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A Scientific Working Group (SWG) on Chagas’ Disease met in Buenos Aires, Argentina, April 2005. The SWG was attended by 60 people from all areas of expertise. This was the first time in the Chagas’ disease community that such a diverse group had been brought together and, with the participation of economists, social scientists, physicians, molecular biologists, parasitologists, and disease control experts, all the sessions became very interesting with valuable inter-sectoral sharing of knowledge.

The SWG highlighted our huge gaps in knowledge about this disease. Among the key areas highlighted were: disease implications related to sub-types of the parasite; epidemiological trends of infection and disease; disease costs to society; identification of patients; case management; new entomological knowledge to address the challenges of vector control; and translational research to feed basic knowledge into the discovery and development of new tools (diagnostics, drugs, indicators of disease progression, insecticides, insect traps, etc.). A key point was that the geographical distribution of Chagas’ disease is changing, having reached the US and Europe as a consequence of poverty-driven population movements. This represents a new challenge for blood banks in developed countries where the risk of transfusional transmission is high due to lack of screening strategies capable of detecting T. cruzi infected people.

As far as the current control strategy is concerned, there are major challenges. The southern Cone countries primarily have a problem of sustainability, especially in the context of health system decentralization where health services are failing. What is needed is research on community participation (e.g. in infestation surveillance and vector control activities) and on health systems. Vector control interventions are challenged by the fact that the vector has moved out of houses into chicken coops and animal and storage sheds not amenable to current vector control tools, i.e. the vector has become domiciliated. On the other hand, in the Andes, Central America and the Amazon, the lack of appropriate tools to address the sylvatic bug is a major challenge to achieving control of transmission. As far as treatment of the infection is concerned, benznidazole is becoming less and less available while nifurtimox is already very limited in availability. Although these drugs have been proven effective in the early phase of the disease, their value in treating the indeterminate phase of infection is highly controversial, so establishing their value in this regard was defined as high priority. Evidence is needed to define health policies for the treatment of indeterminate and chronic Chagas’ disease. Also needed are new diagnostics for use in blood banks and surveillance, and as indicators of disease progression; and the development of new approaches for treatment (e.g. using stem cells) and management of chronic disease.

The meeting also highlighted the need for new intersectoral partnerships to enhance development of new tools and policies as well as availability of funds to address this disease of neglected populations.

The discussion also highlighted the need to reconsider, within the TDR disease categorization code, moving Chagas’ disease from category 3 (control strategy proven effective, disease burden falling, and elimination planned) to category 2 (control strategy available but disease burden persists).
A Lymphatic Filariasis Scientific Working Group (SWG) was convened by WHO/TDR in Geneva, May 2005. Some 30 experts from all over the world reviewed the current state of knowledge regarding the Global Programme to Eliminate Lymphatic Filariasis (GPELF), identified research priorities for lymphatic filariasis, particularly those addressing the questions facing GPELF, and developed a strategic plan.

GPELF was set up five years ago to help eliminate lymphatic filariasis as a disease of public health importance. The programme is based on a strategy of eliminating transmission of lymphatic filariasis (LF) using five years of mass drug administration (MDA) and alleviating the suffering of those infected through disability prevention efforts. It has been largely successful, with the number of participating countries and persons receiving combination therapy through MDA increasing dramatically. Accumulated data on the filarial parasite and on intestinal parasites also targeted by the MDA drugs provide useful material for evaluating the strategy.

As a starting point for in-depth discussion, the SWG drew on working papers summarizing the available evidence with respect to i) the effectiveness of MDA in different epidemiologic settings, ii) the state of the art of disability prevention, and iii) the state of the art of diagnostic and modelling tools to support the global programme. The SWG also drew on published material¹ from recent meetings at which LF research had been reviewed in depth.

Review of the latest evidence for impact of MDA, largely from TDR-funded studies, showed that MDA has everywhere resulted in dramatic declines in LF infection and transmission. However, the impact on transmission is variable, ranging from complete interruption of transmission, as in one site in Papua New Guinea where 4 rounds of treatment were given, to partial, as in Pondicherry, India, where low-level residual transmission remains after 9 rounds of treatment. The SWG concluded that, in many settings, more than 4-6 years of MDA will be required to achieve elimination of transmission.

The SWG discussed research priorities related to the effect of MDA on LF transmission and to prevention and treatment of LF-related disability. The most important priorities, focusing on issues of greatest importance to GPELF, include:

• Fundamental socio-behavioural research on the reasons for compliance and noncompliance, as well as studies on how to augment compliance.
• Provision of the evidence base and tools on which to base decisions about when to stop MDA for major vector/parasite complexes.
• Improving the evidence base for implementing and scaling up disability prevention programmes.
• Research to improve implementation of MDA in urban settings and where opportunities exist for integration with other mass drug distribution programmes.

Following the resurgence of schistosomiasis transmission in China, the Ministry of Public Health invited a WHO/TDR mission to review control strategies and conduct workshops for health workers in Sichuan and Anhui provinces. The mission, held in February/March 2005, was organized by the WHO Regional Office for the Western Pacific (WPRO).

Schistosomiasis is now one of the public health priorities in China. It has been endemic for centuries and, in 1950, at the beginning of the national control programme, an estimated 11 million people in 12 provinces were infected. By 1990, schistosomiasis had been eliminated from four provinces and transmission was low in the remaining endemic provinces. From 1992 to 2001, control operations were scaled up with supplementary funds from the World Bank. During this period, the emphasis was on standardized implementation and monitoring, with chemotherapy and environmental management as key strategies. By 2001, the number of reported cases was an historic low of 695,000, even though transmission remained high in the lake regions. However, the significant economic and social changes taking place in China have resulted in a reduction in preventive health programmes, such as schistosomiasis control and, in 2003, the number of reported cases had risen to 850,000. The surface area infested by the snail intermediate hosts has also increased.

The WHO/TDR mission began with a briefing in Shanghai on the current situation of schistosomiasis and on the new five-year control effort. Schistosomiasis has re-emerged in 38 counties. A 2004 survey among 256,937 people from seven provinces showed an infection rate of 2.48%, with a higher prevalence among those living in the lake regions. Buffaloes, which contribute to 90% of the transmission, had an infection rate of 5.71%.

The government, through the Ministry of Public Health, allocated US$ 30 million (Yuan 260 million) for control in the 2004 budget. The new five-year project will cover the endemic areas in the lake and mountainous regions.

Field visits were made to Anhui and Sichuan provinces, respectively representing the lake and mountainous endemic areas. The teams saw model interventions, including environmental improvements, housing, roads, lined canals, improved soil and crop management, conversion of sewage into biogas, and mechanization. And there is a shift from water-intensive crops to horticultural and dry land crops. The teams also visited health units to see how diagnosis, treatment and health education are carried out, and how epidemiological information is handled.

In each province, the teams participated in workshops. In Chengdu and Wuhu they reviewed, respectively, activities and particularities of the endemic situation. In Chongqing a major concern is the potential introduction of schistosomiasis to the new areas around the newly formed Three Gorges lake. There is need for a robust surveillance and early warning system. TDR supported the capacity building for a surveillance system, using GIS, remote sensing and spatial statistics to monitor the situation around the Three Gorges development and the lower Yangtze basin.

At the end of the mission, the team briefed the WHO Representative and the Ministry of Public Health in Beijing. The mission was impressed with the progress made in schistosomiasis control in the areas visited and concluded that the planned goals for endemic areas, of a prevalence of less than 1% by 2008 and elimination by 2015, would be achieved. There is a high level of political and financial support for schistosomiasis control, as well as intersectoral collaboration at the implementation level. The experience from schistosomiasis control could be the basis for an integrated parasitic diseases control programme as many of the diseases require similar public health interventions including large-scale chemotherapy.
TB specimen bank being restocked

The WHO/TDR TB Specimen Bank is being replenished. The specimen bank, which contains clinical reference materials from well-characterized TB patients, is used extensively by academic and commercial diagnostic test developers. Some of the specimens are now out of stock; new specimens began to be collected in mid 2005.

Officially launched in 2000, the Specimen Bank contains sputum, serum, saliva, and urine samples from TB patients from different areas of the world; each specimen is well characterized and linked to detailed clinical and microbiological information. The bank was developed by the Tuberculosis Diagnostics Initiative (TBDI) established in 1997 to facilitate the development and evaluation of new low-cost tools for the diagnosis of tuberculosis.

New diagnostics are badly needed to improve detection of TB cases and to rapidly and inexpensively detect antibiotic resistance. Current methods of diagnosis (based on sputum smear microscopy) are labour-intensive and insensitive.

The Bank is being expanded in its geographic diversity of specimens. The first new specimens will be available for release towards the end of 2005.

A research network for schistosomiasis in Africa, co-funded by TDR and the Schistosomiasis Research Programme, is being developed at www.rnsafrica.org

environmental management, provision of clean water, improved sanitation, animal husbandry and mechanized agriculture. Operational research, involving international collaboration, should be encouraged as a way to exchange experiences and generate new ideas and innovative methods in the Chinese schistosomiasis control programme.
A consultation meeting on live attenuated Leishmania vaccines was held by the WHO Initiative for Vaccine Research (IVR) and TDR, in Geneva, Switzerland, June 2005. The objectives were to learn from experience with the use of live Leishmania parasites for immunizing against leishmaniasis, and from experience with live challenge with other pathogens (Plasmodium) for research purposes; to define the currently available live attenuated Leishmania strains which could be developed into vaccine candidates, and the immunological markers of protection in both animal models and humans; and to draw up a general framework for development of live Leishmania vaccines.

The meeting was attended by invited international experts on attenuated Leishmania vaccines and scientists from disease endemic countries. It was seen as very timely; the experts considered WHO should evaluate the possibility of developing a live attenuated Leishmania vaccine against Leishmania. The following points were considered important:

- The effort should first concentrate on L. major mutants where the attenuating mutation is intrinsic
- Safety of the vaccinee is of crucial importance
- Genetic stability should be assured, and the possibility of recombination between mutant and wild-type Leishmania should be examined and excluded
- There should be no transmission of the live vaccine strains
- The role of persistence in the vaccinated host should be examined in animal models
- A potency test should be established and standardized
- Conditions for cryopreservation of the parasite should be investigated.

The WHO secretariat discussed with the participants a proposition to form a consortium on live Leishmania vaccines for allocation of future funding.
Two centres for training in functional genomics applied to the study of insect disease vectors, one in Asia and one in Africa, were selected in 2004; the first courses were held in January 2005 and December 2004 respectively.

The two centres are: Mahidol University, Bangkok, Thailand, and the Malaria Research and Training Centre (MRTC), Faculty of Medicine and Pharmacy, Bamako, Mali. These were selected following a call for applications (see TDRnews, June 2004). The main objectives are to train individuals in the use of computational tools for searching and analysing genomes of vectors of medical importance, and to develop a sustainable research network focused on the applications of bioinformatics and functional genomic approaches to the study of disease vectors and pathogens. The first call for participants in the training was issued in September 2004 and applications were received online.

The course in Thailand was organized by the Center for Vectors and Vector-Borne Diseases and the Center for Bioinformatics and Applied Genomics. A total of 59 applications from 26 countries were received, of which, based on the selection criteria, 14 were selected from seven countries (China, India, Iran, Kenya, Mexico, Pakistan and Thailand). The course in Mali was organized by the Malaria Research and Training Center. A total of 99 applications were received from 21 countries, encompassing 61 research institutions and 35 Universities; 21 participants were selected from twelve countries (Benin, Burkina Faso, Cameroon, Côte d’Ivoire, Colombia, Kenya, Mali, Mauritania, Nigeria, Senegal, Sudan and Uganda).

The courses consisted of lectures on insect molecular biology, insect genomics, and bioinformatics and functional genomics tools for the study of insect disease vectors and parasites, as well as practical sessions on individual computers connected to high-speed internet. Faculty were from the US, Thailand and Mali. At the end of each course, participants received, on CD, a complete set of all lectures and a certificate of achievement, and necessary resources to transfer the knowledge they acquired to other staff in their respective home institutions.

Participants were encouraged to continue to interact and network after the end of the course. Their evaluations of the two courses were very positive and many expressed the desire to contribute to the next courses. In addition to TDR support, the courses also received support from the National Institutes of Health, USA.

The second training courses on Functional Genomics Applied to Insect Vectors of Human Diseases are scheduled for September 2005 in Bangkok and late October 2005 in Bamako. These international courses are helping to increase researchers’ awareness about issues related to functional genomics and its applications to research and control of disease vectors, and provide opportunities not only to reinforce existing collaborations between partner institutions but also to establish new collaborations.
Progress with the scientific agenda and the feasibility of the tsetse fly genome project were evaluated at a meeting of the executive committee¹ of the International Glossina Genomics Initiative (IGGI)² in February 2005, convened by WHO/TDR.

Achievements since the launch of IGGI in February 2004 include the generation of useful data about the genome size – 550 Mbp on average – of four Glossina species (G. palpalis palpalis, G. fuscipes, G. morsitans morsitans, G. pallidipes). The new data indicate that all Glossina genomes are a feasible size for sequencing, whereas earlier it had been thought there was a vast difference in size between the genomes of the different species. Several thousands of bacterial artificial chromosome (BAC) and expressed sequence tag (EST) libraries³ have also been produced.

It was decided that, unless a major technical reason required a change of species, the main genome sequencing project would proceed with G. m. morsitans, and a large-scale EST sequencing exercise would be carried out on G. p. palpalis.

The proposed strategic plan for phase II activities includes completion of BAC library construction, initiation of physical mapping, generation of full-length cDNAs, and BAC end sequencing, as well as investigation of polymorphism in G. m. morsitans and generation of a highly inbred line of flies. Phase III would then proceed to whole shotgun sequencing of the genome, and preliminary annotation, for which funds are being sought.

The availability of the Glossina genome will provide substantial opportunities for identifying new targets and developing new control tools for African trypanosomiasis, since vector control based on insecticides, targets and traps will remain a major element of control of this disease of poverty for the foreseeable future.

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¹ Executive Committee members
Serap Aksoy, Yale University, USA
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Masahira Hattori, Kitasato Institute for Life Science (RIKEN), Japan
Winston Hide, South African National Bioinformatics Institute (SANBI), South Africa
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Mike Lehane, Liverpool School of Tropical Medicine (LSTM), UK
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Philippe Solano, IRD, Côte d’Ivoire
Gérard Cuny, IRD, Montpellier, France
Yeya Touré, TDR, WHO
Patrick Wincker, Genoscope, France
Jean Jannin, Communicable Diseases Control, Prevention and Eradication (CPE), WHO
Loyce Okedi, Livestock Health Research Institute (LIRI), Uganda
Jan van den Abbeele, Institute of Tropical Medicine, Antwerp

² IGGI is composed of the following funding agencies, sequencing and research centres:
- Genoscope, France
- The Institute for Genomic Research (TIGR), USA
- Sanger Center, United Kingdom
- Institut de Recherche pour le Développement (IRD), France and Côte d’Ivoire
- The South African National Bioinformatics Institute (SANBI), South Africa
- The Kenya Agricultural Research Institute (KARI), Kenya

³ Data from midgut and salivary gland EST libraries from GeneDB at: www.genedb.org/genedb/glossina/
TDR is actively promoting a broad range of research for applications in tropical diseases control, extending from basic, strategic and discovery research to product development-driven R&D and implementation research. The Strategic and Discovery Research unit (SDR) of TDR aims at fostering translational research in the areas of pathogenesis and applied genomics, discovery of novel targets for drugs, vaccines and diagnostics, molecular entomology, biology and control of vectors, and the social, economic and behavioural sciences.

As part of efforts to promote this exciting and innovative field of research, SDR organizes annual symposia and steering committee meetings to update the community on cutting-edge issues in the field, and review proposals and strategic directions. This year, the symposium (June 2005) was entitled Translational research for innovative infectious disease control: from the laboratory to the field. The aim was to provide information on the potential value of translating research findings into product development and interventions for public health. The symposium was organized through plenary sessions about translational research on vaccines, utilization of parasite genomes to identify potential drugs targets, vector biology and control, and strategies to enhance social science contributions to public health. There were plenary sessions followed by working group discussions addressing the needs and challenges related to drugs, diagnostics, insecticides and vaccines, and addressing the biomedical and social sciences opportunities to meet the challenges and provide recommendations for TDR on approaches to translational research.

The symposium was attended by more than 60 participants representing the steering committee members of the three SDR committees and technical departments of WHO. The participants came from diverse scientific areas such as basic science, product development, social sciences and implementation research; they shared lessons learnt from their fields, helping to guide the translation of research findings into product development and interventions for public health. They reviewed how well research findings turn into useful practices in public health.

The symposium identified key challenges to appropriate translation of knowledge into practice, such as the need to focus on the most important problems and to have well balanced information on risk and benefits. Potential solutions to these challenges included improving communication across disciplines, increasing transparency in research, minimizing selective reporting and continuing to be critical, and shifting to global priorities.

As a next step, TDR plans to organize a working group on innovation and control of neglected diseases, which will define the role of translational research in the development of control approaches.

TDR is grateful to the presenters and participants at this symposium, with particular thanks to Prof J. Ioannidis, University of Ioannina, Greece, the keynote speaker at the symposium.

The symposium was attended by participants representing steering committee members and technical departments of WHO and TDR.
Dr Ana Rabello was selected as chairperson for the TDR Research Strengthening Group (RSG) as from January 2005. The position of RSG chairperson is reviewed or renewed every three years, and Dr Rabello replaces Dr Hannah Okullo, from Karolinska Institute and SIDA (Sweden), who very ably served as chairperson of RSG for two turns.

Dr Rabello graduated in medicine in 1982 from the Federal University of Minas Gerais, Brazil, after which she became resident physician in internal medicine then in clinical laboratory. In 1989, she was admitted to the FIOCRUZ-Oswaldo Cruz Foundation’s René Rachou Research Center in Belo Horizonte. Working on various aspects of the diagnosis of schistosomiasis mansoni, she obtained her master’s and PhD degrees in tropical medicine in 1990 and 1994 respectively.

In 1997 Dr Rabello founded and became Chief of the René Rachou Clinical Research Laboratory, where she coordinates researchers and technicians, and supervises undergraduate and graduate students actively involved in research, training and strengthening of health care services of the metropolitan region of Belo Horizonte, especially with respect to leishmaniasis, an increasing threat in her country. Currently she coordinates the Brazilian Network for Leishmania/HIV co-infection, an activity integrated with the WHO/UNAIDS National Surveillance Network. She also chairs the FIOCRUZ network of laboratories of the Ministry of Health National Reference Center for Leishmaniasis, represents FIOCRUZ on the Drugs for Neglected Diseases initiative (DNDi), for leishmaniasis drug development related activities, and coordinates the Brazilian Network for Treatment Alternatives for Leishmaniasis.

Dr Rabello has served as a member of the René Rachou Research Center Ethical Review Board, the committee of the Postgraduate Course in Life Sciences, and the Scientific Committee of Health of FAPEMIG, the Minas Gerais state research agency. Since 2001, she has served as a member of the TDR Diagnostics Research and Development Committee. She has published extensively in the field of communicable diseases. TDR welcomes Dr Rabello to its RSG and looks forward to working with her.
Implementation research for malaria control: two centres in Africa focus on social sciences

Two African centres were selected in 2003 for research capacity strengthening and training in health social sciences in implementation research for malaria control. The first ten-week course was held in Ghana in August 2004; the second will be held in September 2005. The first course in Kenya will be held in September 2005. The main objectives are to train scientists and health workers in health social sciences for implementation research, with emphasis on proposal development, research tools and methods, data collection, and data analysis and translation into evidence-based disease control strategies and policies.

The first course was held in Ghana.

The main objectives are to train scientists and health workers in health social sciences for implementation research.

Their evaluations of the course were positive and some made critically important suggestions. The training activities related to this research capacity strengthening initiative were reviewed at a workshop in Accra, Ghana, June 2005. All training modules were assessed and future plans, activities, milestones and timelines discussed. Plans were made to develop postgraduate programmes, in both Ghana and Kenya, in health social sciences for implementation research.

The course in Ghana in 2004 was limited to Ghanaian participants. Of 23 who applied for the course, 13 were selected and successfully completed the course. The 2005 course is open to applicants from the whole of Africa.

The first course consisted of seven weeks of instruction and three weeks of field attachment. This included short courses in social science disciplines and techniques, proposal development, data analysis, and report writing. The three weeks of field attachment included data collection for proposal development. Participants were encouraged to network and partner; their evaluations of the course were positive and some made critically important suggestions.

The training activities related to this research capacity strengthening initiative were reviewed at a workshop in Accra, Ghana, June 2005. All training modules were assessed and future plans, activities, milestones and timelines discussed. Plans were made to develop postgraduate programmes, in both Ghana and Kenya, in health social sciences for implementation research.

1 organized by:
• the Health Research Unit, Ministry of Health, Ghana
• the Regional Health Directorate, Accra
• the School of Public Health, University of Ghana.
TDR special initiative to strengthen capacity for African trypanosomiasis takes off

Following a call for proposals in 2003, two meetings have taken place (in July 2004 and June 2005) to develop a network for capacity strengthening in human African trypanosomiasis driven by African scientists. The initiative aims at empowering African scientists to build the research capacity needed to deal with control of the disease. The Trypanosomiasis Research Centre (KARI), Kenya, was selected to coordinate the activity, with eight institutions from five countries as initial partners. Training courses start in early 2006.

Participants at the Nairobi meeting on human African trypanosomiasis.

Leishmaniasis elimination: health ministers sign memorandum of understanding

The health ministers of India, Nepal and Bangladesh signed a memorandum of understanding on 18 May 2005, pledging to eliminate kala azar from their countries. The estimated 100,000 cases of kala azar in these three countries constitute about 20% of global cases.

Kala azar elimination is now feasible as the means to diagnose and treat the disease are available (see TDR news Oct 2004). Also, in the endemic areas of the three countries, humans are the only reservoir host and P. argentipes the only vector.

The five elements of the elimination strategy are:
- access to early diagnosis and treatment, particularly by the most vulnerable groups
- strengthening disease and vector surveillance
- integrated vector management
- social mobilization and networking
- research.

The three countries have established a task force to ensure resources are effectively mobilized, information exchanged, and intersectoral cooperation and research strengthened. Research will be needed to generate evidence-based control policies, interventions and methods to guide the control efforts. TDR will support this initiative for elimination of kala azar by research on cost-effective elimination strategies including research on case detection, rapid diagnostics, treatment strategies and integrated approaches to vector control.

Health ministers sign the memorandum of understanding.
Developing an action plan and shared vision among players in the dengue diagnostics arena were among the objectives of a recent meeting convened by TDR and the Pediatric Dengue Vaccine Initiative (PDVI). The April 2005 meeting, which followed an earlier meeting (see TDRnews February 2005), was attended by private sector representatives as well as temporary advisers and WHO secretariat. Participants addressed the issue of evaluation and quality control of dengue diagnostics in Asia and Latin America.

The qualities of a good diagnostic test, including sensitivity, specificity, simplicity, affordability etc., were discussed, and a crucial factor affecting specificity and sensitivity recognized to be the quality of antigens used. It was felt the way forward would be to use recombinant antigens. The complete lack of antigen detection and PCR-based tests was understood to be an important void; the development of such tests would greatly improve diagnostics for acute phase disease.

A network of dengue laboratories will be established. Highly standardized laboratories were felt to be necessary for addressing irreproducibility issues between laboratories. Gold standard reagents (antigens, antibodies, RNA standards) are required, and a strain bank and proficiency panels. However, in dialogue with commercial partners, it was agreed that standardization of reagents was probably not possible, and hence there is a need for standardization of test performance. Manufacturers would be grateful for assistance in getting access to adequate amounts of well characterized specimens to support test development. General disincentives included perceived lack of a commercial market, poor access to reference materials, lack of funding to conduct trials in developing countries, and poor access to trial sites. Other concerns were the demanding specifications required of a good dengue test, which will reflect on costs, intellectual property costs on point-of-case tests, and the need for standardized antigens.

Plans were formulated for evaluation of commercial kits. This included which kits to evaluate and how to obtain them, performance characteristics of the sera to be used in the evaluations, and general strategies for undertaking the evaluations. Reference laboratories from Latin America and Asia will be identified to serve coordinating roles in the evaluations, and laboratories serving as evaluation sites will be identified after the completion of terms of reference and soliciting of applications. Other actions are to assemble well characterized sera for a serum bank to support developmental and evaluation panels for new tests and commercial kits respectively, and lastly to undertake kit evaluations guided by strategy formulated by WHO staff and advisers at the meeting.

TDR, in conjunction with other WHO divisions, was asked to initiate actions to reconstitute an external advisory group for dengue, update guidelines on dengue prevention and control, and develop performance guidelines for testing of diagnostics.
A recent meeting in Brazil allowed, for the first time, open discussion between representatives of postgraduate health science programmes, members of ethics review committees, and science and technology managers, about critical issues related to the ethics of research, functioning of ethics committees, and awareness of researchers about ethics.

The meeting took place in Brasilia, June 2005, under the auspicious of the Faculty of Health Science, Faculty of Medicine, University of Brasilia, and the Secretary of Science and Technology of the Ministry of Health, with TDR support. It was attended by representatives of all 13 postgraduate programmes and of 17 of 23 ethics committees of Central and West Brazil. Brazil has advanced legislation on research involving human subjects (Resolution CNS 196/96 and subsequent ones) which is in operation in more than 400 ethics committees accredited by the National Committee of Ethics in Research.

Issues related to science and technology development, cultural differences, and health care knowledge and practices were highlighted at the meeting. A TDR-sponsored Portuguese version and adaptation of the book Southern Africa research ethics published by the journal Developing World Bioethics was launched during the meeting.
Health-related biotechnologies have great relevance and importance to resolving health problems in poor countries. This holds particularly true for genome-related biotechnologies used to fight infectious diseases, such as molecular diagnostics, new-generation vaccines (DNA vaccines, sub-units, synthetic peptides, recombinant and edible vaccines), natural products, and genetically-modified insect vectors.

In order to better harness these biotechnologies in a responsible manner, efforts are needed to promote debate, reflection and research on the ethical, legal and social implications (ELSI) of biotechnology use, and of development and transfer of biotechnologies from the North to the South.

Mindful of this crucial need, TDR recently organized and sponsored an international workshop/symposium entitled Health-related biotechnology in Africa: ethical, legal and social implications of development and transfer. The workshop, held in Ibadan, Nigeria, April 2005, was co-organized by TDR, the College of Medicine of the University of Ibadan, the West-African Biotechnology Workshop Series, and the West-African Bioethics Training Programme. The event brought together biotechnology experts, social scientists and bioethicists from various African countries, and several colleagues from the North.

The symposium provided an overview of current developments in biotechnology in Africa, explored and framed general and specific ELSI of biotechnologies, and identified key areas for future research on ELSI in the context of African biotechnology development and transfer.

Proceedings are being prepared and will likely be published in late 2006 in the African Journal of Medicine and Medical Sciences. TDR intends to promote research in this area and to further the dialogue among African and Africa-based bioethicists, social scientists and bio-technologists, as well as experts working on these issues on other continents.

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2005 Avicenna prize for ethics in science

Our warmest congratulations to Dr Abdallah S Daar, who was awarded UNESCO’s 2005 Avicenna prize for ethics in science.

The Avicenna Prize, named after the renowned 11th-century physician and philosopher of medieval Islam Abu Ali al-Husain Ibn Abdallah Ibn Sina (known in Europe as Avicenna), is awarded every two years. The prize is intended to reward individuals and groups who are active in the field of ethics in science, and is expected to help increase international awareness and highlight the importance of ethics in science.

Dr (Prof) Daar is currently chairperson of the TDR 4th External Review committee, which is conducting the fourth external evaluation of TDR in its almost 30 years of existence. Dr Daar, who comes from the Sultanate of Oman, has made significant contributions to research in the ethics of science and technology and has published on a wide range of topics, from donor transplantation to use of stem cells and genomics. He is a professor at the University of Toronto, where he is also Director of the Program in Applied Ethics and Biotechnology, Co-director of the Canadian Program on Genomics and Global Health, and Director of Ethics and Policy at the McLaughlin Centre for Molecular Medicine.

We are indeed fortunate that Dr Daar is making available his time and energy to assist TDR.

Symposium

The 9th Max Tishler Symposium was held at the Kitasato Institute in Tokyo, July 2005, in honour of the 70th birthday of Dr Satoshi Omura, president of the Kitasato Institute and co-inventor of ivermectin, the drug used for control of onchocerciasis. Dr Robert Ridley, Director TDR, had the honour to give the opening plenary lecture on research and control of infectious diseases. Dr Omura is a renowned chemist specializing in the area of secondary metabolites from micro-organisms, and the Kitasato boasts one of the best collections in the world of micro-organism derived products. In recent years, the Kitasato Institute has been the focal point for a TDR-sponsored malaria drug screening programme (termed JPMW) in collaboration with 15 Japanese pharmaceutical companies. The photograph shows, from left to right: Dr Rob Ridley, Director TDR; Dr Satoshi Omura; Dr Azodoga Seketeli, Director of the African Programme for Onchocerciasis Control; Dr Tore Godal, former Director TDR.
Meeting of the TDR Joint Coordinating Board, June 2005: under discussion was the new TDR structure, which enhances the interface between the different functional areas of TDR, and the ten-year vision.
**Latest grants**

**Research in pathogenesis and applied genomics**

The TDR Committee on Pathogenesis and Applied Genomics (PAG) met in Geneva, Switzerland, in May 2005, to deliberate and recommend projects for funding by TDR. The projects listed below were selected from among a large number of applications received from investigators worldwide including projects submitted to the Committee on Vaccines Discovery Research (VDR). VDR is currently being reevaluated and its meeting has been postponed indefinitely.

**New grants**

These grants will be funded for 12 months in the first instance, and for one additional year if sufficient progress is made in the first 12 months towards reaching the scientific objectives, and if sufficient funds are available.

- **A50227 LIWANG CUI,** Pennsylvania State University, University Park, USA. The proteome of the malaria parasite *Plasmodium vivax* (budget: US$ 27 000)
- **A 50524 STEWART COLE,** Institut Pasteur, Paris, France. Towards an immunodiagnostic kit for leprosy (budget: US$ 70 500)
- **A50312 WALDEREZ DUTRA,** Universidade Federal de Minas Gerais, Belo Horizonte, Brazil. Mechanistic analysis of the role of CD28+ and CD28-cells in human Chagas disease: towards the understanding of pathology (budget US$: 35 000)
- **A50209 LASHITEW GEDAMU,** University of Calgary, Calgary, Canada. Cathepsin B from *Leishmania donovani* complex: role in the pathogenesis of leishmaniasis (budget US$: 35 000)
- **A50263 HEMA JOSHI,** Malaria Research Center, Indian Council of Medical Research, New Delhi, India. Evolutionary history of human malaria parasite *Plasmodium falciparum* in India: population genomic approach (budget US$: 35 000)
- **A40222 JOHANNA KELLEY,** University of Maryland, Baltimore, USA. Efficacy of a pre-erythrocytic vaccine: irradiated sporozoites developed in vitro in *P. yoelii* malaria mouse model (budget US$: 5000)
- **A50240 YUESHENG LI,** Queensland Institute of Medical Research, Brisbane, Australia. Human immune-effector mechanisms in the pathophysiology of schistosome-induced hepatic fibrosis and advanced disease (budget US$: 35 000)
- **A50354 DANIEL MASIGA,** Kenya University, Department of Biochemistry, Nairobi, Kenya. The development and improved production of a diagnostic for human African trypanosomiasis (budget US$: 30 000)
- **A50230 ANUJA MATHEW,** University of Massachusetts Medical School, Boston, USA. Humanized SCID mice for dengue infection and immunity (budget US$: 35 000)
- **A50367 ENOCK MATOVU,** Makerere University, Kampala, Uganda. The immunogenic/diagnostic potentials of cysteine proteinase and nucleoside transporters of *Trypanosoma brucei* (budget US$: 30 000)
- **A50304 LEILA MENDONCA-LIMA,** Fundacao Oswaldo Cruz Bioquimica e Biologia Molecula, Rio de Janeiro, Brazil. *Mycobacterium bovis* BCG Moreau RJ: functional genomic studies applied to the improvement of vaccine production (budget US$: 30 000)
- **A50252 LAURA INES RUTITZKY,** Tufts University, Department of Pathology, Boston, USA. Glycan residues on the Sm-p40 schistosome egg antigen: characterization and role in T cell response (budget US$: 35 000)

**New South-South collaboration grants**

These multicentre grants will be funded for one year in the first instance, and for an additional year if sufficient progress is made in the first year towards reaching the scientific objectives, and if sufficient funds are available. A two-week training workshop on the use of non-human primate models for research in tropical diseases will be funded in a joint effort with other agencies to enhance applications of the models in research and development of new interventions.

- **A5037 CHRISTIAN HAPPY,** University of Ibadan, College of Medicine, Ibadan, Nigeria. Molecular determinants of drug response and resistance in *P. falciparum* from Africa and South America (budget US$: 45 000)
- **A50271 MARIANO JORGE LEVIN,** Instituto de Investigaciones en Ingenieria Geneticay Biologia, Buenos Aires, Argentina. Specific molecular mechanisms as target of novel anti-parasitic drugs (budget US$: 55 000)
- **A50205 MICHAEL MUITA GICHERU,** Institute of Primate Research, Nairobi, Kenya. A two week training workshop on the use of non-human primate models for research in tropical diseases (budget US$: 30 000)

**Renewed grants**

These projects were funded for the initial 12 months in 2002, 2003 or 2004, by the Committee on Pathogenesis and Applied Genomics or the Committee on Vaccine Discovery Research. Projects funded in 2003 received interim six-month awards in December 2004 due to changes in the dates of the committee meetings. Each project is now being renewed for a further six months (those funded in 2003) or a year following successful progress made towards meeting the objectives during the first year.

- **A40098 MARIA ISABEL CANO,** Universidad Estadual de Campinas (UNICAMP), Campinas, Brazil. Functional & biochemical characterization of the putative Leishmania telomeric proteins LaRpa-1 and LaRbp38 (budget US$: 20 000)

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1 Joint project between PAG and the diagnostics initiative in TDR
• A30406 MARIANGELA CARNEIRO, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil. Longitudinal study of asymptomatic Leishmania chagasi infection in urban areas of Minas Gerais State, Brazil (budget US$: 35 000)

• A30378 SUNGAE CHO, Yonsei University Medical Center, Seoul, Korea. Identification of HLA-A 0201 restricted CD8+ T cell specific peptide epitopes encoded from whole M. tuberculosis genome (budget US$: 25 000)

• A30306 CHRISTIAN ENGWERDA, Queensland Institute of Medical Research, Herston, Australia. Defining the role of NK T cells in murine visceral leishmaniasis (budget US$: 17 500)

• A30407 JOHN CHARLES KIBOKO ENYARU, Livestock Health Research Institute (LHRI), Tororo, Uganda. Evaluation of the epidemiological significance of an animal reservoir in gambiense sleeping sickness in NW Uganda (budget US$: 5 000)

• A30288 IDLE OMAR FARAH, Universidade Federal de Minas Gerais, Instituto de Ciencias Biologicas, Belo Horizonte, Brazil. Defining the role of NK T cells in murine visceral leishmaniasis (budget US$: 17 500)

• A30288 IDLE OMAR FARAH, Universidade Federal de Minas Gerais, Instituto de Ciencias Biologicas, Belo Horizonte, Brazil. Defining the role of NK T cells in murine visceral leishmaniasis (budget US$: 17 500)

• A40089 EMMANUELA HANDMAN, Walter and Eliza Hall Institute of Medical Research, Parkville, Australia. A new model to study the role of innate immunity in the pathophysiology of Leishmania major infection (budget US$: 35 000)

• A30358 SUMALEE KAMCHON-WONGPAISAN, National Center for Genetic Engineering and Biotechnology, Bangkok, Thailand. Integrated genomic & proteomic studies for identification of potential targets of artemisinin and derivatives (budget US$: 12 500)

• A40234 MOHAMED HECHMI LOUZIR, Institut Pasteur de Tunis, Tunisia. Host-parasite relationships: induction of regulatory immune mechanisms as expression of wild Leishmania major virulence (budget US$: 28 000)

• A20198 WEIQING PAN, Second Military Medical University, Institute of Medical Biotechnology and Molecular Genetics, Department of Parasitology, Shanghai, China. Construction & immuno-genicity of combined malaria vaccine containing PCP-2.9 & pre-erythrocytic stage antigens (budget US$: 35 000)

• A40263 CARLOS ANDRE RICART, Universidade de Brasilia, Departamento de Biologia Celular, Brasilia, Brazil. Trypanosoma cruzi proteomics initiative (budget US$: 34 000)

• A30322 YA PING SHI, Kenya Medical Research Institute, Kisumu, Kenya. Genetic polymorphism of IL-12 p40 subunit and MIF in severe malaria anaemia in children residing in western Kenya (budget US$: 17 500)

• A40092 WORACHART SIRAWARAPORN, Mahidol University Department of Biochemistry, Bangkok, Thailand. Exploring the non-active site region of Plasmodium falciparum DHFR-TS as molecular target for inhibitor design (budget US$: 35 000)

• A30325 LUC JEAN VANHAMME, Universite Libre de Bruxelles – IBMM – Laboratoire de Parasitologie Moleculaire, Brussels, Belgium. Characterization of trypanolytic activity of human apolipoprotein LI & its neutralization by Trypanosoma rhodesiense & gambiense (budget US$: 15 000)

• A30313 ROBERT ALAN WILSON, University of York, Department of Biology, York, UK. The architecture of the schistosome tegument: putting known and novel proteins into a structural and functional context (budget US$: 15 000)

• A20095 ZHOU XING, McMaster University, Department of Pathology and Molecular Medicine, Hamilton, Canada. Development of recombinant adeno viral tuberculosis vaccines (budget US$: 30 000)

• A30375 DAN ZILERSTEIN, Technion-Israel Institute of Technology, Haifa, Israel. Proteome analyses of Leishmania donovani differentiation (budget US$: 16 575)

Renewed grant in South-South collaboration

The following project was funded in 2003, provided an interim award for six months in December 2004 due to change in date of the committee meeting, and is being renewed for a further six months following successful progress made towards meeting the objectives during the first year.

• A30380 IKRAM GUIZANI, Institut Pasteur de Tunis, Tunisia. Post kala-azar dermal leishmaniasis (PKDL): molecular epidemiology and prognostic markers (budget US$: 30 130)

Research in molecular entomology

The TDR Committee on Molecular Entomology (BCV) met in Geneva, Switzerland, in May 2005, to deliberate and recommend projects for funding by TDR. The projects listed below were selected from among a large number of applications received from investigators worldwide.

New grants

These grants will be funded for one year in the first instance, and for an additional year if sufficient progress is made in the first year towards reaching the scientific objectives, and if sufficient funds are available.

• A50334 SERAP AKSOY, Yale University School of Medicine, Department of Epidemiology and Public Health, New Haven, Connecticut, USA. Glossina developmental stage specific EST project (budget: US$ 5000)
- A50363 CHRISTOPHER BOSIO, Colorado State University, Department of Microbiology, Immunology and Pathology, Fort Collins, Colorado, USA. Population genetics and vector competence for dengue-2 virus of Aedes aegypti in Senegal (budget: US$ 26 500)

- A50241 GEORGE K. CHRISTOPHIDES, European Molecular Biology Laboratory, Heidelberg, Germany. Effects of the Anopheles gambiae immune system on the transmission of human malaria parasite Plasmodium falciparum (budget: US$ 39 998)


- A50333 PAUL EGGLESTON, Keele University School of Life Sciences, Keele Staffordshire, UK. High efficiency, site-directed engineering of the mosquito genome for the control of vector-borne disease (budget: US$ 40 000)

- A50299 GABRIELLA IRENE GIBSON, University of Greenwich, Natural Resources Institute, Chatham Kent, UK. Field & laboratory investigation of swarming and mating activities in the Anopheles gambiae species complex (budget: US$ 40 000)

- A50331 WINSTON A HIDE, University of the Western Cape, South African National Bioinformatics Institute (SANBI), Bellville, South Africa. Consolidation and functional annotation of reconstructed transcripts for Glossina (budget: US$ 10 000)


- A50256 JESUS MARTINEZ BARNETCHE, Instituto Nacional de Salud Publica, Guernavaca, Morelos, Mexico. Functional genomic analysis of Anopheles albimanus immune response to infection with bacteria and Plasmodium vivax (budget: US$ 40 000)

- A50375 PHILIPPE SOLANO, Institut de Recherche pour le Développement, Bobo Dioulasso, Burkina Faso. Full length cDNA sequencing of Glossina palpalis (budget: US$ 15 000)

- A50340 KENNETH D. VERNICK, University of Minnesota, Center for Microbial and Plant Genomics, St Paul, Minnesota, USA. Breeding and analysis of new malaria resistant lines of Anopheles gambiae (budget: US$ 38 359)

- A50230 JOAO PEDRO S. DA SILVA PINTO, Centro de Malaria e outras Doenças Tropicais/ IHMT, Lisbon, Portugal. Malaria vectors in islands, studies on genetic isolation (budget: US$ 25 778)

- A50303 MARIO A.C. SILVA-NETO, Universidade Federal do Rio de Janeiro, Centro de Ciências da Saúde, Instituto de Bioquímica Médica, Rio de Janeiro, Brazil. Phosphoproteome of malaria-infected mosquito midgut (budget: US$ 8500)

Renewed grants:

These projects were funded in 2004 and are now being renewed for a further year following the successful progress made towards meeting the objectives during the first year.

- A50372 NORA JESSIE BESANSKY, University of Notre Dame, Department of Biological Sciences, Notre Dame, Indianapolis, USA. The 2R inversion breakpoint of An. gambiae: molecular diagnosis and characterization (budget: US$ 30 501)

- A20338 GEORGE DIMOPOULOS, John Hopkins University, Bloomberg School of Public Health, Department of Molecular Microbiology & Immunology, Malaria Research Unit, Baltimore, MD, USA. Genome expression analysis of mosquito salivary gland function and characterization of specific promoters (budget: US$ 40 000)

- A20269 QI GAO, Jiangsu Institute of Parasitic Diseases, Malaria Division, Meiyan, Wuxi Jiangsu, P. Republic of China. Identification of Anopheles sinensis and Anopheles anthropophagus and their role in malaria transmission in China (budget: US$ 29 400)


- A20330 LIZETTE KOEKEMOER, National Health Laboratory Services, Vector Control Reference Unit, Johannesburg, South Africa. The role of mono-oxygenases in insecticide resistant Anopheles funestus Giles (budget: US$ 17 950)

- A30346 THANASIS LOUKERIS, Institute of Molecular Biology and Biotechnology (IMBB), Crete, Greece. A study of Anopheles and Plasmodium proteases focusing on ookinetel midgut interactions (budget: US$ 40 000)

- A30307 COLIN ANTHONY MALCOLM, Queen Mary University of London, School of Biological Sciences, London, UK. Microsatellite & retroposon polymorphism in Anopheles arabiensis at the edge of its distribution in northern Sudan (budget: US$ 40 000)

- A10424 ANA MARIA PERALTA DE MERIDA, Universidad del Valle de Guatemala, Guatemala, Guatemala. Population genetics of Aedes aegypti in Chiapas (Mexico) and Central America (budget: US$ 11 577)

- A40190 HILARY RANSON, Vector Research Group, Liverpool School of Tropical Medicine, Liverpool, UK. A functional genomics approach to improving insecticide resistance detection in Anopheles gambiae (budget: US$ 32 700)

- A30289 GIUSEPPE SACCONE, Dipartimento di Genetica, Biologia Generale e Molecolare, Naples, Italy. Identification of sex determining genes in Aedes aegypti and improvement of transgene vectors to study their functions (budget: US$ 36 500)
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These grants will be funded for one
New grants

A30350  N’FALE SAGNON, Centre National de Recherche et de Formation sur le Paludisme, Ouagadougou, Burkina Faso. Genétique et comportement des membres du complexe Anopheles gambiae au Burkina Faso (budget: US$ 34 350)

A20315  ROSEMARY C. SANG, Kenya Medical Research Institute, Centre for Virus Research, Nairobi, Kenya. A comparative study of populations of Aedes aegypti in dengue endemic and non-endemic areas of Kenya (budget: US$ 29 703)

A40198  CATHERINE WALTON, University of Manchester, Faculty of Life Sciences, Manchester, UK. Genetic population structure and gene flow in Aedes aegypti mosquitoes in South-East Asia (budget: US$ 40 000)

Social, economic and behavioural research

The TDR Committee on Social, Economic and Behavioural Research (SEB) met in Geneva, Switzerland, in May 2005, to deliberate and recommend projects for funding by TDR. The projects listed below were selected from among a large number of applications received from investigators worldwide.

New grants

These grants will be funded for one year in the first instance, and for one additional year, if sufficient progress is made in the first year towards reaching the scientific objectives, and if sufficient funds are available.


A50245  OLGA BEATRIZ AVILA FUENMAYOR, Laboratorio de Ciencias Sociales, Caracas, Venezuela. Social inequality, re-emergence of Chagas disease and presence of leishmaniasis in Andre E. Blanco Municipality, Venezuela (budget US$: 40 000)


A50185  LI SHUNPING, Shandong Medical University, Shandong, China. Access and health seeking behaviour to TB care for drug users in Yunnan, China (budget US$: 34 800)

A50268  CHRIS MUGASHA-MUGARURA, Ministry of Health, Kampala, Uganda. The impact of civil war in northern Uganda on the health systems and factors affecting response to malaria control (budget US$: 38 640)

A50203  THEODORA ADAEZE, University of Nigeria, Enugu, Nigeria. Rural-urban inequality in access to treatment of childhood malaria: implications for control of malaria in S.E. Nigeria (budget US$: 32 300)

A50257  ELVIS NEBA SHU, University of Nigeria, Enugu, Nigeria. Inequities in access to interventions of malaria control in children under five years and pregnant women in S.E. Nigeria (budget US$: 31 200)

A50343  QIANG SUN, Shandong Medical University, Shandong, China. Pulmonary tuberculosis and health-seeking behaviour: delayed presentation to DOTS treatment in rural Shandong, China (budget US$: 36 100)

A50384  SUSILOWATI TANA, Center for Health Policy and Social Studies, Yogyakarta, Indonesia. Understanding factors contributing to the resiliency of Acheh health workforce (budget US$: 62 718)

A50121  (Project Development Grant) MYO THAN, University of Community Health, Magway, Myanmar. Access of community to prevention, information and treatment of tuberculosis in Magway division, Central Myanmar (budget US$: 5000)

Renewed grants

These projects were funded for an initial 12 months in 2002, 2003 or 2004. Those funded in 2003 were provided an interim six-month award in December 2004 due to change in date of the committee meeting. Each project is now being renewed for a further six months (those funded in 2003) or a further year following successful progress made towards meeting the objectives during the first year.

A30401  MAMUKA DJIBUTI, State Medical Academy, Tbilisi, Georgia. Social and economic impact of tuberculosis in Georgian households: a cohort study (budget US$: 7745)

A30367  ANNJ MILLS, London School of Hygiene and Tropical Medicine, London, UK. Understanding health seeking behaviour in South Africa: implications for improving health equity (budget US$: 10 530)

A20104  FRANK NYONATOR, Ghana Health Services, Ho, Ghana. A study of the impact of mutual health organizations on inequities in financing treatment for malaria (budget US$: 25 675)

A30419  KAMOLNETR OKA-NURAK, Mahidol University, Bangkok, Thailand. Factors associating with completion & default among DOTS and self-administered therapy (SAT) for treatment of TB (budget US$: 12 500)


A30276  YANG WANG, Chongqing Medical University, Chongqing, China. Comparing access to TB diagnosis between migrants and residents in Chongqing, China (budget US$: 24 890)

A30244  BIAO XU, Fudan University, Shanghai, China. Does TB care reach the poor? Study of TB control programme in two counties in rural China (budget US$: 12 500)

A30298  DR XIAO-NONG ZHOU, Chinese Academy of Preventive Medicine, Shanghai, China. Bio-social & environmental risks related to disease burden of schistosomiasis in the Yangtze river basin, China (budget US$: 37 950)
Publications available from TDR

- **Strategic review of traps and targets for tsetse and African trypanosomiasis control. Kuzoe F., Schofield CJ. (TDR/IDE/TRY/05.1).**

Traps and targets are seen as a key component of efforts to control and eliminate tsetse flies, and of efforts to monitor the progress of interventions. They can be deployed at community level to suppress tsetse populations in areas of sleeping sickness outbreaks, although costs and logistics can be impediments. This is a review of the history, design and use of tsetse traps and targets, as well as of their operational and economic costs and apparent effectiveness in protecting communities and farms. The focus is on measures to combat human trypanosomiasis (sleeping sickness), but experience gained in the control of animal trypanosomiasis is drawn on wherever relevant.

- **Mapping the landscape of diagnostics for sexually transmitted infections: key findings and recommendations (TDR/STI/IDE/04.1).**

There is an urgent need to develop new diagnostic tools for sexually transmitted infections (STIs), and to specifically address the needs and conditions of populations in the developing world where the burden of these diseases is the greatest. This report contains the key findings and recommendations made at a meeting – convened by the Sexually Transmitted Diseases Diagnostics Initiative in WHO/TDR and the Wellcome Trust, hosted by the Bill & Melinda Gates Foundation, and held in Seattle in 2002 – to explore the possibility of building a global alliance to coordinate the development of improved diagnostics for STIs and the translation of these into health care delivery in the developing world.

- **The gender agenda in the control of tropical diseases: a review of current evidence. Allotey P, Gyapong M. (Special Topics no. 4, TDR/STR/SEB/ST/05.1).**

The concept of gender describes the roles assigned to men and women by culture and society, how they are played out, and how they relate to each other at the individual and broader socio-political levels. The last two decades have seen an increase in research that has produced gender analyses of a number of tropical and infectious diseases. TDR has, for a number of years, placed particular emphasis on gender research and continues to do so. This new publication provides a major review of gender issues in TDR diseases. A first section summarizes evidence on how gender roles influence exposure to infection, perception of disease, response to illness and disease, quality of care, and compliance with treatment. A second section reviews gender issues for all ten TDR diseases. The review concludes with recommendations for advancing the gender research agenda in tropical diseases.

- **CD-ROM**

- **Trypanosomatids: genomes and biology.**

A special two-disc set of CD-ROMs to mark the publication of the completed genome sequences of three pathogenic trypanosomatids: Trypanosoma brucei, T. cruzi and Leishmania major. Also included on the CDs are the completed genomic sequences for the three organisms, the genome papers and other scientific papers and reports, tutorials on disease biology, images, etc. Development of the CDs was co-funded by TDR, the Wellcome Trust and GeneDB on behalf of the ‘TriTryp’ sequencing consortium, which comprises the Sanger Institute, the Institute for Genomic Research, Seattle Biomedical Research Institute, and the Karolinska Institute.
New multimedia section on the TDR website

CD-ROMs produced by TDR and partners, and other CD-ROMs relevant to TDR diseases, can be found at: http://www.who.int/tdr/media/multimedia/default.htm.

Publication available online


  This conference brought together social science and public health researchers from Africa, Asia and South America, who shared their expertise on the relationship between conflict and infectious diseases. The workshop served to clarify concepts associated with collective violence such as crisis, resilience and vulnerability, and participants discussed coping strategies and adaptations of their communities. The publication contains a number of case studies from countries in political conflict; other sections cover issues such as gender and conflict. A proposal for a now ongoing multi-site study on conflict and infectious diseases was developed during the meeting.

  THIS PUBLICATION CAN BE FOUND AT: http://www.who.int/tdr/topics/social-research/default.htm

Publications available from elsewhere


  This special issue presents research funded by the Small Grants Scheme of the Eastern Mediterranean Regional Office of the World Health Organization, supported by TDR, for 2000-2001. Four tropical diseases (filariasis, leishmaniasis, malaria, tuberculosis) are addressed in the areas of epidemiology, disease control, treatment, medicines, diagnostic techniques, vector control, and quality of care. It was compiled to disseminate information to health care providers and, in particular, to policy-makers. The volume includes invited reviews on the four diseases.

  PLEASE REQUEST THIS PUBLICATION FROM: World Health Organization, Regional Office for the Eastern Mediterranean Region, Distribution and Sales, WHO Post Office, Naser City, Cairo 11371, Egypt. Fax: (202) 670 24 92/94 E-mail: DSA@emro.who.int. Also available at: http://www.emro.who.int/publications/
DEADLINES

Steering Committee meetings

Research proposals and reports submitted to TDR are reviewed by the relevant committees. To guarantee review at a given meeting, your proposal should in general be received in Geneva two calendar months before the date of the meeting, or earlier in the case of Research Capacity Strengthening. Proposals received later than this may be reviewed at the following meeting of the relevant committee. When preparing your research proposal, it is important to bear in mind that TDR supports goal-oriented research and that your proposal should be consistent with the plans of the relevant committee. Therefore, please study the priorities of the relevant steering committee before submitting your proposal and, if you are applying for the first time, please contact the relevant research manager in TDR with an outline of your proposed research before developing a full proposal.

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* tentative date
** only pre-selected letters of intent are invited to submit full proposals