Public Private Mix for HIV/TB Co-Infection: feasible models of co-ordination in Hyderabad City, India

Public Private Mix (PPM), the coordination of health care across both public and private sectors, is regarded as an important strategy for TB control in India. TARGETS partner MAAS Centre for Health Research and Development, India, recognised the growing need to tackle TB/HIV co-infection and joined with a partner NGO to pilot PPM for TB and HIV in Hyderabad city. The research was conducted in consultation with local programme managers in a TB unit of Hyderabad city, building on a public sector-initiated PPM-TB as well as available HIV and TB testing centres. Researchers developed a PPM-TB/HIV intervention consisting of new tools for increased coordination, referral and feedback, whilst training public and private sector stakeholders to use these tools and participate in the trial.

The pilot intervention demonstrated that sustained efforts at following up with the private practitioners and the provision of prompt feedback could positively influence the referral practices of those who were not previously referring TB/HIV suspects to the national programme. It also showed that systematic documentation of referrals and feedback could enable the public sector-run TB programme to trace and reach patients. Research showed that the private medical practitioners participating in the public sector initiated PPM-TB were more likely to refer suspects for TB and HIV testing and to refer on average, more suspects than those not part of the PPM-TB. This observed trend could be a lead for initiating further studies and guidelines for PPM for managing HIV and HIV/TB co-infection in other sites.

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India's Revised National Tuberculosis Control Programme: looking beyond detection and cure
International Journal of Tuberculosis and Lung Diseases, Vol. 12, Issue 1, pp. 87-92, 2008

"There is emerging evidence regarding the role of the private sector in HIV management. While the third phase of the National AIDS Control Programme now formally recognises and encourages partnerships between the public and private sectors to manage HIV, there have been no documented reports on working models of public-private mix for HIV and TB together. This study was the first initiative in this direction."

Abhay Kudale, TARGETS Researcher, MAAS-CHRD

© Ruth McNerney, London School of Hygiene and Tropical Medicine

A TB Health Visitor at the public sector-run TB Clinic in Pimpri Chinchwad Municipal Corporation, Pune, India.

Understanding Barriers to Health Care: insights from Mumbai, India

Patients who report extreme delays in accessing TB care through the Revised National TB Control Programme (RNTCP) in Mumbai represent quantitative outliers on the range of delays experienced while seeking TB treatment (from consulting a provider to diagnosis and treatment initiation). However, their profiles provide valuable insight into the persistent barriers that prevent access to the programme by the most vulnerable.

In recognition that the urban poor may have different problems that limit their access to Directly Observed Therapy, Shortcourse (DOTS), researchers at MAAS-CHRD worked with the RNTCP in Mumbai to conduct a baseline study as part of the Global Fund-supported Urban DOTS Project (UDP). The study piloted the use of an accessible data source - patients registered with the programme who are at the higher extreme of the delay indicators - as a proxy for identifying access barriers. The success of the study demonstrates that this approach can be carried out easily by the local programme for periodically assessing the reach and impact of their interventions.

A total of 617 patients registered under the RNTCP were interviewed using a semi-structured interview schedule. The study found that patients experiencing extreme delays more commonly reported a per capita income of less than 1USD per day, were more likely to be women and less educated and often failed to perceive their symptoms as serious. Many respondents reported a longer duration of treatment before reaching the programme and had incurred higher treatment costs, some reporting factors beyond their control as resulting in delays (e.g. floods, work or family pressures). Delays were also caused by programmatic requirements for DOTS (e.g. proof of address and patient guarantor).

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Funded with support from Inter Aide Development India

Policy and Practice - *join the debate*

The Converging Impact of Tuberculosis, HIV/AIDS and Food Insecurity

"Without external support, including food aid and income compensation during illness, and in contexts of poverty, HIV and overstretched public health services, TB patients' households only just get by and are tipped into deeper poverty in the short term. With many also co-infected with HIV, the long-term welfare of these households is in jeopardy."

Ginny Bond, TARGETS Researcher, ZAMBART

"The effect of inadequate nutrition suggests a new entry point for TB control: in future people living with food insecurity may be screened for latent TB infection, as is currently done for people living with HIV. A better synergy between TB control and food aid programs could potentially improve case detection and reduce vulnerability to TB disease. To assess the feasibility, impact and cost-effectiveness of this approach is a priority."

Delia Boccia, TARGETS Researcher

TARGETS researchers Ginny Bond (ZAMBART) and Delia Boccia (LSHTM) carried out research into the links between TB and poverty, contributing findings to a study by RENEWAL (Regional Network on HIV/AIDS, Rural Livelihoods and Food Security) on TB and food security. A full policy brief based on research by Ginny Bond et al entitled 'The Converging Impact of Tuberculosis, AIDS, and Food Insecurity in Zambia and South Africa' is available through the International Food Policy Research Institute (IFPRI), www.ifpri.org/renewal. Research on the socioeconomic determinants of TB infection by Delia Boccia et al is published in the American Journal of Hygiene and Tropical Medicine: Boccia D, Hargreaves J, Ayles H, Fielding K, Simwinga M, Godfrey-Faussett P. AJTMH 80 (6); 2009: 1004-1011.

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Maharashtra Association of Anthropological Sciences , Centre for Health Research and Development
ZAMBART (Zambia AIDS-Related TB Project), Zambia: www.zambart.org
INDEPTH Network, Ghana: www.indepth-network.org
Makerere University, Uganda: http://med.mak.ac.ug
KNCV Tuberculosis Foundation, The Netherlands: www.kncvtb.nl
London School of Hygiene and Tropical Medicine, UK: www.lshtm.ac.uk

For more information about TARGETS research go to www.targetsconsortium.org
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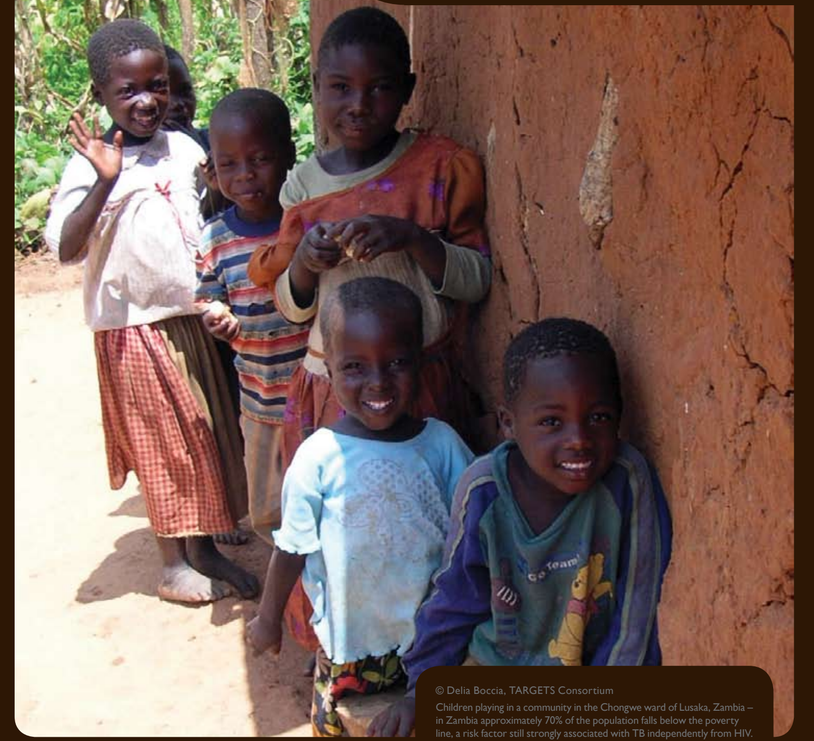
TARGETING TUBERCULOSIS

TARGETS

Team for Applied Research Generating Effective Tools and Strategies for Communicable Disease Control



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Children playing in a community in the Chongwe ward of Lusaka, Zambia – in Zambia approximately 70% of the population falls below the poverty line, a risk factor still strongly associated with TB independently from HIV.

TARGETING TUBERCULOSIS

The Team for Applied Research Generating Effective Tools and Strategies for Communicable Disease Control (TARGETS) is a Research Programme Consortium (RPC) funded by the UK Department for International Development (DFID). The Consortium brings together partners in Sub-Saharan Africa, India and Europe working towards better health for the poor and vulnerable through more effective communicable disease control. Our focus is on the world's 'killer diseases' and on overcoming the barriers to effective control of these diseases - an essential step towards achieving the Millennium Development Goals (MDGs).

Now in its fifth year, the TARGETS RPC continues to generate crucial evidence to support health policy and practice worldwide. This booklet outlines the ongoing impact of our research on the treatment and prevention of tuberculosis (TB), the growth and capacity of our partnerships and the implications of our research findings at local, national and international level.

"Our purpose is to develop new knowledge, tools and approaches for more effective communicable disease control, leading to better health for the poor and vulnerable. Our focus is on the world's 'killer diseases' and on overcoming the barriers to effective control of these diseases - an essential step towards achieving the Millennium Development Goals"

John Porter, TARGETS Consortium Director

Patient-Centred Delivery of TB Treatment in Tanzania: effective strategies under programmatic conditions

Members of the TARGETS Consortium at the KNCV Tuberculosis Foundation, Netherlands, have been working in a technical support capacity with the National TB and Leprosy Programme of Tanzania (NTLP) to design a new treatment delivery strategy for TB. Strict adherence to a 6-month treatment regime is required to avoid the development of drug resistance and conventional Directly Observed Therapy Shortcourse (DOTS) at the health facility is not feasible for this extended period of time. With input from local and international collaborators, TARGETS researchers helped design a strategy in which patients could choose the location of their daily treatment observation (home or health facility), and – when supported at home – their treatment supporter.

The study demonstrated that DOTS can be transferred from the health institution to the home of the patient. Initial research established that the new strategy was well received by both patients and health-care providers, contributing to the empowerment of patients with no detrimental effect on the formal treatment outcomes. Furthermore, research demonstrated that the strategy could be implemented without a change in the organizational set-up of the NTLP, fitting in well with routine programmatic activities. The successful pilot phase was followed by nation-wide implementation.

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Key publication: Egwaga et al
Patient-centred tuberculosis treatment delivery under programmatic conditions in Tanzania: a cohort study
BMC Medicine, in press (2009)

DOTS-Plus: field-testing effective and affordable tools for the control of drug resistant TB in Kampala, Uganda

Members of the TARGETS Consortium joined a collaborative programme of research to investigate the emergence and control of MDR-TB in Mulago Clinic, Kampala, the referral TB clinic for the Ugandan National TB and Leprosy Control Programme (NTLP). The model DOTS-Plus programme included enhanced clinical care, for example a nutritional program for hospitalized patients and their families. This was found to improve the outcome of patients on the TB ward, both directly through better nutrition and indirectly by increasing compliance with TB treatment.

The capacity of the TB laboratory was increased and testing for resistance to 2nd line TB drugs was introduced. Researchers evaluated a number of methods for rapid detection of drug resistance, comparing for accuracy, turnaround time and cost. Direct testing of sputum for resistance to rifampicin and isoniazid was implemented using a liquid culture system. Resistance to anti-tuberculosis drugs was found high in re-treatment cases with a quarter (24.5%) having resistance to isoniazid and 12.7% (52/409) having MDR-TB. Resistance to second-line drugs was low.

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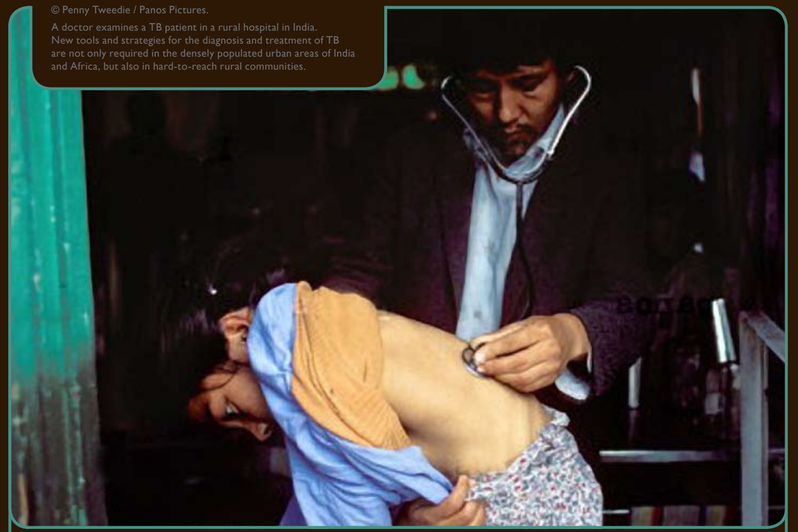

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A doctor examines a TB patient in a rural hospital in India. New tools and strategies for the diagnosis and treatment of TB are not only required in the densely populated urban areas of India and Africa, but also in hard-to-reach rural communities.

Policy and Practice - *join the debate*

Point-of-Care Diagnostics: communities need reliable, rapid and low-cost tests to tackle TB

"TB will kill over one and half million people this year. We know what causes TB, we know how it spreads, we know how to treat it – yet it remains the most common cause of adult death in some countries. Where are we going wrong? In Africa, as poverty remains endemic, so does tuberculosis. Things are made worse by the HIV/AIDS pandemic which greatly increases susceptibility to TB. The international community has responded by providing donor aid through targeted initiatives such as the Global Fund and the US President's Emergency Plan for AIDS Relief. Now, drugs are usually procured using donor money and TB treatment is free for patients. Yet despite this increase in funding the battle against TB is not being won. The emergence of drug resistant forms of the disease has set alarm bells ringing. If the drugs we have should become ineffective then the future is indeed bleak.

However, there is an area where we could make an impact. Most people die of TB because they do not access medication in time. This is not because drugs are not available, rather it is because no one knows that these people need treatment. The symptoms of TB (coughing, night sweats, weight loss) are common in African communities and people often delay seeking help. If they do travel to a health centre then the tests for TB are so poor that they are obliged to make multiple visits and give specimens on different days.

TB diagnosis in Africa is a time consuming and costly business that many patients fail to complete. Even where samples can be sent to sophisticated laboratories the results take weeks to obtain. A minority of TB patients are diagnosed early in their disease, but without treatment they will remain infectious, putting their family and friends at risk.

Unlike HIV or malaria we do not have a reliable, simple, rapid test to detect TB. It is these point-of-care tools that we desperately need. We can't screen people for TB in their communities because we don't have a test to use, and we fail to detect many cases when people do finally go to a health clinic for help. The reasons why we don't have good tests are complicated. Immunosupression caused by HIV makes TB more difficult to detect. Furthermore, TB diagnostics is not a glamorous area for research, it does not attract anywhere near the funding awarded for basic research or vaccine studies. Commercial companies are not encouraged to undertake R&D because although the numbers of patients are huge, the potential profits are small. Without a means of detecting TB that is accessible to people living in poverty, the prospects of controlling this disease are poor. If we don't know who to treat then the disease will continue to spread and millions will continue to die. It's time to spend our money a little more wisely, let's invest where we might really make a difference."

This is an extract from a contribution by TARGETS researcher Ruth McNerney to the Guardian Katine Chronicles blog, 21st April 2009. To read more go to www.guardian.co.uk/katine

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Investing in New Technologies for TB Control: the ZAMSTAR Study

The Zambia AIDS-Related TB Project (ZAMBART) is the TARGETS Consortium partner in Zambia, currently in the final phase of a major programme in partnership with Stellenbosch University, South Africa. The ZAMSTAR study is a community randomised trial of two interventions: improved case finding and combined TB/HIV activities at household level.

From November 2009 to October 2010, 80,000 sputum specimens for TB culture will be collected at 16 sites in Zambia as part of the ZAMSTAR TB Prevalence Survey, which will accurately measure the effectiveness of the interventions the study has been executing over the past three years. Rapid delivery of sputum specimens to a central laboratory is difficult in Zambia, due to great distances and poor roads. To combat this problem, ZAMBART has worked with stakeholders including the Zambian Ministry of Health, to develop a decentralized approach by placing four containerized BSL3 laboratories, each capable of processing 100 sputum specimens per day, close to the study sites.

The laboratories, constructed within 40-foot shipping containers, are delivered by truck from South Africa to existing health facilities, placed onto concrete platforms and connected to local utilities. Each lab, equipped with air-conditioning and a power generator, is divided into three sections: specimen receiving, vestibule, specimen processing and culture. After the official opening of the first ZamLab CTL in Lusaka in October 2009, ZAMBART is training biomedical scientists and technologists on how to use the equipment before the prevalence survey begins. At the completion of the ZAMSTAR study, the labs will be handed over to the Ministry of Health for further TB research in the country.

"We are confident that containerized laboratories will be a useful tool for performing large-scale TB prevalence surveys in areas with underdeveloped transportation networks. In addition, this design may serve as a model for expanding and decentralizing TB diagnostic capacity in many parts of the world"

Barry Kosloff, ZAMSTAR Mini-Lab Project Manager, ZAMBART

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CREATE Consortium: www.tbhiv-create.org
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Key Publication: Kosloff BR, de Haas P, Ayles H.
Use of containerized laboratories in the ZAMSTAR TB Prevalence Survey in Zambia
Presented at the 40th Union World Conference on Lung Health, December 2009.

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The ZamLab CTL in Lusaka, Zambia – one of four containerized BSL3 laboratories currently being installed close to study sites for the ZAMSTAR prevalence survey.