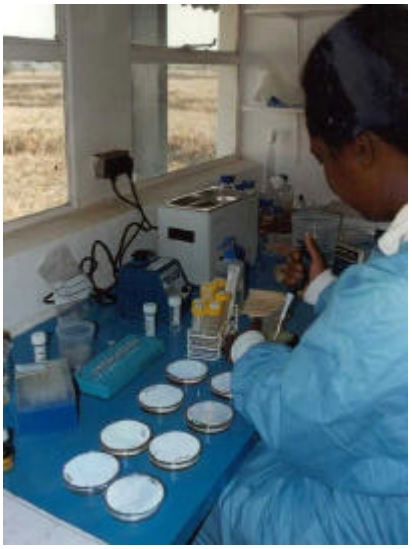
LONDON SCHOOL OF HYGIENE & TROPICAL MEDICINE
&
THE NUFFIELD INSTITUTE, LEEDS

DFID TUBERCULOSIS KNOWLEDGE PROGRAMME REPORT



APRIL 2003-MARCH 2004

DFID TB Knowledge Programme staff meet with the Director General of WHO at a government press briefing on World TB Day in 2003
(Above Left to right) Dr Hamidou Traore, Dr Peter Godfrey-Faussett (Programme Head), Dr Clara Mbwili (Lusaka District Health Management Team), Dr Jong Wook Lee (WHO)
and Dr Ruth McNerney

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EXECUTIVE SUMMARY

This report covers the third year of the London School of Hygiene and Tropical Medicine – Nuffield Institute for Health, Leeds Tuberculosis Knowledge Programme funded by the UK Department for International Development.

Broadly connected, interdisciplinary approach

The knowledge programme has continued to build on its wide connections to those involved with tuberculosis control at all levels. We work with individuals and patients and their communities; with district, provincial and national programmes as well as with private clinics and community and faith-based organisations; with Central Boards and Ministries of Health as well as other relevant government departments; with bilateral and multilateral development and technical tuberculosis agencies. This broad connectivity gives us great insight into the challenges of tuberculosis control and its relationships with wider development issues.

Our team uses an interdisciplinary approach to the work with technical expertise in health policy, economics, anthropology, epidemiology, clinical, social, laboratory and operational research.

Explicit engagement with implementing agencies to establish agenda

Through these partnerships we are able to focus our research agenda on the questions raised by those implementing agencies closest to the problems. For example, we provided technical support to the first national tuberculosis conference in Lusaka, Zambia and now sit on the TB and HIV working groups that advise the Central Board of Health and the National AIDS Council. We have led on the design and implementation of national tuberculosis management guidelines in Pakistan and Nepal; and work closely with National Tuberculosis and HIV programmes in Malawi and South Africa as well as district programmes in Pune, India.

Other questions are raised in the international arena, where we are involved with several global policy setting bodies, including the Strategy and Technical Advisory Group on Tuberculosis of the World Health Organisation, the TB/HIV core group of the STOP TB partnership and the Global Diagnostics Initiative of the TDR programme. We provide input to specific research prioritisation exercises for these agencies.

Relevant capacity building for institutions and individuals

We continue to build long-term collaborative relationships that support institutions as well as individuals. Many of these relationships have developed over more than a decade and span the previous DFID-funded Knowledge programmes too.

Examples of specific training include:

- Policy Transfer Methodologies – Malawi, Zambia, Brazil, Mexico
- Operations research capacity - India, Zambia, Nepal, Pakistan
- Laboratory skills - Zambia, Tanzania, Ghana, Uganda
- Data handling - Malawi, Zambia, South Africa
- Social science skills - Zambia, India, Pakistan, South Africa
- Institutional support – Zambia

Capacity building is achieved both through local training and supervision as well as through formal courses which may be based in the UK or through distance-learning programmes. The programme tries to respond to specific requests for capacity building although our funding is limited. The Central Board of Health in Zambia has asked ZAMBART to develop and run training courses for district management teams on scaling-up integrated TB/HIV activities.

We also contribute to the training on tuberculosis that DFID provides for its field and UK based staff.

Core team to support complementary funding

The funding provided by DFID provides core funding in London, Leeds, Lusaka, Pune and Islamabad. However, the aim is always to use the stability provided by the core funding to secure further funding through research grants and consultancies. We continue to have success in writing successful proposals and new grants are now funded by DFID, the Wellcome Trust, European Union, WHO, Bill and Melinda Gates Foundation, Aurum Health Research, Burroughs Wellcome, Kaiser Foundation, Optimus Foundation, Belgian Technical Cooperation, TDR and USAID.

More importantly, we are working with partners who are now raising their own independent funds – for example MAAS-CHRD has won a grant from the South East Asia Regional Office of WHO to study the HIV management practices of private laboratories and pharmacies and both Lusaka Urban District and the Zambian Central Board of Health have won grants from WHO Headquarters to expand the ProTEST initiative, which also forms part of their successful bid to the Global Fund to fight AIDS, TB and Malaria.

Generating knowledge from individuals to genomes and from households to international policy

The portfolio of projects which the programme currently supports financially and/or technically ranges from understanding the social context of stigmatised individuals in abject poverty in Lusaka through to describing the molecular epidemiology of specific strains of *Mycobacterium tuberculosis* circulating in Southern Africa. Our work varies from exploring how delivery systems focused on the household may enhance tuberculosis control through to contributing to the international policy on combining tuberculosis and HIV strategies.

The research work is divided into seven themes as follows:

1. Better understanding of the social, economic and cultural influences on access to services for TB and adherence to treatment
2. Developing and testing affordable approaches to improving the speed and accuracy of diagnosis
3. Testing new strategies to improve coverage and treatment outcomes in TB control programmes
4. Evaluating innovative ways to promote synergy between services for TB and HIV in countries most affected by the dual epidemic
5. Exploring approaches to reducing the threat of multi-drug resistant TB
6. Understanding the impact on disease control programmes, of different approaches to Health Sector Reform
7. Policy Transfer

Multi-channel dissemination

We emphasise dissemination at the local and national level and most projects have specific dissemination workshops at their conclusion. Ongoing discussion with implementing agencies also maximises opportunities for informal feedback on the research findings.

There have been several good opportunities to stimulate dissemination between countries within the region. The DFID supported National Tuberculosis Programme in Malawi organises annual research meetings, to which a Zambian delegation has been supported by the programme. Similarly, the Malawian NTP has visited Lusaka for meetings supported by the Liverpool Knowledge Programme. The Malawian NTP has provided technical support to the Zambian VCT efficacy study, building on the success of their project which was also supported through the programme.

Our work is also well represented at regional and international conferences and more than 30 papers have been published in the medical literature in the past 12 months. We collaborate with ID21 to ensure that relevant papers are digested and disseminated via their web and paper based systems. About half of the articles retrieved by searching their web-site for "Tuberculosis" are written by our programme or other London School researchers.

Our programme also has a web page to facilitate dissemination and communication.

We are looking to expand our opportunities to disseminate our work through DFID channels. We have contributed to workshops on human resources and getting research into practice as well as meetings with the field advisors for health during "in-week".

Changing policies locally, nationally and internationally

Our work has had a significant impact on practices and policies in many of the countries in which we work as well as at the international level.

Particular areas where practice has changed include diagnostic practices in Lusaka, integration of tuberculosis and HIV activities at VCT services and services to reduce mother to child transmission of HIV, case management of tuberculosis suspects and cases in Pakistan and Swaziland, public private interaction in Nepal.

The new WHO strategic framework on TB and HIV has been strongly influenced by our work and we have contributed significantly to shaping the framework for Public Private Partnerships. The new WHO/UNAIDS policy on TB and HIV reflects many of our inputs over the past year.

Our support to Country Coordinating Teams in Zambia and Pakistan for their proposals to the Global Fund make it likely that the programme's work will continue to influence policy over the next years too.

DFID TUBERCULOSIS RESEARCH PROGRAMME APRIL 2003 TO MARCH 2004

INTRODUCTION

This was the third year of the LSHTM-Nuffield Institute Knowledge Programme on Tuberculosis.

The logical framework for the programme, which is attached as annex 1, divides the work into three broad areas – closer collaboration between researchers, policy-makers and implementing agencies; generation of relevant new knowledge; and communication and dissemination.

The generation of new knowledge is further divided into seven themes. Thus there are nine sections to chapters one and two, which summarise the activities and outputs of the projects over the past year.

Wherever possible the descriptions of activities and outputs are linked to the activity plan for 2003-2004 which is presented in annex 2.

The nine sections are as follows:

A. Closer collaboration between researchers, policy-makers and implementing agencies

B. Knowledge themes

B1. Better understanding of the social, economic and cultural influences on access to services for TB and adherence to treatment
B2. Developing and testing affordable approaches to improving the speed and accuracy of diagnosis
B3. Testing new strategies to improve coverage and treatment outcomes in TB control programmes
B4. Evaluating innovative ways to promote synergy between services for TB and HIV in countries most affected by the dual epidemic
B5. Exploring approaches to reducing the threat of multi-drug resistant TB
B6. Understanding the impact on disease control programmes, of different approaches to Health Sector Reform
B7. Policy Transfer

C. Communication and dissemination

1. Activities

A. Closer collaboration between researchers, policy-makers and implementing agencies (Theme Leader PGF)

Table 1 - Examples of collaboration between Knowledge programme teams and agencies involved with tuberculosis control at many different levels.

NATIONAL POLICY	
India	Links continue with the National TB Control Programme through discussions within the State of Maharashtra
Zambia	Participation in TB working group/TB subcommittee of treatment and care working group meetings to advise on implementation of TB policy in Zambia
Nepal	Development and assessment of public -private partnerships for TB control Development of policy for delivery of DOTS in areas with poor access to health facilities
Pakistan	Change to fixed dose combination drugs and two rather than three categories of treatment, and incorporation into training materials.
Malawi	Karonga Prevention Study represented on the Health Sciences Research Committee for Malawi. Discussions around cotrimoxazole policy and TB/HIV workplan
Bangladesh	Public-Private Partnership strategy
Russia	DFID sustainable TB systems programme represented in several federal High Level Working Groups. Ongoing linkages continue and inputs given to design and implementation of recently ratified $150 million World Bank loan on TB and HIV.
NATIONAL PROGRAMMES (Tuberculosis, HIV and others)	
Zambia	Technical support to Central Board of Health in the expansion of TB/HIV activities Development of training package for TB/HIV combined activities Technical assistance in development of expansion plans for PMTCT in Zambia Technical assistance in ARV expansion plans for Zambia National Dissemination of Stigma Research (November 2003)
Malawi	Technical assistance to NTP-ProTEST project
South Africa	Technical assistance to National Department of Health, TB/HIV expansion plans
Nepal	Development and assessment of public -private partnerships for TB control Development of policy for delivery of DOTS in areas with poor access to health facilities

Pakistan	Strategic framework and operational planning technical assistance. Case management guidelines: revision incorporating FDCs, two categories of treatment and other revisions following our evaluation exercise. Smear negative tuberculosis guidelines. This project is now in its fourth & final phase. Algorithm being validated, district field test of the TB module, prior to use nationally..NTP has collaborated in this programme throughout and in its final phase, guidelines implementation will be evaluated in a district in Pakistan. With the NTP defined the roles and responsibilities of the national, provincial and district officers and WHO Officers. Implementation (via ASD/ NTP Fidelis I and II projects) of DOTS in para statal and private hospitals.
Swaziland	MoH and NERCHA (GFATM): use of the Lubombo regional TB/chronic care model for HIV/ARV.
Uganda	Agreement on the need and ToR prepared for national adaptation of our generic training modules, and operational research priorities agreed upon.
India	Invited to share experiences and lessons from implementation of urban and rural Public-Private Mix (PPM) initiatives, in the orientation programme organised by WHO-India and Central TB Division for the consultants appointed in a 14 city project as a part of the scaling up of the PPM approach in the Revised National TB Control Programme
Bangladesh	Public-private Partnership in the National TB Control Programme (NTP)
Russia	Close collaboration with several federal TB stakeholders and country office of WHO. Support in drafting scope of work of High Level Working Groups
Ukraine	Close working with TB policy makers in preparation and drafting of responses to HIB and HIV-associated TB and support to assist integration of HIV and TB linkages in Global Fund and World Bank financing
DISTRICT PROGRAMME	
Swaziland	Continuing collaboration with the health team and TB-HIV programmes in Lubombo region Swaziland, including and acceptance for publication of the RCT comparing weekly versus daily DOT and qualitative studies (accepted for publication). Collaboration with the NTP to replicate the model, and adding TB-HIV-chronic care components.
Zambia	Ongoing action research unit collaboration with Lusaka District Technical support to Lusaka district on their adoption of ProTEST sites and expansion plans for ProTEST Technical support and training of health care providers in Monze District on TB/HIV combined
Nepal	Development and assessment of a public-private partnership for TB control in Lalitpur district Implementation of a public-private partnership for TB control in Kathmandu district Development and implementation of DOTS delivery in 10 hill districts
India	Continue to have close contacts with the District TB Programme officials in Mumbai through MSF (as a consultant) and in Pune. Invited by the Mumbai DTO to participate in the planning of a research study to assess the impact of PPM on access to TB care. Plans for a collaborative study "Access to HIV Care" made with the HIV specialist in the District Hospital in Pune.

Russia	Collaboration in implementation of DOTS programme and health care system reform to support sustainability in Samara Oblast. Guidelines drafted, laboratory support ensured and quality ensured. Organisational and operational linkages between prison and civilian sectors developed and embedded.
SERVICE PROVIDERS	
Zambia	Ongoing support and dialogue with Zambian National Reference Laboratory and laboratory at University Teaching Hospital (inc collaborative proposals for PhD scholarships). Ongoing support to University of Zambia Medical School in terms of teaching of undergraduate and postgraduates. To develop the anti-stigma education toolkit, collaboration with the National AIDS Council, Church Health Association of Zambia, Choma HIV/AIDS District Task Force, Lusaka District Health Management Board, Ministry of Agriculture and Cooperatives and Zambia Integrated Health Programme
NGOs	
India/MSF	Both in Mumbai and Pune, relationships are maintained with NGOs working in TB through coordination of the NGO forum in Mumbai (through MSF) and the TB forum in Pune
Malawi/MSF	Costing of Thyolo VCT/Cotrimoxazole initiative among TB patients in collaboration with MSF and Malawi NTP.
Bangladesh	Bangladesh Rural Advancement Committee (BRAC) – a leading Bangladeshi NGO, is one of the partners in Public-Private Partnership in TB control programme in Bangladesh. This project is also maintaining close working relationships with other NGOs involved in urban TB control programmes in Dhaka and Chittagong.
Zambia/Kara Counselling and several others	Technical support to the Monitoring and Evaluation Unit, Kara Counselling and Training Trust Technical support to monitoring and evaluation of an anti-stigma education project, funded by Community REACH (USAID), in research communities (Misisi and Choma) Incorporation of stigma component into training courses at KCTT, including child counselling, Pyscho-Social I and II, and the supervision course Continuing collaboration between Zambart and Kara Counselling and Training Trust on counselling and provision of IPT Collaboration with International AIDS Alliance – Member of Research Advisory Committee for research proposed on adherence to ARVs, and, on development of a regional project to roll out the anti-stigma toolkit (developed in the regional stigma research) which will be housed within the International AIDS Alliance Zambia office and funded by Swedish SIDA Collaboration with a wide range of NGOs in developing the anti-stigma toolkit (Fountain of Hope, Copperbelt Health Education Project, Misisi Home Based Care Project, Youth Activist Organisation, Network of People living with HIV and AIDS in Zambia, YWCA, Planned Parenthood Association of Zambia, International AIDS Alliance) Participation in ZINGO (interfaith group) meeting on stigma and discrimination, December 2003
Nepal	Regular contacts with Yala Urban Health Project
Uganda	Reach Out Mbuya HIV/AIDS initiative, peer treatment supporters, various TB-HIV intervention, including ARVs.

COMMUNITY	
Zambia	Community Dissemination Workshops on HIV/AIDS Stigma, Misisi Compound and Mbabala, Choma Rural District, November 2003 "Kanayaka" Project – an anti-stigma education project in the research communities – November 2003 to September 2005. Led by Kara Counselling, with some technical support on M&E from ZAMBART Anti-stigma education with rural teachers in Chiawa, Lusaka Rural Province (March 2003, December 2003), youth (national forum April 2003)
Bangladesh	Community networking and community capacity building (through BRAC – a leading Bangladeshi NGO): for TB treatment follow-up, late patient tracing, and awareness raising.
PRIVATE SECTOR	
South Africa	TB-related research in the mining industry in South Africa. The CE of preventive therapy in Welkom is in collaboration with Aurum Heath Research and looks at private sector health initiatives in preventing TB. The results of this study were presented to the National Department of Health, which subsequently decided to role out preventive therapy nationally. This model is now being used by other companies to introduce TB and HIV prevention activities. The research on public-private partnerships for the expansion of TB-DOTs in South Africa is complete and the results are now being feed back to private sector participants and district,provincial and national authorities, with recommendations on how to strengthen and expand partnership to expand DOTs coverage.
India	Have developed links with the participant private practitioners in the PPM projects in rural Pune and Mumbai, through the study on HIV management practices in the private sector. A study on "Access to HIV Care" is planned to be undertaken in collaboration with a leading HIV specialist in the private sector in Pune city
Nepal **Zambia** **Bangladesh**	development and assessment of a public-private partnership for TB control in Lalitpur district implementation of a public -private partnership for TB control in Kathmandu district Technical support to Zambia HIV/AIDS Business Sector Project (ZHABS) for the evaluation of anti-stigma education within an on-going HIV/AIDS workplace programme on Borassus Estates (an export flower and vegetable private company) Community networking and community capacity building (through BRAC – a leading Bangladeshi NGO): for TB treatment follow-up, late patient tracing, and awareness raising.
NATIONAL RESEARCHERS	
Latin America	Latin American Network: Improved diagnosis, drug resistance detection and control of tuberculosis. Review meeting, protocol development.
Mexico	Mexican Foundation for Health (FUNSALUD) Dr Gustavo Nigenda and Lic. José Arturo Ruiz are researchers on the Policy transfer of DOTS strategy study.
Tanzania	Development of proposal to investigate factors associated with transmission among recurrent cases of pulmonary TB in Dar Es Salaam region.

Brazil	Centre of Biology Sciences and Health, Federal University of Rio de Janeiro. Dr Fatima Scarparo is national researcher on the Policy transfer of DOTS strategy study. Institute of Social Medicine, University of the State of Rio de Janeiro. Dr Sulamis Dain is national advisor on the Policy transfer of DOTS strategy study.
India	Have good contacts, with the heads and key researchers from the National TB Institute, Bangalore and TB Research Centre, Chennai.
Uganda	TB Treatment Centre of the Ugandan National TB and Leprosy Control Programme, Mulago Hospital and Makere Medical School, Kampala. Clinical Medicine Dept, Makerere Medical School, on the MoH and WHO, on HIV/AIDS care and implementation guidelines.
Nepal	Have good contacts with the heads and key researchers from the National TB Centre, Thimi and the Regional TB Centre, Pokhara
Pakistan	Have good working relationship with heads and key researchers from the National TB Programme
Zambia	School of Medicine, UNZA: Teaching of medical students Several Staff from Lusaka UDHMT involved in Action Research Unit and ProTEST. Dr Philomen Ndubani is national advisor on the Policy transfer of DOTS strategy study. Dr Jacob Malungo is the national research on the Policy transfer of DOTS strategy study Stigma Project, ZAMBART & KCTT: Training of project staff and Kara staff in use of a qualitative data programme (QSR N6), training of project staff (x 3) in qualitative data analysis and presentations
Malawi	Equi-TB, Malawi. Dr Lifah Sanudi is the National researcher on the Policy transfer of DOTS strategy study. Chancellor College, University of Malawi. Dr Jubilee Tizifa is the National advisor on the Policy transfer of DOTS strategy study
WHO and/or UNAIDS	
International	Membership of WHO's Strategy and Technical Advisory Group on Tuberculosis Membership of UNAIDS Reference Group on Economics. Work on economics of preventive therapy has been fed back to UNAIDS Reference Group on Economics (URGE), particularly during process of development priorities for research . Economics research on ProTEST pilot sites is now being used to develop estimates by WHO for resource requirements for 3x5 initiative and Global Fund Resource Requirements. TDR/WHO: Collaborative development of guidelines/monitoring tools for diagnostic trials. Review of project proposals for TDR/WHO. Member of writing group developing M&E guidelines for TB/HIV activities Links with Ian Smith, Advisor to the Director-General, WHO Collaborative research WHO HQ and WHO Moscow on cost-effectiveness analysis of TB control in Russia

India	Have good working relationship with both WHO-SEARO and WHO-Regional Office for India, particularly in the area of Public-Private Mix (PPM) in TB, and HIV. Received funding from WHO-SEARO to complete the study on HIV management practices in the private sector, initiated with the TB Knowledge Programme funds Invited as a temporary advisor to the 2nd meeting of the WHO's PPM-DOTS Subgroup
Zambia	Conducting multi-centre study on diagnostic and treatment delay and its significance (WHO funded) Report of the National Drug resistance survey due for publication
Other UN agencies	
Zambia	Presentation of stigma research and programmatic recommendations at UNICEF Regional Programme Communication Meeting (Mombasa, February 2004)
STOP TB partnership	
Global	Membership of TB/HIV working group's core group and scientific panel Participation in DOTS expansion working group Participation in public-private partnership working group Participation in IUATLD conferences
DFID and Other Bilateral partners country Offices	
Zambia	Findings on the inter-relationships between stigma and poverty fed into the development of a social protection policy at DFID SIDA HIV/AIDS Regional Programme funded a workshop (August 2003) in Bagamoyo, Tanzania, to allow the multi-country stigma researchers to produce a multi-country report Rapporteur, SIDA Satellite Meeting on the Challenges of linking Research, Policy and Programmes, 13th ICASA, September 2003. Co-editor of SIDA HIV/AIDS Series book summarising proceedings of latter, due to be published by July 2004. Anti-stigma education with SIDA staff, World AIDS Day, 2003 Participation in production of anti-stigma education video – "Tikambe" – funded by USAID Dissemination of stigma research findings to USAID Zambia Mission Funding of Community REACH anti-stigma education project in Zambia, led by KCTT, was partly met by USAID Zambia Mission (50% of costs)
Nepal	Regular contacts with DFID Nepal, JICA Nepal
Pakistan	Technical Assistance on the new national health framework.
POPULATION COUNCIL	
International	Developed links and explored possibility of funding / collaboration

1. Activities Undertaken During the Year

B1. Better understanding of the social, economic and cultural influences on access to services for TB and adherence to treatment (Theme Leader GB)

RUSSIA

Sociological analyses of service access and adherence to treatment [B1.10]
Qualitative research, including interviews and focus groups with patients (ex-prisoners, 'reliable' patients, 'non-adherent' patients, care providers (urban and rural, doctors and nurses) and administrators suggest considerable variability in perceptions of and responses to TB. Considerable stigma persists and informs patterns of behaviour with notions of 'deserving' and 'undeserving' being profound.

ZAMBIA

Research on Stigma [B1.3.1]
The analysis of the qualitative research on stigma in urban and rural Zambia, and across the three African countries (Ethiopia, Zambia and Tanzania), was completed by October 2003. The multi-country analysis was conducted partly through a workshop in Tanzania (August 2003). The research was disseminated internationally and nationally (September to November 2003) through presentations and dissemination of multi-country and country reports.

The multi-country stigma research group are involved in the development of stigma indicators, through the regional project, a USAID working group (which the project director – Laura Nyblade – is a member of), and through designing indicators to monitor and evaluate anti-stigma education in Tanzania and Zambia. Funding for the latter interventions was secured from Community REACH (USAID) by proposals developed by NGOs (KCTT, Zambia and Kimara, Tanzania) and the Zambian and Tanzanian researchers.

A training manual on Understanding and Challenging HIV Stigma was developed through collaboration with NGOs and government in all three African countries. In Zambia, 9 NGOs and government worked with Kara and ZAMBART to develop the toolkit, published in September 2003 and (the final version) in January 2004. Skills building workshops demonstrating the toolkit were held at the 13th ICASA. A regional proposal to roll out, adapt and evaluate the toolkit has been developed with the International AIDS Alliance and submitted to SIDA HIV/AIDS regional programme. If funded, the regional toolkit project will be housed by International AIDS Alliance in Zambia and, over a period of three years, should expand to 8 Sub-Saharan African countries.

Understanding Bottlenecks in TB Diagnosis and Treatment [B1.7]
Further data analysis has been completed on the studies looking at the process of TB diagnosis in a high TB/HIV urban district. One paper has been published and a further paper is undergoing revisions prior to publication.

A second study is underway to understand the extent and causes of delay. It is part of a multi centre study funded by WHO. Recruitment for the first phase is complete and follow up will continue for a further 6 months.

B2. Developing and testing affordable approaches to improving the speed and accuracy of diagnosis (Theme Leader RM)

ZAMBIA

Evaluate phage technology for the diagnosis of PTB [B2.1]
Dissemination of study findings, report distributed to interested parties in Zambia, results presented during international meetings, articles submitted for publication.

Development of antigen detection immunoassay. [B2.2]
Continue laboratory studies.Seek further funding

Investigation of ELISPOT technology for identifying exposure to tuberculosis in Lusaka [B2.3]
Continue collaboration with NDM.

Improve Diagnostic accuracy in Lusaka [B2.7]
Data collection and analysis was completed and the results disseminated in Lusaka. The report is currently being finalized and will be ready for publication in the near future.

Quality Assessment of diagnostic services in Zambia [B2.8]
A study examining the process of sputum request through submission and processing was conducted by the action research unit of Lusaka District health Management Team. Preliminary data analysis confirms that most requests for sputum submission are not fully explained to patients and consequently the quality of the sample is variable. Once brought to the laboratory, observation showed that often only one sample per patient is examined rather than all 3. Full data analysis and a final report are in process.

Establish a Clinical Diagnostic Cohort for evaluation of new diagnostic tests [B2.9]
Due to changes in the leadership of the Chest clinic in Lusaka this activity has been delayed. However the new supervisor, Dr Masase is in the process of writing a protocol for this cohort with the support of Dr Ayles and Dr McNerney. It is hoped that this protocol will be agreed and sample collection started in 2004.

B3. Testing new strategies to improve coverage and treatment outcomes in TB control programmes (Theme Leader JW)

BANGLADESH

Public-Private Partnership Model for TB Control in an Urban Setting in Bangladesh [B3.19]
This project is in its second year of implementation. The overall goal of this project is to develop and evaluate a public-private collaboration model for effective involvement of private medical practitioners (PMPs) in service delivery of the TB control programmes in

Bangladesh. Government approval has been obtained and the MOU has been signed between the National TB Control Programme (NTP), BRAC and other Partners. The process of formation of working committee and baseline survey is underway. The listing of private practitioners (PPs) working within the project area has been completed, and an orientation workshop for PPs is being planned. Field data collection is also going on within the BRAC working area. NTP managers and BRAC are jointly supervising the activities in the field. A paper, based on the development process and the model of the project, has been accepted for publication in the International Journal of Health Planning and Management.

INDIA

We have continued to be involved in local and national initiatives in the Public – Private Mix (PPM) approach. At the local level in Mumbai, we participate in an ongoing operations research project on PPM. In the first year of the project, strategies and tools for involving private medical practitioners were developed and tested, in the second year, ways to integrate PPM into the NTP are being explored. The project has now applied for funding for the third year, in which issues related to sustainability of PPM and assessment of its impact on access to TB care, are planned to be studied.

LATIN AMERICA (CUBA, PERU, BOLIVIA)

A system approach to optimising diagnosis of smear-negative tuberculosis in high and low prevalence countries of South America (B3.15)
Nuffield Institute for Health is collaborating in this EU funded project with Antwerp and three other partners in Latin America in order to assess the value of clinical audit in improving diagnosis of smear negative tuberculosis. A international conference including all partners took place at the beginning of the projects and project plans for each coutry were developed. Study sites were selected and three audit committees were formed in each study site. Each committee met regularly and agreed to a set of quality criteria and standards for the diagnosis of smear negative tuberculosis. A data collection tool has been developed and agreed upon. Data collection tool was piloted, modified and reviewed in the local settings. Data collection commenced in January 2004 and is likely to go on till August 2004. A systematic review of the interventions designed to influence professional behaviour in health care is currently been written up and will be submitted in spring 2004.

NEPAL

TB service delivery in areas with poor access to health facilities [B3.3]
Despite civil unrest, data collection continues on the RCT to test two approaches to implementing the DOTS strategy in areas with poor access to health facilities. Economic data on costs to the health system, the community and patients has been collected.

Private practitioners and TB control in S Asia [B3.4]
Although funding for the development and assessment of public-private partnerships for TB control has ended, we continue to support the project, and to ensure its sustainability through involvement of the DHO and the Municipality of Lalitpur in coordination of the

partnership. We continue to work with JICA in expanding the partnership principle into Kathmandu, assisting in project planning, and surveys of private practitioners.

PAKISTAN

The development of diagnostic guidelines and training module for smear negative TB in both high and low HIV prevalent countries (3.16)

This project conducted in collaboration with NTP and ASD in Pakistan is now in its fourth and final phase. A systematic review on the diagnostic tools for smear negative TB was submitted and published by Lancet Infectious Diseases. A guidelines development group was identified including TB specialists, academics and managers. A workshop in Pakistan was held during which a consensus was achieved on the guidelines. These were later on externally reviewed and amended. After the development of guidelines, a training package was developed to implement these guidelines. The training package was piloted and amended accordingly. Clinicians of a tertiary hospital were trained and asked to use the new guidelines. A validation study to assess the sensitivity and specificity of the new guidelines were conducted. The diagnostic yield of the new guidelines was tested against the culture results obtained from a reference laboratory. The diagnostic criteria used by the clinicians were validated by a panel of external reviewers. This study is coming to its end in March 2004 and its results are currently being analyzed. The findings will be written up and submitted to Lancet Infectious Diseases and also presented in Pakistan Chest Society meeting this spring and International Union against TB and Lung Diseases this autumn

PAKISTAN, SWAZILAND and ZAMBIA

Development of Generic community-based DOTS TB programme materials [B3.7]
The generic guidelines for programme planning and implementation (including case management guidelines and health worker training materials) have been developed from materials produced by DfID funded TB knowledge projects in Pakistan and Swaziland. Over the last years the materials have been reviewed by workers in Zambia and feedback incorporated. The materials are currently undergoing final proof reading. They will soon be available in CDROM format and on the Nuffield Institute for Health website. Further funding is being sought for production and dissemination in hard copy format. Uganda NTP has requested a USAID funded project and NIH to support their adapted for national use. In Pakistan the (NTP/ ASD/ NIH) case management and implementation guidelines and training modules have now been used to scale up DOTS to half the country. The treatment module has been re-written and will be used in in-service training to implement nationally the NTP switch to a two-regimen and fixed dose combination drugs policy.

SWAZILAND

Directly observed treatment and alternative strategies
A randomised controlled trial of daily (DOT) by community workers or family members, verses weekly supervision of treatment by community workers was completed, written up and has been accepted for publication.

Interaction between the TB treatment supporter and patient – qualitative study [B3.13]
In December '02 and January '03 qualitative techniques including semi-structured interviews were conducted with people involved in the community-based TB programme in Lubombo, Swaziland. As well as interviewing treatment supporters and patients to investigate the interaction between them, the study also obtained data from other key informants such as health centre nurses and hospital based TB programme nurses. Data was analysed using the framework method. Submitted for publication.

ZAMBIA

Working with LDHMT to increase TB control coverage [B3.17]
The action research unit at Lusaka District has developed during the past year. The Unit has purchased a vehicle and so is now able to supervise clinics directly without having to wait for a vehicle to become available. A data entry clerk was appointed who is now entering all routine TB and TB/HIV data. A need was identified by the district for support to develop and use databases and therefore a data manager was recruited internationally and will take up post in March 2004.

B4. Evaluating innovative ways to promote synergy between services for TB and HIV in countries most affected by the dual epidemic (Theme Leader PGF)

INDIA

A study to explore the HIV and HIV/TB management practices of the private medical sector (private practitioners, private laboratories and private pharmacies) has been completed in January 2004. The findings from this study point to the need to educate and support the private sector so as to improve the quality of HIV care delivered by them and involve them in the national HIV / AIDS control efforts, including management of HIV/TB.
This study is now being followed up by another study to look into issues of access to HIV care, including HIV/TB, for patients in both the public and the private sectors.

UGANDA

Community-based TB-HIV model
In Masindi district an HIV-chronic care model is being developed and monitored. TB-DOTS is to be added. In Kampala, an AIDS service organisation, REACHOUT Mbuya HIV initiative, has implemented integrated HIV/AIDS/TB services including Anti-retroviral treatment.
Working with the WHO, Ministry of Health, Makerere University, MRC, CDC and MSF we have developed of national case management and implementation guidelines for anti-retrovirals, and are pilot testing guidelines.

SOUTH AFRICA

Economic evaluation of public-private partnerships (PPPs) in South Africa included results on the cost-effectiveness, quality and incentive structures in alternative models of public-private partnerships. Recommendations resulting from this work include how to structure incentives to encourage greater private sector participation which is consistent with good practice for TB services. PPPs can potentially assist in responding to the dual TB/HIV epidemic which is straining current public services.

ZAMBIA

Operationalise a combined approach to TB and HIV at the district level in Zambia [B4.3]

Zambia has now received funds from the Global Fund for AIDS, TB and Malaria to expand TB/HIV combined approaches throughout Zambia. A training package has been developed by Zambart project which will be used to train all districts. A manual has been published for health care workers. A memorandum of Understanding has been developed between Central Board of Health and Zambart project so that Zambart can act as technical advisors for the process.

Describe Long term efficacy of preventive therapy [B4.4]

The cohort of HIV- positive individuals who were recruited for a trial of IPT in 1993 has now been closed. All individuals who could be traced attended for a final CD4 count. Efforts are currently underway to try and ensure that they receive antiretroviral drugs as they become available in Zambia. The data is now ready to be re- analysed and a final report written.

Integration of MTCT and ProTEST: A combined appro ach [B4.18]

This programme is continuing well despite problems with funding from WHO and the loss of the programme manager. A new programme manager has been recruited and a second district, Monze, trained in the approach. It is anticipated that a third district will be trained and commence activities in 2004. Funding issues have now been resolved and WHO continues to support the programme.

CREATE Zambia: The ZAMSTAR Trial [B4.28]

The create consortium has been very active during 2003. At a meeting on active case finding in London, the Zambian team linked up with a team from the Western Cape, South Africa to develop the ZAMSTAR proposal. This proposal, which uses a community randomized trial design to assess the impact of enhanced case finding and household approaches to TB/HIV on TB prevalence, was selected for the final Create portfolio that has been submitted to the Gates Foundation. We anticipate a final decision re funding on the 1st april 2004.

Community-based TB-HIV model

Building on the regional referral system and community-based DOTS model, TB-HIV-chronic care components and monitoring system have been added. The "Integrated Management of Adolescent/Adult Illness" guideline has been implemented with early success. The guideline treats common illnesses, identifies likely TB and HIV related

illness. An HIV test is recommended, and if positive, patients provided with Cotrimoxazole prophylaxis and follow up care and education.

B5. Exploring approaches to reducing the threat of multi-drug resistant TB (Theme Leader RM)

GLOBAL

Research on Beijing strain tuberculosis [B5.3]
The "Beijing" family of strains of *M. tuberculosis* is widespread around the world. It may have a predilection for drug resistance and may be spreading. However there are many limitations in the published studies, including variations in definition of the Beijing strain, and under-reporting of the absence of Beijing strains. Using a standard strain definition we are combining datasets from studies conducted around the world to assess prevalence, trends and any evidence of association with drug resistance.

To date 33 studies have contributed data on over 20,000 patients in 26 countries. The proportion of tuberculosis due to the Beijing strain ranges from 0% to over 70%. The Beijing strain is uncommon in Western Europe (< 5% of tuberculosis, excluding immigrants). It is commonest in the Far East (over 70% in Hong Kong and Japan) and the former Soviet Union (about 50% in Russia, 29% in Estonia), but, using data from immigrants, it does not appear to be present in other parts of Eastern Europe. The prevalence is also high in South East Asia (48% of tuberculosis in Bangkok, 17% in Malaysia), and lower in the Indian Subcontinent. The prevalence is much higher in North America and Cuba (around 10%) than in Latin America. It is present in the Middle East (7% in Iran) but rare in sub-Saharan Africa apart from South Africa. The Beijing strain was strongly associated with drug resistance in the USA, Cuba and the former Soviet Union, but there was little evidence of an association with drug resistance in the other settings.

There appear to be three distinct patterns to the Beijing strain; (1) high level endemic with no association with drug resistance (in East Asia) (2) high level epidemic (?) with a strong association with drug resistance (US, Cuba, former Soviet Union) (3) low level, not associated with drug resistance (Europe, Africa, Latin America).

MALAWI

DNA fingerprinting for Karonga Prevention Study [B5.9]
Molecular identification (typing) of all tuberculosis strains isolated in Karonga District continues to be performed in London laboratory. This is the longest, most complete study of the molecular epidemiology of tuberculosis in a high prevalence, rural setting. Analysis is ongoing.

MULTI-SITE

Low cost rapid methods for detection of MDR-TB [B5.6]
Tanzania – Bacteriophage test evaluated at Muhimbili University College of Health Sciences in collaboration with NTP and National Institute for Medical Research. The test

was compared to standard (slow) cultures methods and a molecular method (DOT BLOT).

Latin American Network – Multi-centre laboratory studies to compare rapid tests for drug resistance undertaken. Data reviewed at collaborators meeting Protocols developed for future studies.

Peru – technical assistance to on-going studies on development and optimisation of new tests.

London – development and optimisation studies on bacteriophage technology performed in the London laboratory.

India - draft review article prepared in collaboration with TRC, Chennai.

RUSSIA

Development of transmission dynamics model to determine possible impact of MDRTB treatment strategies in setting of an explosive HIV epidemic [B5.10]
Samara Oblast has witnessed an explosive epidemic of HIV in the past three years. The problem of high prevelaence rates of MDRTB exists and has been well-documented. This research was conducted to show policy-makers the potential future consequences of a epidemiological collision between HIV and TB (and MDRTB) as the HIV epidemic spreads further and matures. We have limited the model to conservative estimates of transmission and progression and predicted the consequences of a variety of different interventions with MDRTB. In essence, the consequences will be minor over the next decade but cumulative death rates will escalate sharply after this unless MDRTB transmission is controlled.

UGANDA

Strategies for the management of MDRTB [B5.5]
Rapid low cost screening test for resistance to rifampicin and streptomycin developed at LSHTM was evaluated on stored isolates. Technology found highly successful for detection of rifampicin resistance. False positive results observed when testing streptomycin being investigated. Data on costs collected. Draft of article for publication prepared. Proposal developed for further studies. Protocols prepared for direct testing of clinical specimens.

National Drug Susceptibility Surveillance Study ([B5.7]
Proposal developed for first national survey of resistance to anti-tuberculosis drugs in Uganda.

ZAMBIA, MALAWI & SOUTH AFRICA.

Prevalence and significance of Beijing-type strains in Malawi and South Africa [B5.4]
Proposal to investigate Beijing strains of tuberculosis in three African countries written, submitted and funded. Spoligotyping technology transferred to Zambian laboratory. Training of Zambian scientist and London technician initiated.

B6. Understanding the impact on disease control programmes, of different approaches to Health Sector Reform (Theme Leader JN)

NEPAL

Interactions between TB and decentralisation in Nepal [B6.1]
A series of workshops has taken place to assess the understanding and involvement in the decentralisation process of TB policy makers and workers. The resulting qualitative data has been analysed, written up and submitted for publication.

RUSSIA

Analysis of role of hospital sector in provision of medical and social support [B6.3]
Economic, regulatory, and utilization analyses over the past 2 years have shown that approximately 20% of costs of hospitalization are related to social care rather than medical need. Moreover, hospitalisation is a feature of the most marginalised individuals and has a marked seasonal pattern – presumably in response to the severe winter weather and needs of many people for shelter. Analyses of formal budget allocation shows that, in order to protect staff salaries and retain staff, financial allocations for drugs and food have been cut in recent years. It is likely that these cuts have impacted on the most socially vulnerable.

B7. Policy Transfer (Theme Leader JP)

BRAZIL, MEXICO, MALAWI, ZAMBIA

Policy transfer of the DOTS strategy [B7.3]
A pilot funded by the IUATLD was carried out by the PI in the state of Veracruz, Mexico in July 2003. A national researcher and advisor were recruited in each country. Preparatory work was done towards selecting the subnational areas, key informants and documents. A methods workshop will be held from 26-28 February 2004 in London, after which the fieldwork will commence.

C. Communication and dissemination (Theme Leader AC)

Various forms of communication were employed in order to increase the profile of the programme during 2003-2004:

- Internal and external lecturers were invited to give monthly lectures on the issues relevant to the KPs work
- DFID TB Programme notice board containing up-to-date information on

developments

- World TB Day display at LSHTM informing people about the programmes research projects
- A DFID TB Programme leaflet is in the process of being designed to show the basic facts about TB collaborating countries, institutions and areas of research.
- Email network established at LSHTM open to anyone with an interest in TB, including overseas staff and collaborators, used for dissemination of news, conference details, funding opportunities etc.
- TB Research Related Booklet. An annual volume containing all the current research being carried out in TB/HIV at LSHTM.

2. Examples of Knowledge Outputs from the Past Year

B1. Better understanding of the social, economic and cultural influences on access to services for TB and adherence to treatment

RUSSIA

Sociological analyses of service access and adherence to treatment [B1.10]
We have conducted interviews and focus group discussions with a variety of stakeholders. Analysis is ongoing but preliminary findings suggest:

- Resistance to DOTS persists amongst some clinicians, especially those based more rurally and those with less formal authority
- Patients attitudes and perceptions to TB, their treatment and care, informs their responses and likely delays in accessing services and subsequent adherence to treatment. Conflation of disease with socio-economic position informs perceptions amongst all stakeholders.
- Stigma is felt keenly by many patients (though not all). Isolation from family and social networks profoundly affects some resulting in isolation and dependence.

ZAMBIA

Research on Stigma [B3.1]
The stigma research in Zambia had a special focus on stigma related to TB. The analysis reveals that prior to the HIV epidemic, TB stigma was related to a dirty environment, certain occupations, *"stubborn"* character, family disposition, social (especially smoking and alcohol) and sexual transgressions and fear of infection. Weight loss and skin rashes associated with TB and TB treatment were regarded as manifestations of improper sex. Lack of productivity and increased appetite of TB patients were resented. This 'old' stigma has deepened and extended with HIV; in Zambia, TB is widely diagnosed as a sign of HIV and new stigma is heaped upon old. New stigma is related to "new TB" characterised as *"incurable"*, *"the start of AIDS"* or *"an excuse"* for HIV. Certain groups (young people, women, urban-dwellers, sugar daddies) are blamed for vindictively spreading TB. Fears about TB transmission have deepened with the added perceived risk of HIV transmission. This multi-layered stigma means TB patients experience withdrawal, reduced quality of care, isolation, public defamation and rejection. They may consequently avoid or hide diagnosis and treatment, feel ashamed and depressed.

Up-to-date community health and anti-stigma education is needed to address the stigma related to TB and should include supporting TB patients to better cope with stigma.
Alongside TB, other opportunistic infections – especially chronic diarrhoea and skin rashes - have become more stigmatised because of HIV.

B2. Developing and testing affordable approaches to improving the speed and accuracy of diagnosis

ZAMBIA

Evaluate phage technology for the diagnosis of PTB [B2.1]
The sensitivity of a commercial kit for diagnosis of pulmonary TB was less than that of smear microscopy. An in-house bacteriophage test was found to offer little improvement over smear microscopy. It was concluded that bacteriophage technology for diagnosis of PTB should not be implemented in this setting at the current time.

B3. Testing new strategies to improve coverage and treatment outcomes in TB control programmes

BANGLADESH

Public-Private Partnership Model for TB Control in an Urban Setting in Bangladesh [B3.19]
A process was proposed to help to develop a new model for partnerships in Tuberculosis (TB) control, based on experiences to date. Essential service components needed to deliver quality care were identified along with main partners in a collaboration or partnership. A generic model linking the partners and the components was used to describe and analyse successful partnerships currently in existence, identifying those features that produced a successful outcome regarding increased access, coverage, and quality for TB control. The process and generic model were then used to develop a locally appropriate model for partnerships in TB control, taking Bangladesh as an example.

INDIA

Our participation in implementation of the Public Private Mix (PPM) projects for TB control in Pune (rural) and Mumbai (urban) have provided very valuable lessons:

- Initiation of public-private partnerships, require time, resources and tools. In particular, there is a need to train all those involved in creating or sustaining these partnerships. NTPs could use the PPM as an opportunity to undertake refresher training under the NTP.
- Public-private partnerships are difficult to sustain unless roles and responsibilities of NTP staff participating in the partnership, are well defined, and ownership for PPM is created within the NTP
- While such partnerships are contributing, on an average, to 20% of the case detection by NTPs, there is a simultaneous need to look at the impact of these partnerships on access to TB care for patients, particularly on reducing time lags in diagnosis and initiation of treatment and reducing the cost of TB treatment.
- The effectiveness of the partnership should also take into consideration, its impact on the change in the TB management practices of the private sector.

LATIN AMERICA (CUBA, PERU, BOLIVIA)

A system approach to optimising diagnosis of smear-negative tuberculosis in high and low prevalence countries of South America (3.15)

Audit committees have agreed on a set of quality criteria and standards. These criteria based on the perceived problems by the providers are based on the evidence, health impact and feasibility for change. These mostly relate to the quality and timeliness of sputum microscopy, antibiotic prescription for the exclusion of other infections and the use of X-ray in making the diagnosis. Some of the themes are common across three study sites. From a qualitative inquiry among the providers some common issues are emerging that are inhibiting or facilitating the implementation of audit process:

Bolivia

- Difficulty in implementing change in a strong vertical programme (TB control programme). To persuade TB programme to change its focus to smear negative TB, when it has a strong focus on smear positive TB.
- Lack of knowledge, experience and skills to implement clinical audit in a health system by the researchers.
- Audit is not a cost neutral activity and it requires human and financial resources, which were very minimal in the project. When audit was costed, it was considered as a cost neutral activity.
- Health professionals do not like evaluation of their own performance. When questioned in audit meetings about identifying problems in the system, they point towards factors other than their own performance.
- General political instability in the country caused delayed implementation as even the normal activities were hampered.
- Lack of incentives made it very difficult for professionals to cooperate and authorities to take this project seriously.
- On the other hand, it is easier to implement change in a vertical programme because structures, information system and roles and responsibilities are well defined compared to other health problems.
- Once people, understood the implications of clinical audit, it was easier to get their support.
- Once senior management in the TB programme supported the project, it was easier to implement.

Peru

- Senior management in vertical programmes are usually political appointments and in a politically unstable environment, they are likely to change quickly. To implement a long term strategy, it is difficult when commitment shifting very rapidly.
- Political instability both at the macro level and also at the micro (doctors' strike etc.) makes it difficult to implement new things.
- The term "audit" was not politically correct as it means external monitoring in Peru. Therefore it was changed to cycle of clinical improvement.
- Incentives were given to health professionals (time off from work and certificates) which helped in gathering their co-operation.
- Senior TB management's involvement helped in implementation.

Cuba

- A health system with clear structure, strong information system helped in implementation of audit.
- Availability of human resources also facilitated the process
- Political will at the top and motivation at the grass root level helped in implementing audit.
- Lack of knowledge and experience of audit makes it difficult to initiate audit.
- Frequent changes in the primary care staff delayed the process.

Questions emerging

- Behavioural change in health professionals. What helps and what hinders it
- What are the implications of political micro and macro on the implementation of change. What is it about politics that facilitates and what is it about it that hinders change.

NEPAL

TB service delivery in areas with poor access to health facilities [B3.3]
In the Nepal setting, DOTS seems to be robust to civil unrest.

Private practitioners and TB control in S Asia [B3.4]
Public-private partnerships for TB control are feasible, effective and sustainable. In Lalitpur, the numbers of patients under DOTS more than doubled following implementation of the partnership, and this rate is sustained. Patients and partnership members like the scheme. New enthusiasm and initiatives for TB control arise following demonstration that partnerships are feasible.
Lessons learned regarding development of partnerships include: the importance of a committed liaison officer or coordinator; the need for openness between partners; the need for partners to develop confidence in each other; an understanding that partnership development is a slow process, so initial expectations and targets should not be unrealistic.

PAKISTAN

The development of diagnostic guidelines and training module for smear negative TB in both high and low HIV prevalent countries (3.16)

The guidelines developed by an expert group in Pakistan defined certain basic X-ray criteria for the diagnosis of smear negative TB. These were then incorporated into the WHO diagnostic algorithm. The systematic review presented numerous examples of similar algorithms used by researchers in other countries and discussed that the poor available evidence warrants researchers to develop diagnostic algorithms for smear negative TB for both high and low HIV prevalent areas. The results of the validation stdy are currently analyzed and will be presented in international meetings and submitted for publication this year.

SWAZILAND

Interaction between the TB treatment supporter and patient – qualitative study [B3.13]

Qualitative data was obtained from interviews with 36 people, including 10 patients and 13 treatment supporters. Emergent themes fell into 2 main categories: issues relating to the TB programme and wider societal issues having impact on the programme:

1. Issues relating to the TB programme included overall opinions of the programme and of community-based DOTS; the need for individualised and flexible care arrangements; and areas where the programme needs improvement – communication, health worker attitudes, education and training, and ongoing support and motivation of treatment supporters etc.

2. Wider societal issues such as poverty and health beliefs were raised as issues impacting on the success of the TB programme. Of these the problem of poverty was dominant – raised by nearly every one of the study participants. Poverty impacted on the programme in 2 ways – lack of food affected motivation to take TB treatment and tolerance of side effects and lack of funds affected ability to attend to follow up at the hospital at the end of intensive and continuation phases. Both aspects of poverty resulted in overt and covert pressure on treatment supporters assist patients.

2 articles based on the knowledge produced by this study have been written and one submitted for publication.

B4. Evaluating innovative ways to promote synergy between services for TB and HIV in countries most affected by the dual epidemic

INDIA

The recently concluded study on the HIV management practices of the private medical sector (private practitioners, private laboratories and private pharmacies) in Pune city [B4.14], jointly funded by the TB Knowledge Programme and WHO-SEARO, has documented the following findings based on a survey of 215 practitioners, 36 laboratories and 82 pharmacies:

- More than three fourths of the private practitioners (PP) and almost all the private laboratories are engaged in diagnosing HIV.
- The volumes of HIV testing being undertaken in the private sector are large
- The act of advising an HIV test is not always preceded by a suspicion of HIV infection, and routine HIV testing is found to be a common practice
- Though guided by the socio-economic status of the patient, private laboratories are most commonly used by PPs for HIV testing. This is despite the availability of free HIV testing in the public sector.

- Though ELISA is the most commonly reported test advised by PPs for diagnosis of HIV, most private laboratories perform Rapid tests. Diagnosis of HIV is often made on the basis of one test. Only 45% of the PPs and 2 labs in the survey reported undertaking a confirmatory test before labelling a patient as HIV positive.
- The norms for pre-test and post-test counselling, and confidentiality around testing, as mandated by the National AIDS Control Organisation, are seldom adhered to by PPs as well as labs in this setting.
- Shopping for diagnosis and treatment of HIV is prevalent among patients, as seen from the fact that close to two thirds of the labs had received voluntary clients and more than half the PPs had been consulted by patients diagnosed elsewhere.
- The use of anti-retroviral therapy (ART) by PPs was limited to 10% of the PPs surveyed, though anti-retroviral drugs (ARV) were available in most pharmacies. Most of the ART regimens used by PPs were inappropriate.
- Symptomatic and supportive treatment is used by most PPs managing HIV and non-allopathic preparations are commonly used.
- Expensive tests like CD4 count and VLA are advised by some PPs.
- Though TB was one of the most commonly cited reasons for subjecting patients to HIV testing, screening for TB among HIV patients was done by less than half the PPs. The screening tests used and the management of preventive therapy for TB for HIV positive patients was not as per national guidelines.

MALAWI

Protest – Malawi [B4.16]

The Malawi ProTEST project aimed to increase coordination, collaboration and service provision by TB/HIV stakeholders and service providers. Activities included strengthening voluntary counselling and testing (VCT) including rapid testing, TB screening and case detection, screening and treatment of sexually transmitted infections (STI), provision of cotrimoxazole preventive therapy (CPT) and isoniazid preventive therapy (IPT

Results: Introduction of rapid testing led to almost 100% VCT completion rate from 73% previously, as well as a five-fold expansion in clients being tested. Cost per person post-test counselled was reduced from $31.89 to $10.60, and the cost per HIV person detected decreased from $191 to $57. Screening for TB and STI at VCT facilities was $0.13 and $0.12, with the cost per TB case detected and per person treated syndromically for STI being $170 and $31. Provision of CPT through existing TB services was estimated to cost $52 per person starting. 42% of individuals continued CPT 12 months after completion of TB treatment with a cost per person of $154 for the entire period. The cost per person starting and completing IPT was $11 and $35. Coordination of these activities was less than $35,000 per year.

Conclusions: Integration of TB and HIV-related services can be undertaken at relatively low cost. Services for HIV positive individuals were constrained by the lack of access to VCT. Further scaling-up of TB/HIV services requires inclusion of VCT, but these results suggest significant economies of scale can be achieved, with lower cost per person as volume of activity increases.

SOUTH AFRICA

South Africa [4.23]
Cost-effectiveness of isoniazid preventive therapy of averting tuberculosis among HIV-infected employees in South Africa: evaluation of a randomised intervention
Results: Of 1016 men screened for active TB, 679 started INH prophylaxis. 72% completed a 6 month course. TB incidence was reduced by 38% and 166 TB cases were averted. Screening for active TB and routine follow-up was 73% of total costs. The cost per person starting INH was US$27, excluding screening costs and $63 with screening. Cost per person completing INH prophylaxis was US$87 without screening, and US$120 with screening. Cost-effectiveness was US$353 per TB case averted. TB screening included a symptom questionnaire, chest x-rays and 2 sputum cultures. Routine monitoring included CD-4 counts. If only chest x-rays were used, the cost per TB case averted would be US$306 per TB case averted. Without routine CD-4 counts, the cost per TB case averted would be US $223.

Conclusions: INH prophylaxis can be cost-effective in routine health service settings in lower-resource settings. Screening and diagnostic monitoring can affect cost-effectiveness by up to 60%. In this setting, where average medical expenditures are US$1,736 per TB case treated and lost shifts by TB affected employees are estimated to be an additional US$410, INH prophylaxis is shown to be a significantly cost-saving intervention.

Costs of initiating and delivering an employer based antiretroviral programme in South Africa [4.32]
Incremental costs of HART addition to existing employee occupational health services were calculated for the first year of ART implementation for one company. Results presented are cost per patient month for one site based on 950.7 patient treatment months. Cost per patient month was calculated at US$ 203. Drugs costs were 38.6% and laboratory testing and monitoring 30.6 %. Annualised capital cost of system start up was low at 3.6% of cost in the first year of implementation due to economies of scale being achieved. Ongoing monitoring costs make up 5.9% of the per patient month cost including staff time involved in capturing necessary patient data.
These results reflect the first year of ART programme implementation. Projected uptake suggests that shifts in the fixed-variable cost ratios will vary by between 6% and 22% of total costs over the next three years. Economies of scale may be achieved by having a centrally developed and supported ART implementation, monitoring and evaluation system.

B5. Exploring approaches to reducing the threat of multi-drug resistant TB

RUSSIA

Development of transmission dynamics model to determine possible impact of MDRTB treatment strategies in setting of an explosive HIV epidemic [B5.10]
Our model suggests that in a population of 3.3 million with a high prevalence of MDRTB, an emerging epidemic of HIV amongst injecting drug users, and a functioning

DOTS programme, that if low cure rates for MDRTB persist the cumulative deaths from MDRTB at 10 years will approach 2,000. By comparison, under a similar scenario but with high cure rates for MDRTB fewer than 150 deaths will result. If the model is extended to 20 years cumulative deaths from MDRTB become very high if cure rates remain low.

TANZANIA

Low cost rapid methods for detection of MDR-TB [B5.6]
Tanzania – Bacteriophage test evaluated at Muhimbili University College of Health Sciences in collaboration with NTP and National Institute for Medical Research. The test was compared to standard (slow) cultures methods and a molecular method (DOT BLOT). For detection of resistance to rifampicin the bacteriophage test and DOT BLOT had sensitivities of 92% and 91.7% respectively. The phage test was faster, less technically demanding and cheaper than the DOT BLOT method.

UGANDA

Strategies for the management of MDRTB [B5.5]
In a blinded study a low cost rapid bacteriophage based test was used to test 149 isolates for resistance to rifampicin and streptomycin. The sensitivity of the test for when compared to BATEC culture was 100% for rifampicin and 90% for streptomycin. Results were achieved in 3 days compared to 2-3 weeks for the BACTEC.

ZAMBIA

National Drug Surveillance of Drug Resistance in Zambia [B5.2]
Due to the dissolution of the TB working group, no TB drug resistance survey has been planned. However a TB subcommittee has been formed as part of the Treatment Care and Support working group, which plans a repeat drug surveillance study for 2004. Dr Ayles will be assisting this group in the development of their protocol.

B6. Understanding the impact on disease control programmes, of different approaches to Health Sector Reform

NEPAL

Interactions between TB and decentralisation in Nepal [B6.1]
Among TB policy-makers and staff, there is a lack of understanding of what decentralisation means in practice, and a lack of awareness of the risks to TB control of inappropriate decentralisation. Furthermore, they demonstrate a passive approach to decentralisation, whereby they plan to adjust TB control measures to whatever form of decentralisation is decided externally, rather than attempting to influence the process of determining appropriate forms of decentralisation. This leads to a lack of engagement in the process of planning for decentralisation. There is a need to encourage TB control policy makers to actively go out and engage with the Ministry officials responsible for planning decentralisation. There is also a need to encourage the officials responsible for

planning decentralisation to actively seek out the considered views of TB control policy makers. A set of tools to encourage such engagement has been developed and published.

RUSSIA

Analysis of role of hospital sector in provision of medical and social support

Research has shown that hospitalization rates are broadly unrelated to clinical severity and strongly associated with gender (male), employment status , and disability status. Likewise, multiple admissions are seen more frequently in these populations. Analyses of utilization data have also shown that hospital admissions in colder months are significantly higher than in warmer months for all adults, unemployed adults, and pensioners. Hospital discharges varied seasonally. Maximum differences between admissions and discharges occurred in colder months and minimum differences were observed in warmer months. Socio-economic factors (along with regulatory and financing structures) are the major determinants of hospital usage rather than medical need.

MULTI-SITE

Transferring policies for treating sexually transmitted infections: what's wrong with global guidelines?

Case study of the development of syndromic management for treating sexually transmitted infections (STIs) and subsequent policies recommending worldwide use of syndromic management guidelines. These treatment policies emerged in the late 1970s from researchers and public health physicians working in sub-Saharan Africa where they had to treat large numbers of STIs in difficult circumstances. Syndromic management was initially developed in specific local epidemiological and resource situations. By the late 1980s, the World Health Organization had adopted syndromic management as policy, and began to promote it globally in the form of algorithms and training guidelines. Dissemination was assisted by the context of the rapid spread of HIV/AIDS and the apparent effectiveness of syndromic management for treating STIs and slowing the transmission of HIV/AIDS. In the mid 1990s, international donors interested in HIV control and women's reproductive health took it up, and encouraged national programmes to adopt the new guidelines. Implementation, however, was a great deal more complex than anticipated, and was exacerbated by differences between three rather separate policy networks involved in the dissemination and execution of the global guidelines.

The analysis focused on two parts of the process of policy transfer: the organic development of scientific and medical consensus around a new policy for the treatment of STIs; and the formulation and subsequent dissemination of international policy guidelines. Using a political science approach, we analyze the transition from clinical tools to global guidelines, and the associated debates that accompanied their use.

3. Communication of New Knowledge to Users

3.1 Progress in implementing programme communication strategy.

We emphasise dissemination at the local and national level and most projects have specific dissemination workshops at their conclusion. Ongoing discussion with implementing agencies also maximises opportunities for informal feedback on the research findings.

There have been several good opportunities to stimulate dissemination between countries within the region. The DFID supported National Tuberculosis Programme in Malawi organises annual research meetings, to which a Zambian delegation has been supported by the programme. Similarly, the Malawian NTP has visited Lusaka for meetings supported by the Liverpool Knowledge Programme.

Our work is also well represented at regional and international conferences and more than 40 papers have been published in the medical literature in the past 12 months. We collaborate with ID21 to ensure that relevant papers are digested and disseminated via their web and paper based systems. About half of the articles retrieved by searching their web-site for "Tuberculosis" are written by our programme or other London School researchers.

Our programme also has a web page to facilitate dissemination and communication.

We are looking to expand our opportunities to disseminate our work through DFID channels. We have contributed to workshops on human resources and getting research into practice as well as meetings with the field advisors for health during "in-week".

UK

Continued development of the Nuffield TB Research & Development newletters, with increasing requests from local workers in developing countries to be added to the distribution list.
Publications added to NIH TB website.
Publications revised for inclusion on ID21

ZAMBIA

Communication strategies used in stigma research include: community disseminations involving distribution of research reports, drama and action planning; participation in education video and in "Smash Stigma" radio programme; working with NGOs and government to develop anti-stigma toolkit; skills building workshops on use of anti-stigma toolkit at 13th ICASA, Nairobi, September 2003; research reports & toolkit disseminated at conferences & national disseminations in Ethiopia, Tanzania, Zambia and US and available from websites.

3.2 and 3.3 Publications and conference presentations are listed in Annex 3

3.4 Local dissemination

BANGLADESH

Public-Private Partnership Model for TB Control in an Urban Setting in Bangladesh [B3.19]
Presented a paper based on the proposed PPP model for Bangladesh NTP in the international conference on "Public-Private Partnerships in Health Care for the Poor and Disadvantaged" held on October 19-21, 2003 at Sheraton Hotel, Dhaka. Ministry of Health and Family Welfare, Northern Ireland Health and Social Care (NICARE), British Council and WHO have jointly organised the conference, sponsored by DFID and WHO. As the conference was held in Dhaka, NTP programme mangers, health professionals, and relevant programme managers from local NGOs participated.

INDIA

The findings from the HIV management practices study have been disseminated to the local medical and research community in Pune through an information dissemination workshop.

All the respondents in this study (private medical practitioners, private laboratories and private pharmacies) have been updated about the study findings and the appropriate practices as mandated by the national programme, through a flyer.

A short report on the study has been prepared for dissemination to the local and national policy, programme and research organizations and NGOs working in the field of HIV.

The final report on the HIV management practices of the private sector has been submitted to WHO-SEARO. WHO-SEARO has emphasized the importance of the findings of the study for the National AIDS Control Organisation, as it moves towards implementation of free ART for HIV patients in six high prevalence states in India.

LATIN AMERICA (CUBA, BOLIVIA AND BRAZIL)

"Audit and its value in improving diagnosis of smear negative TB" : International TB Day Havana Cuba. April 2003
"Role of clinical audit in developing countires". An international course in quality assurance Cochabamba. Bolivia October 2003
Ruth McNerney Oral presentation: Clinical trials of diagnostic technology. Florianópolis. Brasil, November 2003. 2nd General Meeting INCO-DEV Concerted Action on Improved Diagnosis, Drug Resistance Detection and Control of Tuberculosis in Latin America.

PAKISTAN

Poster on the evaluation of the innovative sort code approach to simplifying the consolidation of quarterly outcome of treatment data, as implemented by the NTP, Pakistan, IUATLD Conference, 2003.

SWAZILAND

Interaction between the TB treatment supporter and patient – qualitative study [B3.13]

'Qualitative evaluation of community-based TB DOTS programme, Siteki, Swaziland: Final report to programme managers.' Escott, S. Nuffield, Institute of Health, Leeds. May 2003 – used by programme managers to report findings to health workers and the community in a series of local meetings.

UGANDA

Oral presentation and discussions re strategies to control drug resistant tuberculosis. September 2003
Oral presentation: The revolutionary applications of phage technology: bringing biological amplification into clinical diagnostics. Jedda, Saudi Arabia. International Conference: Current and future medical applications of molecular biology. Ruth McNerney

UK

NIH TB Research & Development newsletters

ZAMBIA

The cost of coughing at UTH. Vincent Tihon, Amos Nota, Lishulo Walubita.
Zamstar: proposal writing workshop. Helen Ayles
Distribution of Project Report Evaluation of bacteriophage replication technology for the diagnosis of pulmonary tuberculosis in a low income country with a high incidence of HIV.

4. Uptake and Utilisation of Knowledge Outputs

4.1 Changing policies locally, nationally and internationally

Our work has had a significant impact on practices and policies in many of the countries in which we work as well as at the international level.

Particular areas where practice has changed include diagnostic practices in Lusaka, integration of tuberculosis and HIV activities at VCT services and services to reduce mother to child transmission of HIV, case management of tuberculosis suspects and cases in Pakistan and Swaziland, public private interaction in Nepal.

The new WHO strategic framework on TB and HIV has been strongly influenced by our work and we have contributed significantly to shaping the framework for Public Private Partnerships. The new WHO/UNAIDS policy on TB and HIV reflects many of our inputs over the past year.

Our support to Country Coordinating Teams in Zambia and Pakistan for their proposals to the Global Fund make it likely that the programme's work will continue to influence policy over the next years too.

ASIA

Public private partnerships for TB control are now included in national policy in Nepal, Pakistan, Bangladesh as a direct result of our work. This work is also influencing WHO's thinking on PPPs, and hence policy more widely.

SOUTH AFRICA

ProTEST project and cost-effectiveness study of preventive therapy among mineworkers demonstrated feasibility and efficiency to National Department of Health. Preventive therapy is now being rolled out nationally as part of national roll-out of ARVs.

SWAZILAND

Interaction between the TB treatment supporter and patient – qualitative study [B3.13]
Knowledge from this study has been used to inform further programme development, particularly with relation to community education and training of health workers.

UGANDA and ZAMBIA

Generic TB Guideline and Training Materials
The initial testing of the generic materials was in a district of Cameroon. The Zambia NTP decided to adapt the materials to their context and is to pilot them in the southern province/ Lusaka. In Uganda, the materials are currently being reviewed by the NTP and WHO, together with the USAID funded AIM project. The materials have been used by an

HIV/TB care NGO in Uganda with (early) good results. The materials have also been supplied to MSF for adaptation and use in a region of Russian Siberia. The NTP Uganda has requested support from a USAID project and NIH to adapt the materials for country use. We anticipate further up-take once the materials have been disseminated to NTPs and made accessible on the www in collaboration with Healthlink.

ZAMBIA

Stigma Research:

- Widespread use of anti-stigma education toolkit nationally and internationally
- Anti-stigma education interventions in research communities in Zambia and Tanzania
- Involvement in development of stigma indicators to evaluate impact of interventions on stigma

5. Capacity Strengthening

We continue to build long-term collaborative relationships that support institutions as well as individuals. Many of these relationships have developed over more than a decade and span the previous DFID-funded Knowledge programmes too. (See also the table describing collaboration with different levels and agencies in chapter 1).

Examples of specific training include:

- Policy Transfer methodologies – Malawi, Zambia, Brazil, Mexico
- Operations research capacity - India, Zambia, Nepal, Pakistan
- Laboratory skills - Zambia, Tanzania, Ghana, Uganda
- Data handling - Malawi, Zambia, South Africa
- Social science skills - Zambia, India, Pakistan, South Africa
- Institutional support – Zambia

Capacity building is achieved both through local training and supervision as well as through formal courses which may be based in the UK or through distance-learning programmes. The programme tries to respond to specific requests for capacity building although our funding is limited. For example the Dr. S. Egwaga, National Programme Manager in Tanzania had arranged for one of his staff to undertake a Masters course at the London School and was able to contact the programme to ensure that the research dissertation was based on his programme's priorities.

We also contributed to the training on tuberculosis that DFID provided for its field and UK based staff in December 2002.

Examples of specific training and capacity strengthening are included as annex 5.

5.2 Departments/Unit capacity enhancement

In both Leeds and London, the Knowledge programme provides a focus for tuberculosis activities. Through support to a small core of staff, the work on tuberculosis through teaching, training, research and consultancy is enhanced. The departments recognise this by providing faculty staff to work within the programme (see for example the estimated time spent on programme activities compared to the time budgeted).

The appointment of staff in different disciplines who are united through their work with the programme facilitates interdisciplinary discussions and has helped win new grants.

Several staff who are not funded directly through the programme are keen to be included under its broad umbrella in order to benefit from the ongoing discussions and the potential for new collaboration..

6. Multiplier Funding

The funding provided by DFID provides core funding in London, Leeds, Lusaka, Pune and Pakistan. However, the aim is always to use the stability provided by the core funding to secure further funding through research grants and consultancies. We continue to have success in writing successful proposals and new grants are now funded by DFID, the Wellcome Trust, European Union, WHO, Bill and Melinda Gates Foundation, Aurum Health Research, Burroughs Wellcome, Kaiser Foundation, Optimus Foudation, Belgian Technical Cooperation, TDR and USAID. Since the start of the knowledge programme we have raised approximately £5.5 million in new research funding.

More importantly, we are working with partners who are now raising their own independent funds – for example MAAS-CHRD has won a grant from the South East Asia Regional Office of WHO to study the HIV management practices of private laboratories and pharmacies and both Lusaka Urban District and the Zambian Central Board of Health have won grants from WHO Headquarters to expand the ProTEST initiative, which also forms part of their successful bid to the Global Fund to fight AIDS, TB and Malaria.

Project title	**Source of funding**	**Date of funding**	**Approx. Amount**
Participatory approach to implementing TB Diagnostic guidelines in Zambia	DFID Innovations	2000-2002	£192,451
Evaluation of phage tests for the diagnosis of tuberculosis	DFID Innovations	2000-2002	£167,423
Implementing community based TB care in Swaziland: getting research into policy and practice.	DFID (bilateral)	200-2003	£163,500.
Implementation and monitoring of ProTEST project	WHO	2001-2002	£35,030
Support to Aurum Health Research	Bill and Melinda Gates Foundation	2002	ZAR 1,000,000
Cost-effectiveness of preventive therapy for HIV-infected South African mineworkers	Aurum Health Research	2001-2004	£35,700
Economic Analysis of the Resource Requirements for Scaling-Up HIV/AIDS Interventions at the State Level in India	Wellcome Trust	2002-2005	£167,033
Economic Evaluation of Thyolo VCT/Cotrimioxazole	WHO	2002-2003	$5,940
Peer Review and Consumer Rights: Strengthening regulation as a means of improving quality and access to health care in Tanzania and Zimbabwe.	EU	2003-2005	€832,000
A feasibility study to assess the economic implications of introducing antiretroviral therapy (ART) within a mining environment in South Africa.	Aurum Health Research	2003-2005	£114,000
Efficiency of TB Services	DFID	Ended 2002	£25,432
Private Practitioners	DFID	Ended 2002	£145,424
TB Service Delivery	DFID	Ended 2002	£247,095
Economic Analysis of the Resource Requirements for	Wellcome Trust	2001-2002	£56,393

Scaling-Up HIV/AIDS Interventions at the State Level in India			
Innovations grant	DFID	2000-2001	£85,772
'Strategies for the management of multi-drug resistant tuberculosis in Kampala, Uganda',	Wellcome Trust/ Burroughs Wellcome	2001-2005	£97,932
National Drug resistance survey	WHO	2000-2002	$17,340
Developing an operational model for integrating HIV/AIDS prevention into Micro-finance activities in South Africa	Enterprise Development Innovation Fund, DFID	2001-2004	£184, 572
Assessing the impact of a poverty reduction HIV control programme in rural South Africa	Kaiser, USA	2001 - 2004	£192,000
Understanding HIV/AIDS & TB related stigma and discrimination	USAID and Change-AED	2001-2003	$84,000
Smear negative TB Latin America	EU	2002-200 6	€171,535
Preventive Therapy in Lusaka	Wellcome Trust	1998-2002	£265,669
Enhanced TB/HIV Care in Harare	Wellcome Trust	2001-2005	£1,230,000
ProTEST Economic and Epidemiological Evaluation	WHO	2001-2004	$317,734
TB/HIV Expansion Initiative	BTC	2000-2001	€16,380
Multinational study: Timing and its significance in the diagnosis and treatment of Tuberculosis	WHO (TDR)	2003	$44,000
A system approach to optimising diagnosis of smear-negative tuberculosis in high and low prevalence countries of South America	EU	2002-2006	€800,000
Investigating private sector delivery of services for the management of adult HIV patients in Pune city, India	WHO-SEARO	2003-2004	£7750
Are more dangerous TB strains spreading in South Africa project.	UBS Optimus Foundation	2003-2005	CHF 648,198
Consortium to Respond Effectively to the AIDS/TB Epidemic	Bill & Melinda Gates Foundation	2003-2004	$300,000
The necessity of history: Contextualising the Introduction of Anti-Retroviral Treatment in Zambia (Pilot Grant)	Wellcome Trust	2004	£7,280
Monitoring and Evaluating The Kanayaka (light is on) Project – Action Against Stigma in Two Zambian Communities	Community REACH, USAID	2003-2005	$17,280
Yield of sputum concentration techniques and its value with variable quality of sputum microscopy	WHO (TDR)	2004	$65,000
Implementing TB-HIV in Swaziland and Uganda	Elton John AIDS Fdn	2003-2005	£240,000
Combined study: 1) Risk of tuberculosis in nurses in Zimbabwe, and 2) What is the cause of chronic cough in Mbare, Harare	Rockefeller Foundation	2003-2005	$74,805

7. Process Issues

7.1 Interaction with other DFID Knowledge Programmes

SOUTH AFRICA
HAART work (AIDS KP), CE preventive therapy work (AIDS KP, HEFP), ProTEST (AIDS KP, HEFP)

CHINA
Working closely with members of DFID Sexual & Reproductive Programme to develop work on organisation of TB and HIV/AIDS programmes in China.

SOUTH AFRICA
Close interaction with DfID HIV programme since much of work relevant to both programmes. I don't really know what else to say about this?

RUSSIA
MSc student from Russia (personal tutor).
Linkages with DFID Health Systems knowledge programme
Collaboration in qualitative components of health systems research and analyses

TANZANIA
Supervision of PhD student: Rapid tests for HIV and STDs in Tanzania

7.2 Collaborative links with developed country institutions

- Johns Hopkins University: collaboration wrt development of CREATE proposals
- Rockfeller foundation: invited speaker for meeting on Social Franchising of TB and TB/HIV in low Resource Settings April 2004.Presentation on CE of preventive therapy to UNAIDS Economics Reference group, April 2004
- WHO - Presentation on Costs of Scaling-up Priority Interventions (HIV/TB)to WHO meeting on Estimating Resource Requirements, October 2004
- KIT (Royal Tropical Institute, Amsterdam) – speaker on contracting and regulation for Advanced Course on Health Sector Reform and Financing, January 2004
- WHO – Technical Advisor on development of costing methods for measuring resources and budgeting for Global Fund, January 2004
- National Academy of Public Administration, Ukraine – Invited speaker on health economics and priority-setting for HIV/TB, March 2004
- Karolinska Institutet, Sweden – collaborative EU project 2003-2006.
- International Centre for Research on Women (ICRW) , Washington – Multi-country research on HIV and AIDS related Stigma (2001-2003)
- Wellcome Unit for the History of Medicine, University of Manchester – Pilot Research with Lyn Schumaker on History and ARVs (2004)
- Institute for Development Studies and Department of Anthropology, University of Sussex – Stigma Symposium, June 2003
- Institute of Tropical Medicine, Antwerp. Belgium

- Nuffield Institute for Health is collaborating in a EU funded research project in Latin America. We have also secured another WHO (TDR) fund for another project.
- UK Mycobacterial Reference Unit. Exchange of samples for molecular typing.
- Joint MSc student project in Russia.
- Joint proposal submitted for EU Integrated Infrastructure Initiative - partners in Belgium, Germany, Sweden, Poland, Mexico and Argentina.
- University of Medicine and Dentistry of New Jersey, USA. Joint project on strategies to control MDR-TB in Uganda.

7.3 Interaction with DFID

NEPAL
DFID Nepal health advisor – discussion about criteria for whether to continue vertical funding of national DOTS programme

ZAMBIA

Stigma Symposium, University of Sussex, June 2003 – DFID participants
Seminar on Stigma Research , DFID & British High Commission, April 2003
Consultation on relationship between poverty and stigma for social protection policy, DFID, Lusaka, August 2003
Technical Support on Anti-stigma education in the workplace (and associated M&E research) to ZHABS, a Zambian NGO funded by DFID
National Dissemination of Stigma Research – DFID participants

UK
Briefing seminar on immigrant screening for TB to UK to assist in contribution to Cabinet Office review on 'imported infections'.

RUSSIA
Informal briefings in Moscow on progress of work along with formal reporting mechanisms.

8. Administrative issues

The administration of the programme this year has been smooth. As a result of the reorganisation of the Policy Division at DFID communication has not been as frequent as in previous years but we feel we have developed strong administrative links with Martin Smith and the Central Research Department and hope these links will continue throughout the remaining two years of the programme.

There is one administrative matter concerning the timing of the approval of the annual work plans and budgets which the programme submits at the end of January each year. As a result of the fact that our programme claims expenditure in arrears the LSHTM finance department requires us to provide them with a copy of the correspondence approving the budget for the coming year. This needs to be submitted prior to the beginning of the new financial year and in turn ensures continuity within the programme and provides reassurance to staff members that funds are in place for research. It is therefore important for the ongoing work that written approval be given well in advance of the beginning of the new financial year on 1 April.

9. Country Specific Reports

See separate document entitled 'TB Related Research Booklet 2004'.

LOGICAL FRAMEWORK

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
SUPERGOAL The elimination of poverty.			
GOAL Improved TB control and care especially among poor people.	Progress towards complete access to quality TB care; and reductions in TB-related mortality and morbidity.	National statistics. Population-based surveys. Health facility surveys.	Improved TB services and programmes are effective in improving the quality of life of poor people.
PURPOSE To inform policy and practice and influence the climate of opinion to help achieve better outcomes in quality, access, monitoring and effectiveness of TB services especially among poor people.	Incorporation of new knowledge into policy at DFID, other international organisations, health ministries, relevant NGOs. Improvements in TB indicators.	Policy documents, programme staff participation in policy debates, interviews with policy makers. Final report, based on monitoring national statistics and evaluation of innovative projects.	Policy translated into practice.
OUTPUTS **A.** Partnerships with strengthened developing country institutions for applied TB research.	To be developed with partners, to include: • number of successful partnerships with international and developing country institutions. • number of joint research proposals. • number of capacity development activities.	Reports of international meetings with partners. Programme annual reports. Workshop/training reports.	Partners retain policy influence. Core staff are retained.
B. Production of new knowledge on: 1. Socio-economic and cultural factors restricting access and adherence to TB care 2. Affordable approaches to TB diagnosis 3. TB control coverage and outcomes, including public private mix 4. TB/HIV service linkages 5. Reducing the threat of MDR TB 6. Health sector reform and TB 7. Policy and practice transfer *See attached table of the current and proposed projects for detailed cover of these themes*	Publications in research and policy journals. Conference presentations. Dialogue with policy-makers to disseminate findings. Evidence of on-going debate over future research needs in partner organisations.	Journals. Conference proceedings. Minutes of meetings. Minutes of policy workshops. Final report.	TB control/care is a priority area for policy-makers and research institutions.
C. Effective dissemination strategies to reach international and national policy-makers for translating evidence into practice.	Number, quality and variety of publications. Abstracts on website. Attendances at dissemination workshops. Informal dialogue with policy makers.	Journals. Website. Workshop reports. Final report.	Findings accepted by policy-makers in governments and NGOs and the research community.

ANNEX 1

Logical Framework

ACTIVITIES			
A. 1. Facilitate communication with partner institutions. 2. Develop capacity building strategy with partners. 3. Identify common priority research interests.	To be developed in collaboration with partners, to include: • staff exchanges conducted. • workshops/training courses undertaken. • research projects submitted for funding. • funding obtained.	Minutes of meetings. Training records. New proposal drafts. Final report.	Partners interested and available. Sustained resources available. Staff remain in post.
B. a) Carry out current projects on themes 1-7 as documented in table in proposal b) Develop protocols for planned research projects on themes 1-7 as documented in table in proposal. c) Carry out planned research project activities. *See current and proposed projects in the attached table*	Numbers of meetings attended. Funded proposals. Project completion reports.	Correspondence files. Trip reports. Research grant audit. Programme research report.	Research funds available. Varies by activity, including: resources, project site viability, data quality, etc.
C. 1. Define dissemination strategy. 2. Implement dissemination strategy.	Website. Publications. Reports. Correspondence with policy-makers in target organisations.	Website statistics. Journal readerships. Distribution lists.	Journals accept publications.

LSHTM/NIH DFID Knowledge Programme on Tuberculosis - Activity plan for 2003/4

A. Closer collaboration between researchers, policy-makers and implementing agencies (PGF)

		Narrative Summary	Funding	Activities for 2003/4	Outputs for 2003/4
A.1	PGF	Maintain and strengthen links with policy makers and implementing agencies at local, national and international levels	DFID core; LSHTM; WHO; DFID activities; Rockefeller Foundation	Attend meetings (TB-STAG, STOP TB-TB/HIV core group and working group, European Respiratory Society) Continue meetings with national, district and local teams (Africa and Asia)	Strong links with WHO HQ and country offices, ministries of Health and NTP's in partner countries. Also with many partner institutes and organisations in-countries in Africa, Asia and Latin America.
A.2	VT	Strengthen action research office within LUDHMT	DFID activities	Support research capacity within district	Results of study on quality of sputum microscopy services
A.3	JW	Build closer links with other DFID KPs and with DIFD staff in UK and field offices	DFID core; DFID activities	Joint KP review with Liverpool, facilitate input to policy transfer and drug resistance studies; attend DFID meetings Maintain and strengthen links through research, development and evaluative work with DFID country teams.	Collaboration more visible between London and Liverpool Contributions to DFID research strategy and to discussions around knowledge systems
A4	JP	Operational Issues in Collaboration between MAAS-CHRD and LSHTM	DFID core and activities	Creating a model for successful collaboration	Progress report

1. Better understanding of the social, economic and cultural influences on access to services for TB and adherence to treatment (GB)

		Narrative Summary	Funding	Activities for 2003/4	Outputs for 2003/4
1.1	JG	Understand sources of delay in obtaining treatment in Karonga, Malawi	Wellcome Trust	Finalise paper Restructure questionnaire for ongoing studies	Paper

1.2	SR	Building on the foundations of the work in India	DFID core; DFID activities	Build capacity within CHRD group Links to be developed with local programme officers Search for funding	Collaborative projects funded
1.3	GB	Understanding HIV/AIDS and TB related stigma and discrimination in Zambia	DFID core; USAID	Analysis of Urban & Rural Data Analysis of Children's Research with KCTT International, national & local dissemination Leadership Advisory Council Meetings Submission of stigma intervention & evaluation proposals	Zambia Country Report Regional Research Report Children's Research Report Presentations at ICASA Scientific journals and publications
1.4	SA	Stigma and risk perception in developing countries	DFID Activities	Data collection and analysis in Nepal	Paper for publication drafted
1.5	GB	A comparison of the community response to the MTCT pilot programmes in rural and urban sites in Zambia	UNICEF	Secure funding, Fieldwork & Analysis	Consultancy Report mapping out impact of PMTCT interventions and examining male involvement
1.6	JP	TB Leprosy integration in Orissa: integration of locally appropriate approaches to TB/Leprosy intervention	DFID core; LSHTM	Discussions with LEPRA for further operational research ongoing	
1.7	VT	Understand bottlenecks in TB diagnosis and treatment	DFID core; WHO; EU	Data analysis on diagnostic process and adherence	Papers submitted
1.8	KK	Anthropological perspectives on the private sector and TB in Pune	DFID core	Prepare background paper	Paper reviewed
1.9	LR	Recife TB studies – studies of patient delay and adherence, with a focus on gender differences. Social determinants of TB at individual and collective levels	CNPQ	Recruitment continued. Analysis started	Progress report

2. Developing and testing affordable approaches to improving the speed and accuracy of diagnosis (RM)

		Narrative Summary	Funding	Activities for 2003/4	Outputs for 2003/4

2.1	RM	Evaluate phage technology for the diagnosis of PTB	DFID core	Complete dissemination of findings.	Publication in peer review journal Dissemination via meetings in Zambia & international conferences
2.2	RM	Development of antigen detection immunoassay.	DFID core	Continue laboratory studies. Seek further funding	Grant application submitted
2.3	PGF	Investigation of ELISPOT technology for identifying exposure to tuberculosis in Lusaka.	Completed	Continue collaboration with NDM, Oxford	Protocol for larger ELISPOT study
2.4	LC	Comparison of TSTs with ELISPOT in a cohort of household TB contacts and controls in Harare followed longitudinally for test conversions	Wellcome Trust	Ongoing follow-up and laboratory work.	Preliminary data analysis
2.5	LC	Comparison of TSTs with ELISPOT in a cohort of student nurses and polytechnic students in Harare to compare estimates of annual risk of infection and correlation with known TB exposure	Rockefeller	Recruitment started in Jan 2003	Progress report
2.6	LC	Investigating the causes of chronic cough in patients presenting to a primary health care centre in Harare, and the fraction of disease presenting with cough that is attributable to HIV, smoking, and indoor smoke exposure	Rockefeller	Finalise protocol and initiate study	Progress report
2.7	VT	Improve diagnostic accuracy in Lusaka	DFID grant	Complete data collection, analyse and disseminate	Project report
2.8	VT	Quality assessment of diagnostic services in Zambia	DFID activities JICA (training)	Action research to improve quality of sputum samples collected	Progress report
2.9	VT	Establish a clinical diagnostic cohort for evaluation of new diagnostic tests	DFID activities	Review chest clinic capacity.	Protocols agreed
2.10	PGF	Continue involvement with WHO Diagnostics initiative	DFID core; LSHTM; WHO	Review involvement with multi-site delay study.	Decision whether study feasible in Lusaka
2.11	PGF	Establish strain typing facilities in London and Lusaka	DFID core; LSHTM; Optimus;	Secure funding for Lusaka lab, establish collaboration within region	Funding decision
2.12	JW	The development of diagnostic guidelines and training module for smear negative TB in both high and low HIV prevalent countries	DFID Activities	If funded, guideline/ algorithm adapted from low HIV (Pakistan) to high HIV setting, and evaluation commenced in e.g. Swaziland & Uganda.	If funded, guideline/ algorithm and report of development.

3. Testing new strategies to improve coverage and treatment outcomes in TB control programmes (JW)

		Narrative Summary	Funding	Activities for 2003/4	Outputs for 2003/4
3.1	PGF	Further understanding of importance of and risk factors for relapse and reinfection	DFID core; Optimus	Develop follow-on study for Goldfields	Funding decision
3.2	LR	Recife TB studies – contributions of reinfection and relapse to recurrent TB in Recife. Evaluate contribution of molecular biology to TB control	CNPQ	Data collection	Progress report
3.3	JN	TB service delivery in areas with poor access to health facilities	DFID core	Data collection and analysis; continuation of costing study.	Progress report
3.4	JN	Private practitioners and TB control in S Asia	DFID core	Project completed. Unfunded work to continue on expansion to Kathmandu to test lessons learnt, in collaboration with JICA	Possible paper for submission on PPM Kathmandu experience.
3.5	JW	Understanding the constraints to compliance with DOT; why DOT gave no added benefit in the RCT in Pakistan?	DFID core	Paper writing	Paper submitted.
3.6	JW	Evaluate the innovative case management guide (CMG) and training courses for doctors, paramedics, CHW and managers in Pakistan.	DFID activities	To utilise the findings within a review and revision of the CMG and training modules in Pakistan.	Revised CMG and training modules revised and being used (replacing the existing version currently being used) as part of the nation-wide expansion of TB/ DOTS.
3.7	JW	Develop generic case management guide and training material and with country adaptation and implementation guidelines.	DFID activities	To widely disseminate the finalised guide, training and adaptation guide materials, with Healthlink, including on the web.	Materials disseminated widely to NTPs and TB agencies throughout the developing world / high prevalence countries.
3.8	JP	Develop a rural model of public-private mix for TB	DFID core; DFID activities; Alliance for Health Policy and Systems – Geneva	Meta-analysis of nationwide PPM; prepare papers	Papers reviewed
3.9	SR	Develop an urban model of public-private mix for TB	DFID core; DFID activities	Meta-analysis of nationwide PPM; prepare papers	Papers reviewed

3.10	KS	Urban HIV and Private Sector Providers (PSP): Investigating practices of PSPs in diagnosis and management of HIV in the context of developing country policy environment	To be found	Develop PhD project	
3.11	JP	DOTS implementation among the urban poor: Challenges and Responses	DFID core		Draft paper on "Operational issues in the provision of TB Care in the context of expansion of the RNTCP" Draft paper on "TB-HIV: Policy and Programme"
3.12	JW	Randomised Controlled Trial of weekly vs. daily DOT together with regional implementation of Swaziland version of care guide	DFID Southern Africa	To analyse and write up the completed trial. To scale up from one to all regions of the country with the NTP.	Submit for publication in peer reviewed and practitioner journals. Implementation of the model/ materials for com based TB commenced/on-going in all regions.
3.13	JW	Interaction between the TB treatment supporter and patient – qualitative study	DFID Activities	To analyse and write up the study.	To submit for publication in peer reviewed and practitioner journals.
3.14	LR	Trial of the Efficacy of a second dose of BCG	DFID grant/ Brazilian Gov	First analysis completed. Paper for publication. Follow up continues (funded locally) and further studies to be developed in Recife	Final report.
3.15	KS	A system approach to optimising diagnosis of smear-negative tuberculosis in high and low prevalence countries of South America	EU	Field visits to select sites and audit committees; development of inquiry tool; data collection and analysis; completion of the first audit cycle in each country	Inquiry tool Report on results of audit for each country Recommendations by each audit committee
3.16	JW	The development of diagnostic guidelines and training module for smear negative TB in both high and low HIV prevalent countries.	DFID Activities	To validate the guideline/ algorithm, analyse and write up. Commence district evaluation study.	Validation study completed, written up and submitted for publication. District evaluation study commenced, if funded.
3.17	VT	Working with LUDHMT to increase TB control coverage.	DFID core; DFID Activities	Strengthen Action Research Office to support TB control	New action research protocols agreed

3.18	SR	Operational research on "Quality of care" in the RNTCP	DFID core; to be found	Small focused studies on: Diagnostic and treatment algorithms in the RNTCP; Quality of DOT provider; Impact of HIV on treatment outcome; Communication strategies in the RNTCP	Preliminary analysis Larger proposal in development
3.19	ZU	Development of public private partnership for TB control in Bangladesh	DFID core; DFID additions	Prepare background paper. Liase with Bangladesh NTP, NGOs, PPs. Develop proposal for Bangladesh funding	Paper for publication. Proposal submitted. Model designed. Activities initiated.

4. Evaluating innovative ways to promote synergy between services for TB and HIV in countries most affected by the dual epidemic (PGF)

		Narrative Summary	Funding	Activities for 2003/4	Outputs for 2003/4
4.1	JW	Develop HIV/AIDS component of the on-going regional TB/HIV project in Swaziland.	DFID Southern Africa	Review experience from the sub region, revise/adapt/ develop tools, e.g. for Facility/ Comm-home-palliative care components. Monitor implementation experience.	Reports including of review of implementation experience, tools revised and model of care/ tools expanded and in use throughout the region.
4.2	JG	Develop package of care for spouses of TB patients in areas with high HIV	DoH Wellcome Trust	Start field work	Data collection
4.3	HA	Operationalise a combined approach to TB and HIV at the district level in Zambia	DFID core/Zambian Gov	Establish NPO National TB/HIV WG Establish first 3 districts inc. training of staff	NPO in post TB/HIV WG having regular meetings Production of training manual Annual report of progress
4.4	VT	Describe long term efficacy of preventive therapy	DFID core	Final review and data collection	Report and paper for journal submission
4.5	PGF	Technical support to ProTEST project in Malawi	WHO; LSHTM	Analyse data from ProTEST Malawi; Foster collaboration with TB/HIV expansion in Malawi	Disseminate economic and behavioural data
4.6	PGF	TB/HIV pilot sites South Africa	WHO; LSHTM;	Analyse data from ProTEST sites;	Disseminate economic and feasibility

			DFID activities	Foster collaboration with DoH and BTC for TB/HIV expansion	data
4.7	PGF	Co-ordination of ProTEST initiative and involvement with TB-HIV group in StopTB	WHO; LSHTM	Attend meetings with STOP-TB staff	Plans for further TB-HIV policy support
4.8	PGF	Participatory proposal development to maximise collaboration between HIV and TB services in countries supported by KNCV	DFID activities; LSHTM	Attend TB-HIV core group meeting at KNCV	Shared workplan
4.9	LC	Determine acceptability and efficacy of on-site access to VCT and enhanced clinical services at the workplace to reduce TB incidence and HIV-associated morbidity in Zimbabwe	LSHTM; Wellcome trust	Analysis baseline data	Abstract on acceptability of VCT submitted. Further data analysis and manuscript preparation.
4.10	LC	Use of mathematical modelling to investigate the likely efficacy of novel TB control interventions	LSHTM; Wellcome Trust	Finalise analysis and disseminate results	Prepare and submit manuscript
4.11	GC	Analysis of time trends of TB within cohorts of HIV-positive and HIV-negative goldminers during a 10 year period	LSHTM: Wellcome Trust: Aurum Health Research; SIMRAC	Disseminate results	Manuscript submitted
4.12	GC	Investigation of the relationship between incidence and prevalence of TB in mineworkers, and impact of HIV status on duration of disease activity	LSHTM: Wellcome Trust: Aurum Health Research; SIMRAC	Finalise analysis and disseminate results	Prepare and submit manuscript
4.13	GC	Comparison of the efficacy of different active case-finding methods in miners attending an annual fitness examination	LSHTM: Wellcome Trust: Aurum Health Research; SIMRAC	Finalise analysis and disseminate results	Prepare and submit manuscript
4.14	KK	Problem of HIV associated TB in Mumbai and Pune – "Understanding the meaning of "management" of HIV patients in the context of the private medical sector" and "Issues of consent / disclosure / confidentiality with regard to management of HIV patients in the private sector"	DFID core; DFID activities	Data collection and analysis	Papers submitted on : "HIV Management Practices of Private Practitioners in Pune City" and "Factors influencing Providers' actions in the Management of HIV patients"
4.15	KS	Private sector and HIV management	DFID core; DFID activities; WHO SEARO	Data collected from private labs, pharmacies and hospitals	Preliminary analysis and background papers prepared
4.16	LK	Economic and Epidemiological Evaluation of the ProTEST Pilots	WHO; DFID core	Completion of data collection in Malawi. Continuation of data	Conference presentations. Papers for journal submission.

				collection in South Africa. Initiation of data collection in second phase for Zambia. Analysis of cost-effectiveness in Malawi	
4.17	LK	Cost-effectiveness of TB/HIV integration activities in Thyolo District, Malawi	WHO; DFID core	Completion of data collection and analysis.	Conference presentation. Cost report. Journal paper for submission.
4.18	HA	Integration of MTCT and ProTEST: A combined approach	WHO	Establish rural pilot sites Continue with urban pilot site	3 new rural pilot sites operational annual report
4.19	GB	Evaluation of ProTest-MTCT outreach activities in Chipata Compound, Lusaka	DFID Core & WHO	Supervising research design, fieldwork and analysis January to March 2003	Recommendations to improve outreach activities
4.20	JW	To adapt and field test an integrated management of adult/adolescent illness guideline for primary care	Rockefeller Foundation	Chronic care (with indicator diseases epilepsy and asthma) and palliative care process and tools and materials developed and tested.	Reported, review of field testing of tools, materials and care in the two district field sites submitted to WHO HQ.
4.21	YW	Home-based care provision to the patients with TB and HIV/AIDS in China: an extended literature study	DFID activities	Data collection continuing. Dialogue on follow-up work with partners instituted in-country.	Lit review submitted for publication.
4.22	JH	Developing an Operational Model for Integrating HIV/AIDS Prevention into Micro Finance Activities in South Africa.	DFID grant	Dissemination and writing up results of baseline surveys Continued roll out of Sisters for Life training Develop tools for, plan and begin (late 2003) follow up surveys Conduct community liaison and local dissemination	Papers for journals in public health, and microfinance fields. Conference / meeting presentations in SA and international to reach public health and microfinance audiences. Documentary film.
4.23	AG	Evaluate the effectiveness and cost-effectiveness of primary TB preventive therapy among HIV -infected mineworkers in South Africa	Aurum Health Research	Complete paper on effectiveness Submit abstract on cost-effectiveness	Paper submitted Conference presentation
4.24	AG	Evaluate the effectiveness of secondary TB preventive therapy among HIV-infected mineworkers in South Africa	Aurum Health Research	Complete write up	Paper published

4.25	AG	Investigate the contributions of relapse and reinfection to recurrent TB among mineworkers in South Africa	Aurum Health Research	Complete data analysis	Conference presentation
4.26	EN	Use of INH prophylaxis post-partum to prevent tuberculosis among HIV positive women in Cameroon	Elisabeth Glaser Paediatric AIDS Foundation	Data collection continuing	Progress report
4.27	PGF	Develop community based studies to reduce TB and HIV with CREATE consortium	Bill and Melinda Gates Foundation	Attend executive committee meetings; develop proposals	Several proposals submitted for funding
4.28	HA	CREATE – Zambia – Community randomised household study; individually randomised treatment study	Bill and Melinda Gates Foundation	Develop proposals, secure funding	Funding secured, national collaboration established
4.29	JG	CREATE – Malawi – Culture based prevalence survey	Bill and Melinda Gates Foundation	Develop proposals, secure funding	Funding secured, national collaboration established
4.30	GC	CREATE - Compare community-wide with targeted TB preventive therapy among mineworkers in South Africa	Bill and Melinda Gates Foundation	Develop proposals, secure funding	Full proposal submitted
4.31	LC	CREATE – Southern Africa – MATSA study	Gates Foundation	Develop proposals, secure funding	Funding secured, national collaboration established
4.32	LK	Economic analysis of feasibility of HAART in the workplace in South Africa	Aurum Health Research	Finalisation of data collection instruments. Initiation of data collection.	Data collection and instruments.
4.33	LR	Recife TB studies – risk factors for non-cure	CNPQ	Continue recrutiment	Progress report

5. Exploring approaches to reducing the threat of multi-drug resistant TB (JG)

		Narrative Summary	Funding	Activities for 2003/4	Outputs for 2003/4
5.1	JG	Explore long term trends in drug resistance in Malawi	DoH Wellcome Trust	Continue to monitor drug resistance	Results reported to NTP
5.2	VT	National surveillance of drug resistance in Zambia	DFID core, WHO	Prepare protocol for next survey	Protocol available
5.3	JG	Understand the global importance of the Beijing/W family of strains in drug resistance	DFID core/EU/DoH	Finalise work on standardised definition of the Beijing strain Collect datasets from studies worldwide	Paper on standardised definition

5.4	PGF	Understand prevalence and significance of Beijing-type strains in Zambia and South Africa	DFID core; Optimus	Develop proposal and secure funding	Funding secured
5.5	RM	Develop strategies for the management of MDRTB in Kampala, Uganda	Burroughs Wellcome	Continue with laboratory and clinical studies.	Data on effectiveness of new tests for drug resistance.
5.6	RM	Optimisation and evaluation of low cost rapid methods for detection of MDRTB using bacteriophage technology.	DFID Core EU	Continue laboratory studies	Data on effectiveness of bacteriophage technology for detection of drug resistance.
5.7	RM	Ugandan national surveillance of drug susceptibility.	Wellcome	Develop proposal and seek funding	Funding application submitted
5.8	LR	Recife TB studies – drug resistance	CNPQ	Analysis of the predictive factors for drug-resistant tuberculosis	Progress report
5.9	RM	DNA fingerprinting for Karonga Prevention Study	Wellcome Trust	Ongoing laboratory and computer analysis	Papers prepared

6. Understanding the impact on disease control programmes, of different approaches to Health Sector Reform (JN)

		Narrative Summary	Funding	Activities for 2003/4	Outputs for 2003/4
6.1	JN	Interactions between TB and decentralisation in Nepal	DFID additions	Analysis of collected data.	Recommendations for Nepal and other countries; paper for publication.
6.2	PGF	Policy analysis, comparison of health systems and TB outcomes and epidemiology	DFID core	Meet with Liverpool KP to develop joint approach	Plan of action for studies

7. Policy Transfer (JP)

		Narrative Summary	Funding	Activities for 2003/4	Outputs for 2003/4
7.1	JP	Policy Transfer in Infectious Diseases: (South Africa and Mozambique)	ESRC	Dissemination of findings	Papers published
7.2	JP SR	Decentralisation of the Indian RNTCP: Why, when, how and how much? Explore Policy – programme interactions	DFID	Prepare papers on TB-HIV: Policy and Programme and on Operational issues in the provision of TB Care in the context of expansion of the RNTCP	Paper reviewed

7.3	KB	Policy Transfer - comparative study of four countries	DFID grant	Pilot phase; recruit research team; methodology workshop	Protocols and team in place Report of training workshop.

Effective communication strategies (AC)

		Narrative Summary	Funding	Activities for 2003/4	Outputs for 2003/4
1		Maximise impact of KP work on policy and practice	ID	Programme lecture series World TB Day display Updating of programme website Programme Meetings Links with ID21. Encourage use of GRIP website	Briefing Notes NIH Newsletters LSHTM Programme Booklet TB Related Research Booklet Newsletters GRIP project briefs

AC - Alexandra Coldham
AG - Alison Grant
EN - Emmanuel Nsutebu
GB – Ginny Bond
GC - Gavin Churchyard
HA - Helen Ayles
JH - James Hargreaves
JG - Judith Glynn
JN - James Newell
JP - John Porter
JW - John Walley
KB - Karen Bissell
KK - Karina Kielmann
KS - Kamran Siddiqi
LC - Liz Corbett
LK - Lilani Kumaranyake
LR - Laura Rodrigues
PGF - Peter Godfrey-Faussett
PS – Pam Sonnenberg
RM - Ruth McNerney
SA – Sophie Arborio
SR – Sheela Rangan
VT - Vincent Tihon
YW – Yan Wang
ZU – Zafar Ullah

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April 2003-March 2004

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EXAMPLES OF CAPACITY STRENGTHENING SUPPORTED BY KNOWLEDGE PROGRAMME

DEVELOPING COUNTRY INSTITUTION	LEVEL AND NATURE OF COLLABORATION	TRAINING ACTIVITIES	QUALIFICATIONS	EXTENT TO WHICH CAPACITY ENHANCED
INDIA				
Centre for Health Research and Development, Pune	Meetings, proposal writing, training, funding for core staff	Qualitative research methods and analysis and interpretation of qualitative data Operations research methodology Writing proposals and papers	PhD anticipated	Independent proposals now being funded. Staff accepted for PhD training
Lepra India	Meetings, consultancies, training	Writing of manuscripts		Strengthening of ability to conduct research
MALAWI				
National Tuberculosis Programme	Karonga Prevention Study links with National TB Programme The Field Director is on the research committee of the Malawian Government Health Service KP provided ongoing technical support to ProTEST project Collaborate with local economist in training for health economics and costing	Project members have regular meetings with the head of the TB control programme Operations research, data handling, behavioural survey techniques – training courses in Lilongwe and London Training and supervision in costing of TB/HIV related activities	Certificates awarded	ProTEST project staff taken on by NTP as part of TB/HIV expansion plans Development of local capacity in costing
Karonga Prevention Study	KPS has colalborated for more than 20 years with the community and district staff.	Training for PhD's for Tobias Chirwa and Ben Chilima.	PhDs awarded Computer training in London for two Malawi staff Refresher courses on HIV counselling for Malawi field staff	Skill transfer between organisation.
NEPAL				
Nepal NTP	Working closely with NTP at all levels	Field worker accepted for PhD	Nepali employee Sushil Baral enrolled for PhD at Leeds	Increased understanding of the importance of research to

DEVELOPING COUNTRY INSTITUTION	LEVEL AND NATURE OF COLLABORATION	TRAINING ACTIVITIES	QUALIFICATIONS	EXTENT TO WHICH CAPACITY ENHANCED
				guide policy Increased knowledge of research techniques
Ministry of Local Government	Development of central planning capacity; increased understanding of the importance of communication to guide policy; increased understanding of the importance of research to guide policy			
PAKISTAN				
Association for Social Development	Co-principal investigator/ consultant with the Nuffield/ NTP	Supporting the NTP in country-wide research development and training	6 years of joint R&D; Amir Khan completing PhD Managers and supervisors have been trained using the training modules and guidelines	Now a principal investigator/ consultant in his own right.
RUSSIA				
Samara Oblast Health Department	Long-term work on implementation of DOTS strategy, policy development for TB-HIV integrated responses. Integrated research programme	Quarterly steering group meetings, fortnightly meetings of pilot site coordinators. Formal training programmes have been run on several occasions for trainers and now trainers train others on regular basis. Quarterly formal audits.	1 MSc gained. 2 research fellows registered for PhDs	Ongoing collaborative relationship established
SWAZILAND				
Good Shepherd Hosp.	Co-principal investigator	Supporting the NTP to replicate	3rd year of joint R&D	Project implementor and co-researcher
SOUTH AFRICA				
South Africa - Health Economics Unit, University of Cape Town	PhD training - Public Private Mix of Tuberculosis Control in South Africa	PhD supervision of staff member (Edina Sinanovic)	PhD expected	Development of Economics of TB
University of Witwatersrand	Locally based field staff employed and encouraged to	Support for 2 staff to attend MPH programmes at Wits University, in	MPH	

DEVELOPING COUNTRY INSTITUTION	LEVEL AND NATURE OF COLLABORATION	TRAINING ACTIVITIES	QUALIFICATIONS	EXTENT TO WHICH CAPACITY ENHANCED
	continue training. Programme staff contribute to teaching programmes for both medical and MPH students	collaboration with the School of Public Health Wits Partial support to 8 field staff now enrolled for distance based learning degree courses..		
Goldfields of SA	Collaboration with Goldfields Mining Company on TB control	PhD for Pam Sonnenberg	PhD awarded (and Woodruff Medal - given for relevance to clinical tropical medicine and leading to changes in practice.)	
National Department of Health, Chief Directorate of HIV and Directorate of TB	Work on integration of TB and HIV services with Department of Health. Consultancy for Belgian Gvt.and WHO	Training for PhD (Harry Hausler) Technical review of pilot sites Formulation of TB/HIV support for expansion of TB/HIV activities	PhD expected	Skills transfer between organisations
Aurum Health Research	PhD training – Impact of ART on productivity in TB/HIV envorioment	PhD supervision of staff member (Debbie Muirhead)	PhD expected	Development of Economics of TB and development of research programme related to economics of TB and HIV
TANZANIA				
Muhimbili College of Health Sciences, Dar es Salaam	Two year scholarship, to include research project to evaluate rapid tests for drug resistance.	Formal teaching in London (8 months) project work in Tanzania (16 months)	MSc awarded	Provision of skills to perform studies on evaluation of new laboratory technologies.
ZAMBIA				
LUDHMT	Collaboration in protocol development, data collection and analysis Set up of Action research Unit will enable the District Management team to get useful information to understand the local situation better, test and implement interventions Support to WHO protocol	Problem analysis workshop WHO TDR Protocol development workshop in Addis Ababa attended by Dr Kaminsa and Mr Samungole from LUDHMT.	Certificate	

DEVELOPING COUNTRY INSTITUTION	LEVEL AND NATURE OF COLLABORATION	TRAINING ACTIVITIES	QUALIFICATIONS	EXTENT TO WHICH CAPACITY ENHANCED
	development application			
University Teaching Hospital, Lusaka	Long-term collaboration with department of Microbiology	Grace Mbulo and Bupe Kambashi registered for Distance based learning degrees. Grace Mbulo trained in specialist laboratory techniques. Proposal developed for PhD scholarship.	Diploma in Health management Diploma in Infectious Diseases Diploma in Health Systems Training in laboratory skills	Both technologists writing papers and proposing further studies
Chest Diseases Laboratory	Long term support for both training (data handling, quality assurance) and equipment and consumables Collaboration on many research projects over past 10 years	Julie Kinkese visited LSHTM lab for two weeks this year Weekly supervision by programme staff in Lusaka Scholarships for MSc studies applied for.		
UNZA School of Medicine	Long-term institutional support. Three LSHTM staff have honorary lectureships within departments of medicine and community medicine. Participation in the UNZA Research and Ethics committee	Lectures and tutorials to undergraduate and postgraduate medical students. Training of 6 research assistants for data collection at UTH Daily interaction with project and non-project staff		
Central Board of Health,/ National TB programme	Training facilitation Encouraged application for doctoral training for head, laboratory services	DOTS training in general with practical lessons learned from the research The KP organised DOTS training for 30 members of staff from 15 Districts and 25 Medical Doctors Grace Kahenya accepted for DrPH	DrPH anticipated	
Fountain of Hope, Copperbelt Health Education Project, Misisi	Developed anti-stigma education toolkit	Exchange of skills during process of developing toolkit	Broad ownership and use of toolkit	Working with a Zambian demographer to co-write research proposal

DEVELOPING COUNTRY INSTITUTION	LEVEL AND NATURE OF COLLABORATION	TRAINING ACTIVITIES	QUALIFICATIONS	EXTENT TO WHICH CAPACITY ENHANCED
Home Based Care Project, Youth Activist Organisation, Network of People living with HIV and AIDS in Zambia, YWCA, Planned Parenthood Association of Zambia, International AIDS Alliance, National AIDS Council, Church Health Association of Zambia, Choma HIV/AIDS District Task Force, Lusaka District Health Management Board, Ministry of Agriculture and Cooperatives and Zambia Integrated Health Programme				
Kara Counselling & Training Trust	MOU for Community REACH intervention project	Teaching project staff (x3) how to use qualitative data programme and how to do qualitative data analysis & presentations. Participation in national & international conferences. Anti-stigma education skills Technical support to Monitoring Research and Evaluation Unit (MERU) Technical support to M&E of anti-stigma (Co mmunity REACH) education project & to setting up ProTEST clinics in intervention sites		Building up Zambian capacity to conduct quality social science research Development and piloting of stigma indicators

DEVELOPING COUNTRY INSTITUTION	LEVEL AND NATURE OF COLLABORATION	TRAINING ACTIVITIES	QUALIFICATIONS	EXTENT TO WHICH CAPACITY ENHANCED
UGANDA				
Joint Clinical Research Centre, Makere Medical School, Kampala	Exchange visits between labs	Training of laboratory staff and transfer of phage technology		Ongoing collaborative project established
ReachOut Kampala	Technical assistance	Training of health staff.		Ongoing collaboration.
Masindi district	Technical assistance	Training of health staff		Ongoing collaboration
MISCELLANEOUS				
Various – 52 students enrolled on MPH/MA/cert courses; 74 enrolled 2003/4.	Programme staff support teaching on the Nuffield Institute MPH/MA/cert courses.	<u>MPH/MA dissertations completed 2003:</u> Implementation of DOTS Strategy in the Post War Conflict Situation in Sierra Leone. Review of the Malawi Tuberculosis Control Programme in the light of Health Sector Reform. Plus seven other dissertations with a TB component. MPH/MA dissertations initiated2004: Improving TB management in the upper west region of Ghana, a programme review and action plan for integration within primary health care Case finding of tuberculosis in China: a review and plan Plus nine other dissertations with a TB component.		MPHs/MAs awarded
Various – 20 students enrolled on Intercalated BSc in International Health course 2002/3; 38 enrolled 2003/4	Programme staff support teaching on the Nuffield Institute Intercalated BSc in International Health course.	Indoor air pollution in developing countries: implications for acute respiratory infections in children Perceptions of patients of doctors' communications of diagnosis and treatment Plus seven other dissertations with a TB component.		BScs awarded

DEVELOPING COUNTRY INSTITUTION	LEVEL AND NATURE OF COLLABORATION	TRAINING ACTIVITIES	QUALIFICATIONS	EXTENT TO WHICH CAPACITY ENHANCED
Various - 270 students enrolled on MSc courses from 63 countries	Programme staff support teaching on the LSHTM MSc courses Programme staff closely involved in Distance Learning MSc in Infectious Diseases, including Advanced Unit on Tuberculosis and MSc Medical Microbiology.	Msc Projects: 2003 Susceptibility of Mycobacteria to Isoniazid, ethambutol and para-nitrobenzoic acid using mycobacteriophage D29. At least 10 TB-related MSc projects		MScs awarded

Staff involved with the DfID TB Programme
April 2003 – March 2004

NAME	Time spent on Programme	Time paid for by Programme
London School of Hygiene & Tropical Medicine		
Dr Peter Godfrey-Faussett	**80%**	**-**
Dr John Porter	**80%**	**-**
Dr Judith Glynn	**25%**	**25%**
Dr Karina Kielmann	**80%**	**75%**
Dr Ruth McNerney	**100%**	**70%**
Ms Alexandra Coldham	**100%**	**100%**
Lilani Kumaranayake (health economist, PHP)	**50%**	**20%**
Professor Paul Fine	**5%**	**-**
Ms Maria Quigley	**10%**	**-**
Dr Hamidou Traore	**50%**	**20%**
Nuffield Institute of Health		
Dr John Walley	**80%**	**20%**
Dr James Newell	**80%**	**10%**
Dr Zafar Ullah	**100%**	**100%**
Dr Sara Escott	**20%**	**20%**
Dr Kamran Siddiqi	**10%**	**-**
Lusaka		
Dr Helen Ayles	**100%**	**20%**
Dr Virginia Bond	**100%**	**100%**
India		
Dr Sheela Rangan	**50%**	**20%**
Pakistan		
Dr Amir Kahn	**50%**	**25%**
Doctoral Students		
Simon Lewin	**10%**	**-**
Ms Willi Githui	**25%**	
Dr Anna Hurtig	**60%**	**-**

These percentages are rounded and estimations – please refer to the cost statements submitted for actual costs

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

RESEARCH PROJECT EXPENDITURE AND CLAIM

To:
Department For International Development
Central Research Team
1 Palace Street
London
SW1E 5HE

Date: 09.03.04

PROJECT TITLE: Tuberculosis Knowledge Programme

INVESTIGATOR: P Godfrey-Faussett DFID Ref: HPD KP9

PERIOD: **01.01.04 - 31.03.04** LSHTM Ref: ITCRHA19

BUDGET HEADING . . .	BUDGET 2003/2004 . A	PREVIOUS SPEND THIS YEAR B	EXPENDITURE FOR THIS PERIOD C	TOTAL SPEND THIS YEAR (B + C) D	BALANCE OF BUDGET REMAINING (A - D)
SALARIES	221,505.00	115,939.35	105,565.65	221,505.00	0.00
EQUIPMENT	1,000.00	1,810.27	0.00	1,810.27	(810.27)
OTHER RECURRENT	299,469.00	179,716.22	118,942.51	298,658.73	810.27
TRAVEL	17,836.00	8,930.07	8,905.93	17,836.00	0.00
ADMINISTRATION	101,892.00	53,332.10	48,559.90	101,892.00	0.00
TOTALS	641,702.00	359,728.01	281,973.99	641,702.00	0.00

TOTAL NOW REQUESTED **£281,973.99**

If Final Claim Tick Box ☐

I hereby certify that the actual expenditures detailed above have been necessarily incurred in accordance with the terms and conditions of this Research Scheme.

Signed……..……..……Research Finance Officer