



Strengthening research capacity to improve TB control for poor people

EQUI-TB's research on tuberculosis (TB) control for the most vulnerable people in poor countries demonstrates that the research process itself is as important as the findings and outputs of a research programme. The ways that EQUI-TB's researchers have worked individually and collaboratively both in and across countries have enhanced the research process, strengthened the capacity of the collaborating research organisations and led to a greater likelihood of findings being taken up into policy and practice. Four main areas will be discussed in this briefing paper – strengthening research capacity,¹ transdisciplinary research, cross partner working and linking communities with policy makers.

About EQUI-TB

The EQUI-TB Knowledge Programme, funded by the UK Department for International Development (DFID), is a research partnership of several organisations in countries with high TB incidence – Malawi, Zambia, and China – and 2 organisations in the UK – the Liverpool School of Tropical Medicine (LSTM) and University College London (UCL). The programme has a very practical focus to promote pro-poor strategies that improve the quality of and access to TB care, support and treatment services for people vulnerable to TB.

Key activities include:

- A quality assurance approach to improve access to quality-assured TB care for poor people
- Assessing mechanisms to reduce time required for diagnosis
- Identifying missing cases and developing strategies to increase access to care
- Disseminating new knowledge to key policy makers and opinion leaders
- Strengthening research capacity with overseas partners

Strengthening research capacity

Strengthening the research capacity of research organisations is vital if research processes are to be sustainable over the long term. Researchers may need support to acquire new skills and knowledge, particularly in relation to working in an international environment and meeting donor requirements with which they may not be familiar.

The research collaboration between LSTM and the National TB programme in Malawi has been strengthened and developed since 2001 in such a way that it led to the foundation of a new Malawi-registered charity: the REACH Trust. The REACH Trust is now an independent research organisation which will continue working after the end of the EQUI-TB programme. Strengthening the capacity of the REACH Trust was considered in a holistic way and all staff were encouraged to think about four main areas:

- How do we do research?
- How do we produce research outputs?
- How do we write proposals?
- How do we manage finance and administration?

Researchers and administrators were then supported through training and gaining experience to strengthen all of these processes at the REACH Trust.

The REACH Trust endeavours to support its newly recruited graduate research staff to study to Masters level. Wherever possible, study is arranged through local institutions (for example Masters by Research in Sociology at the University of Malawi), rather than overseas, as this tends to dislocate them from local policy processes. Progression to PhD level is also supported; always through conducting research in Malawi, even if registration has to be with an external institution (such as LSTM) because of the required level of supervision and support. PhD students can be registered at LSTM but are physically based and working in Malawi under the 'off site' PhD scheme which is also cheaper than spending long periods in the UK. Researchers also work on local consultancies, bringing in income for the Trust and strengthening their relationship with national bodies such as the National AIDS Council, National TB Control Programme and ministries.

¹Defined by EQUI-TB as 'the ability of individuals, organisations and systems to perform and utilize research effectively, efficiently and sustainably'.



Bertha Nhlema Simwaka from REACH Trust Malawi giving a presentation at a WHO conference

The research collaboration between UCL and University Teaching Hospital (UTH), Zambia has also promoted research training through to PhD level. Local or regional institutional registration is chosen wherever possible, but overseas institutions offering flexible supervision options allowing practical field work in Zambia (such as off-site registration with UCL) have been used according to the demands of the research in question.

EQUI-TB has directly contributed

to strengthening capacity through setting up the research laboratory at the Department of Medicine. This has helped UTH to develop into one of the most advanced clinical research sites in Africa.

Practical research training also took place in China. Results of initial research work on access to TB care and treatment services, led to DFID/World Bank support of a “social assessment” of TB control in 4 different provinces in China, coordinated by the LSTM. Masters students and staff from Fudan University, Shanghai and Chongqing University of Medical Sciences worked together with international and local technical experts as well as local TB programme staff in the 4 provinces. This strengthened the capacity of both universities at individual and institutional levels. Staff from Fudan University, for example, improved their capacity to submit papers in English to an international journal.

Staff and students at Chongqing University, a newer university with fewer resources, particularly benefited from involvement in the EQUI-TB and the Special Programme on Research and Training in Tropical Diseases (TDR) funded projects on access to diagnosis among rural-to-urban migrants. The international experience gained and the exposure to international research collaboration improved their English and increased their confidence, enabling them to contribute to national and international debate. As a result, Chongqing University now has improved capacity to manage the entire research process including writing proposals, going through an ethics approval process, following study design and writing final reports.

Transdisciplinary research

EQUI-TB applied a wide range of research methods from basic (laboratory) to clinical, social science and operational research. Research organisations in Malawi, China, and Zambia have been strengthened to understand and apply complementary research methods and relate this to financial and administrative activities and reporting to donors.

In Malawi transdisciplinary research is a distinctive approach as most health research programmes have traditionally had a biomedical focus. EQUI-TB research focuses on issues around vulnerability, equity and gender which on their own may fail to connect with the majority of health policy makers in Malawi, most of who have biomedical backgrounds. Combining social science research with positivist scientific approaches leads to better communication with and understanding by policy makers. Advocacy efforts are also strengthened by including both ‘numbers’ and ‘voices’. As one researcher from the REACH Trust said, “Different types of information resonate with different types of policy makers.”

In China, complementary experiences of multi-disciplinary research were relatively new to programmes. Quantitative methods such as questionnaire surveys have a strong tradition in China and EQUI-TB combined these approaches with qualitative and anthropological methods. Observation methods looked at the interactions between health service providers and potential TB patients to understand what factors affect access to diagnosis and treatment. It is too early to report findings, but examples were found where health service providers behaved towards patients in ways they said they did not in interviews or questionnaires, demonstrating the benefits

“Different types of information resonate with different types of policy makers”



of using a wide range of methods. In China, it was found to be effective to have a team of people from different disciplines working on the same project. In the TB social assessment exercise, each provincial research team consisted of academics, individuals from policy and practice organisations (particularly the National Centre for TB Control and provincial or district level TB control staff) and TB control experts. This combination proved to be important in reaching consensus on key issues and shows the importance of building close relationships with policy makers and practitioners as part of the research process.

Transdisciplinary research at the Department of Medicine, UTH, Zambia has benefited from a strong tradition of biomedical research which has incorporated basic science, epidemiological, social science, operational and clinical trials research. UTH has recently added qualitative methods to its research approach in a study of TB in prisons, supported by REACH, UCL and LSTM. These research activities are ongoing and UTH has recently started two clinical trials that have strong epidemiological and basic research aspects to address different aspects of tuberculosis therapy.

Cross partner working

EQUI-TB has promoted linking and learning among its different partners through North-to-South and South-to-South exchanges. A lead researcher at Fudan University in China visited Malawi's REACH Trust to



Hastings Banda from REACH Trust Malawi gives a presentation on his MCommH dissertation to students at the Fudan school of public health, Shanghai

provide support for the design of an epidemiological survey. He helped researchers think through a sampling frame for a prevalence study on TB and poverty, as they had previously little experience of doing so. This led to a high quality proposal which has attracted initial funding from basket funds through Malawi's Health Sector Wide Approach (SWAp).

The China-to-Malawi visit has been reciprocated. Chongqing University hosted Hastings Banda, a Masters in Community Health candidate from REACH when he undertook his field study on the potential role of pharmacies in TB case finding in China (see photo).

There were also exchanges between Malawi and Zambia partners on research on TB in prisons. There was a joint meeting to discuss ongoing activities in both Malawi and Zambia. This was followed by a social scientist researcher from Zambia receiving training in Malawi on qualitative methods in order to be able to develop a qualitative tool to use in the ongoing Zambian TB prison survey.

In China, exchanges between universities in different parts of the country proved to be very valuable, most notably around experiences of TB in rural-to-urban migrants. The more established Fudan University on the wealthier east coast of China, working for over 10 years with TB control in rural to urban migrants in Shanghai, shared experiences and lessons learnt with Chongqing University in Western China, which is just starting to engage with supporting TB control for rural-to-urban migrants in its region.

Linking communities with policy makers

EQUI-TB consciously facilitated processes that involved policy makers and local communities in research and implementation of approaches to improve TB control. Very often research is extractive, taking out information from communities and rarely putting it back in with appropriate solutions. EQUI-TB realised the need to look at opportunities to involve communities in the design and implementation of research. At a minimum, findings are fed back to the community. In the best cases, research is used to advocate for change.

An example from Malawi is particularly encouraging where research focused on extending TB services to communities, especially those struggling to get proper access to health services. Storekeepers were engaged to support TB control efforts by asking their clients if they



A storekeeper in Malawi selling drugs alongside other groceries



have been coughing for more than 3 weeks. If they have, the storekeeper gives them a referral letter to go to an urban health centre for TB diagnosis (smear microscopy). Having this letter turned out to be very empowering for patients and many attended. The project is now being scaled up and discussions are underway about how it can be built into the Sector Wide Approach in Health. In Malawi, the REACH Trust shares offices with the National TB Control Programme. This close relationship is strategic and enhances advocacy efforts and policy processes. The REACH Trust has become an active member of EQUINET, a dynamic regional network involved in South-to-South exchange which helps to communicate research findings and lessons from practice.

In Zambia, UCL and UTH have engaged policy makers from the Central Board of Health in overseeing and funding the ongoing work on TB control in prisons so that changes to current practice are taking place. More recently, applications for multiplier funding have included members of the Ministry of Health within the application. This aims to ensure that studies are designed so that findings can be used by policy makers, increasing the overall impact of the research. During the last five years, UTH in partnership with UCL, has produced many publications, led by local Zambian researchers, in high impact factor journals. They include five articles in *The Lancet*, and all have had substantial recognition by the global press and a direct impact on local and international policy.

In China, working with implementers, such as local TB dispensaries, was found to be useful in developing alternative approaches and engaging local stakeholders.

Summary of key points

- Strengthening research capacity is vital to long term research processes.
- Transdisciplinary research has increased the effectiveness of institutions to influence policy and practice.
- Using cross partner networking has built strong research networks, confidence of researchers and sustainability of research processes.
- Linking communities strongly with research and policy making processes leads to locally appropriate and effective TB control.



Launch of Extending Services to Communities (ESC) in Malawi, attended by staff from LSTM

About EQUI-TB

The Equi-TB knowledge programme at the Liverpool School of Tropical Medicine has been carrying out poverty focused research on tuberculosis since 2001. Partnering with key institutions in China (Fudan University, Shanghai; Chongqing University of Medical Sciences; Shandong University, National TB Control Programme); Zambia (University Teaching Hospital, Lusaka); UK (UCL London), and Malawi (REACH Trust, Lilongwe) research has focused on assuring quality of TB care for poor people in resource constrained settings. Healthlink Worldwide is working with the EQUI-TB Knowledge Programme to support the communication and dissemination component of the research programme.

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March 2006

