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Annual Report

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An Unrivalled Learning Experience

Accessibility

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Welcome



Vice-Chancellor's Foreword

Professor David Lalloo

As we move towards the end of our 125th anniversary year, it is an opportune moment to reflect on the impact of our work, internationally and in the UK.



Chairman's Foreword

Jim McKenna

It has been a privilege to lead the board as LSTM continues to develop and change, to reflect the existing and emerging challenges in global health.



Our research and education portfolios continue to grow, we have strengthened our equitable partnerships further, and we have made substantial progress in the enabling strategies which underpin and support our work.

None of this would be possible without the passion and dedication of all those at LSTM, its staff, students, alumni and partners. I would like to thank all of you who work consistently to fulfil our mission of healthy lives across the world.



Last year LSTM entered its new strategic period, outlining bold and transformative ambitions for the future.

The last 12 months has seen several projects to support that transformation get underway.

I look forward to continuing to work in partnership with David, his senior team and the whole of LSTM to deliver what I have no doubt will be, a successful and prosperous start to the next 125 years.

Officers 2023/24

Patron

Her Royal Highness The Princess Royal

President

Sir Richard Evans CBE (retired on 1st May 2024)

Vice-Chancellor

Professor David Laloo - MB, BS, MD, FRCP FFTM, RCPS (Glasg) FMedSci

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Nicholas Barber - CBE

Nicholas Baring - CB, LLD

Jennifer Borden - OBE

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Jesper Kjaedgaard

Dame Lorna Muirhead - DBE

Dame Jane Newell - DBE, JP

Sir Stephen O'Brien - KBE

Dr John E Roberts - CBE

James Ross - OBE

Dr James Smith - CBE

Professor the Lord Trees - FRCVS, FMedSci, HonFRSE

Professor Sir Mark Walport - FRS, FMedSci



Our Governance

Our governance is exercised through the Board of Trustees and its committees, which are accountable to the Members of LSTM, who in turn answer to the Charity Commission. Our Board includes LSTM staff members (including the Vice-Chancellor) and independent trustees from the fields of business, law, accountancy, politics, higher education, and the public sector, with local and international experience.

Board of Trustees 2023/24

Chair

Jim McKenna

Trustees

Mark Allanson

Professor Jonathan Ball - BSc, PhD, PGCHE, FHEA (Appointed January 2024)

Joanne Dodd - BA, ACA

Ingrid Etoke - MSc

Professor David Laloo - MB, BS, MD, FRCP, FFTM, RCPS (Glasg), FMedSci

Professor Nyovani Madise - PhD, DSc

Professor Sabina F Rashid - PhD, MSc

Sue Russell LLB - Vice Chair

Dr Helen Savage - MBChB, MRes, MRCP, DTMH (stepped down July 2024)

Professor Neil Squires - MBCh, MPH, DTM&H, FFPH

Professor Stephen Ward - BSc, PhD (stepped down September 2023)

Catherine West MP - BA, BSW, MA (stepped down July 2024)

Andy Wright - BSc, MSc

Honorary Treasurer

John O'Brien - BComms, FCA

Secretary and Clerk

Robert Einion Holland - FCCA, MBA (Stepped down September 2024)



People and Culture

LSTM aims to be a global Employer of Choice, attracting and retaining the most talented people. Our People Strategy sets out our plans to achieve this around key focus areas.

In 2023-2024, we delivered:

Employee experience

We ran the first LSTM-wide Engagement Survey since 2020. Results highlighted a strong sense of commitment to LSTM's vision and mission and positive feedback about support from line managers. The action plan will focus on extending career progression opportunities, enhancing ways to recognise contributions and department-specific concerns. A team of engagement champions has been appointed to help take this forward.

Career progression and development

16 participants joined the pilot Prosper programme to develop and support early career researchers.

Our Career Track programme supporting independent researchers was extended to include our global partners, providing an opportunity for academic progression for their research staff. The first cohort has included MLW, CeSHHAR and KEMRI-Kisumu.

A career development tool was created for programme management colleagues. RAMP, a training programme for Research Administration and Management professionals was developed by programme managers and delivered to LSTM and our global partners. Forthcoming career development support will focus on technical and professional career pathways.

We introduced quarterly CPD days into our annual calendar. These include a workshop and development programme for colleagues in all career pathways as well as providing protected space in the diary to undertake self-directed learning or focus on development.



The Leading an Anti-Racist Organisation training programme was delivered to leadership teams, EDI Committee and key operational teams.



We have delivered Leading in LSTM, a personal and team leadership programme, to over 120 people.

We delivered a tailored programme for

70
research groups

Equity and Inclusion

Decolonisation resource has been created to support colleagues develop their skills and practice in this work.

Research is being commissioned to further understand LSTM's colonial origins. The two-year programme will begin in 2025 and culminate in a comprehensive report, addressing our history and heritage.

To support inclusion a programme of events and activities has been organised, including staff network celebration events and campaigns, a race equity book club and awareness raising sessions, covering topics including neurodivergence and menopause.

Next year, we will prepare our submission for the Advance HE Race Equity Charter bronze award, and progress the Athena Swan Plan, as part of our work to support gender equity.

Our networks support colleagues who identify as BAME, LGBTQ+ or who have a disability or are carers. A women's network is also being developed. We will support these networks to flourish.

Leadership and Culture

To grow an inclusive, supportive culture, we have reviewed how we deal with complaints of bullying and harassment. We've created new procedures and guidance, establishing an externally hosted reporting platform and confidential support line. We have introduced Dignity and Respect champions, who will act as points of contact and support.

Next year, we will develop organisational leadership programmes for senior managers and leaders.

We established the Global Hubs HR Working Group – a network for knowledge exchange and collaboration on joint projects with HR and people management colleagues across our global partner organisations.

Postcard



from the field

Urogenital schistosomiasis blights the lives of millions of women, and in men it can lead to Male Genital Schistosomiasis (MGS), a chronic and stigmatising condition. MGS is strongly associated with infertility and chronic genital pain and is an increasingly recognised risk factor for enhancing transmission of HIV, HPV and Trichomonas Vaginalis to women.

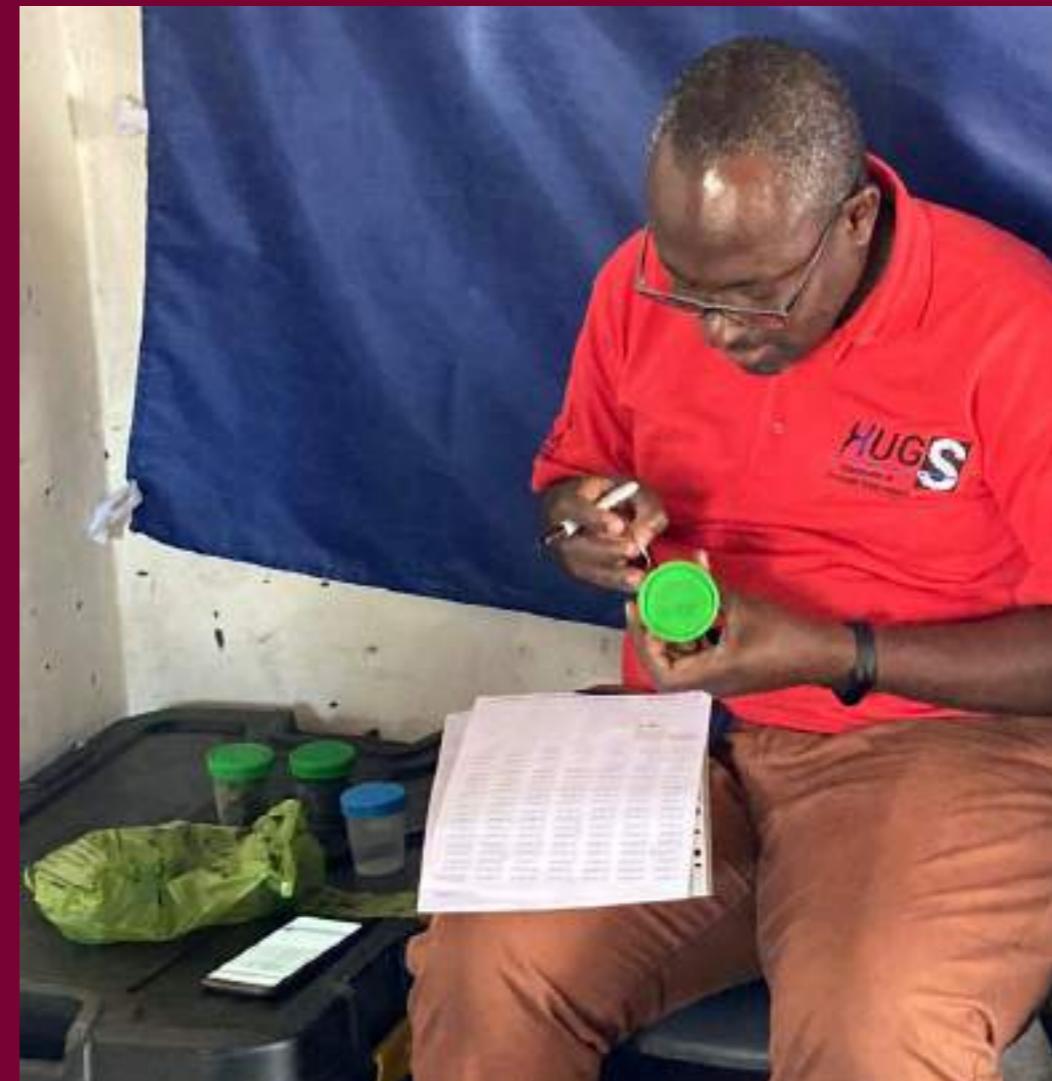
Working with colleagues Professor Janelisa Musaya and Professor Russell Stothard, we have conducted longitudinal research using state-of-the-art diagnostic assays among fishing communities along the Lake Malawi shoreline. This has revealed that up to a quarter of fishermen suffer from MGS - more than double the prevalence detected using classic microscopy methods – a discrepancy that exposes several weaknesses in current primary care.

The lack of accurate diagnostics and insufficient treatment with praziquantel, the only effective drug against urogenital schistosomiasis, contributes to a cycle of disease underreporting and clinical mismanagement. This keeps the true burden of MGS obscured and under prioritised within current public health interventions.

Traditional diagnostic tools within primary care have failed these men, often missing the severity of the infection. It is a sobering realisation that, for decades, lakeshore communities have been silently suffering from MGS and the associated condition in women, Female Genital Schistosomiasis (FGS), which collectively raises HIV transmission across both genders.

Dr Sekeleghe Kayuni

Since 2021, the Wellcome Trust-funded Hybridisation in UroGenital Schistosomiasis (HUGS) project, in collaboration with the Malawi Liverpool Wellcome Trust, has been shining new light on the substantial public health challenge that urogenital schistosomiasis poses across southern Malawi.



As we advance our HUGS investigation, it is apparent that hybrid schistosomes emerging from livestock are entering human transmission cycles. Such hybrid schistosomes are now proven to cause MGS and FGS.

To mitigate their spread a One Health multidisciplinary approach is necessary. This would bring together effective schistosome diagnostics and improved sexual and reproductive health services accessible to everyone in affected communities as well as targeted disease surveillance and control in livestock.

Early Career Researchers



01 ▾ **Jid Purohoo**

I am a post-doctoral research associate working in Professor Christine Goffinet's team and under Professor Richard Plessas at LSTM.

I am from Mauritius and have been in Liverpool for eight years. My work aims to shed light on Influenza-host interaction, with my current project focusing on producing monoclonal antibodies targeting both influenza A and influenza B.



02 ▾ **Dr. Priyanka Sharma**

My current research at LSTM is within iiCON and the citizen Science project 'Swab and Send'.

My project involves the preparation and screening of a natural microbial isolate library along with fractionation, purification, and characterisation of novel antimicrobial natural products from environmental bacteria inhibiting the growth of Candida and drug resistant Enterobacteriaceae. I actively engage in public outreach activities for raising awareness about the critical issues surrounding antimicrobial resistance.



03 ▾ **Motto Nganda MD, MiPH**

I'm a research associate in the Centre for Capacity Research in the Department of International Public Health.

I specialise in collaborative implementation research, applying participatory health research frameworks to work with health systems and communities. My expertise lies in co-creating person-centred health services in resource-limited settings and focusing on improving their resilience to health challenges. Currently, I am involved in the PACTS project, supporting community and health facility action research cycles to enhance person-centred sickle cell disease management in Nigeria, Ghana, and Zambia.



04 ▾ **Shahreen Chowdhury**

I work as a research associate and part time PhD student in the MIND (Mental health, Inclusion, NTDs and Disability) group in the Department of International Public Health.

My work predominantly focuses on implementation research on NTDs, mental health and disability in West Africa and South Asia with a focus on co-production, implementing and evaluating case management and psychosocial support systems. I am particularly interested in community-based participatory research, equitable partnerships and the links between mental health and disability rights. My PhD focuses on mainstreaming the rights of people with psychosocial disabilities in Bangladesh and Liberia.



Global Health Research

LSTM in Liverpool

LSTM's work to fuse global health learning and expertise with the knowledge and insights of local experts has resulted in HELP (Health Equity Liverpool Project) – a project to tackle avoidable health inequities in the city. The model has already helped address COVID-19 vaccine hesitancy in targeted communities in Liverpool and is now being used to tackle low cancer screening and MMR vaccine uptake. The integrated approach is highly flexible and adaptable to different contexts and health issues and provides valuable knowledge exchange opportunities. HELP has also recently been shortlisted in the Knowledge Transfer/Initiative of the Year category of the 2024 Times Higher Education Awards.

Urban health

The six-year, multi-country consortium ARISE (Accountability and Responsiveness in Informal Settlements for Equity) also has a strong gender component. ARISE works to enhance accountability and improve the health and wellbeing of marginalised populations living in informal urban settlements in low- and middle-income countries. The programme ends this year, but its legacy website includes multimedia case studies and a final learning report. A highlight this year was the successful regional conference EquiCity, held in Nepal in collaboration with James P Grant School of Public Health, Bangladesh, PHASE Nepal and the International Society of Urban Health.

Institute of Resilient Health Systems

LSTM's new Institute for Resilient Health Systems launched in late 2024. It will bring together a network of researchers who will contribute to resilience at the interface between community and primary health care systems in Kenya, Malawi, the UK and Zimbabwe. Working in poor and underserved communities, the Institute has already recruited its senior staff including Drs Maryse Kok and Jacinta Nzinga who are based in Malawi and Kenya respectively.



Professor Hilary Ransom

Pro Vice-Chancellor for Research Culture and Integrity



Hear more from Hilary on our latest achievements in global health research.





Gender and equity at LSTM

Gender has featured extensively in our global health work this year. LSTM was awarded funding by UK aid for GEAR up (Gender and Equity within Antimicrobial Resistance) which brings together expertise from LSTM in collaboration with partners in Bangladesh (JPGSPH), Ghana (UHAS), Kenya (LVCT Health), Nepal (HERD international) and Zimbabwe (CeSSHAR). The team is working to catalyse action on gender and equity within antimicrobial resistance (AMR) by supporting its mainstreaming within routine AMR systems and structures, increasing awareness and contributing to the knowledge on structural inequalities driving and shaping the AMR response.



◀ Professor Sally Theobald, who is an integral part of several LSTM consortia including GEAR up, ARISE and ReBUILD for Resilience, was appointed the UKRI/FCDO Senior Research Fellow on Gender this year.

Health policy and systems research

There is also new funding for climate research at the Health Systems and Workforce Strengthening (HSWS) unit. The team was recently awarded £4 million by NIHR to conduct a four-year study in Nepal and Zimbabwe into strengthening the health workforce to respond to health impacts of the climate crisis.

The team is currently working in Ghana where staff are engaged with the University of Ghana School of Public Health on a study to address health workforce attraction and retention issues in hard-to-reach, poorly served communities. Working with health workers the team is co-designing and implementing community-based interventions.



The HSWS-led consortium, ReBUILD for Resilience, has continued to deliver impactful research in health systems in fragile and shock-prone settings around the world this year. Research at existing sites in Lebanon, Myanmar, Nepal and Sierra Leone continues, with the addition of new studies on the Myanmar-Thai border, Turkey, Yemen, Afghanistan, Ethiopia and Bangladesh. New areas of research include liminal health systems, post-conflict health system strengthening, cultivating coordinated networks between climate stakeholders, and health worker resilience during conflict.



Maternal, newborn and child health

The NIHR Unit on the Prevention and Management of Stillbirth and Neonatal Death in sub-Saharan Africa and Asia (part of the Centre for Childbirth, Women and Newborn Health), is delivering two large randomised controlled trials. One is testing a bereavement intervention that was developed by the LSTM team in partnership with colleagues in Kenya and Uganda, using a stepped wedge design. The other trial is assessing a mobile-health application (Pregnancy and Newborn Diagnostic Assessment - PANDA) for supporting antenatal care provision for 2,000 pregnant women in 16 sites in the Manyara and Singida regions of Tanzania. Results are expected next year.

The CIFF-funded PROSYNK study at KEMRI, Kenya completed follow-up this year. Findings from the study, which evaluated the effect of pro/synbiotics on systemic inflammation in infants, have been shared with the participating families and health staff in Kenya and at several conferences. Additional funding has been secured through the BMGF Collaborative Platform to extend analysis of inflammatory biomarkers and stool metagenome.

Also, follow-up at the 18–24-month stage of the newborn cohorts recruited in Senegal, India and Indonesia in the GCRF Action Against Stunting Hub is almost complete. The Gut Health Workstream, led by LSTM, will assess the role of poor gut health in growth faltering and has tested a probiotic to improve growth in Senegal.

MIND (Mental Health, Inclusion, NTDs, and Disability)

This year marked the culmination of MIND's REDRESS project, a four-year, £3.5 million NIHR-funded initiative focused on improving person-centred care of people affected by

severe stigmatising skin diseases in Liberia. The programme's efforts in intervention rollout, evaluation, person-centred approaches and integration of mental health and neglected tropical diseases (NTDs) in Liberia are widely recognised. This includes REDRESS' shortlisting as International Collaboration of the Year for The Times Higher Education Awards 2024, and first prize for a TDR Equity and Inclusivity in Research Mentorship open call. The World Health Organisation Skin NTD director described REDRESS interventions as "transformational" for the integration of skin NTDs across Africa. The project team has also secured additional funding to extend its dissemination and impact.



This year, MIND also launched a Mental Health, Stigma and Neglected Tropical Diseases special supplement in International Health journal, showcasing MIND's cutting-edge evidence to advance implementation research on mental health, stigma and NTDs.

SHINE, the team's £3.5 million NIHR award, has also made significant strides this year to explore and enhance the mental wellbeing of community health workers in urban informal settlements in Kenya and Bangladesh.

Start4All

Start4All is a four-year cross-disciplinary global tuberculosis (TB) diagnostic research programme funded by Unitaid, led by LSTM with StopTB Partnership and partners in Bangladesh, Brazil, Cameroon, Kenya, Malawi, Nigeria and Vietnam.

Start4All has initiated recruitment at all sites involved in collecting data to develop and assess innovative combinations of TB screening and triage tools. These tools are designed to be implemented in primary healthcare settings and community environments, aiming to increase TB diagnosis rates and ultimately improve linkage to care. For many of these sites, it will be the first time such screening tests are being evaluated.

Start4All is set to contribute its expertise to upcoming WHO guideline development groups. The team is collaborating with healthcare experts, including Market Access Africa—leaders in driving innovation across the African continent—and Worldwide Radiology, a volunteer-led nonprofit with decades of experience enhancing radiology services.



Education

125 Director's Excellence Scholarships

LSTM scholarships have helped to educate and train the next generation of scientists and health professionals. During the 125th anniversary year, the Education team supported scholars to pursue careers in fields ranging from sexual and reproductive health to international public health.

Fellowship recognition

Professional recognition continues to be a core element of the institution's investment in staff development, with more than 90 staff members recognised in the past four years across the Advance-HE fellowship categories. In summer 2024, LSTM adopted the latest Professional Standards Framework (PSF 2023), enabling staff to achieve fellowship recognition aligned with the most recent sector advancements in effective and impactful educational practices.

Malawi field trip

Tropical Disease Biology students went on a field trip to Malawi to conduct data collections with the HUGS research team. The group also exhibited their project posters and delivered speed talks at the British Society for Parasitology Autumn Symposium at the Natural History Museum – and scholar Jordan White won best student talk and was co-winner of the student poster prize.

Professor Isabel Lucas, Pro Vice-Chancellor for Education

It has been another impressive year for LSTM in sector rankings. We were shortlisted for THE Awards' University of the Year, placed second nationally in the PTES postgraduate student survey, and ranked in the top 5.3% of universities globally by the Center for World University Rankings.

LSTM continues to enhance our education offer, delivering impact for our taught and research students. It has been a fulfilling year for our diverse cohort, collaborating and building memories on their journey to becoming global health leaders and researchers.



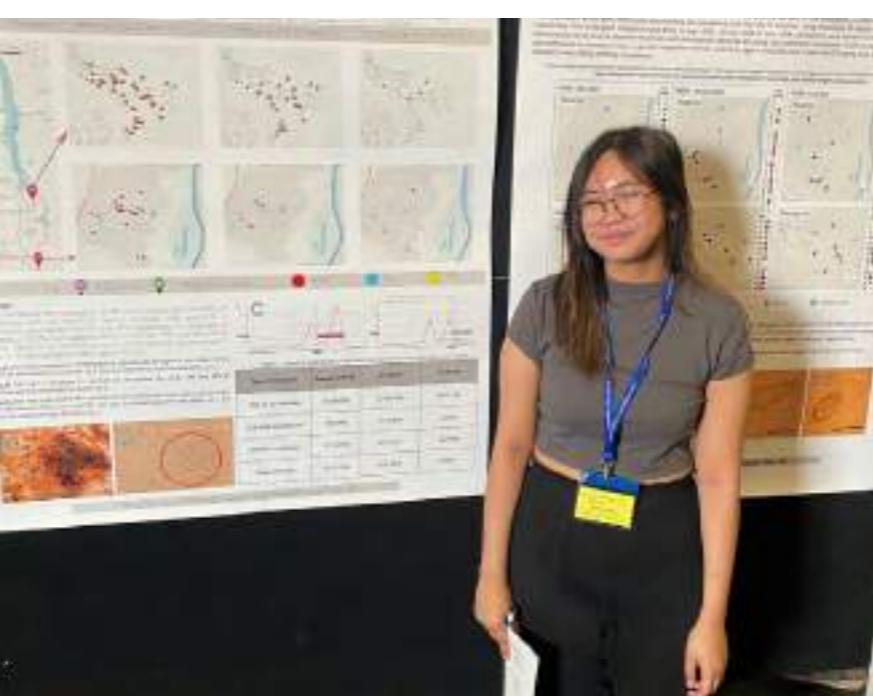
Developments supporting growth

LSTM is working with Edge Hill University (EHU) to develop a new BSc (Hons) undergraduate programme. The aim is to incorporate bespoke LSTM-delivered modules into the existing biomedical/biological module portfolio at EHU to produce graduates that will contribute to established educational pathways for generating the global health leaders of the future.

MRC approved continuation of the LSTM's Doctoral Training Partnership, in collaboration with Lancaster University. The programme supports outstanding candidates to undertake PhD research projects that prioritise translational research and 'bridge science', embedding advanced quantitative training and methodologies.

LSTM relaunched the PhD by Prior Publication programme, attracting mid-term career scientists who can demonstrate a portfolio of high-quality publications, who want to grow their impact, independence and influence as researchers and receive recognition that they have produced written output to the standard of a doctorate during their career.

A strategy and implementation plan has been developed to grow our professional short courses to support upskilling of global health practitioners and researchers.



Student Experience

Pembroke House has become the place to be for a vibrant student experience. As well as the flexibility it offers for interactive teaching it has become the home for our postgraduate research conference, and the regular social space for a range of activities across the year – allowing new opportunities to build the student community that was previously lacking.



Hear more from our students



Professor Giancarlo Biagini

Pro Vice-Chancellor
for Research and
Innovation



**Since its inception
18 months ago, the
E and I Team have
delivered more than**

**£4m
in investment**

iICON

Infection Innovation Consortium (iICON) continues to expand its network of global partnerships to help shape a long-term infection R&D strategy.

Enterprise and Innovation Team

The Enterprise and Innovation (E and I) Team is one of the mechanisms by which LSTM drives development of new technologies and innovations to combat infectious diseases and consolidates the impact of research. They collaborate with LSTM's academics and external partners to create translational research projects and consortia, driving access and implementation pathways for new healthcare technologies.

Since its inception 18 months ago, the E and I Team have delivered more than £4 million in investment, including the LifeArc Translational Development Fund Award and funding for both the Framework for Leveraging Innovation in Global Health Technologies (FLIGHT) and Sustainable Innovation in Global Health Technology (SIGHT). It helped to deliver the first MLW Innovation Week and Malawi Women in Innovation Group.



**Dr Becky
Jones-Phillips**
Head of Innovation and
Enterprise



Impact and Innovation

Aligned to increased use of automation, machine learning and AI in infection R&D, iiCON has expanded to include specialist engineers, helping to deliver a £20m programme to establish a Category 3, AI-driven robotic facility.

Earlier this year iiCON ran a new £1.5m programme for UKRI supporting networks and pilot grants for disruptive technologies. Sandpit events were held in Liverpool and London, which attracted over 200 multi-disciplinary stakeholders. The call for proposals attracted 88 eligible applications, 11 of which have been offered awards.

To mark the 10th anniversary of the O'Neill Review on antimicrobial resistance (AMR), iiCON hosted the BioInfect AMR conference, jointly sponsored by BioNow and iiCON. The event was joined by Lord Jim O'Neill, the author of the report, and Liverpool City Region Mayor Steve Rotheram, to celebrate the significant breakthroughs in the fight against AMR alongside the major challenges that remain.

iiCON welcomed the Centre of Excellence for Long-Acting Therapeutics (CELT) as its 11th platform, which has been recognised as a National Centre with funding from UKRI.

Virus research and diagnostics

The Centre for Drugs and Diagnostics (CDD) has been awarded £1.4 million from the Medical Research Council's Developmental Pathway to develop the first lateral flow assay (LFA) to detect Crimean Congo Haemorrhagic Fever (CCHF) viral antigens.

The test prototype will be further developed before being evaluated and commercialised, contributing to faster diagnosis and reduced cases and deaths.

The Centre will also be able to expand its research portfolio over the next five years due to an award of £9.8 million from Research England.

Research into the threat of MPox continues with LSTM evaluating molecular point-of-care diagnostic tests and antigen lateral flow assays, following the WHO's declaration of MPox as a Public Health Emergency of International Concern (PHEIC). Follow-up funding from Foundation for Innovative New Diagnostics will be obtained to carry out more diagnostic evaluations.

In collaboration with the University of British Colombia and funded by WHO, LSTM is also looking at inactivation of the Mpox virus. LSTM collaborated with ProMake, a material science and diagnostic company, through Innovate UK's Accelerated Knowledge Transfer Scheme, to investigate how advanced graphene technology might be used to rapidly detect infection. ProMake has developed a novel device prototype, the 'BioPod', a hand-held point-of-care diagnostic which can be used in the same way as lateral flow tests but is potentially more accurate and easier to interpret.

Funding from LifeArc, delivered by LSTM's E and I team, is enabling the team to develop an LFA for Rift Valley Fever (RVF); a WHO-listed priority disease that causes severe public health consequences, death, and a high economic burden across Africa. This will enable early detection of outbreaks, preventing escalation and reducing transmissions and deaths.

Professor Christine Goffinet arrived as the Chair in Virology in September 2023, with a Global Talent Professorship Award of the Academy of Medical Sciences to support her teams' research programme DESIRE (Developing Strategies for Improved HIV-1 Latency Reversal and Elimination) on HIV-1 cure. Other research foci are virus-host interaction in arthritogenic alphaviruses, including Chikungunya and Mayaro viruses, SARS-CoV-2 and MPXV. Her team now has 10 members from many different countries.



Vector biologists have studied the transmission and control of zoonotic mosquito-borne viruses, with partners in the UK, Tanzania and Bangladesh.

Malaria and mosquito borne disease

LSTM and partners were awarded £1.4 million from the Medical Research Council to develop a new drug to treat malaria. The team of medicinal chemists and parasitologists will collaborate with an international consortium.

Another new drug treatment could help to prevent malaria during pregnancy for women living with HIV. An LSTM-led study, IMPROVE-2, suggests that the addition of antimalarial drug dihydroartemisinin-piperaquine to the WHO-recommended antibiotic dosage substantially reduces the risk of malaria in pregnancy.

Thanks to funding from the Bill & Melinda Gates Foundation (BMGF) LSTM has developed an insecticide resistance prediction platform to identify cross-resistance mechanisms to new insecticides for the proactive management of next-generation malaria vector control products.

The Global Fund to Fight AIDS, Tuberculosis, and Malaria has awarded LSTM, CRID (Cameroon) and CNRFP (Burkina Faso) funds for a project exploring entomological investigations and stakeholder perspectives to support the introduction of dual active ingredient insecticide-treated nets.

Fieldwork involving livestock and mosquito sampling to better understand the potential impacts of peri-urbanisation and irrigation on RVF virus transmission and to quantify drivers of transmission of Japanese encephalitis virus, is being used to inform vaccination strategies for both diseases and, more broadly, inform surveillance and control efforts.

Capacity Strengthening

LSTM's Centre for Capacity Research provides specialist advice and resources on evidence-based solutions for strengthening the research capacity of individuals, institutions and broader research systems. This year they produced two quick guides on research capacity strengthening for researchers and funders, and the centre's contributions to the UK Department of Health and Social Care's aid-funded global health research and innovation review are reflected in its five key recommendations.

Maternal, newborn and child health

The NIHR Unit on the Prevention and Management of Stillbirth and Neonatal Death in sub-Saharan Africa and Asia (part of the Centre for Childbirth, Women' and Newborn Health), is delivering two large randomised controlled trials. One is testing a bereavement intervention that was developed by the LSTM team in partnership with colleagues in Kenya and Uganda, using a stepped wedge design. The other trial is assessing a mobile-health application (Pregnancy and Newborn Diagnostic Assessment - PANDA) for supporting antenatal care provision for 2000 pregnant women in 16 sites in the Manyara and Singida regions of Tanzania. Results are expected next year.

Snakebite research

The Centre for Snakebite Research & Interventions (CSRI) has begun an ambitious randomised clinical trial across sub-Saharan Africa to assess the efficacy of multiple antivenoms against systemic envenoming. Developed in partnership with the MRC Clinical Trials unit, the trial will produce evidence to help Ministries of Health determine which antivenom is suitable for procurement in their countries.

The LSTM-led African Snakebite Alliance (ASA), links policymakers and community groups in Africa, improving health outcomes and addressing evidence gaps in policy and practice.

CSRI has also developed a human antibody capable of neutralising the effects of neurotoxic venom from a variety of snakes, a major step towards better antivenoms.



Major breakthroughs this year include world-first cobra venom treatments that will address previously untreatable necrotic cobra venom, and the discovery of how heparin, a cheap and approved medication, can be used to treat bites.

Image credit: Simon Townsley



Neglected tropical diseases (NTDs)

Researchers from LSTM's Centre for Neglected Tropical Diseases (CNTD) made a world-first discovery that parasitic nematodes contain a wide variety of viruses. This potentially solves the mystery of how nematodes cause diseases which infect more than a billion people globally. The team was also part of a group which discovered a treatment for nodding syndrome, a neurological condition that causes debilitating mental and physical disabilities and life-threatening seizures, mainly in parts of East Africa.

The Wellcome Trust-funded Hybridisation in Urogenital Schistosomiasis (HUGS) team is at the forefront of schistosomiasis research, producing papers about hybrid infections (including HIV), human/bovine interactions and the prevalence of male genital schistosomiasis.

This year the group has secured a £4.7 million Discovery Award from Wellcome Trust to ascertain the importance of hybrid schistosomes in Cameroon and to test how mass drug administration to schoolchildren might mitigate the emergence of novel schistosomes.

Vaccine development

This year the Liverpool Vaccine Group (LVG) has expanded its work outside of pneumococcal research, beginning a clinical trial with the University of Oxford's Pandemic Sciences Institute to find a vaccine.

Middle East Respiratory Syndrome (MERS)

An ongoing collaboration with Oxford Vaccine Group (OVG) has expanded its Controlled Human Infection Models to include *Salmonella Paratyphi* and has led to LSTM's selection as the Northern Hub for future challenge trials.

This year the group has secured a

£4.7m

Discovery Award from Wellcome Trust

The partnership with OVG has led to the development of a TB challenge model in Liverpool which will translate to MLW, accelerating TB vaccine and drug development.

Several successful clinical trials, sponsored by organisations such as MRC, Oxford, Moderna, and Infex, were completed, with the Pfizer RESPECTT study being a significant highlight. The ongoing development of the new 12-bed Human Challenge Facility (HCF) in Liverpool underscores the team's leading role in global vaccine research and commitment to advancing health equity and education.

Functional genetics

Students from IRSS in Burkina Faso worked with LSTM vector biologists to generate a transgenic mosquito. This cutting-edge genetic technique could help reduce the spread of diseases like malaria, yellow fever and dengue by altering key insect traits in a self-sustaining way. The team, involving Keele University and Imperial College London and funded by BMGF, will also look at ways that the traits associated with the gene drive may be designed to only become active in certain insects or at certain times.

Professor Tony Nolan explains more.



October 2023

Innovation in Business Awards

Liverpool School of Tropical Medicine took home the prize for Business of the Year (over 30 employees) at the Innovation in Business Awards 2023, hosted by Liverpool Chamber of Commerce.

KE Awards

The Tiny Targets research and knowledge exchange project to protect people from the Gambian form of Human African Trypanosomiasis was shortlisted for Place-based KE Initiative of the Year at the PraxisAuril KE Awards 2023.

November

NIHR professorship

Professor Daniela Ferreira was awarded a prestigious Research Professorship by the National Institute of Health and Care Research (NIHR). The Professorship, which is the NIHR's flagship award, aims to promote the effective translation of research, turning observations in the laboratory, clinic and community into interventions that improve the health of individuals and the public.

Queen's Anniversary Prize

Tiny Targets was also the project which saw LSTM being awarded a prestigious Queen's Anniversary Prize for the first time. The Queen's Anniversary Prizes are the highest national honour for higher education. Granted every two years by the reigning monarch as part of the national honours system, the awards recognise outstanding work by UK colleges and universities which demonstrates excellence and innovation and delivers real benefit to the wider world.



Finance Director of the Year Awards

LSTM's Director of Finance Duncan Preston won the Special Recognition Award at the 2023 Finance Awards North West.

February 2024

Buckingham Palace ceremony

LSTM formally received its Queen's Anniversary Prize for the Tiny Targets project at an Honours ceremony in Buckingham Palace.

March

Academy of Medical Sciences Spring-board Award

The Academy of Medical Sciences awarded £125,000 to Dr Thomas Edwards to support his research into mechanisms of antibiotic resistance in E.coli.

April



WHO film award nomination

'Four X-rays could save your life', an innovative short film to encourage routine breast cancer screenings produced as part of the LSTM-led Health Equity Liverpool Project, was shortlisted for the Very Short Film prize at the World Health Organization's Health For All Film Festival.

May

Academy of Medical Sciences fellowship

Vice-Chancellor Professor David Lalloo was elected as a Fellow of the Academy of Medical Sciences. The Academy is the independent, expert body representing the diversity of medical science in the UK, and its elected Fellows represent the most influential scientists in the UK and worldwide.

June

Royal Society of Chemistry Prize

The A-WOL antifilarial drug discovery team was named the winner of the Royal Society of Chemistry's Horizon Prize, which celebrates discoveries and innovations that push the boundaries of science.

Finance Awards North West



LSTM won Finance Team of the Year (6-19 people - Cheshire & Merseyside) at the 2024 Finance Awards North West.

July

Liverpool Chamber Awards

Dr Becky Jones-Phillips, Head of Innovation and Enterprise, was shortlisted for the Leadership Innovation Award at Liverpool Chamber's Innovation in Business Awards 2024.

August

Health Service Journal Award

The Health Equity Liverpool Project was shortlisted at the HSJ Awards 2024, recognising an outstanding contribution to healthcare.

*This year, the new multi-million-pound **CREATOR** building was opened by the Malawian President, Lazarus Chakwera.*



Strategic Partnerships



“LSTM’s regional and global partnerships are a defining feature, and we are committed to working in equitable partnerships to find solutions for the important challenges in global health.”

Professor Bertie Squire, Pro-Vice-Chancellor for Partnerships, outlines LSTM’s strategy.

Zimbabwe

CeSHHAR (Centre for Sexual Health and HIV/AIDS Research) Executive Director, Professor Stanley Luchters leads the team working on an established programme of sexual and reproductive health research.

The team has conducted a UNAIDS-funded pilot of a self-care intervention among colleges/university students to promote the use of HIV self-tests, condoms, HIV prophylaxis and emergency contraception.

CeSHHAR is one of three southern African partners in the Measurement and Surveillance of HIV Epidemics consortium (MeSH), funded by the Bill & Melinda Gates Foundation.

The Climate and Health Africa Conference 2024 is being hosted by CeSHHAR and the Zimbabwean Ministry of Environment, Climate and Wildlife, and the Ministry of Health and Childcare. The conference signifies Zimbabwe’s entry into global dialogue on climate change and health.

Malawi

The Malawi-Liverpool Wellcome Trust (MLW) Research Programme is led by Professor Henry Mwandumba. This year MLW has completed construction of the CREATOR building. As a world-class teaching and research space, CREATOR will power MLW’s ambition to be the leading research institute based in a low-income country.

MLW embodies this equitable partnership ethos and demonstrates what can be achieved when organisations come together. CREATOR will greatly increase MLW’s capacity to undertake cutting edge and impactful research. The new facility will enable the research portfolio to grow by as much as 30% over the next decade, and support growth in its postgraduate medical training provision, with the aim of training and retaining more talent in Malawi and the region.

Kenya

LSTM’s office in Kenya provides support to academics in Kisumu and manages a portfolio of research on maternal and newborn health led by Professor Charles Ameh, Head of LSTM’s Department of International Public Health.

This year has seen the completion of the Children’s Investment Fund Foundation-funded PROSYNK study at Kenya Medical Research Institute (KEMRI). It demonstrated the effects of pro/synbiotic on systemic inflammation in infants, with additional funding being secured through the B&MGF Collaborative Platform to extend analysis of inflammatory biomarkers and the stool metagenome.



LSTM has a vibrant global alumni community. Whether leading humanitarian organisations, heading up Ministries of Health, pioneering new research or innovating in industry, our graduates are working to positively impact global health.

LSTM alumni community



During our 125th Anniversary year, LSTM hosted its first-ever Alumni Reunion Weekend. LSTM were proud to welcome over 60 alumni back to Liverpool to hear from academics speaking on some of LSTM's latest research.

This coming year, LSTM looks forward to continuing to strengthen the growing LSTM community and supporting the graduates to advance in their careers. As leaders, advocates and ambassadors, alumni continue to play a vital role in LSTM's mission to improve health outcomes for some of the world's most vulnerable communities.

Meet our alumni

Dr Cordelle Ofori (Diploma in Tropical Medicine & Hygiene, 2003), Director of Public Health at Manchester City Council

Dr Ofori shifted from GP practice to public health after seeing firsthand the impact of health inequalities. During the Covid-19 pandemic, she led efforts to improve testing and vaccination access in Manchester's diverse communities, with initiatives like 'Covid Chats' and 'jab cabs' gaining recognition. Her work focuses on tackling health disparities, drawing inspiration from her Diploma in Tropical Medicine, which she credits for shaping her career and passion for health equity.

Dr Sanie Sesay (PhD, 2014), Transformation Leader at R&D Sanofi Vaccines

Dr Sesay began his career in tropical medicine as a Research Physician at the Medical Research Council in The Gambia, where mentors like Professor Sir Brian Greenwood shaped his path. With a PhD funded by the Malaria Capacity Development Consortium, Sanie focused on malaria transmission metrics under the guidance of Dr Dianne Terlouw and Professor David Lalloo.

After completing his PhD, Sanie worked at LSTM before joining Sanofi, where he now serves as a Transformation Leader in Vaccines Research and Development. He credits LSTM for equipping him with essential skills and fostering a collaborative environment that shaped his career.

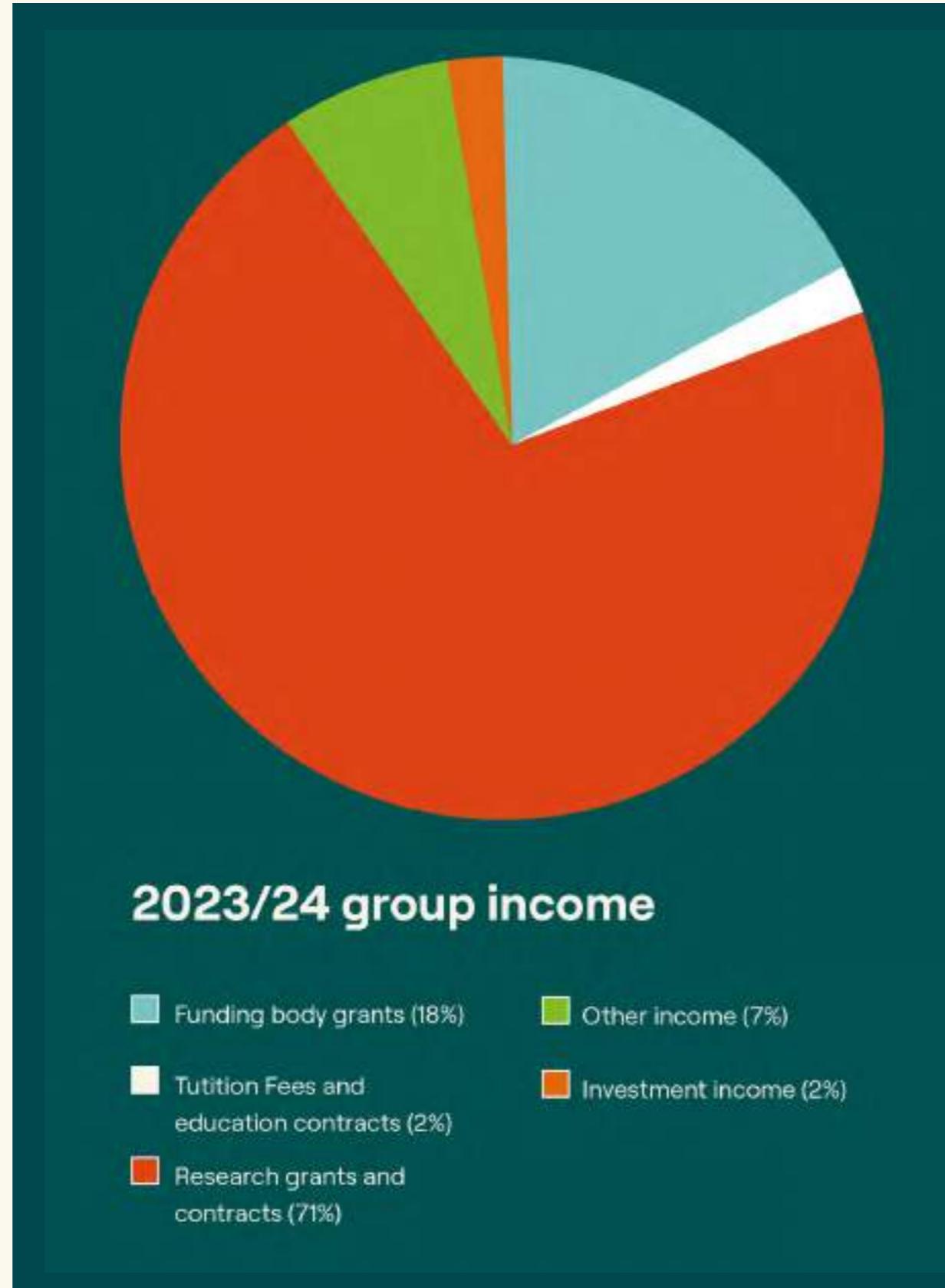
Nick Prince (Certificate in Tropical Community Health and Medicine, 1997)

Nick Prince, a UK-born humanitarian and public health professional, started his career as a nurse, later taking a pivotal course at Liverpool School of Tropical Medicine that set him on a path to work in crisis zones. With the International Red Cross, he served in public health roles across the world, especially in the Middle East. After moving to Australia in 1999 and earning a Master of Public Health, Nick continued his humanitarian work, responded to COVID-19, and taught nursing. Now nearing retirement, he's focusing on research and advocacy, having earned the Florence Nightingale Medal in 2023 for his impactful career.

Financial highlights

The LSTM Group has had another successful year with a reported group surplus of £25.0m (£4.9m excluding the £20.1m release of the USS pension provision). Despite a drop in research income after many years of increases, the research portfolio remains very healthy, with active grants at £749m compared to £620m last year. Funding from the Office for Students and Research England has grown by 6%. Overall income stands at £128m.

Net assets have improved by £25m and cash and investment balances remain healthy. This has been achieved against continuing financial turbulence in the HE sector, with rising staffing and infrastructure costs, increasing competition in the research environment, and an uncertain international student market. LSTM has continued its significant investment in strategic appointments, buildings and the IT infrastructure as part of its ambitious growth plan.



Group financial position

The LSTM Group has reported a total comprehensive income of £25.0m (2023: £7.8m surplus) this year, despite a decrease in research income. The fall in income was caused by fewer grant applications submitted during the COVID period causing the research pipeline to fall, along with existing grants having no-cost extensions and a trend towards lengthening contract negotiations. In IVCC, the income drop was caused by a slowing down of activity, pending the outcome of several large grant application renewals and the completion of a large, successful UNITAID - funded programme. The expected drop in income is predicted to reverse during 2024/25.

Group net assets at the year-end totalled

£81m

(2023: £56m). Combined group cash and investments have decreased slightly by £1m, but remain at a very healthy total of £85m.

Excluding USS pension provision changes and gains and losses in investments and endowments, an underlying group operational surplus of £2.1m (2022: £6.6m) has been achieved.

The research pipeline remains strong for both LSTM and IVCC projects with a combined unexpended balance of £257m (2023: £181m) and the overall portfolio balance remains healthy at £749m (2023: £620m). There are over £40m worth of grants that are in negotiation with funders. These will be added to the live research portfolio during the 2024/25 financial year. During the year, IVCC secured its largest ever grant from any funder, at \$85m from BMGF, securing its future for the next 5 years.

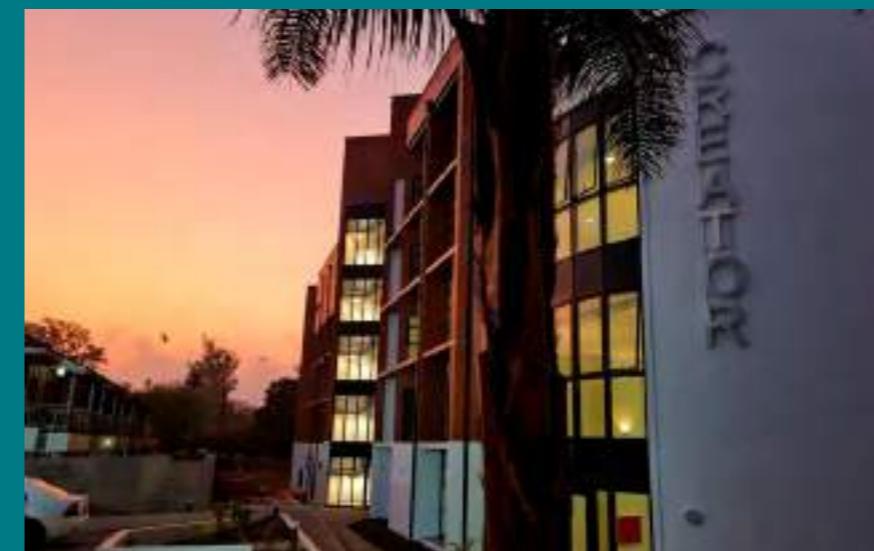
The financial forecast for 2024/25 is for a breakeven position as the organisation continues with significant investment. By 2028, LSTM aims to achieve a minimum surplus of 3% of turnover as part of its drive towards long-term financial sustainability.

Campus enhancements

Work has started on the Human Challenge Facility with funding predominately from Research England's Red Fund initiative. During 2023/24 work started on the renovation of the teaching and library space within the Mary Kingsley building. The work is being funded with help from the Office for Students capital programme.



MLW's CREATOR building a new home for clinical research, medical education and training, was officially opened by the president of Malawi in August 2024.



IT infrastructure

Significant cash has been spent on updating the IT infrastructure over the past 12 months. At the centre of this was the go live of a new finance system in April 2024. This will transform the access, reporting and analysis of financial information and enhance future decision making at all levels. Work is underway on the development of improved research reporting systems to integrate with the finance and other systems.

New appointments

The past year has seen investment in both professional service staff and academic colleagues. The expansion in numbers of strategic academic appointments is key to achieving the ambitious growth plan and future financial sustainability of the organisation. LSTM has a challenging target to increase REF returnable academic staff by 25% by the end of the current strategic plan and to double student numbers by 2028. The investment in staffing, physical infrastructure and systems and process will create the platforms necessary to achieve these goals.

Innovative Vector Control Consortium (IVCC)

2024 has been a pivotal year for IVCC with the launch of a refocussed strategy, a suite of funding renewals and significant milestones reached in the development portfolio.

We secured critical funding, to support the development pipeline, from the Bill & Melinda Gates Foundation, USAID and the Australian Government, and submitted new proposals for grants with the UK and Swiss governments. We established agreement with a new industry partner to develop new insecticide-treated nets and completed a set of trials designed to demonstrate the public health value of new potential product classes for malaria vector control. We supported capacity development in Africa with

LSTM Group



Justin McBeath

further expansion of the network of GLP accredited testing sites and celebrated significant programmatic progress in the USAID-funded “Accelerate to Eliminate Malaria Program” with partners in Côte d’Ivoire and Tanzania. Throughout 2024, IVCC also supported critical advocacy efforts around the need for an integrated approach to malaria elimination.

Well Travelled Clinic

Clinical Diagnostic
Parasitology
Laboratory
LITE



Philippa Tubb



Jayne Jones



Amy Guy

Engaging the community with LSTM's 125th anniversary

The National Lottery Heritage Fund supported project 'LSTM-Past, Present, and Future' continued to engage audiences with LSTM's rich heritage. During the year, this involved a touring 'pop-up' museum – the Tropical Medicine Time Machine – and exhibits to communicate LSTM's story alongside a learning programme for schools and adult learners, and a volunteer recruitment programme to deliver events.

Created by science artists Tom Hyatt and Natasha Niethamer, the Tropical Medicine Time Machine is a captivating and interactive display that explores LSTM's groundbreaking work.

The Time Machine journeyed to the World Museum, Museum of Liverpool, and local festivals such as Africa Oyé. It also landed in classrooms which form part of Everton in the Community's school network, and in October travelled to the New Scientist Live Exhibition in London.

Listen to Dr Elli Wright explain the importance of LSTM's Tropical Medicine Time Machine



"Our pupils wanted to find out more about the artefacts and materials that came alongside the Tropical Medicine Time Machine"

– School teacher within Everton in the Community's school network.

More than 5,000 people have engaged with the events, thanks to 40 LSTM staff and students and 25 community volunteers from Everton in the Community and Liverpool City Council Volunteer Service.

LSTM-Past, Present, and Future also reached a wider audience of over 300,000 people passing through the museums, where visitors explored exhibits on the remarkable lives of LSTM's key



More than 5,000 people engaged with the Tropical Medicine Time Machine at community venues.

125th anniversary Gala Dinner

In November 2023, LSTM welcomed its Patron, Her Royal Highness The Princess Royal, to commemorate its 125th anniversary. The Princess Royal joined an international guestlist of LSTM staff, students, supporters, partners and alumni for a dinner in Liverpool's St George's Hall.

The evening included an address from The Princess Royal, a message from Dr Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization, highlights of LSTM's journey and ambitions for the future from Vice-Chancellor Professor David Lalloo, and keynote speeches from the co-founder of the Pan-African Mosquito Control Association (PAMCA) Dr Emma Orefuwa and Professor Henry Mwandumba, Director of the Malawi Liverpool Wellcome programme.



Celebrating 125

historical figures Dr Alwen Evans, and Professor Tim and Dr Joy Gordon.

Leverhulme Lecture

This year, the inspirational paediatrician and healthcare leader Professor Najla Al-Sonboli returned to LSTM to deliver its prestigious Leverhulme Lecture.

Professor Al-Sonboli, an LSTM alumna, gave her first public lecture outside Yemen, where she is head of the Paediatric



Department at Al-Sabeen Hospital for Maternity and Children in the city of Sana'a. For eight years, she has led a team to deliver essential healthcare for extremely vulnerable children and babies amid ongoing war, disease outbreaks and severe food shortages.

Professor Al-Sonboli's powerful and deeply moving account was delivered to more than 100 people at Liverpool's Victoria Gallery & Museum and streamed online.

You can watch our recording of the Leverhulme Lecture here



Philanthropy

Every year, LSTM alumni, staff and friends generously support the work of LSTM and LSTM's mission to enable healthier lives around the world. While philanthropic income makes up a modest portion of LSTM's annual income, it plays an important role in helping LSTM to catalyse innovative new research, adapt to meet changing needs and support the next generation of global health leaders.

This year, we have continued to see unacceptable levels of inequity both within global health and access to high quality scientific education. In becoming a donor to LSTM, our supporters are standing alongside us in acknowledging that now, more than ever, is the time for meaningful change. The generosity of our supporter community is helping to create a more equitable future and provide vital support for some of the world's most vulnerable communities.

Thank you to all who have supported LSTM over the past year: individual donors, organisations, alumni, and trusts and foundations.



My passion is to translate medical research into positive health outcomes and community health development initiatives. Studying at LSTM will equip me with the knowledge and skills I need to bring about positive change to health care in Sierra Leone and the broader landscape of global health. Receiving a scholarship means everything to me. The generosity of one kind person has opened doors that were previously closed for me at an earlier stage of life - now a once-possible dream is becoming my reality.

Titty Adama Mansaray

(Diploma in Tropical Medicine and Hygiene, 2024)



Receiving a scholarship can give someone the financial support they need to embark upon their studies, but it can mean so much more...It gives confidence, raises ambition and shows that other people believe in you and are willing to stand alongside and invest in your future.

I am proud to be a scholar at LSTM, a school that may be small in size but immense in its impact. This experience has opened doors to a world of possibilities, and I am eager to make the most of this incredible opportunity.

Hassan Hussain

(MSc Humanitarian Studies, 2024)



LSTM provided me with the training and skills that supported my career in public health. Now, I'm proud to support their ongoing efforts to develop the next generation of global health leaders and help catalyse crucial research.



Dr Ann Hoskins

(MSc Community Health, 1983)



The charity trustees of Liverpool School of Tropical Medicine are its Board of Trustees who have due regard to the Charity Commission's guidance on public benefit, and particularly to its supplementary public benefit guidance on purpose, which primarily for LSTM, is the advancement of education and research, and advancing health/saving lives.

Public Benefit



Statement

Although primarily concerned with teaching, learning, research, knowledge transfer, and the development of the potential of its students, both for their own sake and to serve the needs of society and the economy, LSTM also plays a major role in shaping a democratic, sustainable, and inclusive society by striving for its research to impact policies and implementing practices.

These distinct purposes inevitably impact on its governance structures and practices, including in the need to engage both staff and students in the governance of their institution and a clear recognition of the importance of public benefit.

Public benefit reporting is also an increasingly important aspect of LSTM's transparency and accountability, and this helps the staff, students, and the wider public appreciate what activities LSTM delivers in return for both public funding and tax exemptions. A representative record of those activities is published throughout this Annual Report and Financial Statements.



LSTM strives to drive forward an agenda of sustainability, listen to Towera Gacina, LSTM's Sustainability Manager, talk about highlights from the last 12 months.

An Unrivalled Learning Experience

Discover why we are 2nd out of 107 institutions in sector rankings with an overall student satisfaction rate of 95% (PTES, 2024)

Our courses include:

Master's in: Public Health, Global Health (part-time, online), Humanitarian Studies, Tropical Disease Biology, Tropical Infectious Diseases as well as an MRes in Tropical Health and Infectious Disease Research.

Professional Diplomas in: Pharmaceutical Systems (online), Travel Health (online), Tropical Medicine and Hygiene and Tropical Nursing.

**Discover
More**



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