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Preface

In 2010, the Netherlands’ Ministry of Foreign Affairs and Ministry of Health joined hands with a division of the Dutch research council NWO-WOTRO Science for Global Development to launch the Global Health Policy and Health Systems Research (GHPHSR) programme. At the time, it was at the forefront of an internationally emerging field of health systems research. This field of research seeks to better understand and analytically improve the interaction between all the different actors in health policy and practice within a country’s health system. The ultimate aim is to more effectively and efficiently achieve a society’s overall health goals.

The GHPHSR programme was designed in the context of the health-related Millennium Development Goals 4, 5 and 6. It funded research focused on strengthening health policy and systems in low- and middle-income countries (LMICs), especially in sub-Saharan Africa, through targeted evidence-based research inputs and interventions. All, of course, in order to contribute to better health. At the same time, the programme sought to strengthen the health-related research capacity between African and Dutch research institutions and universities as well as among Dutch academic global health groups.

Through open international competition, nine research proposals were selected. Together they involved over twenty-five universities and research institutes across Africa and the Netherlands. Once the programme got underway, the Steering Group expressed concerns that the projects focused too heavily on the scientific ‘process’ side: lots of research methodology, protocols, and so on. It seemed as though the research teams had too little consideration for the programme’s ultimate objective, i.e. to show a tangible policy or health systems impact guided by the research outcomes and findings. The project had difficulty engaging with health policy and decision-makers, consequently reducing the chances of improving the health of women, children and men in LMICs.

The Knowledge Translation Network for Africa (KTNet) – based at Makerere University in Uganda – that was put in place following the initial phase of the programme, enabled significant progress in this respect. It was the first time that NWO-WOTRO funded a network with a programme-wide responsibility to link all projects and promote and support the use of the joint research evidence for policymaking. This has been a worthwhile investment.

The team running KTNet at times acted as a catalyst to push research teams beyond their comfort zones,
insisting and supporting them to liaise with health policy and decision-makers to make their research findings and recommendations better known and more specifically relevant. The support KTNet provided in networking and in translating scientific results to crisp and clear policy advice has most certainly contributed to the programme’s success. This publication also contains an interview with Suzanne Kiwanuka, who leads the efforts of KTNet.

At the end of August 2016, the third annual KTNet project meeting was convened in Kampala. All project teams shared their publications, findings and outcomes so far. The meeting also catered for engagement with policy stakeholders and practice managers, who were invited to comment on and (in) validate the impact of the research activities and findings. Fortunately and interestingly, the earlier ‘process’ concerns were largely disproven. Many of the projects achieved impressive results and were able to show significant policy impact. At the national, regional and, importantly, in many cases also at the community level. While details about the projects can be found in the various sections in this publication, a few highlights are mentioned here.

The findings of the CBHI project in Ethiopia contributed importantly to the government’s strategy to scale up the national health insurance pilot programme from 13 to 214 districts. The COHEiSION research team developed two successful interventions to help turn around the faltering (re)enrolment in the increasingly troubled National Health Insurance Scheme in Ghana. As a result, the Ministry of Health invited the GPHHSR researchers to participate in its Technical Working Group for the national health review. One of the lead researchers of the project in the DR Congo, professor Thérèse Mambu, was asked by the governor of the Bas-Congo Province to become the new provincial minister of health. At her appointment, explicit reference was made to her and her team’s analytical capabilities being involved in scientific research. What better proof of the success in bringing across evidence-informed policymaking? In Senegal it took a while before the researchers won the trust of the policymakers and decision-makers, since the project was originally based in Mali and had to start all over. But once they did gain the trust – with interesting lessons on how to succeed in this respect – they hosted the first dialogue between the Directorate of Laboratories and the Directorate of Reproductive Health on ensuring that pregnant women receive antenatal lab screening tests. The team also worked with laboratory personnel and health workers (midwives and doctors) to refine a document which can be used to improve laboratory services nationally. This document is currently under review at ministry level.

An open, searchable map on the most policy-relevant topics for reducing health inequalities in maternal health in LMICs was developed in the Maternal Health in South Africa and Rwanda project. In Rwanda, the multidisciplinary, participatory approach of the researchers helped to build sustainable capacity in local communities for implementing innovative anti-malaria measures and public health facilities respectively. In Uganda – inspired by the Cohere team – a community developed the idea to build a communal latrine, which in turn led to a spate of additional activities to improve basic hygiene and sanitation, including the demolition of unhygienic pit latrines and a handwashing campaign.
Unfortunately, several other efforts were not immediately successful enough to lead to a scientific evidence base for change. Some projects also faced challenges that could not be overcome. Several of these are documented in more detail in the project descriptions as lessons learned. One caveat several projects encountered – a familiar one across the scientific universe – concerns the risk of co-optation by politicians or policymakers. An essential characteristic of the academic and research enterprise is scientific independence. Such independence is easily corruptible in today’s world, where resources remain scarce and political interference in academic affairs remains a challenge in many countries.

While the health policy impact under the GPHHSR objectives has been reasonably substantiated, the health systems reform objectives have been less so. A tangible impact on health systems change and reform remains mostly elusive. What a health systems perspective ultimately pursues is to understand and visualise the correlations and influences between the different building blocks of a country’s health system – and then to translate this to relevant strategies for systems reform. How tricky this is, is underlined in the first article of this publication. However, the fact that almost all projects managed to bring together representatives from national ministry and district offices, urban and rural health facilities, insurance companies, research institutes and community health committees is an important step in tackling systemic change.

Sometimes for the first time, they discussed and reviewed research findings in the context of formulating and deciding on policy and health systems reform. And although five or six years of research may seem a long time for building research capacity to effectively engage health systems reform actors it may well be on the short side.

Follow-up perspectives are potentially hopeful in this respect though, since achieving results with a systems approach will only become more pressing in the coming decade and a half. When the NWO-WOTRO programme took off, the Millennium Development Goals (MDGs) on health had single measurements. But while the MDGs were formulated as ‘vertical’ targets, a fundamental shift towards a universal as well as a holistic approach took place with the endorsement of the Sustainable Development Goals (SDGs) in September 2015. The central concept of the health-related SDG 3 is universal healthcare (UHC). This implies: whether you are an elderly woman, an adolescent man or newborn baby, rich or poor, living in an urban area or in a remote village, it doesn’t matter, everyone has an equal right to good-quality healthcare. This starting point demands a systems approach. UHC will not be achieved by focusing on isolated academic or operational targets. It needs more horizontal scientific thinking and transdisciplinary research approaches. We should therefore seize the SDGs as an encouragement to keep investing in the important and exciting field of health policy and health systems research.

Ok Pannenborg
Chairman, Steering Committee, GPHHSR Programme
Health systems

Taken for granted until cracks start to appear

Hajo Wildschut learned about the importance of health systems early on in his medical career, between 1982 and 1986, when working as an obstetrician on the Dutch Caribbean island of Curaçao. Perinatal mortality – the death of babies before, during or just after delivery – was the second leading cause of death on the island. This was extraordinary. Through his PhD research, Wildschut discovered that the high death rate was not merely a medical shortcoming. It had multiple causes: it was a systemic failure.

Wildschut, at the time one of the leading obstetricians on the island, convinced his colleagues that a change was needed. And it paid off: perinatal mortality rates went down by about one third in the mid-1980s. But the improvements did not prove to be sustainable; within a couple of years, mortality rates shot up again. Interestingly, Wildschut discovered that perinatal mortality rates on the ‘neighbouring’ island of Guadeloupe had been similarly high and also went down by about a third. Wildschut: “However, in Guadeloupe, the mortality rates stayed down.” The big difference was that in Curaçao the problem was left to the medical specialists to solve. In Guadeloupe, on the other hand, perinatal mortality became a public and political ‘big issue’. The government took it on board, which enabled profound and systemic changes. Wildschut: “In Curaçao, the medics changed their way of providing healthcare only superficially; the improvements in their daily routines were mostly to please me, because I made a fuss about it.”

Systemic failure

Some thirty years later Wildschut became chair of the Programme Committee of NWO-WOTRO’s Global Health Policy and Health Systems research programme. By this time, the importance of well-
functioning health systems had been explicitly endorsed by the World Health Organization (WHO) in its 2007 ‘Framework for Action’. This document recognises the huge progress of the previous decades in fighting or even eliminating diseases like tuberculosis, polio and leprosy. Further progress, however, the WHO argues, is seriously hampered by the poor health systems in most developing countries. As a result of the way healthcare is organised, how it is financed, how information is shared and how services are delivered, large numbers of people – especially those living below the poverty line in remote areas – have no access to quality healthcare. For example, the technologies needed to bring down maternal mortality are known. But for most pregnant women in rural Africa, reliable health facilities are too distant and too expensive. Rural facilities that are accessible, often offer poor services and lack qualified personnel, medicine and equipment – and are thus not trusted by the population. These are signs of systemic failure. They cannot be mended by sending in a medical team or constructing a hospital – isolated remedies that are often publicised by development agencies.

Building blocks

A systems approach to improving healthcare does not reject specific, local interventions. However, it stresses that every intervention should start with the awareness that all aspects of healthcare delivery are interconnected and contribute to a larger whole together.

A health system operates through the interaction of all the organisations, institutions, individuals and resources in a country where the primary intention is to improve people’s health. In its Framework for Action the WHO identified six ‘building blocks’ of a health system: Service delivery; Health workforce; Information; Medical products, vaccines and technologies; Financing; and Leadership and governance. According to Bocar Kouyaté, member of the Steering Group, the most neglected building block in many African countries is most probably ‘leadership and governance’. He stresses that stewardship and accountability are vital aspects of good leadership. This is also acknowledged in the Maternal Health in South Africa and Rwanda (MHSAR) project: improved managerial skills at facility level and the introduction of results-based financing has improved accountability. On top of that, one of its main findings concerns the impact of better leadership and managerial supervision and support on the performance of hospitals.

Tackling the building blocks in an isolated manner, though, is the wrong way to go according to the Swiss health systems professor Don de Savigny: “Building blocks alone do not constitute a system, just as a pile of bricks does not constitute a building. It is the relationships and interactions among the blocks that convert them into a system.” This is confirmed in the Maternal and Antenatal Care cluster article, where the researchers stress that the typical WHO health systems framework does not pay enough attention to cultural, socio-economic and political contexts, nor to relationships and behaviour. Findings from the Accelerate project also show that contextual factors – such as political ideology, economic crisis, historical events, social unrest, change in government, austerity measures, international agendas and availability of data on health trends – tend to influence national level decision-making on maternal and neonatal health policies.

No overnight change

The health systems approach is not an easy concept, Wildschut agrees. “It is easier to see what it’s not, than what it actually is. If the health system works,
we take it for granted. It is only when cracks appear, or major disruptions such as Ebola happen, that we start questioning the system, wondering how to solve the problems.” Based on his interaction with individuals and institutions working on healthcare delivery in developing countries, Wildschut has the impression that the health systems approach is already losing its appeal. Improving a system is not sexy – and the slippery change processes do not offer appealing pictures to show one’s donors or voters. And moreover, it is nearly impossible to prove that better health is the result of an improved system. And vice versa. For example, knowing when a woman is due to deliver is considered to boost in-time health services. In South Africa, however, this is generally a known date, and yet no adequate maternal care is given. It was also found that bringing down the Maternal Mortality Ratio (MMR) in South Africa lies in the overall strengthening of the health system, along with some very specific interventions to improve emergency obstetric care. However, it is still unclear which building blocks of the health system are most important, how they interact and where best to start the interventions. Wildschut: “Especially in donor circles, it is increasingly suggested that the systems approach is yesterday’s news. There is a constant drive towards creating new approaches. That is counterproductive. I am, of course, not against innovation: new vaccines, new pharmaceuticals, new financing mechanisms, the introduction of m-health, these are all very important innovations. But this should not disqualify existing strategies. I am in favour of giving the health system approach some time. Changes don’t happen overnight, but once they materialise, they may stick around and have true potential for sustainability.”

Health system: the WHO definition

A health system consists of all organisations, people and actions whose primary intent is to promote, restore or maintain health. This includes efforts to influence determinants of health as well as more direct health improving activities. A health system is therefore more than the pyramid of publicly owned facilities that deliver personal health services. It includes, for example, a mother caring for a sick child at home; private providers; behaviour change programmes; vector-control campaigns; health insurance organisations; occupational health and safety legislation. It includes inter-sectoral action by health staff, for example, encouraging the ministry of education to promote female education, a well-known determinant of better health.

The six building blocks of a health system have the following characteristics:
1 Health services must be efficient, effective, and accessible
2 A number of well-trained staff should be available
3 Health information systems should generate useful data on health determinants and health system performance
4 Access to medicines, vaccines, and medical technologies must be equitable
5 Health financing systems must raise adequate funds for health, ensuring that people can access affordable services
6 Leadership must guarantee effective oversight, regulation, and accountability
Collaborating on global health

Quotes about transdisciplinary and intercultural collaboration

Rose Oronje, director of science communications and evidence uptake, African Institute for Development Policy (AFIDEP): “Researchers may be hesitant to involve policymakers in their research, because they are concerned about the extra time – and thus money – this will take. It is true that busy policymakers, who are often involved in their spare time, may delay the research process. On the other hand, they act as ambassadors within the ministry and have direct access to the internal structures. This is often the best guarantee for the uptake of research evidence. Indeed, it is an investment worth making!”

Arjun Bedi, principal investigator CBHI (Ethiopia), professor at Erasmus University Rotterdam, the Netherlands: “When we started the project, there was little trust between the government and project researchers. It took three years to overcome this. It started with presenting a paper on moral hazard in Ghana. After our presentation one of the policymakers started clapping, and said, this is the kind of research we need. The ice was broken and a basis for respectful and fruitful cooperation was there! Building trust needs to happen in a slow, gradual fashion.

“The relationship between researchers and policymakers is a delicate one: there is a thin line between maintaining integrity and delivering tough outcomes.”

Freddie Ssengooba, associate professor at Makerere University School of Public Health: “As academics we are used to academic peer reviews, but who is reviewing our practice and performance in policy advising? We should start engaging different ‘types of peers’ to make this common practice.”

Rhona Mijumbi, research fellow on KTNet team, Makerere University, Uganda: “We all wish to work with top policymakers, but sometimes it is more effective and sustainable to target the mid-level ones. First, they tend to stay on longer, which is relevant given that the high turnover of policymakers can be a real disincentive for researchers to invest in these relationships. Second, the mid-level policymakers are influential, be it behind the scenes, because the top level decision-makers very often go along with the solutions that they propose.”

Leon Mutesa, associate professor, College of Medicine and Health Sciences, University of Rwanda: “A strong network is important. Collaboration is a way of building ownership. It is a perfect opportunity to learn about different contexts and compare strategies.”
It is called ‘the 10/90 gap’: the fact that only a marginal proportion of global funds for health research is spent on diseases that affect 90 per cent of the world population, primarily people living in low-income countries. And this gap has widened since it was identified in 1990. One of the bottlenecks is that capacity for health research is extremely limited in low-income countries. Enhancing local research capacities is one of the three main aims of the NWO-WOTRO Global Health Policy and Health Systems Research programme.

A programme facilitating the research of dozens of PhD students and postdocs will inevitably enhance research capacity. How could it not? But capacity strengthening should go beyond the training of individuals, says Bocar Kouyaté. He is advisor to the minister of health in his native country Burkina Faso and a member of the Programme Committee of the NWO-WOTRO programme. Kouyaté explains: “When people are trained but lack an encouraging environment to apply what they have learned, it’s useless.” In fact, it is customary to distinguish between three levels at which capacity strengthening takes place: the individual, the institutional and the environmental level.

Individual capacity strengthening is meant to improve the skills of individual researchers to conduct scientific research. It also concerns their capacity to
manage, apply and share the results of their work. All-round competent researchers boost the capacity of their institutes. In this sense, individual capacity strengthening overlaps with the institutional aspect of research capacity. But institutional capacity strengthening is also about infrastructure, funding, quality of the supporting staff, quality of research guidelines, protocols and curricula, as well as the position of the research institutes in the national and international health research environment. It is the stepping stone to environmental research capacity strengthening, which involves the commitment of policymakers to create a favourable research environment. Vital to this are adequate financing and a willingness to apply research results to policymaking at all levels.

**Capacity’s critical mass**

Although the NWO-WOTRO programme acknowledged the three interconnecting levels of capacity strengthening, the focus has been on the individual level, Kouyaté admits. “It’s mainly about PhD students and postdocs. The programme provided them with support to develop their skills. That’s great, but what’s the point of training individuals if, when the project activities come to an end, they leave their country to join an international organisation?” Two of his PhDs have already left for greener pastures. Others are less sceptical about the programme’s focus on individual capacity strengthening.

Chair of the programme Steering Committee, Ok Pannenborg, stresses that the appeal of working for an international organisation will always be strong for top researchers; indeed, it is unrealistic to expect otherwise. He adds: “It contributes to the effectiveness of international organisations to have people who can analyse and eloquently present local, national and regional perspectives – and this, in turn, may benefit the country that these researchers hail from.” Moreover, one day these high flyers may return home to share and apply the knowledge and experience they gained overseas. Most participants of the programme agree that it is crucial to have a ‘critical mass’ of well-trained people to lay the foundation for a solid research climate in a country. If the critical mass of individuals is there, the international ‘institution hopping’ is no longer a threat. But this critical mass, Kouyaté retorts, will not be reached without sufficient institutional capacity. Kouyaté is describing a catch-22 situation: a critical mass of researchers may help to secure institutional capacity, but without institutional capacity a critical mass will not come about. According to Ok Pannenborg, the NWO-WOTRO programme has without doubt contributed to strengthening such a network of competent researchers on health systems across African countries and institutions that can start to build on its collective reputation.

— Traditionally, the South has been in need of resources, both institutional and individual, while the North is looking for exposure. In this programme, we built on each other’s strengths and created new networks. It would be great if this approach and the health system strategies that were developed could eventually spread back to the North. To reverse the traditional relationship — Rhona Mijumbi, research fellow, College of Health Sciences, Makerere University, Uganda
Thumbs up
The strengthening of institutional research capacity can sometimes happen unexpectedly. Take, for example, the Global Health Policy and Health Systems Research (GHPHSR) programme’s malaria elimination project (MEPR) in Rwanda. PhD researcher Emmanuel Hakizimana explains that at the start of the project he had to send mosquitoes for testing to a laboratory in Kenya. This was both time consuming and – at three dollars per tested mosquito – also quite costly. During his time at Wageningen University in the Netherlands, he discovered that setting up a testing lab need not be outrageously expensive. The team gave him the confidence to go after ‘his own’ lab. Hakizimana: “We made a design of the laboratory and an inventory of the all equipment needed and then submitted a required budget to the Rwandan Ministry of Health to look for funding. We got a thumbs up. So now we have our own molecular testing lab in Kigali.”

Talking about enhancing research capacity! Moreover, having a well-equipped research lab may serve as an incentive for researchers to stay in the country instead of pursuing their careers abroad. An increasing number of researchers from neighbouring countries have found their way to the lab in Kigali as it provides quicker results at a lower cost than other labs in the region. Bocar Kouyaté emphasises that training local researchers should go hand-in-hand with supplying them with decent research facilities. “Why would a researcher stay in a country where he cannot put his qualities to use?”

Networking for synergy
Research capacity need not be limited to academics. The NWO-WOTRO programme shows that it is also relevant and possible to strengthen the research capacity of local communities. In DR Congo and Burundi, for example, a project led by professor Tjard de Cock Buning involved community health workers identifying and collecting women’s concerns about health service delivery. And in the MEPR project in Rwanda, local people played an essential role in data collection, by assessing the presence of mosquito larvae in rice fields. Virtually all of the eight research projects involved local communities conducting data collection or attempting to identify local health practices or attitudes towards health interventions. The argument goes that a community that is receptive to scientific research will also be more eager to come up with initiatives and is ultimately more capable of contributing to local development.

—— We should not only focus on strengthening individual capacities but also on building networks. Within our MHSAR project, we did just that: we collaborated with others stakeholders, we created partnerships and eventually even friendships. This approach pays off. Policy-makers trust our data and use our tools more confidently, knowing they are the fruit of a solid relationship.

—— Leon Mutesa, associate professor, College of Medicine and Health Sciences, University of Rwanda
Several research projects also targeted policymakers for capacity development efforts. This may be a triple-win solution: better research adaptiveness of policymakers enhances the institutional research capacity of a ministry or department. And policymakers who have been actively involved in research are likely to adopt a more favourable attitude towards the relevance of research in general, thereby strengthening the environmental research capacity. This was clearly the case in Ethiopia, where the CBHI project provided short-term training courses for policymakers that were greatly appreciated. The trainings smoothened the initially rather strained relationship between the research team and the ministry. In the end, the minister of health started to regularly consult the project leader.

To further develop research capacity strengthening, Kouyaté advocates more networking among the educational, research and policy communities concerned with health policy and health systems. “Many institutions today invest in research capacity strengthening, like the Tropical Disease Research programme, the Alliance for Health Policy and System Research and the Bill and Melinda Gates Foundation, to name a few. Synergising their initiatives may be the much-needed next step towards translating research into practice and reducing the 10/90 gap.”

― Nowadays there is ample knowledge and experience available in the global South. We should take stock of what our knowledge needs are and then start by looking within our own networks for local partners with the right capacities and resources. We risk making ourselves irrelevant if we continue to rely on partners in the North. ― Rhona Mijumbi, research fellow, College of Health Sciences, Makerere University, Uganda
Research capacity strengthened per country

**Burundi**

PhD researcher
**Dr Prosper Niyongabo** (Burundi & DR Congo – Institut National de Santé Publique)

**DR Congo**

PhD researcher
**Dr Eric Mafuta** (Burundi & DR Congo – University of Kinshasa)

**Ethiopia**

PhD researchers
**Zelalem Yilma Debebe** (CBHI – Erasmus University Rotterdam)
**Anagaw Mebratie** (CBHI – Erasmus University Rotterdam)

**Ghana**

Postdocs
**Dr Francis Asenso-Boadi** (COHEiSION – National Health Insurance Scheme)
**Dr Edward Nketiah-Amponsah** (COHEiSION – University of Ghana)

**PhD researchers**
**Matilda Aberese-Ako** (Accelerate – Wageningen University & Research Centre)
**Mary Amoakah-Coleman** (Accelerate – University Medical Centre Utrecht & University of Ghana)
**Hannah Brown** (Accelerate – University Medical Centre Utrecht & University of Ghana)
**Dr Stephen Duku** (COHEiSION – Noguchi Memorial Institute for Medical Research, University of Ghana)
**Robert Kaba Alhassan** (COHEiSION – Noguchi Memorial Institute for Medical Research, University of Ghana)
**Gbenga Kayode** (Accelerate – University Medical Centre Utrecht)
**Augustina Koduah** (Accelerate – Wageningen University & Research Centre)
**Aku Kwamie** (Accelerate – Wageningen University & Research Centre)
**Linda Lucy Yevoo** (Accelerate – Wageningen University & Research Centre)

**The Netherlands**

Postdocs
**Dr Christine Fenenga** (Netherlands – PharmAccess Foundation)
**Dr Winny Koster** (Socialab – Amsterdam Institute for Global Health and Development – AIGHD)
**Dr Daniel de Vries** (CoHeRe – University of Amsterdam)
**PhD researcher**
**Elsbet Lodenstein** (Burundi & Congo – VU University, Amsterdam)

**Rwanda**

**PhD researchers**
**Emmanuel Hakizimana** (MEPR – University of Rwanda / Wageningen University & Research Centre)
**Chantal Marie Ingabire** (MEPR – University of Rwanda / Maastricht University)
**Dr Fredrick Kateera** (MEPR – University of Rwanda / Amsterdam Medical Centre)
**Daniel Muhimuzi Mugisha** (former MEPR – University of Rwanda / Amsterdam Medical Centre)
**Alexis Rulisa** (MEPR – University of Rwanda / Radboud University)
**Dr Felix Sayinzoga** (MHSAR – National University of Rwanda & Ministry of Health)

**South Africa**

**Postdoc**
**Dr Thubelihle Mathole** (MHSAR – University of Western Cape)

**PhD researcher**
**Dr Siphiwe Thwala** (MHSAR – University of the Witwatersrand)

**Uganda**

**Postdoc**
**Dr Denis Muhangi** (CoHeRe – Makerere University)

**PhD researchers**
**Emmanuel Benon Turinawe MA** (CoHeRe – University of Amsterdam)
**Laban Musinguzi** (CoHeRe – University of Amsterdam)
**Jude Rwemisisi** (CoHeRe – University of Amsterdam)
Many researchers are resigned to the fact that they cannot influence policymaking. “It’s wonderful when you witness a change in that attitude”, says Suzanne Kiwanuka. She is director of KTNet, the Knowledge Translation Network for Africa, based at Makerere University in Kampala and funded as part of the GPHSR programme. The KTNet team has helped researchers from the eight projects to translate their research findings and ensure their knowledge is used to strengthen health systems in African countries. In this interview Suzanne Kiwanuka, who has led the KTNet initiative from its very start in 2013, talks about her experiences with knowledge translation.

Initiatives for knowledge translation are becoming fashionable, especially in the medical sector. Why is that so?

“It is increasingly considered important to achieve an optimal societal return on the enormous amount of time, intellectual energy and money invested in academic research. How do you do that? By making sure that research outcomes are translated to relevant policy advice and practice. That may sound straightforward, but it often isn’t. Researchers have a lot to learn when it comes to making new knowledge accessible to those who can potentially put it to use. At the same time, policymakers need to increase their understanding of and become receptive to embracing research results for their evidence-based policy processes and decision-making. That’s what the KT initiatives are for.”
What is the secret of successful knowledge translation?
“I believe that knowledge translation is all about building continuous relationships of mutual understanding and trust. Right from the start of their study, researchers should invest in communicating with policymakers. Merely sending out research outcomes at the end of a project – ‘Look what we discovered, please make it useful!’ – is not going to work. The crux is that health policy and decision-makers get to know and appreciate you as a trustworthy partner and a scientifically robust source of new information.”

— Being skilled at knowledge translation is as important as having competent PhD students. Researchers make very poor presentations when it comes to convincing a non-scientific audience! We need training to learn how to get to the point in five minutes and target the concerns of the decision-makers in our audience. KTNet’s support was critical to our project. They helped us to step forward and engage with policymakers and eventually the ministry opened its doors to us. — Pascale Ondoa, principal investigator of Socialab, Senegal

How do you achieve that?
“By engaging policymakers early on, and ideally inviting them to be part of your research team. Work with them to define the problem from the start, and keep them engaged during the research process. That increases the chances that they will be interested in the outcome of the work. But I always say: be sure to pick your victims carefully! Choose policymakers who are passionate about the issue, who have considerable influence, but who are not the busiest people at the ministry. Because then you are bound to lose them, and your potential impact, along the way.”

Does too much policy involvement not compromise academic independence?
“I’m not too worried about that. Policymakers who help shape the design of a research project aren’t choosing its outcomes. It would of course be tricky if the ministry was funding the research, but that is not the case with this programme. At the same time, you have to be flexible. As researchers we love to stress the many nuances of our findings. Policymakers by default are more pragmatic. It’s unavoidable that they will have to make compromises when implementing research findings and recommendations.”

What has been the significance of KTNet for the programme?
“KTNet became a platform for the exchange of knowledge and mutual learning concerning health policy and health system research methods. We supported the research teams in very practical ways too. By helping them to organise their research dissemination events for instance. The KTNet team sat with the researchers to carefully think through the agenda for the dissemination event, and to ensure its relevance and appeal to the different stakeholders. We taught the researchers to not simply send out invitations, but to pick up the phone and tell policymakers or health managers exactly why they should be eager to participate. Secondly, we always say, ‘Don’t rely on PowerPoint presentations!’ The average audience will rarely remember its message. Instead, it is much more effective to have a research summary or policy brief. We helped the teams
write effective policy briefs, short and sweet. At a dissemination event you hand out hard copies and use this to target the discussions there and then. Lastly, we stress the importance of engaging the media, as they are often very influential. Again, building relationships is vital. If you have a good rapport with journalists, you can ask them to pass their article by you before it gets printed – which can be critical.”

― KTNet came in two years after our project had started. At first we thought of them and their demands on our researchers as a nuisance. But it turned out to be a positive experience. KTNet forced us to do things that we otherwise wouldn’t have done, like making a video for a policy audience and turning much more to policymakers generally. — Arjun Bedi, principal investigator CBHI, Ethiopia

You argue that PhD students are vital for effective knowledge translation. Why is that?

“It is their research, they know all the ins and outs, and they will have the most persuasive answers to any questions that may be posed. But the problem we experienced is that they have no time. Their primary goal is to finish their thesis, and it proved hard to convince PhD students that KT activities are equally important. I think such activities should be made part of their mandate, their job description. Academic or research supervisors should be very clear and demand, for instance, that for every peer-reviewed article, they should also write a policy brief.”
Why do you attribute such importance to policy briefs? “They are the starting point for dialogue. You hand out the brief to all stakeholders at an engagement event and ask them: ‘Do our findings ring true? Are our recommendations feasible?’ A good example is the event organised by the research team that studied the national health insurance scheme in Ghana. All relevant stakeholders, public and private, were present. The researchers handed out a summary of their findings and policy implications and asked for feedback. For two full days, the policymakers and health insurers engaged in a lively discussion that helped the researchers to revise their document and target their recommendations very specifically at the right people. The fact that the participants had a document to read and scrutinise helped them to contribute concrete suggestions. The spin-off has been very positive. The research team was invited to participate in the government’s technical Working Group for the national health review. It is a win-win situation: the policymakers take pride in the fact that they can contribute to an academic research project, while the researchers are excited that their work is having a real impact on current policy decisions.”

— Initiatives and platforms like KTNet are very important. Our programme was funded with public monies. The researchers and their supervisors therefore have an obligation to ensure a public return on the investment made. All their research should have as much relevance as possible for enhancing the public good. — Ok Pannenborg, Chair of the GPHS program —

Lessons Learned

— Supporting coalition partners to write and submit joint abstracts to conferences and other networking opportunities as well as joint sessions and panel presentations at conferences, e.g. a joint session organised at the 3rd Global Symposium on Health Systems Research in Cape Town, South Africa and another accepted at the 4th Global Symposium on Health Systems Research in Vancouver, Canada

— Building KT capacity requires patience to change academic mindsets and an understanding of contextual differences

— Promoting collaborations and best practices across the network and with global partners requires building an internal network before expanding outward, as well as nurturing communities of practice through joint collaborative grants, and fostering exchanges and learning opportunities with stakeholders

— About hosting a shared platform
  — It is important to have clear terms of engagement with partners
  — Working with contact persons while keeping the PIs in the loop of things is critical
  — Engagement of the PhD students is critical for promoting uptake and sustainability of interventions
  — Coalition partner engagement and networking requires flexibility in scheduling

— About supporting KT activities across the network
  — Ensure that PIs and researchers are on board
  — Schedule strategic and frequent engagements
  — Work through established contacts (individuals and institutions)
  — Keep a record of contacts for follow up and sustainability of KT interventions
Is that unusual?
“I have met many researchers who are resigned to the fact that they cannot influence policymaking. It’s wonderful when you witness a change in that attitude. Some teams had a real turnaround once they realised they are being listened to. It boosted their confidence and also their eagerness to engage with policymakers and make a difference. It doesn’t have to be a big success such as in Ghana – small impacts matter as well. In Senegal, for instance, the team discovered that most mothers are not aware of the influence of a negative Rhesus factor of a newborn baby. This is a fatal condition that can be easily prevented when the maternal rhesus status is recognised in advance by laboratory tests. Based on their findings, the researchers designed two information posters targeting midwives and laboratory personnel on how to improve the way they engage expectant women for improved uptake of maternal tests. The midwives and laboratory personnel gave feedback on these products which will later be approved for dissemination by the department of information and education under the Ministry of Health. These outputs were not originally planned, but have proved to be an appropriate and relevant avenue to channel their research findings.”

The eight research projects are soon coming to an end. What will happen to the knowledge translation efforts?
“Knowledge uptake often takes time. It does not happen overnight. The uptake of evidence from the GHPHSR programme will depend on the teams and the individual researchers and how they continue to grab opportunities to engage with decision-makers. I’m quite optimistic about this, especially for the teams whose research is a priority issue for the government, such as health insurance in Ghana and Ethiopia, or the malaria campaign in Rwanda. I don’t think the researchers feel that they need to be funded to engage with and contribute their knowledge to the policymaking process. They should be keen to grasp an opportunity to make a difference to people’s health.”

— Initially our project was purely academic. We did not plan for any knowledge translation and didn’t think we had the capacity to analyse our data specifically for policy implementation purposes. In this respect, KTNet definitely added value to our project. They helped us to engage not only policy-makers but also the media. — Leon Mutesa, researcher of MEPR, Rwanda

Dr Suzanne Kiwanuka is senior researcher at the School’s Department of Health Policy, Planning and Management and principal investigator of KTNet.
Methods applied

Participatory Action Approach

*Dr Christine Fenenga (COHEiSION – Ghana)*

“In the Participatory Action Approach (PAA) it is important that stakeholders are involved in all stages of the research: from the design right up to the end. They are active participants in the research. Results are continuously shared with them, validated and discussed, thus facilitating a common ground for change. The stakeholders have the opportunity to share their opinions and experiences. This enhances mutual learning and creates broad support for interventions and policy changes.

It is crucial that all parties involved are being represented. This means that, prior to selection, the context situation must be thoroughly analysed. During our research into the National Health Insurance Scheme (NHIS) in Ghana, we sometimes observed that existing power relations prevented patients from speaking openly in multi-stakeholder discussions. For example, sometimes patients were reluctant to speak their mind with health providers or local authorities present. We tackled this issue by organising separate meetings to create trust and define a common message supported by all members in that stakeholder group prior to meeting with the other stakeholders. It was interesting to see that in all stakeholder meetings, in particular in the intervention phase, clients’ confidence started to grow in the discussions with other stakeholders.

The Participatory Action Approach is very suitable for situations where different stakeholders are involved and where change is needed. Obviously, it is more suitable in social research than in bio-medical research, for example.

The PAA works well with an interdisciplinary approach. Often researchers are stuck in the mindset of their own discipline. The way the PAA is set up, with its multi-stakeholder meetings, forces researchers to look at a situation from different angles, which broadens their views as they adopt information from different disciplines. This results in a better understanding of the situation.

Maybe the biggest challenge of the PAA is the amount of time it requires to organise and get (and keep!) people on board. These processes are difficult to speed up. Another challenge for the researchers is the need to be conscious of their own opinions and the risk of influencing the stakeholders’ discussion. Two of our researchers worked with the Ghanaian Health Services before joining the research team. At the start of the study they were reminded of the importance of remaining neutral and observing and listening carefully rather than talking. One of the researchers initially had difficulties refraining from putting on his ‘provider hat’, but that improved after making him aware of this bias.

The added value of the PAA is that awareness and opinions often change along the way due to the interaction. For example, one of the high officials of the insurance organisation who participated in our
discussions was very enthusiastic about the multi-stakeholder participatory approach. He realised that clients had interesting views on health insurance, but had not always been kept informed about the changes that were introduced. The attention of his organisation had mainly been on informing healthcare providers and managing the system. He vowed that his organisation would listen more to its clients in the future.

Longitudinal Household Survey
Dr Getnet Alemu
(CBHI – Ethiopia)

“A Longitudinal Household Survey (LHS) gives you the power to observe the impact of an intervention. Such a survey consists of time-series information for each cross-sectional household member in the data set. It generates a set of data history for a group of households/individuals that are followed over some years. By collecting data from treated households and control households before (baseline survey) and at several points after the intervention (follow-up surveys), it is possible to estimate the impact generated by the intervention by controlling for the influence of other factors. Comparison with proper control households allows researchers to view the counterfactual; that is, what would have happened if the intervention had not taken place?

The main objective of our research was to see the impact of Community-Based Health Insurance (CBHI), which was introduced in thirteen districts in Ethiopia. We did so by comparing 1,203 randomly selected households where the health insurance scheme was introduced, with a control group of 429 households from non-intervention districts.

LHSs are no different from regular household surveys, in the sense that any challenges that household surveys face, also apply to LHSs. Enumerators had to physically visit-at-home each selected household. Obviously, this makes a household survey relatively time consuming and expensive. In a rural African setting additional challenges, such as the weak infrastructure, made it difficult to reach remote communities. Also the incomplete population registry made it a challenge to randomly select households for the survey.

An LHS is driven by concrete research questions and issues and therefore usually involves several academic disciplines. Two integrative aspects were reflected in our study. First, the issues to be investigated (for example the link between traditional coping mechanisms and community-based health insurance) were defined on the basis of inputs from various academic disciplines, including public health, health policy and management, development economics, econometrics, geography, anthropology and sociology. We also gained inputs from various sources: government, private sector, NGOs and health officers. Second, the empirical design was based on a ‘mixed method approach’ and includes, in addition to the statistical analysis based on the LHS, interviews with key informants and villagers, focus group discussions and also life-history event analysis.

Our LHS into the CBHI in Ethiopia added to the scarce empirical evidence on the effectiveness of health insurance for improving access to healthcare. The study provided insights on the underlying relationships between health shocks and traditional coping strategies. We were able to identify the transmission channels through which health shocks affect poverty. In addition, our research produced credible and
policy-relevant empirical evidence on the distribution, determinants and welfare implications of health shocks and the effect of CBHI on household poverty, healthcare utilisation, and on out-of-pocket health spending."

Open Space Technology

Dr Marie Chantal Ingabire
(MEPR – Rwanda)

"An Open Space meeting is ‘open’ as both the agenda and the people participating are not pre-determined. Anyone can participate and put anything on the agenda. An Open Space gathers members of a community to identify opportunities for change and to set priorities to achieve the desired goals. Such a meeting starts without a formal agenda, other than the overall purpose of the gathering. Open Space Technology (OST), as the method formally is called, has four principles:

1. whoever comes is the right person
2. whatever happens is the only thing that could have happened
3. whenever it starts is the right time
4. when it is over, it is over

The law of mobility is an additional key element, allowing participants to move to a more productive place if they are neither learning from, nor contributing to, a certain group. The method gives the participants rather than the organisers control over the discussions. It is assumed that the freedom to attend the meeting will lead to the participation of the most concerned and motivated members of a community, and hence to the best results.

OST has a proven track record in organisational work, but it is new in public health contexts, making it an innovative element in the framework of our malaria elimination programme for Ruhuha (MEPR).

The programme staff and community representatives designed a calling question to be put on invitation letters to the community. Invited participants set an agenda with regard to the designed calling questions. Emerging topics were regrouped into major themes to be discussed in small groups. Based on individual interests in topics resulting from the plenary discussion, break-out groups were formed. Participants were asked to first take part in their group of interest and were allowed to move to other groups. Each group nominated a group facilitator together with a note taker.

During the meetings, it became clear that the community perceived malaria as a serious health threat, in spite of recent reductions in prevalence. Poverty was seen as one of the main contributing factors of malaria resulting in suggestions to improve the living conditions of poor families. Another suggestion was for the partnership of stakeholders at various levels to speed up activities. A community rewards system was put forward to motivate engagement. Finally, the establishment of malaria clubs in school settings was suggested to enhance community awareness and increase skills that will further reduce malaria.

Like other participatory techniques, OST also has its limitations. Some people who are affected by the problem at hand may not show up due to lack of knowledge or time, and this might affect the outcome of an Open Space meeting."
We complemented the OST with other methods such as a quantitative survey to explore the magnitude of the issues at stake. In addition, other qualitative techniques such as focus group discussions were organised to reach a deeper understanding.

Cluster randomised controlled trial

Dr Kerstin Klipstein-Grobusch (Accelerate – Ghana)

“A Randomised Controlled Trial (RCT) design is used in medical research to avoid biases when testing a new treatment. Study participants are randomly allocated to receive the new treatment or usual care (or a placebo) and are then observed over time with regard to their health. After completion of the trial the health of the trial participants and those in control group is compared: has the new treatment been more successful than standard care?

For the Accelerate project we chose a cluster Randomised Controlled Trial (CRCT) design to evaluate the effectiveness of the m-health intervention. In a CRCT the unit of study is a cluster, such as a healthcare facility or a community, rather than individuals. It is a design that is suitable for assessing an intervention for which it is difficult to individually randomise participants. For example, in remote rural communities in Africa it is still common to cook indoors using solid fuels. This has been associated with respiratory health problems. To assess whether an alternative method, e.g. the use of a paraffin stove, would be better for respiratory health could cause friction if only some households in a village were to receive a paraffin stove: why did one family receive a stove, and the other not? This could compromise the overall study. In a CRCT design all households in one community would receive a paraffin stove, whereas in another community further away households would continue using the traditional cooking method; subsequently villagers in the intervention and control village would be compared with regard to their respiratory health.

In the CRCT conducted as part of the Accelerate project, an intervention was tested that aimed to improve access to protocols and the clinical decision-making skills of healthcare workers. The rationale for this was that in Ghana causes of persistently high maternal and neonatal mortality include the non-adherence of health workers to clinical guidelines. The use of electronic devices for the exchange of health-related information (m-health) are promising solutions to remedy these inadequacies.

The intervention for the Accelerate project CRT was developed by the Ghana Health Service in collaboration with the University of Ghana, and the University Medical Center Utrecht; Vodafone Ghana developed the platform for the intervention. An interactive text messaging system is used to deliver emergency obstetric and neonatal protocol information to providers via an Unstructured Supplementary Service data (USSD) short code. Healthcare workers text a short code to receive information supporting clinical decision-making for maternal and newborn care.

The effect of this m-health intervention is currently being evaluated in sixteen randomly selected districts in the Eastern Region in Ghana. In eight of the sixteen districts, healthcare workers such as nurses and midwives have been provided with a mobile
phone and access to the text messaging intervention. At the end of the 18-month trial, in February 2017, the facility-based neonatal and mortality rates in the intervention and the control districts will be compared. If shown to be effective, the intervention could then be scaled up within public health facilities in the Eastern Region and beyond.

For a better understanding of factors that influence adherence to clinical guidelines and the uptake of the intervention, qualitative research supports the interpretation of the outcome of the CRCT taking advantage of the multidisciplinary Accelerate project research team consisting of medical doctors, epidemiologists, anthropologists, public health specialists and health systems and policy researchers.

M-health interventions are considered to have great potential and have been widely implemented. To date however, the effectiveness of these interventions, i.e. whether they indeed improve maternal and neonatal health outcomes, has not been fully assessed. The current trial aims to address this gap and provide evidenced-based information on the effectiveness of an m-health intervention to enhance the use of standard guidelines for maternal and neonatal care by healthcare providers in Ghana.”
Looking back on seven years of GHPHRS experience, Ok Pannenburg and Hajo Wildschut present four lessons to be learned from the eight research projects.

**First**, the industrialised and traditional ‘donor’ countries should position their global health research efforts less bilaterally and more jointly with other bilateral programmes. To increase both the relevance and the impact of the research, donor countries should preferably choose a multilateral approach. Teaming up and investing in research partnerships across countries will increase efficiency and reduce waste, duplication and fragmentation. Better collaboration will enable us to avoid the multitude of poorly-aligned health research projects that are now often carried out within one country. African governments and health managers can engage with fewer partners and more easily put forward their own priorities in terms of health research topics and capacity building needs.

Joint efforts are more likely to ensure that the research partnerships involve the best experts internationally to respond to these priorities. As a result, multilateral organisations and networks, such as the WHO’s Alliance for Health Policy and Systems
Research (AHPSR), should be closely involved, as should those specialised in the translation of evidence to policy, such as the SECURE Health Programme funded by DFID, EVIPNet Africa, INDEPTH in Ghana, and AFIDEP and APHRC in Kenya, to name just a few. One should not be naive, of course: the political imperative to have national funds attributed to its source needs to be recognised, but it’s possible that the bilateral pendulum has swung too wide at this point.

Second, start thinking and engaging beyond the health sector in order to enhance impact. Significant health innovations are achieved together with other disciplines. In terms of funding for research, also start thinking horizontally instead of vertically. It may sound odd, but health (research) was somewhat spoiled during the Millennium Development Goals (MDG) era: three out of the eight MDGs were fully devoted to health, as were funding opportunities. The 2030 Agenda for Sustainable Development shows how things have changed: only one out of the seventeen Sustainable Development Goals (SDGs) focuses on health. This clearly implies much stiffer competition for funding. Let’s embrace that fact as an opportunity to reach out to researchers and research funders in sectors that have not been our traditional partners, including economic and private sector development, climate change and education. The SDGs are an opportunity to think laterally and see health for what it is: one aspect of the larger ‘system’ towards inclusive development for all.

Third, future global health policy and systems research needs to be demand-driven. The GPHPSR programme event in Kampala was proof of the great and growing research capacity in low- and middle-income countries on this topic. The analytical skills, the ‘positively aggressive’ ambitions, and the keen eye for knowledge translation opportunities displayed by the researchers were impressive. Relying on industrialised countries’ and institutions’ calls for proposals, and their supply-driven mechanisms and politics, is bound to reach its limits during the SDG period ahead. It may well be much more effective and productive to proactively design African proposals – or those in other middle- and low-income contexts – for longer-term global health systems research capacity-building. Joint African proposals, supported by several countries and pursued by their universities and their ministries of science and technology, health, higher education, foreign affairs and finance – in the same way as trade missions do – can profile the strength of demand. This will likely result in significantly better returns on the effort with global health and research investors, be they in the public, private, foundation or industrial realm.

Fourth, academic institutions in the Netherlands can learn a great deal from the African willingness and success in cooperating, also between countries. We should all target the globally interested scientific, academic and research constituencies. And we should do this together. The rise and distribution of global academic campuses around the world attests to the new realities in this realm. We cannot permit scientific islands or boundaries when moving forward towards universal health coverage.

Ok Pannenborg
Chairman Steering Committee, GPHPSR Programme

Hajo Wildschut
Chairman Programme Committee, GPHPSR Programme
Project overview

The GPHSR programme funded eight research projects devided into three clusters: Antenatal and maternal health, Health financing and Community empowerment.

Antenatal and maternal health
– ‘The Accelerate project in Ghana was innovative for generating evidence to support accelerating improvements in maternal and newborn health outcomes, and for the integration of different disciplines.’ (Accelerate – see page 36)
– ‘In fragile states, social accountability starts with building trust between community groups, between community and health facilities, and between health facilities and local government. Dialogues between these groups help to build trust.’ (Burundi & DR Congo – see page 41)
– ‘Strong leadership to implement a comprehensive package of health system interventions is a prerequisite to achieve any significant reduction in maternal morbidity and mortality.’ (MHSAR – see page 45)
– ‘Inadequate policy, expensive tests, wrong choice of technology, poorly organised health services and a lack of programmatic support severely limit the utilisation of antenatal screening tests. This is a missed opportunity to reduce maternal and child mortality and morbidity.’ (Socialab – see page 49)

Health financing
– ‘Ethiopia’s community-based health insurance scheme has the potential to help the country achieve universal health coverage.’ (CBHI – see page 57)
– ‘Better information to and engagement of communities in healthcare and health insurance services encourages long-term participation in the insurance scheme. Regular dialogues between healthcare providers, insurance officers and clients can improve service quality and in turn facilitates trust in these institutions.’ (COHEiSION – see page 60)

Community empowerment
– ‘It is possible to develop effective, sustainable health interventions to address pressing health problems using existing local resources and with minimal external input.’ (CoHeRe – see page 68)
– ‘Malaria is not just a medical problem, there is need for a multidisciplinary approach in combatting malaria. Interventions for malaria elimination need to be implemented at the village level with the participation of local communities.’ (MEPR – see page 71)
No more than 70 maternal deaths globally per 100,000 live births. That is the international community’s ambition for 2030. Currently, the figure stands at 216. The regional differences are enormous: in high-income regions, 12 mothers die per 100,000 live births, while in sub-Saharan Africa the maternal mortality rate is nearly 50 times higher at 546. Maternal deaths, it is commonly said, are ‘unnecessary’ and ‘preventable’. They are no clinical conundrum. Why then, did more than 200,000 women in sub-Saharan Africa die due to complications in pregnancy and childbirth in 2015?

Health systems lens
The solution to bring down maternal mortality rates, is to strengthen the health systems in African countries. National strategies to achieve this will depend on local causes of maternal death and local health system deficiencies. “Overall, the focus will have to be on improving the quality and equity of both routine and emergency obstetric care,” says Duane Blaauw of the MHSAR project in South Africa and Rwanda. He led one of the four GPHSR projects that explored how the delivery of maternal health services can be improved. Did looking through a health systems lens help the researchers gain insights that otherwise might have gone unnoticed? “Most certainly”, says Pascale Ondoa. She was in charge of the team that investigated the infrequent use of laboratory tests in Senegal, where two out of every three pregnant women receive no antenatal
screening. “Research that focuses on laboratories typically has a very technical approach,” says Ondoa, herself a viro-immunologist. “The fact that we had social scientists on board was unusual, yet very helpful for understanding the health system factors at stake.” These proved to be many: from the failing logistics and communication between clinical departments and laboratories, to the lack of supervision and unprofessional behaviour of midwives, to the unaffordable price of laboratory tests for most families. Conclusion? Injecting more money into technical interventions is at best only part of the solution. Ondoa: “We urged the Senegalese government to reflect on the insufficient integration of the laboratory services into the cure and care services and to implement quality management systems. A positive result is that discussions have started between the Directorate of Laboratories and the Directorate of Reproductive Health on how to increase the uptake of antenatal testing. One idea is to include antenatal testing in other public initiatives aimed at reducing the price of healthcare for those who need it most.”

Leadership is crucial
Rwanda exemplifies what a systems approach can do. Between the years 2000 and 2015, the country’s maternal mortality ratio came down from 1,071 per 100,000 live births to 290. The impressive achievement is often attributed to the introduction of Performance Based Financing. “But that’s an oversimplification,” says Leon Bijlmakers of the MHSAR project. “Our research clearly shows that the Rwandan success is thanks to the clever combination of multiple interventions in the country’s health system.” The introduction of a health insurance scheme was vital, as well as the engagement of community health workers and volunteers. The most important factor, though, according to the research team, is the strong leadership and clear direction of the Ministry of Health. Bijlmakers: “Never before did I meet policymakers so eager to make a positive change.”

Accelerating progress towards attainment of MDGs 4 and 5 in Ghana by strengthening the functioning of basic health systems (Accelerate)

**Goals:**
- To design, implement and evaluate interventions to accelerate attainment of under-five mortality and maternal mortality targets (MDGs 4 and 5)
- To generate new knowledge on how to effectively strengthen health systems
- To ensure high-quality services, good governance and decision-making
- To build capacity in the health and tertiary education sectors

**Findings:**
- Clinical decision-making is hampered by health system constraints such as availability of staff, essential medicines, supplies and equipment; management issues (including leadership and interpersonal relations among staff)
- Frontline health workers’ motivation is influenced by national policies, organisational management and contextual factors
- Pregnant women often decide to withhold sensitive personal information for fear of being humiliated
- Access to mobile phones increased antenatal care attendance, facility service utilisation, skilled attendance at birth and vaccination rates

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The teams that worked in other countries agree that ‘governance and leadership’ may well be the most
Improving maternal health services through political accountability mechanisms in Burundi and DR Congo

Goals:
- Create insight into mechanisms that give citizens a voice and ensure policymakers’ and health workers’ responsiveness and accountability
- Develop and assess social accountability mechanisms in maternal health services in Burundi and DRC
- Develop a conceptual framework for social accountability incorporating contextual factors
- Enable change in maternal health service performance in fragile states

Findings:
- Burundi: Hardly any culturally embedded accountability mechanism exists that enables women to have a voice. Health committees did not function well because clients are afraid to voice their concerns
- DRC: The use of home visits by community health workers was an effective method to gain feedback on women’s concerns and build their health literacy
- Health providers should be less defensive and more responsive in order to increase the number of women that benefit from maternal health services

The missing link

The research teams agree on yet another finding: the typical WHO health systems framework from which low-income countries draw their models does not pay enough attention to cultural, socio-economic and political contexts, nor to the relationships and behaviour – of health staff, patients and (health) programme managers – that are shaped by this context.

A project in Burundi and DR Congo looked into the mechanisms that can help citizens hold policymakers and health workers more accountable for their performance. Such citizen involvement is important, but in many fragile states it is largely non-existent. In Burundi, introducing accountability mechanisms proved to be an almost impossible task: pregnant women who are unhappy with the care they receive are afraid to raise their voices, even if procedures for lodging complaints are in place. The tense political situation in the country makes speaking out against authorities of any sort a genuinely risky act. As a result, it is very hard to tackle the bad treatment that many poor women endure. “One example from our research,” says Tjard de Cock Buning, “is of a young woman on the verge of delivery who was ridiculed by the midwives for wearing the wrong clothes. Rather than complaining, she walked back twenty kilometres to get changed.” Such is the power of social hierarchies, which – purposely or not – often impede poor people’s right to quality health services.

Other examples show the impact of culture. Winny Koster from the Socialab team explains that one reason why many pregnant women forego the antenatal tests in Senegal is because gender norms
dictate that they are not the decision-makers when it comes to spending household money.

**Family therapy**

The significance of the social and political context implies that effective interventions found in one place cannot be simply copied to another. Yet there is a positive impact that all projects share. “By actively involving policymakers and health staff

Mainstreaming a health systems approach to delivery of maternal health services: transdisciplinary research in Rwanda and South Africa (**MHSAR**)

**Goals:**

- Identify the most effective evidence-based health systems interventions to reduce avoidable maternal deaths in low- and middle-income countries, focusing on Rwanda and South Africa
- Contribute to improved maternal health policy and practice through participatory research approaches

**Findings:**

- Few studies focus on excessive bleeding or pregnancy-induced hypertension, though these are often preventable
- Improved managerial skills at facility level and the introduction of results-based financing has improved accountability
- Several health system interventions will improve the delivery of maternal health services: community education, infrastructure improvements, expanded community health worker programmes, health worker training in emergency obstetric care, expansion of health insurance, the introduction of results-based financing, and conditional cash transfers to improve access and demand

in our research,” Bijlmakers says, “we encouraged them to look at their own data and practices in a different way. In Rwanda, near-miss audits are being considered as a routine exercise, partly thanks to our research project.” Through their engagement with the researchers, policymakers realised that apart from scrutinising each and every case of maternal death, a lot can be learned from evaluating cases in which women *survived* life-threatening conditions. The research also contributed to a better maternal death audit system and the establishment of a national maternal death surveillance committee.
A second shared impact is that the research projects fostered dialogue. Between patients and health workers, between hospital managers and policymakers, but also between the health staff working at different hospital departments. “It’s almost like family therapy,” De Cock Buning says. “Many doctors and nurses, and policymakers too, find it hard to look beyond their own department. They tend to point fingers at each other when things go wrong.” Again, good leadership is vital. Nurses and midwives need to be made aware, for instance, that the social hierarchies that are entrenched in society may not be appropriate in a professional setting. “It is the same everywhere,” Pascale Ondoa adds. “If people are not trained and supervised by competent seniors, they make their own rules.” Her project team in Senegal gathered the midwives and laboratory technicians together in workshops. They discussed how they could improve their services and be more accountable towards their patients. Ondoa: “In a context of extreme job insecurity, underpayment, corruption and poverty, achieving such honest reflection and dialogue is a significant breakthrough.”

Addressing social, cultural and historical factors limiting the contribution of medical laboratory services to antenatal care in West Africa (Socialab)

Goals:
- Explore the organisational, cultural, social and historical determinants of low antenatal care (ANC) test utilisation in Senegal, Mali and Burkina Faso
- Quantify the uptake of ANC screening tests among pregnant women in Senegal
- Propose relevant interventions to improve the uptake of ANC screening tests and thereby improve maternal and child health

Findings:
- Less than one third of pregnant women in Senegal receive the complete set of ANC tests
- Barriers to ANC test uptake include unclear national guidelines and unawareness among health staff, wrong choice of technology for testing, high test price, poorly organised health services and a lack of programmatic support
- Upgrading laboratory equipment and infrastructure for ANC testing is indispensable but insufficient to ensure the optimal uptake of maternal screening
Accelerate

Millennium Development Goals (MDGs) 4 and 5 called for a substantial reduction of the under-five mortality rate (by 2/3) and the maternal mortality rate (by 3/4) between 1990 and 2015. At the start of the Accelerate project in 2011, the rate of decline of under-five mortality in Ghana was too slow to make the attainment of MDG 4 possible (from 155/1,000 live births over the period 1983 to 1987 to 80/1,000 for the period 2004 to 2008). The same was true for achieving MDG 5. Between 1990 and 2008, the Maternal Mortality Rate (MMR) decreased from 740 per 100,000 live births to 451 per 100,000 live births. This pace of reduction of maternal mortality was inadequate for Ghana to attain its MDG target of 185 maternal deaths per 100,000 live births by 2015.
Goal
The goal of the project in Ghana was to design, implement and evaluate interventions to reduce under-five mortality and maternal mortality; to generate new knowledge on how to effectively strengthen health systems; to ensure high-quality services, good governance and decision-making; and to build capacity in the health and tertiary education sectors to support future knowledge generation and policy-making and implementation.

Methodology
The project focused on understanding and addressing multi-level (from national, through district or mid-level to facility or floor level) health system factors that affect decision-making for maternal and newborn care and thus outcomes in terms of maternal and under-five mortality. The project employed a multidisciplinary approach (epidemiology, health policy and systems, anthropology) with seven interrelated PhD studies. All disciplines focused on answering different sub-questions of the leading research question: ‘What health policy and system factors are influencing maternal, newborn and child health outcomes, why and how? What is needed to accelerate progress towards achieving MDG 4 and MDG 5?’

Interventions
An m-health and a call centre intervention were developed to support frontline health worker decision-making for maternal and newborn care. The m-health intervention delivers simple emergency protocols to frontline health workers through Unstructured Supplementary Service Data (USSD). USSD is a form of interactive text messaging activated when patients select a given short code on their phone. Vodafone Ghana developed the platform for the intervention and has been working with the team to deliver it. The m-health intervention was piloted for six months in the Greater Accra region and is currently being evaluated for impact on neonatal morbidity and mortality in the Eastern Region of Ghana.

The pilot of the second intervention, the call centre to support emergency referrals, was slowed down by unforeseen funding constraints.

Main findings
Findings confirmed that contextual factors influence national level decision-making on maternal and neonatal health policies. Such factors include politics and ideology, economic crisis, historical events, social unrest, change in government, austerity measures, international agendas and the availability of data on health trends.

District health management’s decision-making is constrained by decisions made at the national level. For instance, if district health managers prepare their budgets based on local needs, the implementation of the budget is often hampered by a lack of funds from the central government. Management decision-making at the health facility level is similarly influenced by the hierarchical top-down decision-making processes.

In the formative work to design the m-health intervention, it was observed that clinical decision-making was hampered by health system constraints such as the availability of staff, essential medicines, supplies and equipment, and management issues (including leadership and interpersonal relations among staff). Clinical decision-making relied heavily on tacit knowledge and previous experience.
Systematic reviews showed that access to mobile phones (m-health) for pregnant women increased antenatal care attendance, facility service utilisation, skilled attendance at birth and vaccination rates and that m-health interventions targeting healthcare workers have the potential to improve maternal and neonatal health services in low- and middle-income countries. These findings provided further support to design and evaluate the impact of the m-health intervention.

The medical anthropology studies showed that frontline health workers’ motivation was influenced by factors intrinsic to the individual health workers such as their values, work ethics and faith and also factors extrinsic to the individual health worker such as national policies, organisational and institutional management, frontline health worker interactions and contextual factors. Perceptions of injustice in organisational relationships and processes affected frontline health workers’ motivation, which in turn affected their provision of maternal and neonatal services. Issues of power, trust and respect, which define the relationships between healthcare providers and patients, tended to influence maternal and neonatal decision-making. Inadequate infrastructure and supplies made it difficult and sometimes entailed risks for frontline health workers to provide the appropriate care. Pregnant women often decided to withhold sensitive personal information from frontline providers of antenatal services out of fear of being humiliated and a lack of privacy.

The epidemiology studies found that factors including community poverty levels, illiteracy levels, access to safe water and to community healthcare are positively correlated with lower birth weight, which in turn increases the risk of neonatal mortality. Community socio-economic deprivation positively associates with neonatal death, regardless of individual characteristics. Maternal health insurance improves the utilisation of antenatal, skilled delivery and postnatal healthcare services.

Contributions to practice
- New knowledge has been generated on health policy and system factors that need to be addressed to accelerate maternal and newborn health improvements
- The capacity of PhD students embedded in institutions in Ghana has increased, which can positively impact the research and education system in Ghana and West Africa beyond the life of the project

Contributions to policy
- Health policies that offer managers limited decision-making power and perceived injustice in organisational arrangements need to be addressed to enable changes to take place in maternal and newborn care services
- Intervention measures such as creating more open-door policies, involving frontline workers in decision making, recognising their needs and challenges and working together to address them are critical
- Frequent training to improve workers’ and managers’ skills in identifying and managing conflicts needs to be encouraged
- A lack of coherence in district financing, managerial mandates and strong vertical accountabilities – which negatively influence the authority of district managers – needs to be addressed
- The perceptions of injustice in organisational arrangements must be taken seriously, as consequent conflicts have multiple effects on frontline health workers’ clinical decision-making as well as on the quality of care
Lessons learned

- It takes time to build effective multidisciplinary collaboration. The project cycle should therefore include an inception phase that allows the team-building stages of ‘forming, storming, norming and performing’ to take place. Research funders should consider funding cycles longer than the usual five years for multidisciplinary health policy and systems research projects.

- The project encountered major drawbacks as some funders who had agreed to support the implementation of the interventions ultimately backed out because their funding priorities changed.

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Duration:  February 2011 – December 2016

More information:  http://www.acceleratemdg.org
If citizens, especially women, are able to take part in decision-making about maternal health services, there is a better chance that these services will be adapted to their particular needs. This in turn will help reduce maternal mortality and morbidity. One way to achieve this is by developing mechanisms that enable citizens to hold policymakers and health workers accountable for their performance, and to evaluate their performance against the perceived needs of citizens. This is referred to as social or political accountability. Citizen involvement is especially important in fragile states where government services are generally weak.

**Burundi & DR Congo**

**Improving maternal health services through political accountability mechanisms in Burundi & DR Congo**
Goal
The project’s goal was to assess social accountability mechanisms to respond to citizens’ needs regarding maternal health services in Burundi and the Democratic Republic of Congo (DRC). Also, the project aimed to identify and develop interventions to improve the quality and performance of maternal health services as well as to contribute to evidence-based policy advice for the use of social accountability mechanisms in fragile states facing governance and health systems challenges.

Methodology
The project started with a situational analysis of existing social accountability mechanisms for maternal health services in both countries. This was followed by an action-oriented research phase during which interventions were developed, implemented and monitored. This was a collaborative effort between academic researchers (see box) and NGOs (Cordaid and Care International in Burundi; Cordaid and Medicus Mundus in DRC). All direct stakeholders were involved – e.g. doctors, nurses, NGOs, pregnant women and their relatives and communities, pharmacists – and invited to jointly reflect on the project’s observations and findings and to propose solutions. This was done through reflective interviews, focus group discussions and feedback sessions.

Interventions
Burundi: The intervention consisted of reflective monitoring and action (observations, feedback and optimisation) of the health committees in the province of Makamba, where Cordaid ran a project to strengthen the capacity of these committees, which acted as social accountability mechanisms. Unfortunately, the planned intervention based on Care International’s scorecard in Bubanza Region could not be completed because of security problems in 2015.

DR Congo: Under the supervision of health authorities, community health workers were trained in tools for collecting women’s concerns and questions about health service provision, thus giving women a voice. Health committees, moreover, organised dialogue sessions bringing together stakeholders (women, community representatives, health workers, local authorities and the participating NGOs) to discuss proposals to improve maternal health services.

Main findings
The situational analysis in Burundi and DRC showed that women do not have enough freedom to voice their concerns and questions about health service provision and health providers’ behaviour. The project found that community health workers and health committee interaction was medically oriented and lacked community views and feedback. The analysis also showed that health authorities do not optimally supervise community participation activities.
Both countries are fragile states and the capacity building of researchers, policymakers and health managers is needed to understand the implications of potential interventions. For instance, in the politically volatile situation in Burundi, openly expressing one’s view in front of officials or holding authorities accountable is not without risk for ordinary citizens, especially for poor young women. Efforts to develop relevant and effective social accountability mechanisms need to focus on trust and capacity building between different groups through dialogue at the local level, which needs a long-term investment.

The project area in the DRC was politically stable and allowed the researchers to stay in various rural communities and evaluate the social accountability mechanisms that Cordaid and Medicus Mundus were implementing. Research showed that community health workers visiting homes are most effective in building community capacity and health literacy.

The literature review showed that organised citizen groups, in particular health committees, are able to increase the quality and responsiveness of maternal healthcare. These groups act as intermediaries between women and health providers and address interpersonal quality issues (disrespectful behaviour of health workers, absenteeism, etc.). Most feedback processes are not formalised nor structured, suggesting that the impact may be weak, nor does feedback seem to improve processes. To benefit more from their input, social accountability mechanisms must be institutionalised, especially when it comes to dealing with the most critical cases (such as abuse and repeated failure) in maternal healthcare.

“One of the lead researchers of the project, professor Thérèse Mambu, was asked by the Governor of Bas-Congo to become the new provincial Minister of Health, recognising the importance of academic research and analytical skills for policy-making.”

**Contributions to practice**
- Community health workers and a health committee were trained to act as an interface between communities and health providers in order to strengthen community voice
- Log frames and tools for documenting community health workers’ activities were provided in order to assess their performance as part of a Health Systems Information system
- Supervision of community participation, now in the hands of a health district management team, has improved
Contributions to policy

– Community participation policy has improved by making use of community health workers and a health committee, which serve as channels for voicing people’s concerns and priorities
– Dialogue meetings beyond health committees were introduced, in order to strengthen community enforceability in front of health providers
– Policymakers have been trained on accountability
– A network at district level has been implemented to share research and experiences

Lessons learned

– People expressing concerns and holding authorities accountable may be putting their lives at risk
– The gender dimension needs to be addressed. It is important to recruit female researchers and research assistants to optimise unbiased information
– NGO–academic collaboration on action research is still new in Burundi and DRC, which implies that the process was not always easy and progress slow
– Investing in building trust is essential for fruitful cooperation; conflict stopped the work of an NGO and research activities in Burundi, while in DRC and Burundi the NGO contact persons were replaced.

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Duration:  April 2012 – April 2017

http://www.maternalhealthimprovement.com
Too many women in low- and middle-income countries (LMICs) still die preventable deaths as a direct result of pregnancy and childbirth. In South Africa the Maternal Mortality Ratio (MMR) was 138 per 100,000 live births in 2015. In Rwanda it was 290, down from a very high ratio of 1,071 in the year 2000. Many experts believe that at a country level, the solution for bringing down the MMR lies in the overall strengthening of the health system, along with some very specific interventions to improve emergency obstetric care. However, it is unclear which building blocks of the health system are most important, how they interact and where best to start the interventions. Is it the health information system that needs to be strengthened first? Is it a matter of leadership and governance, of actual service delivery, of infrastructure, or of funding?
Goal
This project aimed to identify the most effective health systems interventions to reduce avoidable maternal deaths in LMICs, focusing on Rwanda and South Africa. It examined which health system building blocks are most important for improving the organisation and effectiveness of maternal health service delivery and for enabling patients to access high-quality care.

Methodology
The project focused on the management of life-threatening emergencies in pregnancy and childbirth as well as the treatment of HIV in pregnant women. It involved researchers from different medical, public health and social science disciplines. First, a systematic review was conducted of academic literature. Second, a multi-method case study approach was used to investigate and evaluate the health system constraints to improve emergency obstetric care and maternal HIV services in South Africa (one urban and one rural location) and Rwanda (four districts). The method included audits of service delivery, maternal deaths and near-miss cases (women who survive life-threatening conditions in pregnancy and childbirth), as well as qualitative research to compare variation in performance between health facilities. Third, an action research component involved engaging with policymakers and hospital management and staff. Together they identified barriers and possible interventions to improve maternal healthcare services and outcomes.

Main findings
The systematic review of maternal health intervention research in LMICs (between 2000 and 2012) showed a significant increase in publications over time, including an increase in articles focusing on health system interventions. However, few of these studies focused on the impact of health system strengthening in the field of maternal mortality, and even less on excessive bleeding or pregnancy-induced hypertension, which are among the most important direct causes of maternal death and often preventable. Other conclusions of the systematic review were that fewer than 10 per cent of studies address vulnerable groups, and for half of the studies done in LMICs, a person from a high-income country was first author.

The project’s case studies in Rwanda revealed a complex relationship between health system factors, maternal health and mortality. In an audit of maternal deaths, health system factors contributed to substandard care in over 60 per cent of the cases (40 per cent is explained by individual and community factors). A case study revealed that better leadership and managerial supervision and support were key factors explaining significant differences in maternal health performance of different hospitals with similar resource constraints.

Maternal mortality has decreased significantly since the Rwandan genocide in 1994. District health managers identified the engagement of community health workers and expanded coverage of community health insurance as the most important (systemic) interventions contributing to this success. They also emphasised improved managerial skills at the facility level and the introduction of results-based financing, which has improved accountability.

In South Africa, maternal mortality has increased since the mid-1990s (end of apartheid), partly because of the failing (political) response to the HIV pandemic. Moreover, the over-centralisation of emergency
The case studies showed that several health system interventions can improve the delivery of maternal health services: health worker training in emergency obstetric care, infrastructure improvements, community education, expanded community health worker programmes, expansion of health insurance, the introduction of results-based financing, and conditional cash transfers to improve access and demand.

Contributions to practice
- Establishment of maternal death audits in Rwanda and South Africa
- Initiatives to strengthen management at under-performing hospitals

Contributions to policy
- Promote a culture of accountability that refers to the culture of performance at the facility level, including the attitude and work ethic of health workers (motivation, punctuality and empathy with patients). Accountability has a vertical dimension (towards superiors and clients) as well as a horizontal one (colleagues holding each other accountable)
- Leadership & governance and health workforce are important building blocks to improve maternal health performance. Especially relevant are effective leadership by hospital management and accountability of health workers
- Increased focus on strengthening health systems in maternal health programmes in Rwanda and South Africa
- Use of near-miss audits in Rwanda to supplement current information from maternal death audits
- Development of an early warning system for health system failures that may compromise maternal health services

obstetric services (i.e. facilities at the lower level are supposed to provide only basic care) overwhelms the capacity of hospitals to deliver quality maternity care, and of ambulance services to transport women between facilities. This is a problem especially in the rural Eastern Cape Province.
– The map, resulting from the systematic review, is an open, searchable resource to assist in identifying the most policy-relevant topics for reducing health inequalities in maternal health in LMICs

Lessons learned
– Transdisciplinary comparative research and participatory approaches are helpful in uncovering relevant explanations of successes and failures in maternal health service delivery
– Health system building blocks are complex and interconnected. It is the combination and comprehensiveness of health system reforms, rather than single interventions, that drive improvements in performance
– Health system interventions and changes in existing routines that would improve access to quality maternal healthcare can best be identified together with policymakers
– The project faced many challenges concerning manpower: the main applicant withdrew just after the start of the project, the local principal investigator a year later. In addition, most project members have changed during the course of the project. These personnel changes also made it difficult to implement some of the proposed activities in the project, such as a realistic evaluation

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Duration: July 2012 – June 2017

Diagnostic antenatal screening tests can identify medical conditions that threaten the health of mother and child during pregnancy and delivery. Such laboratory screening is a key component of antenatal care (ANC) and crucial to the achievement of global development goals on maternal and child health. However, in many sub-Saharan African countries, the laboratory is often not accessible and/or underutilised due to (among other challenges) a lack of technology and equipment, as well as insufficient human resource capacity. Yet interventions just to improve medical laboratory capacity might not be enough to ensure the adequate utilisation of laboratory diagnostics. The utilisation also depends on the knowledge of clinical staff vis-à-vis the laboratory diagnostics and the acceptability of testing among the population. In addition, historical and sociocultural factors might exacerbate the lack of financial resources for testing and impact the position and functioning of laboratory services and their contribution to healthcare delivery.
Goal
The project’s goal was to explore the organisational, political, sociocultural and historical reasons for low antenatal care test utilisation in Senegal, Mali and Burkina Faso. The project aimed to propose relevant interventions to increase the uptake of laboratory ANC screening tests to timely identify medical conditions threatening maternal and child health.

Methodology
The study comprised a biomedical and an anthropological component.

First, a study on the utilisation of ANC tests (from test request to the utilisation of results for clinical care) was conducted in sixteen purposefully selected health facilities (hospitals and health centres) in Senegal. Characteristics of the health facilities, health service providers and pregnant women participating in the study were also collected.

In parallel, an ethnographic study in eleven of the sixteen participating facilities and the surrounding communities was conducted. Views, perceptions and practices of health staff, health facility managers and users of laboratory tests were explored through a mixed-method approach, including interviews, observations and workshops.

Finally, a historical analysis – by reviewing literature and holding in-depth interviews – was conducted in Senegal, Mali and Burkina Faso, to explore the factors that shaped the development of the laboratory sector in general, and the implementation of ANC screening tests in particular.

Main findings
The case study in Senegal revealed that screening tests are severely underutilised, in a context where laboratory technology and infrastructures for ANC testing are widely available. Less than one third of the 1,600 pregnant women who visited the participating health facilities obtained the complete set of seven mandatory antenatal tests. Moreover, only 11 per cent of women interviewed during the ethnographic study were in possession of the complete set of test results.

The historical analysis conducted in Senegal, Mali and Burkina Faso suggested that the lack of dedicated programmatic support from international donors seriously limited the development of the laboratory sector in West Africa, thereby aggravating the neglect of maternal care diagnostics by health programme managers and national policymakers. Because HIV incidence is low in West Africa, these countries did not receive the extensive support from PEPFAR (President’s Emergency Plan for Aids Relief, USA) which played an important role in strengthening laboratories in East and Southern Africa.

The research found that the reasons for the low uptake of antenatal screening tests are manifold.
– Despite available laboratory infrastructures and technology, less than one third of pregnant women receive the complete set of ANC tests and only 20 per cent of pathologies detected are adequately managed
– Barriers to ANC test uptake include unclear national guidelines and unawareness
among health staff, wrong choice of technology for testing, high test price, poorly organised health services and lack of programmatic support

- The costs for testing and transportation are unaffordable for many households. Moreover, women are usually not aware of the importance of the test results due to low literacy and given that midwives rarely take the time to explain the significance of screening. Therefore, women lack arguments to convince their husbands who are the financial decision-makers, to pay for the testing

- Midwives rarely request that women receive (all) ANC tests because they presume financial problems (or reagent stock-outs), aggravating the low utilisation of tests. The identification of midwives as gatekeepers of the laboratory reflects the overall poor organisation and high cost of ANC testing

- The facilities are not adequately supported by the local or central government to deliver quality services and to engage in strong laboratory–clinic interfaces. The lack of supervision leaves the staff to their own devices and does not provide a professional, structured environment. For the health workers this is a missed opportunity to reflect on ways to organise their services around client needs and to take into consideration the work constraints existing outside of their unit or department. Both clinic and laboratory staff face similar challenges regarding their low level of remuneration and the instability of their position (10 to 20 per cent of staff is not contracted or not paid) which affects their professional motivation

- From a programmatic point of view, clear ANC (testing) guidelines that can be followed by health workers are lacking. Access to rapid testing at the point of care (health posts) is not sufficient, although the seven tests in the recommended package are commercially available in rapid, point-of-care format

- From a policy point of view, laboratory services do not receive enough attention when initiatives are developed to increase access to care (such as gratuity) at the central level. This is partly explained by the overall context of steady laboratory neglect and the persisting hierarchy between clinical and biomedical sciences in West Africa

The results of the research and analysis were shared with Senegalese, Malian and Burkinabe stakeholders, and interventions were formulated that can be applied at the facility, programmatic and policy levels.

Contributions to practice

- Design of two information posters targeting midwives and laboratory personnel on how to improve the way they engage expectant women for improved uptake of maternal tests. The posters will be approved for dissemination by the Department of Information and Education under the ministry of health

- The regional, two-day, end-of-project workshop in Dakar facilitated stakeholder engagement and adequate interpretation of research data
Contributions to policy

– Discussions started between the Directorate of Laboratories and the Directorate of Reproductive Health on how to increase the uptake of maternal ANC testing, for instance reduced price/free ANC tests, accessible guidelines, sufficient personnel, equipment and consumables
– The project made recommendations for an improved ANC-laboratory interface in the studied facilities, based on the identified barriers to ANC test uptake
– The transdisciplinary approach made it possible to identify multiple barriers to ANC test uptake, which one single discipline would have overlooked
– Working together with a local partner requires mutual trust. Because the research could not be executed in Mali as planned, a new partner had to be found in Senegal. This significantly slowed down the launch of the project
– The project aimed to influence policymakers, which is why they involved senior postdocs rather than PhD students

Lessons learned

– Interventions require a multi-sectoral approach, involving various ministries, academia and implementing partners (NGOs) in the field of laboratory and maternal care

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Duration:  October 2012 – October 2016

For millions of people in Africa, falling sick is more than a health problem. Health shocks push households into bankruptcy and absolute poverty. Large percentages of the population cannot afford to visit a doctor. Health insurance brings medical care within the reach of poor households. But how does this affect national health budgets?

Health insurance, so customary in many middle- and high-income countries, is considered an effective way to ensure poor people’s access to healthcare. Over the last 25 years, health insurance schemes have been introduced in several African countries, often limited to certain communities, cities or regions. Ghana and Rwanda set up a national health insurance scheme. In all cases, the insurance has increased poor people’s access to healthcare, often with notable improvements of health statistics as a result. In Rwanda, for example, the introduction of the ‘Mutuelle de Santé’ meant that the money families pay for giving birth in hospital dropped dramatically from 25 dollars to 33 cents, making professional care for mother and child affordable for almost all Rwandans. As a result, both maternal and perinatal death rates have dropped sharply, from 1,071 per 100,000 in the year 2000, to 290 in 2015. Nowadays, 90 per cent of the Rwandan population is covered. The insurance premiums for the poorest households are completely subsidised by the state.
Winning trust

Despite positive experiences, health insurance is still not available for the vast majority of people on the African continent. One of the newcomers is Ethiopia where, in 2011, a pilot insurance scheme was introduced in thirteen districts. The GHPHSR project Community-Based Health Insurance (CBHI) examined how insurance affects healthcare utilisation in these districts. Preliminary results are promising: the use of medical facilities rose by at least 45 per cent. Arjun Bedi, who led the CBHI project, explains that with almost half of the people in the targeted districts joining the scheme, enrolment is considered high. “Health insurances are relatively new in Ethiopia. To reach an enrolment of 50 per cent in just a couple of years is phenomenal!” In 2016 the enrolment in the thirteen pilot districts even approached 60 per cent. Cost does not seem a major impediment. Bedi: “Our survey showed that 70 per cent of the people thought that the insurance premium, roughly the price of two chickens, was affordable.”

Poor people’s access to healthcare also improved in Ghana after the introduction of the National Health Insurance Scheme (NHIS) in 2003. But with some 34 per cent of the population covered, enrolment in Ghana was (in 2011) considerably lower than in the Ethiopian pilot, and far behind Rwanda. Christine Fenenga is a member of the COHEiSION project, which investigated the barriers that keep people from enrolling in Ghana’s NHIS, or extending their membership the following year. She stresses that the situation in Ghana cannot easily be compared to Rwanda or Ethiopia. “In Rwanda the entire health system was renewed after the genocide and in Ethiopia health insurance was introduced as a pilot in selected districts, making it more easily controllable.” What will make or break the success of the national health insurance in Ghana, Fenenga says, is the issue of trust. Clients want to be sure that the services meet their needs and that the care provided to them is equal to what those not insured receive. “They don’t take this for granted. In the Netherlands it also took a long time before people embraced the mandatory health insurance (in Dutch: Ziekenfonds) that was introduced in the mid-20th century. Trust in the health insurance system in Ghana has to be built from the ground up.” This is especially difficult as the quality of healthcare services, in particular of public healthcare, is low. Why would people want to pay an insurance premium for

### Community-Based Health Insurance in Ethiopia (CBHI)

**Goals:**
- Examine how healthcare utilisation and out-of-pocket health spending are affected by the Community-Based Health Insurance scheme
- Examine the sustainability and feasibility of such schemes in terms of generating resources to finance healthcare

**Findings:**
- The introduction of the CBHI has reduced the need for households to borrow and rely on savings to pay for healthcare needs
- The CBHI scheme has increased outpatient healthcare utilisation and reduced the cost per outpatient visit
- As the scheme is scaled up, financial sustainability will require more attention
- Incentives for administrators and healthcare professionals have to be provided to continue enrolment in the scheme
low-quality care? “An important issue,” Fenenga adds, “is that most poor people — those we specifically want to reach with health insurance — earn their living in the informal sector, with no fixed salaries to deduct the premium from. That makes it hard to get the system going.”

**Barriers**

At the request of the National Health Insurance Authority, the COHEiSION project identified barriers to enrolment in the NHIS and investigated why so many people terminated their membership after one or two years. Based on those findings, the team developed interventions to increase enrolment in Ghana’s NHIS. But this raises another tricky issue: universal health coverage under the current conditions would constitute a severe threat to the financial sustainability of the Ghanaian health system. Fenenga explains that the relatively low insurance premiums do not cover the costs of the growing demands on healthcare. “The system is not sustainable at the moment; there are ‘leakages’ like health providers prescribing more medicine than needed and overpriced drugs. A solution, raising the insurance premium, would immediately make the NHIS less affordable for poor people.” Another alternative could be to make the insurance benefit package less comprehensive. The downside might be that the scheme loses popularity, Fenenga admits. And its popularity is already at stake, with NHIS clients complaining that patients paying cash receive better care. The research showed that quality complaints reflect individual perception rather than factual technical quality, but that does not deny the fact that trust in the NHIS needs a serious boost.

**Towards a client-oriented health insurance system in Ghana (COHEiSION)**

**Goals:**

- To increase participation in Ghana’s National Health Insurance Scheme (NHIS) by assessing sociocultural factors that influence people’s perceptions and interest to utilise healthcare and health insurance services
- To identify and evaluate interventions to remove (perceived) barriers for clients to (re-)enrol in the NHIS and help to improve the quality of client-oriented care

**Findings:**

- Clients perceive quality more from a functional/relational and sociocultural perspective, while providers look at the medical-technical aspect
- Insured patients feel that they receive poorer quality care than the uninsured
- Community and client engagement contributes to mutual trust and increased the utilisation of healthcare services under Ghana’s NHIS
- Health workers need to feel more motivated to ensure quality care delivery engagement interventions

**Feedback loops**

The COHEiSION project has contributed to valuable lessons on how to boost client-focused care. The research team developed two interventions for client involvement in monitoring services. Central to the interventions is improved communication and open discussions between NHIS clients, health providers and insurers about the quality of services. The effect is clear: when the NHIS is receptive to feedback from its clients about the experienced service quality, this increases clients’ satisfaction with the services.
provided. Enrolment numbers are on the rise again and are estimated at 42 per cent in 2016, “although we cannot prove that this is just because of our interventions”, Christine Fenenga admits. “Engaging clients in the healthcare and health insurance services should be institutionalised such that sharing information between clients and service providers is common practice. This will carefully build trust in this new system.” As a result of the close interactions of the research team with policymakers and health insurers, the NHIA has expressed its intention to build on the project’s interventions and to start assessing clients and communities’ opinions on the quality of healthcare services. Based on the recent National Health Insurance Review, in which the research team members were invited to participate, a new National Health Board and a Patient Protection Council is in the making, aiming at building an actively informed and involved membership that can prevent the scheme from being abused and protect the members’ interests. This council’s role will be – among other things – to promote the quality and safety of health care, as well as transparency and compassionate care. It will strive to ensure that members are respected and feel dignified not only at health facilities, but also at NHIS offices.” The combination of these measures are to address sustainability, efficiency, equity, accountability and user satisfaction.

The CBHI research team in Ethiopia has had an impact on the CBHI scale-up strategy by providing detailed and research-based suggestions on the risk pooling level, incentives for CBHI officials and the system for collecting premiums from members. Most significantly, the results of the CBHI study informed the insurance scheme’s scale-up strategy, which has been expanded from 13 to 214 districts, giving some 20 million people access to health insurance. These are firm steps towards achieving universal health coverage. The CBHI team believes that the Ethiopian health budget can deal with national coverage of the insurance scheme, without drastically reducing the benefits package and without sharply increasing the monthly premiums. “The costs can be contained by paying doctors a fee based on the number of people in their community rather than the number of actual visits. Also co-payments are an option: making people pay a small fee for every visit to the doctor.” Recently, the team was officially invited to evaluate the impact of social health insurance that will be implemented in Ethiopia in the near future. But total enrolment – or even the 90 per cent that Rwanda achieved – is a distant dream for most African nations. Bedi: “The circumstances in Rwanda are very specific, making it difficult for other countries to follow the same route. The problems countries face are similar, but the solutions must be specific.”
In the last fifteen years Ethiopia has invested substantially in its healthcare infrastructure through the expansion of health posts, health centres and district hospitals. Despite these investments, healthcare utilisation remains low. In 2011, in an attempt to increase utilisation, reduce out-of-pocket expenditure on healthcare and provide financial protection against healthcare costs, the government of Ethiopia introduced a Community-Based Health Insurance (CBHI) scheme in the rural areas of the country and urban informal sector. Enrolment in the scheme is at the household level, and the scheme covers a wide range of outpatient and inpatient health services.
Goal
The project’s goal was to examine how the Community-Based Health Insurance (CBHI) scheme has affected healthcare utilisation and out-of-pocket health spending.

The project also aimed to examine the sustainability and feasibility of such schemes in terms of generating resources to finance healthcare. Empirical evidence from the CBHI impact evaluation was meant to help policymakers decide whether the CBHI is a suitable scheme to promote access to healthcare and provide financial protection.

Main findings
The research found an almost universal preference for modern healthcare. It also revealed that low healthcare utilisation rates in Ethiopia are not driven by the inability to recognise health problems or due to a low need for modern care, but are more related to factors such as the quality and cost of the available care. When households face illnesses, they can hardly count on informal safety nets or gifts from family or friends.

Compared to voluntary health insurance schemes in other African countries, at nearly 50 per cent, the uptake rate for the CBHI is high. This high uptake rate is perhaps in part attributable to the link between the CBHI and the Ethiopian government’s Productive Safety Net Programme (PSNP). The PSNP is a programme that focuses on supporting food-insecure households, but is also used as a platform to spread information and awareness.

The research showed that the CBHI scheme reduces the need to borrow to finance healthcare needs by about 8 per cent; it increased the utilisation of outpatient care by at least 45 per cent and the scheme reduced the cost per outpatient visit by at least 56 per cent.

The research also showed that the current resources raised through the scheme are able to cover the costs of providing care. However, as the scheme expands, financial sustainability will require more attention. Proposed options to enhance financial sustainability could be to pool district-level schemes at a zonal or regional level.

Contributions to practice
– Payments are better located: when members of the health insurance scheme visit regional hospitals the service is paid by the regional state, while visits to a
federal hospital are financially covered by the federal government
– The risk pooling system significantly improved the referral system. Members now have access to regional and federal hospitals
– CBHI employees' salary scale has been revised, and their career path is defined as per other health professionals
– The premium has been increased and differentiated between population groups.
– Premium collection is now systematic and no longer depends on volunteers
– The membership contribution and renewal is now reviewed once a year

**Contributions to policy**
– The risk pooling system is integrated with different tiers of the government (regional and federal) in order to allocate the risk at a higher level and to mitigate financial risks
– At the federal level, reservations are made to ensure institutional sustainability and provide protection against any form of financial embezzlement, theft or other crisis

**Lessons learned**
– Developing the research questions in cooperation with local researchers enhanced the policy relevance of the research
– The CBHI scheme roll-out and evaluation were carried out concurrently, which made it possible to obtain credible results
– The findings and insights showed the usefulness of using iterative rounds of quantitative and qualitative data

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COHEiSION

Towards a client-oriented health insurance system in Ghana

Better information to and engagement of communities in healthcare and health insurance services encourages long-term participation in the insurance scheme. Regular dialogues between healthcare providers, insurance officers and clients can improve service quality and in turn facilitates trust in these institutions.
Goal
The project’s goal was to enhance and sustain enrolment in Ghana’s NHIS through studying clients’ barriers to health insurance. Findings of the study were to help determine and test appropriate interventions to enhance the quality of, and trust in, healthcare offered through health insurance and support enrolment in the scheme. The findings were to feed policy leaders and managers in health and health insurance with the ultimate goal to contribute to the government’s ambition of total healthcare coverage in the country.

Main findings
Generally, clients’ involvement and influence in healthcare in Ghana is low. Patients are not asked for their opinions about service planning and delivery. At the same time, they are reluctant to voice their concerns, partly because they feel their complaints are not handled well. The two interventions, MyCare and Light Engagement (LE) gave patients a platform to voice their concerns and enhance interaction and dialogue to improve services and increase trust.

The study found that in communities with a high level of perceived community trust and cohesion (social capital), people are more likely to enrol in the insurance scheme than in low-trust communities. The study also found that differences in sociocultural views (explanatory models) between clients, healthcare providers and insurers on concepts such as ‘health and illness’, ‘the need for care’, ‘quality of care’ and ‘control of services’ easily lead to misconception in their communication. For example, clients perceive quality from a more sociocultural or relational perspective (e.g. being heard and taken seriously, fair queuing system and equity in treatment between insured and uninsured, attitude of staff, punctuality and avenues for complaint lodging), while providers look at the medical-technical aspect (e.g. qualification of staff, availability of medical logistics and adherence to treatment protocol). These differences in perspectives easily cause communication gaps, which in turn can even lead to critical mistakes in treatment or in patients not completing their treatment. Ultimately, this influences clients’ trust and their decision to enrol in the insurance scheme.

The study revealed that insured patients feel that uninsured patients are given preferential treatment and better quality care because they pay out-of-pocket and thus immediately make funds available to the health facility. The study also revealed that the introduction of the NHIS has contributed to a threefold increased workload for health providers due to limited health infrastructure (logistics and human resources). Moreover, healthcare facilities are hindered by the persistent problem of delayed reimbursement of claims.

MyCare and LE proved low-cost but effective interventions that enhanced the exchange of information between healthcare providers, NHIS and clients. They increased enrolment in the NHIS and increased the utilisation of healthcare services, albeit marginally. There was also a tangible improvement in the attitude of health providers towards clients, hence clients’ perception of the non-technical quality of healthcare and NHIS services improved.
Based on the research findings, the NHIA intends to start engaging clients and communities to assess their opinions of the quality of healthcare and health insurance services. They also plan to establish a National Health Board and Patient Protection Council to empower patients and foster safer, more respectful, transparent and compassionate care.

Contributions to practice
- During the research period, enrolment in the NHIS increased by 8 per cent
- The project developed a booklet on the MyCare approach and shared among a large number of stakeholders. The MyCare approach has been accepted and elements will be integrated in the insurances’ plans to engage clients and communities to assess their opinions of quality of healthcare and health insurance services
- The implementation of biometric registration and issuance of ID cards, based on bio-data
- The establishment of the NHIS Call Centre to provide a platform for complaints, enquiries and feedback in the English language and five major local languages
- Introduction of electronic claims processing to reduce the delay in provider reimbursement
Contributions to policy
– Consultations with key stakeholders (NHIA, Ministry of Health/Ghana Health Service and patient user groups) in the various stages (from set-up to final stage of the project, resulted in greater willingness among stakeholders to implement the research findings
– Interventions to stimulate client engagement in healthcare provision should be simple but cost-effective to ensure scalability and sustainability
– Some research team members participated in the National Health Insurance Review 2016

Lessons learned
The use of policy briefs is an effective communication channel with policymakers, especially when they are given the opportunity to provide input. The researchers organised a very effective and highly appreciated meeting with policymakers to discuss the projects’ findings by policy briefs.

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Addressing the health problems of those in need has to include involving them in decisions and giving them the power to tackle their own problems. The importance of community involvement and empowerment for improving primary healthcare was already confirmed at a WHO/UNICEF summit in 1978 in Alma Ata – and has been reiterated by policymakers, practitioners and academics many times since. However, actively involving communities in project design and implementation is still far from common practice.

In the research projects funded by the Netherlands’ Global Health Policy and Health Systems Research (GPHHSR) programme, community involvement invariably plays a central part. The most radical notion of community empowerment can be found in the CoHeRe project in Uganda. But curiously, community empowerment is not a term that Robert Pool, who led this research project, would use. For him the crux of the matter is ‘ownership’, which he finds less patronising than ‘empowerment’, and ‘sustainability’: will an intervention still be there after the external efforts have come to an end?

A new latrine
To secure local ownership (and hence the sustainability) of an intervention, it has to be carried by the community and fit in with the community’s priorities and ways of doing things. The CoHeRe project team asked a community in Luweero district in central Uganda to prioritise their most pressing challenges and then to select the ones they could tackle themselves. Pool: “Better hygiene was one of the priorities that surfaced; and building a public latrine was considered one of their solutions.” The idea was adopted by existing social groups, such as

Empowering communities for sustainable solutions
“Outsiders, step back!”

Community empowerment
a local savings group, and after much discussion and hard work by the community members, the public latrine was a fact. “Of course we were lucky that the community selected hygiene as the most pressing problem,” says Pool, “as this fitted nicely with the NWO-WOTRO programme on health systems.” What would he have done had the community chosen another priority? “Oh, even if they had picked a new pool table as the most urgent need to improve their well-being, I would have gone along with their choice,” Pool says smiling, “but that would probably not have met with the approval of the programme’s management and governance committees. But then again if we talk about empowerment, we have to take local priorities and choices seriously.”

The construction of the communal latrine enabled the village to obtain a government licence to hold markets. It also sparked off other efforts to promote community health, not least a concrete plan to build a community health centre. The project also increased local leaders’ confidence to enforce sanitation standards and led to a joint campaign to remove rubbish from the village.

**Open space**

The GPHSR’s Malaria Eradication Programme Rwanda (MEPR) was also all about putting the community in charge. Like in the CoHeRe project, even the topic of research was not chosen by the researchers, but by the communities; in this case through ‘open space’ discussions. Michèle van Vugt, who led the MEPR research team: “Malaria is a top priority for the people: they see their family and neighbours fall sick and sometimes die, and they realise how much the disease costs in terms of not being able to work.” But had the open space meeting resulted in another priority – for example TB or HIV/AIDS – the team would have been supportive as well, says Van Vugt. “That would have been tough luck for the entomologists.”

Whereas the CoHeRe project was based on working through existing groups and networks (on the assumption that this would increase the chances of sustainability), the MEPR team took the initiative to set up Community Malaria Action Teams (CMATs). Van Vugt stresses that the CMATs were made up of people who were enthusiastic about the project; participation was not based on their position in the community. The fact that the communities were encouraged to demonstrate leadership and ownership was vital to the project’s success.

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Developing Sustainable Community Health Resources in Poor Settings in Uganda (CoHeRe)

**Goals:**
- Develop effective health interventions with minimal outside input and no external financial support
- Build local capacity to carry out applied anthropological health-related research

**Findings:**
- Externally initiated groups and incentives can distort pre-existing social support mechanisms
- Social groups such as savings groups can to play a significant role in promoting health in the community
- Traditional birth attendants (TBAs) can play a key role in promoting male involvement in maternal health issues
Knowledge about malaria transmission, treatment and prevention increased notably, as did the use of bed nets.

Several communities took the lead in a new larval control programme. Thanks to its success, rice farmers expressed their willingness to start paying for the larvicide. Sustaining the project results after the outside involvement has ended was also a key objective of the MEPR project. Van Vugt: “Whether or not these teams will continue after the project ends is up to them. But I expect they will. There is no incentive except their own commitment to eradicating malaria; in the end that’s the best possible incentive.”

Dedication
In many African countries, people have become used to top-down approaches, says Van Vugt. “They take a ‘wait and see’ attitude.” And governmental institutions on their part rarely expect – or even applaud – community involvement. “The Rwandese government’s anti-malaria control teams felt a little threatened by our work. For us talk, talk,
talk was the adage: you have to do a lot of talking to get stakeholders on board.” Van Vugt is convinced that without community empowerment, complete eradication of malaria is impossible. “There is only so much you can do from a top-down approach. In the end it is all about local awareness and dedication. You can hand out as many mosquito nets as you wish, but if you don’t have the people on board, they will not use them.”

The biggest lesson to learn about community empowerment is, according to Pool, that it is important for outsiders to step back: let the community decide. In their paternalistic ways, development assistance organisations usually ‘bought’ local involvement by pouring in resources. However, a sustainable intervention is one that is developed, run and paid for by the communities themselves, says Pool. For this reason, he visited the community as little as possible: he wanted to avoid the impression that the project was backed by European, in this case Dutch, money. Also when things seemed to go wrong, Pool urged his Ugandan PhD students not to step in. “Ownership can only succeed based on a community’s own efforts. If it goes belly up, so be it. There is a lesson to learn from every failure.” Meanwhile the CoHeRe and MEPR projects showed that poor communities are not necessarily ‘resource-poor’. Instead, community groups taking the lead produced tangible outcomes that directly meet the needs of the population. What does this tell policymakers? That those in charge of formal health systems need to engage with and integrate informal community systems in order to take advantage of the local resources, WHICH are far too often left untapped, to promote health.

### Empowering the community towards malaria elimination in Rwanda (MEPR)

**Goal:**
- Develop and test community-based strategies for malaria elimination to support the government’s ambition to eliminate malaria by 2018

**Findings:**
- The efforts of the Community Malaria Action Teams (CMATs) resulted in a notable increase of community awareness on malaria transmission, treatment and prevention
- The link between the nuisance of larvae and malaria was an eye opener to the community, resulting in new anti-malaria measures
- People refused to use bed nets because they were perceived to cause an increase of bedbugs
The solutions to many high-priority health problems, such as infectious and waterborne diseases, are as much social as they are medical. Effective interventions and relevant knowledge that could potentially address these problems are often locally available, but interventions do not always reach the relevant populations. Besides, local practical knowledge and expertise are often not put into practice. Attempts to make more effective use of local resources, for example through community health worker programmes, have proved ultimately unsuccessful due to their failure to develop sustainable local reward systems.
Goal
The CoHeRe project explored the extent to which existing community networks, groups and social processes could serve as a sustainable basis for simple interventions. The project investigated whether these social forms could address priority health problems and work as a link between community members and existing local health facilities. The project aimed to explore whether it is possible to develop local and potentially sustainable health interventions with minimal input from outsiders and no external financial support.

Methodology
Participatory ethnographic research explored local social structures and dynamics, assessed community health priorities, and mapped existing health challenges and locally available resources. Extensive consultations showed that poor hygiene and sexually transmitted infections (STIs) were a priority for the community. A number of existing social groups (e.g., savings groups and motorcycle taxi drivers) were identified as potential actors to promote new interventions.

Interventions
Two kinds of interventions were developed. First, community-initiated interventions to improve basic sanitation through the construction of a communal latrine, the improvement of existing private latrines, the construction of handwashing facilities, the implementation of a handwashing campaign, and the improvement of cooking areas. Second, a voucher scheme and outreach intervention was developed jointly by the community and the local health centre to improve knowledge of STIs and increase the uptake of counselling and testing.

Main findings
The interventions were implemented and funded entirely by the community, with minimal input and no financial support from the project. Social groups such as savings groups proved capable of playing a key role in promoting health in the community. Externally initiated groups and incentives can distort such pre-existing social support mechanisms.

The interventions had various spin-off effects. For example, in order to facilitate the transport of building materials for the construction of the latrine, villagers repaired the road leading to the village. They also repaired existing private latrines and demolished unhygienic ones. These activities led to initiatives to clear rubbish from the village and generally tidy things up. The existence of a functioning public latrine enabled the village to obtain a government licence to hold markets.

“The construction of a communal latrine through community effort sparked off other efforts to promote community health and increased local leaders’ confidence to enforce sanitation standards. This also led to the idea of building a community health center.”

The voucher scheme, intended to attract young men to the clinic for HIV/STI counselling and testing was not as successful as expected, but it led to an active collaboration between villagers and local health authorities. This resulted in a successful outreach programme offering counselling and testing as well as male circumcision. Traditional birth attendants (TBAs) were shown to play a key role in promoting male involvement in maternal health issues. Qualitative
evaluation revealed not only general satisfaction with these interventions but also pride and motivation to make further improvements.

A post-intervention survey showed a significant increase in knowledge about hygiene practices and STIs, a decrease in reported diarrheal disease, and an increase in people seeking treatment for STIs at the clinic.

**Contributions to practice**
- A number of successful interventions were developed and evaluated with minimal outside input and no external financial support
- Ugandan communities found that they are not necessarily ‘resource-poor’, but need help to realise and use the resources they have

**Contributions to policy**
- Policymakers and NGOs should avoid intervening prescriptively or injecting excessive resources into communities, because this results in dependence and helplessness
- Formal health systems need to productively engage with and integrate informal community systems in order to take advantage of the available local resources

**Lessons learned**
- Enabling local resilience is empowering, and it has knock-on effects that lead to further improvements
- Local communities are more resilient and capable of solving their own health problems, and have more resources for doing this than governments and NGOs often assume
- Informal spaces and structures are popular sources of valuable information for community members, including health information

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**More information:**
Empowering the community towards malaria elimination in Rwanda

According to the WHO, malaria is one of the five leading causes of mortality in Africa. Annually, over 500,000 people in Africa die as a result of malaria; the majority are children under five years old. Mosquito nets, spraying and case treatment are some of the major malaria control tools used thus far. In Rwanda, between 2005 and 2010, this approach led to a 70 per cent decline in malaria incidence among children under five. In 2013, Rwanda adopted a plan for malaria pre-elimination by 2018. Experts are convinced that, in addition to the existing, top-down strategies, complete elimination of malaria will require the involvement of local communities.
Goal
The project’s objective was to support the Rwandan government’s ambition to achieve malaria pre-elimination by 2018, by connecting community mobilisation and participation to the national and district malaria control programme and to (inter)national expert knowledge bases, and by supporting the development of area-specific strategies for malaria elimination.

Methodology
The MEPR activities were implemented in the Ruhuha sector in the eastern part of Rwanda. The Ruhuha sector, where malaria is still endemic, is home to about 20,000 people living in 35 villages. Open Space workshops were organised to explore local priorities, stimulate community contribution to project planning, and to promote local capacity to manage programmes. Community Malaria Action Teams (CMATs) were set up in all villages. The project team conducted annual household surveys to monitor malaria incidence, entomology, sociological developments, economic indicators and the willingness to invest in anti-malaria measures. Continuous monitoring of health service coverage and preventive measures was also conducted.

Four interrelated, multidisciplinary PhD projects focused on behavioural sciences, biomedical sciences, entomology and health economics.

Interventions
First, Community Malaria Action Teams (CMATs) were set up in all villages to identify local malaria issues, and to discuss, initiate and coordinate collaborative community-based activities for local malaria elimination measures. The CMATs and research teams continually reported their progress and findings to each other. Second, the project implemented a larval control programme (using the microbiological larvicide Bti) in rice fields, marshlands and rain water dams. It was implemented in three sites: one where the project team was in charge of the application of Bti, one where the community was responsible and one control site were no Bti was used. Ten bi-weekly entomological evaluation surveys were executed in the three mosquito breeding sites. Third, in 2015, 300 rice farmers were selected to participate in a study that ascertained their willingness to pay for Bti control of mosquito larvae.

Main findings
The malariometric household survey found a high malaria parasite carriage risk among males, children and adolescents (age group 4–15) living in a household with multiple occupants. Higher socio-economic status, education and living in a brick house formed a lower risk.

“Communities got a better understanding of the development of the malaria mosquito, which prompted more effective prevention measures.”

The project, through the efforts of the CMATs, resulted in a notable increase of community awareness on malaria transmission, treatment and prevention. A notable increase was also found in community acceptance of preventive measures, such as the use of mosquito nets. Specific groups (e.g. low socio-economic status, males and children aged 6-15 years) are less likely to use malaria preventive measures such as bed nets. The research found that the use of bed nets was associated with an increase of bedbugs — that are very hard to get rid of — and
uncomfortable warmth during the dry season. The alternative measure – spraying insecticides – appeared to increase the number of mosquitoes rather than kill them.

Rice farmers were willing to contribute one fourth of the total price of Bti control of mosquito larvae, suggesting that other financial models will have to be found to ensure the intervention’s sustainability.

Contributions to practice
- CMATs have made a notable contribution to increase community awareness and acceptance on malaria transmission, treatment and prevention
- Implementation of a larval control programme and consequently farmers’ willingness to pay for Bti control of mosquito larvae
- The reduction of presumed malaria/fever cases from 68 per cent in 2013 to 21 per cent in 2014 in the Ruhuha sector
- Health insurance participation increased from 66 per cent in 2013 to 91 per cent in 2014 in the Ruhuha sector

Contributions to policy
- Malaria symptoms recognition and health insurance are strong predictors of prompt care seeking
- Involving local leaders who are perceived as influential at the community level strengthens the delivery of health messages to the population
- Findings dissemination meetings were annually organised among policy makers and beneficiaries
- A policy brief has been developed to highlight the importance of multi-stakeholder engagement in malaria elimination

Community participation was very positive. Communities that were involved in locating mosquito breeding sites were surprised to find that what they had considered ‘small snakes’ in the water were actually mosquito larvae. The link between the nuisance of larvae and malaria was an eye opener. Communities discovered that if they watered their vegetables in the morning instead of in the afternoon, this reduced the number of mosquito bites. During the project implementation, the Ruhuha sector witnessed a reduction of presumed malaria/fever cases from 68 to 21 per cent and an increase in health insurance coverage from 66.3 to 91 per cent in 2013 and 2014, respectively.
Lessons learned

- A relationship based on mutual trust is essential to ensure community uptake of malaria preventive measures in participatory action research
- CMATs require continued incentives and materials to facilitate their work
- The multidisciplinary set up proved a valuable opportunity for the project team to gain broad knowledge and learn about each other’s research approaches and methodology

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