for supporting us in our mission to improve health, worldwide.

Responding to COVID-19

LSHTM has made an extraordinary contribution to tackling COVID-19. In response to the outbreak, the School rapidly mobilised to launch a Response Fund, increasing our ability to respond to the pandemic. The campaign had an overwhelming response from alumni, the public, companies and charitable trusts. Through the year, this support has enabled our academics to continue their work advising the public and policy makers, fight misinformation and map the spread of the disease. The impact of the pandemic has been far-reaching and will be felt for some time. We continue to work tirelessly to lessen the impact of the virus and ensure that we are prepared for future crises.

A global approach to sanitation

Backed by a multi-year £25 million commitment from Reckitt Benckiser, LSHTM will be a leading partner in the Reckitt Global Hygiene Institute (RGHI,) a global, independent, public health research and innovation hub. RGHI will

A new home for epidemiology

and population health

The last year saw further donors make commitments for the construction, a major expansion to LSHTM which will provide a new home for the Faculty of Epidemiology & Population Health. The Charles Wolfson Charitable Trust donated to the project, joining major funders such as the Garfield Weston Foundation, the MBI AI Jaber Foundation and a growing number of individual supporters.

The new building on Tavistock Place will enable us to build a future with environments that enliven thinking, encourage interdisciplinary conversations and are equipped with technology that propels exploration and discovery. This initiative brings together epidemiologists and related disciplines, focusing on the study and analysis of the distribution and determinants of health and disease through clinical trials, large-scale studies and evaluation of public health interventions.

A focus of the facility will be to transform global epidemic response through delivering high-impact collaborative research, shaping national and international practices and policies to control infectious threats, and directly support outbreak response, with a special focus on low- and middleincome countries.

Intervention research for global issues

The Millby Foundation expanded its support for research and interventions on the global plight of child domestic workers. Child domestic work is estimated to affect 17.2 million children, of whom over 11 million are girls aged 5-17. With the foundation's visionary philanthropic support to address this understudied and highly at-risk group of children and adolescents and the strength of LSHTM's collaborations with regional and international partners, this work is specifically designed to influence policy and interventions that create momentum to ameliorate this globally prevalent, yet still hidden issue.

Since 2017, the Millby Foundation has also provided 're-entry' grants that support the careers of researchers at LSHTM. These have given women, who are returning to academia after career or other periods of leave, the opportunity to advance research in the areas of adolescent health, gender violence and maternal and child health, and the flexibility to manage their careers during a time of transition.

We would like to thank all those who supported LSHTM in the last academic year (1 August 2019-31 July 2020). Members of our giving societies, along with our most generous corporate, foundation and governmental funders are listed below.

Corporations,	Christoffel-Blindenmission
foundations	Citrefine International Limited
and governments ^{3ie}	Coalition for Epidemic Preparedness Innovations
	The Colt Foundation
The Academy of Medical Sciences Aeras	Committee on Climate Change
The Alan Turing Institute	Consorzio per la Ricerca
The Allan & Nesta Ferguson	Sanitaria - CORIS Cystic Fibrosis Trust
Charitable Trust	-
Alzheimer's Society	David & Molly Pyott Foundatio The David Family Foundation
American Jewish World Service	
American Leprosy Missions	Davidson Kempner European Partners LLP
Amgen Limited	Defense Threat Reduction Age
Astra International Astra Zeneca	Department for Business Energenergy
AusAID	Department for International
Avesis	Development
The Balcombe Charitable Trust	Department of Foreign Affairs and Trade
BASFSE	Department of Health
Bayer HealthCare	and Social Care
The Beatrice Laing Trust	Diabetes UK
Becton, Dickinson & Company	Doctors of the World UK
Bernard Van Leer Foundation	Doris Duke Charitable Founda
The Bill & Melinda Gates Foundation	The Dowager Countess Eleanor Peel Trust
Biotechnology and Biological Sciences Research Council	The Drake Foundation
British Academy	Drugs for Neglected Diseases Initiative
British Council	Economic & Social Research Council
British Council for Prevention of Blindness	Effective Intervention
British Heart Foundation	Eleanor Crook Foundation
British Infection Association	Energy Efficiency
British Skin Foundation	and Affordability Division
Cancer Research UK	Engineering & Physical Science Research Council
The Carter Center	Entertainment Industry Found
Celgene Corporation Central Statistical	European & Developing Coun
Organization Myanmar	Clinical Trials Partnership
Centre Hospitalier Universitaire de Martinique	European Academy of Dermat and Venerology
The Charles Wolfson Charitable Trust	European Centre For Disease Prevention And Control
Children with Cancer UK	European Commission
Childrens Investment	European Research Council Executive Agency

Thank you

onsorzio per la Ricerca anitaria - CORIS ystic Fibrosis Trust avid & Molly Pyott Foundation he David Family Foundation avidson Kempner European artners LLP efense Threat Reduction Agency epartment for Business Energy nd Industrial Strategy epartment for Internationa evelopment epartment of Foreign Affairs nd Trade epartment of Health nd Social Care abetes UK octors of the World UK oris Duke Charitable Foundation ne Dowager Countess eanor Peel Trust he Drake Foundation rugs for Neglected seases Initiative conomic & Socia search Council ffective Intervention eanor Crook Foundation nergy Efficiency nd Affordability Divisior ngineering & Physical Sciences search Counci ntertainment Industry Foundation uropean & Developing Countries linical Trials Partnership uropean Academy of Dermatology nd Veneroloay ropean Centre For Disease revention And Control uropean Commission uropean Research Council ecutive Agency

Special thanks go to individuals who have helped LSHTM on its mission to improve health worldwide. These include members of Court, the Board of the American Friends of LSHTM, as well as alumni who lead Chapters around the world.

- European Vaccine Initiative
- Eyebag Company Ltd
- Evehope
- Fleet Street Clinic
- Food Standards Agency
- Fortino Capital Partners
- Foundation Veolia Environnement
- The Fred Hollows Foundation
- The Freedom Fund
- The French Development Agency FSRH
- GAVI Alliance
- Global fund to Fight AIDS
- Gilead Sciences Europe Ltd
- GIZ GmbH
- GlaxoSmithKline
- Global Alliance for TB Drug Development
- Global Campaign for Mental Health
- Global Fund Through Nimr Mwanza-Tanesa
- The Global Fund to Fight Aids
- Global Health Research Initiative
- Goldman Sachs International
- Good Ventures
- The Gordon & Betty Moore Foundation
- Grand Challenges Canada
- The Health Foundation
- Healthcare Solutions Limited
- Helse Nord RHF
- Hospital & Homes of St Giles
- Humanitarian Innovation Fund/ Enhancing Learning & Research for Humanitarian
- Ifakara Health Institute
- Innovative Medicines Initiative 2 Joint Undertaking
- The Innovative Vector Control Consortium
- Institut National Du Cancer
- Intellectual Ventures Global Good Fund
- Intensive Care National Audit & Research Centre

Inter-American Development Bank International Committee of the Red Cross International Food Policy **Research Institute** International Glaucoma Association International Planned Parenthood Federation International Rescue Committee Inuka Foundation J P Moulton Charitable Foundation Janssen Research & Development John D and Catherine T MacArthur Foundation John Templeton Foundation Johnson & Johnson The Joyce Foundation Kidney Research UK La Ligue Contre le Cancer Leverhulme Trust Lynn's Bowel Cancer Campaign Malaria Alert Centre Mallowstreet Limited The Manitou Fund MBI AI Jaber Foundation McKnight Foundation The MEA Ramsay Research Fund Médecins Sans Frontières Medical Care Development International Medical Research Council Medicines for Malaria Venture Merck Sharp & Dohme, Corp Mercy Corps Europe Microsoft Corporation The Millby Foundation Multiple Sclerosis Society Myalgic Encephalopathy Association

National Institute for Health Research

- National Institute of Academic Anaesthesia
- National Institutes of Health
- Natural Environment **Research Council**

Thank you

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Penelope Dash

Mike & Lee Davis

Randi Clendennen

Katherine States Burke

Michael & Maureen Chowen

Joel Breman

NaturalCycles Nordic AB Naval Medical Logistics Command Neglected Tropical Diseases Support Center New Zealand Ministry of Health Norwegian Institute of Public Health Novartis Foundation Novo Nordisk A/S Oak Foundation Office for National Statistics **Open Society Foundations Open Society Policy Center** ORBIS Oxford Policy Management Pancreatic Cancer Research Fund PATH Pershing Square Foundation The Pfizer Foundation The Pirbright Institute Program for Appropriate Technology in Health Public Health England Queen Elizabeth Diamond Jubilee Trust Reckitt Benckiser **Relief International** The Research Council of Norway **Research Executive Agency** Rockefeller Philanthropy Advisors Rosetrees Trust The Royal Society The Royal Veterinary College **Rush Foundation** SAGE Publication Ltd Save the Children Scottish Research Council Seva Foundation Sightsavers Sir Halley Stewart Trust The Steel Charitable Trust Stichting Benevolentia The Swedish Research Council

Swiss Agency for Development and Cooperation

Swiss National Science Foundation Takeda Pharmaceutical Company Ltd Task Force for Global Health Tijssen Stichting **UBS** Optimus Foundation UK Research & Innovation Ulverscroft Foundation UNAIDS Unicef UNITAIDS United State Department of Agriculture United States Institute of Peace United Way Worldwide US Department of State USAID Vertex Ltd ViiV Healthcare Vision for a Nation Foundation Water Supply and Sanitation Collaborative Council The Wellcome Trust William and Flora Hewlett Foundation William T Grant Foundation World Food Programme World Health Organization Worldwide Support for Development Yeh Ming Deh Charitable Trust Zibp GmbH Individual supporters Aziz Ansari

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Sadanobu Kagamimori

Sunil Kapur

Sultana Khanum Masato Kosaka Tricia Kreitman Alison Krentel Stefan Kunz Chor Pharn Lee Shirley Lennon Rachel Lowe David Mabey Shibani Malhotra Jill Mannall Dana Mazo Tony McClellan Anne Mills Colin Morgan **Christopher Noutsios** John O'Donnell Helen Oliver Jan Pensaert Monika Pietrek Peter Piot Penelope Rostron Pramada Rov Albert Sanchez Graells Marjorie Scardino Eduardo Simoes Liam Smeeth Paul Stoffels Mary Stow James Syme Marcel Tanner **Geoffrey Targett Richard Turner** Leonard Valenzuela Sten Vermund Severa von Wentzel Philip Weintraub Dan Wiklund David Winter Gail Wolstenholme Charlotte Wright

Andrew Young