



COMMUNICABLE DISEASES

HEALTH SERVICE DELIVERY

RESEARCH · POLICY · SCALE-UP



COMDIS-HSD: An impact summary 2011–2018

Foreword

Influencing policy makers and practitioners for better health service delivery

When we originally set up the COMDIS-HSD research programme consortium, our primary intention was to develop research findings that would impact on health policy and practice in our partner countries and beyond. Our aim was to make a difference to the health and lives of many millions of people living in low- and lower middle-income countries (LMICs), and particularly the poorest of those people. This meant moving beyond long-standing and traditional approaches of relying on academic publications to influence others; academic publications were merely a step on the road, rather than the end of the journey.

We are pleased to report that we have met this aim. We have successfully influenced national or wider policy in the fields of antimicrobial resistance, malaria, tuberculosis, HIV, neglected tropical diseases and urban health. Our work focuses on health services delivery (as the HSD in our consortium name emphasises) as we are convinced that many of the health care problems (in the widest sense) in LMICs can be solved by better delivery of existing health care approaches. There must be a balance between discovering new drugs and techniques, and ensuring the people who need drugs and techniques get them. In our view, funding is too heavily skewed towards the former, and we are grateful to DFID for awarding us the funding to allow us to contribute to improving the balance.

Helping to build sustainable and resilient NGO partners

Perhaps the chief contributor to the success of COMDIS-HSD is our NGO partners and their research teams. We should not underestimate the scale of the efforts a small number of individuals have made to create what are now influential national NGOs; and the strengths of the resultant networks of researchers, research uptake staff, support staff and government counterparts. We would like to congratulate the heads of our NGO partners for having the courage, vision and drive to invest in building responsive and resilient research organisations. These NGOs are now sustainable in their own rights, with multiple research partners outside the COMDIS-HSD consortium, and proven abilities to generate substantial research and development funding and deliver a return on that investment. Importantly,

Our embedded approach

Stage 1

Design & develop
service delivery package

Stage 2

Pre-test & pilot
the package

Stage 3

Implement & evaluate
the intervention

Stage 4

Support the uptake of the
intervention into policy &
practice nationally. Support
policy & practice change
internationally

“We have successfully influenced national or wider policy in the fields of antimicrobial resistance, malaria, tuberculosis, HIV, Neglected Tropical Diseases and urban health”

they have over many years developed the close links with policy-makers and practitioner groups that are necessary to make sure that research findings are translated into policy and practice in their respective countries.

Our embedded approach

We have found that a major contributor to COMDIS-HSD's ability to deliver research that leads to changes in policy and practice is our use of an embedded research and development approach. In brief, this entails ensuring research addresses national priorities and delivers policy-relevant findings; interventions are designed from the outset to be sustainable and scalable; intervention design is heavily influenced by research with potential users – both health care staff and patients/members of the general public – and

includes development of all relevant materials and guides, including training materials and processes; after piloting and review, interventions are tested in routine conditions, unsupported by external staff or resources; the research team works with policy-makers to translate research findings into policy; and then uses the materials and guides to run the initial training-of-trainer programmes. In the longer term, we would like to further monitor and evaluate uptake at scale. The consortium's capacity to carry out embedded research and development stems from an ongoing collaboration between our national NGO partners with skills in research and evidence-led advocacy, and an international research team at the University of Leeds and Malaria Consortium, with skills in advanced research methods and capacity development.

As a consortium, we believe that we have achieved much over 8 years. We would like to thank all our supporters at the various ministries, hospitals, rural health facilities, technical working groups, and beyond, for helping us to collectively make a difference. We would also like to thank our Consortium Advisory Group, DFID and all our critical friends for their guidance, clarity and championing of our work and of the embedded approach to research and development.

We hope you enjoy reading about our work and our impact. Rest assured that our work continues through our NGO partners ARK Foundation in Bangladesh; Association for Social Development in Pakistan; HERD International in Nepal; Good Shepherd Hospital in Eswatini (formerly Swaziland); Malaria Consortium across Africa and Asia; and the University of Leeds in the UK.

*Prof James Newell and Prof John Walley
Co-directors, COMDIS-HSD*

Malaria

Even though malaria cases have decreased globally over the last decade, the rate of decline has stalled and in some areas incidence and mortality are on the rise. Uganda carries 4% of the global malaria burden. In 2017, there were over 8.6 million cases¹. Almost a third of children under 5 are infected with malaria. In some regions, prevalence in children is as high as 69%².



In Uganda, we found that a key factor contributing to the low uptake of intermittent preventive treatment in pregnancy (IPTp) was health workers' inadequate service delivery practices. In response to this, we designed a successful intervention that involved complementing classroom training on malaria in pregnancy with sending educational text messages to health workers' mobile phones. Our findings led to some important changes in IPTp policy:

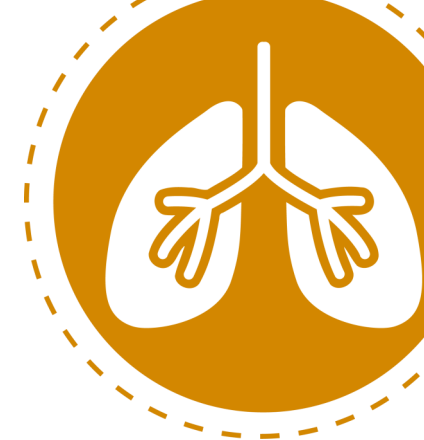
- In response to our finding that current supply mechanisms lead to drug stock-outs in private sector facilities, the Ministry of Health has pledged to reconsider how drugs are supplied to private sector health facilities.
- Uganda has now adopted the latest World Health Organization (WHO) policy recommendations on the number and timing of IPTp doses.
- The Ministry of Health is rolling out the text messaging approach in its national malaria in pregnancy training strategy.



Our work in Ghana has shown that a 5-month extended seasonal malaria chemoprevention (SMC) programme can significantly reduce the burden of malaria in areas with longer rainy seasons and that improving caregivers' understanding of malaria prevention, and ensuring SMC drugs are easy to access, leads to better uptake and adherence to treatment.

Malaria in pregnancy poses substantial risks to mother, foetus and newborn child. Our assessment of the coverage of antenatal care service delivery in 4 hospitals in the Ashanti region of Ghana showed that there was a relatively high uptake of key interventions for malaria among pregnant women. We also identified challenges to record keeping and discrepancies between records kept in the registers and those forwarded to the district. Regular training and supervision of antenatal care staff would help address some of the challenges of record keeping.

Tuberculosis



Our experience of undertaking multi-drug-resistant tuberculosis (MDR-TB) operational research in China, Pakistan, Bangladesh, Nepal and Eswatini has given us detailed insight into the challenges facing patients, their families, health professionals and wider health systems.

In Eswatini, the MDR-TB unit at the Good Shepherd district hospital in Lubombo region is functioning well. However, implementation of community home care for TB patients is poor and insufficient. Our research shows that providing even small financial incentives to TB treatment supporters, such as family members and friends, leads to significantly better outcomes for TB patients. Patients with a paid treatment supporter are almost twice as likely to complete their treatment compared to those with an unpaid treatment supporter.

Also in Eswatini, our research assessed the impact of pre-antiretroviral therapy (pre-ART) care on the quality of care. The WHO's Test and Treat Strategy now recommends automatic and rapid ART initiation on the same day as HIV diagnosis, where possible. The introduction of structured pre-ART care was associated with significant improvements in assessing, managing and starting treatment for patients with HIV.

Our most recent study in Eswatini on depression in patients with HIV and TB shows that Behavioural Activation counselling can help reduce depression. We developed a psychosocial intervention based on the Healthy Activity Program (HAP), which was specifically aimed for non-specialist healthcare staff working in primary care. Our research demonstrates that community clinics are in a good position to improve access to support for depression using HAP counselling.

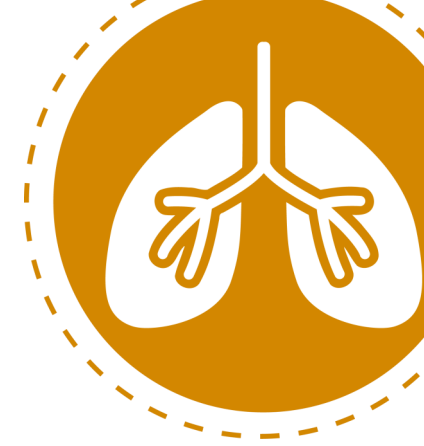


Major challenges still exist for multi-drug-resistant TB (MDR-TB) patients in Shandong, China, particularly around treatment delays and interruptions. Our findings show that over 80% of patients experienced a diagnosis delay of more than 90 days. Delays were due to the limited capacity of labs at prefectures, and therefore over-reliance on stretched provincial labs to carry out drug susceptibility tests. Misuse of MDR-TB drugs was also common at prefecture hospitals.

Prefecture TB hospitals in Shandong province should be given the necessary equipment, staff and facilities to carry out rapid diagnosis using drug susceptibility tests. Better training for TB doctors in prefecture hospitals is needed to reduce irrational use of second-line anti-TB drugs among general TB patients.

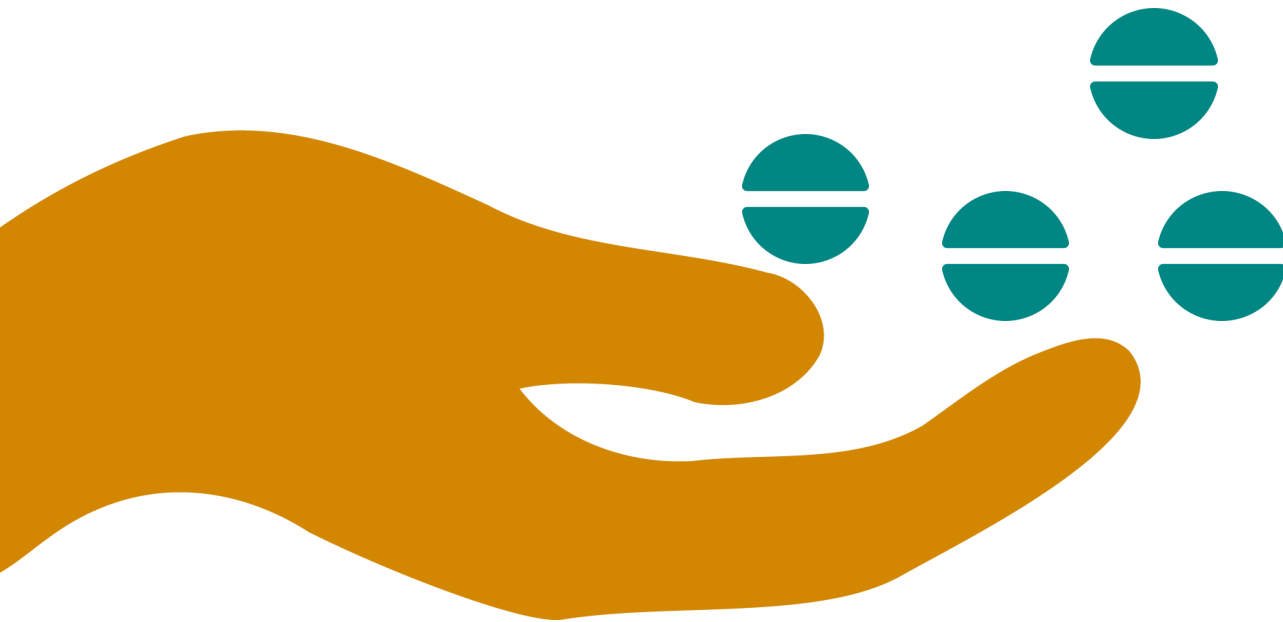
Our study in Nepal is the first to implement a Behavioural Activation counselling approach in the treatment of MDR-TB patients in a low-income country. There is a strong need for psycho-social support for MDR-TB patients and their family members. Married women, who are likely to be abandoned by their husbands and families, are particularly vulnerable to the social, economic and mental health impacts of MDR-TB. Counselling using brief interventions such as behavioural activation can help MDR-TB patients cope with their psycho-social problems, but needs additional human and financial resources to be feasible to deliver as a part of routine care in Nepal.

Directly observed treatment for MDR-TB patients



Directly observed treatment (DOT) is recommended by the WHO for drug-resistant TB. However, few studies have reported treatment outcomes among MDR-TB patients according to the type of DOT provider. Our study assessed treatment interruptions among a cohort of MDR-TB patients in China with the aim of determining the associations between treatment interruption and DOT delivery method.

In Shandong province, China, 68% of MDR-TB patients reported treatment interruption, and only half of all patients interviewed received DOT. Almost a quarter of patients received their MDR-TB injections from family members, raising questions about dosage and infection control. Our study showed that although DOT administered by family members is linked to fewer severe treatment interruptions, families need to be properly trained to provide DOT.



Antibiotic resistance



Around 700,000 people die a year due to antimicrobial resistance³. This will rise to 10 million a year by 2050 if proactive solutions are not found³. Overuse, underuse and misuse of medicines all contribute to the problem.

Doctors working in primary care hospitals in rural Guanxi, China come under considerable pressure from parents to prescribe antibiotics to children who have upper respiratory tract infections (URTIs). We developed an intervention that reduced unnecessary antibiotic use in children with URTIs by 48%. Our intervention offers a successful system of ‘antimicrobial stewardship’ that can be used in other parts of the Chinese health system and gives doctors the confidence to say no to requests for inappropriate antibiotic treatment. Specifically, brief training for providers on using a clinical guide and communicating with caregivers, regular prescription peer-review meetings by doctors, and educational materials for caregivers substantially reduces antibiotic prescribing for childhood URTIs.

In Zambia, we have shown that integrated community case management (iCCM) has the potential to reduce child mortality by improving access to care in hard-to-reach populations. Our study provides valuable evidence about using tailored training, clinical guidelines and active supervision to improve the rational use of antibiotics to treat pneumonia symptoms in community settings. Our evidence should inform future implementation of iCCM.

In Bangladesh, our study in 40 rural community clinics showed that providing simple, tailored training and materials for community health care providers greatly improved the quality of care and rational use of antibiotics for common childhood illnesses. Our pre- and post-training evaluation showed a significant increase in community healthcare providers’ knowledge in their rational use of antibiotics. Our intervention has contributed to a change in national policy and practice, with about 14,000 CHCPs nationwide receiving a job aid and training on how to use it.



Community Dialogue and neglected tropical diseases (NTDs)

Schistosomiasis is a neglected tropical disease that mainly affects poor and marginalised people. Mozambique is one of the worst affected countries. Average prevalence among school-age children in Nampula province is 78%, with a number of districts recording 90% prevalence among school-age children⁴.

Our research shows that too few people in Mozambique know how to protect themselves and their families from schistosomiasis. We have demonstrated that to improve uptake of mass drug administration campaigns, and encourage good hygiene and sanitation behaviours, it is essential to engage individuals and communities.

Working with the Direcção Provincial de Saúde, our evidence demonstrates that the Community Dialogue approach can be used to help communities explore how schistosomiasis affects them, identify potential solutions and take locally-relevant actions:

- Community Dialogue is a simple, repeatable approach to increasing community ownership of health issues in resource-poor settings.
- NTD prevention and control benefits from strengthening community engagement.
- In our study, almost 60% of people surveyed in four districts of Nampula province, Mozambique did not know how

schistosomiasis is spread or that there is a drug that treats it.

- However, almost 90% said they would take medication if offered.

After implementing the Community Dialogue Approach in 4 districts for 14 months, we found that people were almost twice as likely to correctly name a risk behaviour associated with schistosomiasis than before the intervention. Significant increases were also seen in the proportion of people who knew that there is a drug that treats the disease and those who stated that they practice an effective protective behaviour.



Almost **60%** of people in our study did not know schistosomiasis is transmitted through parasite-infected freshwater

A cornerstone of the post-2020 NTD agenda is to mainstream NTD care into routine health systems. Enabling first-contact primary healthcare providers to detect and manage NTDs will ensure that people affected by NTDs receive adequate care. Our research in Ethiopia shows that, with some adjustments, primary care nurses may be able to deliver routine NTD care. The Federal Ministry of Health in Ethiopia is committed to the concept of mainstreaming NTDs into the health system and has expressed strong interest in the learning from this study.

The incidence of dengue worldwide has increased thirty-fold over the past 50 years and it is thought approximately three-quarters of those exposed to the disease live in the Asia Pacific region⁵. While a vaccine is being rolled out in other countries in the region, there is currently no approved vaccine available for the prevention of dengue in Myanmar and no antiretroviral is available for its treatment. In the absence of these, effective prevention and control of dengue is crucial in reducing dengue transmission and caseloads.

Our study in Myanmar found major limitations to the feasibility and acceptability of adopting a participatory approach to health worker training on revised dengue prevention and control guidelines, compared with a more traditional, didactic training approach. More participatory training did not result in better outcomes with regard to knowledge, skills or outbreak preparedness.



Non-communicable diseases

Non-communicable diseases are the leading global cause of death and are responsible for 70% of deaths worldwide⁶. One of the key strategies to reduce the global impact of NCDs is investment in the technology, processes and structures to identify, diagnose and treat these conditions as early as possible.



When developing a decentralised model for NCD service delivery in Lubombo region in Eswatini we were able to determine that:



High-quality and accessible diabetes and hypertension care can be safely carried out in community clinics.



Community clinic nurses are able to undertake assessments for uncomplicated patients



Clinic and patient-held treatment cards, introduced as part of our study, improve record keeping and help clinicians deliver quality care.

“ One of the key strategies to reduce the global impact of NCDs is investment in the technology, processes and structures to identify, diagnose and treat these conditions as early as possible ”



In China, implementing a cardiovascular disease (CVD) care package by family doctors in rural township hospitals can improve prescribing practice and encourage modest improvements in lifestyle changes such as quitting smoking and reduced salt and alcohol intake. Additional measures, such as more intensive training of doctors, innovative patient education and improved health insurance cover for outpatients could help the CVD care package to be even more effective.



Our study in Nepal showed that tobacco cessation is feasible in primary health care settings provided that it is integrated into routine care delivery. However, appropriate and regular recording, reporting, supervision and clear leadership are needed if health workers are to take responsibility for smoking cessation. Our follow-on studies (funded by Horizon 2020 and Global Challenges Research Fund) involve working closely with the government of Nepal to identify how tobacco cessation can be scaled-up, starting with cessation provision for people with tuberculosis.



In Pakistan, we developed packages that played an important role in helping to prioritise diabetes, hypertension, CVD, asthma and chronic obstructive pulmonary disease prevention across Punjab Province, leading to better provincial planning and budgeting. Our research-informed guides and tools have been scaled up for use across the Punjab Province and been received with interest nationally and by the WHO Eastern Mediterranean Regional Office for potential adaptation and replication.



Our research in Pakistan has also shown that primary and secondary public health facilities can effectively deliver integrated NCD care in a developing country context.

In Bangladesh, our intervention increased referrals from outpatient departments and community clinics to 'NCD corners', resulting in improved record keeping and better follow-up of patients.

HIV/AIDS and Hepatitis

Eswatini has the highest prevalence of HIV among adults aged 16 to 49 in the world, with 27% infected⁷. Medical male circumcision reduces the risk of men contracting HIV through heterosexual sex by around 60%⁸.

Observational studies suggest early infant male circumcision (EIMC) offers a similar protective effect, and has several advantages over adult circumcision, including faster healing, fewer complications and lower cost⁹. However, uptake of early infant male circumcision in Eswatini is low, influenced by several factors including cultural beliefs and fear of pain and complications. Our study showed that women are more positive about EIMC after reading education materials adapted to cultural contexts. Targeted information and engagement with fathers about EIMC is also important, as in Eswatini men are particularly influential in the decision to circumcise a son.

In Pakistan, we have developed a package of hepatitis B and C care guidelines and tools for use in district hospitals. This is a global first. Our intervention has led to free care at public hospitals to treat and cure hepatitis C patients, regardless of their social, ethnic or economic backgrounds. Additionally, the Provincial Hepatitis Programme has endorsed our operational guidelines and implemented these to immunise all health staff and newborns in all 36 districts of Punjab Province.



Health service delivery

Our research in Uganda shows that integrated community case management (iCCM) may be a useful strategy to improve access to health services. This paves the way for further research to determine the best iCCM approaches in urban settings.

In Bangladesh, our research on engaging private medical practitioners, using a Public-Private Partnership model, in the TB referral process led to an increase in case notifications and referrals to TB diagnostic centres. The model was then successfully scaled up to improve access to TB care for garment factory workers, and replicated further to promote and refer long-acting contraceptive methods to women in urban Bangladesh.



Urban healthcare



Identifying the urban poor in Nepal and increasing their access to basic health services is difficult for policy makers as currently there are no data at the local level. We have played a key role in establishing and nurturing strong cross-ministry co-operation. This close working has underpinned the successful development and endorsement of the national Urban Health Policy and strategy in Nepal.

While this was a major achievement, it was not an end point. To improve health and wellbeing in the urban areas, there needs to be proper planning and design of effective interventions. To do this, we are currently working with the Ministry of Health and Population, WHO and other national stakeholders to develop and test a detailed Urban Health Strategic Implementation Plan.

To ensure that urban health planning is built on reliable data and evidence, there is an urgent need to improve data collection on equity and health outcomes disaggregated by wealth, social status and gender, as current evidence for this is limited. The local government needs to be supported in the appropriate use of this data to ensure equitable provision of health services locally.

With new federal structures and subsequent devolution to metropolitan cities, we are now working closely with Pokhara Leknath Metropolitan City to strengthen the overall urban health system, enhance the capacity of health service providers to deliver quality health services and help urban health centres to identify and target the most disadvantaged people in their catchment areas.

Part of our research involved working with 118 journalists to improve their sensitisation to urban health issues and to enhance their reporting skills. 3 have gone on to win national and regional awards for their health-related stories.



Sharing our research evidence globally

Our work has been shared among numerous practitioner networks and national agencies, such as National TB Programmes in our partner countries; Centres for Disease Control in China; Roll Back Malaria and National Malaria Control Programmes; Ministries of Health; district, provincial, rural and township hospitals; community, carer and patient groups; nurses, community healthcare workers and doctors; hospital administrators and managers.

We have also shared our findings with international agencies such as the World Health Organization, United Nations International Children's Emergency Fund, Department for International Development, Centers for Disease Control and Prevention, European Union, Canadian International Development Agency, Jhpiego, World Vision, Clinton Health Access Initiative; World Health Assembly; and UK All Party Parliamentary Groups for Malaria, Population, Development and Reproductive Health, and NTDs.



Our research portfolio

Our portfolio of evidence includes 88 papers, 15 policy briefs, 18 research briefs, and 9 case studies/learning papers. They are [free to access at our resources page here](#). Our 3 most-accessed resources are:

- [Why gender mainstreaming is important when planning and implementing health interventions: examples from COMDIS-HSD](#)
- [Structured 'pre-ART' care: a pathway to better health for people with HIV](#)
- [Medical male circumcision: do women in Swaziland welcome it for their sons and at what age?](#)

Over 8 years, 244 individual authors have co-authored on COMDIS-HSD publications. Of these, 162 are based in LMICs (59 women and 103 men) and 82 from HICs (41 women and 41 men).

Our evidence will continue to be free to access under a [Creative Commons 4.0 license](#) after December 2018.



Reflections from our Consortium Advisory Group



“ In the 7-8 years since overseeing the COMDIS-HSD programme as members of the Consortium Advisory Group, it has been inspiring to see how the COMDIS-HSD philosophy of embedded research and development has led to significant outputs and outcomes. There has been a huge amount of high quality, relevant and valued research in both communicable and non-communicable diseases in Africa and Asia delivered through an excellent collaboration between the university research team in Leeds and national NGO partners. This has led to changes in policy and practice on the ground. We need more of this type of work ”

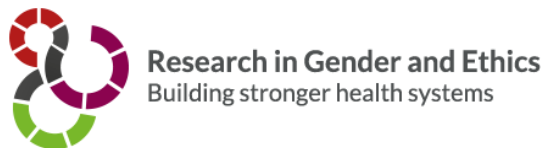
Prof Anthony Harries (International Union Against Tuberculosis and Lung Disease)

Dr Abdul Ghaffar (Alliance for Health Policy Systems Research)

Dr Knut Lönnroth (Karolinska Institutet)

About COMDIS-HSD

COMDIS-HSD was funded by UK aid from the UK government from 2011 to 2018. We have been privileged to partner with the following organisations over 8 years.



**Global Health Research
and Development, China**



References

1. World Health Organization. (2018) World Malaria Report. Geneva, WHO
2. Uganda Bureau of Statistics and ICF (2018). Uganda Demographic and Health Survey 2016. Kampala, Uganda and Rockville, Maryland, UBOS and ICF
3. O'Neill J. (2014) Review on Antimicrobial Resistance. Antimicrobial Resistance: Tackling a crisis for the health and wealth of nations. London, The Stationery Office and Wellcome Trust, London
4. Rassi C, Kajungu D, Martin S, et al. (2016) Have you heard of schistosomiasis? Knowledge, attitudes and practices in Nampula Province, Mozambique. PLoS Negl Trop Dis. 10(3):e0004504. doi: 10.1371/journal.pntd.0004504
5. World Health Organization. (2015) Investing to overcome the global impact of neglected tropical diseases: a roadmap for implementation. Geneva, WHO
6. World Health Organization. (2017) Noncommunicable Diseases Progress Monitor, 2017. Geneva, WHO
7. UNAIDS (2017) Country factsheets: Eswatini, 2017. Geneva, UNAIDS
8. World Health Organization. (2007) Male circumcision: Global trends and determinants of prevalence, safety and acceptability. Geneva, WHO
9. World Health Organization. (2010) Neonatal and child male circumcision: A global review. Geneva, WHO

In memory of



Sylvia Meek
1954-2016

Global Technical Director,
Malaria Consortium.

Executive Committee and Consortium
Advisory Group member, COMDIS-HSD



Bryan Haddon
1945-2018

Chair,
Health Partners International.
Consortium Advisory Group member,
COMDIS-HSD

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2011–2018
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