Knowledge for Change

Annual Project Report (2024)

By the end of 2024, Knowledge for Change had directly benefitted

Over 1.2 million

health workers, hospital patients, local community members and school children in low-income countries by improving quality and access to health and education systems.

This has included:

- ✓ Providing comprehensive training and mentoring for over 8,500 health workers in Africa and India
- ✓ Placing over 1400 professional and student healthcare, social work and biomedical engineering volunteers from the UK to work in health and education facilities
- ✓ Completing 67 major international development and global health research projects
- ✓ Investing over £950,000 in the provision and repair of essential health facility infrastructure and equipment

Beyond the people who have benefitted directly, many more have benefitted indirectly from successful interventions being sustained and up-scaled; improved health and education outcomes for their family members and positive governmental policy changes influenced by our high quality and high impact research.

2024 highlights at a glance:

- The successful award and launch of our new 'Neonatal Sepsis Project' (funded by 'Global Health Partnerships' and NHS England), which has greatly improved our understanding of the factors leading to high neonatal sepsis rates in Uganda and Zanzibar, and will soon progress to developing high-impact interventions aimed at reducing neonatal sepsis related morbidity and mortality.
- The successful implementation of our 'NEEDS Programme' (funded by the Burdett Trust for Nursing) which has improved the identification and management of type-2 diabetes and reduced diabetic foot ulceration and resulting leg amputations through establishing high-quality diabetic foot care services and an effective educational self-management programme for patients in Fort Portal (Uganda).
- The award of new funding from the University of Salford to begin new work on improving psychosocial support and rehabilitation services for women who are victims of domestic or gender-based violence, in partnership with 'Fort Healthy Minds Initiative'.
- The continuation of our highly successful Cervical Screening, Wound Management and Honey Gauze, Respectful Care, Rehabilitation and Supply Chains Programmes.
- Successfully hosting 8 medical, nursing, midwifery and management staff from Uganda, Tanzania and Mozambique, who undertook intensive 3-month training programmes in the UK, in partnership with the Universities of Salford and Greater Manchester, funded by the Commonwealth Scholarship Commission's Professional Fellowships scheme.

Front cover images (clockwise from top left)

1. K4C staff manufacturing honey gauze wound dressings in our laboratory in Fort Portal (Uganda)
2. Henry (Prosthetist) fitting new prosthetic arms for Ninsiima, a victim of domestic abuse, in Kampala (Uganda)
3. Timothy (Orthopaedic Technician) 3D scanning a patient's foot for our NEEDS program (type-2 diabetes prevention and rehabilitation)
4. K4C staff, professional volunteers and students based at Fort Portal Regional Referral Hospital (Uganda).
5. Peter (Builder) constructing a 'Lorena Stove' which is healthier and more environmentally friendly than traditional cooking methods.

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Francis Muhumuza (pictured) was working as a lorry driver for a cement company in Uganda when he was involved in a serious road traffic accident in early 2023, at the age of 25. Although he was lucky to survive, his injuries led to the amputation of his right leg. This meant he could no longer work as a lorry driver, and he struggled to find alternative employment to provide for his family.

Francis first heard about K4C's rehabilitation programme later that year through a friend who we had previously fitted with a new prosthetic leg. He reached out to Timothy Isingoma (K4C Orthopaedic Technician) who eventually went on to fit him with a new prosthetic leg.

Francis has since secured a new job as a mechanical engineer, an opportunity he believes was only possible with his new leg. He and Timothy (pictured together below) remain in close contact!

Foreword from our Chair

As chair of Knowledge for Change (K4C), I am pleased and excited to present our 10th annual report for the Charity, together with a summary of our activities and financial statements for the period 1st January to 31st December 2024. This year marks a decade since K4C officially began working in Uganda, taking over the activities of the Liverpool-Mulago Partnership and embarking on a broader and more ambitious journey. Over the years, we've widened our charitable remit from initially focusing only on maternal and newborn health to include several other areas of health including both tropical and non-communicable diseases, surgical care, rehabilitation services, antimicrobial resistance, domestic violence, inclusive education for disabled children and much more. We've also expanded our areas of work to additional health and education facilities across Uganda and into Tanzania, as well as other project work in India, Jordan and Mozambique.

The last 10 years has also seen our charity withstand the unforeseen impacts of Brexit, a global pandemic, several outbreaks of Ebola and Marburg Haemorrhagic Fever and more recently a fundamental shift in the UK and other governments' commitment to international development and aid, essentially leading to its sharp de-prioritisation and an equivalent reduction in funding. Despite these immense challenges which have affected all organisations working in the sector, we have remained innovative and dynamic to diversify our income streams, sustain our project work and continue to have a strongly positive impact on our partner health and education systems, as well as our UK NHS, UK Universities and other stakeholders. Our staff bases in the UK, Uganda and Tanzania have all continued to develop, our student placement programme has expanded, and our annual income and expenditure have grown as we invest more and more into our programmes and activities.

Some of our main successes over the course of 2024 included the successful completion of our Burdett Trust funded 'NEEDS Project' which has greatly improved the identification and management of type-2 diabetes and reduced diabetic foot ulceration and resulting leg amputations. Our cervical screening project has continued at a pace with over 800 women being screened and/or treated for pre-cancerous lesions across 3 Community health facilities. We successfully co-hosted 8 Commonwealth Professional Fellowships in partnership with the University of Salford, focusing on diabetes care and supply chains for medical devices. Our rehabilitation teams directly supported over 800 patients to access essential prostheses and orthoses in Fort Portal and Zanzibar, 60 of which were funded by YouTube star 'Mr Beast' towards the end of the year. We also successfully launched our Global Health Partnerships funded Neonatal Sepsis Project which will run until June 2025 and aims to build capacity of health workers to reduce sepsis related morbidity and mortality across all our partner health facilities in Uganda and Tanzania.

Looking forwards to 2025, we are excited to be working in partnership with the University of Salford to undertake new project work supporting victims of domestic violence with psychosocial support and rehabilitation services. We're planning to host 5 Commonwealth Professional Fellowships from February to May focusing on capacity building in neonatal sepsis and linking to our formal project work noted above. We're also planning to actively expand our successful interventions from Uganda to Zanzibar, including our NEEDS programme and wider diabetes related work, our wound management and honey gauze projects and cervical screening programme.

I would like to thank all our trustees, staff, volunteers, students, patients, users and other stakeholders for their on-going support throughout 2024, which has enabled us to continue to improve the health and wellbeing of some of the poorest and most vulnerable communities in the world. I look forward to continuing this exciting and highly beneficial work over the course of 2025.

Professor Louise Ackers
Chairperson
Knowledge for Change
31st December 2024

Strategic Report

An overview of who we are and what we do, a review of our achievements and performance in 2024, and a summary of our objectives for the coming financial year.

Who we are and what we do

BACKGROUND

Knowledge for Change (K4C) was registered with the Charity Commission for England and Wales in January 2012 (no. 1146911) and has been hosted by the University of Salford in Manchester since July 2014. Its working names are 'Knowledge for Change', 'Knowledge 4 Change' and 'K4C'. The official UK charity address is 11, Newmarket Street, Skipton, North Yorkshire, BD23 2HX.

K4C formally merged with its sister charity, the Liverpool-Mulago Partnership (no. 1136219), in 2015 and continues to manage the legacy of both organisations.

K4C is also registered as separate Non-Governmental Organisations (NGOs) in Uganda (no. 3592), Tanzania (00NGO/12/4270) and Zanzibar (0000210165). Each organisation has an independent board of directors, however relate and report closely to K4C UK, as outlined within existing Memorandums of Understanding (MOUs).

OUR OBJECTIVES

"To improve the standard of healthcare and education provision for the poorest and most vulnerable members of society in Low- and Middle-Income Countries"

For almost 20 years, we have been working across multiple hospitals and health centres in Sub-Saharan Africa to sustainably improve their health and education systems and achieve better standards of care for patients. The work we do includes the placement of professional (qualified) volunteer health workers, infrastructural developments, providing and repairing essential medical equipment, implementing staff training and capacity building programmes, working with local educational institutions to develop new and improved undergraduate and postgraduate curricula, organising staff exchange programmes, running ethical international placements for undergraduate students and conducting high quality global health research.

Our charitable activities not only support people in Low- and Middle-Income Countries (LMICs) but also improve the quality of care provided by the UK NHS by upskilling both qualified and student doctors, nurses, midwives, allied health professionals, social workers and other staff.

CORE VALUES

Our core values centre on making ethical, sustainable and mutually beneficial improvements to health and education systems LMICs. We believe that the best way to do this is through the transfer of knowledge between professionals and students working in the health and education systems in order to improve their skills and experience. Sticking to these values ensures that we achieve the best long-term outcomes for all the High-, Middle- and Low-Income Countries that we work with.

CURRENT AREAS OF FOCUS

We currently focus most of our activities in Uganda and Tanzania, however we also have past and on-going linked projects and networks in Mozambique, India and Jordan. We initially focused primarily on maternal and newborn health, but have since expanded our remit to include other areas of health, rehabilitation, social care, children's education, laboratory science, supply chain management, climate change and wildlife protection.

In line with our commitment to support populations of highest need, K4C works primarily in public (as opposed to private) health and education facilities, in recognition that these facilities cater for the poorest and more vulnerable members of society in LMICs. Our in-country partners range from large urban hospitals to small rural health centres, primary schools, Universities, community-based organisations, local councils and governmental bodies. We have several partnerships with various NHS trusts, Royal Colleges and funding bodies.

AN OVERVIEW OF OUR ACTIVITIES

International Development Projects:

K4C has run numerous international development projects over the years including: promoting ethical and sustainable professional volunteering and student placements; improving biomedical engineering services for equipment procurement, maintenance and disposal; improving processes for infection prevention and control, antimicrobial stewardship and wound management; improving surgical safety; reducing sepsis related maternal and newborn mortality and morbidity rates; establishing effective cervical screening and treatment services; establishing high-quality rehabilitation services for upper- and lower-limb amputees; developing intensive/high dependency units; improving identification and management of type-2 diabetes and diabetic foot ulceration; promoting respectful maternity care; promoting including education for girls and children with physical and mental disabilities; and supporting the Uganda Blood Transfusion Service (amongst many other projects). Our main funders have included NHS England (formerly Health Education England), the UK Foreign Commonwealth & Development Office, Global Health Partnerships (formerly the Tropical Health Education Trust) and the Burdett Trust for Nursing. Many projects are run in partnership with the University of Salford, and all are designed and evaluated in line with our core values of sustainability, ethics and mutual benefit.

Clinical Staff:

Knowledge for Change directly employs several highly skilled health workers and project managers in Uganda and Tanzania to support local health and education services, ensure effective delivery of our global health and international development projects and provide high-quality care for patients. As of December 2024, we had 15 permanent fulltime staff based across Uganda and Tanzania including 4 midwives, 3 nurses, 1 doctor, 3 orthopaedic technicians, 2 project managers / administrators and 2 support staff. We also supported (via grant funding to the University of Salford) a project manager and a project officer to be based in the UK to manage our operations.

We were pleased to welcome a new nurse (Daisy Hasahya) to our team in September, and she's already proven to be highly valuable colleague based at Kasangati Health Centre (Uganda):

"Working with K4C has been very rewarding so far. I'm grateful for the opportunity to combine clinical and research work, which has not only aligned with my career goals but also fuelled my growth and development"

Professional Volunteering:

K4C's primary activity has included the placement of over 750 professional (qualified) volunteers from High-Income Countries in Uganda and Tanzania over the last 15 years, initially supported by the UK Department for International Development through the Tropical Health Education Trust. These volunteers have included doctors, midwives, nurses, biomedical engineers, clinical scientists, microbiologists, allied health professionals, social workers and social scientists. Most volunteer placements are 6+ months in duration, however shorter placements are permitted when necessary. Our professional volunteers play important roles in our projects and work alongside local facility staff to exchange valuable knowledge, skills and experience.

More information about our Professional Volunteering Programme and its achievements can be found on page 11.

International Training Fellowships:

We have supported over 140 Ugandan, Tanzanian and Mozambiquan health and social workers to travel to the UK to complete intensive training programmes to enhance their learning, primarily funded by the Commonwealth Professional Fellowship Scheme. More information on our CSC Fellowship Programme can be found on page 23.

Student Placements:

Since 2015, K4C has focused on improving the quality and ethics of international student placements in LMICs such as Uganda and Tanzania. Our student placement programme (initially funded by Health Education England) has now placed over 800 students in Uganda, Tanzania and India from courses including medicine, nursing, midwifery, the allied health professions, social work, prosthetics and orthotics, microbiology, biochemistry, psychology and business management. All student placements are linked to K4C's ongoing development programmes and are supervised by our highly competent teams of local staff and professional volunteers. More information about our Student Placement Programme can be found on page 15.

Global Health Research:

K4C endeavours to remain at the forefront of Global Health Research and has been closely involved with several research projects and publications, many run in partnership with the University of Salford. All K4C projects are designed to be dynamic and are closely monitored and evaluated in order to maximise their impact and cost efficiency. Research findings have been shared through policy reports, books and journal articles as well as regular presentations at conferences, workshops and with UK and LMIC government officials. More information about our Global Health Research can be found on page 39.

OUR EFFECTIVENESS

Our expertise in research and project evaluation enables us to carefully review our activities and make positive changes on an ongoing basis to maximise their impacts and efficiency. Each of our individual projects is evaluated separately, however we also evaluate our overall impact across entire thematic areas.

Externally funded projects are also independently evaluated by their respective funding bodies. This was the case for our Burdett Trust for Nursing funded 'NEEDS project' which officially ended in December 2024 and focused on prevention and management of type-2 diabetes.

> *"It was great to read in the report all of the activities that were completed and congratulations to your team for bringing this fantastic work together"*
>
> **Excerpt from the Burdett Trust for Nursing's review of K4C's End of Project Evaluation Report for the NEEDS Project**

ACHIEVING OUR CHARITABLE OBJECTIVES IN 2024

Our work to strengthen health and education systems in Low- and Middle-Income Countries (LMICs) continued to grow and expand throughout 2024. In Uganda and Tanzania, where the majority of our project activities currently take place, we provided training and capacity building for over 350 medical, nursing, midwifery and rehabilitation staff in areas such as the identification and treatment of type-2 diabetes, cervical cancer screening and treatment, antimicrobial stewardship, wound management, neonatal sepsis, infection prevention and control, high-quality midwifery care and several aspects of rehabilitation.

Our activities directly benefitted over 50,000 local people who accessed new or improved healthcare services. For example, throughout 2024 our cervical screening programme was accessed by 586 women, 36 of whom were treated for pre-cancerous lesions and 18 referred for further assessment or a biopsy.

Over 75% of the total number of people reached by our activities were women or girls. This is highly significant as women make up the majority of disempowered and impoverished populations in LMICs. This success aligns with several of the UN Sustainable Development Goals: reducing poverty, improving healthcare and empowering women and girls.

Our Activities and Impact

Professional Volunteering Programme

BACKGROUND

Our Professional Volunteering Programme is our longest-standing, having been in place since the foundation of K4C and its predecessor charity, the Liverpool-Mulago Partnership. We have now placed over 750 professional volunteers across Uganda and Tanzania, primarily from health backgrounds such as medicine, nursing, midwifery and allied health professions, however also some social workers, biomedical engineers, microbiologists and social Scientists. Most of our professional volunteers complete long-term placements of 6+ months, however some have completed shorter-term (3+ month) placements. We provide financial support for the vast majority of our in-country volunteers, including the costs of their flights, accommodation, airport transfers, insurance, clinical registration, work permit and a living allowance of £300 per month to cover their subsistence. The role of K4C's professional volunteers is to work alongside local staff on a co-present basis to share valuable knowledge, skills and experience.

The primary aim of the programme is to build the capacity of local staff and thereby strengthen local health systems and improve quality of care for patients. The placements are of mutual benefit as the volunteers also gain valuable knowledge, skills and experience to utilise in their practice when they return to the UK NHS. Professional volunteers also play an important role in designing and implementing our project work, as well as supporting students completing international placements with us, working our in-country teams to provide clinical supervision, pastoral support and guide their learning.

ACTIVITIES IN 2024

We continued our highly successful Professional Volunteering throughout 2024, placing a total of 13 qualified volunteers from the UK NHS across Uganda and Tanzania on long-term (6+ month) placements. These included 3 midwives, 8 nurses and 2 doctors. 11 of these placements were fully-funded and the remaining 2 were part-funded to only include funding for their accommodation, airport transfers, insurance, clinical registration and work permit costs.

Dr Augustine Ssemujju (Obstetrician) and Dr Thomas Liney (K4C Professional Volunteer) based at Fort Portal Regional Referral Hospital, Uganda

Our professional volunteers have played critical roles in implementing our Neonatal Sepsis and NEEDS (type-2 diabetes) Projects; establishing a maternity operating theatre at Kataraka Health Centre; supporting ongoing development of our cervical screening, wound management and diabetes programmes; providing ongoing training and mentoring for local health workers; providing high-quality supervision for our students undertaking their international placements; and supporting candidates' applications to the Commonwealth Scholarship Professional Fellowship Programme.

We have also continued to expand our professional volunteering programme in Zanzibar in 2024, hosting 4 nurses and 2 midwives across Mnazi Mmoja Referral Hospital, Kiddongo Chekundu Mental Health Hospital and Jitimai District Hospital. As our partnerships and relationships in Zanzibar are still relatively new, we have not yet begun formal implementation of any projects (aside from our student placement programme). However, our first

volunteers have played a critically important role in building links, networks and relationships with local staff and stakeholders, guiding our understanding of the unfamiliar contexts and cultures and reviewing hospital data to identify trends and priority areas for K4C to focus on in future.

More information about our Professional Volunteering Programme can be found on our website:

www.knowledge4change.org/professionalvolunteering

PLANS FOR 2025

We're planning to continue our Professional Volunteering Programme into 2025 and have already secured placements for 7 volunteers in the first half of the year including 3 nurses, 2 midwives and 2 doctors. Our recruitment has focused particularly on volunteers with Neonatal Sepsis related experience as we move into the training implementation phase of that project.

Professional Volunteer Midwife (Tiggy) and K4C Nurse (Rachel) cleaning, preparing and packing cervical screening instruments to go in the autoclave to be sterilised at Kagote Health Centre (Uganda).

K4C staff and professional volunteers based at Fort Portal Regional Referral Hospital.

From left to right: Kayleigh (midwife, UK), Angela (midwife, Uganda), Sofie (nurse, UK) and Rachel (nurse, Uganda)

Virtual Volunteering Programme

BACKGROUND

The idea of 'virtual volunteering' placements has evolved over time, driven by increased awareness of the harmful effects of international air travel on the climate; initiatives to widen participation for individuals who cannot travel internationally; and the covid-19 pandemic which dramatically inhibited international travel and led to rapid improvements globally in internet connectivity and related online software, including in the UK, Uganda and Tanzania.

We firmly believe in the value of our in-person volunteering and student placements, but also appreciate the need to carefully balance the positive impacts of our health partnership on the Ugandan/Tanzanian health systems and the NHS with our commitment to environmental sustainability.

In 2022/23, we received grant funding from the Tropical Health Education Trust (THET) and the University of Salford to establish a comprehensive Virtual Learning hub in Fort Portal (Uganda) to support our virtual wound management clinics and prosthetics workshops. This provided a physical space equipped with technology and reliable Wi-Fi, on site at the Regional Referral Hospital, to link specialists and students from the University of Salford with clinicians at Fort Portal Regional Referral Hospital and promote virtual knowledge exchange and strengthen relationships between the UK, Uganda and Tanzania.

K4C Trustee and Doctoral Researcher, Claire Horder, has been working to capture and evaluate the effectiveness of virtual working. An article was published in SCOPE magazine about this work: https://www.ipem.ac.uk/media/413heltr/scope-autumn-2023-full-lrc.pdf

ACTIVITIES IN 2024

Over the course of 2024, we have continued to integrate virtual working into the day-to-day running of all our programmes to enhance and enrich them while keeping our carbon footprint as low as possible. We received funding from THET via their Remote International Mentoring Partnership Scheme (RIMPS) programme to establish a new Virtual Learning Hub in Zanzibar to facilitate a diabetes focused mentoring scheme between several UK and Tanzanian specialists.

We harnessed the expertise of a team of 7 UK-based paediatricians and specialist neonatal nurses to virtually support the development of our Neonatal Sepsis Project across Uganda and Tanzania (see page 29). We also continued our virtual engagement between the University of Salford and Fort Portal Regional Referral Hospital (Uganda) to support our ongoing wound management, diabetes and rehabilitation programmes.

A Neonatal Sepsis Case Review Meeting taking place in K4C's Virtual Learning Suite at Fort Portal Regional Referral Hospital, linking in specialists from the UK and Tanzania virtually

PLANS FOR 2025

Our Virtual Volunteering Programme will continue to be integrated into our Neonatal Sepsis Project and Wound Management and Rehabilitation programmes in 2025. We're also planning to pilot a new and exciting virtual partnership between 2 secondary schools in Bury (UK) and Fort Portal (Uganda).

CASE STUDY: LAURENCE KENNEY (VIRTUAL VOLUNTEER)

“I am a Professor of Rehabilitation Technologies at the University of Salford. My collaboration with the K4C team began in 2018 with the award of a £1.4 million EPSRC/GCRF-funded grant to develop fit-for-purpose upper limb prosthetics. The project involved six universities across three countries, including Uganda, and aimed to develop user-informed, and simple-to-maintain, purely mechanical prostheses.

The challenges of delivering the project in Uganda, particularly during Covid, were significant but working with the K4C team in Fort Portal enabled us to carry out a qualitative study to understand user needs, and to implement one of the first co-design workshops with users – there are surprisingly few such studies in any Sub-Saharan African country.

I’ve never travelled to Uganda, but working with the K4C team on this project gave me a much better understanding of the challenges inherent in translating good ideas for designs into practical devices which could have impact ‘on the ground’. Building on this insight, we were awarded an MRC-funded grant entitled “Promoting universal health coverage for amputees through social enterprise and engineering innovation” and as part of this carried out a clinical study of a ‘fit-for-purpose’ upper limb prosthesis. The results were positive and a manufacturer of the device is in discussions with K4C about distributing their product in Uganda. Watching the K4C centre in Fort Portal develop over the last few years and through their team being able to engage users and local clinicians in our work has been a real privilege and I look forward to whatever comes next!”

CASE STUDY: DAN PARKER (VIRTUAL VOLUNTEER)

“I’ve been supporting the setup and evaluation of the NEEDS programme as a virtual volunteer since 2023. My background in the use of technology for diabetic foot orthotic design and evaluation has allowed the team to put in place tools which provide the best value to the clinic.

The NEEDS programme and the work of the Fort Portal team have helped us to understand what diabetic people in Uganda want and need to better manage foot care and prevent ulcers.

The K4C team continues to explore ways to improve supply of materials and find solutions which meet this vital patient need. I hope that my experience in orthotic material evaluation will ensure that orthotics produced continue to be fit for purpose”.

Ethical Student Placement Programme

BACKGROUND

Health students have been travelling from the UK (and other high-income countries) to low-income countries such as Uganda and Tanzania for decades to undertake elective placements. However, the sector is poorly regulated with many private companies offering opportunities which are prohibitively expensive (excluding disadvantaged students from poorer socioeconomic backgrounds), high-risk for students, and perhaps most worrying are damaging to hosting health systems and patient care. Students often lack proper support and supervision which inhibits their learning and puts them and the patients in vulnerable situations, working outside of their competency to provide care. Also, students often lack professionalism whilst on placement, jumping between clinical areas without permission, taking inappropriate photos of vulnerable people, arriving late/leaving placement early and being rude to local staff. All of this fuels resentment and damaging perceptions of 'voluntourism'.

K4C's student placement programme has gone from strength to strength since it was first established in 2015. It was initially funded by Health Education England (now NHS England), with the aim of developing, piloting and evaluating an ethical, cost effective, sustainable and low-risk placement program which yielded highly impactful learning outcomes for students and mutual return benefits for the UK NHS. We have now hosted over 800 students through this programme from various study backgrounds including medicine, nursing, midwifery, Allied Health, social work and education (amongst others).

In 2023, we became a formally approved and registered placement provider for NHS England, largely in recognition of our ethical focus and the high-quality supervision provide for students through our multinational, fully trained and registered teams comprising both local and UK staff and professional volunteers. This also enables us to meet the supervision requirements of professional councils, for example the UK Nursing and Midwifery Council (NMC) which enables students to complete our placements as a formal part of their academic programme (including placement hours and sometimes competencies/proficiencies).

Our students follow a carefully structured placement programme which is negotiated to meet the requirements of their respective University and professional body, as well as our in-country partners' needs. They work with our staff and professional volunteers to support implementation of our projects, as well as gaining beneficial skills and experience whilst on clinical placement.

We currently place students across 2 locations in Uganda (Fort Portal and Kampala) and 2 locations in Tanzania (Moshi and Zanzibar), where they complete placements within our partner hospitals, health centres and community-based organisations. We have agreements in place with all partners which include provision for a financial investment into their facility for each student they host. This ensures that our partners and local communities also benefit in an ethical and sustainable way. To date, our student placement programme has generated over £360,000 of direct investment into our partner organisations.

Local staff, K4C midwife (Tiggy) and students on placement at Kasangati Health Centre (Uganda)

ACTIVITIES IN 2024

Our student placement programme has continued to grow throughout 2024, with our newer partner sites in Tanzania generating particularly high levels of interest. Over the course of 2024, we hosted 164 students, an increase of 10% compared to the previous year. The majority of students were from nursing and midwifery backgrounds, however there was also strong representation from social work, psychology, medicine, physiotherapy, paramedic science, biomedical science and prosthetics and orthotics. Our main University partners were Kingston University, Liverpool John Moore's University, University of Salford, Hertfordshire University and the Universities of Agder and OsloMet in Norway. New positive relationships have also been established with Leicester University, Birmingham City University and the University of Bern (Switzerland).

The programme continues to demonstrate very positive learning outcomes for students and positive feedback from partner health facilities. 100% of the students surveyed felt the experience and learning achieved during their placement was relevant for their academic programme, and 88% felt their placement would have a 'very positive impact' on their future career. 69% of students rated their overall placement experience as 'excellent' and another 27% as 'very good'.

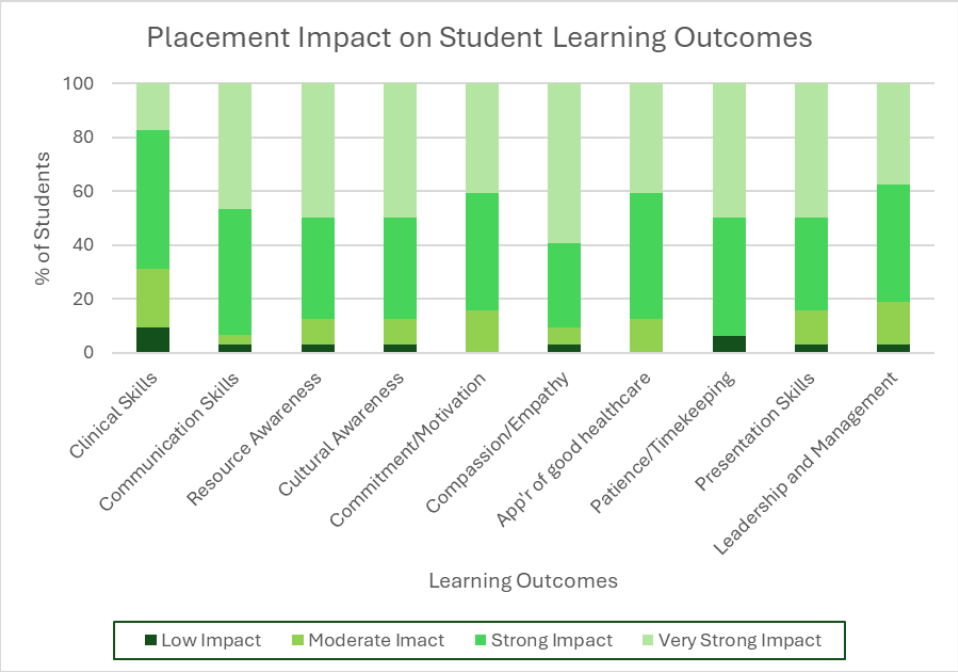
The financial return for K4C and our partners has also been positive; over £115,000 was generated for use towards our charitable activities in Uganda and Tanzania, with over £25,000 being directly invested into our partner health facilities and over £90,000 being invested in our Professional Volunteering Programme and clinical staff salaries, both of which are highly beneficial for our partners. Additional revenue raised by the programme covered direct costs incurred in arranging students' travel and accommodation, as well as our other general administrative costs.

"It was an amazing experience and something I'd recommend to anyone!" **P&O student, Salford University, Zanzibar placement**.

"It exceeded all expectations of what I imagined an elective would entail, and I am already excited at the idea of being a long-term volunteer with K4C after my foundation training as a doctor." **Medical student, UCL, Fort Portal placement**.

PLANS FOR 2025

Moving into 2025, we are excited to be exploring further expansion of our existing student placement programme in Uganda and Tanzania, as well as to potential new destinations in Cambodia, in partnership with several like-minded charities and NGOs. We



This graph summarises post-placement feedback received from students in 2024 about the impact they felt their placements had on their learning

Testimonials from our University Partners

"The partnership between LJMU and Knowledge for Change offers student paramedics a unique opportunity to engage in global health practice. Through shared learning and cultural exchange, students broaden their clinical thinking and develop a deeper awareness of how healthcare knowledge and resources are distributed around the world. The placement encourages reflection, adaptability, and connection, with learning flowing in both directions. Our students return to the programme and profession in the UK with renewed purpose and a richer understanding of their role within a global health community. It's an experience that stays with them long after they return home, with many describing it as life changing and we are forever grateful for this opportunity".

Jen Vasey, Lecturer in Paramedic Science, Liverpool John Moore's University

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"We'd like to share our appreciation for the fantastic collaboration we've had with the Knowledge for Change team during the nursing exchange to Zanzibar. We have worked with James and his team for 3 years and from the very beginning, communication was clear, consistent, and supportive, which made planning and delivery smooth and stress-free.

The team has been great to work with—open to ideas, responsive to feedback, and always willing to help. Their support didn't stop at the planning stage; they were there for us as co-ordinators and the nursing students throughout the trip and continued to offer guidance and debrief afterwards.

It's been a genuinely positive experience working together, and we're really looking forward to building on this partnership in future exchanges".

Nic Hubbard (Lecturer in Paediatric Nursing) and Sarah Lowiss (Lecturer in Adult Nursing), School of Health and Society, University of Salford

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OsloMet has for several years collaborated with Knowledge for Change in the practicum placement of our bachelor's social work students. K4C has proven to be a flexible partner and has accommodated changing circumstances, providing new placements according to our evolving needs. We are very grateful for the opportunity to have our students learn social work skills in Tanzania, and we appreciate that this provides circumstances that are very different from the local Norwegian context. We believe this placement gives them valuable tools and a professional head start.

Kjetil Wathne, Associate Professor and International Academic Coordinator, Institute of Social Work, Oslo Metropolitan University

Antimicrobial Stewardship, Wound Management & Honey Gauze

SUMMARY

Antimicrobial Resistance is one of the biggest threats to global health, food security and development in the world today and has the potential to reverse decades of medical progress. Multi-drug-resistant bacteria don't respect national borders; what happens in one country affects us all. LMICs such as Uganda and Tanzania are particularly hard hit. Infectious diseases still cause a high proportion of deaths and, as many of the most commonly used antibiotics fail to work, resource-poor settings struggle to cover the costs of newer and more expensive antibiotics. Sepsis is a major cause of maternal mortality in Uganda and Tanzania and is often a result of poor Infection Prevention and Control (IPC) during surgery, leading to surgical site infections.

Our initial Antimicrobial Stewardship (AMS) project began in November 2018, funded by the Commonwealth Pharmacy Association and the Tropical Heath Education Trust (£60,000 in partnership with the University of Salford and Tameside and Glossop NHS Trust). Since then, K4C's clinical staff and professional volunteers have provided ongoing comprehensive training and mentoring for over 150 pharmacy and nursing staff at Fort Portal Regional Referral Hospital in areas including prescribing practices, the management of sepsis and IPC measures.

One core element of the AMS project was a Maternal Sepsis Intervention which focused on two key contributors to AMS; reducing the incidence of infections (especially those acquired from hospitals) and improving the use of antibiotics to fight the infections that do occur.

The Maternal Sepsis Intervention fostered multi-disciplinary teamworking to improve Infection Prevention and Control, wound swabbing and management and the laboratory analysis of swab results to identify the bacteria responsible and target the most effective antibiotic. Over the course of the funded project, the percentage of suspected sepsis cases being tested for culture and sensitivity has risen from 0% to 95%. Furthermore, the hospital's score on the WHO's IPC Infrastructure Audit Tool has risen from 58.7% to 96.8%.

The Maternal Sepsis Intervention led to transformational change on the wards. Major improvements in infrastructure and the quality of care resulted in improved patient outcomes, reduced maternal mortality (to almost zero!), reduced length of stay on the wards and substantial financial savings for the hospital. Appropriate new and existing tools and protocols were developed within the hospital; the Medicine Therapeutic Committee was restarted and the 'Rx system' remains fully functional which will have a positive impact on Antimicrobial Stewardship and the procurement of appropriate antibiotics.

WOUND MANAGEMENT & HONEY GAUZE

K4C's wound management and honey gauze programme built on our successful Maternal Sepsis Intervention, which demonstrated that implementation of improved wound care practices could reduce instances of maternal sepsis, and also reduce hospital costs, resources, staff time and instances of other hospital acquired infections by improving recovery times and greatly reducing women's length of stay in the hospital.

In 2021, three Ugandan midwives were awarded Commonwealth Professional Fellowships to study at the University of Salford, focusing primarily on the Tissue Viability program run by Dr Melanie Stephens. During their fellowship, they learnt about the benefits that honey infused gauze can have for wound care. On their return to Uganda, the team led by K4C midwife Rachel Namiiro used this experience to establish a small base for manufacturing honey

gauze within K4C's laboratory premises in Fort Portal. The honey gauze is made in a sterile environment by combining 2 properties (20% Vaseline and 80% locally made pure honey (which is registered with the Uganda National Bureau of Standards (UNBS)). After mixing them, the paste is smeared onto sterile gauze and vacuum packed. A dry piece of sealed honey gauze can last up to 5 months.

Several of our publications relating to these projects are listed on page 39. The success of these projects has also been recognised through receipt of 2 awards:

- Winner of the "Wounds UK Award for Excellence" in 2022.
- Winner of the "Cost Effective Wound Management Award" at the Journal of Wound Management Awards in 2023.

ACTIVITIES IN 2024

The team first utilised the honey gauze for dressing the wounds of maternity and gynaecology patients at Fort Portal Regional Referral Hospital (FPRRH). Due to the success of the project and the positive outcomes observed for patients, the project was upscaled between 2022 and 2023 to also treat wounds (including burns) in the Surgical, Paediatric and Nutrition wards. Between February 2022 and December 2024, K4C supplied over 7000 sealed packs of Honey Gauze to Fort Portal Regional Referral Hospital (2800+ pieces to Surgical Ward; 2300+ pieces to gynaecology; 1500+ to paediatrics and 400+ to nutrition).

Over the course of 2024, we have seen a doubling of requests from Fort Portal Regional Referral Hospital for Honey Gauze. In total, we provided 1722 items: 321 to paediatric ward; 621 to gynaecology ward and 780 to surgical ward.

The gauze continues to be manufactured in the K4C premises as part of the training we provide for students on placement with us on infection prevention control and wound care. Each pack of gauze costs just 1000 Ugandan Shillings or 600 Tanzanian Shillings (roughly £0.20) to produce, making it a relatively cheap and possibly even cost saving for the hospital given the savings achieved by reducing both the length of patient stays and the direct cost of their extended treatment plans. K4C is currently negotiating a social enterprise agreement with Fort Portal Regional Referral Hospital to enable us to provide the honey dressings sustainably into the future; we hope to have this finalised in early 2025.

2024 also saw the introduction of Honey Gauze to K4C's new partnership sites in Zanzibar. Two members of K4C Zanzibar staff (Rebecca Kobelo and Hasan Mhunzi) travelled to Uganda to join our Diabetes Self-Management workshop and during their visit also received a demonstration in the manufacture and use of honey gauze. They established the honey gauze programme at Jitimai District Hospital upon their return to Zanzibar and have since manufactured and distributed 50 packs to the hospital as part of an initial pilot project.

K4C Nurse (Hasan) applying honey gauze to a patient's wound at Jitimai District Hospital (Zanzibar)

Feedback from patients and staff remains highly positive, with staff reporting significant improvements in wound healing and reduced costs to the hospital.

We've also begun expanding some of our wider AMR work from Uganda to Zanzibar, beginning with a research study (conducted by one of our Masters students, Eline Tuset) into the perceptions and attitudes of health workers and community members on antibiotics and antibiotic resistance in Zanzibar. Her report improved our understanding of the Zanzibari context and will be used as an evidence base to inform our future interventions.

Cervical Screening Programme

BACKGROUND

Cervical Cancer is one of the most pressing women's health issues globally, despite being largely preventable through HPV vaccination, regular screening and the treatment of precancerous lesions. In Uganda and Tanzania, cervical cancer contributes to over 80% of all female malignancies and is the leading cause of cancer-related deaths, mainly because of late presentation and delays in receiving appropriate treatment. Both counties have implemented a national roll out of HPV vaccinations for several years, however there is typically low uptake and coverage. Other problems affecting cervical screening programmes are a lack of trained staff, sociocultural factors (including a lack of public awareness), and lack of quality-assured screening programmes. Most existing screening programmes lack functional referral systems and do not reach target populations.

Knowledge for Change developed its first Centre of Excellence for cervical screening and treatment at Kagote Health Centre III in Fort Portal (Uganda) in 2017 and went on to expand this to 4 other health facilities in Fort Portal (Bukuuku, Kataraka and Kasusu Health Centres and Fort Portal Regional Referral Hospital) with funding support from UKAid, and also to Kasangati Health Centre in Kampala (Uganda).

ACTIVITIES IN 2024

K4C's service model takes a holistic approach to maximise sustainability and efficiency. All women between the ages of 25-60 can access our free of charge screening and treatment services.

K4C utilises innovative technology to deliver cervical screening and treatment services. MobileODT 'Enhanced Visual Assessment (EVA)' devices are used to ensure high quality screening and access to telemedicine support from UK based cervical screening specialist doctors and Liger 'cold-coagulation' devices are used for the treatment of any pre-cancerous lesions identified. Both devices are rechargeable and do not require consumables which improves their sustainability. Any women identified with cancerous lesions are referred to a Regional Referral Hospital for a biopsy and further diagnosis, treatment and management.

Angela (K4C Midwife) explaining the Enhanced Visual Assessment (EVA) cervical screening device to Parliamentary Minsters and local leaders.

Our 'one stop' Point of Care screen and treat services are fully integrated into government health centres, enabling women to access the services free of charge and at local health centres that they know and trust. This has hugely expanded uptake and access for cervical screening across the areas that we work. An extensive awareness raising campaign in the community was enabled by GIS mapping, developed by K4C's longstanding project manager Allan Ndawula as his Master's degree research project. Combined with regular local radio broadcasts and ongoing targeted engagement with local HIV clinics and maternity departments, this has dramatically increased uptake of the service.

ACHIEVEMENTS TO DATE

K4C's staff and professional volunteers have been actively involved in direct delivery of the services and have also played important roles in providing comprehensive training to relevant local staff. Since establishing our initial screening and treatment services in 2017, K4C has trained over 100 doctors, nurses and midwives in Uganda in cervical screening and treatment. Our teams have directly screened over 4000 women and treated over 250 women for pre-cancerous lesions from across Kabarole and Wakiso Districts. Over the last 12 months, we have screened 586 women and treated 36 women for pre-cancerous lesions. An additional 18 women were referred for a biopsy and/or further treatment. Approximately 83% of the women screened have been HIV+. We have specifically targeted HIV+ women as they are at higher risk of developing cervical cancer.

The vast majority of women that accessed our screening and treatment services would not have otherwise had access to such services, and as a result may have gone on to develop cervical cancer.

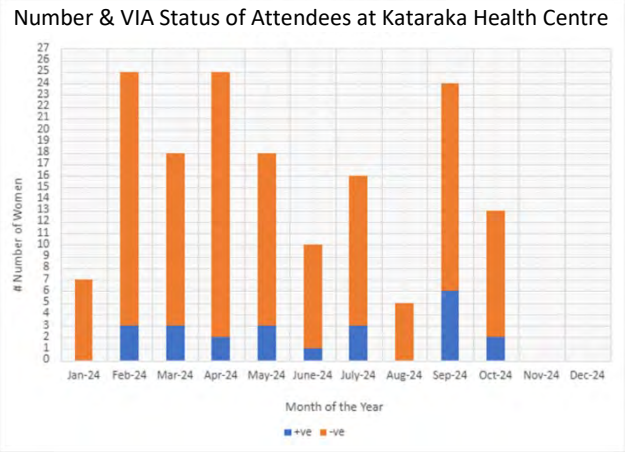
PLANS FOR 2025

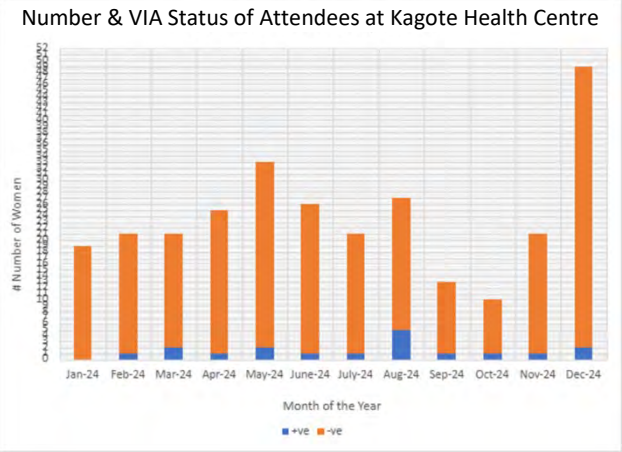
The success of our service model has led us to apply for further funding to upscale it to additional health facilities, including our newer partner sites in Tanzania and Zanzibar, in 2025.

Current service provision in Zanzibar is extremely limited, with the 1 existing publicly available screening service due to close in 2025 to allow for the health facility to be renovated. We are planning to implement an extensive awareness raising campaign across both countries to improve uptake of preventative screening services, particularly amongst HIV negative women, as many women currently only access services if they notice symptoms, by which time it can often be too late.

We are also planning to pilot a new model of screening device which is AI enabled to better support clinical decision making. The new models are currently completing the final stages of clinical trials, so we expect them to become available towards the end of 2025.

Separately, we are planning to apply for external grant funding to improve the efficacy of the national Human Papillomavirus (HPV) vaccination programs in Uganda and Tanzania. HPV vaccination is a highly effective method of preventing cervical cancer (as well as some other types of cancers), however uptake rates remain low for many reasons. These include lacking parental education, various misconceptions and vaccine hesitancy, cultural beliefs and the fact that existing vaccination programs run through schools, however many children (and particularly girls) are not enrolled in school in Uganda and Tanzania and so are not captured.





The graphs above show the numbers of women screened and their VIA status at 2 of the health facilities where our cervical screening and treatment services operate (Kagote and Kataraka). We also screened 112 women at Kasangati Health Centre in Kampala (Uganda), of whom 31% were HIV positive and 7.2% were found to be VIA positive.

The Environment and Impacts of Climate Change on Human Health

BACKGROUND

Knowledge for Change recognises the direct and growing impact that climate change and the environment that people live in can have on their health and wellbeing. For example, there is strong evidence that climate change is leading to an increasing risk of tick-borne diseases in Uganda, which formed the basis of one of our recent projects.

Local vets and K4C funded researchers collecting ticks from cattle to analyse their pathogens

Environmental factors can also have a strong impact on human health; one recent area identified by K4C is the impact that cooking on open charcoal fires can have on respiratory health, particularly of women who do the vast majority of cooking in the Ugandan and Tanzania contexts and also their children who will often be present in the kitchen area. Another area we identified is the risk of having livestock co-located with human accommodation and shelter; many people in Uganda rear chickens which often wander into living areas and spread harmful bacteria, for example from their faeces, which can cause both minor and severe illnesses.

In 2022, we hosted 9 Fellows via the CSC's theme of "Clean Energy, Clean Oceans and Clean Air". Each undertook bespoke training programs looking at promoting solar power, healthy and environmentally friendly cooking methods and effective governmental environmental policies.

ACTIVITIES IN 2024

K4C Builder (Peter) constructing a new Lorena Stove for a family in Fort Portal (Uganda)

We continued our project on tick borne disease throughout 2024 in partnership with the University of Salford. We also piloted the construction of 6 Lorena stoves in households around Fort Portal (Uganda) to evaluate users' experiences, calculate cost savings from reduced wood usage, and use this to assess local demand for self-funding the stoves in their households based on the potential for long-term cost savings and improved health outcomes.

PLANS FOR 2025

We will continue our project work on tick borne disease and the impacts of climate change on human health. We are also developing new and exciting research (in collaboration with the University of Salford) into the impact that international travel undertaken by academics, project managers and volunteers has on the climate, particularly in relation to carbon footprints. The research plans to evaluate the different types and purposes of travel being undertaken by different organisations and individuals, and measuring their resulting net carbon dioxide emissions. The aim is to guide future policy for funding bodies, Universities and Charities.

Commonwealth Professional Fellowships

BACKGROUND

The Professional Fellowship scheme (facilitated by the Commonwealth Scholarship Commission) funds mid-career professionals from LMICs to come to the UK to develop their skills and knowledge in a topic relevant to their professional field. Selected Fellows participate in a 3-month intensive training programme and upon their return home use their newly acquired knowledge to effect positive change in their areas of interest. K4C and its partners have hosted over 120 Fellows since 2011 from a variety of professions including nurses, doctors, midwives, allied health professionals, social workers, engineers, policymakers, hospital administrators and climate change activists.

Dr James Ackers-Johnson (K4C Programme Coordinator) hosting the CSC's Annual Professional Fellowship Conference

The fellows have travelled from our partner organisations in Uganda/Tanzania to the UK for between 1 and 6 months to complete educational courses (such as diploma, undergraduate and Masters level modules), to enhance their knowledge, experience and skills through practical sessions and to build professional networks through attending workshops and conferences. K4C designs and coordinates the structure of each Fellowship programme to meet a specific need that has been identified in advance, and many of these link to K4C's on-going programmes of work.

Each Fellow receives financial support from the Commonwealth Professional Fellowship Scheme which funds all their travel, visa, accommodation, subsistence and course costs.

OUR ACTIVITIES IN 2024

Knowledge for Change hosted 8 colleagues from Uganda, Tanzania and Mozambique for 3 months between February and May 2024 through the 2 separate themes described below:

Theme 1: The role of diabetes self-management in Amputation-Reduction Strategies in Low- and Middle-Income Countries.

1) Stella Bonabaana, Midwifery Lead, Knowledge for Change, Kasangati Health Centre, Kampala
2) Jane Mbabazi, Clinical Officer (IN-Charge) Kagote Health Centre, Uganda
3) Hasan Mhunzi, K4C Nurse Mnazi Mmoja Hospital Zanzibar
4) Dr Ahlaam Amour, Medical Lead and Head of Research, Mnazi Mmoja Hospital, Zanzibar

This theme focused on training a multi-disciplinary team to develop a preventive and contextually relevant version of Manchester's "Amputation Reduction Strategy". Diabetes is fast emerging as the primary cause of lower-limb amputation in LMICs. Diabetic Foot Ulceration (DFU) and resulting limb loss represents a major fiscal threat to public health systems and has catastrophic consequences for livelihoods.

The Fellowships built upon and integrated programs of work arising from two highly successful previous Fellowship Programs (on wound care and prosthetic limb manufacture). Fellows joined nursing modules on Tissue Viability, Leg Ulcer Management and Diabetes Complications in the Management of Marginalised Groups. The team combined this learning with on-going workshops to co-design a new approach to Community-Based Diabetes Clinics. This work began to develop once Fellows returned home with plans for new clinics to be established in both Uganda and Zanzibar.

Theme 2 (in partnership with the University of Salford): Building Supply Chains in LMICs as the basis for sustainable health systems strengthening and local manufacture.

5) Richard Isingoma (Project Manager and Service User/Limb Buddy Medical Research Council Research Study on Upper Limb Prosthetics)
6) Winnie Matovu (Procurement Lead, Katalemwa Child Development Centre, Kampala)
7) Aladino Manhica, National Medicines Regulatory Authority, Mozambique
8) Stanslaus Saria, Prosthetist and Lecturer, Muhimbili University of Health & Allied Sciences

This theme built on Professor Ackers' (K4C Chairperson & Research Lead) work on supply chains in the manufacture of prosthetic and orthotic devices in Uganda. Supply chains are overlooked in global health as the focus is on medical 'treatment'. COVID-19 drew public attention to the role of supply chains in health systems. Professor Ackers' work on laboratory strengthening during COVID-19 focused attention on the stark impacts on LMICs. Overseas Development Assistance has had the unintended consequence of undermining supply chain development (through reliance on donations). This, in turn, undermines the potential to build manufacturing capacity and local supply chains in essential drugs, devices and consumables.

The multi-disciplinary, cross-national team of Fellows worked together to identify 'low-hanging-fruits' in supply chain development supporting a model for scale-out to other contexts/products. Building on K4C's ongoing complex intervention work in Uganda and Zanzibar, we focused supply chain development on a specified range of commodities (orthotics; IPC consumables, wound dressings and antibiotics).

Fellows visited a wide range of UK companies and organisations supplying materials for Prosthetic and orthotic manufacture, joined prosthetic clinics and visited STAND, one of K4C's lead partners supplying second hand prosthetic componentry to LMICs.

"The CSC Fellowship at Knowledge for Change exceeded my professional expectations. From the moment I arrived, their kindness and support were evident, guiding me throughout the entire fellowship journey. The program exposed me to cutting-edge technologies in prosthetics and orthotics, providing real-time insight into advanced practices in the UK. The flexible structure of the program helped me to develop both technical and soft skills. Their partnership with the University of Salford gave me unlimited access to peer-reviewed journals and research resources, which greatly supported my academic growth. Attending conferences and networking with experts broadened my perspective and inspired my work back home. Since completing the fellowship, I have remained in contact with the team and continue to explore further collaboration opportunities."

Stanslaus Francis (Lecturer in Prosthetics & Orthotics, Muhimbili University of Health and Allied Sciences)

All Fellows from both themes actively participated in the National Diabetes UK Conference and the African Health Summit, as well as joining relevant teaching sessions at the University of Salford and the University of Greater Manchester's MBA in Global Healthcare Management Program. Both of the Fellowship programme themes were extremely successful and yielded positive learning outcomes for all of the fellows. K4C maintains a close relationship and provides on-going support for Fellows when they return to their home country, and many continue to support our projects longer-term.

CSC Fellows (Stella and Richard) and K4C builder (Peter) visiting the Yorkshire Dales

K4C and University of Salford Fellows, along with Professor Louise Ackers (K4C chairperson) and 2 students from the University of Greater Manchester's MBA in Global Healthcare Management Program

"I would like to express my sincere gratitude for the professional scholarship I received from the Commonwealth. I am very grateful!

The central theme of the course was to strengthen the capacity to manage the supply chain linked to health services in developing countries, and I learned a lot. The course was important because it aimed to enable countries with limited resources, such as Mozambique, to drive frugal innovations and design practical, inexpensive and sustainable products, methods and services for the African context.

During the training, the course mentors from Knowledge for Change and the University of Salford demonstrated that Africa can innovate with practical solutions, such as health technologies, that can minimise the impact of physical disabilities through orthopaedic solutions for people with amputated limbs, for example. This is an example of the logic and problem-solving capacity of frugal innovation.

The programme was facilitated by Knowledge for Change and included three months of practical exercises and seminars at various levels at the University of Salford's School of Health and Society in Manchester. We had regular classes where we learnt about experiences and went on field trips in the UK. Based on knowledge mobility, we learnt that Africa has something to share with the UK — something that was previously unthinkable. We also had regular lessons on specific diseases, such as diabetes, and the need to strengthen prosthetics and orthopaedics".

Aladino Manhiça, Health Policy Specialist & Partnerships Manager, National Medicines Regulatory Authority, Mozambique

Type-2 Diabetes Prevention & The NEEDS Programme

BACKGROUND

Around 436 million adults across the world live with diabetes and prevalence continues to rise, especially in Low- and Middle-Income Countries (LMICs) where approximately 80% of adults with diabetes are located. In many LMICs, including those in Sub-Saharan Africa, diabetes is often poorly managed. For example, as many as 89% of diabetes patients in Uganda are undiagnosed or are not on medication for diabetes management. Many patients go on to develop complications such as diabetic foot ulcers, leading to higher rates of lower limb amputations, and increased mortality. However, with proper care and management, type-2 diabetes can be managed and deterioration of the condition, including the development of diabetic ulcers, can be prevented.

K4C's Type-2 diabetes prevention programme began in Fort Portal (Uganda) in March 2023 with the following 2 key objectives:

1) To establish a high-quality, nurse-led diabetic foot clinic for adults with type 2 diabetes.
2) To develop an effective educational self-management programme for patients to improve their ability to manage their type-2 diabetes.

Our goal was to improve the availability and quality of services for patients to prevent deterioration of their condition, reduce the development of diabetic foot complications (such as diabetic foot ulcers) and resulting amputations. As with many K4C interventions, our diabetes self-management programme was primarily designed as a preventative intervention, and therefore focused on patients who were not yet insulin dependent and had not yet developed advanced foot ulcers.

The team followed a task-shifting approach to create a model for nurse leadership in the multi-disciplinary management of diabetic foot complications. Ethical approval was sought from the University of Salford and Mbarara University of Science and Technology.

ACTIVITIES IN 2024

We followed a multi-method approach to coproduce a nurse led, culturally congruent, frugal, and sustainable education intervention and diabetic foot screening service. This involved the combined analysis of:

1) Facility-based data to characterise patient populations.
2) A scoping review of the literature to establish the components of successful nurse-led Diabetes Self-Management Education (DSMEs) (Sajiith et al., 2024).
3) A 'kick-off event' with stakeholders from the Ministry of Health, service users, clinicians and healthcare managers.

We called our new DSME programme 'NEEDS' (**N**utrition, **E**ducation, **E**xercise, **D**rugs and **S**elf-management). Two of our K4C nurses were based at the weekly diabetic outpatient clinic to support knowledge transfer between staff, improve record keeping and provide direct services to patients. We procured essential equipment such as Dopplers and

monofilaments to test patients for peripheral neuropathy.

In terms of training, the team focused on co-producing high quality, contextually relevant materials that were immediately relatable by users in Uganda with low levels of formal education, complex health beliefs and poor health literacy. Culture proved a strong driver of beliefs and behaviours both around nutrition, exercise, fasting but also witchcraft (Ackers et al., 2025).

We began a series of pilot delivery cycles. After each cycle of delivery, a period of reflexivity was built into the process to enable continuous improvement. Changes were made to deliver the programme in the local language (Rutooro, rather than English) and sessions became more interactive including the use of a Fitness Instructor and Nutritionist. Posters and leaflets were created to meet the health literacy needs of the participants.

A total of 34 adults completed our pilot NEEDS Programme and attended the DFU prevention clinic. We ran a mixed method evaluation of the programme, with findings suggesting statistically and clinically significant improvements in HbA1c with a reduction for 72% of participants (Mean -1.04±2.05, t (32)=2.901, p=0.003). For 48% of participants HbA1c was reduced to below 7% representing change equivalent to efficacy seen in drug trials. Participants also showed an increase in self-management activities, and reported how they had become advocates and champions of a healthy lifestyle to family, friends and work colleagues. Many reported that the previously held view of diabetes being a 'death sentence' had been lifted.

PLANS FOR 2025

The impact of this programme so far has been very positive, so we plan to upscale it to our other partner health facilities in both Uganda and Tanzania during 2025. We are also planning to pilot a community-based version of the programme to assess its viability at health centre (as opposed to hospital) level in Uganda, in line with the Uganda Ministry of Health's recently updated strategic plan which aims to promote more community-based services.

The success of the programme has been highlighted by Bolton NHS Foundation Trust, who have expressed interest in partnering with K4C and the University of Salford to pilot a UK version of the NEEDS programme in the UK. This would mark an interesting opportunity for 'frugal innovation' for the benefit of the UK NHS.

Colleagues from K4C (UK, Uganda and Tanzania), the University of Salford and Mnazi Mmoja Hospital (Zanzibar) attending a stakeholder engagement workshop in Fort Portal (Uganda) for the NEEDS Programme

PROJECT FUNDED BY:

Burdett Trust for Nursing

Infection Prevention & Control (IPC)

SUMMARY

Sepsis is one of the most common causes of death of patients in Uganda. Many infections that lead to sepsis are contracted within health facilities and can be avoided by implementing Infection Prevention and Control (IPC) measures and making relatively small investments in hospital equipment and infrastructure, such as sinks and washing facilities.

Over the last 5 years, K4C has run several capacity building and infrastructural development projects across multiple health facilities in Uganda and Tanzania, covering various aspects of IPC including hand hygiene, antimicrobial stewardship and surgical safety. For example, we have provided running water to more than 40 hospital wards by fitting new (or fixing existing) sinks and plumbing systems. This work was of even higher priority during the Covid-19 pandemic and more recently during outbreaks of Ebola and Marburg Haemorrhagic Fever.

ACTIVITIES

Throughout 2024, our hand gel project provided free supplies of locally manufactured alcohol hand sanitiser to 3 public health facilities and 1 primary school in Fort Portal (Uganda). We have also sold it at cost price (not for profit) to other charities and not-for-profit health facilities in the area.

We have also purchased various equipment such as autoclaves (for sterilising medical equipment), rubber mattress covers, delivery beds and drugs trolleys and have invested over £4,000 in renovating hospital and health facilities to reduce infection risks via our Neonatal Sepsis Project.

We had previously identified inadequate IPC measures as a key contributing factor to antimicrobial resistance in Uganda during our Antimicrobial Stewardship Project. This year it was again highlighted as a key cause of neonatal sepsis during the scoping phase of our Neonatal Sepsis Project and went on to form a core component of our training packages that are currently under development. More information about this project can be found on page 29.

Other IPC related activities undertaken during 2024 include ongoing training and mentoring provided by our professional volunteers across all of our partner health facilities. Their training covered a wide range of areas including surgical safety (for example implementing the WHO safe surgery checklist), hand hygiene, appropriate cleaning and decontamination of medical equipment, antibiotic prescribing practices, improved operative techniques (for example transverse c-section) amongst others. Our volunteers also implemented new and existing policies, protocols and guidelines to further support staff clinical practice.

Local staff at Kasangati Health Centre (Uganda) learning how to manufacture Jik (a hand sanitiser and bleach used in health facilities)

Neonatal Sepsis Project

BACKGROUND

Sepsis is one of the key causes of neonatal morbidity and mortality in Uganda and Tanzania, accounting for between 9% and 15% of all neonatal deaths. Building on the success of our Maternal Sepsis Intervention, we successfully applied to Global Health Partnerships (GHP, formerly THET, funded by NHS England) for £50,000 to begin a new project focusing on reducing neonatal sepsis rates in our partner health facilities in Kasangati and Fort Portal (Uganda). Our 'Neonatal Sepsis Project' officially started in January 2024 and will run until June 2025. Although the remit of the official project funding only covered work in Uganda, we used other internal funding to extend the project to our partner facilities in Zanzibar too.

The primary aim of the project is to create an 'orientation training package' for all existing and new staff at the hospitals and health centres, especially intern doctors, nurses and midwives. Some aspects of the training package could eventually be rolled out to other hospital staff including pharmacists and allied health professionals, as well as later being incorporated into the teaching at our partner nursing and medical schools. The orientation package will focus on 6 key areas:

1. Infection prevention and control
2. High quality, respectful maternity care
3. Patient management and referral pathways
4. The management of neonatal sepsis
5. Antimicrobial resistance
6. Administrative and operational challenges

The secondary aim of the project was to leverage and evaluate the reciprocal benefits to the NHS from engaging UK health workers in international development interventions, through their learning and personal and professional development.

ACTIVITIES IN 2024

The funding for this project was received in March 2024, and we began working immediately to design and implement its activities and objectives. Key activities and achievements for far include:

- The recruitment of 10 professional volunteer nurses, midwives and doctors to complete long-term (6+ month) placements in Uganda and Tanzania to conduct ongoing training and mentoring of staff, and a further 7 virtual volunteers to support from the UK.
- Conducting a WHO infrastructure audit at Fort Portal Regional Referral hospital and subsequently working with the hospital maintenance team to carry out repairs and install more hand sanitiser points. This was repeated later in the year.
- Facilitating 8 neonatal case review meetings at Fort Portal Regional Referral Hospital (FPRRH), 3 at Kasangati Health Centre and 5 at Mnazi Mmoja Hospital. These meetings involved the analysis of clinical cases of neonatal sepsis to identify gaps in care and develop targeted educational materials to enhance healthcare delivery. Each case was assessed for contributing factors including maternal history, delivery conditions, early signs of sepsis and treatment protocols.
- A training session in taking blood cultures and Infection Prevention and Control was arranged by K4C staff and laboratory staff for 22 clinicians (of different cadres) and students in Fort Portal.
- A training session in good vaginal examination practice was run in Zanzibar (Tanzania) and attended by 14 local medical, nursing and midwifery staff and students (image below):

- Background data collection and a benchmarking exercise were conducted at FPRRH: 1000 entries to the neonatal admission register formed a baseline data set. Data from 50 admissions to the paediatric neonatal 'annex' (where babies who have gone home and need readmission are sent) were also analysed.
- Our K4C staff and professional volunteers conducted 8 semi-structured interviews with postnatal women at FPRRH relating to respectful care.
- We have begun work on a referral pathway that can be used to guide staff in the referral and management of potentially unwell babies based on clinical symptoms.
- At Kasangati Health Centre (where there is no neonatal unit), there was no register or formal method of recording babies who had been treated for sepsis or for other concerns. K4C staff initiated a book to record the babies who had been treated for sepsis, and we have obtained a neonatal admission register to be used from 1st January 2025 to better record the work that is done caring for unwell neonates in this setting.
- Provision of basic monitoring equipment such as thermometers, blood pressure machines, fob watches, stethoscopes and weighing scales.

RESULTS SO FAR

The case review meetings run at each partner facility have been instrumental in highlighting the current gaps in care and areas of need. These include (amongst other things):

- Delays in recognizing early symptoms of sepsis often led to critical complications.
- Limited access to diagnostic tools and appropriate antibiotics affected timely treatment.
- Gaps in aseptic techniques during delivery and postnatal care leading to infections.
- Poor documentation and taking of vital signs
- Inefficient patient referral pathways which cause delays to neonates receiving appropriate treatment.
- Gaps in the health education provided to mothers during ante- and post-natal care which increased infection risks for their babies.
- Poor management and supervision of student medics and nurses, leading to poor and unethical practice such as conducting multiple unnecessary vaginal examinations.

The women interviewed by our staff and volunteers were generally very positive about the care they had received following the ongoing training and mentoring provided by our K4C staff and professional volunteers.

Feedback from the formal training sessions conducted in blood culture and sensitivity testing and infection prevention control was very positive and demonstrated strongly positive learning outcomes.

We have already seen an increase in staff taking vital signs when there is a concern for a baby across all our partner health facilities, due to improved availability of the essential medical equipment we've provided and improved awareness and skills of staff following training.

Nurses and Midwives from Fort Portal Hospital (Uganda) attending training sessions run by K4C medical volunteer (Charlie, centre) on the blood culture procedure, identifying sepsis early, and obtaining prior verbal consent from a baby's parent or caregiver to ensure ethical caregiving.

PLANS FOR 2025

We plan to continue running the case review meetings throughout 2025 as a form of ongoing professional development for the staff attending. We will also begin formulation, piloting and implementation of the orientation training package across each of our partner health facilities.

We have 5 Fellows travelling from Uganda to the UK for 3 months between February and May 2025 (supported by the Commonwealth Scholarship Commission) to undertake extensive training in neonatal sepsis. The Fellows include a doctor, a nurse, 2 midwives and a nursing lecturer from Mountains of the Moon University in Fort Portal. These Fellows will work with our partners at the University of Salford nursing school and our virtual professional volunteers to lead the development of the training package. We plan to pilot the package from April 2025 onwards, initially at FPRRH then rolling it out to Kasangati Health Centre and Mnazi Mmoja Hospital in Zanzibar.

Staff and volunteers in Uganda and Tanzania will continue with data collection where appropriate, help to facilitate the presentation of the pilot orientation package, and continue to model and encourage best practice in this area.

We are partnering with the head of laboratory at FPRRH, Moses Mulimira, who has a fellowship with the Flemming Fund. He will be relating his work to the neonatal sepsis project, and we are hoping our work can contribute to the formulation of an antibiogram for the neonatal unit.

Further details about our Neonatal Sepsis Project can be found in a more comprehensive report here:

https://knowledge4change.org/projects-research/neonatal-sepsis-project/

Theatre staff using hand sanitiser dispensers (newly installed by K4C) at Fort Portal Regional Referral Hospital (Uganda)

PROJECT FUNDED BY:

Global Health Partnerships
FORMERLY THET

NHS England

Rehabilitation & Supply Chains

BACKGROUND

Limb amputations are far more common in LMICs such as Uganda and Tanzania. The most common cause is trauma as a result of road traffic accidents or conflict. Other common causes include congenital defects, infections, tumours and (increasingly) diabetes. Losing a limb can have severe repercussions on people's livelihoods as more people are reliant on physical activity to earn a living, for example through manual labour, farming and transportation. People's access to prosthetic or orthotic devices is extremely limited due to them being relatively expensive to design, manufacture and maintain. Additionally, there is no social security system to provide support for people living with disabilities.

K4C's focus on prosthetics and orthotics began in 2017, stimulated by a woman named Ninsiima who was a victim of domestic violence whilst being 8 months pregnant. As a result of the attack, Ninsiima lost both of her arms from the elbow down, however thankfully her baby was delivered successfully with the support of K4C's midwifery staff and volunteers. At this point, K4C embarked on a project (in partnership with the prosthetics department at the University of Salford) to provide Ninsiima with prosthetic arms to enable her to care of her 5 children and continue to earn a living through chicken farming. A fundraising campaign was setup and the project subsequently featured on BBC World News.

Ninsiima's story highlighted the challenges faced by amputees in countries like Uganda. This led a team of researchers at the University of Salford to design a project aimed at developing fit-for-purpose, affordable and locally manufactured upper-limb prosthetic devices in Uganda (in partnership with K4C) and Jordan. The 'Fit-For-Purpose Prosthetics Project' received £1.4M of EPSRC funding and ran from February 2018 through to January 2022.

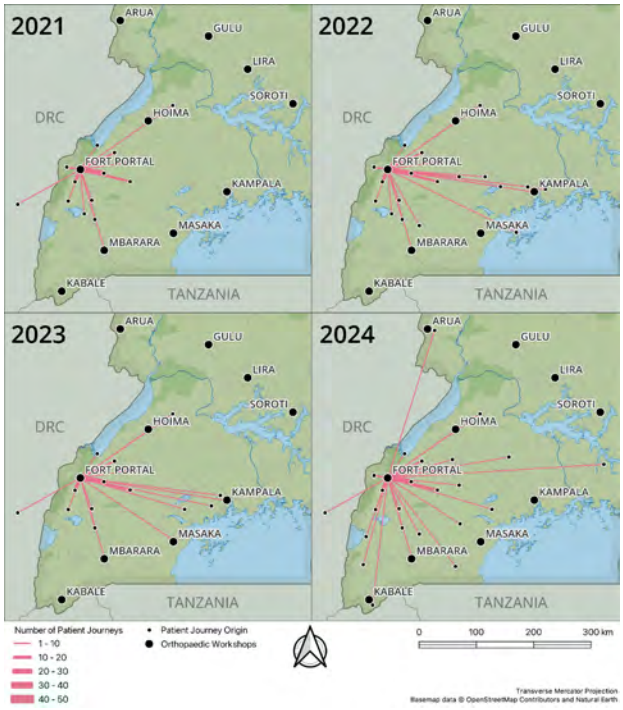
REHABILTATION RELATED ACTIVITIES IN 2024

Since 2021, K4C has been working on an MRC funded project titled "Promoting Universal Health Coverage for Amputees through Social Enterprise and Engineering Innovation", in partnership with Makerere, Salford, Manchester and Aga Khan Universities. This exciting project was led by one of our K4C trustees (Dr Robert Ssekitoleko) and officially came to an end this year, culminating in the publication of a range of papers and a monograph. The key findings formed the basis of a Policy Report presented to the Ugandan Ministry of Health in a dedicated workshop event in November 2024 and several meetings of the group responsible for the development of the National Rehabilitation and Assistive Technology Strategic Plan.

We've also continued to grow our broader rehabilitation related programmes in both Fort Portal Regional Referral Hospital (Uganda) and Mnazi Mmoja Hospital (Zanzibar, Tanzania) through the employment of 3 orthopaedic technicians. Our staff in Fort Portal provide ongoing support for the 'Ninsiima Centre for the Rehabilitation of People with Disabilities' and the linked Paediatric Rehabilitation Department which K4C established in 2022 and 2023 respectively. 311 patients have accessed these services within the last 12 months, of whom 44% were under the age of 15 and 46% were female. 60 of these patients had their prosthetic devices funded in partnership with philanthropic YouTube star '**Mr Beast**'.

In Zanzibar, our orthopaedic technician (Maryam) supported over 300 clients that attended the Prosthetics & Orthotics Department, as well as 93 babies attending the club foot clinic, at Mnazi Mmoja Hospital over the course of 2024.

The map below illustrates the increase in distances that patients have travelled to attend our rehabilitation workshop in Fort Portal (Uganda) between 2021 and 2024, due to its positive reputation:



SUPPLY-CHAIN RELATED ACTIVITIES IN 2024

In 2019, the World Health Organisation launched its 'Rehabilitation 2030 Call for Action'. This stimulated the Ugandan Ministry of Health to commence an ambitious planning process to develop and implement the first Ugandan National Rehabilitation and Assistive Technology Strategic Plan. The Strategic Plan identified 3 'Key Actions':

1. Collecting **information** to enhance health information systems
2. Building research capacity and expanding the availability of **robust evidence** for rehabilitation.
3. Establishing and strengthening networks and **partnerships** in rehabilitation, particularly between LMICs.

In direct response to these 'Key Actions', K4C has worked with research teams in Uganda and the UK to generate an evidence-based intervention model at Fort Portal Regional Referral Hospital (Uganda), leveraging funding from various sources including:

1. The UK's Engineering and Physical Sciences Research Council (EPSRC) and National Institute for Health Research (NIHR) which provided funding through the UK Global Challenges Research Fund for the "Fit-4-Purpose Body-powered prosthetics" project (EP/RO13985/1).
2. The UK's Foreign, Commonwealth & Development Office (FCDO), the Medical Research Council (MRC) and the Wellcome Trust which funded the "Promoting Universal Health Coverage for Amputees through Social Enterprise and Engineering Innovation" project (MR/V015214/1).
3. The Tropical Health and Education Trust (now Global Health Partnerships) which funded our "Promoting Virtual Learning in Prosthetics" project.

K4C worked intensively in 2024 to support the development of the Ninsiima Rehabilitation Centre. This included extensive work on supply chains. An over-reliance on donations has stifled supply chains in Uganda and, in turn. Its capacity to manufacture prosthetic and orthotic devices. To the extent that limited supplies were available they were very limited in scope and expensive.

At the present time K4C is working closely with our partnership with STAND who continue to provide high-quality second-hand componentry for the manufacture of prosthetic legs (mainly feet, knee joints and pylons).

Supply chains are seen as central to any 'market-shaping' activities and the future for economic growth in LMICS. With this in mind K4C established a Social Enterprise approach to supply chain development in January 2024. In the first instance this has focused on researching supply opportunities, negotiating prices and transport arrangements to increase exposure to a wider range of technologies and materials whilst also pushing down the unit costs of P&O devices.

The Social Enterprise work is now established and beginning to deliver the planned-for economies of scale and price reductions:

The table below gives some examples of the progressive reductions in costs we've achieved over the course of the intervention (2021-2024) for manufacturing a prosthetic socket. The column headed "2024 SE (£)" is the further reduced cost at which we sell each item to facilities via our Social Enterprise:

Material	Quantity	2021 (£)	2024 (£)	2024 SE (£)	% Reduction
Generic Items: Procured Internationally					
Polypropylene (3mm)	¼ sheet	28.18	23.48	18.85	33%
EVA (4mm)	1 sheet	37.58	31.31	18.60	51%
Stump Socks	1 pair	12.43	12.43	3.79	70%
Sub-total		**78.19**	**67.22**	**41.24**	**47%**
Ubiquitous Items: Procured Locally					
POP Powder	10kgs	6.26	5.85	5.85	7%
POP Bandages	6 pieces	3.76	2.66	2.66	29%
Glue	500mls	2.51	1.96	1.96	12%
Rivets	4 pairs	0.84	0.84	0.84	0%
Sub-total		**13.37**	**11.31**	**11.31**	**15%**
Total Cost		**91.56**	**78.53**	**52.55**	**43%**

We're continuing to establish K4C as a key provider of materials for Uganda's P&O sector, and received a boost in October receiving $30,000 of funding from philanthropic YouTube star 'Mr Beast' (through our Partnership with STAND) to underwrite the costs of providing 60 amputees with lower limb prosthetics.

We have also worked hard to put Upper Limb amputations on the Universal Health Coverage agenda, as these cases are often forgotten and service provision is sporadic and unreliable. Working in partnership with specialist teams from Salford University, our Medical Research Council funded project has tried and tested the use of a novel approach to upper limb prosthetics through the '**Koaala**' upper limb, which is designed by a UK start-up. Our teams have piloted the use of 'Activity Monitoring' to assess the extent to which users actually wear their Koaala devices, for example how often and where they typically wear them.

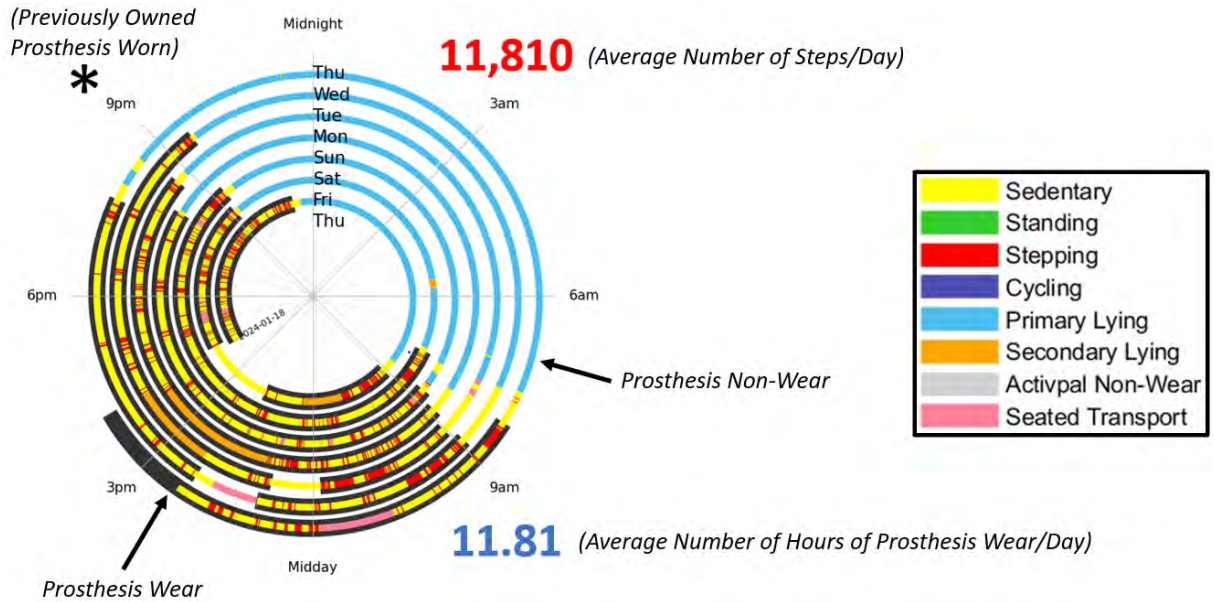
Capturing evidence of device use through activity monitoring helps to build advocacy in support of increasing government funding for rehabilitation services.

K4C has complemented this with interviews with patients using the Ninsiima Rehabilitation centre to assess patient satisfaction with services. A Report on this was presented to a meeting in Fort Portal attended by the Ministry of Health in November 2024. The Report included evidence of a progressive increase in the volume of patients and the distances they have travelled to receive free, high quality, public services.

PLANS FOR 2025

K4C is planning to continue and expand upon all aspects of our rehabilitation programme in 2025, working closely with the Uganda Ministry of Health to support the implementation of the Ugandan National Rehabilitation and Assistive Technology Strategic Plan and continue to identify ways of supporting the delivery of Universal Health Coverage for people with Physical Disabilities.

We will also continue to expand our Social Enterprise to include additional essential devices and componentry for rehabilitation, and potentially equipment and consumables for use within other areas of healthcare.



Example of spiral plots showing synchronous prosthesis wear/non-wear and physical behaviours

Respectful Midwifery Care

SUMMARY

Uganda and Tanzania have some of the highest rates of maternal and neonatal mortality in the world. The Sustainable Development Goals framework focuses on improving Maternal Health through gender equality, human rights, empowerment and poverty reduction. Disrespectful care not only undermines women's human rights and disempowers them; it also results in poor levels of engagement with public services and damaging delays in accessing them. 99% of all maternal mortality occurs in LMICs; much of this is due to delays in women seeking care. In Uganda and Tanzania, it is not uncommon for women to receive verbal or sometimes physical abuse whilst giving birth in health facilities. Through empowerment of women and collaboration between healthcare staff, stakeholders, families and communities, we aim to improve the health and well-being of mothers and their babies.

Our Respectful Care programme began in 2018 when we received a grant of £20,000 from the Wellbeing of Women Foundation to research the challenges faced by mothers and staff during pregnancy and birth, and how levels of quality and respect could be improved within maternity care settings (the 'WeCare Project'). A publication containing the full WeCare project findings can be accessed for free using the following link:

Ackers et. al (2018) "What price a welcome? Understanding structure agency in the delivery of respectful midwifery care in Uganda" International Journal of Health Governance (2018), 23 (1): 46–59

ACTIVITIES IN 2024

Throughout 2024, we have continued to implement the findings of our original WeCare project across all our partner facilities in Uganda and Tanzania. Our staff and professional volunteers have provided ongoing training and mentoring to support simple changes in practice, for example urging staff to greet mothers respectfully and introduce themselves by name, allowing mothers their choice of birthing position, providing more information about procedures before beginning them and providing counselling and grieving care. Other interventions have included providing basic new equipment such as privacy screens and curtains, delivery beds and ward mattresses and supporting general maintenance of maternity units, including kitchen, toilet and hand washing facilities.

Implementing these simple, cost effective and sustainable interventions has greatly improved the provision of respectful and high-quality care received by mothers and has led to increasing numbers of women seeking care at our partner health facilities. For example, Kagote Health Centre now averages 45 births per month, compared to just 22 prior to our WeCare project.

We've also continued to integrate the findings from our original WeCare Project into other areas of care, for example our Neonatal Sepsis Project which includes a training focus on high quality maternity care to reduce infection risks for both mothers and their babies and advocates for improved post-natal health education. Within our Rehabilitation Programme, we've worked in partnership with Amputee Self-Help Uganda (ASNU) to improve access to high quality services and reduce disability related stigma for amputees.

Tiggy (Midwife) following a successful triplet delivery, midway through her 2-year placement with K4C in Fort Portal (Uganda).

Child Welfare, Education and Supporting Local Community Based Organisations

BACKGROUND

Knowledge for Change not only runs its own projects but also supports several local, independent Community Based Organisations (CBOs) with similar organisational objectives to our own. Most of these CBOs are relatively small but are highly experienced in their respective fields and run extremely beneficial projects supporting the health and educational needs of local communities. The areas of focus of these CBOs are varied and include women and children's empowerment, mental health services, family planning, HIV screening and counselling, caring for children with physical and mental disabilities, climate change and animal wellbeing.

In terms of education, over 57 million children of primary school age remain out of school worldwide, and more than half of these children live in sub-Sahara Africa. According to Ugandan and Tanzanian legal frameworks, all children should be given free and accessible education, however there are significant discrepancies between policy and practice. For example, the 2024 Uganda Population Census suggests that 65% of adolescents (aged 10–19) had only received 'some primary education' and 15.4% had received no education at all. 77% of girls aren't enrolled in secondary school, and our own research in the Kabarole District of Uganda found that 82.4% of children with disabilities were reported to be out of school.

The reasons for poor school attendance and high drop-out rates are very complex and include political factors (such as lacking demographic data and funding), physical barriers (such as inadequate infrastructure and a lack of assistive devices and transport) and social/cultural barriers (such as period poverty, gender disempowerment and lacking understanding and awareness of disabilities within wider society). The problem was exacerbated by the Covid pandemic, during which Uganda had the longest school closures in the world, which further increased drop-out rates, especially for disadvantaged girls and disabled children.

Despite being primarily a health focused organisation, K4C recognises the importance of education and the negative impact that poor access to education can have on a child's life opportunities, economic empowerment and subsequently their health needs. We expanded our activities to include primary education in 2018, focusing initially on improving access to education for disabled children, in recognition of the additional challenges faced in this area and the closer link to our experience and capacity in physical and mental health.

ACTIVITIES IN 2024

Throughout this year, K4C has supported our partner CBOs in various ways including providing direct finance, building staff capacity, promoting joint research collaboration and offering use of our office facilities and human resources. Some key activities are listed below:

1) Assessing Adolescent Mental Health

Data on the mental health of adolescent children is very limited in Uganda and Tanzania, which inhibits our understanding of the problems that exist and the ability to establish appropriate and effective interventions. Therefore, working in partnership with the Liverpool School of Tropical Medicine (LSTM, UK) and a local NGO "Fort Healthy Minds", we conducted a cross-sectional survey with 263 students aged 15 years and above from two secondary schools in Fort Portal (Uganda). The findings were astounding and highlighted a substantial mental health burden, exceeding previous national and regional estimates. Girls reported significantly higher levels of depression (64.5%) and anxiety (46.2%) than boys (51.0% and 33.0% respectively). Worryingly, in the past year, 22.6% of students had tried to harm themselves with

the intention to end their lives. Novel insights were obtained with regards to differential developmental trajectories of mental health by sex: symptom levels of anxiety increased amongst girls after age 16, whilst they remained stable in boys.

The results of this pilot study highlighted the urgent need for contextually appropriate, gender-sensitive mental health interventions in Ugandan schools, informed by in-depth and longitudinal exploratory research. We are planning to use the findings to apply for funding to guide development of an effective intervention in 2025.

2) Efficacy of School Based HPV Vaccination Programmes

Human papillomavirus (HPV) is a common sexually transmitted virus which rarely has symptoms and usually clears up on its own. However, some strains are a key risk factor for certain types of cancers, most notably cervical cancer for women. HPV vaccination is an effective way of preventing HPV and cervical cancer, and is widely available worldwide including in Uganda and Tanzania. However, HPV vaccination rates remain relatively low despite both countries having active vaccination programmes. Existing (limited) research attributes this to poor health literacy/awareness, general attitudes to immunisation exacerbated by cultural/religious factors and growing vaccine hesitancy. Moreover, vaccination is mainly delivered through school-based outreaches, however many girls aren't enrolled in a secondary school which greatly limits efficacy.

K4C is keen to develop interventions to increase HPV vaccination rates, as part of our wider efforts to prevent cervical cancer through our screening and treatment services. As a first step, we worked with one of our Masters students (Mari Wigaard) to conduct a qualitative study into the challenges facing the Zanzibari government's HPV vaccination program. Our findings suggested complex cultural beliefs and substantial knowledge gaps among both health workers and local populations which increased parental hesitancy. We are planning to use this study to apply for grant funding to guide development of an effective intervention in 2025.

3) Rehabilitation and Assistive Devices

As part of our wider rehabilitation programme, we continued to provide essential rehabilitation services and assistive devices to children with physical disabilities to improve their quality of life and support them to return to school. The paediatric rehabilitation centre that we constructed at Fort Portal Regional Referral Hospital in 2023 has been a key element of this work, as well as our other partner rehabilitation departments at Katalemwa Cheshire Home (Kampala, Uganda) and Mnazi Mmoja Hospital (Zanzibar, Tanzania).

4) Domestic and Gender-Based Violence

Our 'Fit-for-Purpose Prosthetics Project' and wider Rehabilitation Programme highlighted that one of the main causes of upper-limb loss for women in Uganda was domestic and gender-based violence, largely due to the prevalence of machete attacks. We've previously reported on our work with Ninsiima, a double amputee who was herself a victim of a machete attack by her husband following a domestic dispute. We learnt through speaking to Ninsiima and other similar women that not only are such attacks worryingly common, but that they often go unpunished due to weak criminal courts, corruption, poor levels of community awareness and education, relatively disempowered women and deeply embedded 'himpathy' within the country's patriarchal society.

Women that are victims of domestic or gender-based violence often lack essential physical and mental rehabilitation and support services. We established our 'Ninsiima Centre for the Rehabilitation of People with Physical Disabilities' in 2022 to provide physical rehabilitation services. In 2024, we have augmented this with psychosocial support services for women, working in partnership with 'Fort Healthy Minds'.

PLANS FOR 2025

We will continue to support all of our existing CBO partners in Uganda throughout 2025. We are also planning to develop new partnerships with CBOs based in Zanzibar (Tanzania) with a particular focus on community based mental health.

University Education and Teaching

BACKGROUND

For several years, Knowledge for Change has supported the development, delivery and continuous improvement of university diploma and degree level education programmes in both the UK and Uganda. In the UK, our trustees, staff and volunteers regularly deliver teaching sessions on several University degree and masters level programmes, based on the activities and research we undertake in Uganda and Tanzania.

In Uganda, we have worked closely with Makerere, Kyambogo, Mountains of the Moon and Great Lakes Universities to establish various degree programmes, for example the degree in Biomedical Engineering at Kyambogo University (Kampala) and the degrees in Nursing and Midwifery at Mountains of the Moon University (Fort Portal). Our staff and volunteers have been involved in curriculum development, the design of learning materials and co-delivering teaching sessions. They also supervise students completing practical placements at our partner health facilities.

ACTIVITIES IN 2024

We continued our drive to deliver high quality University level education programmes throughout 2024. In the UK, our trustees, staff and volunteers have taught on the following programmes:

1) The University of Salford's Nursing, Geography, Social Policy and Prosthetics and Orthotics degrees.
2) The University of Greater Manchester's MBA in Global Healthcare Management.
3) Liverpool John Moore's University's paramedic science degree.
4) The London School of Tropical Medicine's Postgraduate Diploma in Tropical Nursing.

"We're proud to work with Knowledge for Change to widen access to the Professional Diploma in Tropical Nursing, supporting nurses in low-resource settings to strengthen their skills and impact. K4C staff have contributed extensively to the programme – shaping content to reflect contemporary nursing practice, teaching and facilitating sessions, advising students on careers, and engaging in listening events. We deeply value their expertise and constructive input".

Katie Beck, Director of Diploma in Tropical Nursing, London School Hygiene and Tropical Medicine

In Uganda, we've continued to support Mountains of the Moon University (MMU) in partnership with Salford University through our British Academy funded 'Writing Workshops Programme'. This aims to improve the writing skills of academic staff and support their professional development, leading to successful grant applications and publications. It launched in September, with 4 staff from K4C and the University of Salford travelling to Fort Portal to run the 1st of 3 scheduled workshops, providing training to 12 academic staff from MMU.

K4C, University of Salford and MMU staff attending our first 'Writing Workshop' in September 2024.

PLANS FOR 2025

We plan to continue developing our existing University partnerships throughout 2025, as well as establishing new University partnerships in Zanzibar (Tanzania). We also look forward to progressing our British Academy funded 'Writing Workshop' project.

Publication and Dissemination of Global Health Research

SUMMARY

Our experience of designing and implementing the above projects, along with their respective impacts, outcomes and findings, are used to inform our research. This research enables us to constantly analyse and refine our charity's activities to maximise our efficiency and effectiveness.

We also present our research at national and international conferences and policy meetings and publish findings in Open Access books and articles. This helps us lobby for positive changes to policies at organisational, regional and national levels in the UK Uganda and Tanzania to improve the way organisations and governments carry out global health and international development activities.

ACTIVITIES

In collaboration with various partners, we've published several books and journal articles in recent years, some of which are detailed here, and most can be accessed for free online:

Antimicrobial Stewardship:

Ackers, H.L., Ackers-Johnson, G., Welsh, J., Kibombo, D. and Opio, S. (2020) ***"Anti-Microbial Resistance in Global Perspective"***, Palgrave. (https://link.springer.com/book/10.1007/978-3-030-62662-4)

Ackers, H.L., Ackers-Johnson, G., Seekles, M., Odur, J. and Opio, S. (2020) ***"Opportunities and Challenges for Improving Anti-Microbial Stewardship in Low- and Middle-Income Countries; Lessons learnt from the Maternal Sepsis Intervention in Western Uganda".*** Antibiotics 2020, 9, 315; doi:10.3390/antibiotics9060315. (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7345100/)

Ackers-Johnson, G; Kibombo, D; Kusiima, B; Nsubuga, M. L; Kigozi, E; Kajumbula, H. M; Kateete, D.P. Walwema, R; Ackers, H. L; Goodhead, I B; Birtles, R. J. & James C. (2020 – preprint) ***"Antibiotic resistance profiles and population structure of disease-associated Staphylococcus aureus infecting patients in Fort Portal Regional Referral Hospital, Western Uganda"***. https://doi.org/10.1101/2020.11.20.371203

Welsh J and Ackers L. (2022) ***"An exploration of midwives' understanding of antibiotic resistance and stewardship in Uganda"*** African Journal of Midwifery and Women's Health. https://doi.org/10.12968/ajmw.2020.0028

Biomedical Engineering:

Oshabaheebwa, S., Ssekitoleko, R.T., Namuli, L.K., Tusable, M., Nantume, J., Ackers, H.L. (2020) ***"Enhancing skills to promote the utilization of medical laboratory equipment in low resource settings".*** Health Policy and Technology https://doi.org/10.1016/j.hlpt.2020.01.001

Cervical Screening:

Auma, J; Ndawula, N; Ackers-Johnson, J; Horder, C; Seekles, M; Kaul, V; Ackers, H (2023) **"Task-shifting for point-of-care cervical cancer prevention in low- and middle-income countries: a case study from Uganda"** Frontiers in Public Health, 11. (https://doi.org/10.3389/fpubh.2023.1105559)

Family Planning:

Gualeni, B. et al. (2021) ***"Human-centred design of a new microneedle-based hormonal contraceptive delivery system [version 2; peer review: awaiting peer review]"*** Gates Open Research, 5:96. https://doi.org/10.12688/gatesopenres.13233.2

Infection Prevention & Control:

Ackers, H. L.; Ackers-Johnson, G.; Mugahi, R.; Namiiro, R. (2024) ***"Compassion versus Infection Prevention and Control in Hospital Visiting; a False Dichotomy? A Case Study of Informal Caregiving in a Ugandan Regional Referral Hospital"*** Open Journal of Social Sciences, 12 (6) DOI: 10.4236/jss.2024.126020

International Development:

Ackers, H.L., Seekles, M., Horder, C. and Nantamu, M. (2019) ***"The Impact of Research Council Funding on International Development"*** (Unpublished Report), UK Research and Innovation

Professional Volunteering:

Tyler, N., Ackers, H.L., Ahmed, A., Byrne, G. and Byrne-Davis, L. (2020) ***"A questionnaire study of the negative outcomes for UK health professional volunteers in low- and middle-income countries"***, BMJ Open (doi:10.1136/bmjopen-2020-037647)

Horder, C. & Ackers, H.L., (2024) **"Global Engagement and Cultural Competence in the NHS Workforce: An Evidence Review for NHS England"** University of Salford

Prosthetics, Orthotics and Rehabilitation

Kenney L., Ssekitoleko R., Mwaka E., Donovan-Hall M., Morgado Ramirez D., Chadwell A., Kyberd P., Sobuh M., Ackers L., Howard D., Holloway C. and Miodownik, M. (2018) ***"Upper-limb prostheses for low- and middle-income countries"***. Scope, 27(4): 38-40.

Ssekitoleko R., Byamukama, S. and Wanda, S., (2019) ***"Clinical Engineering in Uganda (Handbook)"*** Academic Press. ISBN: 9780128134689.

Morgado, R., Nakandi, B., Ssekitoleko, R., Ackers, L., Mwaka, E., Kenney, L., et al. (2022) ***"The lived experience of people with upper limb absence living in Uganda: A qualitative study"***, African Journal of Disability 11(0), a890. https://doi.org/10.4102/ajod.v11i0.890

Mulindwa, B., Nalwoga, R., Nakandi, B., Mwaka, E., Kenney, L., Ackers, H.L. and Ssekitoleko, R. (2023) ***"Evaluation of the current status of prosthetic rehabilitation services for major limb loss: a descriptive study in Ugandan Referral hospitals"*** Disability and Rehabilitation, DOI: 10.1080/09638288.2023.2188266

Oldfrey, B., Holloway, C., Walker, J., McCormack, S., Deere, B., Kenney, L., Ssekitoleko, R., Ackers, H.L. & Miodownik, M. (2023) ***"Repair strategies for assistive technology in low resource settings"***. Disability and Rehabilitation: Assistive Technology, DOI: 10.1080/17483107.2023.2236142

Ackers, H.L. et al. (2025) ***"Delivering Universal Health Care to People with Major Limb Loss or Damage in Low- and Middle-Income Countries"***, Palgrave Macmillan, https://doi.org/10.1007/978-3-031-85423-1_1

Student Placements:

Ackers, H.L., Ackers-Johnson, J., Ahmed, A. and Tate, N. (2019) ***"Optimising student learning on international placements in Low Income Settings"***, Open Journal of Social Science; Volume 7.

Brownie, S., Ackers, H.L., Murphy, G. and Shumba, C. (2023) ***"Editorial: Transforming health and social education to include a greater focus on public health education in the curriculum"***, Frontiers in Public Health 11:1306124. DOI: 10.3389/fpubh.2023.1306124

Wound Management:

Stephens, M., Wynn, M., Pradeep, S. et al. (2023) ***"Frugal innovation in wound care: the five Rs"*** British Journal of Healthcare Management. https://doi.org/10.12968/bjhc.2023.0061

Stephens, M. et al. (2023) ***"Frugal innovation in wound management within a low resource inpatient setting: a case series"*** Wounds UK, Vol. 19, No. 3. https://doi.org/10.12968/bjhc.2023.0061

"I am delighted to see the outcomes of the health partnership interventions reported on in this book and the evidence base this has generated. In 2023, the Ugandan Ministry of Health started an ambitious planning process to develop and implement the first Ugandan National Rehabilitation and Assistive Technology Strategic Plan. This represented an immediate response to the World Health Organisation's Rehabilitation 2030 Call for Action. The initiatives supported by the partnership between Fort Portal Regional Referral Hospital, Knowledge for Change and the University of Salford (UK) respond directly to 3 Key Actions of the Strategic Plan. Namely, enhancing information systems, building research capacity and expanding the availability of robust evidence and establishing and strengthening partnerships between low-, middle- and high-income countries. Complementing multi-stakeholder, sectoral collaboration and partnerships with practitioners, this research has actively engaged Ugandan early career researchers and people with disabilities.

The book emphasises the inefficiencies and damaging impacts associated with poorly aligned overseas contributions, particularly the development of parallel systems. Through its projects, Knowledge for Change works closely with the Ministry of Health to support the delivery of Universal Health Coverage to benefit all the Ugandan people.

The work represented here contributes a significant and unique evidence-base to support our future Rehabilitation and Assistive Technology service planning and implementation processes".

Andrew Mubangizi, Assistant Commissioner, Disability and Rehabilitation Division, Uganda Ministry of Health

Key Stakeholder Testimonials

DR AHLAAM AMOUR
DIRECTOR OF TRAINING, EDUCATION & RESEARCH
MNAZI MMOJA HOSPITAL, ZANZIBAR

Our collaboration with Knowledge for Change has strengthened Mnazi Mmoja Hospital's capacity to deliver high-quality patient care. By combining their international expertise with our local knowledge, we are not only exchanging skills but also building sustainable systems that benefit the people of Zanzibar.

Through professional volunteer and student placements, our teams from the wards (especially Medical, Paediatrics, Surgical, Maternity, Mental Health and Prosthetics and Orthotics departments) have benefited from fresh perspectives, innovative practices, and a spirit of shared learning. This exchange has enriched both our staff and the visiting professionals, fostering a truly global approach to healthcare delivery in Zanzibar.

Furthermore, Knowledge for Change's Professional Fellowship Programme (sponsored by the Commonwealth Scholarship Commission) has been a catalyst for professional growth, enabling us to gain advanced skills, broaden our networking, and bring back evidence-based solutions to improve patient outcomes in our hospital.

In addition to that, with Knowledge for Change's support, we are planning to introduce targeted interventions in Diabetic Foot Care (through diabetic foot clinic) that will significantly reduce preventable amputations, unnecessary deaths and improve the quality of life for patients living with diabetes in Zanzibar.

Lastly, and most importantly, this partnership is not just about training and projects - it's about creating a lasting impact. Together, we are investing in people, systems and innovations that will sustainably transform healthcare in Zanzibar.

Dr Ahlaam Amour
30th September 2025

DR RICHARD MUGAHI
ASSISTANT COMMISSIONER FOR REPRODUCTIVE HEALTH
UGANDA MINISTRY OF HEALTH

"The continued presence of K4C's volunteers, working alongside my health workers, has transformed Kagote Health Centre into one of the best performing Community Health Centres in Uganda"

Dr Richard Mugahi
15th July 2025

Website, Social Media & Communications

We've revamped our website and social media channels in 2024 including Facebook, Twitter, Instagram and YouTube. We plan to draft a new comprehensive communications strategy in early 2025 to improve the way in which we share our organisational activities and achievements with external stakeholders.

Please get in touch and/or follow us using the links below!

www.knowledge4change.org

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