

TB:HIV



**TB:HIV**

Stop TB Department  
Communicable Diseases Programme  
WORLD HEALTH ORGANIZATION

For further information about  
tuberculosis or other  
communicable diseases,  
please contact

Information Resource Centre  
Communicable Diseases  
World Health Organization  
20 avenue Appia  
CH-1211 Geneva 27, Switzerland  
cddoc@who.int

tel +41 22 791 3504  
fax +41 22 791 4285

You can also visit our website at  
<http://www.who.int/gtb>


AN ANALYSIS OF INTERACTION BETWEEN TB AND HIV/AIDS PROGRAMMES IN SUB - SAHARAN AFRICA

AN ANALYSIS OF INTERACTION  
BETWEEN TB AND HIV/AIDS  
PROGRAMMES IN  
SUB - SAHARAN AFRICA



WORLD HEALTH ORGANIZATION

# AN ANALYSIS OF INTERACTION BETWEEN TB AND HIV/AIDS PROGRAMMES IN SUB-SAHARAN AFRICA



Dr Sarah R. Anderson and Dr Dermot Maher  
Stop TB Department WHO Geneva

This work was carried out as part of  
the programme of activities in WHO's  
Tuberculosis Strategy and Operations Unit,  
coordinated by Mario Raviglione.

**ACKNOWLEDGEMENTS**

The authors would like to thank: Dr Fabio Luelmo, WHO; Dr Mario Raviglione, WHO; Dr Jos Perriens, UNAIDS; and the key informants who agreed to be interviewed for this study.

# ontents

	<b>Acknowledgements</b> .....	2
	<b>Executive Summary</b> .....	5
<b>1</b>	<b>Introduction</b> .....	9
<b>2</b>	<b>Background</b> .....	11
<b>3</b>	<b>Methods</b> .....	13
3.1	Literature review .....	13
3.2	Interviews .....	13
<b>4</b>	<b>Results</b> .....	15
4.1	Literature review results .....	15
4.1.1	<i>General</i> .....	15
4.1.2	<i>TB and HIV/AIDS programme interaction - the recent role of WHO</i> .....	16
4.2	Interview results .....	18
4.2.1	<i>TB and HIV programme interaction</i> .....	18
4.2.2	<i>TB and HIV/AIDS programme support to general health service providers in responding to HIV/AIDS</i> .....	19
4.2.3	<i>Barriers to TB and HIV/AIDS programme interaction</i> .....	20
4.2.4	<i>How to promote more effective TB and HIV programme interaction</i> .....	22
4.2.5	<i>Strengths of partner organisations to promote collaborative working</i> .....	27
4.2.6	<i>How should WHO engage international and national organisations in TB and HIV collaboration?</i> .....	28
<b>5</b>	<b>Discussion</b> .....	29
5.1	Methodological limitations .....	29
5.2	Discussion of findings .....	29
5.2.1	<i>Introduction</i> .....	29
5.2.2	<i>Barriers to TB and HIV/AIDS programme interaction</i> .....	30
5.2.3	<i>Mechanisms to promote TB and HIV/AIDS programme collaboration</i> .....	31
5.2.4	<i>Why is now the right time to promote interaction?</i> .....	33
<b>6</b>	<b>Conclusion and Recommendations</b> .....	35
	<b>Appendix 1 - List of key informants</b> .....	37
	<b>Appendix 2 - List of abbreviations</b> .....	37
	<b>References</b> .....	38

**TB:IV**

# Executive summary

## Aim

This study seeks to analyse the interaction between tuberculosis (TB) and HIV/AIDS programmes in sub-Saharan Africa. This analysis will inform WHO's role in promoting collaborative TB and HIV/AIDS programme activities, aimed at more effective control of TB among HIV-infected people.

## Background

HIV/AIDS is a global public health emergency. It is dramatically fuelling the TB epidemic in sub-Saharan Africa, where in some countries up to 70% of TB patients are co-infected with HIV. For many years efforts to tackle TB and HIV have been largely separate despite overlapping epidemiology. It seems likely that improved collaboration between TB and HIV/AIDS programmes will lead to more effective control of TB among HIV-infected people and to significant public health gains.

## Methods

Between February and April 2001 we undertook a Medline literature search, reviewed policy documents and reports available through WHO, UNAIDS and other sources, and interviewed 33 key informants.

## Results

The literature review revealed over ten years of research on the clinical and epidemiological inter-relationship between TB and HIV/AIDS, but a lack of research specifically investigating TB and HIV programme interaction. Thirty-three key informants were interviewed, including representatives of UN agencies and international development assistance agencies, national TB and HIV/AIDS programme managers, service providers, policy makers, and NGOs. Most key informants felt that TB and HIV/AIDS programmes have not interacted effectively at international, national or district levels. However, most National TB Control Programmes (NTPs) and National AIDS Control Programmes (NACPs) recognise the necessity for collaboration.

Key barriers to TB and HIV/AIDS programme collaboration were identified as: a lack of political commitment at both international and national level; different programme structures, cultures and philosophies; a lack of an international strategic framework to decrease the burden of HIV-related TB (TB/HIV); under-resourcing and a low priority given to HIV/AIDS care on international and national agendas. Other lesser barriers included: the perceived low profile of HIV on the WHO agenda following the end of the Global Programme on AIDS in 1995; poor international and national awareness of the link between TB and HIV; a lack of an internationally agreed package of care for people living with HIV/AIDS (PLHA); a lack of organisational ability and capacity within HIV/AIDS programmes; a lack of communication within and between programmes; stigma; and finally health care staff attitudes to, and awareness of, TB among HIV-infected people.

Opportunities and mechanisms to overcome the barriers to TB and HIV/AIDS programme interaction can be divided into international, national and general. International mechanisms include: increased political commitment; a clarification of roles and responsibilities of, and linkages between, UNAIDS, WHO's Stop TB and HIV/AIDS Departments; better utilisation of UNAIDS co-ordinating role; an international strategic framework to decrease the burden of TB/HIV; an international working group on TB/HIV;

and the provision of stronger country level support. National mechanisms include: in-country high level political commitment; joint planning meetings; a clear understanding of the areas of common interest for NTP and NACP; a common goal for both programmes; a National Action Plan for TB and HIV programme collaboration; utilisation of existing organisational structures; the sharing of expertise and experience such as home-based and community care; a strengthened referral system; and finally joint training of programme and general health service staff. General mechanisms include: an increase in resources; utilisation of the influential role played by financial partners in development; formulation of joint health education messages; the use of care packages (such as those piloted in the ProTEST Initiative) which include TB prevention and care in high HIV prevalence populations; and finally joint advocacy.

### **Discussion**

By analysing the barriers to TB and HIV/AIDS programme interaction it is possible to gain some understanding of how to promote effective collaboration in the future. It is important to note that the barriers to TB and HIV/AIDS programme interaction differ between countries. There has been some progress in promoting TB and HIV programme collaboration: the clinical and epidemiological links are well described; WHO is co-ordinating a Global Working Group on TB/HIV under the auspices of the Stop TB Partnership and developing a strategic framework to decrease the burden of TB/HIV; HIV/AIDS care is generally attracting more attention and becoming a priority for WHO as it expands its HIV/AIDS Department; and recent initiatives by G8 and the heavily indebted poor countries initiative (HIPC) hold the promise of significantly more funds becoming available.

Identifying the opportunities and mechanisms for TB and HIV/AIDS programme collaboration should enable more effective TB control among HIV-infected people. There appears to be considerable potential for collaboration between TB and HIV/AIDS programmes. However, unless demonstrably beneficial, complete integration might overshadow TB programmes and lead to poorer TB services.

### **Conclusion and Recommendations**

This analysis suggests that TB and HIV/AIDS programmes will need to collaborate to deliver a more effective response to TB/HIV. Consideration of the barriers to, and mechanisms to promote, future collaboration between TB and HIV/AIDS programmes give rise to the following recommendations on how WHO might promote more effective TB control among HIV-infected people:

- 1) At the international level, promote TB and HIV/AIDS programme collaboration through:
  - a) development and wide dissemination of a strategic framework to decrease the burden of TB/HIV;
  - b) clarification of the roles and responsibilities of, and linkages between, UNAIDS and WHO;
  - c) increased political commitment to TB control among HIV-infected people through increased resources, financial and human;
  - d) promotion of the interdependence of TB and HIV at the highest levels in WHO through administrative links and broad representation by TB and HIV leadership at each other's meetings.
- 2) At the national and district level, promote TB and HIV/AIDS programme collaboration through:
  - a) in-country high level political commitment;
  - b) joint planning meetings;

- c) involvement of HIV and TB community groups on national interagency coordination committees;
  - d) joint training of programme and general health service staff in the issues common to HIV and TB prevention and care;
  - e) joint TB and HIV/AIDS programme reviews;
  - f) utilisation of existing organisational structures and the sharing of experience;
  - g) a strengthened referral system;
  - h) implementation of care packages in high HIV prevalence populations, including TB prevention and care (such as those piloted in the ProTEST Initiative);
  - i) formulation of joint health education messages.
- 3) Increase financial and technical assistance to TB and HIV programmes through:
- a) co-ordinated support from WHO HIV and TB programmes (at country, regional and HQ level);
  - b) joint advocacy with UNAIDS and other international partners for greater international and national commitment to TB control among HIV-infected people;
  - c) dialogue with international development assistance agencies and global financing institutions on funding joint TB and HIV programme collaborative activities.



**TB:IV**

# 1 Introduction

HIV/AIDS is a global public health emergency demanding effective action. It is fuelling the TB epidemic in sub-Saharan Africa. For many years efforts to tackle TB and HIV have been largely separate despite overlapping epidemiology.<sup>1</sup> Improved co-ordination between TB and HIV programmes has the potential to lead to significant public health gains. This study aims to review the interaction between TB and HIV/AIDS programmes at both international and national levels; to identify barriers to, and opportunities and mechanisms for, more effective programme interaction; to identify the strengths of particular organisations to implement collaborative working; and to offer policy recommendations to WHO, to promote more effective TB control among HIV-infected people. This study analyses the interaction of TB and HIV/AIDS programmes. Programmes are organisational and managerial structures at international, national and district level. The co-ordination of activities at health facility level was not explored.

**TB:IV**

## 2 Background

Worldwide, 34.3 million people are living with HIV.<sup>2</sup> Of these, 24.5 million (71%) live in sub-Saharan Africa<sup>2</sup> and approximately one third are co-infected with TB.<sup>3</sup> Many countries have seen an increase in TB case fatality rates<sup>4</sup> and a four-fold rise in their TB caseload.<sup>5</sup> Some countries have documented that up to 70% of TB patients are HIV positive.<sup>6,7</sup> Since HIV is dramatically fuelling the TB epidemic in sub-Saharan Africa,<sup>8</sup> HIV prevention should be a priority concern for National TB Programmes.

TB is a leading killer of people living with HIV.<sup>2,9</sup> Effective case detection and treatment of TB should therefore be a priority concern for HIV programmes. Anti-TB treatment can increase by up to 2 years the life expectancy of a person living with HIV/AIDS and affected by TB.<sup>10,11</sup> Economic evaluation has shown TB chemotherapy to be one of the most cost-effective health interventions in the general population.<sup>12</sup> In addition, diagnosis and treatment of latent TB in HIV positive individuals could contribute to a reduction in the impact of TB, both on the individual and their family.<sup>13,14</sup> A necessary pre-requisite for TB prophylaxis is knowledge by patients of their HIV status. However, since UNAIDS estimates that 90% of people living with HIV are unaware of their status,<sup>2</sup> a dramatic expansion of HIV Voluntary Counseling and Testing (VCT) is necessary to yield these benefits.

TB control requires the collaboration of many partners. HIV prevention and care programmes have traditionally collaborated with a number of other agencies and programmes to achieve better outcomes for patients in STI management<sup>15</sup> and prevention of mother to child transmission.<sup>16</sup> It is therefore an appropriate time to explore how TB and HIV/AIDS programmes can work together for mutual benefit to enable them to support general health service providers in delivering interventions to control HIV-related TB (TB/HIV).

There has been over ten years of research on the inter-relationship between TB and HIV/AIDS,<sup>9,17,18</sup> and there is increasing recognition that the rising burden of TB and HIV calls for new approaches to TB control. These approaches should complement the efforts of National TB Programmes to implement the internationally recommended TB control strategy known as the DOTS strategy.<sup>19,20</sup> Finally, HIV/AIDS programmes need to pay due attention to TB as a leading cause of morbidity and mortality in people living with HIV/AIDS.

**TB:IV**

# 3 Methods

## 3.1

### Literature Review

A literature review was conducted using Medline and other electronic databases using MeSH headings and keywords: HIV, AIDS, tuberculosis, collaboration, co-operation, health policy, policy development, health planning and prevention and control.

A hand search was undertaken of relevant journals identified by the electronic search and additional items were identified from the reference lists of key articles. Policy documents and reports available through WHO, UNAIDS and other sources were identified from the WHO library database WHOLIS, key informants and the Internet.

## 3.2

### Interviews

A 'purposive' sample of key informants was identified following discussion with senior staff at WHO and UNAIDS. These key informants included senior WHO and UNAIDS personnel, national and regional TB and HIV programme managers, clinicians working in the fields of HIV and TB, technical experts, senior academics, and representatives from NGOs, international development assistance agencies and global financing institutions. All were informed that the report would contain no individual names.

Semi-structured interviews were conducted with 33 key informants during February and March 2001. Each interview lasted between 20 and 30 minutes and varied slightly in its emphasis depending on the key informant's role. Written notes were taken at the time of the interview and analysed under emerging key themes.

The following areas were covered during the interviews:

- Historical interaction of TB and HIV programmes
- Perception of barriers to TB/HIV interaction
- TB and HIV/AIDS programme support of the general health service provider response
- Identification of mechanisms for effective collaboration between TB and HIV programmes
- Identification of the strengths of particular organisations to promote collaborative working
- Suggestions on how WHO should engage international agencies in promoting effective TB and HIV programme collaboration

**TB:IV**

# 4 Results

## 4.1

### Literature review results

#### 4.4.1

#### General

Over the last ten years the clinical and epidemiological inter-relationship between TB and HIV infection has been well documented in the research literature.<sup>9,17,21</sup> However, there is a lack of research that specifically investigates TB and HIV programme interaction.

Throughout the 1990's articles were published recommending coordinated TB and HIV/AIDS programme interaction. As early as 1989 the WHO published a paper on the links between TB and HIV.<sup>22</sup> This stated that co-ordinated action was important and that, "national AIDS and TB control programmes should include co-ordinated activities to reduce the impact of the problem, and international organisations and donor countries should be encouraged to support them technically and financially."<sup>22</sup> In 1991, Jos Perriens (later a senior manager with UNAIDS) concluded in an article in *AIDS* that "given the profound impact of HIV infection on the incidence and clinical course of TB, close collaboration between HIV and TB control programmes is essential."<sup>21</sup> Additionally in 1991 Dr Kochi (at that time Director of the WHO TB Unit) suggested guidelines for national TB control programmes in view of the HIV epidemic.<sup>23</sup> In 1997, UNAIDS stated in its document *TB and AIDS – UNAIDS point of view*<sup>24</sup> that "the dual epidemic requires a dual strategy." At the end of the 1990's research suggested that "DOTS alone is unlikely to control TB" in countries with high rates of HIV infection,<sup>25</sup> (with the implication that collaborative efforts between TB and HIV/AIDS programmes will also be necessary).

Few of the published articles discuss in detail how TB and HIV programmes should interact. At the clinical level HIV counseling and testing for TB patients is suggested,<sup>25,26</sup> and the use of a minimum package of care for HIV patients that includes screening for HIV-related infections (including TB) and treatment as appropriate.<sup>25</sup> Most HIV/AIDS care in Africa is delivered by general health service providers for patients who are usually unaware of their HIV status. This service is under increasing pressure as HIV prevalence rates rise. Linking an HIV care package to a well run national TB programme may provide both programmes with a way of coping with a large co-infected population.<sup>1</sup> It has been suggested that HIV/AIDS community-care organisations, if able to contribute to the management of TB, could serve as a model for expanded community participation in TB control and a further way of facilitating TB and HIV/AIDS programme interaction.<sup>27</sup> Some research suggests that a small core set of cost-effective activities implemented on a national scale may have a much greater impact on the dual epidemic than expanding the activities of TB and HIV/AIDS programmes separately.<sup>28</sup> One way that TB and HIV/AIDS programmes might interact is through the formulation of joint health information messages. Research conducted in Uganda looking at the provision of joint health information messages for HIV and TB shows a significant association with improved knowledge.<sup>29</sup> This study also suggests that linking TB and HIV health education messages could lead to improved TB case finding and not to a



decrease as might be expected by those concerned with the dual stigma of TB and HIV. Little is published on TB and HIV/AIDS programme interaction at national or international level, where it is mentioned it is noted to be ineffective.<sup>30</sup> Reasons for this include: technical difficulties, limited personnel with expertise in both areas, differences in approach and poor advocacy on the part of TB programmes.<sup>30</sup> De Cock suggests that “major efforts will be needed by ministries of health and TB control programmes to overcome the cultural and philosophic differences that have existed between TB and HIV/AIDS control programmes”<sup>25</sup> and that “there is a need for better communication and integration of activities.”<sup>30</sup>

Much of the published literature linking TB and HIV is based on operational research. This is highlighted by research from Malawi that reviews ways in which the NTP can protect its health care workers from TB by offering them voluntary HIV-testing (to enable HIV-positive health care workers to avoid placing themselves at risk) and isoniazid preventive therapy for workers in high-risk settings.<sup>31</sup> This links TB and HIV services but only for a small group of health personnel.

In the US, HIV clinics offer screening for TB. Research shows that there is poor completion of preventive therapy in this group and recommends that “increased collaboration between HIV clinics and TB control programmes may be needed to increase adherence to prevention guidelines.”<sup>32</sup> If countries where TB and HIV prevalence is low are suggesting that collaboration is the way forward then it is very likely that similar collaboration is needed where TB and HIV prevalence is high.

There are few documented reports of consolidation and integration between HIV/AIDS and TB programmes. In the mid-90’s after a three-year experiment to consolidate services, the Department of Health in Florida USA separated programmes for the prevention and control of HIV/AIDS, STIs, and TB.<sup>33</sup> It was felt that the disadvantages of integration far out-weighed the advantages; these included the overshadowing of smaller programmes (TB by HIV), lack of budget control, lack of direction for districts and disruption of the TB control programme. However, certain features of the consolidated programme that worked well were preserved; these included the attendance at quarterly co-ordinating meetings of HIV, STI and TB managers and the involvement in strategic planning of all three groups.

Finally, TB control in Africa is closely dependent on the control of HIV. Research suggests that approaches to enhance interaction between TB and HIV/AIDS programmes will be needed to improve the current TB situation along with the support of external donors.<sup>34</sup> But why has this been so slow to happen? The available literature discussing this is sparse. De Cock suggests that TB control programmes “have not adapted to the altered realities of the HIV/AIDS era”<sup>25</sup> and Ainsworth suggests that there has been reluctance by national governments to take full responsibility for HIV prevention and that governments and international agencies have failed to set realistic priorities.<sup>28</sup>

#### 4.1.2

### ***TB and HIV/AIDS programme interaction - the recent role of WHO***

The WHO has convened discussions on TB and HIV for over 10 years, with the first meeting of a joint working group on HIV and TB in 1988.<sup>35</sup> Representatives from WHO’s Global programme on AIDS (WHO/GPA), WHO’s Tuberculosis Programme (WHO/TUB) and the International Union against Tuberculosis and Lung Disease (IUATLD) met to develop a co-ordinated approach to address the problems of TB and HIV.

Recommendations made at this meeting included: involving TB experts in the development of policies and guidelines on TB among HIV-infected people; the inclusion of National TB Programme staff on national AIDS committees; joint training for HIV and TB programme staff; the creation of a technical review group to establish a research agenda; the widespread dissemination of information on HIV-associated TB; and to establish a joint working group between WHO and IUATLD to foster collaborative work in the fields of HIV and TB.

Later the same year a research meeting was organised by WHO and IUATLD to discuss HIV and TB and make recommendations on the direction of future research.<sup>36</sup> Following the two 1988 meetings a joint statement on AIDS and TB was issued by WHO/GPA, WHO/TUB and the IUATLD. It stated the need for co-ordinated action between TB and HIV programmes and summarised potential ways to achieve this.<sup>37</sup>

During the early 1990's the WHO TB Programme (TUB) and Global Programme on AIDS (GPA) were involved in 3 main areas of joint work on HIV-related TB: planning and co-ordination, technical assistance to country programmes and research.<sup>38,39</sup> The report of the 1992 research meeting concluded that one of the most important topics for study was the "mechanisms for improving collaboration between TB programmes and AIDS programmes at all levels, from local to international." At about the same time TUB produced a number of documents discussing strategies for the prevention of HIV-related TB; these suggested that the highest priority was to strengthen National TB Programmes.<sup>17,40</sup>

In 1994 a GPA document reviewed collaboration between GPA and TUB.<sup>41</sup> Three distinct areas of collaboration were noted: research, policy development and enhanced collaboration of TB and AIDS programmes at country level, and examples of each were given. The same year, WHO/TUB produced documents which included a consideration of the impact of HIV on TB and the implications for TB control.<sup>42,43</sup> In 1995, WHO ran a workshop to formulate a new research strategy for better TB control among HIV-infected people. This identified the following priority areas as needing multidisciplinary research: evaluation of efforts to coordinate TB control and HIV care and prevention at district and community level; identification and removal of barriers to TB care in areas of high HIV prevalence.<sup>39</sup>

Up to 1996 WHO provided technical and financial support for HIV/AIDS activities around the world through its Global Programme on AIDS. At this time it was felt that the problems of HIV extended beyond the mandate of WHO (working through Ministries of Health) and so the Joint United Nations Programme on HIV/AIDS (UNAIDS) was created with the aim of tackling HIV using a multi-sectorial approach and as a way of engaging other government ministries and donors. In 1995/1996 as UNAIDS was created, GPA was disbanded. A small core of people were left within WHO in a newly established 'Office of HIV/AIDS and Sexually Transmitted Diseases' (ASD) and all WHO departments were encouraged to "mainstream" HIV/AIDS issues.

As UNAIDS took on the work of GPA and more besides, the TB department within WHO continued to produce publications linking TB and HIV. In 1996 'A Deadly Partnership – TB in the era of HIV' and the 'TB/HIV Clinical Manual' were produced.<sup>44,45</sup> 'A Deadly Partnership' gave a clear review of the links between TB and HIV and summarised possible ways in which TB and HIV programmes could work together. The 'TB/HIV Clinical Manual' was translated into many languages and widely distributed. In 1998, WHO and UNAIDS jointly produced a review and recommendations on the use of preventive therapy for TB in PLHA.<sup>46</sup> In 1999, WHO produced an interim report on the 'Community TB Care in Africa' project, describing experiences of community contribution to TB care, as a way in which countries with high TB and HIV prevalence rates might cope with HIV-related TB.<sup>47</sup>

In 1998, WHO and UNAIDS jointly commissioned 'Managing the dual epidemic of tuberculosis and HIV/AIDS – A review of challenge and response in five countries.'<sup>48</sup> This review concluded that the most important way to manage the epidemic of HIV-related TB was to strengthen TB and HIV programmes separately rather than encourage initiatives designed to establish cross-support or integration of programmes. The review did however make a few suggestions on how TB and HIV/AIDS programmes at national and international level might collaborate. At the time, this review was given only limited distribution by WHO and UNAIDS.

WHO's TB department has since the late 1990's promoted the ProTEST Initiative. This aims to promote voluntary HIV counseling and testing as an entry point to a range of TB and HIV care and prevention interventions aimed at reducing the burden of HIV-related TB. ProTEST is developing and evaluating the feasibility and cost-effectiveness of TB and HIV care packages to try and encourage more people to access HIV counseling and testing and so provide a more coherent response to TB in high HIV prevalence settings. The concept of the ProTEST Initiative has been incorporated into a more comprehensive strategic framework to decrease the burden of HIV-related TB (TB/HIV).<sup>49</sup>

Through the late 1990's the TB department in WHO produced documents, held policy meetings, provided technical support and tried to raise international and national awareness of the link between TB and HIV/AIDS. In the last two years, however, there has been a noticeable change at WHO, which has become increasingly committed to the problems of HIV and TB. WHO documents and speeches by the Director General (e.g. to Ambassadors of the OAU March 2001) are linking TB and HIV, as are joint UNAIDS/WHO documents and press releases (World AIDS Days 2000 and World TB Day 2001). The fact that the Director General has given TB, HIV and malaria a high profile as the priority diseases of poverty is influencing international and national awareness of the links between these diseases.

WHO established a new HIV/AIDS department in late 2000, reflecting the increased priority of HIV for WHO. Some of the aims of this new department are to provide technical support to member states, to provide a focus for HIV work within WHO and to develop a package of essential HIV/AIDS prevention and care.<sup>50</sup>

## 4.2

### Interview Results

Thirty-three key informants were interviewed. These included members of international organisations, heads of national TB and HIV programmes, technical experts, policy makers, service providers, senior academics, and representatives of NGOs, international development assistance agencies and global financing institutions (see appendix 1).

#### 4.2.1

### *TB and HIV programme interaction*

Key informants felt that at international and national levels there is a general realisation that HIV-related TB has profound implications for both National AIDS Control Programmes (NACP) and National Tuberculosis Control Programmes (NTPs). Key informants felt that most NACPs and NTPs recognise the fact that they need to collaborate. However, the majority (28 of 33) key informants felt that TB and HIV/AIDS programmes have generally not interacted effectively at national or district levels. Many (19 of 28) felt they had not interacted at all. At the international level informants felt that there had been some interaction between WHO and UNAIDS through the late 1990s, although there had been a

slight vacuum within WHO after the disbanding of the Global Programme on AIDS in 1995. The ProTEST Initiative, linking TB and HIV care and prevention to VCT for HIV, was mentioned by 29 of 33 informants as an important concept, and reflected collaborative links between WHO and UNAIDS. Informants felt this was a positive way to promote TB and HIV programme collaboration at national and international levels.

A few specific examples of TB and HIV programme interaction include: the ProTEST Initiative, work done by African Regional Office of WHO (WHO/AFRO), and the activities of the South African Department of Health. WHO/AFRO held its first joint meeting of TB and HIV Programme managers in 1992. In 1998 a task group was set up to look more formally at TB and HIV programme collaboration and regular joint NTP/NACP managers meetings were started. Over time these have led to the preparation of “*A Framework for the integrated implementation of the AIDS and TB Control Strategies in the African Region*” and “*A Guide for the planning and implementing of HIV/AIDS/STI and Tuberculosis community and home-based care programmes in the African Region*”. These documents are awaiting publication and dissemination. Since 1999 AFRO has been trying to increase local capacity by training in-country consultants in TB and HIV issues to assist with the development of strategic plans for NACPs and other bodies. In addition, AFRO is leading at regional level by ensuring national TB and HIV managers invite their counterpart to relevant meetings and involve them in discussions and joint missions as necessary. South Africa provides some examples of TB and HIV programme collaboration. The Department of Health in August 2000 approved a joint TB/HIV Strategy. This strategy encourages collaboration between TB and HIV programmes throughout the health structure and documents ways to achieve this. It covers service provision, training, advocacy, joint health education messages, community mobilisation, and expansion of VCT for TB patients.

#### 4.2.2

### ***TB and HIV/AIDS programme support to general health service providers in responding to HIV/AIDS***

Key informants generally felt that the support given by NACPs to general health service providers in responding to HIV/AIDS had been poor, that governments had allocated too few resources to this and that there was very little district capacity to achieve a better response. To improve this situation it was felt that HIV/AIDS care should be integrated into the overall response of general health service providers and that it should not be a specialised activity. With regard to TB programmes, key informants felt that, with the increasing decentralisation of TB services, TB programmes were providing more effective support to general health service providers through training of staff, education campaigns, drug distribution systems, monitoring and evaluation of programme performance and finally surveillance.

Now that there is increasing promotion of provision of TB and HIV/AIDS care by general health service providers, strengthening of TB and HIV programmes should lead to stronger general health services and vice versa. Key informants suggested that research is needed into how TB and HIV/AIDS programmes can support general health service providers in responding more effectively, especially in countries where general health services are extremely weak.

### 4.2.3

## ***Barriers to TB and HIV/AIDS programme interaction***

Key informants suggested that the following barriers had prevented TB and HIV/AIDS programmes from interacting effectively. It was noted that these barriers were not uniform and did vary between countries.

### 4.2.3.1

## ***Main barriers identified by most (over three quarters) of the informants***

### **1. Lack of political commitment at both international and national level**

Until recently international political commitment to HIV has been limited, although this now appears to be changing. At national level, the size and complexity of the HIV problem has overshadowed that of TB. Governments have therefore tried to cope with HIV/AIDS rather than look at TB and HIV interaction. National political commitment is still lacking in some countries and will therefore continue to be a barrier to TB and HIV programme collaboration. A number of informants felt that some political leaders had failed to address HIV/AIDS openly and that this had perpetuated stigma amongst policy makers and health workers, and contributed to denial that HIV/AIDS was a personal issue for everyone. It is likely that this denial and stigma could continue to hinder TB and HIV programme collaboration.

### **2. Programme structure**

The differences in TB and HIV programme structure constitute a commonly cited barrier to TB and HIV programme interaction. NTPs have generally been managerially vertical with personnel at national, regional and district level providing monitoring and surveillance, training and supervision and sometimes logistical support, with service delivery (case detection and treatment) fully integrated into general health service provision. On the other hand, NACPs have often been structured as centralised, strategic planning departments which have not had programme staff equivalent to those of NTPs. This does, however, differ between countries. Key informants felt that particularly at the district level, TB and HIV programmes differed greatly, with TB care being based in health facilities, run by nurses and catering for many TB patients, whereas few countries have easily accessible VCT or HIV activities in general health facilities. This very different organisational structure may explain some of the difficulties that National TB and HIV/AIDS Programmes have had in interacting, particularly at the district level.

### **3. Programme culture/philosophy**

TB programmes have a long history and research base that generated the DOTS strategy; they have a simple, strong, public health focus, and deliver medical solutions for a disease that is treatable. In contrast, HIV/AIDS programmes have a short history, are dealing with a massive emerging problem and are only gradually developing evidence to support the best course of action. HIV/AIDS programmes have had a stronger focus on human rights, confidentiality, and involvement of infected and affected people. HIV is preventable but not curable. Programmes have tended to promote primarily behavioural rather than medical interventions. For HIV/AIDS programmes, TB control, although increasingly important, is only one of a long list of activities on an all-encompassing agenda.

### **4. Programme focus**

Both programmes have in the past been reluctant to broaden their focus. TB programmes have focused on implementing the DOTS strategy, possibly to the

exclusion of other things. The impact of HIV on TB case rates and mortality is forcing them to broaden their outlook to discuss HIV with patients, encourage VCT and to develop stronger links with HIV/AIDS programmes. HIV/AIDS programmes have tended to concentrate on prevention and control. They are now starting to broaden their remit into HIV/AIDS care.

#### **5. Lack and inequitable distribution of resources**

Resources were felt to be a major barrier to collaborative working for two reasons. Firstly, there has been a lack of resources for TB to meet the growing demands of HIV-related TB. Secondly, there has been inequitable distribution of funds between TB and HIV programmes, and this may have prevented TB programmes from interacting with HIV programmes for fear of losing some of their meager resources.

#### **4.2.3.2**

### *Other barriers identified by some informants*

#### **1. Low profile of HIV on the WHO's agenda**

Half of the informants felt that until recently, a barrier to TB and HIV programme interaction at the international level had been the low profile of HIV on the WHO's agenda following the end of the Global Programme on AIDS in 1995. This is now changing with the declaration by WHO that TB, HIV and malaria are to be given high priority as key diseases of poverty. The creation of a new HIV/AIDS department within WHO and increasing mention of TB and HIV in speeches of the Director General are just some of the examples of the increasing importance of these two diseases for WHO.

#### **2. Lack of a global strategic framework to decrease the burden of TB/HIV**

Seventeen informants discussed the importance of a strategic framework as an aid to effective collaboration between partners and as a guide for national programmes where technical capacity may be low. Informants felt that some national TB and HIV programmes lack the knowledge on how to collaborate effectively.

#### **3. HIV/AIDS care and support**

Until recently, HIV/AIDS care was given a low priority on international and national agendas. Twelve informants felt that perceptions are changing as the epidemic ages and more patients become sick and need care. Prior to this realisation, NTPs and NACPs had little in common; now that there is commonality between them, this may lead to improved collaboration.

#### **4. Lack of a package of care for PLHA**

Thirteen informants felt that the development of a package of care, (including VCT, screening and treatment for STI's, TB and other HIV-related diseases, along with treatment to prevent mother-to-child HIV transmission) would encourage national and district TB and HIV programmes to interact more.

#### **5. Lack of awareness of the link between TB and HIV**

A third of informants felt that it was not common knowledge at international, national or district level that in Africa a third of all HIV deaths are from TB or that TB is the commonest opportunistic infection in PLHA. This suggests that education and information are needed to increase the awareness of HIV-related TB. One informant felt that NTPs and NACPs didn't know each other's strengths and weaknesses, and so a joint meeting to discuss these issues might assist the development of collaboration and also an understanding of the demands of the other programme.

#### **6. Lack of capacity within HIV/AIDS programmes**

Twenty informants felt that, at the national level, the lack of capacity and the lack of

prioritisation within the NACP were barriers to TB and HIV programme interaction. Some informants felt that NACPs realise the importance of collaborating with NTPs but lack the personnel to do so.

#### 7. **Lack of organisational and management ability**

Eight informants voiced the idea that collaboration between national programmes was poor due to a lack of organisational and management ability. The feeling was that national programmes were aware of the benefits of collaboration but lacked the ability to take the necessary action.

#### 8. **Stigma**

Twelve informants were concerned that the dual stigma of HIV and TB might act as a barrier to TB patients seeking investigation and treatment. Others felt that communities are increasingly aware of the links between HIV and TB and that the best way to overcome misinformation and potential stigma was by providing correct information and explaining the benefits of VCT for HIV. It is also important to increase awareness in possible TB patients that a proportion won't be HIV positive, and that for the vast majority TB treatment will cure the disease whether HIV positive or negative.

#### 9. **Lack of communication**

A lack of communication between HIV and TB programmes at international, national and district level may have been a barrier to collaboration. The extent to which dissemination of WHO and other policy documents has succeeded in reaching policy makers, NTP and NACP staff is unclear.

#### 10. **Health care staff attitudes to, and awareness of, the issue of TB among HIV-infected people**

These may represent a barrier to local joint working. If health care staff were more aware of the benefits for patients of knowing their HIV status, then they would be more likely to refer them for VCT. Since health care staff see TB patients repeatedly over the course of their treatment, they are well placed to address the issue of HIV and to encourage patients to accept VCT. Well-informed health workers could therefore help reduce some of the stigma attached to TB and HIV.

### 4.2.4

#### ***How to promote more effective interaction between TB and HIV/AIDS programmes***

The key informants discussed many ways in which TB and HIV programmes might interact more effectively. All informants felt it was essential for TB and HIV/AIDS programmes to collaborate. They felt that although there was considerable potential for collaboration, complete integration was not the way forward, as integration might swamp TB programmes and so lead to poorer TB services. Summarised here are some of the suggested **opportunities and mechanisms** to promote collaboration.

### 4.2.4.1

#### ***International mechanisms to promote collaboration between TB and HIV programmes***

##### 1. **Increased international political commitment**

Twenty-five informants felt that WHO should maintain a high priority for TB and raise the priority for HIV, in order to help mobilise financial and human resources, both

internationally and nationally. Half felt that international leadership was needed to promote collaboration between TB and HIV programmes at country level.

## **2. Clarification of roles and responsibilities of, and linkages between, UNAIDS and WHO**

Clear lines of communication and collaboration at international and national level would aid collaboration within country. Clarification of roles and responsibilities of, and linkages between, UNAIDS, WHO's Stop TB and HIV/AIDS departments were thought by 17 informants to be essential to help the international community and national programmes understand how TB and HIV programmes will work together. In addition the interdependence of TB and HIV needs to be recognised and promoted at the very highest levels in WHO, through strong administrative links and broad representation by TB and HIV leadership at each other's meetings.

## **3. Better utilisation of UNAIDS co-ordinating role**

UNAIDS press releases, documents, and speeches given by Dr Peter Piot, Executive Director, are linking TB and HIV as a mechanism to increase international awareness. The UNAIDS staff member interviewed reported that UNAIDS is keen to increase collaboration with WHO, particularly in the areas of advocacy and technical support, that UNAIDS has a very positive view of the WHO Stop TB Department's activities in tackling HIV-related TB, and that the "sea change" within WHO (i.e. the fact that HIV has risen substantially on WHO's agenda) represents a huge opportunity to promote more effective interaction between TB and HIV programmes.

## **4. A global strategic framework to decrease the burden of TB/HIV**

Informants agreed that guidelines for operationalising a strategic framework to decrease the burden of TB/HIV should include practical steps for all levels of TB and HIV programme interaction. Strong country-level support is necessary for implementation of national plans for TB and HIV collaborative activities.

The framework and guidelines for operationalisation should be widely distributed (to international agencies, WHO in-country representatives, ministries of health, NTP and NACP staff, international development assistance agencies and NGOs).

## **5. A Global Working Group on TB/HIV**

Informants agreed that this should be made up of representatives from international and national TB and HIV organisations, along with international development assistant agencies and NGOs and that it should meet regularly to promote and oversee TB and HIV/AIDS programme interaction.

## **6. Stronger country level support**

Eighteen informants felt that there should be stronger country level support to promote TB and HIV/AIDS programme collaboration. WHO country representatives are well placed to coordinate the provision of technical support to the ministry of health, NTP and NACP. They need to be well briefed on the new strategic framework to guide national strategies for effective TB control among HIV-infected people and on ways to encourage TB and HIV programme collaboration. In addition to in-country WHO representatives it was suggested that the WHO TB country support officers should be utilised to raise awareness of the new strategic framework, discuss HIV in TB training sessions and encourage the formation of collaborative TB and HIV programme links. The new HIV/AIDS Department at WHO is considering appointing a number of in-country national professional officers who, with time, could be a useful link for TB and HIV programme interaction at national level.



### *National mechanisms to promote collaboration*

Mechanisms suggested by informants to increase TB and HIV programme collaboration at the national level included the following:

#### **1. In-country high level political commitment**

Sixteen informants mentioned that in countries where the NACP had high level political commitment with ministerial involvement, more effective programmes had developed and been better funded. A cultural change is needed, headed by political leaders to overcome the silence around HIV and link it to the increasing rates of TB and offer solutions.

**2. Joint planning meetings** between TB and HIV programme managers and other important stakeholders such as NGOs, to share information/ideas and plan synergistic interaction between the two services were recommended. Eighteen informants felt that these joint meetings should be in addition to NTP and NACP representatives participating in key national meetings where activities overlap. To work effectively together TB and HIV/AIDS programmes need strong leadership and good communication at all levels. In some countries a specific position has been usefully created to co-ordinate such collaboration.

**3. A clear understanding of the areas of common interest** is needed by NACP and NTP at both national and district level to aid interaction. International agencies need to make NTP and NACP staff aware that interaction/collaboration between these programmes represents a major opportunity rather than a threat. The opportunities of joint working and of achieving better outcomes for patients, the concept of synergy and attracting increased funds should all be stressed.

**4. A common goal for both programmes**, such as “improving patient care” through a package of care for HIV positive patients or “to reduce the burden of HIV-related TB,” might enable more effective collaboration between HIV and TB programmes.

**5. A National Action Plan** for TB and HIV programme collaboration would give direction to national and district TB and HIV programmes. This should be jointly developed by the NTP and NACP in line with the global strategic framework to decrease the burden of TB/HIV, with the assistance of WHO regional staff, WHO country representatives and TB country support officers.

#### **6. Utilise existing organisational structures**

Twenty-four informants felt that collaboration between TB and HIV programmes should build on the existing strengths of both programmes. For example, in countries with a strong NTP the organisational structure of this programme might provide a mechanism to procure and deliver drugs for other HIV-related infections, or provide health information on HIV and TB, or counsel patients for HIV testing. Provided that a strong NTP receives extra resources commensurate with the extra responsibility, the NTP may provide a means of delivering anti-retroviral treatment. It may be possible to link TB case detection and treatment to home-based care for PLHA. Where VCT is available locally, TB programmes could utilise this for TB patients rather than set up their own at additional cost.

#### **7. The sharing of expertise and experience**

Twenty-two informants felt that if TB and HIV programmes shared their expertise and experience, a more effective response to TB and HIV would be found. It was felt that TB programmes should incorporate HIV prevention, such as promoting HIV testing, condom use and STI treatment, into their routine activities. In addition four informants felt that TB staff could be trained in HIV counseling, as a natural extension to the skills they already

use to counsel patients on drug compliance, and HIV counselors could be trained in basic screening for HIV-related diseases. HIV programmes could try and utilise the collective knowledge of TB programmes to enable them to work at district and community level more effectively. NGOs working on HIV/AIDS issues have been powerful advocates; they have helped reduce the stigma of HIV, mobilise communities and funds and provide care for PLHA. TB organisations could usefully learn from their experience.

#### 8. **Home-based and community care**

Some HIV/AIDS NGOs have experience of providing home-based care to PLHA and in some countries TB programmes provide community support to TB patients. Half the informants suggested that links between these organisational structures might provide more comprehensive care for patients. For example, home-based care teams could be trained to recognise and refer potential TB patients, and clinic or hospital-based health care staff could be encouraged to refer patients to the home-based care team on discharge.

9. **A strengthened referral system** might provide a mechanism to promote district TB and HIV programme interaction, especially where VCT and home-based care are available. The strengthening of the referral system by the local district health management team would also help integrate TB and HIV care into general health service provision.

#### 10. **Joint training of staff**

A potential way to improve the interaction of TB and HIV/AIDS programmes would be to provide reciprocal training to improve both the knowledge of HIV and TB in TB and HIV programme staff respectively. In addition, joint training of general health service provider staff can empower them to act as advocates for HIV testing and to provide health information on TB and HIV.

#### 4.2.4.3

### *General mechanisms to promote collaboration*

#### 1. **Sharing resources**

Resources available for HIV/AIDS activities tend to be substantially more than resources for TB. If HIV and TB programmes worked jointly with these funds, potentially they could achieve better outcomes for all patients. Since many NTP and NACP activities are donor-dependent, donors play an important role in enabling programmes to collaborate. Successful collaboration between TB and HIV programmes, internationally and nationally, would in turn encourage donors to further support joint activities.

#### 2. **Joint funding by financial partners in development**

International development assistance agencies (IDAAs) may exert considerable influence over a country's health agenda, partly through the funds they hold but also as advisers to the Ministry of Health. Many large IDAAs provide technical advisers to assist countries prepare funding proposals; these advisers can promote new ideas and ways of working. To promote TB and HIV programme collaboration a number of IDAAs expressed the importance of a strong, well briefed and persuasive in-country WHO representative: IDAAs rely on these representatives to lead both them and the government on health issues. They feel governments respect the WHO representatives' advice and information.

The representatives of the IDAAs interviewed indicated the willingness of those IDAAs to support TB and HIV programme collaboration as they are increasingly encouraging the idea of joint activities. Some IDAAs have made HIV and TB high priorities and have written frameworks for their advisers; firstly to ensure country investment proposals link

these two diseases and secondly to ensure that HIV care packages include a TB component. In addition some are relatively flexible with their funds; for example credit agreements of the World Bank now state that “funds can be used for either HIV or TB.” Increasingly IDAAs are discussing the idea of identifying performance indicators and methods of monitoring loans. Potentially, these could be used by IDAAs to encourage collaboration between TB and HIV/AIDS programmes. IDAAs no longer consider loan conditionality as an effective way of improving health outcomes, so making loans conditional on TB and HIV programme collaboration is seen as inappropriate.

### **3. Formulation of joint health education messages**

Two thirds of informants felt that TB programmes should be linking TB and HIV at every relevant opportunity to raise public and donor awareness. The development by TB and HIV programmes of joint health education messages could help inform people of the inter-relationship of TB and HIV in addition to explaining the benefits of knowing their HIV status. Five informants were concerned that this might increase the stigma associated with each disease. However, the three clinicians interviewed felt that “local people already link TB and HIV, so we must provide them with full and correct information on this association, the benefits of knowing one’s HIV status and the interventions available to reduce morbidity and mortality.”

### **4. Issues of HIV/AIDS care and support**

The recent realisation, both internationally and nationally, of the importance of HIV care and support is providing the perfect opportunity for TB and HIV programmes to interact and collaborate. Twelve informants felt that issues surrounding HIV care and support are only just reaching the agenda of NACPs and so substantial work is needed to assist collaboration at this level. Information and assistance from international organisations, NTPs and NGOs may help this happen. It will depend to some degree on the country. Six informants warned that caution is necessary to ensure that the NACPs don’t off-load too much “care and support” on to TB programmes without transferring sufficient funds and ensuring that the TB programme has the capacity to cope. It may therefore be better to set up robust referral systems between programmes and general health service providers.

### **5. TB and HIV care and prevention packages**

Delivering a standard well-defined package for TB and HIV care and prevention might provide an opportunity to link TB and HIV/AIDS programmes and a way of supporting general health service providers. Twenty-nine informants mentioned the WHO ProTEST Initiative as one of the best mechanisms currently available to encourage collaboration between HIV and TB programmes. The ProTEST Initiative, by promoting VCT for HIV, provides an entry point into HIV and TB care and prevention. A few informants felt that it was important that this research is discussed and disseminated as results from the pilot sites become available, so that others can benefit from this knowledge and start similar sites or roll the idea out across larger areas. The representatives of the IDAAs interviewed see the ProTEST Initiative as a very positive step, as it offers a practical and specific way to improve patient care and provides evidence to Ministries of Health that linking TB and HIV programmes can bring benefit to both.

### **6. Advocacy**

At all levels joint advocacy was felt by the majority of informants to be an essential mechanism to raise awareness of the link between TB and HIV and so enable joint working and strengthen TB control among HIV-infected people. At the international

level, joint WHO/UNAIDS statements and cross-support were welcomed, but further work is needed to raise awareness among policy makers and IDAAs to help them understand how the epidemics interact and what steps can be taken to achieve more effective HIV and TB care and prevention. HIV/AIDS programmes have a history of stronger advocacy than TB programmes and key informants felt that TB programmes could benefit from this if joint working was encouraged.

## 7. Essential drugs

Twelve informants mentioned that HIV programmes as well as TB programmes need essential drugs supplied regularly and cheaply. The experience of many NTPs in procuring and distributing TB drugs could inform the development of a model for procurement and distribution of antiretroviral drugs and drugs for HIV-related diseases other than TB. This provides an opportunity for TB and HIV programmes to collaborate.

### 4.2.5

### ***Strengths of partner organisations to promote collaborative working***

The key informants were asked to list the perceived strengths of their organisation to promote TB and HIV/AIDS programme interaction.

**IDDAs** feel their strengths to promote TB and HIV programme interaction are three fold. Firstly they hold funds for these activities, secondly they can advocate for new ideas such as TB and HIV programme collaboration within Ministries of Health, and thirdly they advise governments on health policy development through their in-country advisers.

**NGOs** feel they have the ability to promote the interdependence of HIV and TB to governments and to engage other NGOs in TB and HIV programme collaboration. NGOs have a culture of information-sharing and have good communication networks enabling them to share with other NGOs new ideas such as the technical framework to guide national strategies for effective control of TB/HIV. Due to their flexibility of working, they can also respond quickly to new ideas, develop them and help disseminate by example.

**UNAIDS** feels it can promote TB and HIV programme collaboration to the international community as an advocate for global action, as co-ordinator of multiple UN agencies, and as a provider of in-country support. In-country support is provided through the UNAIDS theme groups and these could be used to disseminate the new technical framework to guide national strategies for effective control of TB/HIV. UNAIDS has strong links with NGOs and through this network can disseminate ideas on TB and HIV programme collaboration. In addition, it has started to advocate jointly for TB and HIV in documents and press releases with the aim of increasing awareness in the international community of the issues surrounding HIV-related TB.

### ***How should WHO engage international and national organisations in TB/HIV collaboration?***

Informants agreed that the Stop TB Department and the HIV/AIDS Department of WHO should engage international and national organisations in TB and HIV programme collaborative activities by:

1. Utilising WHO's strengths
  - as the lead UN health sector agency responsible for global health policy
  - as a respected adviser to Ministries of Health
  - as an advocate
  - as a facilitator of international and national joint working
  - as a mobiliser of financial resources
2. Developing and disseminating the new WHO/UNAIDS global strategic framework to decrease the burden of TB/HIV.
3. Co-ordinating a Global Working Group on TB/HIV, under the auspices of the Global Stop TB Partnership.
4. Promoting regional and country level collaboration.
5. Providing technical support to member states to train staff in joint TB and HIV issues and plan, implement and monitor joint TB and HIV programme collaborative activities.
6. Utilising and strengthening WHO country representatives to support and advise on TB and HIV interaction.
7. Advocating for greater international and national political commitment to control TB/HIV.
8. Increasing partnership-working to raise awareness of HIV-related TB and broadening WHO's links to NGOs, IDAAs and private organisations, through the Working Group on TB/HIV (one of six working groups under the auspices of the Global Stop TB Partnership).
9. Disseminating the results and ideas of the ProTEST Initiative through the Global Working Group on TB/HIV.
10. Entering into a dialogue with IDDAAs for joint funding of joint TB and HIV programme activities.

# 5 Discussion

## 5.1

### Methodological Limitations

This study has a number of limitations, including those necessitated by the limited time available and access to key informants.

As with any literature review, searching electronic databases can miss a significant number of relevant articles. This was reduced by hand searching and speaking to experts. However, it is still possible that relevant articles have been missed.

For any study that uses interviews there are a number of potential biases. Selection bias is possible as a purposive sample was selected. Although a broad range of key informants from the fields of TB and HIV were selected, it would have been useful to conduct more interviews, particularly with individuals from HIV programmes. It is acknowledged that the perspective of the “HIV community” is not necessarily well understood by the “TB community”. As this research was conducted under the auspices of WHO’s Stop TB Department it is likely that it emphasises the TB perspective to a certain extent. The qualitative information gathered from interviews did, however, add considerably to the literature review. A final limitation is the possibility of observer bias in the recording of interviews.

This research uses semi-structured interviews, with individual answers provided by the key informants to open-ended questions. The proportion of respondents giving a particular answer provides an understanding of the relative importance of the statements made.

## 5.2

### Discussion of findings

### 5.2.1

#### Introduction

To date there has often been limited interaction between TB and HIV/AIDS programmes. Now, due to the impact of HIV-related TB in sub-Saharan Africa, international, national and local agencies are increasingly considering and promoting collaboration, as this has the potential to lead to significant public health gains. The range of people interviewed for this study, from international policy makers through national programme managers to local service providers, gives a broad view of TB and HIV/AIDS programme interaction.

TB and HIV/AIDS programme interaction can be described in a number of ways. Key informants felt “collaboration” was the most appropriate description and used this to mean mutual consultation, information sharing, co-ordination of activities and sharing of resources, but not the full integration of services unless this is demonstrably beneficial. Research that specifically investigates TB and HIV/AIDS programme interaction or collaboration is lacking. This suggests that either little interaction has occurred or that it is difficult to assess and quantify. Interviews with key informants confirmed the former,

that TB and HIV/AIDS programmes had generally not interacted at national or district levels. However, although programmes showed little evidence of past interaction it was felt that NTPs and NACPs now recognise the need to collaborate to provide a more effective response to HIV-related TB.

### 5.2.2

## ***Barriers to TB and HIV/AIDS programme interaction***

Analysing the barriers to TB and HIV/AIDS programme collaboration enables some understanding of why this has often been limited to date, and how to promote effective collaboration in the future. It is important to note that barriers to TB and HIV/AIDS collaboration differ between countries.

The main barriers to TB and HIV/AIDS programme collaboration are the following: a lack of political commitment at both international and national level; different programme structures, cultures and philosophies; separate financing; under-resourcing; a lack of an international TB/HIV strategic framework; a low priority given to HIV/AIDS care on international and national agendas. Other lesser barriers include: the perceived low profile of HIV on the WHO agenda following the end of GPA in 1995; poor international and national awareness of the link between TB and HIV; a lack of an internationally agreed care package for PLHA; a lack of organisational ability and capacity within HIV/AIDS programmes; a lack of communication; stigma; and finally health-care staff attitudes to, and awareness of, HIV-related TB. The main barriers are discussed more fully below.

During the late 1980s and early 1990s, WHO through joint GPA and TUB meetings produced recommendations on TB and HIV/AIDS programme collaboration. It is important to understand, so that lessons can be learnt for the future, why these recommendations lacked wider dissemination or were rarely implemented. It appears that the dismantling of GPA in 1995, with the resultant loss of personnel, followed by the perceived low profile of HIV on the WHO's agenda and a lack of political commitment to TB and HIV, both nationally and internationally, all had an adverse effect on the uptake of recommendations. As UNAIDS developed in the late 1990s, a degree of collaboration occurred between WHO and UNAIDS. The recent high level political commitment to TB and HIV is now resulting in a fuller appreciation of the importance of HIV-related TB and the need for joint solutions.

Under-resourcing and separate financing have often inhibited TB and HIV/AIDS programme collaboration. An additional reason why national TB and HIV/AIDS programmes have been slow to collaborate may be because of inadequate communication from international to national levels, as WHO and others through the late 1990's increased awareness of the links between TB and HIV through reports, publications and recommendations.

Programme structure, programme culture/philosophy and focus are commonly cited as barriers to interaction. Different organisational structures may have prevented National TB and HIV/AIDS programmes from interacting in the past. It will therefore be important that TB and HIV programmes have a clear understanding of areas of common interest and interact at the national level to help interaction lower down the health structure. One way to overcome the differences in programme structure and philosophy will be to encourage joint staff meetings at similar levels (where they exist). These joint planning meetings could be used to increase understanding between the two programmes, to discuss areas of common interest, to plan joint activities and identify ways in which to work synergistically.

Although many of the barriers listed here still need to be overcome, there has been some progress in promoting TB and HIV programme interaction. The international community is increasingly aware of the links between TB and HIV with the result that political commitment is increasing and WHO is now taking the lead in finding solutions to HIV-related TB. In particular, WHO is co-ordinating the Global Working Group on TB/HIV under the auspices of the Stop TB Partnership and developing a strategic framework to decrease the burden of TB/HIV. At the same time, HIV/AIDS care, including TB and HIV treatment, is moving up the HIV agenda, attracting more resources.

### 5.2.3

## ***Mechanisms to promote TB and HIV/AIDS programme collaboration***

By identifying opportunities and mechanisms for effective TB and HIV/AIDS programme collaboration, barriers to interaction can be overcome, and a more effective and coherent general health service response to HIV-related TB implemented. Most PLHA do not know their HIV status and so attend general health service providers for their care. TB and HIV/AIDS programmes need to strengthen general health service provision so that care is provided holistically. There appears to be considerable potential for collaboration between TB and HIV/AIDS programmes. However, complete integration unless demonstrably beneficial might overshadow TB programmes and lead to poorer TB services.

Collaboration is now seen as an effective use of resources to address the human and financial cost of HIV and TB. Ways to promote more effective TB and HIV programme collaboration can be divided into international, national and general mechanisms, as this seems to reflect the funding and management of TB and HIV/AIDS programmes.

**International mechanisms** include: increased international political commitment; a clarification of roles and responsibilities of, and linkages between, UNAIDS, WHO's Stop TB and HIV/AIDS departments; better utilisation of UNAIDS co-ordinating role; an international TB/HIV strategic framework; a global working group on TB/HIV; and the provision of stronger country level support. These mechanisms would help overcome the stated barriers of a lack of international and national political commitment, the lack of awareness of the link between TB and HIV and the lack of an international technical framework to guide national strategies for effective TB control among HIV-infected people.

International political commitment is an essential mechanism to promote TB and HIV/AIDS programme collaboration. It appears to be on the increase. The current Director General of WHO has given a high priority to TB and HIV and this is helping to remove the barrier of HIV's perceived low profile within WHO. In the year 2000, TB, HIV and malaria were named the priority diseases of poverty by WHO. In April 2001 the OAU, African Heads of State Summit in Abuja on HIV/AIDS, TB and related infectious diseases discussed TB and HIV and in June 2001 the United Nations General Assembly held a Special Session on HIV/AIDS. Together UNAIDS and WHO are raising international awareness of HIV-related TB, with joint press statements and cross-referencing in their own documents. A clarification of roles and responsibilities of, and linkages between, UNAIDS, WHO's Stop TB and HIV/AIDS departments would help external organisations work more effectively with UNAIDS and WHO. In addition, it would set an example of collaboration to the international community.

As the importance of HIV and TB rises on the international agenda, it is opportune to develop and launch a new WHO/UNAIDS strategic framework to decrease the burden of TB/HIV. It is necessary to develop operational guidelines and to provide technical



assistance to countries to translate its ideas and recommendations into national strategies for implementation of collaborative TB and HIV programme activities.

Stronger country level support and more resources could provide mechanisms to overcome the barrier of lack of national programme capacity. Both IDAA and national programme staff felt that well-briefed and persuasive WHO Regional staff and WHO country representatives have an influential role to play in the promotion of TB and HIV programme collaboration to Ministries of Health. Stronger country support might additionally be provided through the technical support mechanisms of WHO's Stop TB and HIV/AIDS departments and in particular through the provision of training to NTP and NACP staff on HIV-related TB.

**National mechanisms** to promote interaction between TB and HIV programmes include: in-country high level political commitment; joint funding of collaborative TB and HIV programme activities; joint planning meetings; a clear understanding of the areas of common interest for NTP and NACP; a common goal for both programmes and a national action plan for TB and HIV programme interaction.

TB and HIV/AIDS programmes in low-income countries have limited resources, both human and financial. Care must be taken when promoting programme collaboration not to over-stretch or weaken the existing services. Overall, strengthening of general health service providers remains a high priority. The idea of collaboration is to benefit both TB and HIV programmes through synergy. WHO needs to help NTPs and NACPs to understand that collaboration between programmes is a major opportunity, not a threat, and backed by WHO and UNAIDS.

TB programmes could benefit from HIV/AIDS programme experience of multisectoral collaboration and mobilisation of communities, and the goal of improved holistic care of patients. HIV programmes could benefit from TB programme experience of good clinical practice (e.g. screening protocols, monitoring, surveillance) and of the procurement and distribution of TB drugs, and from the utilisation of the organisational infrastructure of TB programmes. There is increasing interest in adapting the framework for effective TB control (as encapsulated in the DOTS strategy) as a model for the delivery of antiretroviral drugs. The system for delivery of such an adapted model is likely to vary from country to country, depending on a country's particular health system strengths. In some countries, a strong NTP may be a suitable vehicle for the adapted model of delivery of antiretroviral drugs, provided that the NTP receives extra resources commensurate with the extra responsibility.

Other activities with potential for synergies include a strengthened referral system, joint training of programme and general health service provider staff, community/home-based care, NGO collaboration, advocacy and joint health information messages. It is anticipated that some of these mechanisms will overcome the barriers of different programme cultures and focus, lack of resources, low priority of HIV/AIDS care and increase health worker knowledge and awareness of HIV and TB, in addition to going some way toward reducing stigma.

The potential benefits of collaboration at national and district level are many. The sharing of expertise and experience between TB and HIV programmes could dramatically improve patient care. TB patients are likely to benefit from access to interventions for HIV prevention (e.g. VCT, condoms, STI treatment), treatment of HIV-related diseases other than TB (e.g. pneumonia, diarrhoea, candida) and treatment of HIV (i.e. with antiretroviral drugs). People testing HIV-positive at VCT

centres and in general health facilities are likely to benefit from access to screening for TB and provision of TB preventive treatment for those found not to have active TB. Collaboration between TB and HIV programmes and general health service providers is necessary to make these interventions routinely available.

**General mechanisms** to promote interaction between TB and HIV programmes include: more resources and joint funding; utilisation of the influential role of IDAAs; formulation of joint health education messages; the use of HIV/AIDS care packages, including TB prevention and care, such as those piloted in the ProTEST Initiative; and joint TB and HIV programme advocacy at all levels.

Lack of resources represents one of the biggest barriers to programme collaboration. There are now prospects of more funds becoming available for HIV and TB activities and for general health service strengthening. Increased national resources for TB and HIV will help these programmes to meet growing demands but will also influence their ability to consider joint working.

IDAAs can influence TB and HIV/AIDS programme collaboration in three ways: firstly, as major health care funders; secondly, through policy discussions with governments; and thirdly, through the promotion of effective control of TB among HIV-infected people as a focus for the poverty reduction agenda. TB and HIV are having a significant impact in sub-Saharan Africa; their control could therefore be considered part of the development / poverty reduction agenda. Many African countries are currently writing Poverty Reduction Strategy Papers (PRSPs) and IDAAs could play an important role in encouraging countries to express commitment in PRSPs to TB and HIV programme collaboration as a means of providing a more effective response to HIV-related TB and therefore improving health and economic productivity and decreasing poverty.

A mechanism currently under discussion by IDAAs is the use of performance indicators and methods to monitor loans. As the impact of TB treatment is measurable, this could be used as an outcome measure to assess the success of financial investment, whether for TB or HIV. Potentially, performance indicators, such as TB case detection and cure rates, could be used by IDAAs to encourage interaction between TB and HIV/AIDS programmes. In time IDAAs and governments may look to TB treatment as one of the measures of success of HIV care.

Care and support for PLHA is increasingly recognised as an important area of work for HIV/AIDS programmes. Diagnosis and treatment of HIV patients with TB is part of this work. Standard well-defined care packages for TB patients with HIV or vice-versa could provide a mechanism to improve and increase programme collaboration and strengthen the general health service. The WHO's ProTEST Initiative, promoting voluntary HIV counseling and testing as an entry point to a range of TB and HIV services, is one method that enables HIV and TB programme collaboration.

#### 5.2.4


### ***Why is now the right time to promote collaboration?***

Current conditions provide a good opportunity to promote TB and HIV/AIDS programme collaboration. Politically, TB and HIV are high on the international agenda. Economically, resources are becoming available through debt cancellation and contributions to the new Global Health Fund. There is increasing recognition of the worldwide burden of HIV-related TB and increasing interest among IDAAs to tackle this burden. Both at international and national levels, HIV/AIDS care (including HIV treatment with antiretroviral drugs and treatment of HIV-related diseases) is moving up

the agenda. Consensus is developing on the need to deliver a package of HIV/AIDS care: prevention of mother-to-child transmission of HIV; cotrimoxazole prophylaxis; syndromic STI management; TB treatment and TB preventive treatment; and antiretroviral treatment. Collaboration has the potential to enable programmes to optimise the use of scarce resources (both financial and human) in providing a more effective response to HIV-related TB.

## 6

# Conclusion and Recommendations

 TB control and HIV care and prevention require the collaboration of many partners. However, evidence of effective collaboration between TB and HIV programmes is scarce. This study suggests that TB and HIV/AIDS programmes need to collaborate to deliver an effective response to HIV-related TB. Consideration of the barriers to, and mechanisms to promote, future collaboration between TB and HIV/AIDS programmes give rise to the following recommendations on how WHO might promote more effective TB control among HIV-infected people.

- 1) At the international level, promote TB and HIV/AIDS programme collaboration through:
  - a) development and wide dissemination of a global TB/HIV strategic framework;
  - b) clarification of the roles and responsibilities of, and linkages between, UNAIDS and WHO;
  - c) increased political commitment to HIV-related TB through increased resources, financial and human;
  - d) promotion of the interdependence of TB and HIV at the highest levels in WHO through administrative links and broad representation by TB and HIV leadership at each other's meetings.
  
- 2) At the national and district level, promote TB and HIV/AIDS programme collaboration through:
  - a) in-country high level political commitment;
  - b) joint planning meetings;
  - c) involvement of HIV and TB community groups on national interagency co-ordination committees.
  - d) joint training of programme and general health service provider staff in TB and HIV issues;
  - e) joint TB and HIV/AIDS programme reviews;
  - f) utilisation of existing organisational structures and the sharing of experience;
  - g) a strengthened referral system;
  - h) implementation of HIV care packages, including TB prevention and care, such as those piloted in the ProTEST initiative;
  - i) formulation of joint health education messages;
  
- 3) Increase financial and technical assistance to TB and HIV programmes through:
  - a) coordinated support from WHO HIV and TB departments (at country, regional and HQ level);
  - b) joint advocacy with UNAIDS and other international partners for greater international and national commitment to HIV-related TB;
  - c) dialogue with IDAAs and global financing institutions on funding joint TB/HIV activities.

**TB:IV**

# A PPENDIX 1

## List of key informants

- Senior members of the Stop TB Department, WHO (4)
- Senior members of the HIV/AIDS Department, WHO (4)
- WHO–AFRO (1)
- UNAIDS (1)
- National TB Programme Managers (3)
- National HIV/AIDS Programme Managers (3)
- Clinicians working in Sub-Saharan Africa on TB and HIV (3)
- Technical Experts (2)
- Senior Academics (2)
- NGOs – including
  - IUATLD (1)
  - KNCV (1)
  - CARITAS (1)
  - Family Health International (1)
  - International HIV/AIDS Alliance (1)
- Financial partners in development - including
  - World Bank (2)
  - DFID (1)
  - DANIDA (1)
  - USAID (1)

# A PPENDIX 2

## List of abbreviations

- AIDS **A**cquired Immuno**D**eficiency **S**yndrome
- DOTS The brand name of the internationally recommended tuberculosis control strategy
- GPA WHO **G**lobal **P**rogramme on **A**IDS
- HIV **H**uman Immunodeficiency **V**irus
- IDAA **I**nternational **D**evelopment **A**ssistance **A**gency
- NACP **N**ational **A**IDS **C**ontrol **P**rogramme
- NGO **N**on-**G**overnmental **O**rganization
- NTP **N**ational **T**uberculosis **P**rogramme
- PLHA **P**eople **L**iving **w**ith **H**IV/**A**IDS
- ProTEST WHO-coordinated initiative to **P**romote **T**ESTing for HIV by using voluntary testing and counseling (VCT) as an entry point for access to a range of HIV/AIDS and tuberculosis prevention and care interventions.
- STI **S**exually **T**ransmitted **I**nfection
- TB **Tu**Berculosis
- UNAIDS The joint **U**nited **N**ations programme on HIV/**A**IDS
- VCT **V**oluntary **C**ounseling and **T**esting (for HIV)
- WHO **W**orld **H**ealth **O**rganization

# R

## ferences

- 1 Gilks C, Katabira E, De Cock KM. The challenge of providing effective care for HIV/AIDS in Africa. *AIDS* 1997; 11(suppl B): S99-S106.
- 2 UNAIDS Report on the global HIV/AIDS epidemic, June 2000. Geneva: UNAIDS, 2000.
- 3 Dye C, Scheele S, Dolin P, et al. Global burden of tuberculosis. Estimated incidence, prevalence, and mortality by country. *JAMA* 1999; 282:677-86.
- 4 Mukadi YD, Maher D, Harries A. Tuberculosis case fatality rates in high HIV prevalence populations in sub-Saharan Africa. *AIDS* 2001; 15:143-52.
- 5 World Health Organization. Global Tuberculosis Control WHO Report 2000. Geneva: WHO, 2000.
- 6 Raviglione MC, Harries AD, Msiska R, Wilkinson D, Nunn P. Tuberculosis and HIV: current status in Africa. *AIDS* 1997; 11(suppl B):S115-S123.
- 7 Harries AD, Nyangulu DS, Kang'ombe C et al. Treatment outcome of an unselected cohort of tuberculosis patients in relation to human immunodeficiency virus serostatus in Zomba hospital, Malawi. *Trans R Soc Trop Med Hyg.* 1998; 92:343-47.
- 8 Bleed D, Dye C, Raviglione M. Dynamics and control of the global tuberculosis epidemic. *Current Opinion in Pulmonary Medicine* 2000; 6:174-79.
- 9 De Cock K, Soro B, Coulibaly IM, Lucas SB. Tuberculosis and HIV infection in Sub-Saharan Africa. *JAMA* 1992; 268:1581-1587.
- 10 Garin B, Glaziou P, Kassa-Kelembho E, Yassibanda S, Mbelesso P, Morvan J. High mortality rates among patients with tuberculosis in Bangui, Central African Republic. *Lancet* 1997; 350:1298.
- 11 Elliott A, Halwiindi B, Hayes R et al. The impact of human immunodeficiency virus on mortality of patients treated for tuberculosis in a cohort study in Zambia. *Trans R Soc Trop Med Hyg.* 1995; 89:78-82.
- 12 World Bank. World Development Report 1993: Investing in Health. New York, Oxford University Press 1993.
- 13 Quigley MA, Mwinga A, Hops M, Lisse I, Fuchs D, Porter JDH, Godfrey-Faussett P. Long-term effect of preventive therapy for tuberculosis in a cohort of HIV-infected Zambian adults. *AIDS* 2001; 15:215-222.
- 14 World Health Organization. Preventive therapy against tuberculosis in people living with HIV. *Weekly Epidemiological Record* 1999; 74:385-400.
- 15 Grosskurth H, Mosha F, Todd J et al. Impact of improved sexually transmitted diseases on HIV infection in rural Tanzania: randomized controlled trial. *Lancet* 1995; 346:530-36.
- 16 Centres for Disease Control and Prevention. Administration of Zidovudine During Late Pregnancy and Delivery to Prevent Perinatal HIV Transmission — Thailand, 1996-1998. *MMWR* 1998; 47(08):151-4.
- 17 Narain JP, Raviglione MC, Kochi A. HIV-associated tuberculosis in developing countries: epidemiology and strategies for prevention. *Tubercle & Lung Disease.* 1992; 73(6):311-21.
- 18 De Cock KM, Gnaore E, Adjorlolo G et al. Risk of tuberculosis in patients with HIV-I and HIV-II infections in Abidjan, Ivory Coast. *BMJ* 1991; 302:496-9.
- 19 World Health Organisation. WHO Tuberculosis Programme: Framework for Effective Tuberculosis Control. Geneva, Switzerland: World Health Organisation 1994. WHO/TB/94.179.
- 20 Maher D. The Internationally Recommended Tuberculosis Control Strategy. *Tropical Doctor* 1999; 29:185-6.
- 21 Perriens JH, Mukadi Y, Nunn P. Tuberculosis and HIV infection: implications for Africa. *AIDS.* 1991;5 (suppl 1):S127-33.
- 22 Anonymous. Tuberculosis and AIDS. Statement on AIDS and tuberculosis. Geneva, March 1989. Global Programme on AIDS and Tuberculosis Programme, World Health Organization, in collaboration with the International Union Against Tuberculosis and Lung Disease. *Bulletin of the International Union Against Tuberculosis & Lung Disease.* 1989;64(1):8-11.
- 23 Kochi A. Government intervention programmes in HIV/tuberculosis infection. Outline of guidelines for national tuberculosis control programmes in view of the HIV epidemic. *Bulletin of the International Union Against Tuberculosis & Lung Disease.* 1991;66(1):33-6.
- 24 UNAIDS: TB and AIDS – UNAIDS point of view. UNAIDS Best Practice Collection. Geneva: UNAIDS. 1997.

- 25 De Cock KM, Chaisson RE. Will DOTS do it? A reappraisal of tuberculosis control in countries with high rates of HIV infection. *Int J Tuberc Lung Dis* 1999;3(6):457-65.
- 26 Espinal MA, Reingold AL, Koenig E, Lavandera M, Sanchez S. Screening for active tuberculosis in HIV testing centre. *Lancet*. 1995;345:890-93.
- 27 Maher D, Hausler HP, Raviglione MC, Kaleeba N, Aisu T, Fourie B, Nunn P. Tuberculosis care in community care organizations in sub-Saharan Africa: practice and potential. *International Journal of Tuberculosis & Lung Disease*. 1997;1(3):276-83.
- 28 Ainsworth M, Teokul W. Breaking the silence: setting realistic priorities for AIDS control in less-developed countries. *Lancet*. 2000;356:55-60.
- 29 Migliori GB, Spanevello A, Manfrin V, Abongomera A, Pedretti RF, Ballardini L, Neri M, Borghesi A. AIDS and tuberculosis control programmes: an integrated approach at educational level. *Monaldi Archives for Chest Disease*. 1996;51(2):102-7.
- 30 De Cock KM, Binkin NJ, Zuber PL, Tappero JW, Castro KG. Research issues involving HIV-associated tuberculosis in resource-poor countries. *JAMA*. 1996;276(18):1502-7.
- 31 Harries AD, Maher D, Nunn P. Practical and affordable measures for the protection of health care workers from tuberculosis in low-income countries. *Bulletin of the World Health Organization*. 1997;75(5):477-89.
- 32 Sackoff JE, Torian LV, Frieden TR, Brudney KF, Menzies IB. Purified protein derivative testing and tuberculosis preventive therapy for HIV-infected patients in New York City. *AIDS*. 1998;12(15):2017-23.
- 33 Wroten JE, Crockett LK, Kertesz C. Trial Marriage: Florida's Experience in Consolidating HIV/AIDS, STD, and TB Programmes. *Public Health Reports*. 1999;114(1):74-80.
- 34 Johnson JL, Ellner JJ. Adult tuberculosis overview: African versus Western perspectives. *Current Opinion in Pulmonary Medicine*. 2000; 6(3):180-6.
- 35 World Health Organisation: Report of the meeting of the joint WHO/IUATLD working group on HIV infection and tuberculosis. WHO/GPA/BMR/89.8 Geneva: World Health Organisation, 1989.
- 36 World Health Organisation: Report of a technical advisory meeting on research on AIDS and Tuberculosis. WHO/GPA/BMR/89.3 Geneva: World Health Organisation, 1989.
- 37 World Health Organisation: Statement on AIDS and tuberculosis. WHO/GPA/BMR/89.4 Geneva: World Health Organisation, 1989.
- 38 World Health Organisation: Tuberculosis / HIV Research – Report of a WHO review and planning meeting, Geneva 24-26 February 1992. WHO/TB/92.167 Geneva: World Health Organisation 1992.
- 39 World Health Organisation: Tuberculosis and HIV Research: Working towards solutions – results of a WHO workshop on the formulation of a new TB?HIV research strateg. WHO/TB/95.193 Geneva: World Health Organisation 1995.
- 40 World Health Organisation: HIV-Associated Tuberculosis in Developing countries: Epidemiology and Strategies for Prevention. WHO/TB/92.166 Geneva: World Health Organisation 1992.
- 41 World Health Organisation: Collaboration between the WHO Global Programme on AIDS and the WHO Programme on Tuberculosis. GPA/GMC(10)/94.7 Geneva: World Health Organisation. 1994.
- 42 World Health Organisation: The HIV/AIDS and Tuberculosis Epidemics – Implications for TB Control. WHO/TB/CARG(4)/94.4 Geneva: World Health Organisation 1994.
- 43 World Health Organisation: WHO Tuberculosis Programme – Framework for Effective Tuberculosis Control WHO/TB/94.179 Geneva: World Health Organisation 1994.
- 44 World Health Organisation: A Deadly Partnership – TB in the era of HIV. WHO/TB/96.204 Geneva: World Health Organisation 1996.
- 45 World Health Organisation: TB/HIV – A Clinical Manual. WHO/TB/96.200 Geneva: World Health Organisation 1996.
- 46 World Health Organisation: Policy Statement on Preventive Therapy against Tuberculosis in People Living with HIV. WHO/TB/98.255 UNAIDS/98.34 Geneva: World Health Organisation 1998.
- 47 World Health Organisation: Community TB Care in Africa. WHO/CDS/CPC/TB/99.263 Geneva: World Health Organisation.
- 48 World Health Organisation: Managing the dual epidemic of tuberculosis and HIV/AIDS – A review of challenge and response in five countries. WHO/TB/98.243 Geneva: World Health Organisation.
- 49 World Health Organization. A strategic framework to decrease the burden of TB/HIV. Available on the internet <http://www.stoptb.org/workinggroups/TBHIV/TB.HIV.WG.html>
- 50 World Health Organisation: HIV/AIDS Report by the Secretariat for the Executive Board (EB) EB107/29. WHO Geneva: World Health Organisation 2001.





©World Health Organization, 2001

This document is not a formal publication of the World Health Organization (WHO), and all rights are reserved by the Organization. The document may, however, be freely reviewed, abstracted, reproduced and translated, in part or in whole, but not for sale nor for use in conjunction with commercial purposes.

The views expressed in documents by named authors are solely the responsibility of those authors.

Printed in Italy

Design and printing: Jotto Associati s.a.s. - Biella \_ Italy