

LEAD

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125
YEARS
1898 - 2023

LSTM
LIVERPOOL SCHOOL
OF TROPICAL MEDICINE



In memory of Professor Malcolm Molyneux



Launching LSTM's photography competition for 2022.



LSTM and the Human Challenge Model

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After another challenging year, as the COVID-19 pandemic continues to pressurise health systems and expose global health inequities, I am very proud of how LSTM's community of staff, students, alumni and friends have continued to step up and respond.

I would personally like to thank everyone who supported the Bump it Forward campaign in 2021, which raised over £285,000 (inc Gift Aid) to purchase PPE and other equipment to protect health workers in African countries, many of whom are still waiting for their vaccines. Undoubtedly this helped save many lives at a time when health systems were at their most vulnerable, and it really demonstrated the power and potential of the LSTM community coming together.

LSTM's 125th Anniversary Campaign aims to invest in building scientific capacity and leadership in low- and middle-income countries. Whilst this reflects the ethos of LSTM over decades of work, the impact of the global pandemic has shown that the world needs to take health inequities seriously, and we recognise the role we can play in building resilience in health systems.

Our new graduates undoubtedly will face challenges in their future roles, but for which I hope their time studying with LSTM has left them well-equipped. Congratulations to all of the class of 2021.

Professor David Lalloo
Director

Welcome

I am delighted to share with you the fourth edition of LEAD Magazine. I would like to take this opportunity to give a huge warm welcome to the class of 2021 who have recently graduated and join LSTM's global alumni family.

In late 2020, the first COVID-19 vaccine was administered to Margaret Keenan who was 90 at the time, fast forward to today, the UK is rolling out a vaccine booster dose.

This is great news for people in the UK, however, the same can't be said for some of our friends and family in other parts of the world. At the start of 2021, we responded to a call for help from our colleagues in Africa, who desperately needed PPE to protect healthcare workers in African countries whilst they wait for the vaccine.

We launched #BumpItForward and called out to our global alumni family, and wow; did you respond. Many of you joined over 5000 donors who helped us raise £285,000 (inc Gift Aid), which allowed us to purchase over 1.3million items of PPE for 162 medical centres in seven countries across the continent. We can't thank you enough for your support!

You can still help and give our campaign a boost, by scanning the QR code on page 18.

As we move in to 2022, we are now moving forward with our 125th Anniversary in 2023. On the run up, we plan to hold alumni events in the UK and abroad, including a number to be confirmed this year. Make sure you sign up to the LSTM alumni and friends' network to hear more about this.

As we enter 2022, we are delighted to launch a new photography competition and are inviting you all to get involved, for your chance to have your photos printed in the fifth edition of LEAD. Find out how you can enter on page 05.

We will be announcing more ways for you to get involved with us throughout the year. Make sure you sign up to our alumni community for updates and news on this.

Finally, wherever you are in the world, I hope we can stay in touch. I also hope you are staying safe and well, and that someday soon we can meet again at an event in person or virtually.

Best wishes,

James McMahon

Alumni and Donor Relations Officer
alumni@lstmed.ac.uk



REVOLUTIONISING CLINICAL TRIALS: ADVANCING GLOBAL HEALTH

Acceleration of pharmaceutical drug and vaccine development is imperative to reduce costs and time, particularly for current and future pandemic preparedness.

The COVID-19 pandemic has emphasised the critical importance of accelerating vaccine development as part of pandemic preparedness. Human Challenge trials can potentially speed up vaccine development and approval by two-three years by testing the efficacy on human volunteers over a short period of time in a quarantine clinic.

Like many organisations, Liverpool School of Tropical Medicine rose to the challenge posed by the COVID-19 pandemic, in the UK and further afield. Our extensive experience using our unique Human Challenge model within a purpose built facility, meant we were ideally placed to be part of the efforts to develop, validate and deliver news tests, vaccines and treatments.

LSTM's controlled Human Challenge trials are changing the often-unwieldy current model by offering a safe, 'fast-track' alternative for testing novel pneumonia vaccines and can be adapted as a clinical testing model for a growing portfolio of diseases and other applications.

WHAT IS A HUMAN CHALLENGE MODEL?

The World Health Organization (WHO) describes the Human Challenge in the following way:

“Human Challenge trials are trials in which participants are intentionally challenged (whether or not they have been vaccinated) with an infectious disease organism.”

Essentially, they are trials where volunteers will test new vaccines and treatments under controlled conditions.

LSTM's Professor Daniela Ferreira, Head of the Department of Clinical Sciences explains; “By infecting someone, we know the exact moment when the person came into contact with that virus, or bacteria, which allows for a very precise, fast, and much more cost-effective way of testing drugs and immuno-therapeutics.”

Professor Daniela Ferreira



WHY ARE THEY SO IMPORTANT?

“In the ‘arms race’ that we’re going to get into between new variants coming through and manufacturers generating new vaccines, exactly as we have for flu vaccines every year, Human Challenge will be a key part of being able to make sure that we get the best vaccines being developed.” Professor Janet Hemingway, Founder of Infection Innovation Consortium (iiCON).

The concept of the Human Challenge trial has been around for centuries. Some of the earliest examples that have contributed to important medical advances can be found in history textbooks, such as the treatment of smallpox by English doctor Edward Jenner in 1796 and the yellow fever vaccine in the early 20th century.

They can speed the development of treatments and cut research costs and have the potential to help many people, perhaps hundreds of millions in a pandemic.

LSTM is recognised nationally and globally as a leading organisation for Human Challenge trials. We are distinctive in our high level of translational engagement with industry (currently working on Human Challenge studies with three of the world’s top four vaccine companies), which has given us insight into the need

for human challenge facilities for a broad range of pathogens that can operate fast and flexibly in translational Research and Development.

At LSTM's Accelerator Research Clinic (ARC) in Liverpool, we have a unique facility to do Human Challenge trials. We have a dedicated 18 bed outpatient research facility, outside the typical hospital setting, which sees volunteers coming to see their highly trained clinical doctors and nurses; they get the vaccine, or drug, that are part of the trials we are testing, and the samples are then taken from the volunteer and go straight into the laboratory for processing.

“This co-located space allows for very rapid logistical delivery of the whole trial, which saves a lot of time and if you save time in a clinical trial development, you also save money. This is a unique setting unlike anything I’ve seen elsewhere in the world.” Professor Daniela Ferreira.

Scan to find out more



The new Human Challenge Facility is a cornerstone investment as part of LSTM's 125 Campaign.

Industry can engage with the Human Challenge clinical testing model through the Infection Innovation Consortium (iiCON), a world-leading centre for infectious disease R&D, led by LSTM. For more details, visit:

infectioninnovation.com/platforms/platform-5-human-challenge

LOOKING TO THE FUTURE

In June 2020, thanks to the support from Unilever, LSTM and the National Institute for Health Research Critical Research Network, the ARC was expanded from a five-bed facility to a new 18-bed facility. The design, based on more than 10 years' experience of running Human Challenge trials allows for efficient and effective running of multiple studies adjacent to an onsite Accelerator Pharmacy for dispensing of drugs and dedicated GCP labs for clinical sample processing and inoculum preparation, microbiology, and immunology testing.

There are many bacterial and viral pathogens that cause morbidity and mortality at unacceptable levels in high, middle and low-income settings. Among these there is a high unmet need for new vaccines and therapeutics. The global impact of SARS-Cov2 has shown that vaccine development can be accelerated when the need arises, but such acceleration has associated risks that can be addressed in part using Human Challenge trials. There is an unprecedented growth opportunity as pharma focuses funding on COVID-19 and respiratory diseases.

To build on our success and to respond to pandemic preparedness LSTM is planning to expand the 'Liverpool Human Challenge Facility' through the creation of 12 single occupancy en-suite rooms, all with negative pressure and HEPA filtration.

The investment in these advanced facilities with isolation capabilities will future proof LSTM for development of therapeutics/vaccines as and when future pandemics hit, and potentially for CL3 tropical diseases e.g. when TB CHIM moves to a lung model as well as other emerging diseases.

The new Human Challenge Facility is a cornerstone investment as part of LSTM's 125 Campaign.

THE CASE FOR CAPACITY BUILDING

Support a single research fellow and you may be having a bigger impact that you can imagine, says Charles Wondji, Professor of Vector Biology and Genetics at LSTM and Executive Director of the Centre for Research in Infectious Diseases in Cameroon.

You may have seen in the news that a malaria vaccine has been developed. This is tremendous news for the tens of thousands of people, particularly children, who live in Africa and die from the disease every year. However, it is only one strand of our global battle against malaria, and other protective measures, such as bed nets, are still vital. We should also remember that mosquitoes – the insects that carry malaria – transmit other deadly diseases as well, such as dengue fever and lymphatic filariasis, which together kill and disable millions of people each year. This is where my work comes in.

My main research interest is understanding of the biology, genetics and genomics of mosquitoes, primarily a species called *Anopheles funestus*. I am particularly interested in how these insects develop insecticide resistance – how they become immune to the chemicals we use on preventive tools like bed nets which save countless lives across Africa each year. If we know what is causing resistance we can reduce its impact, so my team is working to detect the molecular markers which indicate resistance in mosquitoes. By understanding these molecular drivers we can help mosquito control programmes to anticipate increases in disease transmission and to even change from an ineffective bed net to an effective alternative.

Recently we have noticed that mosquitoes have actually increased in their capacity to resist insecticides, something we call *resistance escalation or exacerbation*. It is important that we find out what makes them super resistance and quickly meet the challenge.

Working in the field

Since 2015, part of my lab has been based in Cameroon which gives me a lot of flexibility. I'm part of Liverpool School of Tropical Medicine and take advantage of the much-appreciated technical platform at LSTM, but also in the field where the problems are greatest and I can deliver on my key questions. This move has been a tremendous career step and has been made possible through a Wellcome Trust Senior Fellowship. This is actually the third fellowship of my career – I was also the recipient of an RCDF Fellowship in 2008 and a Wellcome Trust Senior Fellowship in 2013. Each has provided the knowledge and skills foundation for the next and supported me in my research vision.

My first fellowship basically allowed me to become an independent researcher – to set up my own lab, to recruit staff and to pursue my own research questions – and with each I have acquired new skills and developed new insights to address key research questions. Fellowships have also given me the opportunity to supervise PhD students, convene modules at LSTM, and to sponsor many other research fellows. It is great to be able to support and mentor others, to share with them my experience. And moving to Cameroon has accelerated the mentoring process because I'm able to work directly with more junior scientists in the field.

And of course, the fellowships have had an impact on the ground too. We have been successful in elucidating the major route of resistance that we called metabolic resistance – mosquitoes' ability to produce enzymes to break down insecticides. For the first time we have not only detected the genes driving this resistance

but also designed DNA-based diagnostic tools which are enabling control programmes to track the spread of resistance in the field far more easily than was possible before. Unfortunately, mosquito populations across Africa don't all use the same resistance tools, so we are currently working to produce a comprehensive list of genes and variants that will be used to ensure that we can detect any type of resistance mechanism.

The impact of a fellowship

As a certain supermarket says 'every little helps', and I think if we are to reduce the burden of infectious diseases like malaria we need every contribution. I have seen that investing in a single person through a fellowship can have a massive impact. Many scientists benefit in terms of capacity building, but there is also real change on the ground – lives saved – and that started just because one person was funded for a fellowship.



Professor Charles Wondji
Reader and Professor in Vector Genetics



PHOTOGRAPHY COMPETITION

LSTM is delighted to launch a new competition to showcase and celebrate the photography skills of our alumni, friends and staff – our global family.

Theme

In line with our 125th anniversary plans, we are inviting entrants to share a photograph(s) that visually captures the theme of:

'Scientific excellence and innovation'

However you interpret the theme is up to you as we are encouraging creativity and giving you, opportunity to capture your work through photography.

You can be as creative as your imagination will allow to capture images within the theme provided. You do not have to have an impressive array of photographic kit to enter, images from any type of camera are welcome, this includes phone, tablet, drone, SLR camera, etc.

Winning entries will be chosen by a panel of judges and announced two weeks after the closing date.

Winning prize: **£100**
2 x runner up prizes: **£50**



Scan to find out more

How to take part

For full details on how to enter visit: lstm.ac.uk/photo-competition or scan the QR code. **CLOSING DATE: 28th March 2022**

PROFESSOR CHARLOTTE WATTS: THE MULTI-DISCIPLINARY MATHEMATICIAN



A maths department at Oxford University is not where you might expect to find a future UK government Chief Scientific Advisor and global expert in tackling gender-based violence, but it is exactly where Professor Charlotte Watts was working before deciding 'this isn't for me'.

An interview at London School of Hygiene and Tropical Medicine (where she said that she had the necessary funding in place – she didn't!), a master's degree and retraining in public health followed. Together they have provided a springboard to a career notable for its breadth, variety, accolades and substantial impact.

A desire to use her analytical skills for the greater good and a burgeoning interest in social and development issues prompted the change of direction, but the move from maths to the social sciences was not a smooth one for Professor Watts. "When I started at LSHTM [London School of Hygiene and Tropical Medicine] I didn't know how to write an essay! I only knew how to write a mathematical proof, and so I'd write papers and then I wouldn't actually put the 'so what?' at the end of the paper." It took some pointers from a supportive tutor to get her on track. Her living situation was not ideal either: "I gave up a job that was paying well and was now living on a really tight budget – we had no money. I couldn't afford to catch the underground or go out for drinks with other students, and was living a long way away because I couldn't afford to live closer."

Despite the hardship, Professor Watts was sure she had made the right decision. "That was really hard, but it was exciting because it felt like the right thing to do! Sometimes I think you just have to take a leap of faith and think 'I'm going to take a brave step and hopefully it's going to be alright!'"

'Follow your heart' is Professor Watts' unofficial mantra, and it has served her well throughout her career. It's also the advice she now gives to young scientists. "Follow what excites you. Realise that you can really make a difference, so be brave." She feels that this is more important now, than ever: "Just look at the profound challenges that the world faces: from climate change, from infectious disease, from social and gender inequality. The world needs students like those graduating from LSTM to go out and use the skills and the training that they've received to make a difference."

"I'm not an academic for the sake of being an academic – I'm an academic because

I want to make a difference."

HONORARY GRADUATE 2021

TACKLING GENDER-BASED VIOLENCE

Using her skills to make a difference is exactly what Professor Watts did when she embarked on her career in the social sciences. The mathematical modelling skills that she had honed were applied to the epidemiological modelling of HIV (multi-disciplinarity is a recurring theme in her work). A Wellcome Trust fellowship to Zimbabwe followed, looking at the extent to which women were trading sex and their resultant vulnerability to HIV. With this work began an enduring interest in gender-based violence and how it can be tackled, numerous studies and papers, and the creation of the Gender, Violence and Health Centre at LSHTM. "I became really aware of the levels of violence women were experiencing, and that it was not only sex workers but also my co-workers and other women I was meeting. In all the talk about HIV, the issue of violence against women wasn't being mentioned. There was this implicit assumption that sex is consensual. I was surprised also that there wasn't greater global attention and research on violence against women: it's a human rights abuse and has profound health impacts. I got interested in it because of its importance, but also because it's an area where I felt that I could make a difference. And that's hugely motivating."

This new awareness led to her working first with local organisations and then with the World Health Organization on the first multi-country study on women's health and domestic violence. Her work revealed just how widespread violence is, particularly domestic violence, and brought a realisation of the need for evidence in what can be done about it: "I got fed up reading reports saying 'We know it's a problem. We know violence as an issue', but then not actually taking action on it." Trials to empower women economically and socially followed, and the results were "amazing" – the first trial

in rural South Africa saw levels of domestic violence reduced by 55% over two years.

That approach – "let's generate rigorous evidence on those really tricky issues that people think too difficult but are actually incredibly important" – has been the path she has taken since, resulting in a celebrated career focusing on achieving impact in challenging and critical areas. It is in finding these multi-disciplinary, evidence-informed solutions for health and well-being where the paths of Professor Watts and LSTM have regularly crossed. It also has resulted in her being made a Companion of the Most Distinguished Order of St Michael and St George (CMG) in 2019 for services to domestic violence prevention, and being cited as one of the 100 most influential women in gender policy globally.

FROM PRACTICE TO POLICY

This evidence-based approach is one she continues to foster in her current role as Chief Scientific Advisor at the UK government's Foreign, Commonwealth and Development Office (FCDO). "I was always interested in how we generate evidence around some big policy areas. I am not an academic for the sake of being an academic – I'm an academic because I want to make a difference. The position seemed like a really good combination where I'm in government as a scientist. I'm not give up on my technical training, but using it to directly, behind-the-scenes influence and support evidence-based decision making."

Again, 'multi-disciplinarity' is her watchword. "Most significant issues we face are complex – it's not like there's just an economic solution or a social science solution. A combination of disciplines and perspectives are often needed." This problem-focused, multidisciplinary research is often what her teams try to foster in the work FCDO supports.

LOOKING TO THE FUTURE 'Multi-disciplinarity' is also a mindset that she encourages in young scientists, along with the understanding that your career can – and hopefully will – take you in different directions. "Some people have very linear career trajectories, but I think it's really healthy to move around. I went from being a theoretical mathematician, to an applied mathematician, to doing surveys and trials, and now to being a scientist in government. I don't really know now what my discipline is, because it is multi-disciplinary, but in each job I have gained valuable experience and skills that I have drawn on in later roles."

What are her current targets? "Right now I am focused on COVID. We need to move to what will be a global solution to a global problem. We have persistent global inequities that need to be addressed. The health technologies we have, such as vaccines and treatments, are critical but are not yet good enough to tackle the ongoing threat. A big concern for me is supporting the replenishment of CEPI (Coalition for Epidemic Preparedness Innovations), that supports global vaccine R&D, both for COVID and other major infectious diseases. We need 'next generation' vaccines and treatments that can be easily deployed at scale in developing countries, providing long lasting, resilient protection."

Professor Watts' flexibility and willingness to try something different is still very much in evidence. In 2019 she and her friend won both a Gold Medal and the People's Choice Award at the RHS Chelsea Flower Show (the skills developed writing funding bids came in handy when planning the garden – more multi-disciplinarity). The 'CAMFED Giving Girls in Africa a Space to Grow' garden was influenced by her years in Zimbabwe and was created with CAMFED (The Campaign for Female Education). It conveyed the transformative power of education for girls in Africa, another of Professor Watts' particular passions. She has recently been appointed to CAMFED's board, continuing her support for the charity.

With just over two years left to run in her tenure as Chief Scientific Advisor is she looking to future challenges? "I'm quite long into my career, but still going 'OK, what's going to be next?' I honestly don't know but I'm really excited that I don't know! I will return to LSHTM, but my work could go in lots of different directions and that's brilliant. I like the challenge, the excitement of what might come next."

IN MEMORY OF PROFESSOR MALCOLM MOLYNEUX



It is with profound sadness that LSTM has to announce the death of one of its truly inspirational staff members: Professor Malcolm Molyneux OBE FMedSci DSc (hon causa) in November 2021.

Born in what is now the Democratic Republic of Congo (DRC) in **1943**, Malcolm was sent to boarding school at Eltham College, London. He then read natural sciences at St Catherine's College, Cambridge before taking up his clinical training at St Bartholomew's Medical School. It was there where he met his future wife, Elizabeth Neech. They both qualified in **1968** and married the following year.

Malcolm Molyneux's first encounter with Malawi was as a medical student. He visited Malawi briefly at the end of his elective in Durban, South Africa. After specialising in internal medicine, he and his family moved to Malawi where he was transferred from a small mission hospital in Malosa to the main government hospital in Blantyre because there was no medical specialist present at the time.

From **1975** to **1984** Malcolm Molyneux practiced as a specialist at Queen Elizabeth Central Hospital, Blantyre. Despite busy professional and family lives, he completed his Doctor of Medicine thesis on viral determinants of acute and chronic liver disease in Malawi.

Malcolm Molyneux's relationship with LSTM began in 1984 when, upon returning to the UK from Malawi and after some persuasion by the late LSTM Dean Professor Herbert Gilles, he took up the post of senior lecturer – focusing on malaria.

With that appointment started a lifelong fascination with the disease, with a particular focus on making malaria research relevant to clinical practice and promote the training of Malawian clinicians and scientists.

In **1986**, together with Dr Terrie Taylor, he sourced funds to create a research ward sited adjacent to the children's department of the Queen Elizabeth Central Hospital. This was opened in 1990 and from then until 1994 the research was funded jointly through the Wellcome Trust and the US National Institutes of Health. Over this period, Malcolm was invited by the government of Malawi to serve on the Advisory Panel to establish the College of Medicine which is part of the University of Malawi. This opened in **1991**.

In **1993** the Wellcome Trust put out a call for institutions to submit proposals to establish research centres in tropical medicine. Malcolm Molyneux and Professor Peter Winstanley, from the University of Liverpool, in collaborative partnership with the newly established College of Medicine at the University of Malawi submitted a proposal. The proposal was accepted in early **1994** and, later that year, the Wellcome Trust Tropical Centre was established in Liverpool. In **1995** the Molyneux family returned to Malawi in order to establish a research laboratory and the Malawi-Liverpool Wellcome (MLW) programme. His wife, Professor Elizabeth Molyneux, formerly of Alder Hey Children's Hospital, won acclaim for her care of children in Malawi.

As Director, Malcolm always energetically supported training opportunities for Malawian clinicians and scientists. In this and other ways Malcolm Molyneux mentored and promoted Malawian researchers in the college. This has been a major contribution that has enhanced the reputation of the college as a training and research institution of excellence. As a result, the new learning and training centre on campus was named after him.

He was Editor of 'Tropical Doctor', 'Malawi Medical Journal' and its forerunner 'Medical Quarterly'; and served on committees of the Malaria Control Programme in Malawi, the World Health Organization, and various components of GSK's candidate malaria vaccine RTS,S.

He was also the Ombudsman for The Lancet. He and his wife Liz, a consultant paediatrician, were both awarded the OBE by the Queen in **2006**. They returned from Malawi to live in Liverpool in December 2015, from where they continued to support and collaborate in research and training in Malawi and other low-income countries.

Malcolm joined the Board of Trustees of the Royal Society of Tropical Medicine & Hygiene (RSTMH) in **2017** and was awarded an Honorary Doctor of Science degree by LSTM in December **2019**.

On receiving his honorary degree, Malcolm said:

"This is a wonderful day for me. Why am I prouder to be given an honorary degree from LSTM than I would be from any other institution in the world? It is because it stands for what is most important in the world – we are all brothers and sisters and need to recognise our common origin. Collaboration and partnership are what LSTM stands for and it is time for us to be a part of this world and not separate from it."

Responding to the news LSTM Director, Professor David Lalloo, said:

"All of the many people around the world who knew Malcolm will have been saddened by the news of his death.

As illustrated above, Malcolm's achievements were considerable and he made an enormous contribution to improving health in Malawi and the region.

But most will remember Malcolm for the kind of man he was. Countless young clinicians and scientists from Malawi and the UK benefitted from the kindness and patience that he demonstrated in advising them on their careers and life generally; doctors who spent brief periods on elective with him in Malawi thirty years ago still talk about the impact he had on them.

Malcolm's love for life shone through in all that he did; whether in his delight at beating people 30 years his junior at squash or his later enthusiastic conversion to the delights of long-distance cycling, invariably accompanied by keenly observed updates for his friends.

He was notorious for eschewing physical comforts and persisted in expressing bemusement that the medical students he took up Mulanje refused to drink from puddles; his wicked sense of humour was rarely far from the surface and could be expressed with equal facility in English or through Chichewa proverbs.

Malcolm was inspirational in so many ways and put simply, was one of those people who made the world a better place to live in; I feel privileged to have known him. //

2021 November



INFECTION INNOVATION CONSORTIUM (iICON) – CELEBRATES IMPACTFUL FIRST YEAR



Since launching in September 2020, the LSTM-led Infection Innovation Consortium (iICON) has established itself as a leading global centre for infectious disease R&D.

Founded with an £18.6 million government grant provided through UK Research and Innovation's flagship Strength in Places Fund, iICON has raised an additional £154.9 million in public and private investment in its first year – creating a £173.5 million programme.

The collaborative R&D programme is based in the North West of England. It aims to reduce the global burden of infectious disease – saving and improving millions of lives by working with industry, academia and clinicians to accelerate the discovery, development and deployment of new treatments and products for patients and communities.

Operating across ten open-access, commercially-sustainable specialist research platforms able to pivot to handle any infectious disease, the consortium is designed to drive innovation and provide pandemic resilience.

Bringing together industry, research and the NHS in a collaborative effort, iICON's partner members are Unilever, Evotec, Liverpool University Hospitals Foundation Trust, University of Liverpool, and Infex Therapeutics.

INFORMING WHO MALARIA PREVENTION POLICY

iICON has conducted important research and large-scale trials into the protection offered by insecticide treated mosquito nets. This work has shaped the World Health Organisation's (WHO) recommendations for malaria prevention. The iICON led trial found that Piperonyl Butoxide long-lasting insecticide treated nets (PBO LLINs) offered more protection against malaria than conventional non-PBO LLINs over a period of up to 25 months. Following this important work, more than 30% of the millions of treated mosquito nets distributed in Africa in 2021 were PBO nets – helping to protect communities and save lives. An iICON follow on study in DRC is now comparing the biological and chemical efficacy of different PBO nets from four manufacturers.

GLOBAL HEALTH IMPACT:

The consortium is already having an impact on global health, saving and improving lives by enabling and supporting innovative collaborations that are fast-tracking new treatments and products to communities across the globe.

Over the last 12 months, iICON has launched collaborative partnerships with over 186 UK SMEs and start-ups alongside key projects with global industry giants including Pfizer and Unilever. The programme has also attracted significant support from organisations including The Bill and Melinda Gates Foundation, The Wellcome Trust, and the Medical Research Council.

The last year has seen iICON accelerate the development of new treatments and preventions for COVID-19 and a number of other important infectious diseases.

iICON validated the first COVID-19 lateral flow test for asymptomatic, pre-symptomatic and symptomatic people. It also worked with the Ministry of Defence to develop a surface spray that deactivates COVID-19 in 60 seconds, which was used in UK Covid testing sites.

Under an iICON-brokered programme, LSTM collaborated with Unilever, one of the world's largest manufacturers of oral hygiene products, to rapidly assess the performance of mouthwashes against SARS-CoV-2. This work demonstrated that the technology Unilever uses in its mouthwashes inactivated Covid and provided essential data for regulatory approval and claims in key global markets.

SUPPORTING THE COVID-19 EFFORT ACROSS AFRICA

High-quality, cost-effective antigen tests are critical to identify infection and stop the spread of the virus. A rapid COVID-19 antigen test, validated by researchers at LSTM through iICON is being used to deliver large-scale testing across Africa as part of a major FIND and UNITAID programme. The test provides a high-quality, affordable solution to protect some of the world's most vulnerable communities and 2.5 million of these antigen tests will be deployed across Africa per month by 2022. The consortium is also working with the Malawian Government and the Wellcome Trust to provide high-quality data on the COVID variants that are spreading, shaping the country's COVID-19 policy response.

Other contributions to the global COVID effort include co-developing a new model organoid that replicates the impact of COVID-19 on the lungs more accurately than traditional plate bioassays, with the UK SME Newcells BioTech. This innovation will be used to screen more targeted treatments for COVID-19 and other respiratory infections.

Discovering and developing new treatments for deadly resistant infections is a key priority for iICON's platforms. Partner Infex Therapeutics is expecting to progress two novel therapeutics to tackle dangerous multi-drug resistant microbial infections into clinical trials over the next 12 months – helping to address the major global health threat of Anti-Microbial Resistance.

iICON's work is also influencing international health policy, supporting communities across the globe, including Africa.

STRENGTHENING CAPACITY AND CREATING JOBS OF THE FUTURE

Strengthening Infection R&D capacity and capability within the North West is an important part of iICON's purpose. Since launching, the consortium has created 176 new high-value jobs across the North West and invested £9.4 million in local capacity and workforce development. iICON and LSTM have also secured a £500,000 grant from the independent charitable organisation, The Wolfson Foundation, to support the expansion of new state-of-the-art Containment Level 3 robotic laboratories at LSTM capable of securely handling high-risk and deadly infectious diseases, including COVID-19, due to be operational in 2023.

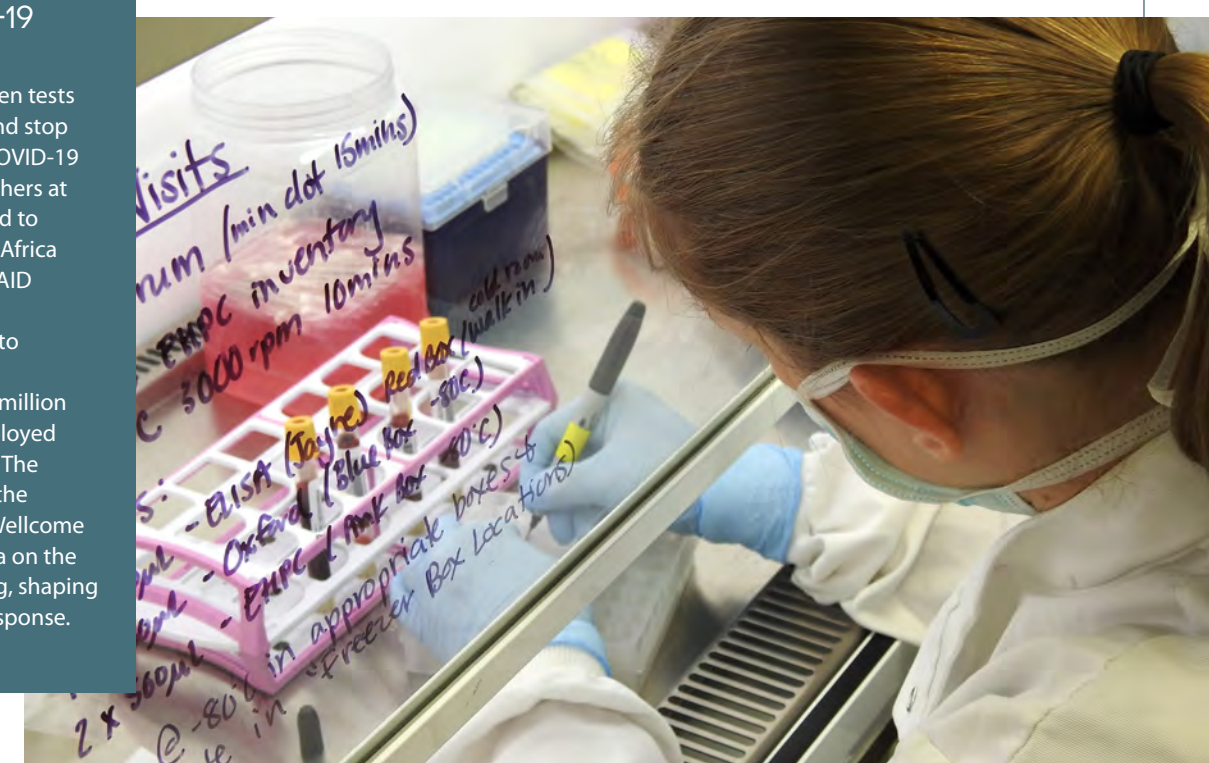
It is investing in developing the next generation of global health leaders and supporting the interface between industry and academia to bolster collaboration and innovation in the infection space. A £2.5 million investment secured by iICON from the Liverpool City Region Combined Authority, support from philanthropic donors, and a £2 million grant from the Office for Students, has provided anchor funding to establish a pioneering new capacity development centre for co-innovation and training in collaboration with LSTM at Pembroke House.

Building on the region's world-leading capability in infectious disease research and innovation, the new centre will provide a bespoke centre for world-class collaborative and interactive online learning, industry collaboration, and community engagement and training.

Pembroke House will drive impactful partnerships between industry, research, and the NHS to support pioneering infection innovation R&D, contributing to the Liverpool City Region target of R&D increasing to five per cent of GDP.

Through iICON, companies will be able to access high-quality professional and industrial training, alongside opportunities for high-quality networking and partnering. This will be critical in facilitating the research/industry interface and will act to rapidly connect iICON's innovative research with industry.

infectioninnovation.com



Lucy is the Country Director in Kenya, for Liverpool School of Tropical Medicine. She is a public health and development specialist with seventeen years professional experience in the field. She holds a Master's degree in Medical Anthropology and is completing a PhD in Public health.

Lucy is responsible for providing strategic leadership and driving growth of LSTM's Kenya portfolio including delivery of existing programmes and acquisition of new ones.



Lucy Nyaga
Kenya Country Director, LSTM

5 MINUTES with LUCY NYAGA

Why did you want to work in public health?

My inspiration came from my background as a Medical Anthropologist. Seeing how individuals and systems influence overall health outcomes, I reckoned that contributing my knowledge and experience would better health outcomes through a combination of these two disciplines.

How do you want to see the sector change in the next five years?

I would like to see a lot more scientific work by local public health experts influencing policy and implementation of health programmes that are tailored to specific local context.

Your proudest achievement at work was...

Seeing our partners and beneficiaries take up activities that we were initially funded to implement and mainstreaming them into their work. This is what LSTM is all about, planting a seed and letting it grow beyond us.

The biggest challenge facing global health is...

There are several challenges for global health today. From the perspective of our work, the biggest challenge is the adequacy of knowledge and skills of health care workers, in developing countries, to provide quality health services. Amidst the several challenges, addressing healthcare workers knowledge and skills gap will go a long way in solving a key global health challenge.

Finally, what is your prediction for the future of global health in the years to come?

The world will experience similar health challenges, especially as regards NCDs and pandemics. Consequently, a united global approach to the world's health challenges will emerge.

I do what I do because... Growing up in rural Kenya, I witnessed ill-health impact not only the sick individual's wellbeing, but also the wellbeing and economic situation of their families and communities at large. As they say, health is wealth, if I can contribute to at least one bit that enhances health outcomes at a larger scale, I know I have done my bit in contributing to the economic status of less privileged populations, especially in rural Africa.

At work I'm always learning that...

Collaboration is key in achieving greater impact more effectively.

If I could go back 10 years and meet my former self, I'd tell them: Keep in touch Lucy! It is important to keep networks and connections active, especially those in one's early career development stage.

What is the best part of your job?

Knowing that what I do positively impacts health systems.

What is the worst part of your job?

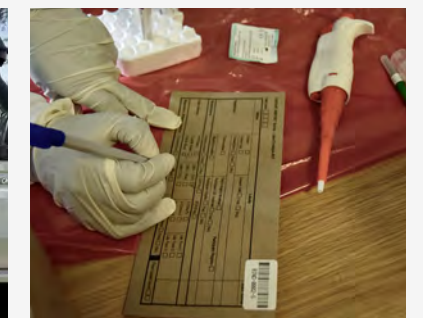
The fear that a programme's funding could end without having impacted health systems sustainably.

What makes you smile?

Knowing that the government and our partner institutions have put in place systems to sustain our funded programme's interventions.



CeSHHAR 10 YEAR ANNIVERSARY



As CeSHHAR prepares to celebrate its 10-year anniversary in January 2022, we reflect on how it started, what it has achieved and what the next years hold.

The Centre for Sexual Health and HIV/AIDS Research (CeSHHAR) Zimbabwe was founded in 2012 by a group of public health researchers in Zimbabwe in response to the growing need to expand implementation research to accelerate and optimise public health policy and impact in Southern Africa.

Led for the past decade by Professor Frances Cowan, Professor of Global Health of Liverpool School of Tropical Medicine, CeSHHAR works at the forefront of finding innovative solutions to end the AIDS epidemic.

Research at CeSHHAR has facilitated important innovations in implementation of HIV prevention and has contributed to national policy and guideline development. Data generated by CeSHHAR research has been used to inform UNAIDS and Zimbabwe HIV estimates. Most recently CeSHHAR is conducting research to support the region's covid response.

Did you know?

- CeSHHAR has reached over 125,000 sex workers with clinical services since inception
- CeSHHAR is a key member of the Bill and Melinda Gates funded Measurement and Surveillance of HIV Epidemics Consortium (run by LSHTM) and is the Zimbabwe country consortium hub.
- CeSHHAR employs 260 research, programme and administrative staff based across Zimbabwe.
- CeSHHAR is the first organisation in the world to be awarded Gold certification of The Good Financial Grant Practice – an international standard developed by the Global Grant Community and the African Academy of Sciences in Nairobi, Kenya.

Next 10 years

MOVING BEYOND HIV

One of CeSHHAR's strategic priorities is to move beyond HIV by intersecting HIV research with other areas of public health such as mental health and non-communicable diseases – diseases which are likely going to be the major cause of death and illness in much of Africa by 2030.

MAINTAINING AND BUILDING PARTNERSHIPS

CeSHHAR will continue to collaborate with LSTM on international public health research as well as build new partnerships with local, national, and international academic institutions and research organisations.



Scan to sign up to receive news on events

125^{ways}

LSTM has changed the world

Almost 125 years ago, the first donation was made to establish Liverpool School of Tropical Medicine, and since then LSTM has been at the forefront of innovation and scientific discovery.

From discovery of the malaria transmission from mosquito to man; to development of new drugs, insecticides, vaccines, and diagnostics; pioneering resistance research and building capacity in health systems by training generations of global health leaders and innovators.

As part of our 125-year anniversary celebrations, we are asking you, our amazing global community, to participate in creating a digital archive of LSTM in 125 stories.

These could be personal anecdotes, memories of time studying or working at LSTM, or highlight key figures, scientific achievements, or major impacts throughout our history.

We invite our global family of staff, students, alumni, and partners to participate by sharing stories with us.



Scan to share
your story

lstm.ac.uk/lstm-in-125-stories



In partnership with WHO, LSTM has developed a smartphone app to help health workers understand why circa 5.3 million babies each year are stillborn or die in the first month of life.

An LSTM study was instrumental in establishing the College of Medicine in Malawi: the first of its kind in the country, enabling the training of more than 700 medical doctors across Malawi.



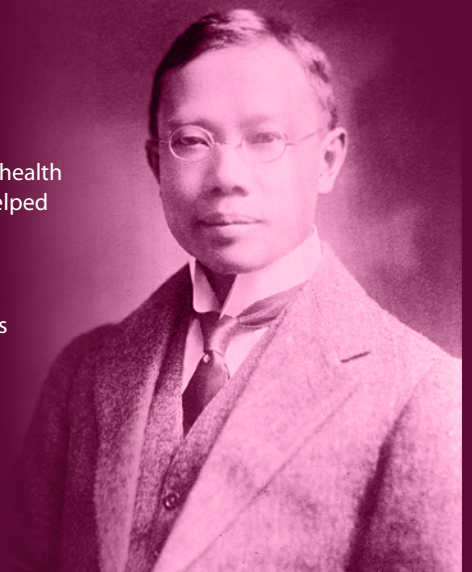
LSTM Study provides the first concrete evidence for the presence of Wolbachia bacteria in wild Anopheles mosquito populations.

In 1995, LSTM's S Stowell, JM Crampton, along with R Sinden, became the first to produce genetically engineered mosquitos theoretically capable of vaccinating people against diseases when they bite.

For the first time in vitro cultivation (at least 24 hours) of blood parasites of African trypanosomes is achieved by W Yorke, ARD Adams and F Murgatroyd, thus allowing chemotherapy work to proceed.



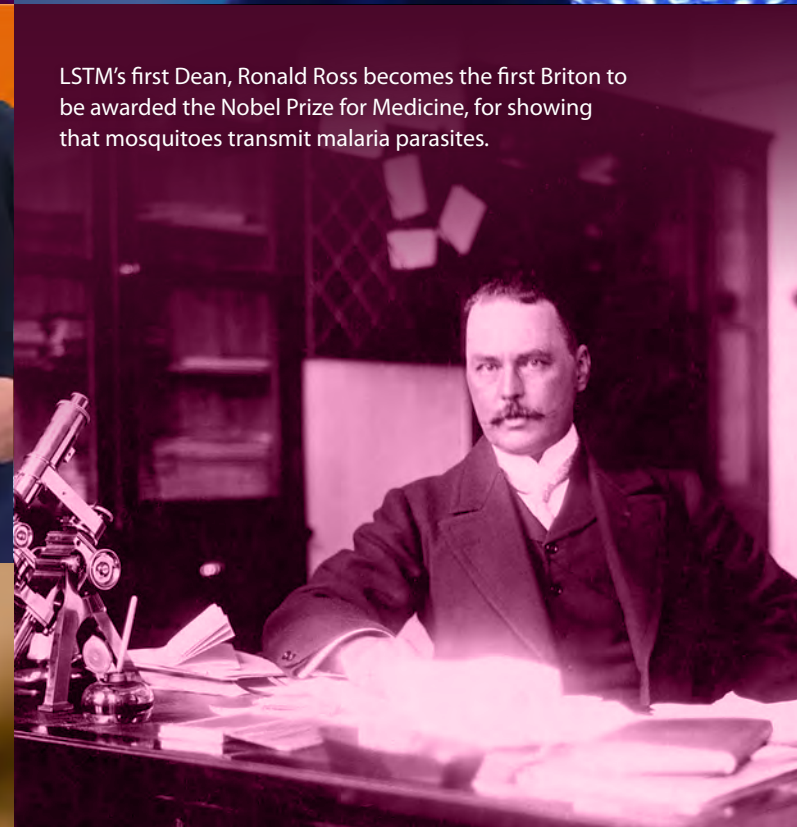
LSTM alumnus and global health pioneer Dr. Wu Lien-Teh helped change the course of a plague epidemic in the early 20th century and promoted the use of masks as a public health tool.



LSTM researchers have received a £3.5 million award from the Wellcome Trust for the CEASE project, to understand, map, and target the invasive spread of the malaria carrying Anopheles Stephensi mosquito in the Horn of Africa.



LSTM's first Dean, Ronald Ross becomes the first Briton to be awarded the Nobel Prize for Medicine, for showing that mosquitoes transmit malaria parasites.



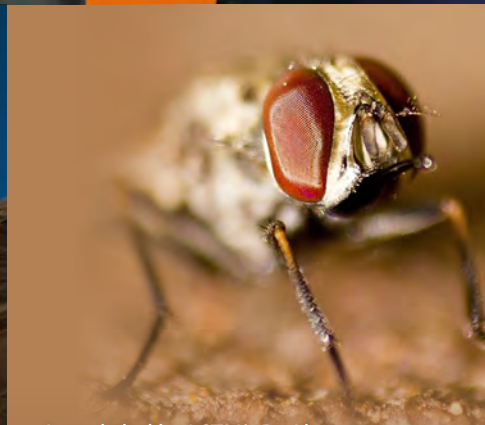
First demonstration by EM Lourie and HOJ Collier of the activity of penicillin against spirochaetes of louse-borne relapsing fever and rat bite fever leading the treatment on syphilis with penicillin.



Our researchers are working on the discovery of a universal antivenom, which could deliver life-saving treatment to hundreds of thousands of snakebite victims.



LSTM researchers have been at the forefront of the development and validation of rapid diagnostics tests for COVID-19, including a partnership with Mologic on an antibody test which was developed for manufacture in the UK, Dakar, and Senegal.



A study led by LSTM's Dr Alvaro Acosta-Serrano has found that nitisinone, a drug used to treat a number of human genetic diseases can be repurposed to kill blood feeding insects including the tsetse fly.

LSTM partners, MLW, hosted the first large-scale population-based HIV self-testing study globally, defining and evaluating a semi-supervised volunteer distribution model that is now recommended by WHO and UNAIDS as safe, accurate, highly scalable and associated with increased demand for ART.

In 1901 saw first demonstration, in the Gambia, by LSTM's JE Dutton of sleeping sickness trypanosomes in human blood.



A discovery by RW Ashford that the 'fat sand rat' is the reservoir host of cutaneous leishmaniasis in Libya (and elsewhere in North Africa), eventually leading to the design of control measures.

HONORARY GRADUATE 2021

Dr Chikwe Ihekweazu's career is a lesson in what he calls 'looking sideways' – looking beyond your vocational path and seeing other possibilities. It took him from a fledgling career in medicine to leading the World Health Organization's (WHO) new pandemic intelligence hub, and it is a lesson he recommends to this year's LSTM graduates.

For Dr Ihekweazu 'looking sideways' began after graduating with a degree in medicine from the University of Nigeria. "Like most medical students, my idea about my future was really working directly with patients. Public health was not on the horizon." Indeed, his plans were very specific: "I'd worked a few years in Nigeria and was planning to go to the US to do a residency in surgery. I registered for a Master's in Public Health (MPH) in Germany – something to fill the time between leaving Nigeria and moving to the US."

Dr Ihekweazu describes this as an "eye-opening" albeit fortuitous move. "I found the MPH classes so fulfilling in terms of my intellectual curiosity. When studying medicine at undergraduate level you're learning a lot, but there was not much flexibility for me... my courses in public health looked at complex issues and the factors that lead to ill-health and improvements in health. The complexity of the mix was really eye opening for me. I had the opportunity – not by design, but by circumstance – of 'looking sideways' and discovered a whole new area of interest."

A second pivotal moment in his transition into epidemiology came with his attendance at the 13th International AIDS Conference in South Africa in 2000. "If you were diagnosed with HIV it was basically a death sentence to anyone living in Africa at that time because no one could afford the treatment [about \$10,000/patient/year]. And the world accepted that this was OK to allow to happen! So, I was at a crossroads of being able to solve health problems for the patient in front of me versus being part of the solution to a much bigger public health issue that would equally save lives. It was the turning point for me;

from dreaming of a clinical career to a career in public health."

Dr Ihekweazu's medical grounding stood him in good stead. "I had a science background, so thought that epidemiology – understanding the dynamics of infectious disease transmission and what drove it – was a good application of science to public health. You have to scientifically demonstrate why you choose one intervention over another."

Other aspects of his background also played a part in the change of career. "When you go through a postgraduate public health programme – in Europe especially – you learn about the transmission of infections that are not prevalent in Europe anymore. But I had seen children that have mumps, measles, HIV and tuberculosis in my short clinical career in Nigeria. These were not abstract concepts for me, and I could imagine how the tools I was learning could help resolve those infections that are very still very prevalent in my context."

A fellowship at the EU-funded European Programme for Intervention Epidemiology Training followed, providing Dr Ihekweazu with service-based specialist training and practical experience for his career in epidemiology. This experience was consolidated during a public health training programme in the UK, where Dr Ihekweazu spent most of his training time at the Health Protection Agency.

ON THE FRONTLINE

That fusion of scientific curiosity and personal experience has taken Dr Ihekweazu to senior public health posts in several national public health institutes, including the South African National Institute for Communicable Diseases, the UK's Health Protection Agency and Germany's Robert Koch Institute. Other assignments followed, including co-coordinating the Ebola response in Liberia's capital, Monrovia, on behalf of WHO and becoming the first Director-General of the Nigeria Centre for Disease Control. There he led the response to outbreaks of infectious diseases, a re-emergence of monkeypox and yellow fever, and a transformation of the agency's health security capacities.

Working on the frontline of disease control comes with its own particular pressures. "I think the [COVID-19] pandemic has brought visibility to threats that people in this field have always known about but were not fully recognised by society and politicians. Risk has always been there, so whether we're responding to norovirus outbreaks in care homes in the UK or an Ebola outbreak in South Sudan, you need to think about the dynamics of transmission and the circumstances that lead to it. There is an increasing awareness and intent to prioritise global and public health. We must always remember that behind all of those numbers are people."

A NEW CHALLENGE

Dr Ihekweazu's latest role takes him away from the COVID-19 frontline to lead WHO's new Hub for Pandemic and Epidemic Intelligence. "One of the things that became clear early on is that there's a lack of data in some areas. In other areas the data exists but we haven't learned how to analyse and triangulate it for efficient decision making to happen. If we get better at data collection and analysis, we can give our political leaders the best possible opportunity to make the best possible decisions. We have to provide them with information in a way that is credible, that is agreeable to the professionals, and helps them to understand the benefits and consequences of the decisions they make, not only to their own citizens but to others. This will not happen overnight. Analytics is important, but capacity is also important, as are the tools. That's the starting point of the group that I have been asked to lead."

This new role also brings with it the possibility of collaboration with LSTM. Throughout his career, Dr Ihekweazu's and LSTM's paths have crossed, with regards to Lassa fever, tuberculosis research and COVID PCR and rapid antigen testing. In his new role he is thinking more about the public health leaders of the future. "With COVID, we couldn't attend face-to-face classes and focused harder on virtual models of delivering educational content. I'm interested in thinking with LSTM about how we can leverage on this to make learning more accessible beyond the pandemic. I think the public health expertise that we will need for the world ahead will be a lot deeper in certain areas that we have traditionally developed – we need more colleagues with skills in data sciences, behavioural sciences, evolutionary virology. I hope to work with LSTM in strengthening the postgraduate public health curriculum to fit the demands of our times, and think about how we can better deliver content to people in the Global South."

He is also keen to encourage this year's graduates but has a word of warning. "You can't get the best out of public health if it's just a career for you. There has to be more. I was lucky early in my career to find my purpose and you should also try to find yours. We face big problems, and the solutions are hard, so there must be something self-regenerating and self-fulfilling in your choice."

"Also, there's a lot of opportunity in trying different things – look sideways. I've moved around a fair bit in my career, and each move has enriched me, personally and professionally. Spend time engaging with different people in different places and you develop an ability to look at the same problem from different perspectives, putting yourself in a much better position to think about things. Diversity of experience and exposure will help you navigate the complex world that we live in. Good luck!"

How Dr Chikwe Ihekweazu moved from a medical career in Nigeria to an Assistant Director General at WHO and an LSTM honorary degree



CAREERS ADVICE 101: LOOK SIDeways

In January 2021, our friends and colleagues across Africa called out for help as the COVID-19 pandemic started to impact already under resourced healthcare systems.

As the vaccine rolled out in advanced economies, the health inequalities across the world became even more stark. For example, in the UK, the COVID-19 vaccine rollout is well underway, and it was announced in December everyone over the age of 18 is now eligible for a free booster dose.

In less economically developed countries, the vaccine has taken longer to reach them. It is estimated that meaning that frontline healthcare workers were, and are still, at risk.

In response, LSTM launched the Bump It Forward campaign to raise funds to get vital PPE, equipment, and supplies to frontline

healthcare workers across Africa, whilst they wait for the vaccine to reach them, so they can protect the most vulnerable people in the communities they serve.

We called on our global community of alumni, friends, and supporters to come together to support the campaign. We asked if people would consider donating the cost of a vaccine (c£25) – we asked, and you responded!

Thanks to the support of over 5,000 donors, the Bump it Forward campaign has raised over £285,000 (as of January 2021), supporting 164 healthcare facilities in seven countries by providing 1,323,017 items of PPE.

Your support means we have been able to keep healthcare workers safe and support efforts to challenge global health inequalities.

We want to say thank you to everyone who supported the campaign in any way. You have helped to protect hundreds of healthcare workers, giving them the tools they need so they can serve their communities during unprecedented times.

#Bump it Forward

7 African countries supported

164 Health Facilities

Raised more than
£285,000
inc Gift Aid

Items of PPE
1,323,017

Over
5,000 donors responded

GIVE A BOOST

As the booster dose of the COVID-19 vaccine continues to roll out across the UK, we're calling for your help again.

It is estimated that less than 10% of the population on the African continent have been fully vaccinated.

The pandemic continues to put already fragile health systems under considerable pressure, and new variants emerging risk them becoming overburdened again, when they have not yet recovered from the impact of previous waves.

Help us protect healthcare workers in African countries by sharing this campaign with your friends and family, or by 'boosting your donation to purchase vital PPE and basic equipment so they are better prepared to support their communities.

LSTM'S GLOBAL COMMUNITY JOINS FORCES TO PROTECT HEALTHCARE WORKERS ACROSS AFRICA

Scan to donate
justgiving.com/campaign/bumpitforward



125 years of impact.

IN NOVEMBER 2023, LSTM WILL CELEBRATE ITS 125TH ANNIVERSARY

Since 1898, the Liverpool School of Tropical Medicine has worked to break the cycle of poor health and poverty across the world. Founded through philanthropy by the city's industrialists, LSTM continues to make major contributions to human health, within the UK and globally.

Our unique position and extensive network of partnerships means that we impact health in the poorest communities, whether in Merseyside or Malawi.

Our 125th Anniversary in 2023 is an opportunity to celebrate a unique institution. It is also an opportunity for us to consider the global health challenges of the next 125 years.

Our vision, created with partners and colleagues around the world, aims to develop the scientific and healthcare workforce who will lead the solutions.

By focussing our efforts on the poorest communities, we will support the development of more resilient health, new knowledge, and capacity to create healthier and safer futures for all.

This anniversary is an opportunity for us to continue our relationship with our supporters in a way we have never done before and will include the launch of an ambitious 125th Anniversary fundraising campaign launching in 2022.



Scan for more information

lstm.ac.uk/125
or search: LSTM 125

Keep up-to-date with our anniversary plans and events by joining our mailing list lstm.ac.uk/sign-up

CLIMATE CHANGE AND ITS IMPACT IN CITIES:

THE POWER AND POTENTIAL OF PARTICIPATORY RESEARCH TO IDENTIFY KEY PRIORITIES AND RESPOND

Recently, the world's attention has been focused on the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow. While much of the discussion at the event focussed on the future including emissions and projections, the conference also highlighted that for many, climate change is already a lived reality.

In a COP26 panel on urban informality the Mayor of Sierra Leone's capital Freetown Yvonne Aki-Sawyerr made this point clearly: 'What we aren't talking about enough is the fact that climate change for millions indeed billions of people is not something that's going to happen, it's something that has happened'. Across the panel of civil society actors, government officials and academics, one key message was clear: urgent action, equitable partnerships and co-produced knowledge are required to ameliorate the impacts of climate change for those living and working in informal urban spaces in Low and Middle-Income countries.

The ARISE Hub is playing a role in building and strengthening these partnerships and co-producing knowledge and action. The ARISE Hub – Accountability and Responsiveness in Informal Settlements for Equity – is a Global Research Challenges Fund research consortium, set up to enhance accountability to improve the health and wellbeing of marginalised populations living in informal urban settlements in Low- and Middle-Income countries. It is led out of Liverpool School of Tropical Medicine and partners with researchers and civil society organisations including those that are part of Slum and Shack Dwellers International (SDI) in Bangladesh, India, Kenya and Sierra Leone.

In the ARISE sites, the words of the Mayor of Freetown ring true as the impacts of climate change are already being felt. Dr Joseph McCarthy, Director of the Sierra Leone Urban Research Centre (SLURC) and ARISE investigator, spoke at the UKRI pre-COP 'Adaptation and Resilience: Health and Climate' event on



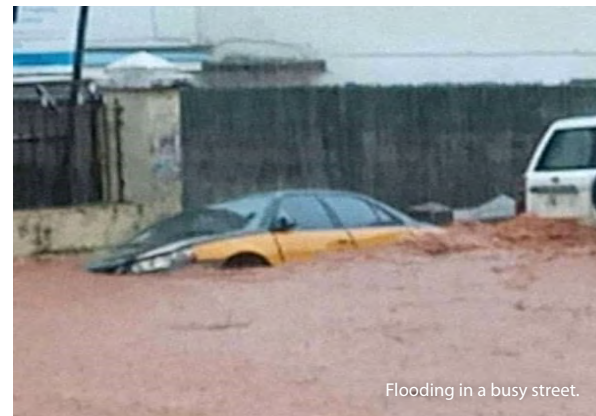
A sideview of the Dwarzark informal settlement.

“CLAIMING A RIGHT TO HEALTH IN THE FACE OF CLIMATE CHANGE”

in October. Joseph highlighted how over the last 10 years, residents of Freetown have witnessed first-hand the escalating trail of destruction left in the wake of floods, sea-level rise, landslides and more. Extreme weather events have had wide-reaching health impacts for the residents of informal settlements and those working in the informal sector.

Participatory research undertaken by the ARISE Hub is deepening understanding of experiences of health and wellbeing in informal urban spaces. Climate change, like COVID-19, has demonstrated that we live in an interconnected but unequal world, and has served as a spotlight or a mirror exposing and often exacerbating existing inequities. Informal settlements are at the forefront of these changes; but even within informal settlements the impacts of these changes are experienced differently. In Sierra Leone, participatory research processes conducted with co-researchers as part of ARISE have shown that the most vulnerable include those on low income (those who live hand-to-mouth through physical labour), children and pregnant women, older adults, persons with disabilities, and persons with pre-existing or chronic medical conditions. The ARISE Hub is using participatory research with those living and

August 2017– Flooding in Freetown (all photos supplied by SLURC).



Flooding in a busy street.



A view of the CKG informal settlement.

working in informal settlements to strengthen partnerships and help build resilience in the face of emerging challenges. We have had some successes here in response to COVID-19 and moving forward will use these methods to respond to challenges posed by climate change. In Freetown, the ARISE Partners Centre of Dialogue on Human Settlement and Poverty Alleviation (CODOHSAPA), Federation of Urban and Rural Poor, (FEDURP), SLURC and College of Medicine and Allied Health Sciences have worked with the District COVID-19 Emergency Response Centre (DICOVERC) to ensure the inclusion of informal urban settlements representatives in pandemic response plans. This builds on ongoing collaborations with the Mayor of Freetown and Freetown City Council that to bring together governance actors, policymakers, and residents of informal settlements to discuss key development issues based on research evidence.

FEDURP and CODOHSAPA have also created an app called FISCOVIDATA (Freetown Informal Settlement Covid Data Dashboard) to collect data on and respond to emergencies, including disasters such as flooding and landslides, gender-based violence and COVID-19. Community-based Disaster Management Committees (CDMCs) comprised of young people are using the app in 48 informal settlements across Freetown. CDMCs serve as first responders and report incidents by using the app to inform governance actors, contributing to the development of open societies. The ARISE Sierra Leone team are working in partnership with Freetown

City Council to explore how the FISCOVIDATA app can be incorporated into DICOVERC and District Health Information Management Systems. This app can be used to understand and respond to risks, in adaptation planning and in humanitarian response during emergencies.

In India, ARISE partners The George Institute (TGI) are working specifically with sanitation workers and waste pickers. These individuals earn their living through picking, sorting and selling recyclable waste, contributing significantly to savings for the government, and to environmental health. However, by working outside waste workers are exposed to multiple hazards and environmental changes such as heatwaves, exacerbating existing inequities for health and wellbeing. The TGI ARISE team describes how for waste pickers and sanitation workers:

'Their experiences of health inequity and precarity are shaped by intersectional vulnerabilities, stemming from caste, class, gender, region of origin, mother-tongue, religion, degree of formality of employment, nature of occupation..., and place and conditions of residence.'

ARISE has worked with community-based partners in India to increase awareness and equitable access to COVID-19 vaccines. In Vijayawada, Guntur, Bengaluru, and Chikkaballapur, TGI and civil society organisation partners Dalit Bahujan Resource Centre (DBRC) and Hasiru Dala, have worked with youth volunteers and female community health workers (ASHAs) to facilitate sessions aimed at increasing awareness and dispelling myths around vaccines. These sessions led to the co-production of infographic materials used in a campaign to encourage vaccine uptake among waste workers.

THIS HAS REACHED 600 WASTE-PICKERS, WITH THE TARGET OF REACHING 65,300 PEOPLE OVER THE NEXT YEAR.

Building the capacities of youth and raising awareness of communities will also be vital in the response to climate change.

There is an urgent need to minimise impacts of climate change on those living and working in informal urban spaces including on health and wellbeing. Within ARISE we will continue to work across our partnerships and strategic alliances and use participatory research, with a focus on inclusivity and equity, to understand and respond to the unfolding impacts of climate change.

For more information about our approaches, please visit the ARISE Hub website: ariseconsortium.org

TACKLING ONE OF THE GREATEST CHALLENGES OF OUR TIME – THE RISE OF NON-COMMUNICABLE DISEASES IN AFRICA



The RESPOND-Africa partnership lifted the ‘International Collaboration of the Year’ award at the seventeenth annual Times Higher Education (THE) Awards in November 2021.



The awards attract hundreds of entries from individuals, teams and higher education institutions from all corners of the UK and, for the first time this year, Ireland too. Nearly a thousand people gathered in London to celebrate the sector’s recent achievement in 20 categories.

According to the judges “RESPOND-Africa’s entry stood out for creating a series of partnerships that have resulted in a step change in research and policy.”

They continued: “The range of partnerships including universities, civil society, policymakers and patient groups was impressive, as was the training and collaborative and inclusive nature of the partnerships, making a huge difference to people’s lives and leaving a tangible and adoptable model for other countries to consider.”

In response to the news RESPOND-Africa co-director Professor Shabbar Jaffar said:

He continued: “Central to this partnership is that we conduct rigorous research, designed to inform health policy and practice globally for the control of high disease-burden conditions. To see that recognised with this award is amazing.”

The Respond-Africa partnership started as a bid to address the question of how health systems in sub-Saharan Africa should be reorganised to tackle non-communicable conditions such as diabetes and hypertension.

At the award ceremony LSTM’s Paul Rowley, from the Centre of Snakebite Research and Interventions (CSRI) was highly commended in the Outstanding Technician of the Year category and Dr Rachel Tollhurst was shortlisted in Outstanding Research Supervisor of the year category.

Health services for these diseases have been fragmented in Africa. The project wanted to engage with healthcare workers and policymakers on the ground about how best to redesign services for maximum impact.

This resulted into a partnership between researchers in the UK, Tanzania and Uganda through seed funding of £2 million that supported initial research. By 2020, four major grants worth more than £12 million from different funders had been secured.

Today, the partnership involves 14 main research partners (four in the UK, three in Europe and seven in Africa), five civil society organisations, and policymakers and patient groups in three African countries.

The research has influenced health policies and changed disease control practices. In Uganda, reorganisation of healthcare started in late 2020; Tanzania is in the final stages of drawing up a similar strategy; and discussions have started in Cameroon, the newest African partner.

// This is fantastic news. I work with such wonderful people, both here in the UK, in Europe and in sub-Saharan Africa so building this partnership has been very easy for us all and it has been tremendous fun. //



STUDY AT LSTM

Our programmes offer an authentic, skills-focused applied learning experience with global impact.

We have recently undertaken a redesign of most of our courses, informed by many years of feedback from students on what makes a powerful study experience. Our new programmes focus on learning through real-world case studies and scenarios that develop students’ confidence in solving complex problems.

We provide the environment and network to access world-leading experts. This opens up enormous opportunities for potential employment and career progression on a global scale. Our

students have direct access to a global network of researchers and students that spans over 70 countries.

As any past student can tell you, studying at LSTM is a memorable experience. This is not just because of the unrivalled learning opportunities but because of our location in the vibrant city of Liverpool. The work we do helps to save countless lives, and our newly designed courses have been shaped to bring out the best in you, so that you too can go on to make an impact.

ALREADY STUDIED WITH US?

LSTM offers a generous 20% tuition fee discount* to students who choose to continue their studies or return to LSTM to gain a Master’s or Postgraduate Research qualification.

For more information contact alumni@lstmed.ac.uk

* Selected courses only

We are also delighted to be launching our one-year MRes in Tropical Health and Infectious Disease Research providing students with a fully immersive research experience. Students will spend eight months in a high impact research team at LSTM to work on their enhanced dissertation. Students will be placed in research areas of parasitology, vector biology, clinical research and public health. We also offer desk-based, lab-based and field-based projects.

Our new portfolio of Masters programmes include:

- Master of Public Health (International)
- Master of Public Health (Humanitarian Health)
- Master of Public Health (Managing Health Services)
- Master of Public Health (Outbreak Control and Health Protection)
- Master of Public Health (Sexual & Reproductive Health)
- MSc Global Health (online)
- MSc Humanitarian Studies
- MSc Tropical Disease Biology
- MSc Tropical & Infectious Diseases
- MSc Tropical Paediatrics



Scan for more information

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ALUMNI SPOTLIGHT

All graduates and supporters of LSTM are a part of a global community of like-minded individuals who want to make a difference to global health. We are proud to attract the best talent from around the world, and even more proud of what they go on to achieve.



DR

Luret Lar

(MSC INTERNATIONAL PUBLIC HEALTH, 2019)

What advice would you give to our current/prospective students?

In the beginning, it may seem rough and tough, but hang on there! You will be the best soon.

TELL US ABOUT YOUR TIME AT LSTM

“Working on the research project and my interest in public health and further need for knowledge and skill development led me to Liverpool. I wanted to learn current and best practices in research methods, best international ethical practices and writing skills. I really wanted to be the go-to person in qualitative research in my work here in Nigeria and to strengthen the capacities of younger researchers. The wonderful colleagues that I work with on the project also recommended this and supported me on getting my master’s in international public health.”

Most of what I had known about the principles and practices of public health were taught in much simpler ways and out of the experience of the excellent lecturers. I loved the practical sessions, especially during qualitative research lectures. Hanging out with friends and colleagues in Liverpool and beyond, especially at weekends will be remembered for a lifetime. Exploring new meals, such as jacket potato and meeting and networking with friends and classmates all over the globe is really a rare lifetime experience. Thank you, LSTM!!!!

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PROFESSOR BALBIR SINGH

(MSC APPLIED PARASITOLOGY AND MEDICAL ENTOMOLOGY, 1984)

Professor Balbir Singh is the founding Director of the Malaria Research Centre (MRC), at the University Malaysia Sarawak (UNIMAS). Professor Singh’s interest in Tropical Medicine was sparked when he conducted part of his University of Liverpool BSc honours project at the LSTM in 1979. He then enrolled on the MSc course in Applied Parasitology and Medical Entomology at LSTM and was inspired by his Immunology lecturer, Dr Owen Goldring, to become a researcher.

IN THE LAST 125 YEARS, WHAT DO YOU THINK HAS BEEN LSTM’S GREATEST ACHIEVEMENT?

“It is the excellent training that LSTM staff have provided students, doctors, healthcare workers and scientists from all over the world. Upon leaving LSTM, these alumni have not only made significant scientific contributions to Tropical Medicine and Health but have gone on to mentor more scientists and healthcare workers.”

MIGUEL MANUEL DOROTAN

(MSC HUMANITARIAN STUDIES AND INTERNATIONAL PUBLIC HEALTH, 2016)

I am currently based in the Philippines as the Executive Director of an NGO called Alliance for Improving Health Outcomes or AIHO. We are a mentoring and consulting organization that works to “Enable People to Make Health Systems work for People.”

TELL US ABOUT YOUR TIME AT LSTM

“I started working in the Humanitarian nexus in 2013 with Super Typhoon Haiyan as a medical doctor in a mobile clinic then shifted to public health interventions including policy making. Mostly I work with WHO Philippines and Save the Children International for different deployments. I was in the Himalayas, responding to the Nepal earthquake of 2015, when I received a call from the Philippine British Embassy that I got the Chevening Scholarship to study in the UK. I applied and got accepted in two programs in LSTM – Humanitarian Studies and International Public Health-Humanitarian Assistance. I ended up taking public health track.”

With some newfound friends, we started a Knowledge Experience Sharing (KES) sessions, where any student can share their past experiences in the field. We had some interesting sessions, from working in Sudden Onset Disasters to protracted crises and even perspectives on civil-military operations.”

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WHAT ADVICE WOULD YOU GIVE TO OUR CURRENT/PROSPECTIVE STUDENTS?

“To the current students, get to know your classmates. Explore Liverpool and the UK with them. Talk and engage with your professors outside of the class. Find the opportunity to learn from their experiences in the field, in research and in life.”

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Introducing the LSTM Future Fund

We are calling on our global community to leave their mark on the future of global health by helping us achieve our vision and help train and educate the next generation of global health leaders.

As part of our 125 Anniversary Campaign, we are launching the LSTM Future Fund.


This is an exciting new campaign to connect our alumni, friends, partners, and students around the world, giving them the opportunity to support our vision.

Your donations play a vital role here at LSTM, allowing us to support much needed scholarships, enabling exceptional students to study at LSTM, and invest in world leading teaching facilities and research. All of which help us to find new solutions to humanity's biggest health challenges.

The
[Future]
Fund



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