Improving Health Worldwide 2025

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Introduction from our Director Liam Smeeth

Throughout history, public health has been fundamental to the success of every society. Over the years, our ability to find ways of living healthily together has helped create stability and prosperity, giving many people the chance to live better lives – unlocking more time and energy for creativity, innovation and progress, although this has not been realised equitably.

Today, we live in a time of accelerating change and uncertainty, where humanity's growing global footprint is disrupting the climate and the ecosystems we rely on. Where the scale and complexity of our actions and interactions are generating more unpredictable outcomes and emergent threats. As in the past, if we're going to continue to survive and thrive, we'll need the insights and disciplines of public health to play their part.

This Anthropocene era presents new challenges for public health, on a global scale and with a greater demand than ever before for creativity, adaptability, academic rigour and, above all, collaboration. We believe it will take a new kind of public health to meet these challenges – one built on the firm foundations of the scientific method but with new ways of thinking and new ways of working more closely together and more widely across communities and around the world. A kind of public health that, like our mission, has addressing inequity at its core, to ensure that everyone has a fair and just opportunity to attain their highest level of health.

There is cause to be hopeful because we know that some of humanity's greatest shared achievements – products of mutuality and collaboration – come from public health: the eradication of smallpox, the reduction of child mortality, innovations in sanitation and public policy, vaccinations, and our global response to COVID-19. So, as we work with our partners, our funders and communities around the world to respond to the challenges of our changing times, our aim is to prove again what can be achieved when we focus on our shared future and our shared health.

"We believe our shared future depends on our shared health."

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We're in this together.

We think about health in the broadest context: as a state of physical, mental and social wellbeing, not merely the absence of disease or infirmity. We know from our work that those with less money, power and influence in society are more likely to face health challenges, and, in a connected community, that inequity and those health challenges affect everybody and are everybody's responsibility.

That's why our work is concerned with how societies and populations are structured, and with addressing and prioritising the needs of those who have least money, power and influence. Today, we live in a global community and, if COVID-19 has proved anything, it's that we really are in this together.

We believe the future of public and global health has to be built on an ongoing commitment to improving the lives of everyone. To do that we need to focus our energies on those in greatest need – whoever and wherever they are. For us, this is about how we prioritise our research activities and, critically, how we inspire and enable the next generation of public health leaders who will work within communities to effect change. We sum it up in our vision: to help create a more healthy, sustainable and equitable world.

Creating an outbreak playbook for the pandemic era

Dr Adam Kucharski
Professor of Infectious Disease Epidemiology and Co-Director of the Centre for Epidemic Preparedness and Response at LSHTM

We're living in the pandemic era. We can't go back in time, and we can't build our walls up high and ignore new diseases. From COVID-19 and Ebola to mpox and avian flu, the exact nature of the next outbreak is unpredictable. But what we can say for sure is that it's going to happen and, as a highly connected world, we'll need to face it together.

One thing COVID-19 has taught us is that the pathogen itself is only part of the story. In today's world, the social, cultural, economic and political context is pivotal and the fallout much more far-reaching and long-lasting. From data and diagnostics to social behaviour and policy, we must now act on the true lessons COVID-19 brings. We need to seize the moment, making this pandemic the catalyst for new ways of responding to epidemics, deeper collaboration and more systemic change.

We're here to help humanity adapt faster to outbreaks of disease. We're driven by the belief that humanity can only take on the challenges of the future if we come together as equals, joining up the best available expertise and insights. That means developing strong and trusted global collaborations, even in the face of unprecedented change and challenge. It will mean being ready to connect the widest range of disciplines, talents and tools, from across public health, epidemiology, behavioural sciences, economics, politics and beyond. And it will mean breaking down existing barriers to help bring together and build on the diversity of experiences from different cultures and communities across the world.

Adapting to this future will take creativity and collaboration. The challenges are enormous and the threat very real. But we know that, together, we have an opportunity to transform how we tackle outbreaks in the pandemic era.

> "We must now act on the true lessons COVID-19 brings."

Enabling better understanding and data to tackle emerging threats

In this time of change and uncertainty, zoonotic diseases are one example of the myriad health threats we face today, requiring careful monitoring and data to inform how we respond and prepare. Chikungunya virus is transmitted by mosquitoes and causes symptoms including fever and debilitating joint pain. There is no treatment, although the first vaccine has recently been approved for use. Worryingly, mutations in the genomic structure have led to changes which mean the virus can survive in different geographical areas, increasing risk to more people.

Originally confined within forests on the African continent and passing from mosquitoes to non-human primates, the virus has spilled over to humans as more people increasingly move into forested areas. This has led to an urban transmission cycle that is responsible for reported epidemics and involves mainly *Aedes aegypti* and *Aedes albopictus* mosquitoes.

Dr Doris Nyamwaya, Peter Piot Fellow for Global Health Innovation: Epidemic Preparedness and Response, is one of our first Peter Piot Fellows. The fellowships mark Professor Piot's tenure as LSHTM Director (2010–21) to foster the professional development of a new generation of specialists in key global health challenges of our time - epidemic preparedness and response, and planetary health.

Here, Dr Nyamwaya explains more about her research, why it's needed and her hopes for the future: "My research is trying to understand chikungunya transmission. How does it spread over time? What areas are hotspots and why? What months of what years is the virus spreading? If I can generate this kind of data, it can help in preparing for or anticipating an epidemic.

"For example, we've found that chikungunya is associated with drought, but mosquitoes are generally linked to the wet season - so what's going on? During droughts, people fetch water and store it in tanks near their homes and if they're not covered, Aedes mosquitoes can breed in them. If we know there's a risk factor for the virus during drought season, we can advise people that if they are storing water, they should make sure the tanks have covers.

"This fellowship enables me to see if results from my previous studies in Kenya are similar in Uganda. If I find results are generalisable, then it's easier to extrapolate the findings to know how to tackle the virus in Africa as a whole.

"You have to show policymakers the data; we need to raise awareness of the problem to make sure it's not overlooked."

"You have to show policymakers the data; we need to raise awareness of the problem to make sure it's not overlooked."

Providing evidence for policies to tackle pressing public health and care challenges

Findings from an assessment of public views on the NHS COVID-19 contact tracing app by researchers at LSHTM crucially shaped optimisation of the app, with important implications for the use of apps in future pandemics.

This is just one example of how LSHTM expertise provides critical evaluations and evidence for policymakers in key areas of public health. In the UK this includes leading or partnering in a range of government initiatives such as policy research units to support evidence-informed policy making in health and care.

Over the last decade, these teams of experts have carried out research on everything from alcohol and smoking or vaping, to an evaluation of changes to organ donation legislation. Their work has shaped policies including on plain packaging for tobacco and development of the new Adverse Weather and Health Plan for the UK.

Understanding and addressing inequalities is at the core of this work, with evaluations centring on priorities such as women's health, digital technologies in the health and care sectors, and policy responses to issues around climate change and mental health, to name a few.

Dr Ellen Nolte, Director of the Policy Innovation and Evaluation Research Unit and Professor of Health Services and Systems Research: "We have a strong track record of generating key evidence and insights to help inform much-needed cross-sectoral policy development. Our work has been recognised as clearly adding value to policy making."

Dr Mark Petticrew, Director of the Public Health Policy Research Unit and Professor of Public Health Evaluation: "We have a responsibility to bring our knowledge to bear in this process. Scrutiny and rigorous evaluation is critical to ensure effective and evidence-based action is taken to tackle inequalities and address unhealthy environments which undermine public health."

We're ranked 1st in the UK for research impact, based on the most recent Research Excellence Framework (REF 2021) in tables published by the Times Higher Education

#1

"I feel so proud seeing how students grow and develop during their time with us and go on to make a positive impact through the work they do."

Reflections on the MSc in Public Health

Each year, LSHTM welcomes around 200 students from around the world on to its MSc in Public Health. Public health has arguably never been more important as the world faces major challenges in relation to both non-communicable and communicable diseases within the context of ageing populations, climate change, conflict, and major disparities in health within, and between, countries.

The programme aims to equip students with a comprehensive understanding of the wider determinants of health, develop critical thinking skills to analyse evidence, question assumptions, and learn how to systematically approach problems and navigate possible solutions. We offer an unparalleled range of elective modules, which means that students are able to follow a course of study that meets their individual needs and career goals. They are taught by active researchers who are often at the leading edge of research in their field. They also learn a huge amount from each other, as the students themselves come from a wide range of places, professional backgrounds and perspectives.

Dr Wendy Macdowall, Associate Professor and MSc Public Health programme director: "Education is central to the School's mission to improve health worldwide. Being a Programme Director for the MSc Public Health is incredibly rewarding. I feel so proud seeing how students grow and develop during their time with us and go on to make a positive impact through the work they do."

Shayna Hussain
MSc Public Health student, 2022–23

“I don’t know what it is about LSHTM bringing together all these really amazing people. There’s this sense of everyone really wanting to do something to help build a better world. That brings together a really great group of people.”

Before coming to LSHTM to learn about public health through a global lens, Shayna was involved in several organisations in the US including volunteering at a homeless shelter, and being a facilitator for the Women’s Asian American Leadership Initiative.

“I have been able to meet so many people from all over the world with a wealth of experiences. My hope for the future is to create a more equitable world by ensuring that people have universal health coverage, reproductive justice, and are no longer suffering from the climate crisis. I think public health is under resourced and needs more investment to ensure people’s basic human right to health is fulfilled.”

“There’s this sense of everyone really wanting to do something to help build a better world.”

2

See further. Act faster.

The complexity of our interconnected world and the pace of technological, social and political change is creating new and ever more unpredictable challenges. The climate crisis, our interference with and disruption of natural ecosystems, our urbanising lifestyles, our expanding commercial and industrial activities – they all impact our shared health and threaten our shared future. Floods and heat surges, famines and political upheaval, the changing distribution of infectious diseases, epidemics and pandemics like COVID-19. At LSHTM, we're working on new approaches to help people and communities get ahead.

For us, that's about greater preparedness and more agile response. It's about seeing further ahead by listening and being open to insights from unexpected places, by harnessing the power of health data and analytics to predict potential futures, by researching the long-term effects of climate change on planetary health and by training the next generation of public health leaders. It's also about building better networks of collaboration and coordination, drawing together different expertise and lived experience from all parts of the world so we can move quickly to effect change and turn insights and ideas into action on the ground.

“We are at the dawn of a new era of public health with planetary health at its heart.”

A new era of public health with planetary health at its heart

Dr Peninah Murage
Assistant Professor in Environmental Epidemiology

We’re living in the first years of a new epoch: the Anthropocene. It marks the moment where, after two centuries of sustained growth, human civilisation has taken over as the dominant force on Earth. The impact of our activity is fundamentally disrupting the world’s natural systems, leading to climate change and mass extinctions, and endangering all life on earth.

This new epoch is a turning point for all of us. It is bringing accelerated change, uncertainty and disruption to the interconnected human and natural systems we rely on. We are already living with the public health impacts of this new reality, but at the same time, the potential scale, nature and severity of the future challenge for the health of communities around the world is only just starting to be understood.

Global heating and the climate crisis, planetary scale pollution, escalating urbanisation, and ecosystems collapse present monumental challenges for human health. They interact in hyper-complex and unpredictable ways, creating unforeseen outcomes and unintended consequences. We are also working in a politically, economically and socially charged context and instead of uniting us, the climate crisis has become weaponised in the culture wars that divide us. Health and socio-economic impacts are unevenly distributed; the most vulnerable communities are also the most affected and experience the worst outcomes. Collaboration and hope are in short supply and time is against us.

But there is cause for optimism, because we believe we’re at our best when we place health and wellbeing at the centre stage and promote safeguarding health alongside tackling climate change, building resilience and enhancing natural ecosystems. We are working tirelessly to pioneer a new kind of public health that is better equipped to handle these complexities, and one that can contend with the realities of the Anthropocene. We are at the dawn of a new era of public health with planetary health at its heart. This is underpinned by multidisciplinary and multisectoral partnerships; robust evidence generation to prepare policy, practice and citizens; and world class teaching to inspire and nurture future generations.

Our new MSc in Climate Change and Planetary Health marks an important milestone in training a new generation of professionals who can play a key role in ensuring a healthy planet and healthy people in the future. As our first students go through the course, we are reminded of the need to understand the interrelationship between planetary health and human health to ensure we leave behind a planet on which future generations can live and thrive.

“Any solutions on how to adapt to heat need to be co-developed with communities and cover the multitude of ways in which climate change is harming individuals and communities.”

Impact of heat on pregnant women and their foetuses

Climate change has led to increasingly extreme temperatures worldwide, and sub-Saharan Africa is particularly vulnerable to climate impacts.

Our researchers in The Gambia have been working with pregnant subsistence farmers - who have to spend time out in the fields in these hotter temperatures - to study the impact of heat on their bodies and their unborn babies.

They found that the women commonly experience levels of extreme heat above safe outdoor working limits, and that this can have significant effects on their health and the health of their babies. The foetuses can even show signs of strain before their mothers are affected, according to the research. For every degree Celsius increase in heat stress exposure, the researchers found a 17% increase in foetal strain as indicated by raised foetal heart rates and slower blood flow through the umbilical cord.

Dr Ana Bonell, Assistant Professor: “We have to find effective interventions to protect these women and reduce adverse birth outcomes.

“Women have less choice in terms of avoiding the heat than you would think. Any solutions on how to adapt to heat need to be co-developed with communities and cover the multitude of ways in which climate change is harming individuals and communities.

“Not much has been published about the impacts of climate change on health in West Africa or sub-Saharan Africa, especially when we talk about heat and pregnant women.

“By focusing on this problem, we hope to raise global awareness to make it a priority area for research and policy, and start thinking about evidence-based interventions that would be effective for people living here.”

Using zebrafish to find new ways to fight infection

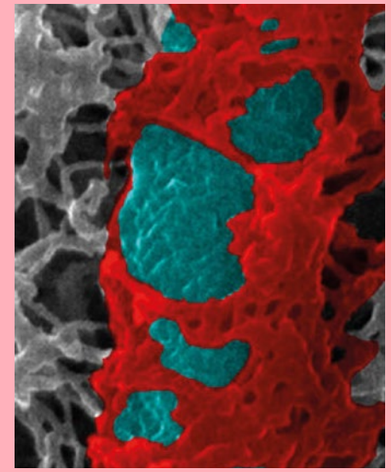
Professor Serge Mostowy and colleagues in our laboratories are working on unique techniques to increase understanding of the infection process and immune response important to tackle deadly pathogens.

Using high resolution microscopes and a zebrafish infection model – chosen because the zebrafish immune system is closely related to our own - they have discovered a new host cell defence mechanism against *Shigella*, which causes diarrhoeal disease.

The team's work opens up the possibility of harnessing this knowledge and potentially training immune cells in the host to destroy the bacteria and control the infectious process, for example through new vaccines.

Shigella is the most common cause of bacterial diarrhoeal deaths globally, with more than half of these deaths in children under five, and the infection is resistant to antibiotics. Antimicrobial resistance is increasingly recognised as a major health issue, and this research highlights how scientists are advancing understanding of infectious disease to find real-world solutions to this key challenge.

Dr Serge Mostowy, Professor of Cellular Microbiology:
"Never has there been a more important time to understand the infectious biology process. But it's not just curiosity – we're aiming to better resolve infection. We think there is great potential in using these findings to train the human immune system to combat *Shigella* and other antibiotic resistant bacterial infections."



"We think there is great potential in using these findings to train the human immune system to combat *Shigella*."

Dr Ajay Aggarwal
Professor of Cancer Services and Systems Research and Chief Investigator of the ARCHERY trial

LSHTM and the MRC Clinical Trials Unit are working with partners in India and across the globe to investigate the potential of artificial intelligence to design high-quality radiotherapy treatment plans for cancer patients.

The ARCHERY trial is focused on treatment planning for three cancers – head and neck, cervical, and prostate – in a study of more than 1,000 patients at hospitals in India, South Africa, Jordan and Malaysia.

Researchers working with medical staff in hospitals such as the Tata Memorial Hospital in Mumbai and Tata Memorial Center in Kolkata, are evaluating the performance of an AI software that automates many of the complex manual processes involved in planning radiotherapy treatments. The findings could increase access to high-quality radiation therapy in low-resource settings where there are not enough trained professionals.

"Trials like ours are crucial to gather evidence on the quality of potential solutions offered by exciting new technology."

3

Cross borders. Break barriers.

In public and global health, we go beyond pathogens and pathology to understand how the structures of societies affect health and wellbeing, and how people in different situations and circumstances respond. For us, that means reaching out across disciplines to bring together expertise from microbiology, epidemiology and medicine but also sociology, data science, economics and public policy. Being open to different perspectives helps us see the bigger picture and sparks new ideas.

Our global network of colleagues and partners opens up an even bigger picture. We know that lived experience, research insights and wisdom from around the world are a source of new public health ideas, inspiration, policy and practice. We also know that, sometimes, power structures, attitudes and ways of working still make it hard for those insights and ideas to be heard.

As an organisation with connections and partnerships across the world, it's our responsibility to do everything we can to break down barriers and challenge inequitable power structures and attitudes. It's up to us to listen and learn from communities and partners globally, and embrace new ways of working. In this way we can help knowledge flow freely, keep people's minds open to different perspectives, and equitably exchange ideas and solutions.

Targeting deadly diseases: tools and tactics to end malaria

For decades, many of our researchers have dedicated themselves to tackling malaria. From laboratory studies, to working with partners to run major clinical trials on vaccines, drugs and bed nets, this has increased understanding of the disease and shaped policy to save many thousands of lives. Gathering evidence and solving public health problems from many different angles is a common theme in our research and education activities across the institution.

A landmark study of more than 5,000 children in Burkina Faso and Mali highlighted what can be achieved when all the available tools are used together. Nearly half of the world's population was at risk of malaria in 2021 and it was estimated to have caused more than 600,000 deaths, the majority of which were children in sub-Saharan Africa.

In many areas of sub-Saharan Africa, malaria is transmitted by mosquitoes all year round. But in the Sahel and sub-Sahel, transmission is seasonal with peaks of disease and death linked to the rainy season. In these areas, administration of antimalarial drugs to young children during this period of high malaria (seasonal malaria chemoprevention) has proved to be an effective control measure. Combining antimalarial drugs with seasonal vaccination with the RTS,S malaria vaccine further reduced clinical malaria episodes, including cases of severe malaria in children, and deaths, by nearly two thirds compared with either method given alone in settings of highly seasonal transmission.

Dr Brian Greenwood, Professor of Clinical Tropical Medicine:
"Children who received the RTS,S vaccine and drug combination and also used insecticide-treated bednets likely had greater than 90% protection against malaria episodes during the study.

"This study points to what is possible when all the available tools are brought to bear, although new and improved tools and approaches are still needed if we are to end malaria altogether."

How can we target communities to improve access to vaccines and prevent disease outbreaks?

The lifesaving power of vaccines can only work if people receive them, and at the right time. In The Gambia, the potential for drones to deliver vaccines to remote areas is one of a number of strategies which are being explored as research highlights delays in routine childhood vaccination uptake.

The TIMELY study found delays with all recommended childhood vaccines, with the birth-dose of Hepatitis B vaccine, which must be given within 24 hours, having the most delays. Future work includes observing any changes in the most affected districts and keeping a close eye on districts with zero-dose children, ie those who are not receiving any vaccines at all.

Dr Oghenebrume Wariri, Clinical Research Fellow at the MRC Unit The Gambia at LSHTM and PhD candidate:
"In countries like The Gambia, where overall vaccination coverage is high, there is a risk of overlooking vulnerable children with delayed vaccination or those who are zero-dose. I am genuinely excited about the potential impact of my research and other planned research in addressing this critical issue."

His PhD is also investigating the challenges causing the delays, such as geographic access to immunisation clinics. In some cases, facilities are difficult to get to due to distance or weather conditions but sustainable solutions are needed. That's where another study in The Gambia comes in: to examine the feasibility of using unmanned aerial drones to help transport vital vaccines, drugs and samples.

Taking off from key healthcare facilities, drones could reduce delivery waiting times and the resources needed in remote settings, which is particularly important for keeping vaccines at the correct temperature. Using drones could also help to cut carbon emissions.

"There is a risk of overlooking vulnerable children with delayed vaccination or those who are zero-dose."

Dr Oghenebrume Wariri

Education at LSHTM: a springboard to our influential alumni network

Q&A with Urvashi Prasad
MSc Public Health in Developing Countries, 2014

Urvashi Prasad is a former director in the Office of Vice Chairman at the National Institution for Transforming India (NITI Aayog), the Indian government's premier policy think tank. Her role involved advising on a variety of policy issues. She has also worked on India's COVID-19 response and important legislations in medical education, health sector reforms and initiatives such as overseeing the implementation of the Sustainable Development Goals in India. Urvashi is one of 75 young Indian achievers to be recognised at the UK Parliament on the occasion of 75 years of Indian independence, and was named as one of the 100 most influential women in the country in 2023 by Indian business magazine BW Businessworld.

> "Through my work I am able to touch people's lives and make a difference, especially for those living in poverty and facing inequalities."

How has your degree at LSHTM complemented your career?

Public health is a complex field. My training at LSHTM has helped me understand various dimensions of evidence-based policymaking, including balancing trade-offs while prioritising and optimising resources. An appreciation of these nuances has been critical when working on policy response to a range of health challenges, including the COVID-19 pandemic. It is wonderful to have a network of classmates working in public health in different capacities worldwide. I have often called upon my peers for advice.

What are you most proud of in your career?

Seeing the impact you have on people's lives is the biggest reward. For instance, when I led sanitation programmes for a foundation, families living in urban slums in India would tell me how access to a toilet has changed their lives for the better. Through my work I am able to touch people's lives and make a difference, especially for those living in poverty and facing inequalities - and we know there are a lot of inequalities in health access, not just in India but across the world.

What are your priorities and hopes for the future?

I hope to continue to influence public policies in progressively senior roles, with the overall objective of bettering people's lives and reducing inequities in access to essential health, nutrition and other services.

Left: © UNDP India

Rebuilding public confidence in a post-pandemic world

Professor Heidi Larson set up the Vaccine Confidence Project in 2010 to investigate growing vaccine scepticism around the world. The team are applying what they have learned from vaccination to other areas of health and human security which need public confidence to ensure they can be successfully implemented. The project is also focused on rebuilding public trust in science and scientists, and bringing new perspectives on how people's emotions determine health decisions and outcomes. These insights are urgently needed, particularly in the wake of COVID-19 and post-pandemic recovery, alongside rapid changes in technology and social media.

Dr Heidi Larson, Professor of Anthropology, Risk and Decision Science: "The biggest challenge is to move public health to be more responsive and nimble, and catch up with the fast paced and ever changing public and planetary health era we are in.

"My work aims to gather evidence from the individuals most affected to inform confidence building across the realm of trust in institutions, trust in health interventions and trust in health professionals and scientists. Without understanding people's experiences and the drivers of low confidence or trust, we will not be able to shift the current landscape of distrust.

"We need to have respect and dignity towards people's diverse situations, views and experiences. Our primary mission is to listen to those whose voices are rarely heard, and to build evidence to inform relevant public health strategies that are responsive to the needs of diverse cultures, social and economic situations, and crises."

© Ezra Acayan

Hillary Mutungi
MSc Public Health for Development student, 2022–23

Hillary is a qualified pharmacist with an interest in non-communicable diseases (NCDs) in developing countries.

“I have this feeling I might know the next Director General of the World Health Organization during this period because the people I’ve met are amazing.”

4

Positive change is possible.

We believe our shared future depends on our shared health. And our shared health depends on change, and plenty of it. In a world of increasing uncertainty, we all need to be agile and ready to adapt. We won't create that change if we don't adopt equitable ways of working that help us prepare and respond together, if we don't embrace different perspectives, and support those in our communities who need it most.

It's hard to challenge these deep-seated exploitative structures and practices, but it's our responsibility to step up and lead by example. We also know from our own history and journey, that positive change is possible.

In recent years, we've started to face the realities of our colonial past and asked how that heritage still influences the way we work today and what we can do to change that. We've only begun the process; there's more listening to do, more questions to ask and more change to make. What we can say is that, while our network around the world was originally built to serve a colonial mission, our purpose, belief and values are very different today.

Today, we face forward together, with a vision to help create a more healthy, sustainable and equitable world. We promise to bring our scientific rigour, our determination, our hope and compassion to bear, to make that happen.

Driving towards more equitable structures for global health security

COVID-19 brought our global expertise in genomics and modelling into the spotlight. It showed the importance of fast and rigorous surveillance to track viral variants and transmission rates, and inform appropriate responses.

As we continue to face the threat of future disease outbreaks and health challenges fuelled by climate change, we need more diverse, globally representative data as well as appropriate facilities within countries to enable robust defences for all human populations. Currently only a small proportion of the sequencing database includes African genomes, which is a major gap in discerning appropriate health responses for different groups of people.

Our teams are addressing this challenge head-on, including in The Gambia and Uganda.

Dr Abdul Sesay is Assistant Professor and Head of the Genomics Strategic Core Platform at the MRC Unit The Gambia at LSHTM. He established genomics facilities and spearheaded training when he joined in 2017, and was able to build capacity so the lab was ready to contribute key genetic sequencing insights for The Gambia national response to COVID-19.

He shares his vision of a future with more African-led science: "It doesn't stop at COVID-19 - we should be able to repurpose the technology for other diseases and pathogens.

"What excites me about the future are the people I work with. When they started they were enthusiastic and very focused, but they were raw. They develop into independent people that I'm learning from.

"What does the future hold? It's for these people to all become independent scientists and do their work in Africa, because we have more samples, we have more diseases, sadly. We have diversity, and the work can be done.

"In Africa, the impact is direct. So whatever we do has a direct public health impact, and that's important."

Colleagues at the MRC/UVRI and LSHTM Uganda Research Unit are also leading the way on the genomics revolution, to enable better understanding and treatments for diseases and how they affect people based on factors such as ethnicity, as well as more equitable approaches to science.

Diabetes is one of the biggest public health challenges of the 21st century, and Africa is experiencing the fastest rise in prevalence in the world while continuing to tackle other serious diseases such as HIV, malaria and tuberculosis.

Professor Moffat Nyirenda and colleagues have shown how type 2 diabetes occurs in relatively young and lean individuals in Africa in contrast with the classical association with old age and obesity in high-income countries. With greater understanding of how it manifests in Africa, the team is finding local solutions to prevent and manage diabetes and other non-communicable diseases.
For example, they designed and tested an innovative intervention to integrate diabetes and hypertension care with HIV services. It was highly successful in improving NCD care, without compromising HIV outcomes, as well as reducing healthcare costs.

Professor Moffat Nyirenda, Director of the MRC/UVRI and LSHTM Uganda Research Unit: "Most of my research activities are based in Africa where, despite having greater than 15% of the world's population and nearly a quarter of the global burden of disease, African scientists produce only 1% of the world's research. This must change, and my goal is to spearhead efforts to improve the quality and quantity of research that comes out of Africa; so that we have adequate world-class scientists who can find solutions to Africa's health challenges.

"It will be crucial to prioritise the needs of people who are most disadvantaged or disproportionately affected, to reduce poverty and improve health equity, and prepare for and respond to continuous and urgent threats to health."

"It doesn't stop at COVID-19 - we should be able to repurpose the technology for other diseases and pathogens."

Dr Abdul Sesay

"It will be crucial to prioritise the needs of people who are most disadvantaged or disproportionately affected."

Dr Moffat Nyirenda

Why we must hear the voices of disabled people

Q&A with Dr Tom Shakespeare
Professor of Disability Research

Professor Tom Shakespeare focuses on qualitative research, mainly interviews, and his priority is to enable the voices of disabled people to be heard. After researching in the UK and a period working at the World Health Organization, he returned to academia and shifted to research focused on the four out of five disabled people who live in low-and middle-income countries. He is based in the International Centre for Evidence in Disability at LSHTM and works on evaluations of interventions to improve the lives of disabled people.

Why is your work important?

I think our work doing proper scientific evaluation is vital because a lot of interventions have no evidence base. One of the things we have developed is the Disability Evidence Portal, where we review the systematic reviews that show which ways are best. We hope that this will help the work of policymakers. I am very proud that this LSHTM-developed resource has now moved to Stellenbosch University in South Africa: we want to shift power as much as we can.

What are the main challenges for health equity and people with disabilities, and disability research in general?

We need better data. We need more researchers with disabilities. We need disability, which is obviously much more than health, to be also seen as a health issue.

What do you think needs to happen to improve health and health equity?

We need to end diagnostic overshadowing, when disabled people are only viewed in terms of their primary impairment. Disabled people need general health, because they are members of the general public. They need maternal health, and flu jabs, and cancer screening and everything else. This means making healthcare accessible, removing barriers, training health professionals to end negative attitudes and improving health literacy among disabled people.

Can you tell us about your experience with students you have taught or mentored?

At LSHTM, I have supervised excellent MSc students, who have done fascinating work, for example on the MSc in Global Mental Health. I have also had some great PhD students. Here my drive is to increase the number of students with disabilities, to grow expertise. Currently I have disabled students from Afghanistan and Uganda, previously I have had disabled students from Palestine and the UK, and I am so proud that they have gone on to leadership roles.

“Here, my drive is to increase the number of students with disabilities, to grow expertise.”

Opening doors to train the next generation of public health stars

"Despite growing up in a deprived community, I was determined not to let my circumstances dictate my future." These are the words of **Victoria Balogun**, who moved to the UK from Nigeria as a child and overcame language and socio-economic barriers to achieve her academic and other successes. Thanks to LSHTM's Next Generation Scholarship scheme, she was able to take a year out of her medical studies to study an MSc Public Health. She embraced the opportunities for gaining further knowledge and diverse connections with like-minded people dedicated to revolutionising health.

Victoria was in the first cohort of Next Generation Scholars in 2023-24. The initiative was designed to enable excellent students in the UK from historically underrepresented groups at the postgraduate level in higher education to study, feel a sense of belonging and succeed at LSHTM.

In the scheme's first two years, scholarships covering fees and living allowances for intensive Master's courses have been awarded to 20 students including eight with disabilities, 10 who are the first generation in their family to go to university, seven of a Black ethnicity, and three with caring responsibilities.

Another of our alumni, **Kerry Littleford**, experienced the UK care system during a chaotic childhood, but went on to study at university and work in public health before taking her Master's in Public Health at LSHTM. Although she joined before the Next Generation scheme began, she is pleased that other people in challenging circumstances can capitalise on the opportunity.

Kerry: "Public health should always look to represent the communities it serves. I want to see more people from care experienced backgrounds leading the way in public health. We are the ones who truly understand the impacts of health inequity and our voices are important."

Professor Ian Douglas, Programme Director of the MSc Epidemiology course, reflects on the benefits of initiatives such as the Next Generation Scholarship scheme: "In the classroom, a diverse student body helps challenge assumed norms – everyone benefits from this. I hope this scheme and other widening participation initiatives make it explicit to students that they belong here."

Victoria says of her experience on the scheme: "It instilled hope and courage, reminding me that statistics and current circumstances do not dictate one's capabilities. It's a testament to the belief that someone will recognise your potential and provide an opportunity, as LSHTM has done for me."

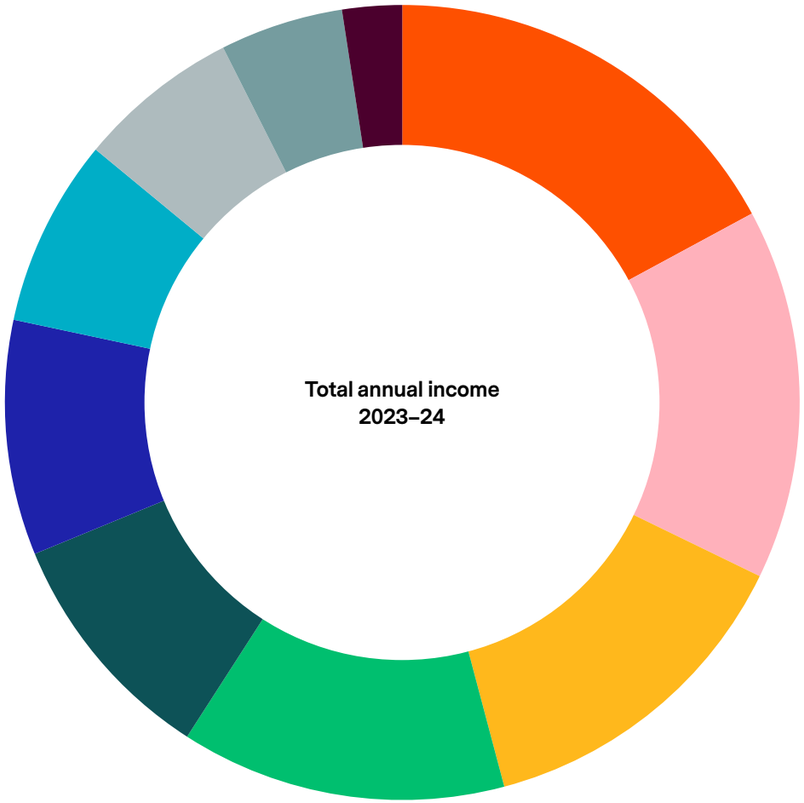
Oria James
MSc Public Health student, 2022–23

"It's one of the most inspiring things in the world. You walk into a seminar and you have doctors there, and medical students, and people that have worked in health policy for 10 years. You might have a health economist or someone who's worked with an NGO. You end up having discussions that are so rich, so holistic, because you have people not just coming from different professional backgrounds but also coming from a wide range of countries, cultures and religions."

Oria was diagnosed with type 1 diabetes as a child. Living with a chronic disease inspired her research interests in the commercial determinants of health and health systems improvement. Passionate about health promotion to increase people's control over their health, her interests lie in the prevention and management of non-communicable diseases. Before coming to study at LSHTM, she held research positions in decolonisation and health systems with the World Health Organization and United Nations University, and worked on COVID-19 health campaigns for her local health authority in British Columbia, Canada.

"It's one of the most inspiring things in the world."

Income 2023–24



UK Research Councils	£38.5m
Other funded research	£43.7m
Research England / Office for Students	£34.9m
UK government	£33.8m
Bill & Melinda Gates Foundation	£24.4m
Tuition fees	£24.7m
Other income	£19.5m
Wellcome Trust	£16.8m
European Union research	£12.8m
Donations	£6.2m

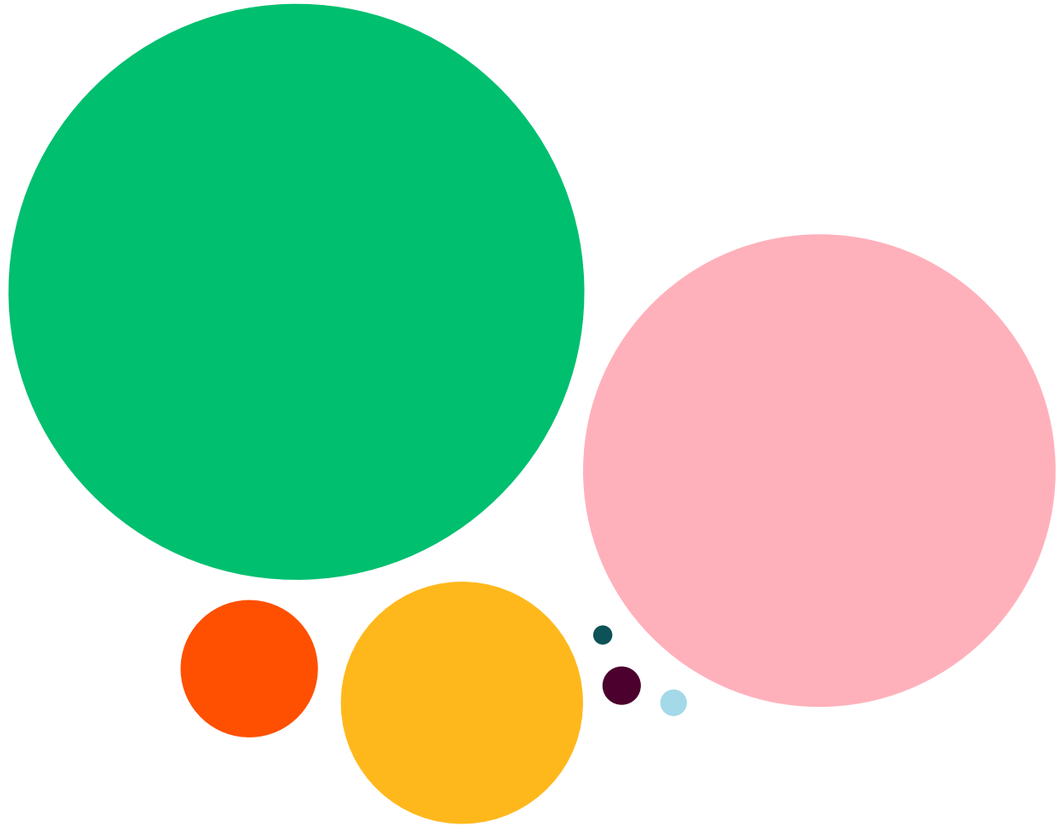
Total annual operating income

£255.3m

Total adjusted annual operating expenditure

£247.8m

New research grants 2023–24



UK Department of Health and Social Care	£39m
UK Research and Innovation	£32m
Bill & Melinda Gates Foundation	£16.4m
Wellcome Trust	£9.3m
World Health Organization	£2.6m
US Federal funding	£1.8m
Children's Investment Fund Foundation	£1.3m

Total value of new research grants

London

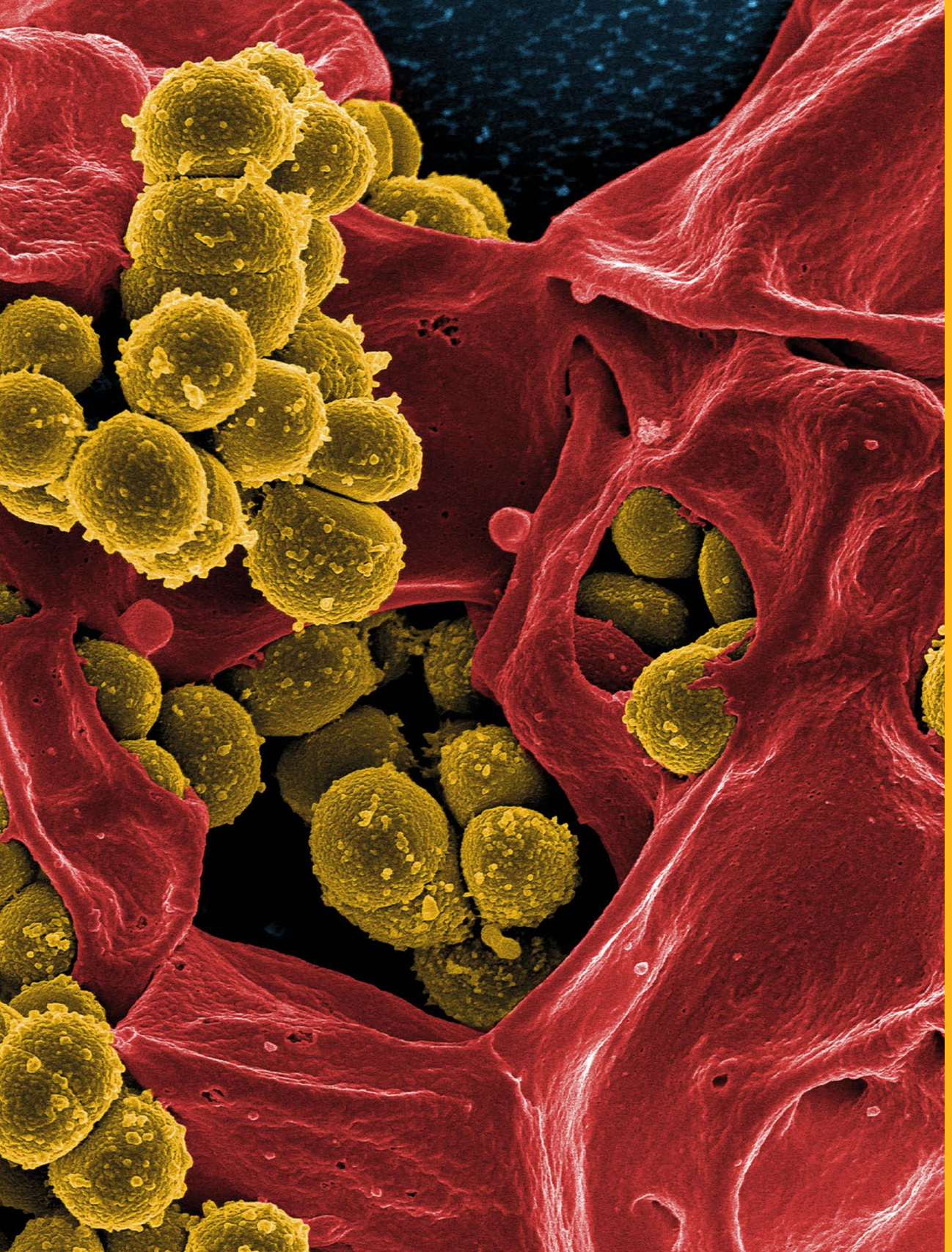
£104.6m

The Gambia

£15.7m

Uganda

£5.8m



We are the London School of Hygiene & Tropical Medicine. Founded in 1899, we are one of the world's leading public health universities. We are a network of specialist centres, units and partners around the world, working together to achieve excellence in public and global health research, education and the translation of knowledge into policy and practice. We do this at a local, national and global scale.

Our vision is to help create a more healthy, sustainable and equitable world for everyone, because we believe our shared future depends on our shared health.

We are 2nd in the world and 1st in the UK for public health*, and 1st in the UK for research impact.**

*ShanghaiRanking Global Ranking of Academic Subjects 2024
**Tables published by the Times Higher Education based on the most recent REF (2021)

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