

Report on

African trypanosomiasis (sleeping sickness)



4-8 June 2001
Geneva, Switzerland

www.who.int/tdr

TDR/SWG/01
Original: English

**Report of the Scientific Working Group
meeting on African trypanosomiasis
Geneva, 4-8 June, 2001**

TDR/SWG/01

Copyright © World Health Organization on behalf of the Special Programme for Research and Training in Tropical Diseases (2003)

All rights reserved.

The use of content from this health information product for all non-commercial education, training and information purposes is encouraged, including translation, quotation and reproduction, in any medium, but the content must not be changed and full acknowledgement of the source must be clearly stated. A copy of any resulting product with such content should be sent to *TDR, World Health Organization, Avenue Appia, 1211 Geneva 27, Switzerland*. TDR is a World Health Organization (WHO) executed UNDP/World Bank/World Health Organization Special Programme for Research and Training in Tropical Diseases.

This information product is not for sale. The use of any information or content whatsoever from it for publicity or advertising, or for any commercial or income-generating purpose, is strictly prohibited. No elements of this information product, in part or in whole, may be used to promote any specific individual, entity or product, in any manner whatsoever.

The designations employed and the presentation of material in this health information product, including maps and other illustrative materials, do not imply the expression of any opinion whatsoever on the part of WHO, including TDR, the authors or any parties cooperating in the production, concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delineation of frontiers and borders.

Mention or depiction of any specific product or commercial enterprise does not imply endorsement or recommendation by WHO, including TDR, the authors or any parties cooperating in the production, in preference to others of a similar nature not mentioned or depicted.

The views expressed in this health information product are those of the authors and do not necessarily reflect those of WHO, including TDR.

WHO, including TDR, and the authors of this health information product make no warranties or representations regarding the content, presentation, appearance, completeness or accuracy in any medium and shall not be held liable for any damages whatsoever as a result of its use or application. WHO, including TDR, reserves the right to make updates and changes without notice and accepts no liability for any errors or omissions in this regard. Any alteration to the original content brought about by display or access through different media is not the responsibility of WHO, including TDR, or the authors.

WHO, including TDR, and the authors accept no responsibility whatsoever for any inaccurate advice or information that is provided by sources reached via linkages or references to this health information product.

Contents

| | |
|--|------|
| Message from the Executive Director, CDS | vi |
| Message from the Director, TDR | vii |
| Preface | viii |
| 1 Executive summary | 1 |
| 2 Overview and objectives | 3 |
| 3 Epidemiology, disease surveillance and control | |
| EMERGENCE AND RE-EMERGENCE | 7 |
| EPIDEMIOLOGY | 8 |
| <i>Reservoir Studies</i> | 8 |
| <i>Incidence and Prevalence</i> | 9 |
| SURVEILLANCE AND INTERVENTION FOR CONTROL | 9 |
| <i>Diagnostics</i> | 9 |
| <i>Vectors</i> | 10 |
| <i>Changing Institutional Environment</i> | 10 |
| SOCIOECONOMIC AND BEHAVIOURAL ASPECTS | 11 |
| RECOMMENDATIONS | 12 |
| 4 Drug development, preclinical and clinical studies, and drug resistance | |
| PRECLINICAL STUDIES | |
| <i>Resistance to Arsenicals and Diamidine</i> | 13 |
| <i>Blood–Brain Barrier</i> | 14 |
| <i>Role of CNS Trypanosomes</i> | 15 |
| <i>Drug Discovery and Drug Targets</i> | 15 |
| RECOMMENDATIONS | 16 |
| CLINICAL STUDIES | 17 |
| <i>Clinical Aspects of Treatment Failure and Monitoring</i> | 17 |
| <i>Application of Existing Drugs</i> | 17 |
| Early-stage drugs | 17 |
| Late-stage drugs | 17 |
| Other potential drugs | 17 |
| <i>New Compounds</i> | 17 |

| | |
|--|----|
| <i>Combination Therapy</i> | 18 |
| <i>Follow-up of Treatment</i> | 18 |
| <i>Prevention and Management of Encephalopathy Syndromes</i> | 19 |
| <i>Coordination of Clinical Trials</i> | 19 |
| <i>Recommendations</i> | 20 |
| 5 Pathogenesis, genomics and applied genomics | |
| PATHOGENESIS | |
| <i>Background</i> | 21 |
| <i>Trypanosome Biological Phenotype</i> | 22 |
| RECOMMENDATIONS | 22 |
| APPLIED GENOMICS | 23 |
| <i>Trypanosoma brucei Genomics</i> | 23 |
| RECOMMENDATIONS | 23 |
| TSETSE GENETICS | 24 |
| RECOMMENDATIONS | 25 |
| 6 Cross-cutting issues | |
| RESOURCE FLOW | 27 |
| ADVOCACY AND MARKETING FOR SLEEPING SICKNESS | 28 |
| INSTITUTIONAL DEVELOPMENT AND CAPACITY BUILDING | 28 |
| SOUTH-SOUTH COLLABORATION | 29 |
| RECOMMENDATIONS | 30 |
| Annex 1 | 31 |
| RESOURCE FLOW FOR AFRICAN TRYPANOSOMIASIS | 32 |
| Annex 2 | 33 |
| A POSITION PAPER ON AFRICAN TRYPANOSOMIASIS | 34 |
| Annex 3 | |
| EMERGENCE AND RE-EMERGENCE OF HUMAN AFRICAN TRYPANOSOMIASIS | 42 |
| I The situation in Angola | 43 |
| II The situation in Tanzania | 45 |
| III The situation in Uganda and Sudan | 47 |

Annex 4

| | |
|--|----|
| EPIDEMIOLOGY, DISEASE SURVEILLANCE AND CONTROL, AND VECTOR CONTROL | 54 |
| I Epidemiology and control of human African trypanosomiasis | 55 |
| II Vector control in relation to human African trypanosomiasis | 73 |
| III A basis for financial decision-making on strategies for the control of human African trypanosomiasis | 77 |

Annex 5

| | |
|---|-----|
| DRUG DEVELOPMENT, PRECLINICAL AND CLINICAL STUDIES, AND DRUG RESISTANCE | 90 |
| I Drug development for African trypanosomiasis | 91 |
| II Drug resistance in sleeping sickness | 96 |
| III Human African trypanosomiasis | 112 |
| IV Treatment and clinical studies: Working paper for the Scientific Working Group on Human African Trypanosomiasis | 114 |

Annex 6

| | |
|--|-----|
| PATHOGENESIS, GENOMICS AND APPLIED GENOMICS | 120 |
| I Discussion document on pathogenesis/applied genomics | 121 |
| II Applied genomics: Prospects for control of African trypanosomiasis via the tsetse vector | 140 |
| III Applied genomics and bioinformatics | 150 |

Annex 7

| | |
|---|-----|
| INSTITUTIONAL CAPABILITY STRENGTHENING | 163 |
| Institutional development and capacity building in countries endemic for sleeping sickness | 164 |

Annex 8

| | |
|----------------------------|-----|
| LIST OF PARTICIPANTS | 167 |
|----------------------------|-----|

Message from the Executive Director, Communicable Diseases

Following the appointment of Dr Brundtland as Director-General of the World Health Organization (WHO) in 1998, functional restructuring placed both the control of infectious diseases and tropical diseases research under one cluster. This has permitted better identification of priorities and the linking of research with prevention and control activities, resulting in joint fundraising. The recent agreement with the drug industry on chemotherapy of African trypanosomiasis is a product of such joint activities. It is hoped that other agreements emphasizing sleeping sickness will also be signed.

In addition, there has been a concerted effort to move infectious diseases higher in the economic development agenda in various world economic fora, resulting in political commitment by governments of both developed and disease endemic countries, and in financial commitment by members of the G8, in particular France and the United States of America, to the Global Fund for AIDS and Health. Currently, the Global Fund is directed at the three major (based on morbidity and mortality data) infectious diseases – namely malaria, tuberculosis and AIDS. This will lead to improved health delivery systems that will be better placed to deal with other diseases such as sleeping sickness. It is envisaged that the health delivery systems will undergo diversification, allowing governments, NGOs and the private sector to work together to deliver health services more effectively. This will be of particular importance for diseases such as sleeping sickness, where NGOs have had to be depended on for continued support during periods of decreased resources.

This meeting aims to draw up a well thought out research agenda, provide data that can be used to convince policy-makers to place infectious diseases at the forefront of development activities, and show the world that the job on infectious diseases is not yet done.

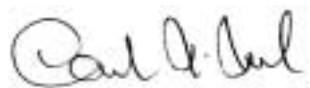


David L Heymann
World Health Organization
Geneva, June 2001

Message from the Director, TDR

In 1998, the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR) underwent an external review. It was noted that, with the reorganization of the Programme into functional units, certain aspects of disease focus had been neglected. It was decided, therefore, that TDR should hold scientific working group (SWG) meetings to address each of the ten diseases handled by the Programme. Two of these SWG meetings, this SWG on African trypanosomiasis being the first, will be held each year in order that all ten diseases are covered in five years. It is expected that this first meeting will set a research agenda for African trypanosomiasis, closely linked to control needs and open to the opportunities that science and technology can provide, which will act as a guide not only to TDR but also to other parties interested in research on African trypanosomiasis.

Funding through TDR is on the increase, and a full-time disease research coordinator for African trypanosomiasis is to be recruited. This is a reflection of growing donor interest in the disease, for which a significant amount of funding has already been assured. However, the funding available is largely restricted to particular projects and limited in geographical coverage to a small proportion of the 250 known foci of sleeping sickness in Africa. Furthermore, the number and mix of donors is limited, as is the period covered by the current funding agreement, which is only for five years. Securing resources for the period following these five years is therefore a priority. Strategies to attract more funding will include creating a supportive environment, joining forces with others of like mind, and using the voices of affected countries. The current matrix approach to programme management in TDR lays great emphasis on accountability and gives a certain amount of funding security to diseases that are unlikely to receive additional funding from alternative sources.



预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_30158

