

ANNUAL REPORT

1. BACKGROUND INFORMATION

Title of RPC: **The DFID Communicable Disease Programme: (TARGETS) Team for Applied Research to Generate Effective Tools and Strategies for Communicable Disease Control**

Reference Number: **HD205**

Period covered by report: **June 2007 – May 2008**

Name of Lead Institution and Director: **London School of Hygiene and Tropical Medicine, Professor John Porter.**

Key partners: **Centre for Health Research and Development, India
Ifakara Health Research and Development Centre, Tanzania
INDEPTH Network, Accra and worldwide
KNCV-Tuberculosis Foundation, Netherlands
Makerere Medical College and Infectious Diseases Institute, Uganda
The Zambian AIDS-related TB (ZAMBART) Project**

Countries covered by research so far: **India, Afghanistan, Tanzania, Ghana, Uganda, Zambia, Malawi, Benin, The Sudan, South Africa, Argentina, Cuba, Peru, Brazil, East Timor, Kenya, The Gambia.**

History of the LSHTM Malaria and TB Research Programmes that have created TARGETS

The Department for International Development (DFID) has supported research programmes at the London School of Hygiene and Tropical Medicine since 1990. The Malaria Programme ran from 1990 to 2005 and the TB Programme from 1995-2006. This long term support has helped to build strong teams of researchers in Malaria and TB both in the UK as well as with partners and institutions in other parts of the world. Capacity building and applied research have been important themes within both programmes.

The current DFID Communicable Disease Programme (TARGETS) has been created through the integration and amalgamation of staff and projects from previous Malaria and TB Programmes. In the creation of the current programme, DFID has asked the RPCs to focus on DFID's current research and policy priority - poverty and vulnerability. The competitive process laid down by DFID for its RPCs has provided an opportunity for the Malaria and TB groups to work together. Although the individual teams continue to work within targeted specific disease interventions, they come together to address the broad themes of poverty and vulnerability within the Millennium Development Goals (MDGs). This happens through the logframe focus on the knowledge generated outputs of: 1) scaling up of communicable disease programmes; 2) new tools and strategies for disease control; 3) vulnerability to disease and access to health care systems; and 4) monitoring and evaluation.

2. ONE PAGE SUMMARY

How far have intended outputs as listed in the logframe been achieved?

The logframe has been altered to address recommendations from the Mid Term Review in July 2007

1. Knowledge generation has been achieved through the following indicators (OVIs):

A Scaling up. Achievements include: an analytical tool to guide strategic decision-making on delivery systems and mix of systems for ITN delivery at national level; scale-up of the Action Research Unit (to provide technical support to District Health Management Teams in TB operational research) to district and national level in Zambia.

B New Tools and Strategies. Achievements include: the development of model(s) for co-ordination between private and public sectors in Hyderabad for TB/HIV management; the development of a decision-support tool for policymakers considering implementation of IPTi.; the completion of a study of the immunogenicity and safety of the new pentavalent meningitis vaccine in Ghana.

C Vulnerability. Achievements include: the analysis of gender disparities in Zambian TB notification and cohort data; a study on access to HIV Care for People Living with HIV/AIDS in three states of India ;public-private partnership with manufacturers leading to development and WHO approval of several new brands of long lasting nets including nets to overcome insecticide resistance.

D Monitoring and Evaluation. Achievements include: analysis of infant and mortality trends to monitor progress towards the MDGs conducted by INDEPTH; the development of an evaluation framework for delivery of ACTs through alternative delivery systems.

2. Knowledge dissemination has been achieved through the following indicators (OVIs):

An updated innovative and dynamic communication strategy. On-going dissemination of research results through stakeholder workshops (e.g. Ghana, Tanzania, Uganda & India), national and international meetings (e.g. MAAS/CHRD dissemination of public/private TB/HIV) and publication of results in a range of media from newspapers and pod casts to peer reviewed journals.

3. Knowledge influences policy and practices (OVIs)

1) Effective partnership within TARGETS and with policy makers. Eg, the exchange visit between MAAS/CHRD and ZAMBART resulted in the development of project proposals on the delivery of care for co-infected HIV/TB patients. In Uganda, the Makerere analysis of under 5 mortality data led to a request from the MOH for further examination of the 2006 DHS and enhanced the scale up of ITNs and RHS. In Ghana, the artenusate-amodiaquine study was a collaboration with the national malaria control programme.

2) Research questions defined to meet stakeholder's needs. Eg, the TNVS monitoring and evaluation studies continue to respond to the information requirements of the MOH and implementation contractors. MAAS/CHRD have been working as a technical and research support team for the NGO, Network Theni in Tamil Nadu State. At ZAMBART, a project on diagnostics supporters addresses an issue raised by the National TB Programme.

3) Potential users involved in planning and implementing. Eg, under the Malaria Transmission Consortium a workshop was held in Lusaka to bring together researchers and malaria programme staff to jointly agree consortium activities. At Ifakara the TNVS stakeholders (MOH and international donor agencies) contribute to the content of the monitoring and evaluation tools..

4) Engagement with National and International policy organisations. TARGETS members engage through: membership of national taskforces & international policy making bodies; invitations to present at national and international policy meetings; invitations to contribute to national and international policy briefs.

What is the impact of the research programme so far?

Examples:

a) Work undertaken by TARGETS members (generation and analyses of data from the Navrongo IPTi trial), is being used by the World Health Organization special Technical Expert Group and by the Institute of Medicine (US) in their reviews on the suitability of IPTi for roll-out across sub-Saharan Africa.

b) Support provided to the DOMC in Kenya contributed to the development of a new Integrated Vector Control policy and implementation framework for ITNs in Kenya.

c) Evaluation of training in Zambia has resulted in formal recognition of new cadre of TB microscopists by the MOH in Zambia.

d) Action Research Unit (in Zambia) to provide technical support to District Health Management Teams in TB operational research is being scaled-up to national level.

3. KEY THEMES

Theme 3i: What are the research outputs?

Knowledge generated: The list in the table below is illustrative, rather than exhaustive.

What progress has been made on key programme outputs?

Outputs	Verifiable Indicators (OVI)	Progress	Recommendations/Comments
New knowledge for taking interventions to scale and improving access for vulnerable groups.	Decision support tools for taking interventions to scale; reports on new approaches to improving access.	<p>A study to assess the factors influencing the effective use of rapid diagnostic tests to treat malaria in South Africa has been completed (Project 18)</p> <p>A 3rd round of household and health facility surveys to assess the on impact of Tanzania's voucher scheme (TNVS) on ITN coverage were undertaken in July/August 2007 and phase 2 qualitative work was undertaken in Oct/Nov 2007. Voucher tracking and Retail auditing (3rd round) have also been implemented. (Project 16)</p> <p>Support provided to the Department of Malaria Control in Kenya for decisions regarding the strategic mix of ITN delivery systems.</p> <p>A study on "Community Acceptability of Artesunate-Amodiaquine for Treatment of uncomplicated Malaria" was undertaken successfully. (Project 110)</p>	<p>The results will be disseminated in 2008 and this will influence the deployment of RDTs in Africa</p> <p>The results from this round of evaluation studies were fed back to the key stakeholders (MOH and the donors) in November 2007. The results of the programme have contributed to the current GFATM application by the Tanzanian MOH for a continuation of the strategy.</p> <p>Support contributed to the development of a new Integrated Vector Control policy and implementation framework for ITNs in Kenya</p> <p>Report of results was submitted to the National Malaria Control Programme in Ghana operational for 2 years to further gauge the reactions of the population</p>
New tools and strategies for disease diagnosis, treatment and prevention	Reports on the efficacy of new tools and strategies, and of their effectiveness under field	A study to assess TB re-treatment cases in Kampala found that drug resistance is high in such cases. Current re-treatment regimes are failing, and in	Rapid DR testing and 2 nd line treatment for MDR-TB cases is needed in this setting. Discussions on implementation within the NTLN are ongoing. Further dissemination of study findings to be undertaken.

<p>and overcoming obstacles to scaling-up.</p>	<p>conditions.</p>	<p>some cases amplify resistance. (Project 15)</p> <p>A study to analyse headspace vapours has identified potential biomarkers for TB diagnosis. (Project 10)</p> <p>A study of 4th generation ELISA test results has shown that false positive HIV results can be associated with other infections. (Project 26)</p> <p>A trial of an insect repellent in addition to bednets showed a protective effect against <i>P. vivax</i> (Project 113,)</p> <p>Data collection has been completed in the trials on the efficacy and safety of drugs alternative to SP for intermittent preventive treatment in infants (IPTi). (Project 28)</p> <p>Enrolment has started in the study on the effectiveness of intermittent screening and treatment of malaria compared to IPT in pregnancy in Ghana. (Project 39)</p> <p>A trial of the safety and immunogenicity of Mencevax ACW135 polysaccharide vaccine in children and adults in Ethiopia has been completed</p> <p>Evaluation for WHO of several brands long lasting insecticidal nets in Tanzania (MR)</p> <p>New long-lasting indoor residual spray formulations being developed by industry and tested</p>	<p>Patent application submitted. Further funding is being sought.</p> <p>Extra caution should be used when interpreting HIV results in populations where worm infections are endemic.</p> <p>Published in the BMJ</p> <p>Results to be disseminated in 2008. Will have strong influence on the development of a policy on IPTi deployment across sub-Saharan Africa.</p> <p>The result of this study may lead to a strategy other than IPT in pregnancy to reduce the burden malaria in Africa.</p> <p>Analysis underway and results to be presented to the WHO Technical Expert Group meeting during 2008.</p> <p>Four new brands of LLIN received approval and now able to compete against brands that previously held the monopoly, with potential to increase supply and reduce prices</p> <p>The Innovative Vector Control Consortium (IVCC), a collaboration between industry and academia to develop new vector control tools has stimulated development of new IRS products</p>
<p>New knowledge on risk and vulnerability and how it can be used to target interventions.</p>	<p>Disease specific guidelines for risk mapping and targeting strategies. Tool kits for rapid assessment.</p>	<p>A study to identify specific vulnerabilities of tribal populations in Adilabad District, India, through the compilation and analysis of secondary data from public sector communicable disease programmes is on-going. (Project 61)</p> <p>A study to assess vulnerability in poor districts in Tanzania by integrating population based prevalence studies of TB with more in-depth poverty analysis has been undertaken. (Project 63)</p>	<p>Preliminary analysis of trends for leprosy data shared with local district level programme managers, Project officers and at International Leprosy conference, Hyderabad, February 2008.</p> <p>Results from the study highlight the barriers for vulnerable groups (e.g. widows and migrants) in accessing services for diagnosis of HIV, treatment of opportunistic infections and ART in the public and private sector.</p>

		<p>In two poor communities with high HIV prevalence, data from a TB prevalence survey (ZAMSTAR 2005-6), and from an in-depth case control study of infectious TB cases (2006-7), are being integrated with findings from the 2000 Census dataset for Lusaka Province in order to assess the impact of poverty at community level. (Project 24 & 46)</p> <p>A study on converging impact of TB, HIV and Food Insecurity on poor households in Zambia and South Africa has been completed. (Project 82/108)</p>	<p>In this study people with low socioeconomic position (SEP) were three times more likely to be prevalent cases of tuberculosis compared to people with high SEP, even after adjusting for BCG vaccination, HIV status and migration. Food insecurity was the most important dimension affecting the risk of prevalent TB. Currently, the STOP TB Strategy recommends active screening of TB among all people with HIV. In future, this may expand to include systematic TB screening among people in high TB burden settings who are exposed to malnutrition or food insecurity.</p> <p>Findings reveal different patterns of poverty across countries, with Zambian households more vulnerable to being tipped into deeper poverty by TB. Comparative research report and policy brief to funders due for submission by May 2008.</p>
<p>Indicators and tools to monitor and evaluate the impact of communicable disease programmes through existing systems.</p>	<p>Guidelines for measurement of morbidity attributable to communicable diseases, and for robust estimates of coverage and impact of control programmes and delivery systems.</p>	<p>A study on the current measures of drug resistant TB has been completed and the results show that they do not fully describe the burden of the disease or transmission risks. (Project 94)</p> <p>A study on the specificity of spoligotyping has shown that specificity is high when used to genotype M. tuberculosis. However, SNP typing may prove a more accurate indication of the origins of a strain. (Project 20)</p> <p>A framework for diagnosing delivery system problems for ITNs and vouchers in the public and public-private sectors has been developed and published. (Project 34)</p> <p>The protocol for assessing the utility of alternative malaria transmission indicators (Malaria Transmission Consortium): has been finalised and funding for the programme has been obtained from BMGF. (Project 115)</p> <p>A study using DSS data has established mortality trends (including infant mortality) in Ghana. These analyses allow meaningful assessment of progress towards MDGs. (Project 12)</p>	<p>Population based statistics should be included in epidemiological descriptions of drug resistant TB.</p> <p>The global data bases of TB spoligotypes should be analysed with caution.</p> <p>Paper published in Health Policy and Planning. Framework to be further developed to incorporate other interventions (e.g. the delivery of ACTs)</p> <p>MTC is a network of malaria research groups associated with active malaria control programmes in Indonesia, Kenya, Tanzania and Zambia</p> <p>Two papers published: the first provided evidence that the MDG for child mortality has been achieved in a rural area of northern Ghana; the second examined the impact of malaria mortality on life expectancy in Ghana</p>

Knowledge disseminated:

What progress has been made on key programme outputs?

Outputs	Verifiable Indicators (OVI)	Progress	Recommendations/Comments
<p>Innovative and dynamic communication strategy with effective dissemination plans.</p>	<p>Communication strategy updated.</p>	<p>Communication strategy discussed at Partners Meeting in October 2007. Communication strategy refined in light of comments from mid-term review and strategy framework developed (see annex 4 for details).</p> <p>Workshops with key academic research partners</p> <p>Dissemination workshops with local and state level stakeholders</p> <p>Production of 'flyers' containing research results for distribution to local stakeholders</p> <p>Web-based dissemination</p> <p>Policy Briefs (see annex 5 for details)</p>	<p>Communication strategy developed to manage two types of research dialogue: 'researcher with researcher' and 'researcher' with 'practitioner'. Frameworks outlining the underlying strategies for each type of dialogue have been developed and the appropriate framework is implemented within each project.</p> <p>Annual TARGETS partners meeting held in October 2007 in London. Communication workshop facilitated by CREATE PAC group from John Hopkins and Ogilvy& Mather for ZAMBART senior management, 21-22 February 2008.</p> <p>Workshops held in Kampala, Hyderabad, Lusaka, Dar es Salaam, and Accra to disseminate findings of specific projects to key local stakeholders.</p> <p>One thousand copies flyer on results from project: "Can the private and public sectors collaborate for effective management of TB, HIV and co-infection?: A situational analysis in Hyderabad city, Andhra Pradesh" distributed. Project staff personally visited every private medical practitioner in the study area and distributed the study flier. Both MAAS-CHRD and LEPRASociety, the collaborators in this study, mailed the fliers to stakeholders at national and international levels. The soft-copies of the flier were sent to DFID India office which then subsequently circulated these copies to all of their South-East Asia region country offices.</p> <p>Flyer (see above) uploaded to the TARGETS and DFID websites (http://www.lshtm.ac.uk/dfid/targets/HIV-TB-PPM-Situation-Analysis-MAAS-CHRD-Dissemination%20Flyer.pdf); http://www.research4development.info/PDF/Outputs/TARGETS_RPC/HIV-TB-PPM-Situation-Analysis-MAAS-CHRD-Dissemination_Flyer.pdf).</p> <p>Contributions made to policy briefs on: strategies for the delivery of ITNs; access to HIV/AIDS Care; systems for the early warning and control of malaria epidemics; malaria eradication.</p>

		Publications in peer reviewed journals (see annex 5 for details)	32 articles published (June 2007 – May 2008); 9 submitted or in press
		Presentations at national and international conferences (see annex 5 for details)	Presentations of findings made at more than 28 national and international conferences

Knowledge influences policy and practice:

What progress has been made on key programme outputs?

Outputs	Verifiable Indicators (OVI)	Progress	Recommendations/Comments
Effective partnerships within TARGETS and with policy makers, programme and district managers developed.	Number of studies with user involvement in each aspect.	At least half of the projects currently being undertaken as part of the programme have user involvement in each aspect of the project.	External partners involved in these projects include the MOH in: Zambia, Uganda, Kenya, Tanzania and Ghana and national TB and/or malaria programme personnel in Tanzania, Zambia, Ghana, Kenya, Uganda and India. Other key users involved in projects include: DHMTs in Zambia, Ghana, Kenya, Tanzania and Uganda; national NGOs in India, Senegal, Kenya, Zambia and Ghana; medical training centres and hospitals in India, Uganda, Ghana, Zambia and Tanzania.
Research questions defined to meet stakeholders' needs.	Studies responding to documented stakeholder concerns.	Examples: Study on cost effectiveness of malaria diagnostics in Uganda. Project on Diagnostic supporters in Zambia. New M&E tools suitable for routine use by control programmes required.	MoH to commit resources for execution of the study. Project developed to address an issue raised by the NTP. Project underway. The Malaria Transmission Consortium was instigated to help develop new M & E tools suitable for routine use by control programmes. From the start control staff have been involved in setting the MTC research agenda
Potential users involved in planning and implementing research activities.	Number of studies involving stakeholders.	At least half of the projects currently being undertaken involve potential users in the planning and implementing of research activities. Examples: MAAS-CHRD researchers worked with WHO-India office as technical consultants to undertake quality control and providing inputs on all phases of the WHO commissioned study to understand knowledge, attitudes and practices of the private sector with regard to care and treatment of people	The involvement in this study was crucial as study was initiated by WHO- INDIA to feed into National AIDS Control programme Phase-III's proposed public-private partnership model schemes for involving Private Medical Practitioners

		<p>with HIV/AIDS in the States of Gujarat and West Bengal, India.</p> <p>Implementers (NTP and DHMTs) involved in defining research questions in TB and Gender study in Zambia</p> <p>The studies of malaria in pregnancy in India are being prepared in consultation with the national malaria control programme.</p> <p>The Malaria Transmission Consortium was instigated to help develop new M & E tools suitable for routine use by control programmes. From the start control staff have been involved in setting the MTC research agenda</p>	<p>Both districts (Chongwe and Linda) expressed their interest in being directly engaged in the research. Their involvement in this design workshop allowed them to contribute to the design of the epidemiological study, with the commitment to involve them in the data collection and analysis as the study progresses</p> <p>Malaria control programme staff from Kenya, Tanzania, Zambia and Indonesia have been involved in the process of planning from the outset and in November 2007 all attended the launch workshop in Lusaka, Zambia.</p>
Engagement with national and international policy organisations.	Membership of national and international policy influencing bodies.	<p>Ifakara and LSHTM staff are members of the TNVS stakeholder group whose work contributes to the development of the Tanzanian national ITN strategy.</p> <p>ZAMBART staff are involved in technical committees at national and sub-national level.</p> <p>MAAS-CHRD registered as a partner of Alliance for Health Policy and Systems Research.</p> <p>TARGETS staff are members of several international policy influencing bodies and are frequently asked to contribute to specific Task Forces and Working Groups.</p>	<p>This has recently helps to influence national policy relating to the implementation of a 'catch-up' campaign for the distribution of free ITNs to children under five years of age.</p> <p>Involvement in these technical groups allows interaction with policy makers and other relevant stakeholders.</p> <p>Being a partner of Alliance, MAAS-CHRD will be in a position to share its project work around health systems research with like-minded organizations and contribute to the newsletter published by Alliance for Health Policy and Systems Research.</p> <p>Policy influencing bodies of which TARGETS staff are members of (or have contributed to) include: the Technical review Panel of the Global Fund; the TBG/HIV core group of the Stop TB partnership; the WHO technical advisory group on pesticide evaluation; the WHO technical expert group on ITNs; WHO-WPRO and WHO-SEARO planning group on regional risk mapping and disease burden estimation; WHO mission to evaluate the National vector Bourne Disease Control programme of India.</p>

What progress has been made in terms of purpose?

Purpose	Verifiable Indicators (OVI)	Progress	Recommendations/comments
To assist key stakeholders to improve the health of the	Reduced morbidity and mortality from	All of the outputs describe above are contributing	The TARGETS projects form only a small part of the huge

Themes 3i: What are the research outputs? (3 pages)

The information presented below provides an indication of the type of work being conducted by each of the partners and also by individual researchers within the TARGETS consortium. This information focuses on the main achievements to date as well as on evolving research that will contribute towards the final research outputs from a sample of the projects that relate to each of the 4 themes.

Generation of new knowledge:

Q. What progress has been made on key programme outputs?

Below is a list of examples of new knowledge generated during the year and the shape of evolving research under the umbrella of each output theme:

1. Knowledge generated (Verifiable indicator (OVI) – individual projects feeding in to final reports at the end of the programme):

A. Taking interventions to scale (OVI: decision support tools)

Using currently available tools more effective malaria control should be possible. However, the impact of interventions with proven effects in trials and at district level is often hampered by inefficient implementation at national scale. One of the reasons for this inefficiency is the lack of a strategy to identify blocks in intervention delivery systems. The results and experiences gathered from several of the projects currently being undertaken within the TARGETS programme (particularly those related to the delivery of ITNs) are leading towards the development of a framework for delivery system analysis. It is hoped that within the next twelve months this framework will be further developed and tested leading to an analytical tool to guide the analysis of national level intervention delivery systems which can be applied to the implementation of malaria interventions more broadly.

Following the successful outcome of the project in the Lusaka District, a scale-up of the Action Research Unit (to provide technical support to District Health Management Teams in TB operation research) is being implemented at district and national level in Zambia.

B. New tools and strategies interventions (OVI: Reports on efficacy and strategies)

One of the current key issues in TB management in India is the relationship between the public and private sectors for TB/HIV management. Members of the partnership from MAAS-CHRD are involved developing models and piloting an intervention related to the co-ordination between private and public sectors for TB/HIV management continues in Hyderabad.

Through the ACT Consortium (funded by the Bill and Melinda Gates Foundation) members of the TARGETS consortium have received funding to undertake studies on the implementation of ACTs in Ghana. In addition, members of the TARGETS

consortium are part of the BMGF funded Malaria in Pregnancy (MIP) consortium and will be conducting studies on the development of new strategies and tools to protect pregnant women from malaria in Mali, Kenya and India.

New strategies for improving adherence to antimalarials for radical treatment of vivax malaria have been conducted in Afghanistan showing improved outcomes.

C. Vulnerability (*OVI: Disease specific guidelines*)

Gender vulnerability is a key concern in communicable disease control. Members of the TARGETS consortium recently undertook an analysis of gender disparities in routinely collected TB notification and cohort data in Zambia. The results found considerable gender disparities. These findings are being used as the basis for the design of further epidemiological and social science research on TB and Gender in Zambia.

A study was undertaken during 2007 on family care providers for PLHA in rural Maharashtra (India) using an innovative household case study approach. The study examined thresholds of family/professional 'care', and experiences of care-giving and care-receiving in households affected by HIV. The results of the study are currently being analysed and are due to be presented at the XV11 International AIDS conference in Mexico in August 2008.

D. Monitoring and Evaluation (*OVI: Guidelines and delivery systems*)

An evaluation framework for delivery of ACTs through alternative delivery systems has been developed.

A TB prevalence survey is scheduled to take place in Tanzania on a nationwide representative sample. The study will be used to provide valid data to estimate the case detection rate of the routine activities undertaken by the NTLT Tanzania. This parameter is a key indicator of the performance of the programme. The data will also be used as part of an additional study to estimate treatment delay in diagnosed TB cases by the NTLT in the districts that are part of the survey. This estimate can then be used for calculating TB incidence from the prevalence data provided by the survey.

The log frame has been altered following the Mid Term Review, to reflect the comments of the reviewers and to increase focus on influencing policy and practice

2. Knowledge disseminated

2.1 Innovative and dynamic communication strategy with effective dissemination plans (*OVI: Communication strategy updated*) – see Appendix

The communication strategy continues to evolve. At international level we have kept pace with the changes in global health actors (and the subsequent consequences for policy and decision making) and are making contributions to these emerging bodies (e.g. the Presidential Malaria Initiative) through invitations to key meetings as well as

through the increasing collaborations with other academic institutions, national and international government and non-government organisations both in strategy development and in the development of new research projects.

Our key mechanism for knowledge dissemination continues to be the involvement of the users of the research as partners in the planning, development and implementation of our research activities. However, we also continue to disseminate our research to academic colleagues through publications in peer reviewed journals as well as to non-academic audiences through media such as newspapers and non-academic journals (e.g. Time magazine). We maintain a dialogue with national level policy makers and share our knowledge outputs with these stakeholders through technical and policy briefs. More specific examples of the strategy and its outputs are provided in the log frame in the previous section and in the updated communications strategy in Annex 4.

3. Knowledge influences policy and practice

3.1 Effective partnerships within TARGETS and with policy makers, programme and district managers developed (*OVI: Number of studies with user involvement in each aspect*)

The Makerere trial of under 5 mortality has led to a request for further analysis of the 2006 Ugandan demographic and ignited the scale up of ITNs and RHS.

The exchange visit between MAAS/CHRD and ZAMBART involved the sharing of research and the creation of project proposals on the delivery of care for co-infected HIV/TB patients.

The artenusate-amodiaquine study was a collaboration with the national malaria control programme in Ghana

3.2 Research questions defined to meet stakeholders' needs (*OVI: Studies responding to documents stakeholder concerns*)

TNVS monitoring and evaluation studies respond to the scheme's implementation contractors. For example, questionnaires are revised with input from stakeholders and additional analysis conducted at the request of stakeholders. Regular feedback to the TNVS implementers had resulted in the shaping of the research agenda to meet their needs.

MAAS/CHRD have been working as a technical and research support team for the NGO, Network Theni in Tamil Nadu State.

At ZAMBART, a project on diagnostics supporters addresses an issue raised by the National TB Programme.

3.3 Potential users involved in planning and implementing research activities (*OVI: Number of studies involving stakeholders*)

Under the Malaria Transmission Consortium a workshop was held in Lusaka to bring together researchers and malaria programme staff to jointly agree consortium activities. Not all programme managers could attend; this reflects multiple demands on their time and underlines a more general issue to do with overstretch of MoH staff. This is

potentially a major obstacle to achieving meaningful collaborations directly with control programmes

At Ifakara there is a high level of involvement of TNVS stakeholders in reviewing and interpreting studies through report to partner coordination meetings.

3.4 Engagement with national and international policy organisations (*OVI: Membership of national and international policy and influencing bodies*)

Dr Fred Nuwaha at Makerere is a member of the national task force on access of ACTs in the private sector

MAAS/CHRD have initiated collaborative work with the National AIDS Research Institute in Pune. Both instituted are working together on a protocol to address family care givers for HIV in urban Pune

At ZAMBART, the National TB Programme and the District Health Management Teams helped to define the research questions in the TB and Gender study.

Jayne Webster and Caroline Jones met with the Head of the Presidential Malaria Initiative (PMI) and the PMI monitoring and evaluation team to discuss collaboration within the Pfizer programme being implemented in Ghana, Senegal and Kenya.

Ruth McNerney was a member of the TDR/WHO Specimen Bank Review Committee and the STOP-TB Working Group on New Diagnostics. She was also part of the WHO Expert Consultation on Molecular Line Probe Assays and the FIND workshop on TB VOC detection.

Q. What progress has been made in terms of purpose?

Purpose: To assist key stakeholders to improve the health of the poor and vulnerable through effective and sustainable communicable disease control.

Some examples of issue of poverty and vulnerability:

- At Ifakara, ITN coverage of target groups nearly doubled between 2005 and 2006 (for example among pregnant women from 11% to 18%) and we will have better idea about this after the Ministry of Health report on national morbidity and mortality position.
- At INDEPTH documented and published evidence of reductions in childhood and maternal mortality. Well packaged results make a lot of impact to policymakers.
- The collaboration with the Ministry of Health in Cambodia has led to a modified design of national malaria surveys and has directly influenced spatial targeting of GFAMT interventions against malaria
- In Uganda, timing and spatial targeting of enhanced surveillance and malaria interventions in highland districts continues to be guided by the HIMAL early detection system.

Q. What evidence is there for interaction with policy makers and other stakeholders?

Below are examples of interactions with policy makers and stakeholders from the bottom up, local to national to international:

LOCAL LEVEL:

- MAAS-CHRD was invited to be on the core committee and help organise a national workshop on Public Private Partnership in TB Control in January 2008 by the Tata Institute of Social Sciences, Mumbai. The workshop was attended by representatives from WHO-India, Indian Medical Association, State and district level TB programme managers, NGOs, corporate sector, academics and researchers from national and international institutes. The proceedings of the workshop are planned to be sent for publication in peer-reviewed journals and a publication based on the presentations made at the workshop is also under consideration.
- At Ifakara, there are regular monthly meetings and informal interaction with contractors on addressing challenges on the logistics of voucher distribution, net availability, training and promotion of TNVS.
- STAMPP project, funded by EU, has involved close collaboration with CARE Zambia and the EU in Zambia, in 6 Provinces, and also closer collaboration with malaria and HIV interventions, particularly at the community level (in 19 communities across the country). The same project and another RPC (Evidence For Action) has generated closer collaboration with the International AIDS Alliance in the UK and in Zambia.

NATIONAL LEVEL:

- ZAMBART staff are included in technical committees at national and sub-national levels where project staff interact with policy makers and other relevant stakeholders.
- The Zambian Ministry of Health and ZAMBART project signed an MOU in 2007 to enable the project to undertake a national drug resistance survey on behalf of the Ministry.
- MAAS-CHRD researchers worked with WHO-India office as technical consultants to undertake quality control and providing inputs on all phases of the WHO commissioned research study to understand knowledge, attitudes and practices of the private sector with regard to care and treatment of people with HIV/AIDS in the States of Gujarat and West Bengal (March to December 2007).
- INDEPTH presented its results to national health programmes on malaria. A report of the workshop was sent to TARGETS
- Jayne Webster supported the Department of Malaria Control in the strategic mix of ITN delivery systems to input to development of their new Integrated Vector Control policy and implementation framework for ITNs (Kenya). Presented recommendations to major ITN partners in Kenya (including DFID).

INTERNATIONAL LEVEL:

- The Ministry of Health has also requested project ZAMBART staff to attend training to undertake TB prevalence surveys at the World Health Organisation in Geneva on behalf of the ministry. This has been done with a view to the project assisting in developing the study protocol when need arises to undertake a national TB prevalence

- Daniel Chandramohan attended the Global Malaria Forum organised by the Gates Foundation and took part in the discussion regarding elimination of malaria.
- Jon Cox acted as a WHO-EMRO consultant to advise the Ministry of Health in Iran on future options for malaria epidemic detection and early warning. The consultant's report included recommendations for future activities which are now being followed by Iranian counterparts.
- Pfizer programme: Jayne Webster and Caroline Jones met with the Head of the Presidential Malaria Initiative (PMI) (Admiral Tim Zwiger) and the PMI monitoring and evaluation team in Washington to discuss collaboration in monitoring and evaluation activities in the three countries in which the Pfizer programme is being implemented (Ghana Senegal and Kenya). The aim is to further develop this collaboration with the in-country teams over the next couple of years of the programme
- Mark Rowland is a technical committee member for WHO on the Pesticide Evaluation Scheme.

Good communication of results

Q: Is your research reaching the targets set out in your Communication Strategy?

Research findings continue to be disseminated locally, nationally and internationally. The strategy was discussed during the Mid Term Review and it continues to be developed.

Q: Have you faced any particular challenges or successes in implementing your communication strategy?

Comments from partners:

'So far we have not faced any big challenges and successfully I had been communicating with users'. **(Ifakara)**

'The multiplicity of donors and their demands to implement an effective communication strategy has been a challenge. With limited project staff, the project has sometimes not met the needs of the donors for formal communication. However, informal communications have continued through technical committees and, conferences. To resolve the issue, one of the donors has funded a post for a communications manager at ZAMBART'. **(Zambart)**

Q: Have any other changes been made to the Communications Strategy other than those described above?

See Annex 4 for information on the continued development of the strategy to address recommendations from the Mid Term Review

Theme 3ii: What are the research impacts?

Policy and poverty impact

- At Zambart, a cadre of microscopists has been formally recognised by the laboratory policy that they could perform TB and Malaria microscopy to alleviate the critical shortage of manpower in Zambian laboratories. More microscopists have since been trained by the some districts and the TB program intends to scale up the program to improve access to TB smear microscopy.

Q: What methods are being used to collect and monitor baseline evidence in order to track programme impact on poverty?

- At Ifakara research is contracted by the Ministry of Health and results are fed back promptly and directly to the Ministry and other implementing partners. Results are translated quickly into practical action that benefits the populations at risk – pregnant women and children under five. The Household survey is collecting data on net coverage and in information/health knowledge in different socio-economic quintiles. Results show that the distribution of vouchers is relatively equal across socioeconomic groups but voucher redemption is higher among the least poor. This evidence has been used to support the case for an additional “equity voucher” to assist those women who cannot afford to pay the required top-up.
- Pfizer: A recent review of available evidence undertaken by members of the TARGETS consortium of the impact of interventions to improve prompt and effective treatment of malaria found that we have very little good evidence of what actually works, and even less evidence of whether these intervention increase or decrease inequity in access to prompt and effective treatment . To a) increase our evidence base and b) contribute to the development of methods to robustly measure the impact of intervention programmes, we have been working to ensure that the baseline surveys undertaken by the local M&E teams in the Pfizer programme countries are designed and powered to robustly measure the impact of the interventions on the accessibility of prompt and effective treatment among different socio-economic groups. One of the key features of the TARGETS programme is our view that each individual project should be designed such that we have a robust and credible measure of the impact of that project on health and equity outcomes.
- INDEPTH developed a poverty tool based on household assets which is being used to monitor poverty and health outcomes. Published a book on health inequities at INDEPTH sites.
- At ZAMBART, two types of social science enquiry have generated baseline evidence on the impact of the integration of TB and HIV services on poverty. Firstly, anthropological research carried out both within the RENEWAL study and within PhD research. The RENEWAL study in South Africa and Zambia conducted over a period of 10 months (2006-7) in a small number of TB patient households (n=8 in Zambia, n=10 in SA) involved the following methods: a variety of PRA methods (seasonal calendars of health, food flows and agriculture; timelines of the history of food security and TB; mapping mobility before, during and after illness); market observations; in depth interviews with TB patient, the primary caregiver and the head of the household at intervals during the course of TB treatment; observation of ARV clinic; and participant observation. Secondly, rapid participatory research evaluating the impact of the ZAMSTAR TB interventions in 24 communities in 2007 (16 in Zambia, 8 in

Western Cape, SA) looked specifically at access to health services and involved four and a half days fieldwork and the following methods: group discussions with young men, older men, young women and older women in the community and with service providers using various PRA techniques (mapping the health centre, free-listing, matrix, chapatti diagrams) and in depth interviews with TB patients and People Living with HIV.

Q: What evidence is there that policy makers and stakeholders have increased awareness of your research findings and that this has led to changed attitudes and practice?

- At Makerere, the under five mortality findings were presented to MoH top management and the national health assembly (consisting of MoH officials and district level officials). This led to development partners headed by the World Health Organisation (Uganda) requesting further analysis of the Uganda demographic and health survey of 2006 to enable them to put our results into context.
- At Ifakara, the results of the repeated rounds of household survey on net coverage have kept an awareness that scheme is working slowly at increasing lower rates on net coverage. There is evidence on ITN equity on coverage where the equity ratios for ownership and use of nets by the poorest households compared to the richest households showed that the coverage in the poorest households had stagnated. Hence, more delivery strategies are needed to increase coverage rapidly and already the strategies are in place. The government under the Ministry of Health with the support of PMI will implement a free net distribution to all under five children and continuing to provide subsidised nets under voucher system pregnant women and infants. Our findings have also drawn attention to the problem of net treatment. In the next year there will be a national re-treatment campaign.
- At MAAS-CHRD findings from the survey conducted among the private practitioners prompted the programme officers in Pimpri Chinchwad Municipal Corporation to rejuvenate their efforts to strengthen the feedback system which eventually resulted in an introduction of a pilot intervention. The presence of and interaction with MAAS-CHRD researchers has generated interest among the programme staff regarding research as a tool for strengthening the programme and bettering the quality of services provided by the programme as a whole as well as by individual health workers.
- Results of the analysis of the age-pattern of disease and death (Project 27) have been presented to the WHO Technical Expert Group and the Institute of Medicine review boards, both of whom have come back with specific points of clarification. These data will contribute to the final recommendations on whether to implement IPTi to be made in March/April 2008.
- At Zambart, the recognition of the Microscopist cadre in the national laboratory policy who was previously unrecognised. This followed the training of microscopists by the project. The challenge now is to get these microscopists recognised by the public service commission so that they could then be on government establishment.
- Our recent work advising the National Malaria Control Programme in Iran on development of malaria early warning systems stems directly from operational research in Kenya and Uganda (under HIMAL). Through this route we have had

a direct impact on national policy in Iran, even though the primary research was conducted elsewhere.

- The development and spread of insecticide resistance and the establishing of the Innovative Vector Control Consortium has stimulated industry (Syngenta, Bayer and BASF) to form new public-private partnerships to develop new insecticide formulations and products.

Q: What progress has been made in terms of north-south, south-south and south-north learning?

North- South:

- At MAAS-CHRD, our initiative and cross-consortium work with Evidence for Action on HIV Treatment and Care (EFA) – another DFID supported research consortium. Our researcher was invited to attend the proposal writing workshop which was held at the London School of Hygiene and Tropical Medicine to take forward collaborative multi-country research on “TB-HIV co-infection in India, Zambia, and South Africa: Implications for patients’ navigation of the health system”. As a follow-up of the work in this workshop MAAS-CHRD researchers under the leadership of Dr. Karina Kielmann from LSHTM TARGETS and EFA recently submitted a proposal for small grants initiative under EFA titled, “Mapping Pathways of Care for HIV/TB Co-infected Patients’ in Public and Private Sector Facilities: A Pilot Study in Pune, INDIA.

South-South:

- MAAS-CHRD researchers visited ZAMBART team in February 2008 participated and provided inputs in the Proposal Development Workshop on Gender and TB. They also visited field-sites to learn more about ZAMBART work and health system issues in ZAMBIA.
- Zambart: Northern Partners have continued to provide technical support and to build capacity for southern partners. Students enrolled for various courses are under the tutelage of northern partners. Study protocols developed by southern partners always involve technical input from northern partners.
- The Zambart project recently hosted a TB and Gender protocol development workshop in Zambia. Two colleagues from partners in the consortium (MAAS-CHRD) were invited to assist in the workshop, having had the experience of undertaking such studies. There were participants from Zimbabwe as well.
- Within the MTC mechanisms have been built in to allow South-South exchanges and learning opportunities. Major knowledge/technological capacity building is also planned, including the transfer of expertise in running serological ELISA assays to routinely monitor malaria parasite antibody levels in blood samples.

4. LESSONS LEARNT

Working with partners

- At Ifakara, initially partners were unsure about the role of monitoring and evaluation within the framework of national implementation. Time was taken to ensure that the global environment of increasing ITN coverage was understood. The role of M&E as an information tool rather than as auditing process was emphasised.
- At MAAS-CHRD, in the last year we have had varied experiences working with three kinds of partners: **a) LEPRO Society:** Working with a large NGO which partners the state government in several programmes, came in the way of having frank discussions about the barriers to the implementation of a PPP for management of TB/HIV co-infection, posed by the public sector, and finding mutually acceptable solutions. **B) Network Theni:** We have been helping this grassroots NGO to conduct a situational analysis to understand how their TB programme is perceived by other stakeholders in the public and private sectors, including their beneficiaries in the community. It has, however, been an uphill task for us to help build the NGO's capacity to conduct this study while ensuring that the biases the NGO has about the public sector, do not influence the research findings. **C) City TB Control Programme, Pimpri Chinchwad Municipal Corporation, Pune:** Our intervention research study to help improve and sustain the Public-Private Mix (PPM) in TB control was initiated at the request of and in collaboration with the TB Programme Manager. But midway through our study the Programme Manager quit and a new person has taken charge.
- At Zambart, participation of colleagues from India (MAAS-CHRD) in the proposal development workshop for TB and gender in Lusaka Zambia, demonstrated that partners in the consortium can work together. Ideas for bilateral research projects in both India and Zambia were also discussed. Sometimes ZAMBART feels it is being used to facilitate LSHTM research without being involved enough in the intellectual development of research at the outset and this has led to tensions between LSHTM and ZAMBART. These problems were recently aired at various forums and some changes will subsequently be made. Another challenge faced by ZAMBART has been working out how to work in partnership with an implementation NGO in Zambia – namely CARE Zambia. Researchers and implementers have different styles and requirements and this has led to some challenges.

Good practice/innovation

- At Ifakara, engaging with implementers of the system at all stages of this research has engendered trust and appreciation of the process. While retaining all independence, partners were regularly invited to review survey tools prior to implementation. In April 2008, we will be having a M +E workshop to discuss the new needs and way forward.
- **(MAAS-CHRD) Reaching to the Desktop of Policy Makers:** A MAAS-CHRD researcher participated at 38th Union World Conference on Lung Health (IUATLD) which was held at Cape Town, South Africa from 8th to 12th November 2007 and presented two posters titled, “Feasibility study on Public Private Partnership for TB, HIV and co-infection management in Hyderabad, India” and “Is there a Role for the Private Sector in HIV/TB Co-infection Management? Evidence from India.” Both these presentations generated genuine interest and helped the presenter in initiating dialogues with concerned policy

makers and programme managers. One of the key officials from WHO, STOP-TB Department working on Public-Private Mix appreciated the work undertaken by MAAS-CHRD on PPM-HIV-TB and reported that he had kept the dissemination report based on the situation analysis phase prepared by MAAS-CHRD on his desktop for easy reference and was looking forward to the next report by MAAS-CHRD on the PPM-HIV-TB pilot intervention. This crucial interaction with a policy maker helped us to set one of the key indicators for any of our research undertaking as **reaching to the desktop of policy makers**, which will ensure uptake and use of research undertaken by us by policy makers at national and international levels.

- Produced and distributed leaflet on study findings re MDR-TB in Kampala for stakeholders and non scientific audience.
- **The role of health systems and health economics research in the TARGETS Consortium** The research of the interventions to control TB, malaria or other infections that are part of the TARGETS portfolio require at some stage an assessment into operational but also economic feasibility by means of cost-effectiveness. Besides, functioning health systems are mandatory for disease control efforts to succeed. With effect of April 2007, Dirk Mueller took up his role as the TARGETS health economist. His portfolio includes the economic evaluation to evaluate the comparative cost-effectiveness of various culture techniques to diagnose TB conducted at the Zambian Chest Diseases Laboratory in Lusaka, the national reference laboratory to diagnose TB.
- The Highland Malaria Project (HIMAL) has demonstrated the role and usefulness of enhanced surveillance to detect abnormal increases in malaria incidence in epidemic prone regions at the earliest stage, so that preventive as well as educative and curative measures can be made available as quickly as possible during abnormal case incidence. The costs of this enhanced surveillance are currently evaluated as part of the TARGETS health economics work.
- Together with partners in India, TARGETS health systems research is currently exploring various research possibilities. Increasingly, the state governments of various Indian states would like NGOs to take over the operation of health facilities, such as Primary Health Centres or Urban Health Centres.
- Establishing a publications committee and a publication policy at ZAMBART at the start of 2008 is an initiative that we hope will help generate more ZAMBART publications. The committee meets three times a month, and reviews an article in progress or discusses issues of relevance to publication e.g. plagiarism.
- In July 2007, we held a ZAMBART residential staff workshop for four days. The aim of this workshop was to build ZAMBART identity amongst the 160+ employees of the project and to provide an opportunity for additional training (including: integration of TB/HIV, bereavement counselling, mechanics, anti-stigma education, presentation skills). The workshop was a great success, motivating and relaxing staff with awards for good performance and some popular leisure activities (e.g. an evening boat cruise). We would aim to hold another workshop in the coming year, funds permitting.

Project/programme management

- The invitation of Southern partners by LSHTM to participate in TARGETS meeting via Skype is most welcome (ZAMBART).
- Using funds from various grants, but chiefly STAMPP, ZAMBART is in the process of recruiting an expatriate administrative manager to oversee the administrative team and put more systems into place. It is anticipated that this will relinquish senior research staff of some of their administrative duties and allow them more time for technical development. We envisage that with the support of the administrative manager, we will restructure ZAMBART – disengaging administration from scientific units and aiming to have a Board to advise and help direct our current and future research.

Communication

- ***Ifakara: Briefing and presentation meetings to local stakeholders***

Dr Hassan Mshinda (IHRDC director) represented IHRDC in various national committees e.g. malaria technical committee, Steering Committee of National Malaria Control Programme, IMCI, etc. In these committees IHRDC representatives communicate relevant research findings for transforming to policies and interventions. Regularly Hadji Mponda representing IHRDC/LSHTM in TNVS coordination meetings to communicate TNVS study findings. ***Consultancy work, emails and exhibitions***: during the year IHRDC offered various consultancy services to government, international donors, NGOs and other groups. ***Specific agenda-setting meetings, conferences and workshops at local at local and international level***: we maximise opportunities by taking advantage of existing meetings and conferences to share research results with stakeholders. E.g. results of evaluation surveys of Tanzania National Voucher scheme. ***Written reports and publications***: we have submitted study reports on TNVS to MoH and currently we are in the final process of preparing 5 papers for submission to peer-reviewed journals.

- The TARGETS exhibition stand at the IUATLD conference in Cape Town, organised and run by Clare Sullivan, was warmly welcomed.
- At ZAMBART, the project has continued to communicate in an informal way by way of membership to technical committees, participation in many national program activities, and by participating at various local and international conferences. The communication workshop in February has put in place a plan for communication channels during crisis. The planned Policy, Advocacy and Communication post will help improve ZAMBART's communication skills. The job description has been drawn up and we are currently waiting for funds to be transferred for the post, then we will recruit locally.
- Within the MTC a wiki has been developed for effective sharing of information between consortium members and with the public. Similar systems have been discussed within the Malaria Centre at LSHTM and may provide a useful model for TARGETS in the future

5. PROGRAMME MANAGEMENT

How are researchable problems/themes being defined and prioritised?

The programme continues to work through a 'bottom-up approach' to management and the setting of priorities. Researchable themes are identified through local stakeholders

(see partner communication strategies) and linked with national and international research themes that are presenting to all TARGETS staff at national and international levels.

What mechanisms are there for partners to contribute to programme management?

Partners are informed through regular e mails of meetings and also through other communication channels (eg the newsletter). At the biannual meeting in October, partners asked for more involvement in monthly meetings through Skype. This is now being piloted.

Have there been any changes to the programme during the reporting period?

Changes to the programme have occurred following the Mid Term Review in July 2007 and the partners meeting that followed.

- Mid Term Review July 12, 2007: There were representatives from Uganda, India, Ghana, Zambia and the Netherlands. Overall the review team was impressed with the achievements of the programme but made some important recommendations. In particular they were concerned about prioritisation of projects as well as communication with policy makers. The bi-annual partners' meeting was held on October 22-23 in London to address the points raised by the reviewers.

- Partners meeting, London, October 22-23 2007

A major part of the meeting was used to address prioritization of projects. Each output theme has a group responsible to monitoring the projects within their particular theme. The groups are as follows:

Scaling up: Jayne Webster (Director), Caroline Jones (Director), Hadji Mponda, and Joseph Banda

New Tools and Strategies: Ruth McNerney (Director) not present at the meeting, Peter Godfrey-Faussett, Dirk Mueller, Frank van Leth, Fred Nuwaha

Vulnerability: Karina Kielmann (Director), Ginny Bond (Director), Shilpa Karvande, Abhay Kudale, John Porter

Monitoring and Evaluation: Jo Lines (Director), Ilona Carneiro, , Ayaga Bawah, Jon Cox

Each group developed its own prioritization process. For example, the monitoring and evaluation group reported the following criteria: 'Wishful' thinking or operational; funding status; size of study; potential influence; direct relevance to M&E; global; technical support to National M&E ; health systems (See appendix). Changes were made to the log frame. The meeting also addressed the issue of communication and influencing policy and practice. Clare Sullivan created a monitoring and evaluation forms that partners are currently piloting (See Communication strategy in appendix). The form contains additional information on how the programme is influencing policy and practice. Following the meeting a letter was written to Sue Kinn explaining how the programme had addressed the issues raised by the Mid Term Review panel.

How do these changes address gaps between achievements, outputs and purpose?

The results of the midterm review helped the programme to address these potential gaps. There has been a process to prioritise the large number of projects to ensure that final outputs are achieved and also communication to strengthen links with policy makers at national and international levels.

Have any key assumptions changed which lead to a re-assessment of risks? If so, please ensure details are included in Annex 3 (Risk Assessment).

- The new UK immigration regulations are making it very difficult to bring people to London to work. We failed to recruit a TB technician (Ruth McNerney)
- The INDEPTH sites in Ghana are part of the Ghana Health Service, therefore, all studies that INDEPTH funds at the sites are subject to approval from the Ghana Health Service.

Effectiveness of on-going monitoring arrangements.

The current monitoring arrangements seem to be working well.

Progress of expenditure and steps taken to ensure research budget was fully spent. Any problems areas? Any significant changes in plan?

This year the budget was under spent due to unavoidable delays in two of our partner projects.

Has any multiplier funding been obtained? If so, summarise here and provide information in Annex 2.

Example: Daniel Chandramohan has received (1) £ 300,000 from Wellcome trust to conduct a randomised controlled trial of vitamin D in Kabul; (2) \$ 2.5 million from the Malaria in Pregnancy consortium to do studies of malaria in pregnancy in India; (3) \$ 1.6 million from the ACT consortium to conduct studies of rapid diagnostic tests of malaria in Kintampo, Ghana.

Comment on the pattern of expenditure by quarter and the reasons for any significant periodic concentrations of expenditure and significant under or overspends.

Expenditure for the first three financial quarters were consistent with our budget and contained no significant concentrations of expenditure. The reason behind the underspend at the year end is explained above.

Staff changes:

Dr Dirk Mueller has replaced Dr Jolene Skordis as the economist/health systems person within the programme.

Mishal Khan won a Commonwealth Scholarship in 2007 to conduct a study entitled 'Gender and barriers to diagnosis of smear-positive tuberculosis in Pakistan'

Link with other RPCs:

The programme has links with the CREHS RPC (HD105: Consortium for Research on Equity and Health Systems CREHS) directed by Dr Kara Hanson, with HD3, the reproductive health and HIV consortium directed by Professor David Mabey and HD11 Evidence for Action, the consortium on equity and HIV) directed by Professor David Ross, which are all coordinated from the London School of Hygiene and Tropical Medicine. Professor Anne Mills at the London School of Hygiene and Tropical Medicine coordinates meetings of the different school consortia to discuss management issues and problems. TARGETS also has a strong link with the other communicable disease RPC at Leeds, HD26 Communicable Diseases: Vulnerability, Risk and poverty (COMDIS)

The link with CREHS is particularly important for the development of a 'health systems' theme within TARGETS.

Karina Kielmann is playing a key role in facilitating the linkages between MAAS, ZAMBART and the EfA partners, including National AIDS Research Institute, Pune and AIDS Alliance Brighton, UK, specifically in the area of (a) HIV-TB co-infection and (b) home-based care.

The CAG

The CAG links the two communicable disease RPCs, COMDIS and TARGETS. The first meeting of the group occurred in September 2006, the second in Leeds in April 2007 and the third in April 2008. Meetings have been useful, in particular the discussions with DFID advisors.

ANNEXES

- 1. LOGICAL FRAMEWORK**
- 2. FINANCIAL SUMMARY (including multiplier funding received)**
- 3. RISK ASSESSMENT MATRIX**
- 4. COMMUNICATIONS STRATEGY**
- 5. PRODUCTS AND PUBLICATIONS**

Theme 1 – New and improved strategies and tools

- . Peer reviewed publications for the year
- . Publication in press or submitted
- . Books or book chapters
- . Policy briefs
- . Publicity material
- . Website links
- . RPC reports
- . Dissemination events across partner countries and key people who attended.

Theme 2 – Process and impact of taking interventions to scale

- . Peer reviewed publications for the year
- . Publication in press or submitted
- . Books or book chapters
- . Policy briefs
- . Publicity material
- . Website links
- . RPC reports
- . Dissemination events across partner countries and key people who attended.

Theme 3 – Vulnerability: Better definitions & understanding of interactions

- . Peer reviewed publications for the year
- . Publication in press or submitted
- . Books or book chapters
- . Policy briefs
- . Publicity material
- . Website links
- . RPC reports
- . Dissemination events across partner countries and key people who attended.

Theme 4 – Methods of monitoring process & output in large programmes

- . Peer reviewed publications for the year
- . Publication in press or submitted
- . Books or book chapters
- . Policy briefs
- . Publicity material
- . Website links
- . RPC reports

- . Dissemination events across partner countries and key people who attended.
- 6. DEVELOPING CAPACITY**
- 7. LIST OF ABBREVIATIONS**
- 8. ADDITIONAL INFORMATION**