Implementing joint TB and HIV interventions in a rural district of Malawi: is there a role for an international non-governmental organisation?

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SUMMARY

In a rural district in Malawi, poorly motivated health personnel, shortages of human and financial resources, weak dialogue between existing tuberculosis (TB) and human immunodeficiency virus (HIV) programmes and poor community involvement are constraints to establishing joint TB-HIV interventions. The presence of a non-governmental organisation (NGO), Médécins Sans Frontières (MSF), in the health care delivery system provided an opportunity to bridge some of these gaps. The main inputs provided by MSF included additional staff, supplementary drugs including antiretroviral drugs, technical assistance and infrastructure development. The introduction of a scheme of monthly performance-linked incentives for health personnel proved successful in improving their performance, as judged by attendance rates as well as the quality and quantity of activities. This initiative also provided the district management with a tool for exerting pressure on health staff to improve their performance. The availability of independent NGO funds and a logistics team for construction of new infrastructure allowed the rapid initiation of new interventions at the district level without having to wait for disbursements of funds from the central level. This introduced a new dynamic of decentralised operational flexibility at the district level which improved access to care and support for people with TB-HIV.

KEY WORDS: TB; HIV; NGO; antiretroviral treatment; Malawi

THYOLO DISTRICT is a rural region in Southern Malawi with a population of 450,000. Médécins Sans Frontières (MSF), an international medical non-governmental organisation (NGO), has been working with the Thyolo district health services of the Ministry of Health (MOH) since early 1999. The MSF project involves the development of a comprehensive package of human immunodeficiency virus/acquired immune-deficiency syndrome (HIV/AIDS) interventions including the establishment of joint tuberculosis (TB) and HIV-related interventions. The different components of this package of activities are shown in Table 1.

In Thyolo, 77% of new patients registered with TB are also infected with HIV.1 All TB patients, once registered and started on standardised anti-tuberculosis treatment,2 are referred to a voluntary counselling and HIV testing (VCT) unit where systematic pre-test counselling is done on a one-to-one basis. It was decided to offer systematic pre-test counselling to all individuals to reduce the possibility of stigma associated with any particular patient being seen at the counselling unit.1 Pre-test counselling involves giving basic information about HIV and AIDS and its prevention, the interaction with TB, and in particular the package of interventions offered to those who are HIV-positive in Thyolo. All individuals are also informed of the right to refuse HIV testing. Patients who accept HIV testing receive post-test counselling. Cotrimoxazole prophylaxis, management of opportunistic infections, screening and treatment of sexually transmitted infections (STIs), nutritional support and home-based care (HBC) are integrated aspects of TB-HIV care. The Figure shows the circuit of TB patients from the point of registration for TB into joint TB-HIV activities.

Of a yearly average of 1200 newly registered TB patients over the past 3 years, over 90% accepted VCT and cotrimoxazole.1,4 Adherence to cotrimoxazole prophylaxis during and after anti-tuberculosis treatment in this setting was found to be high.3 Important links have been developed between the VCT unit and clinic services in the hospital and health centres as well as with networks of community health workers (CHWs) in the district.

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Table 1  Thyolo District, Malawi: the comprehensive package of HIV/AIDS and TB services

<table>
<thead>
<tr>
<th>Activities (prevention and care)</th>
<th>Specific components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voluntary counselling and HIV testing (VCT)</td>
<td>VCT in hospital: walk-in VCT, TB wards, PMTCT, general wards</td>
</tr>
<tr>
<td>Treatment of opportunistic infections</td>
<td>Training for all health staff, Drug supply, OI treatment at hospital, health centres and home-based care (HBC)</td>
</tr>
<tr>
<td>Hospital support</td>
<td>Specific support to hospitals includes: Additional staff, Technical support to in-patient care, Consumables for universal precautions, Infrastructure development: VCT units, in-patient facilities, consultation rooms and TB offices</td>
</tr>
<tr>
<td>Nutritional support</td>
<td>For malnourished HIV/AIDS &amp; TB patients, For children with moderate to severe malnutrition, Providing formula infant feeding (PMTCT) and supplementary feeding for orphans (&lt;1 year)</td>
</tr>
<tr>
<td>Provision of antiretroviral treatment (ART)</td>
<td>Antiretroviral drugs, Technical assistance/training, Specific ART policy for health personnel</td>
</tr>
<tr>
<td>Home-based care (HBC)</td>
<td>Symptomatic OI management at community level, Chronic cough screening (for TB) in households, Adherence: TB, cotrimoxazole and ART, Follow-up: mothers in PMTCT</td>
</tr>
<tr>
<td>Community mobilisation centres (CMC)</td>
<td>Infrastructure support for two CMCs, Preschool activities for orphans, Vocational training and income generation activities</td>
</tr>
<tr>
<td>Health centre support</td>
<td>Performance-related incentives, VCT, Sexually transmitted infection and OI management, Follow-up of ART patients, Implementation of universal precautions</td>
</tr>
<tr>
<td>PMTCT</td>
<td>VCT services for new ante-natal clinic attendees, Nevirapine for HIV-positive mothers and newborns, Infant feeding counselling, with formula support for mothers who opt for exclusive formula feeding, Cough screening for TB</td>
</tr>
<tr>
<td>IEC/behaviour change interventions</td>
<td>Cross-cutting activities, targeting: Community groups, teachers, youth through schools, youth out of school, commercial sex workers, prisoners and religious and traditional leaders</td>
</tr>
</tbody>
</table>

Human resources

In Malawi, there are severe staff shortages, with an estimated 50% of MOH posts currently unfilled. Ninety per cent of public health facilities currently do not even have the capacity to deliver the essential health package, let alone additional interventions linked to TB-HIV care. Salaries and conditions of service in the MOH are poor and qualified local staff keep leaving the public service: they travel abroad in search of better opportunities or end up in private clinics with NGOs or international aid organisations. There is also a high annual attrition rate of 2.8% due to HIV-related deaths. HIV-related illness also causes chronic absenteeism, and there are no policies to replace a worker who is chronically sick nor to treat HIV-positive staff who require ART.

The main entry point for establishing joint TB-HIV interventions is VCT. TB patients need to know their HIV status to have access to a potential range of preventive and care interventions (Table 1). Offering systematic VCT to all registered TB patients in our setting required full time counsellors, with one counsellor being able to provide an average of eight counselling sessions per day.

HIV-positive TB patients also have other opportunistic infections that require clinical care at the hospital level, which is later continued at the health centre and community level. Additional clinicians and/or nurses and support staff are required for these activities at the different levels.

More than 50% of all TB patients in our setting are malnourished at the time of registration for TB. Food supplementation and nutritional rehabilitation are thus essential components of TB care. In Thyolo, all HIV-positive individuals and TB patients who are malnourished receive a dry ration supplement (corn soya blend) of 1250 kcal/day. Severely malnourished individuals also receive 500 ml of milk/day. At least one nurse is required to implement this activity for a 30 bed unit.
Provision of ART in itself requires specific staff assigned to run this activity. In Thyolo, the minimum personnel required to run an HIV-ART clinic that recruits approximately 500 new patients per year includes one clinician, one nurse, one drug adherence counsellor and one data clerk.7

It is impossible to run quality VCT services and ensure clinical care and continuing support and follow-up of HIV-positive individuals without additional human resources. We thus provided trained staff for VCT, clinical care, ART and HBC activities. A total of 53 additional national staff and two expatriate medical doctors were provided by MSF to support activities linked to HIV/AIDS and TB-related interventions (Tables 1 and 2).

Attempts were made to ensure that MSF staff added into the district human resource pool were integrated as much as possible within the district hierarchy. This was achieved in two ways.

First, recruiting was not done by the NGO alone but through a mixed commission including the district health officer (DHO), the matron, the hospital administrator, and representatives of the community. This approach gave recognition and responsibility to each of these individuals in the recruitment process. It is also likely to have had an effect on the attitude of the MSF employee towards the district management team and vice versa. Second, personnel who were added into the district services were included in routine district rosters. They worked in an integrated manner with existing staff and were thus perceived as being part of the routine health team.

Figure  
Circuit of a tuberculosis (TB) patient from the point of registration into joint TB-HIV interventions, Thyolo district, Malawi. * According to Malawi National TB Programme guidelines. † According to Malawi ART guidelines. HIV = human immunodeficiency virus; HBC = home-based care; STI = sexually transmitted infections; OI = opportunistic infections; ART = anti-retroviral treatment.
Two specific interventions were initiated to improve motivation and work performance among personnel from the MOH. First, ART was made available for all district health staff and their immediate family if they were found to be HIV-positive and fulfilled eligibility criteria for treatment. This was appreciated, as 10–15% of the work force are estimated to be HIV-positive.8

Second, a scheme of monthly performance-linked incentives, ranging from a minimum of US$13 to a maximum of $25, was introduced to enhance motivation. The average salaries of MOH health personnel range from $45 to $180. All district health staff (including support staff, but excluding administrative staff) benefited from the initiative. A simple performance evaluation is conducted jointly by MSF and district supervisors each month. Performance criteria for evaluation include quality of work (satisfactory implementation of assigned tasks, discipline, cleanliness, respect for working hours) and quantity of work (presence for daily work, call duties or night shifts). A scoring system from one to ten is used to grade performance as very good, satisfactory or unsatisfactory. In case of unsatisfactory performance and depending on the severity of the offence, a health worker could lose part or the entire incentive for the month. Incentives are not paid for periods of absence. The incentive scheme is funded and managed by MSF, and amounts to a total of $20,000/year.

The monetary amount of the incentive was decided on the basis of the market cost of a bag of maize, which is the staple food of Malawians. Linking the level of a given incentive to the cost of an essential food commodity of importance such as maize was critical to introduce a minimum ‘value threshold’ to the incentive. Health workers thus considered the incentives in terms of one, two, three or more sacs of maize. This initiative introduced a form of ‘contractual approach’ between the district management and health employees and proved very successful in improving performance, as judged by attendance rates and the quality and quantity of activities. It also gave the district management team a tool for exerting pressure on any given person(s) to improve performance and hence enhanced the authority of the district health management team over its personnel.

**Financial resources at district level**

A total of 1.2 million dollars was spent in initiating the package of comprehensive HIV/AIDS and TB-related interventions (Table 1), and about 1 million dollars is currently required to maintain these activities on a yearly basis. Current health expenditure per capita in Malawi is $12, of which $3 comes from government, $4 from donors and the rest must be provided by the patient.11 Although the additional amount provided by MSF might seem large, considering the population of Thyolo (450,000), the additional requirement needed to implement a package of HIV/AIDS interventions in this setting amounts to approximately $2 per capita. These funds were used to provide additional human resources, provide incentives, build new infrastructure for VCT and HIV clinics, provide supplementary food and purchase drugs for the management of opportunistic infections as well as ART. Shortages of essential drugs in government health facilities in Malawi are a major problem,11,12 and in the interest of equity, providing care for basic ailments suffered by HIV-positive individuals will also include those who are not HIV-positive. MSF thus also provides supplements of essential drugs needed for the management of such conditions. Drugs supplied by MSF are procured, stored and supplied by the organisation on request.

Requesting the MOH to finance a package of additional interventions linked to HIV-TB is unlikely to be successful, as health budgets in Malawi are often reduced and expenditure lines are often rigid and predefined. NGOs such as MSF often have flexibility in expenditure lines and also have the possibility of increasing expenditure allocations according to changing needs or requirements. Such independent ‘own’ funds provide an invaluable asset to the district management team for supplementing shortfalls in existing budgets. This relative financial independence and flexibility allows room to allocate funds for implementing new interventions during the financial year. This reduces delays in implementation that are often associ-

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**Table 2** Inventory of Ministry of Health personnel (MOH) and additional staff provided by Médecins Sans Frontières (MSF) in Thyolo district, 2003

<table>
<thead>
<tr>
<th>Available MOH personnel in Thyolo district</th>
<th>Additional MSF staff provided for HIV/AIDS &amp; TB activities</th>
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</thead>
<tbody>
<tr>
<td>National staff—clinical (62)</td>
<td>National staff—clinical (43)</td>
</tr>
<tr>
<td>3 clinical officers, 5 medical assistants, 54 nurses, laboratory technicians (none)</td>
<td>6 clinical officers, 4 medical assistants, 17 nurses, 6 nurse counsellors, 8 community nurses, 2 laboratory technicians</td>
</tr>
<tr>
<td>National staff—non clinical (30)</td>
<td>National staff—non clinical (10)</td>
</tr>
<tr>
<td>1 registry officer, 1 X-ray technician, 1 pharmacy technician, 1 pharmacy assistant, 2 theatre assistants, 1 orthopaedic assistant, 6 patient attendants, 2 maintenance team members, 4 ground staff labourers, 2 drivers, 2 cooks, 1 store keeper, 1 catering assistant, 3 laundry workers, 2 watchmen</td>
<td>4 counsellors, 4 IEC team members, 2 receptionists</td>
</tr>
<tr>
<td>Expatriate staff (2)</td>
<td>Expatriate staff (2)</td>
</tr>
<tr>
<td>2 medical doctors</td>
<td>2 medical doctors</td>
</tr>
</tbody>
</table>

HIV = human immunodeficiency virus; AIDS = acquired immune-deficiency syndrome; TB = tuberculosis; IEC = information, education and communication.
ated with waiting for disbursement of additional funds from the central level.

NGOs such as MSF also have well developed logistic teams on site that have the capacity and competence for infrastructure development, drug procurement and supply. Construction and rehabilitation can thus be handled relatively rapidly by the NGO. This back-up is important to reduce implementation delays that could be associated with limited logistics capacity.

The additional financial resources available from the NGO at the district level and the logistics support thus provides the district health management with a form of ‘decentralised operational flexibility’.

Role of the community

In Thyolo, links have been developed between hospital services and existing community groups. The counselling unit refers every HIV-positive individual to a specific trained volunteer within a network of community-based volunteers (Figure). Volunteers are organised into groups by geographic area and are supervised by teams of peer leaders and a community nurse. One volunteer takes care of seven to eight HBC patients, and one community nurse supports and supervises 25 to 50 trained HBC volunteers. An average of 1500 patients are followed up in the HBC.

Community volunteers are involved in a number of activities involving TB-HIV patients. First, trained volunteers are equipped with an HBC kit containing basic drugs and supportive material. They are thus able to provide basic care for conditions such as diarrhoea and fever.

Second, volunteers are likely to play an important role in reducing stigma. They come from within the community and are thus well known and accepted. By interacting frequently with household members, and by being involved with information, education and communication (IEC), they invariably increase the awareness of HIV/AIDS and TB. They also emphasise the importance of adherence to anti-tuberculosis drugs, cotrimoxazole prophylaxis and ART. Through their activities, and particularly by providing care within homes, they are likely to influence individuals under their care and the demand for existing services. In our setting, 77% of all individuals who present for VCT of their own free will do so after being encouraged by volunteers.13

Third, community volunteers contribute to early case detection by screening for chronic cough in households in which there are HIV-positive or TB patients. In 2001, 20% of all HIV-positive individuals who were referred for a sputum check because of chronic cough were diagnosed with smear-positive TB.

Fourth, the community network also helps to reduce the community impact of HIV/AIDS by supporting vocational training activities such as carpentry and tailoring, as well as income generating activities for orphans from HIV-TB affected households. Pre-school activities for 500 or so orphans are also organised by community groups. There are currently 12 community vegetable gardens that provide free vegetable supplements for malnourished and destitute individuals.

HIV-TB dialogue at district level

Staff from TB and HIV programmes do not generally work together as the programmes have been vertical. A number of strategies have helped to improve dialogue between the two programmes.

First, placing MSF staff to work within both TB and HIV programmes with the aim of establishing joint interventions obliged individuals working in the TB programme to consider VCT, management of opportunistic infections and ART for individuals registered for TB. Similarly, those working in the HIV programme are obliged to consider early TB case detection and treatment.

Second, planning for new interventions, training, organisation and supervision of services was done jointly between staff coordinating TB, HIV and HBC programmes. These individuals were also actively involved in the formulation of district annual action plans.

Third, formal and informal monthly working meetings are held between the TB, HIV and community teams. Feedback on the evolution of activities in the different programmes is also provided on a regular basis. Problems involving patient care are discussed as a team, and solutions are proposed at monthly meetings.

At the district level, the DHO, the highest cadre of the MOH, is responsible for overseeing all health-related activities in the district. Representatives from both HIV and TB programmes, from NGOs and the community are stakeholders in district health activities and ensuring close dialogue, joint decision-making and feedback from the process of planning through to implementation gives all representatives the possibility of active participation in orienting the overall district health strategy. This enhances the sense of acceptability and ownership of interventions by all intervening partners. In Thyolo, this dynamic worked as there was an environment in which individuals were open to free and transparent dialogue, had an urge to collaborate and were able to find acceptable compromises in case of disagreement. The skills of the DHO and representatives of collaborating partners such as MSF in creating such a dynamic is critical for success.

Monitoring, evaluation and operational research

Monitoring, evaluation and particularly operational research constitute a heavy load on district clinical staff who are also often responsible for district management. Additional technical manpower made available at the district coordination level by MSF enhanced the technical capacity for monitoring and
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operational research. The district has thus been able to publish several of its experiences in international scientific journals, thereby contributing to shaping national policy on joint TB-HIV activities in Malawi and elsewhere.

DISCUSSION

In a rural district in Malawi, poorly motivated health staff, shortages of human and financial resources, weak dialogue between existing TB and HIV programmes and poor community involvement have been constraints in establishing joint TB-HIV interventions. The presence of an international NGO provided an excellent opportunity to bridge some of these gaps and our experience as a partner to the MOH and community authorities has been encouraging.

The approach led by MSF was unique for a number of reasons:

• The project was conceived in close collaboration with government and community partners. Close dialogue, joint decision-making and feedback from the planning stage through to implementation gave all stakeholders the possibility to participate actively in decisions and in orienting the overall district health strategy. This enhanced acceptability and ownership by the different stakeholders.

• Important operational decisions such as involving new employment were made through a mixed commission, and ideas were not imposed by any stakeholder.

• MSF strived to reinforce existing public services and avoided working in parallel. This approach acts as a catalyst in boosting the general health services as a whole and not just TB-HIV services.

• Finally, by working from the beginning within the stated goal, objectives and strategies of the National Tuberculosis Programme (NTP), MSF was able to contribute to the bigger picture of TB control in Malawi. MSF also plays an important role in conjunction with the National AIDS Control Programme in the development of ARV treatment guidelines, guidelines for the treatment of HIV-related diseases, prevention of mother-to-child transmission and VCT guidelines.

In terms of a model for wider implementation within Malawi it is important to consider the key features of the success of the Thyolo model. First, the commitment of MSF in this district is long term, planned on a 5–10 year renewable basis. Short-term involvement of a few years is unlikely to be sustainable given the current constraints in the health services. Secondly, the input required to set up and run the programme was made available. This included additional health staff, financial incentives and workplace ART provision for health staff, supplementary drugs and commodities, increasing district technical and management capacity, operational research and infrastructure development.

The WHO has established a goal of treating 3 million people with ART by the year 2005. ART cannot be provided in isolation, and the requirements for setting up and running a joint TB-HIV programme such as those fulfilled by MSF in Thyolo will have to be provided.

The question of human resources requires special attention, as translating policies, plans and strategies into implementation will depend on the availability of trained people. In the last 15 to 20 years, when policies and targets have been set, little or no emphasis has been placed on human resource development, motivation and retention within public health services. Financing and health reform strategies such as those led by the World Bank in developing countries have even placed restrictions on new employment and a moratorium on financial investments for addressing pressing human resource issues. As qualified health care workers leave the public services and HIV/AIDS further cripples service delivery, governments and infectious disease control programme managers are left unable to intervene.

A shift is necessary in the current paradigms linked to health financing and human resources policies for health. Governments, international policy makers and donors now have to make urgent, concerted efforts to bridge the current gaps by investing in real change. Achieving ART for 3 million people by 2005 will depend on the package of interventions necessary to ensure its delivery. If these interventions are not implemented, then despite the availability of ARV drugs, many more people with TB and TB-HIV will continue to die unnecessarily.

Acknowledgements

We are grateful to the district health authorities of Thyolo, and particularly Dr Edwin Bakali (DHO) of Thyolo, the district Matron and administrator, for the excellent collaboration over the years. We also thank the different communities and volunteers in Thyolo and particularly the Nansanto community who have led us in our approach to different community groups in Thyolo.

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References


4 Zachariah R, Spielmann M P Chingi C, et al. Voluntary counselling, HIV testing and adjunctive cotrimoxazole reduces mor-
En un distrito de Malawi, un personal de salud escasamente motivado, la pobreza de recursos humanos y financieros, la falta de diálogo entre los programas existentes de control de la tuberculosis (TB) y del virus de la inmunodeficiencia humana (VIH), así como el escaso compromiso de la comunidad, constituyen serias dificultades para establecer intervenciones conjuntas TB-VIH. La presencia de una organización no gubernamental (ONG), Médicos Sin Fronteras (MSF), au sein du système de fourniture des soins de santé a donné l’occasion de combler certaines de ces lacunes. Les apports principaux fournis par MSF ont comporté un complément de personnel, des suppléments de médicaments y compris des médicaments antirétroviraux, une assistance technique et le développement d’infrastructures. L’introduction d’un schéma d’incitants mensuels liés au performance du personnel de santé s’est avérée favorable à l’amélioration de leur performance qu’on a pu apprécier par les taux de fréquentation ainsi que par la qualité et la quantité des activités. Cette initiative a également fourni à la direction du district un outil permettant d’exercer une pression sur le personnel de santé afin d’améliorer ses performances. La disponibilité des fonds indépendants provenant des ONG et d’une équipe logistique pour la construction d’une nouvelle infrastructure ont permis la mise en œuvre rapide de nouvelles interventions au niveau du district sans avoir à attendre la libération de fonds provenant du niveau central. Ceci a permis d’introduire une nouvelle dynamique de flexibilité opérationnelle décentralisée au niveau du district, ce qui a amélioré l’accessibilité aux soins et le soutien aux personnes atteintes de TB-VIH.