



Report of a WHO Informal Consultation on sustainable control of human African trypanosomiasis

1–3 May 2007
Geneva, Switzerland



**World Health
Organization**



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Contents

1.	Introduction	1
2.	Aim and objectives of the meeting	1
3.	Country reports	1
4.	Working groups	3
5.	General conclusions of the meeting	12
	Annex 1 List of participants	14
	Annex 2 Agenda.....	23
	Annex 3 Epidemiological data by country, 1997–2006.....	25

1. Introduction

In 1996, the World Health Organization (WHO) held a meeting of managers of human African trypanosomiasis national control programmes (HATNCPs) in Abidjan, Côte d'Ivoire, to establish a coordinating network that would enable the Organization to develop a strong advocacy and awareness campaign and obtain the support of private partners for the surveillance and control programme. Since then, impressive progress has been made in controlling human African trypanosomiasis (HAT, or sleeping sickness), transforming the epidemiology of the disease described in 1996.

WHO held an informal consultation on sustainable sleeping sickness control in Geneva, Switzerland, on 1–3 May 2007. A total of 37 participants from WHO headquarters, the WHO African Region, the WHO Eastern Mediterranean Region and HATNCP programme managers attended the meeting (Annex 1). The three-day meeting was divided into three parts: the presentation of (i) country reports; (ii) working groups; (iii) general conclusions of the meeting (Annex 2).

2. Aim and objectives of the meeting

The aim of the informal consultation was to establish an accurate assessment of the current epidemiological status of sleeping sickness and levels of endemicity in WHO regions. The conclusions of this meeting will permit WHO to develop a methodology to guide appropriate assistance to each endemic country in order to fight the disease.

The three objectives of the meeting were:

- to obtain epidemiological updates on HAT;
- to discuss appropriate control measures for each epidemiological status;
- to define priorities and approaches for achieving sustainable control of HAT.

3. Country reports

Country reports were presented according to the following regional and epidemiological criteria: West African countries (*T.b. gambiense*); east African countries (*T.b. rhodesiense*); central African countries (*T.b. gambiense*); and major endemic countries (*T.b. gambiense*).

Guidance on presentations was circulated by WHO to participants before the meeting in order to guide the preparation of country reports. The following information was requested:

1. **Evolution of HAT during the past 10 years in the country.** Description of control measures carried out, (number of) screened persons, (number of) cases by focus.
2. **Current situation.** Analysis of geographical distribution and intensity of HAT prevalence in the light of the activities carried out during the past 10 years.
3. **Challenges and outlook for surveillance and control.** Description of strengths and weaknesses that could improve or weaken current progress to control HAT in the country.

WHO also requested in advance specific information by focus (country sheet):

- Update of map of each focus, showing current HAT situation classified by the following criteria:
 - foci where the last case was reported in 1990 or before;
 - foci where the last case was reported between 1991 and 2000;
 - foci where the last case was reported between 2001 and 2006.
- Active screening activities for each focus:
 - foci that received active control measures by mobile teams at least once during the past six years (2001–2006);
 - foci that received active control measures by mobile teams at least once during the period 1991–2000;
 - foci that did not receive active control measures by mobile teams in the past 16 years (1991–2006).
- Estimated population at risk in each focus.

Where available, the following information was requested: a list of all villages in the focus; the geographical coordinates (latitude, longitude) of each village; the year of active screening; the total population of the village at the time of the investigation; the number of people tested; and the number of people who tested positive by village. The epidemiological data presented enabled a clearer understanding of the current HAT situation in each country and of activities to control the

disease (Annex 3), which informed discussion of possible approaches to achieving sustainable control of the disease.

4. Working groups

Participants were assigned to four working groups representing the four regional and epidemiological foci established following the country updates:

1. East African countries (*T. b. rhodesiense*) – Malawi, Uganda, United Republic of Tanzania.
2. West African countries (*T. b. gambiense*) – Benin, Burkina Faso, Côte d’Ivoire, Ghana, Guinea, Mali, Nigeria, Togo.
3. Central African countries (*T. b. gambiense*) – Cameroon, Central African Republic, Congo, Gabon, Equatorial Guinea.
4. Major endemic countries (*T. b. gambiense*). Angola, Democratic Republic of the Congo, Sudan.

The following issues were discussed:

- Current HAT situation. Possibility of elimination of HAT as a public health problem in countries where the disease is endemic.
- Intensified and sustainable HAT control. How to involve health systems (primary health care and other health programmes) and, in the case of *T. b. rhodesiense*, coordinate with those sectors most involved: livestock, wildlife, tourism, agriculture, vector control.
- Accurate knowledge about the status of the disease. Underreporting of cases.
- Importance of increased awareness using information, education and communication (IEC) to improve case detection and reporting. Use of goodwill ambassadors for this purpose.
- Developing a cost-effective approach for surveillance and control of HAT; sustainability; HAT surveillance; WHO support.
- Importance of political commitment for sustainable HAT surveillance and control.

A coordinator and reporter were identified for each of the four working groups and an end-of-day session held to prepare an intermediate report. The conclusions from each group were presented. A final session was held to agree on the general conclusions of the meeting.

4.1 Conclusions of the working groups

As result of the group discussions, each group obtained some conclusions.

4.1.1 East African countries (*T.b. rhodesiense*)

- Elimination of rhodesiense sleeping sickness is feasible in view of:
 - the current level of political commitment (Lomé, 2000);
 - previous experiences in using a multisectoral approach for HAT control (Kenya, Uganda, United Republic of Tanzania);
 - the availability of tools for diagnosis, treatment, vector control and monitoring;
 - human resource capacity, materials (equipment and supplies), infrastructure (enabling policies, e.g. decentralization);
 - finances.

- Human resources are not sufficient but can be optimized through training, integration of programmes, motivation, facilitation, supervision and feedback, welfare, assignment, reassignment and delegation.

- Equipment is insufficient but the situation can be improved by optimization and sharing procurements (purchase or donations/partnerships) of e.g. microscopes, centrifuges and consumables.

- Financial resources are never sufficient but can be optimized through focused planning, disciplined spending, integration of activities, and by mobilizing more resources both internally (locally) and externally (international).

- The existing infrastructure is inadequate but could be improved and usage maximized. Advocate for improvement within the wider national poverty reduction strategies.

- Enabling policies: decentralization, national health policies, T&T elimination policies, WHO/AFRO regional strategy (Regional Committee, Maputo, 2005); current political commitment.

- The involvement of other sectors is mandatory in order to eliminate rhodesiense sleeping sickness. It is therefore necessary to:
 - identify the sectors/stakeholders;
 - conduct consultation meeting(s) to discuss the situation and needs and to identify sector-specific roles;
 - form a task force (technical) with clear terms of reference;
 - establish a policy organ that links with the task force to facilitate implementation;
 - formulate and ensure adoption of the implementation framework;
 - conduct joint planning;
 - implement and monitor activities.

- The involvement of the primary health care and other programmes is necessary to:
 - map the co-endemicity of sleeping sickness with other diseases;
 - identify ongoing interventions for control of other diseases;
 - explore areas of synergy;
 - draw up plans of action and ensure incorporation into the general district health team.

- The main sectors involved in surveillance and control of sleeping sickness are: livestock and agriculture; tourism; local government; finance; information; environment; wildlife; health; research and partners. The possible roles for each sector/partner are:
 - Livestock and agriculture. Vector control; treatment to eliminate animal reservoirs; monitoring and evaluation; resource mobilization.
 - Tourism and wildlife. Vector control within national parks/game reserves; screening of game workers and families; drawing specimen samples from wild animals when required; resource mobilization.
 - Local governments. Implementation of policies; community mobilization; resource mobilization.

- Finance. Resource mobilization; allocation and disbursement.
 - Information. Creation of awareness campaigns for community participation; advocacy; political commitment (resource mobilization).
 - Environment. Impact assessment of vector control strategies; resource mobilization; advice on environmentally-friendly tools for vector control.
 - Health system. Case-finding and management; surveillance within integrated disease surveillance and response (IDSR) and health information management system (HMIS); resource mobilization; monitoring and evaluation to generate information as indicators of performance.
 - Research. Generation of baseline data; monitoring performance of tools; conducting research to guide policy and implementation; impact assessments of the elimination programme.
 - Partners. Provision of technical and financial support; advocacy; resource mobilization; provide support in complex situations, e.g. resettlement, displacement, cross-border projects, etc.
- A multisectoral integrated approach is needed. This approach contains strengths and weaknesses.

The strengths/opportunities are:

- availability/existence of stakeholders/sectors and partners;
- ongoing regional projects (Farming in Tsetse Control Areas (FITCA) programme, Pan African Tsetse and Trypanosomiasis Eradication Campaign (PATTEC));
- health systems and structures in place;
- political commitment (Lomé, 2000/PATTEC);
- decentralization.

The weaknesses are:

- inadequate resources;
- poor infrastructure;
- lack of skilled human resources;
- competing health priorities;
- conflicting interests and funding variations.

- Underreporting as a result of under-diagnosis (lack of patient access in remote rural areas to services for HAT diagnosis and treatment) and problems with capturing data in IDSR and HMIS. This should be improved through:
 - capacity building (improve index of suspicion, access);
 - streamline sleeping sickness within IDSR and HMIS;
 - establish sentinel surveillance (to complement routine data).

- IEC is important to:
 - improve health-seeking behaviours (passive and active);
 - advocate for awareness and resource mobilization;
 - increase knowledge, attitude and practices (KAP) of health workers (improved detection and reporting).

- Partners can be used in IEC. Drama and entertainment groups to pass on messages about HAT; famous footballers (Samuel Eto'o, Cameroon) or personalities as goodwill ambassadors to governments and donors; creation of visual materials with footballer's picture and sleeping sickness message.

- A cost-effective approach for HAT surveillance and control must be multisectoral and integrated with primary health care and other programmes (strong passive case detection).

- Activities for sustainable HAT surveillance and control include:
 - scaling-up detection, management and surveillance within general health service delivery;
 - coordination, monitoring and evaluation at all levels of the health-care system;
 - capacity building at all levels, stressing the strengthening of passive laboratory diagnosis at the lower health units;
 - operational research to support decisions;
 - targeted vector control in HAT foci;
 - mass treatment and spraying of cattle.

- Support needed from WHO involves:

- technical support to build capacity (training, equipment and consumables);
 - resource mobilization;
 - organizing regional/intercountry meetings/workshops.
- Political commitment is important for:
 - mobilization, allocation and disbursement of resources;
 - prioritization within the health agenda;
 - motivation and commitment of implementers.

4.1.2 West African countries (*T.b. gambiense*)

- Epidemiological knowledge about the disease in each country is sufficient to consider the elimination of sleeping sickness.
- All approaches must be implemented together: horizontal integration, vertical integration and intercountry collaboration.

Approach	Advantages	Disadvantages
Horizontal	Less expensive	Less effective
	Long-lasting	Less Phase 1 cases detected
Vertical	Better results	More expensive
		Not sustainable

- Vector control has to be associated with active screening.
- The possibility of unreported cases is real and depends on the health system of each country.
 - Ideally, sentinel sites must be identified and health staff trained to implement serological and clinical surveillance (villages of origin of the last cases). In the event of positive serology, technical support will be needed to confirm cases. After case confirmation, reactive active surveillance should be implemented.
 - Health workers should be supervised and sleeping sickness included in periodical reports.
 - All the data should be collected and transmitted.

- The priorities for the next five years (2008–2012) are:
 - conducting active and passive case detection and to treat and follow-up patients;
 - training health workers in aspects of clinical management and serological detection;
 - supplying equipment and materials to health centres involved in HAT serological diagnosis and those involved in confirmation of the disease;
 - collecting, transmitting and analysing data as well as establishing the means for their collection and transmission;
 - supervising health workers;
 - organizing IEC sessions to develop and disseminate IEC materials;
 - involving communities to take part in HAT control.

- WHO should:
 - provide technical support;
 - foster research to develop simpler and less toxic molecules for the treatment;
 - encourage the development of new diagnostic tools, which are more sensitive and easier to use;
 - reinforce the technical skills of staff involved in HAT control at every level of the health system;
 - harmonize HAT management tools;
 - provide economic and material support;
 - provide equipment, materials and drugs;
 - support resource mobilization in countries where HAT is endemic.

- Policy-makers should encourage countries to support activities for the elimination of sleeping sickness and to register HAT as a priority disease for elimination.

4.1.3 Central African countries (*T.b. gambiense*)

- Current knowledge about HAT epidemiology allows elaboration of action plans to eliminate the disease as public health problem.

- The sustainability of activities to control sleeping sickness relies on the assurance of an integrated HAT surveillance system and the maintenance of specialized structures for support and coordination; to promote cross-border activities for HAT control;

and to reinforce the capacities of HAT control programmes and socio-sanitary structures.

- Given the real risk of lack of case detection and notification in historical foci, active case screening should take place on a regular basis (i.e. every two years).
- Capacity should be built, mainly for peripheral health staff.
- The capacities of intervention structures should be reinforced by technical materials and equipment.
- The priorities for the coming five years (2008–2012) include:
 - continuous supervision of staff involved in HAT control;
 - monitoring and evaluation of HAT control programme activities;
 - organizing vector control campaigns in targeted areas;
 - elaborating and making available practical guidelines for health staff and community workers to sensitize communities about HAT;
 - exhorting the scientific community to invest in research for reliable new diagnostic tools and the development of less aggressive and less toxic drugs;
 - reinforcing technical skills for case detection of HAT staff at the peripheral level, including clinical and immunological exams and use of gland puncture and haematocrit centrifugation test for diagnosis. Regular supervision and feedback are needed to prevent misreporting of cases. Partners are encouraged to support sensitization activities (advertisements, posters, triptychs, T-shirts, other gadgets);
 - ensuring coordination among partners in the sleeping sickness elimination initiative;
 - supplying the programmes with the technical support needed, as well as the financial, logistic and material support;
 - appealing to policy-makers and stakeholders for strong engagement with the sleeping sickness elimination initiative.

4.1.4 Major endemic countries (*T.b. gambiense*)

- Although it is possible to plan for elimination, investments are first needed to intensify control activities to reduce endemicity as a priority public health problem.
- Control activities must be carried out according to the situation observed in each country (Angola, Democratic Republic of the Congo, Sudan) and in a more targeted way in each focus.
- HATNCPs should work with existing health system structures, such as general hospitals and health centres. The activities to be implemented by each structure should be determined. The staff supervisors of these structures will be specialists in the HATNCPs.
- Training on sleeping sickness should be incorporated into the curriculum of national education structures.
- Refresher HAT training should be guaranteed.
- Another possibility for intensifying control activities is to engage civil society (local nongovernmental organizations, communities, religious institutions and philanthropic organizations), including key figures (singers, sportsmen, politicians).
- To update the old foci reporting zero cases, surveys would need to be conducted and, according to the results, surveillance and control activities should be planned.
- An update of the maps on disease distribution and vectors is necessary. The number of mobile teams in some foci should be increased.
- Although the level of endemicity is decreasing, detection and reporting of cases remain necessary. Motivation, training and supervision of staff must be ensured, and key people involved in sensitizing communities.
- WHO should provide technical support; it is important that the organization plays a role in appealing for and mobilizing external additional resources. At the country

level, WHO should sensitize national authorities so that they are invested in HAT control.

- Decision-makers should be reminded of the commitments already undertaken (Lomé, 2000; Bangui, 2001; Burkina Faso, 2001/PATTEC; Maputo, 2005; Luanda, 2006). Countries failing to allocate sufficient resources to the HATNCP should be reminded to do so; and should recognize HAT as a public health problem if this is not yet the case. Cross-border control activities and regional coordination must be reinforced.

5. General conclusions of the meeting

The conclusions obtained from the working groups were extrapolated to establish some general conclusions from the meeting.

The participants in the Informal Consultation on Sustainable Sleeping Sickness Control have debated in WHO headquarters questions concerning the sustainability of surveillance and control of human African trypanosomiasis and have concluded that:

- **Elimination of the disease is possible, considering:**
 - the results obtained during the past few years;
 - the epidemiological knowledge acquired about the disease;
 - the political will expressed by the Heads of State of endemic countries to eradicate the tsetse fly and the trypanosomoses (Lomé, 2000).
- **Current trends in the reduction in the number of cases can be maintained if surveillance and control are sustained and intensified.**
- **Sustainable surveillance and control are possible if cost-effective methodologies adapted to each particular epidemiological situation are developed and implemented in each of the concerned countries.**
- **The participation of existing health systems is not only desirable but essential for surveillance and control to be sustainable.**

- **Development and final adjustments of new diagnostic tools and of simple and adapted drugs are crucial** to guarantee the effective participation of existing health structures in surveillance and control activities and to make the latter more sustainable.
- **The maintenance of a specialized central structure at national level is required** to ensure the coordination of overall technical assistance through existing health systems for all those involved in the implementation of or participation in surveillance and control activities.
- **WHO support to countries where the disease is endemic must be maintained** in order to implement the various measures required to achieve the objective of sustainable elimination of sleeping sickness as a public health problem.
- **Relevant ministries** should play a leading role in mobilizing financial, material and human resources for sleeping sickness elimination.

Annex 1 List of participants

1. Angola

Dr Théophile Josenando
Directeur
Instituto de Combate e Controlo das Tripanossomíases (ICCT)
168, rua Cmdte Kwenha
C.P. 2657
Ingombotas
Luanda
Angola
Tel: +244 222 39 96 10
Fax: +244 222 39 96 11
E-mail: icct@snet.co.ao/josenandot@yahoo.com

Dr Vatunga Gedeão
Chef de département des opérations et surveillance épidémiologique
Instituto de Combate e Controlo das Tripanossomíases (ICCT)
168, rua Cmdte Kwenha
C.P. 2657
Ingombotas
Luanda
Angola
Tel: +244 222 39 96 10
Fax: +244 222 39 96 11
E-mail: vatunga9@hotmail.com

2. Benin

Dr Albert Sinatoko
Médecin de Santé Publique
Coordonnateur du Programme National de lutte contre les Maladies
Transmissibles
Ministère de la Santé BP 882
Cotonou
Bénin
Tél: +229 97 39 90 90
E-mail: sinalb99@yahoo.fr

3. Burkina Faso

Dr Roger Sié Kambiré
Coordonnateur du Programme National de Lutte contre la Trypanosomiase
Humaine Africaine
Ministère de la Santé
MiniSanté
DLM, B.P. 7009
Ouagadougou
Burkina Faso
Tel: +226 26 97 63
E-mail: kambireroger@yahoo.fr

- 4. Cameroon** Dr Vincent Ebo'o Eyenga
Coordonnateur national des activités du PNLTHA
Ministère de la Santé Publique
Direction de la Lutte contre la Maladie
Minsanté
Yaoundé
Cameroun
Tel: +237 735 41 14
Fax: +237 222 44 19
E-mail: ebooyenga@yahoo.fr
- 5. Central African Republic** Dr Sylvestre Mbadingai
Médecin Coordonnateur du Programme National de Lutte contre la Trypanosomiase Humaine Africaine
Ministère de la Santé
B.P. 113
Bangui
République Centrafricaine
Tel: +236 04 43 04
Fax: +236 61 47 29
E-mail: mbadingasylvestre@yahoo.fr
- 6. Congo** Dr Stephane Ngampo
Médecin-chef du PNLTHA
B.P. 1066
Brazzaville
Congo
Tel: +242 668 83 33
E-mail: ngamposte@yahoo.fr
- 7. Côte d'Ivoire** Dr Paul Maurice Dogbo Pepe
Directeur Coordonnateur
Direction Générale de la Santé
Direction de la Santé Communautaire
Direction de Coordination du Programme National de Lutte contre l'Onchocercose, la Trypanosomiase Humaine Africaine la Bilharziose et la Filariose Lympathique (PNL-OTBF)
Abidjan 06 BP 6394
Côte d'Ivoire
Tel: +225 22 52 38 36/22 52 38 99
Fax: +225 22 52 38 35
Email: pauldogbo@yahoo.fr

Dr Norbert Dje Ngoran
Chef de service THA
Direction Générale de la Santé
Direction de la Santé Communautaire
Direction de Coordination du Programme National de Lutte contre
l'Onchocercose, la Trypanosomiase Humaine Africaine, la Bilharziose et la
Filariose Lymphatique (PNL-OTBF),
06 BP 6394 Abidjan 06
Côte d'Ivoire
Tel: +225 22 52 38 36/22 52 38 99
Fax: +225 22 52 38 35
E-mail: ngorannobert@yahoo.fr

**8. Democratic
Republic of the
Congo**

Dr Constantin Miaka Mia Bilengue
Bureau central de la Trypanosomiase
B.P. 7782
Avenue Nyembo 16 bis
Quartier Righini
Kinshasa
République démocratique du Congo
Tel: +243 12 33 194
E-mail: tshimbadi@yahoo.fr

Dr Victor Kande Betu Kumeso
Directeur du Programme National de Lutte contre la Trypanosomiase
Humaine Africaine
Bureau Central de la Trypanosomiase
Ministère de la Santé
B.P. 7782
Avenue de la Justice 123A Gombe
Kinshasa
République démocratique du Congo
Tel: +243 12 8 27 87
E-mail: kandevictor@yahoo.fr / bctrdc@ic.cd

**9. Equatorial
Guinea**

Dr Pedro Ndongo
Director
Programa Nacional Control de la THA
MINSA
Zona Sanitaria
Bata
Guinea Ecuatorial
Tel: + 240 25 77 67
E-mail: terealene@intnet.gq

- 10. Gabon** Dr Paulette Mengue M'Eyi
Directeur du Programme National de Lutte contre la Trypanosomiase
Humaine Africaine
Ministère de la Santé Publique
Boîte Postale 12115
Libreville
Gabon
Tel: +241 07 59 55 36
E-mail: mengueeyip@yahoo.fr
- 11. Ghana** Dr Frank Bonsu
Coordinator, National Tuberculosis Control Programme
Disease Control Unit
Ministry of Health
Box Kb 493
Korle-Bu
Accra
Ghana
Tel: +233 21 66 00 23
E-mail: ntp@africaonline.com.gh
- 12. Guinea** Dr Mamadou Camara
Coordonnateur National du Programme de Lutte contre la Trypanosomiase
Humaine Africaine
Division prévention
Ministère de la Santé publique
Boîte Postale 817 SC OMS/Guinée
Conakry
République de Guinée
Tel: +224 60 59 89 46
E-mail: mamadycamarafr@yahoo.fr
- 13. Malawi** Dr Samuel K. Jemu
Programme Manager
Sleeping Sickness Control Programme
Community Health Sciences Unit
Mtunthama Drive
Private Bag 65
Lilongwe
Malawi
Tel: +2651 75 24 34
E-mail: samjemu@yahoo.co.uk

- 14. Mali** Dr Issa Degoga
Coordonnateur du Programme National de Lutte contre la THA, Direction
Nationale de la Santé, Division Prévention et Lutte contre la Maladie
B.P. 233
N°Tominkorobougou
Mali
Tel: +223 222 64 97 / 223 223 33 52
Fax: +223 222 36 74
E-mail: idegoga@dnsmali.org / degogais@yahoo.fr
- 15. Nigeria** Mrs Ifeoma Anagbogu
National Coordinator, Trypanosomiasis Eradication
Department of Public Health
Federal Ministry of Health
Federal Secretariat
Phase 3, Maitama
P. O. Box 8426
Wuse Post Office
Abuja
Nigeria
Tel: +080 34 08 56 07 / 080 44 10 46 63
E-mail: ifechuba@yahoo.co.uk
- 16. Sudan** Dr John Rumunu
Director General of Preventive Medicine
The Ministry of Health
Government of Southern Sudan
Tel: +256 477 10 84 17
E-mail: johnrumunu@mohgoss.sd / jrumumunu@yahoo.com
- 17. Togo** Dr Kossi Badziklou
Coordonnateur du Programme National de Lutte contre la Trypanosomiase
Humaine Africaine
Institut National D'Hygiène
B.P. 1396
Lomé
Togo
Tel: +228 994 52 00
Fax: +228 222 49 68
E-mail: badziklouk@yahoo.fr/badziklou@caramail.com

- 18. Uganda** Dr Dawson Mbulamberi
Assistant Commissioner for Health Services
Ministry of Health
P.O. Box 7272
Entebbe
Uganda
Tel: +256 41 23 15 63
Fax: +256 41 23 15 84
E-mail: mbulamberi@yahoo.com
- 19. United
Republic of
Tanzania** Dr Raphael Kalinga
Assistant Director Epidemiology and Diseases Control
Department of Preventive Services
Ministry of Health
P.O. Box 9083
Dar es Salam
Tanzania
Tel: +255 222 754 59 46 78
Fax: +255 222 13 68 03
E-mail: rkalinga2000@yahoo.com
- Dr Stafford N. Kibona
Director
National Institute for Medical Research
Tabora Research Centre
P.O. Box 482
Tabora
United Republic of Tanzania
Tel: +255 26 260 42 19
Fax: +255 26 260 49 43
E-mail: kibonastbr@yahoo.com

**WHO
headquarters**

20 Avenue Appia
CH-1211 Geneva 27
Switzerland

Dr David Heymann
Assistant Director-General
Communicable Diseases
Tel: +41 22 791 2212
Fax: +41 22 791 3111/4752
E-mail: heymannd@who.int

Dr Lorenzo Savioli
Director, Department of Control of Neglected Tropical Diseases
Tel: +41 22 791 2664/14729
Fax: +41 22 791 4777
E-mail: saviolil@who.int

Dr Jean Jannin
Coordinator, Innovative & Intensified Disease Management
Department of Control of Neglected Tropical Diseases
Tel: +41 22 791 3779
Fax: +41 22 791 4777
E-mail: janninj@who.int

Dr Pere Pérez Simarro
Medical Officer in-charge Programme on Human African Trypanosomiasis
Innovative & Intensified Disease Management
Department of Control of Neglected Tropical Diseases
Tel: +41 22 791 1345
Fax: +41 22 791 4777
E-mail: simarrop@who.int

**WHO Regional
Office for Africa**

Cité du Djoué
P.O.Box 06
Brazzaville
Congo

Dr Barrysson Andriamahefazafy
Medical Officer
Tel: +47 241 382 41
E-mail: barryssona@whoafr.org

Dr Faustine Maiso
ICST/WHO/ Zimbabwe
Harare
Tel: + 263 11749743
E-mail: maisof@zw.afro.who.int

Dr Abdoulaye Diarra
ICST/WHO Gabon
BP 820 Libreville
Tel: +241 740140 or 740141 Ext:34811
E-mail: diarraa@ga.afro.who.int

**WHO Regional
Office for the
Eastern
Mediterranean**
P.O. Box 7608
Cairo 11371
Egypt

Dr Jaouad Mahjour
Director, Communicable Diseases Control
Tel: +202 276 5250
Fax: +202 276 5414
E-mail: mahjourj@emro.who.int

Dr Riadh Ben Ismail
Regional Adviser CTD/DCD
Tel: +20 2 276 52 80
Fax: +20 2 276 54 14
E-mail: ismailr@emro.who.int

Dr Jose Antonio Ruiz Postigo
Communicable Disease Programme Officer
World Health Organization in Southern Sudan
Juba
Sudan
Tel: +882 16 43 33 89 05
E-mail: ruizpostigo@yahoo.es

Secretariat

Mr Pierre Cattand
President, Association against Trypanosomiasis in Africa (ATA)
Chateau de Brives
39170 Lavans-Saint Lupicin
France
E-mail: cattandp@wanadoo.fr

Dr Marc Gastellu Etchegorry
Medical Officer
Innovative & Intensified Disease Management
Department of Control of Neglected Tropical Diseases
WHO headquarters, Geneva, Switzerland
Tel: +41 22 791 3912
Fax: +41 22 791 4777
E-mail: gastellum@who.int

Miss Raquel Mercado
Innovative & Intensified Disease Management
Department of Control of Neglected Tropical Diseases
WHO headquarters, Geneva, Switzerland
Switzerland
Tel: +41 22 791 3186
Fax: +41 22 791 4777
E-mail: mercador@who.int

Mr Adebawale Akintunde
Innovative & Intensified Disease Management
Department of Control of Neglected Tropical Diseases
WHO headquarters, Geneva, Switzerland
Tel: +41 22 791 1084
Fax: +41 22 791 4777
E-mail: akintundea@who.int

Annex 2

Agenda

Tuesday, 1 May

08:30–09:00	Registration
09:00–09:30	Opening Introduction and objectives of the meeting
09:30–10:30	Country reports West African countries
10:30–11:00	Coffee break
11:00–12:00	Country reports West African countries (continuation)
12:00–13:30	Free time
13:30–15:30	Country reports East African countries
15:30–16:00	Coffee break
16:00–18:00	Country reports Central African countries

Wednesday, 2 May

09:00–10:30	Country reports Major endemic countries
10:30–11:00	Coffee break
11:00–12:00	Approaches for Sleeping Sickness Control (DRC experience)
12:00–13:30	Free time
13:30–15:00	Working groups
15:00–15:30	Coffee break
15:30–17:00	Working groups (continuation)

Thursday, 3 May

09:00–10:30	Working groups (continuation)
10:30–11:00	Coffee break
11:00–12:00	Working groups (discussions)
12:00–13:30	Free time
13:30–15:00	Working groups (conclusions)
15:00–15:30	Coffee break
15:30–17:00	General conclusions of the meeting

Annex 3 Epidemiological data by country, 1997–2006

This summary is based on data presented by countries supplemented by data from WHO.

1. EAST AFRICAN COUNTRIES (*T. b. rhodesiense*)

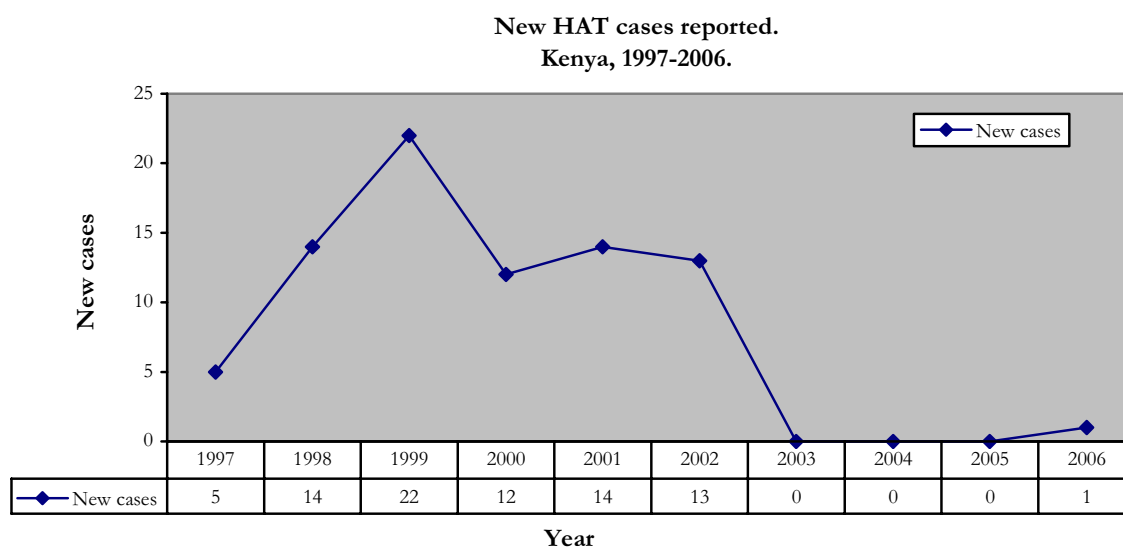
Kenya (no country representative; WHO data)

HAT control is handled by the Trypanosomiasis Research Centre included in the Kenyan Agriculture Research Institute (KARI).

Endemic areas are located in three districts (Bungoma, Busia and Teso) in Western Province, close to the Ugandan border and one district (Suba & Homa Bay) in Nyanza Province, which comprises Lambwe Valley, along Lake Victoria shores.

Despite a solid passive case detection system managed by the Trypanosomiasis Research Centre, no cases were detected between 2002 and 2004. However, one case was diagnosed in Busia Town (Ugandan border) in January 2006, probably infected in Uganda.

Figure A3.1 New HAT cases reported to WHO, Kenya, 1997–2006

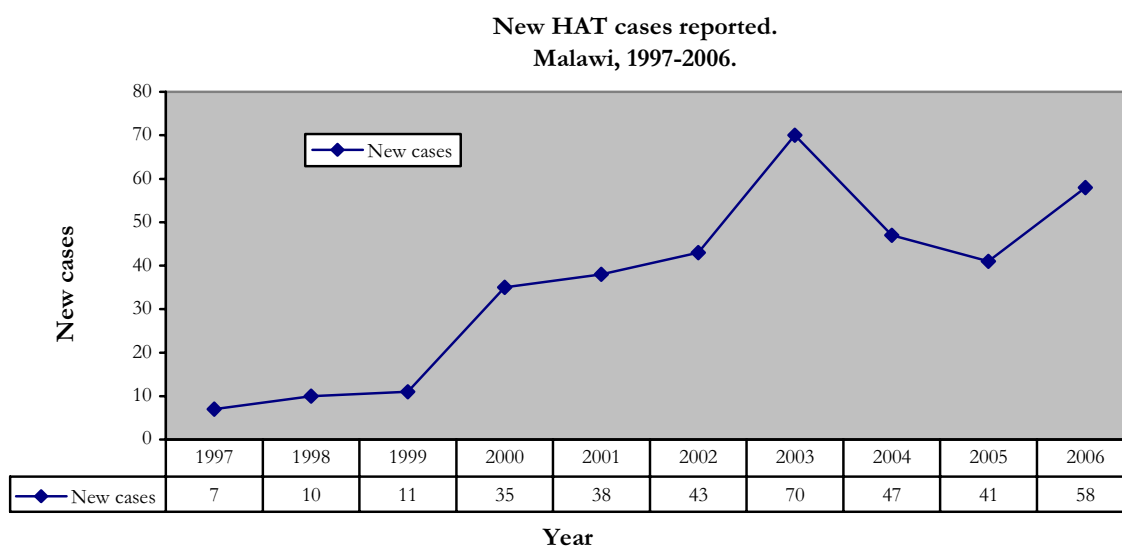


Malawi (Dr Samuel Jemu, Programme Manager, Human African Trypanosomiasis National Control Programme – HATNCP)

The HATNCP is managed by the Disease Control Unit within the Department of Preventive Health Services in the Ministry of Health and Population. In addition to a programme manager at the central level, there are district coordinators at the district level. Programme implementation is the responsibility of community health workers. Those involved in HAT surveillance and control underwent in-service training in 2007, which was organized under the auspices of a team of international experts from WHO. The HATNCP is understaffed (and staff are insufficiently trained), under-equipped and scarcely funded. WHO provides some support.

HAT transmission occurs in Nkhotakota, Rumphi and Kasungu districts, where cases are regularly identified. The disease is present in and around national parks, and game and forest reserves, affecting nationals and expatriate tourists. There is an incremental trend in the number of new cases detected, related to improvements in case detection.

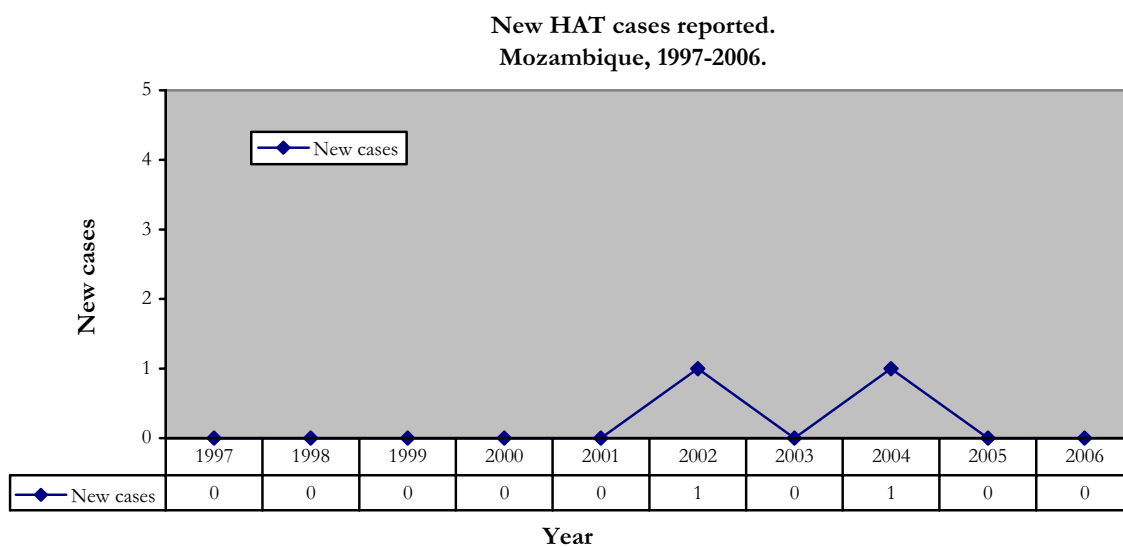
Figure A3.2 New HAT cases reported to WHO, Malawi, 1997–2006



Mozambique (no country representative; WHO data)

HAT control is vested in primary health structures under the responsibility of the National Institute of Health within the Ministry of Health. The last cases were identified in 2002 and 2004 from Niassa and Tete provinces respectively.

Figure A3.3 New HAT cases reported to WHO, Mozambique, 1997–2006

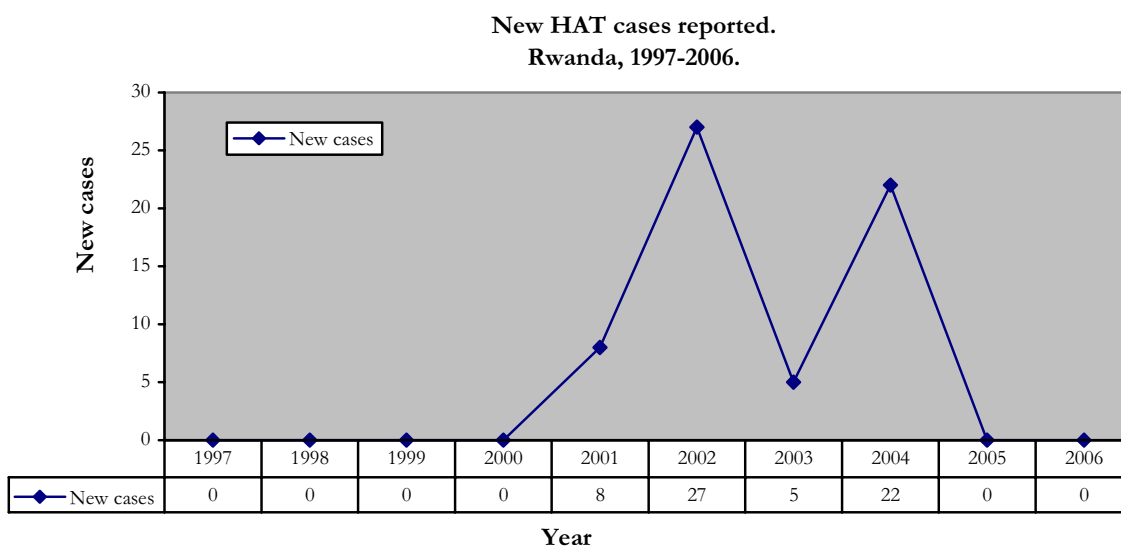


Rwanda (no country representative; WHO data)

Neither a dedicated health structure nor trained staff exists in the country. There is no surveillance system for HAT.

HAT was first described in Rwanda in 1911. Recent cases have been sporadically reported from the Mutara region and Akagera National Park, bordering the United Republic of Tanzania.

Figure A3.4 **New HAT cases reported to WHO, Rwanda, 1997–2006**



Uganda (Dr Dawson B. Mbulamberi, Assistant Commissioner for Health Services, Vector-Borne Disease Control, Ministry of Health)

Uganda is affected by both forms of the disease (*T. b. gambiense* in the north-west and *T. b. rhodesiense* in the south-east). It is believed that an overlap of *T.b. gambiense* and *T.b. rhodesiense* could occur, which would substantially complicate surveillance and control operations because of the epidemiological differences between the two forms of the disease.

HAT control activities are decentralized and managed by district health authorities. The Ministry of Health sets standards and policies and offers technical support to districts. There is a HAT focal point at the central level of the Ministry of Health, but no HATNCP because activities are decentralized to the district level.

A multisectoral approach for surveillance and control involving humans and animals as well as the disease vector was proposed to prevent the two forms of HAT from overlapping.

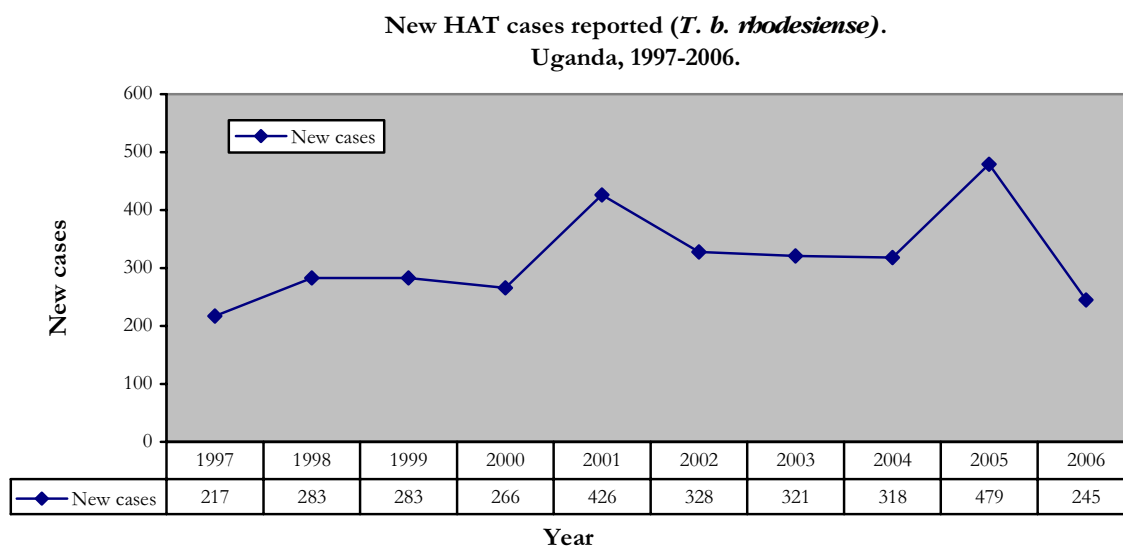
HAT was first reported in Uganda at beginning of the 20th century, with a rampant epidemic along the shores of Lake Victoria. This epidemic was not controlled until the late 1920s. Since then, repeated epidemic outbreaks have emerged but were brought under control. The current epidemic, however, has lasted the longest so far and appears difficult to bring under control.

T. b. rhodesiense

Foci of *T. b. rhodesiense* are located in the south-eastern part of the country, affecting 14 districts (Busia, Busiri, Iganga, Jinja, Lira/Dokolo, Kaberamaido, Kamuli, Kayunga, Kumi, Mayuge, Mukono, Pallisa, Soroti and Tororo), some of them hitherto unaffected districts (Soroti, Kumi, Kaberamaido, Lira, Apac). The affected area was separated from the *T. b. gambiense* foci by Apac, Gulu, Kaberamaido, Lira and Masindi districts. However, the transmission area of *T. b. rhodesiense* has been regularly extending northwards, and cases have been identified in Apac, Kaberamaido and Lira. This surprising epidemiological pattern has been associated with movements of cattle and humans during the civil strife, crossing the traditional barrier zone. The disease has recently spread south-westwards to Kalangala district in the Sese islands.

Mass treatment and spraying of cattle to control spread of rhodesiense HAT has been started in partnership with CEVA/IK, Makerere University and the University of Edinburgh. The number of new cases increased from 217 in 1997 to 245 in 2006. There is a slight increment in the number of cases but most important is the extension of the affected area.

Figure A3.5 New *T. b. rhodesiense* cases reported to WHO, Uganda, 1997–2006



T. b. gambiense

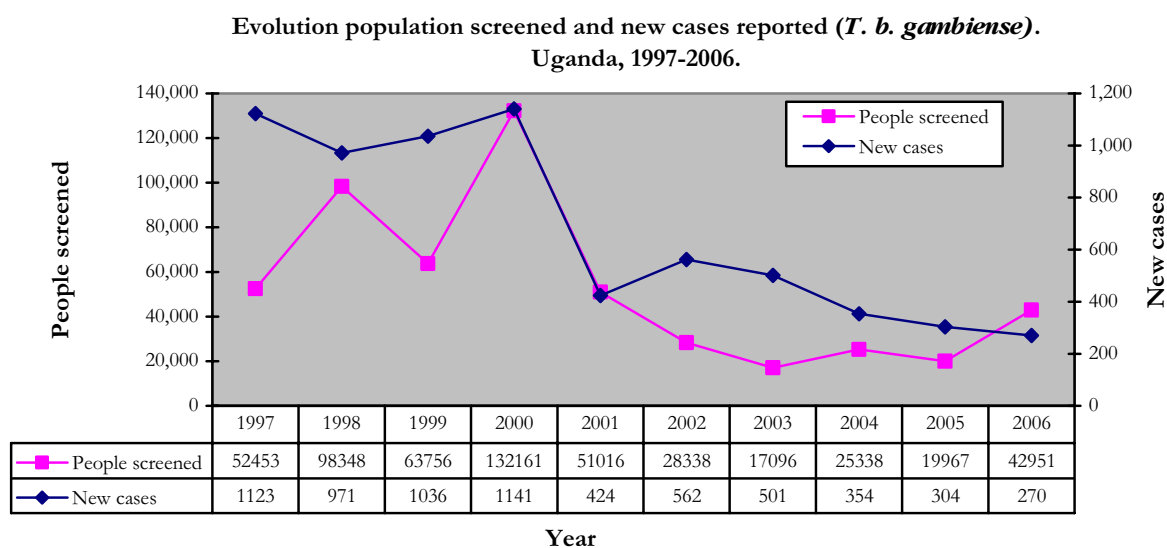
Transmission occurs in the north-western part of the country, affecting four districts (Adjumani, Arua, Moyo and Yumbe). The West Nile districts resumed recording cases of the gambiense disease in 1983. These cases were attributed to returning Ugandan refugees from Southern Sudan where there was, and still is, a HAT epidemic. Human traffic across borders and the internal displacement of people, related to frequent conflicts, are important factors in the epidemiology of the disease in the region.

An increasing level of resistance to melarsoprol has been described in the West Nile Region (where it is currently as high as 30%).

HAT control in the region has been supported by MSF France since the mid-1980s through a vertical programme, which was discontinued in 2001. WHO supports HAT control in Arua and Moyo districts.

There is a clear decreasing trend in the number of new cases detected. The end of MSF France support and the decentralization process (2001–2002) meant an important reduction in the number of people screened.

Figure A3.6 Population under active screening and new *T.b. gambiense* cases reported to WHO, Uganda, 1997–2006



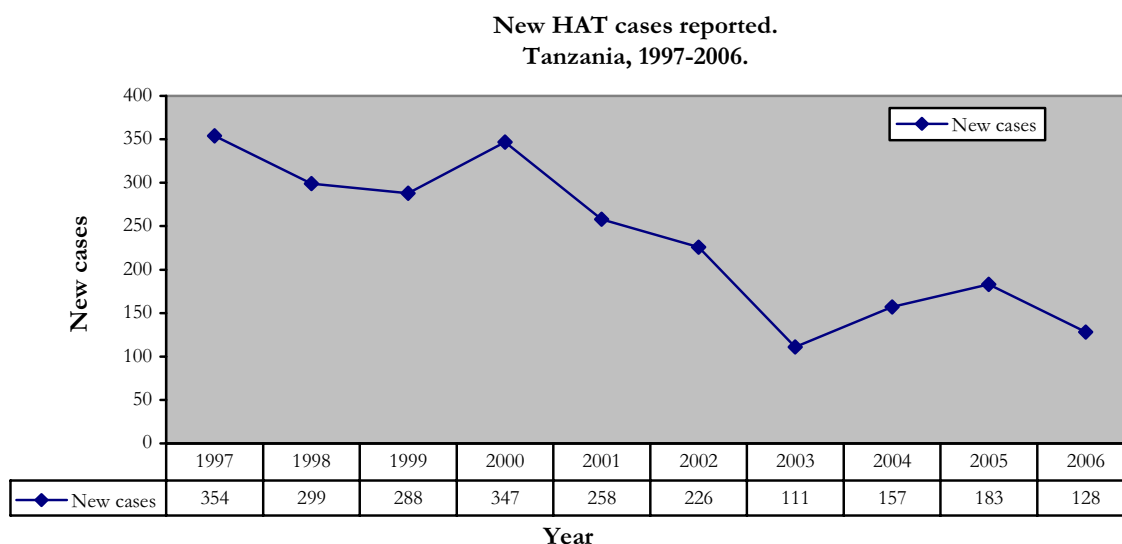
United Republic of Tanzania (Dr Stafford N. Kibona, Research Scientist, Director, National Institute for Medical Research, Tabora Medical Research Centre)

There is no HATNCP in the country, but one person (based within the Ministry of Health) acts as a HAT focal point and is responsible for monitoring the disease. Some control activities are implemented by the National Institute for Medical Research from its Tabora Centre with the support of WHO; some activities are developed by the Ministry for Livestock and Development. Cases are regularly identified and treated in local health structures (district hospitals and some health centres). Dispensaries are severely understaffed and, consequently, few facilities are capable of managing HAT cases. HAT patients travel long distances for medical attention, most of whom are treated when the disease is at an advanced stage. There is a lack of trained staff and diagnostic capability is poor.

Transmission occurs in three regions: Kigoma, (Kibondo and Kasulu districts), Rukwa (Mpanda and Nkasi district) and Tabora (Urambo district). Sporadic cases have been described in Mbeya Region (Chunya district), Mara Region (Serengeti district) mainly in tourists and Manyara and Arusha regions (Babati, Hanang and Monduli districts).

Although the total number of new cases has decreased, analysis of the situation by foci reveals two different trends: the number of new cases occurring in Kigoma Region has been reducing since 2000, but the number of new cases from Tabora and Rukwa regions has increased since 2003. Available data suggest underreporting of cases.

Figure A3.7 **New HAT cases reported to WHO, United Republic of Tanzania, 1997–2006**



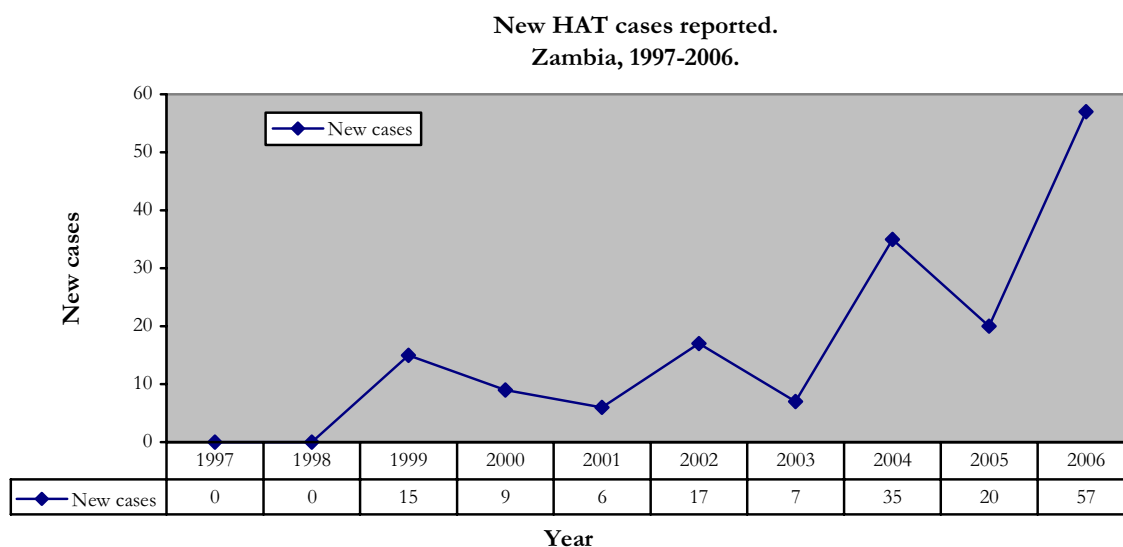
Zambia (no country representative; data presented by Dr Faustine Maiso, Medical Officer WHO-AFRO who performed an assessment mission in Zambia on April 2007)

There is no dedicated structure for HAT surveillance or control. Diagnosis and, eventually, treatment relies exclusively on district hospitals.

The situation of HAT in Zambia is not known given the diversity of the foci coupled with the absence of surveillance and the unreliability of available data. Cases have been sporadically reported from two districts: Mpika (Northern Province) and Petakua (Eastern Province), both in the Luangwa fly belt. In 2006, cases were reported from Chavuma district in North-Western Province (bordering Moxico Province in Angola), Kitwe and Kalulushi districts in Copperbelt Province (bordering Katanga Province in the Democratic Republic of the Congo); Chiengi district in Luapula Province (bordering Katanga Province in the Democratic Republic of the Congo); and Chilubi and Kasama districts in Northern Province (neighbouring Mpika district).

The total number of new cases reported has a worrying increasing trend but reliability of data is doubtful.

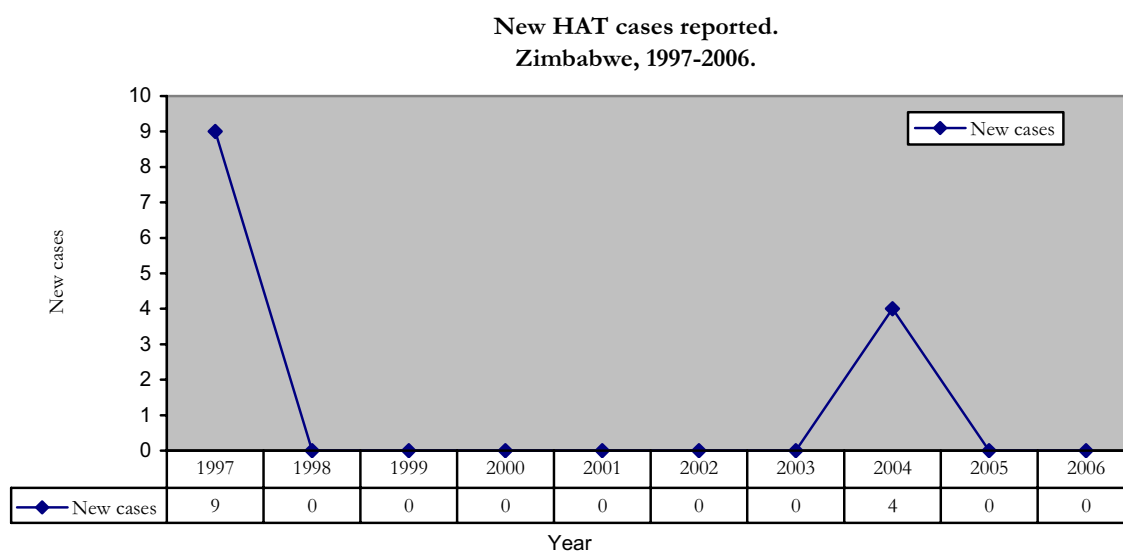
Figure A3.8 **New HAT cases reported to WHO, Zambia, 1997–2006**



Zimbabwe (no country representative; WHO data)

South Africa and Great Britain sporadically report cases, generally tourists visiting the Kariba lake region. However, no surveillance system exists for the local population and no dedicated surveys are being implemented by national health authorities. A total of 9 cases were reported in 1997; since then, only in 2004, four cases were treated in South Africa coming from Kariba lake region.

Figure A3.9 New HAT cases reported to WHO, Zimbabwe, 1997–2006



2. WEST AFRICAN COUNTRIES (*T. b. gambiense*)

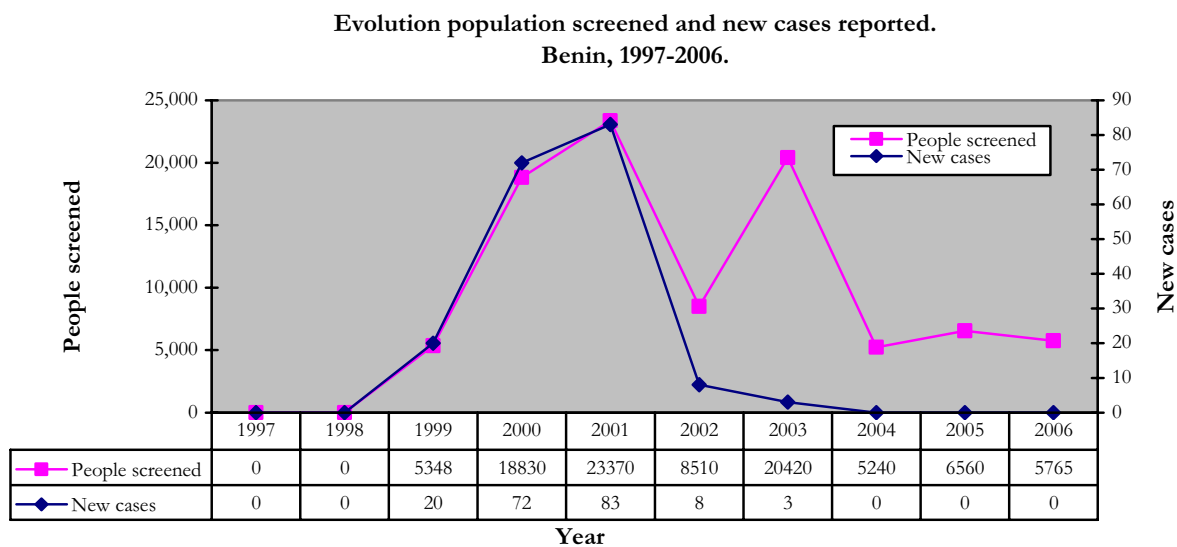
Benin (Dr Albert Sinakoto, National Coordinating Officer for Transmissible Diseases)

The HATNCP, created in 1998 and funded by the Beninese Government under the national health regular budget, is able to perform some control activities in endemic areas with WHO support. Medical staff working in these areas participate in mobile teams and take care of treatment. Diagnostic procedures must be improved, introducing Centrifugation deTube Capillaire.

Cases have been sporadically diagnosed in two departments in the north-west (Atakora and, most rarely, in Donga) with some suspects not confirmed in the neighbouring departments of Alibori and Borgou.

The population placed under surveillance between 1999 and 2006 was variable, ranging from 0 to 23 370. The last cases diagnosed (3) were in 2003. Since 2004, no parasitological cases have been identified, despite some case-finding surveys in past years.

Figure A3.10 **Population under active screening and new HAT cases reported to WHO, Benin, 1997–2006**

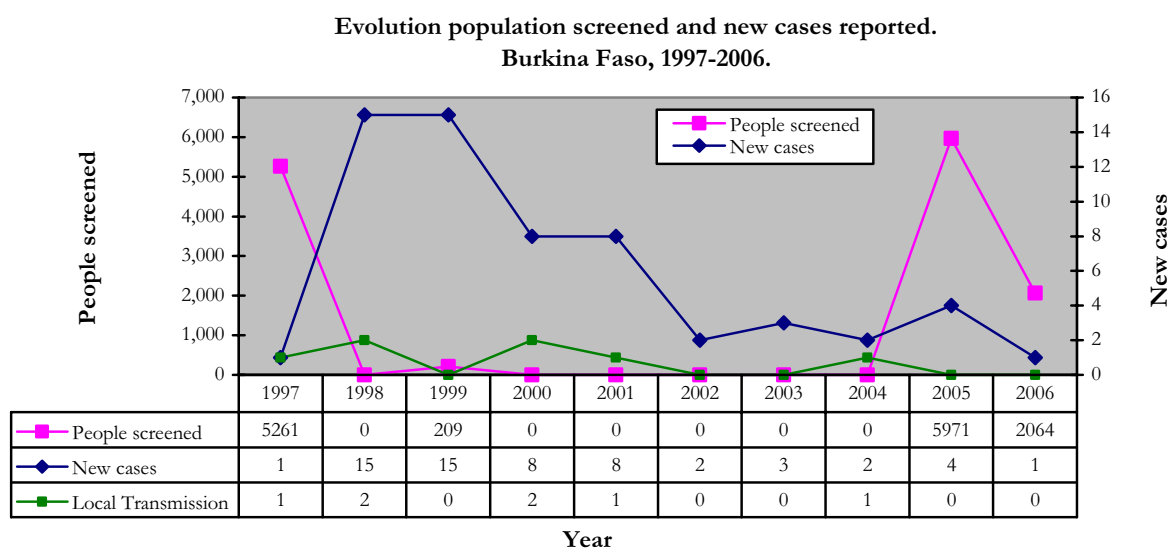


Burkina Faso (Dr Sié Roger Kambiré, Coordinating Officer, Sleeping Sickness National Control Programme)

The HATNCP is integrated in the Division of Disease Control, where HATNCP staff are decentralized and laboratory technicians (7) are allocated in different national centres. The HATNCP has no logistic means to implement control operations independently, and has to borrow equipment and field staff from others projects to perform surveys. CIRDES/IRD provides some technical support from. HAT cases are treated in different health structures. There are three historic foci: the south-west (Banfora, Bobo-Dioulasso, Gaoua), the central-west (Koudougou) and the south-east (Tenkodogo).

It is uncertain whether transmission is currently occurring in the south and south-east, where all recent cases have been identified. Between 1999 and 2006, little local transmission was observed (7 cases) but the majority of cases diagnosed were returnees from Côte d'Ivoire (52). Between 1997 and 2007, active surveillance took place in five endemic areas and a single returnee case was diagnosed in 2006. No autochthonous cases were diagnosed during the survey carried out in the area (in 2005 and 2006) with the support of WHO. This fact supports the hypothesis of interruption of local transmission.

Figure A3.11 **Population under active screening and new HAT cases reported to WHO, Burkina Faso, 1997–2006**



Côte d'Ivoire (Dr Paul M. Dogbo, Director-Coordinator, Onchocercosis, Human African Trypanosomiasis, Schistosomiasis and Lymphatic Filariasis National Control Programme –PNL-OTBF)

HAT control activities are integrated with those for other endemic diseases in the PNL-OTBF, in the Community Health Directorate. The HATNCP is mainly an administrative structure, with poor logistic capacities to perform surveys. Passive diagnosis and treatment services are integrated in health structures.

HAT control is technically assisted by two national structures: the PRCT (Projet de recherches cliniques sur la trypanosomiase based in Daloa) and the IPR (Institut Pierre Richet formerly based in Bouaké, now in Abidjan).

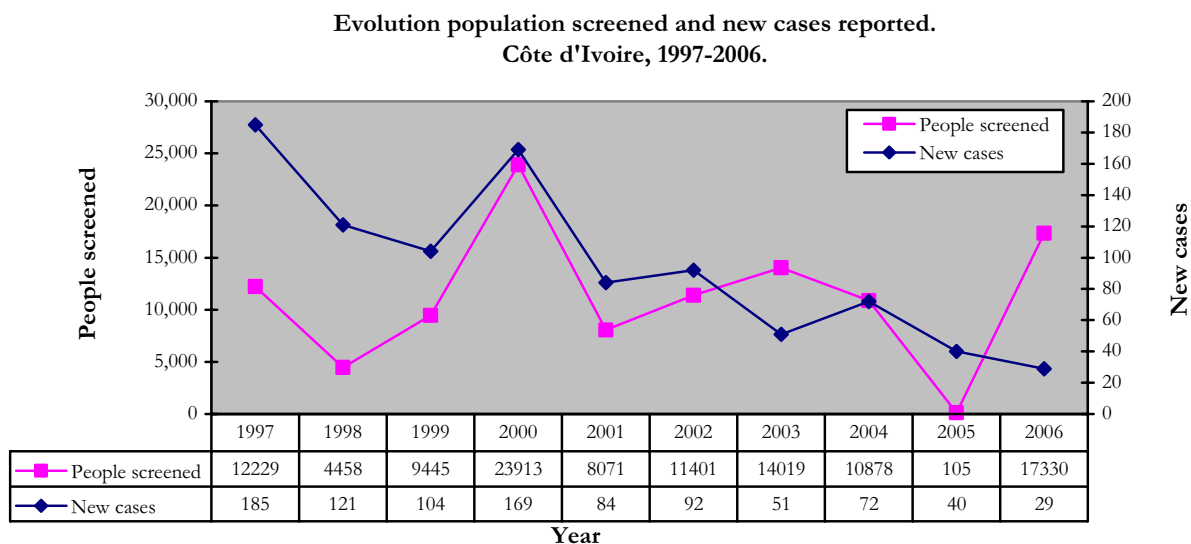
The political military crisis affecting the country in recent years has disrupted the health system, particularly the PNL-OTBF, based in Bouake, an area heavily affected by the upheaval. Fortunately, the situation is now improving, but there is still an important reduction in the resources available to the Programme.

A total of 18 foci have reported cases in the past five years (2001–2006): Aboisso, Ayame, Bayota, Bediala, Bonon, Bouafle, Daloa, Diegonefla, Duekoue, Gboguhe, Gd Zattri, Guiberoua, Issia, Oumé, Ouragahio, Sinfra, Vavoua and Zoukougbeu.

In 15 foci, cases have not occurred in the past 16 years (1990–2006): Abengourou, Abidjan, Bondoukou, Bouake, Bouna, Dimbokro, Grabo, Gd Berebi, Guiglo, Korhogo, Man, Odiene, San Pedro, Sassandra and Tabou,. A further 21 foci have not reported cases for at least the past seven years (1999–2006): Adzope, Agboville, Boundiali, Buyo, Dabou, Danane, Divo, Gagnoa, Katiola, Lakota, Makro, Rubino, Saioua, Seguela, Soubre, Tai, Tiassale, Tiebissou, Touba, Toumodi and Zuenoula,

The population placed under surveillance between 1997 and 2004 was variable, ranging from 4458 to 23 913, with an average population visited annually of about 10 000. The number of cases was also variable, but with a slowly decreasing trend, from 185 in 1997 to 29 in 2006. In 2005, almost no active case-finding was performed due to the social situation, but fortunately activities were restarted in 2006 with the support of WHO.

Figure A3.12 **Population under active screening and new HAT cases reported to WHO, Côte d'Ivoire, 1997–2006**

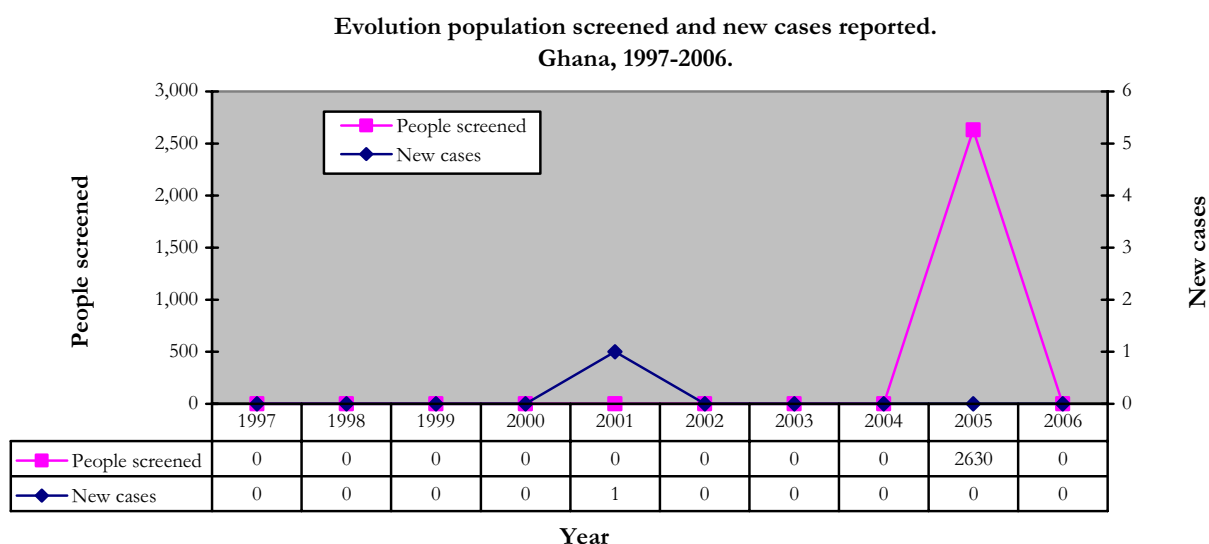


Ghana (Frank Bonsu, Head, Disease Control and Prevention Unit, Coordinator, National Tuberculosis Control Programme)

Activities to control sleeping sickness are the responsibility of the Disease Control Unit of the Ghanaian Health Service, which works in collaboration with, and with the technical support of, the West African Centre for International Parasite Control based in the Noguchi Memorial Institute for Medical Research. The objective is to maintain a surveillance system.

In early 1940s, epidemics in several foci produced high numbers of cases. This situation was completely controlled in the 1960s. Since then, some cases have occurred sporadically. The last case was reported in 2001 from Takoradi (Western Region). An active case-finding survey with the support of WHO was performed in December 2005 in this area, but no cases were detected.

Figure A3.13 **Population under active screening and new HAT cases reported to WHO, Ghana, 1997–2006**

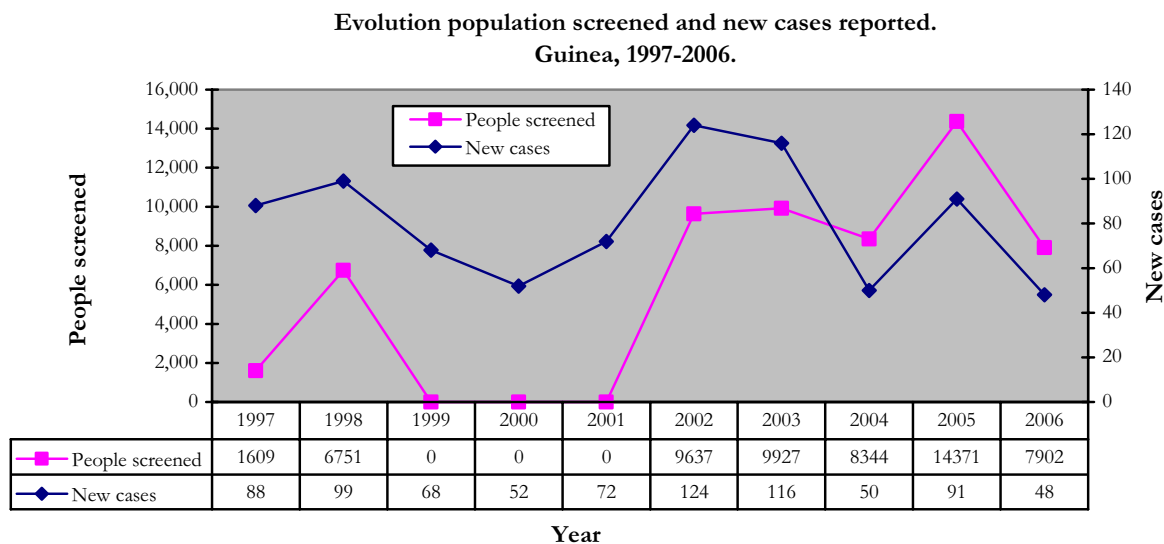


Guinea (Conakry) (Dr Mamadou Camara, National Coordinator, Sleeping Sickness National Control Programme)

The HATNCP was established in 2002 and has made improvements since then in engaging the Government in control activities. There remains a lack of equipment and human resources. External support from WHO, IRD, PATTEC and French and Japanese bilateral cooperation has supported the rehabilitation of the hyposérie in Dubreka.

Transmission occurs in Basse Guinée, which includes the foci of Boffa, Dubreka and Forecariah, and in Guinée Forestière, where the Nzerekore area is the main focus. The population placed under surveillance between 1997 and 2001 was variable, and has risen incrementally in the past four years (2002–2006). The number of cases ranges from 124 to 48.

Figure A3.14 **Population under active screening and new HAT cases reported to WHO, Guinea, 1997–2006**



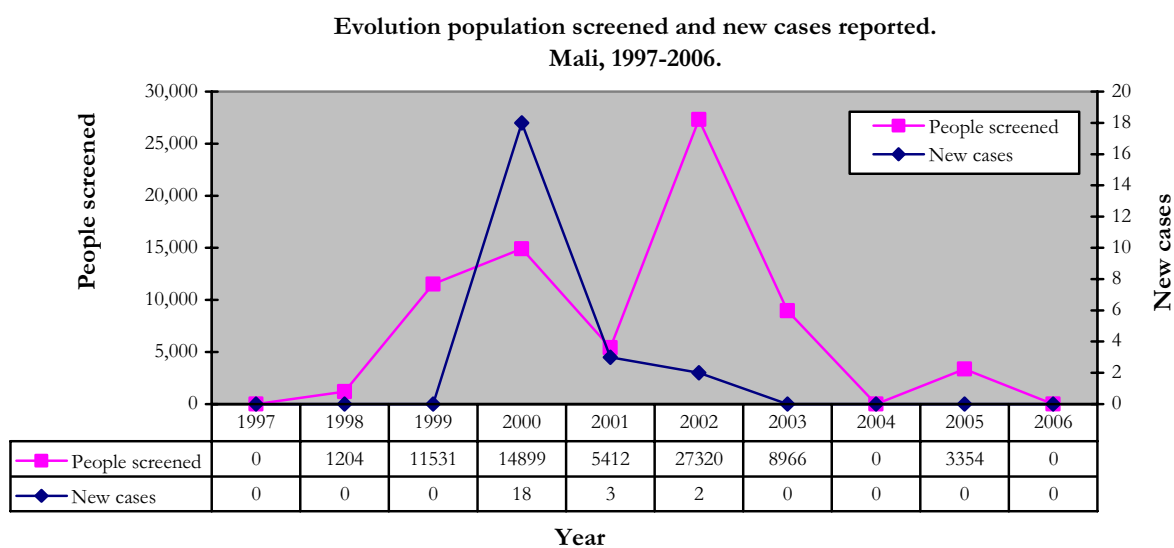
Mali (Dr Issa Degoga, Coordinating Officer, Sleeping Sickness National Control Programme)

The HATNCP is integrated in the National Direction of Health but actually relegated to secondary plan and practically dismantled. HAT is included, with other 22 diseases, in the Integrated System of Epidemiological Surveillance. The HATNCP is poorly staffed (mainly aged personnel) and under-equipped.

The foci are located in 3 regions in the south of the country: Kayes (cercles of Kenieba, Bafoulabe and Kita) Koulikoro (cercles of Dioila and Kangaba) and Sikasso (cercles of Koutiala, Sikasso, Kolondieba, Bougouni and Yanfolia).

The last case was reported from the Kenieba area in 2002 (in 2000, 17 cases were reported in this region). Active case-finding surveys were carried out in 2003 and 2005 in that region with the support of WHO and no cases were identified. No screening activities were performed in 2004 and 2006.

Figure A3.15 **Population under active screening and new HAT cases reported to WHO, Mali, 1997–2006**

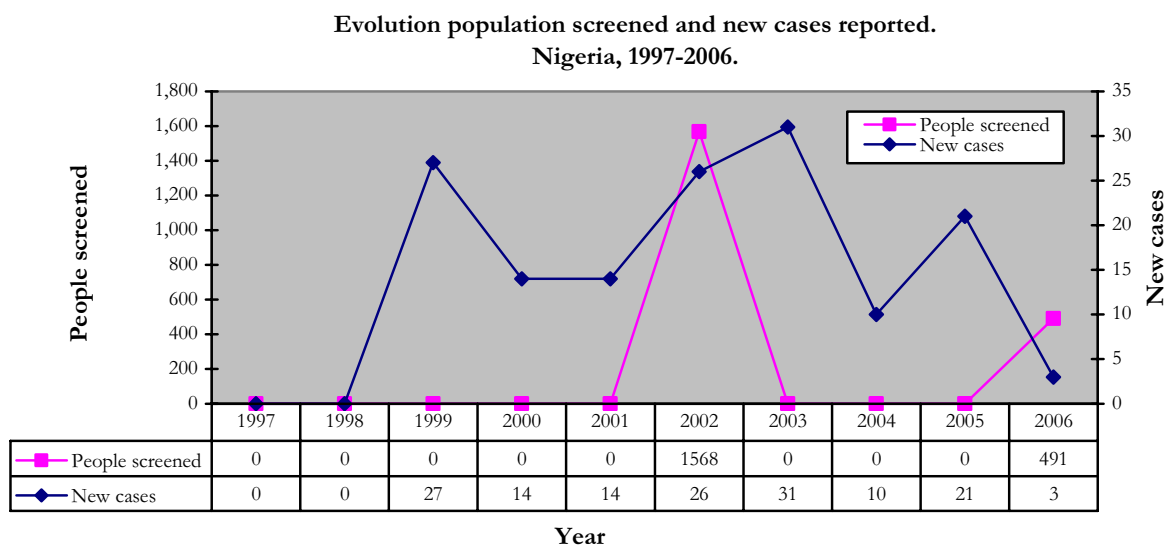


Nigeria (Mrs Ifeoma N. Anagbogu, National Coordinator, Human African Trypanosomiasis Eradication Programme (HATEP))

The recently-created HATEP is included in the Department of Public Health of the Federal Ministry of Health. It has very few personnel trained on management of disease and insufficient funding and logistic support for implementation of activities. HATEP collaborates with WHO, PATTEC and the National Institute of Trypanosomiasis and Onchocerciasis Research (NITOR) to implement control activities. HAT control activities have to be coordinated with the different States Ministries of Health. NITOR has the expertise to perform field work but has not been vested with the responsibility, nor financed to implement, nationwide surveillance.

HAT was previously reported in 21 states, 11 of which were considered endemic for HAT (Benue, Kaduna, Kano, Nasarawa, Niger, Plateau and Tarawa in Central Nigeria, and Delta, Edo, Ekiti and Ondo in Southern Nigeria). Currently, Delta, Edo, Ekiti and Ondo states are considered endemic. In recent years, cases have been regularly reported from the Abraka focus in Delta State (Ethiope East District) and bordering Edo State. All patients in whom disease is diagnosed have been treated in the Eku Baptist Medical Centre (Delta State). Some patients arriving from Edo, Ekiti and Ondo states were treated at this Centre. It is planned to extend diagnosis and treatment facilities to Government Hospital Abraka and to General Hospital Obiaruku, both in Delta State. Insecurity in Delta State, mainly related to oil production, hinders HAT control activities. It is difficult to assess whether transmission currently takes place elsewhere in the country, given the absence of an active surveillance system. It is planned to integrate HAT surveillance in the Integrated Disease Surveillance and Response System. The number of cases is variable, from 0 to 31, but case-finding is very limited. Limited active case-finding was carried out in 2002 and 2006 in Abraka focus, with the support of WHO.

Figure A3.16 **Population under active screening and new HAT cases reported to WHO, Nigeria, 1997–2006**

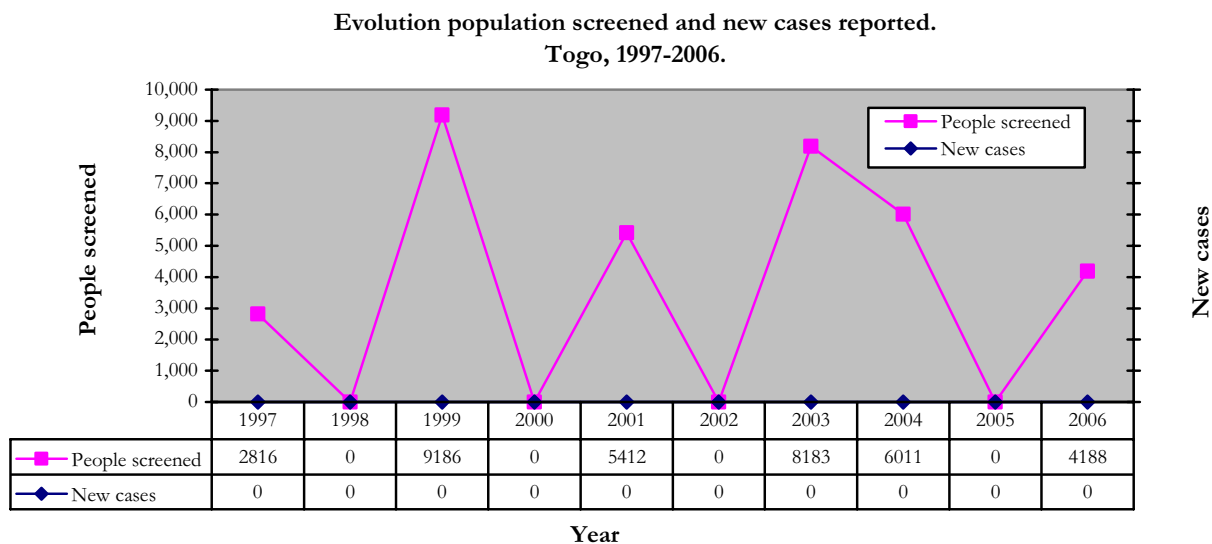


Togo (Dr Badziklou Kossi, Coordinating Officer, Sleeping Sickness National Control Programme)

The HATNCP is included in the National Institute of Hygiene. It is poorly staffed and under-equipped.

The historical foci are located in the central and northern areas of the country (Centrale, Kara and Savanes regions). The last active foci were Kpendjal, Oti andTone (Savanes region); the last confirmed cases were reported in 1995 from Savanes Region. Since then, several active case-finding surveys (1997, 1999, 2001, 2003, 2004, 2006) have been carried out with the support of WHO, in endemic and neighbouring areas (Centrale, Kara and Savanes regions). No cases were detected during those surveys.

Figure A3.17 **Population under active screening and new HAT cases reported to WHO, Togo, 1997–2006**



3. CENTRAL AFRICAN COUNTRIES (*T. b. gambiense*)

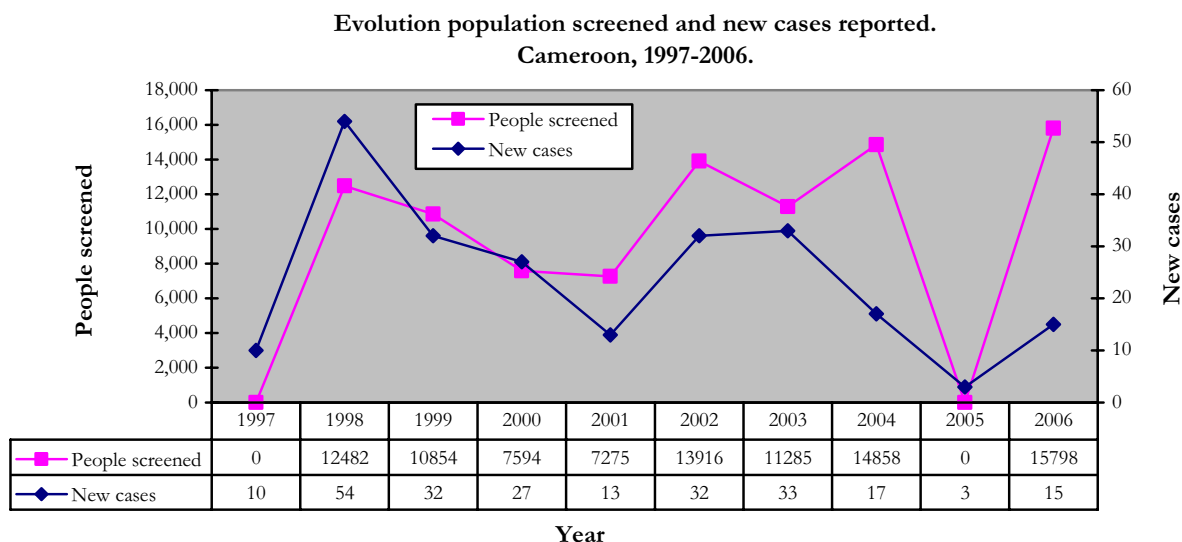
Cameroon (Dr Vincent Ebo’o Eyenga, Medical Entomologist, Coordinating Officer, Sleeping Sickness National Control Programme)

The HATNCP was re-established in 1998 and is integrated within the Division of Disease Control of the Ministry of Health. It has been progressively funded by the Government but lacks a regular budget. The HATNCP, which is supported by WHO, OCEAC (*Organisation de coordination pour la lutte contre les endémies en Afrique centrale*) and French Cooperation, is highly decentralized, with health structures located in foci with a central coordination cell. Insufficient equipment and the need for training of peripheral-level staff have obliged the programme to borrow equipment and personnel from other projects to perform active case-finding.

In 2006, five foci are considered active: Fontem and Mamfé in South-East Province, Bipindi and Campo in South Province and Doumé in East Province; one new case was identified in an area of Mbandjock in the former Ayos focus. No cases have been reported since 1990 in the historical foci of Akonolinga, Atok/Abong-Mbang, Chari, Logone, Santchou, Wouri and Yokadouma. In Bafia focus, no cases have been reported after 2000.

The population under surveillance substantially decreased between 1998 and 2001. Surveillance was reinforced in 2002, with approximately 12 000–15 000 people tested per year. In 2005, no active screening was implemented in Cameroon. In 2006, 15 798 people were visited and 15 new cases diagnosed.

Figure A3.18 **Population under active screening and new HAT cases reported to WHO, Cameroon, 1997–2006**

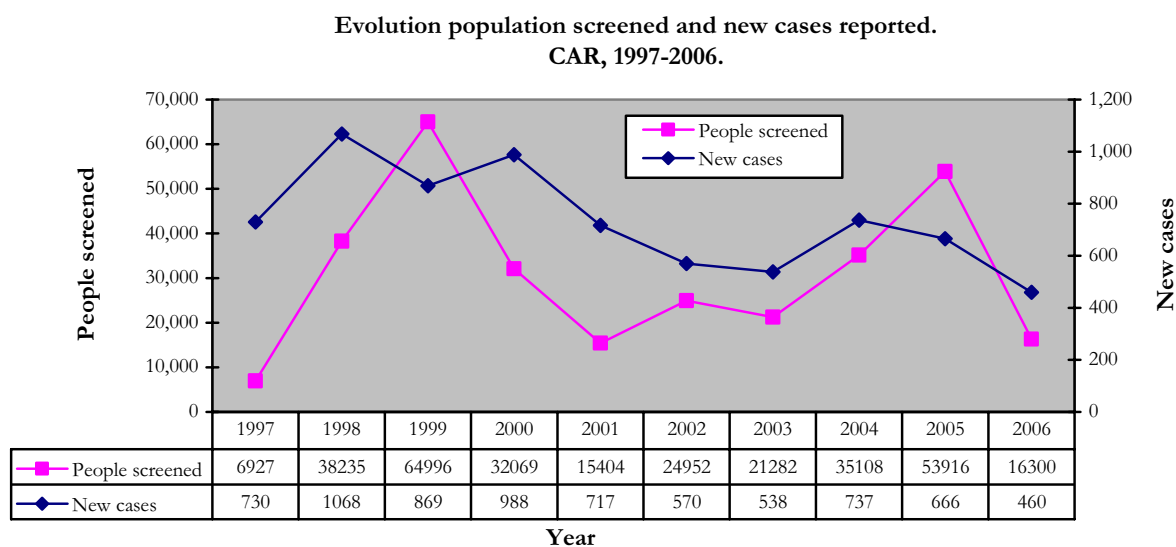


Central African Republic (Dr Sylvestre Mbadingä, Coordinating Medical Officer,
 Sleeping Sickness National Control Programme)

The HATNCP is included in the Preventive Medicine Directorate and its staff are well trained and the unit properly equipped, but there are budget shortages. WHO and French bilateral cooperation provide support to the HATNCP. MSF-S/B supports activities in Ouham focus. MSF-Spain has implemented control activities in Haut Mbomou from 2001 to 2006. There are four foci of transmission: Batangafo (Ouham Prefecture) facing Mandul focus in Chad; Haut Mbomou (Haut-Mbomou Prefecture) continuing the Tambura focus in South Sudan; Nola-Bilolo (Shanga-Mbaere Prefecture) continuing the Yokadouma focus in Cameroon and Lobaye (Lobaye Prefecture) in front of the North Equateur focus in Democratic Republic of the Congo.

The population placed under surveillance varies depending on the social circumstances of the country and on the support of the HATNCP partners. However, the number of new cases, which exceeded 1000 in 1998, shows a decreasing trend.

Figure A3.19 **Population under active screening and new HAT cases reported to WHO, Central African Republic, 1997–2006**



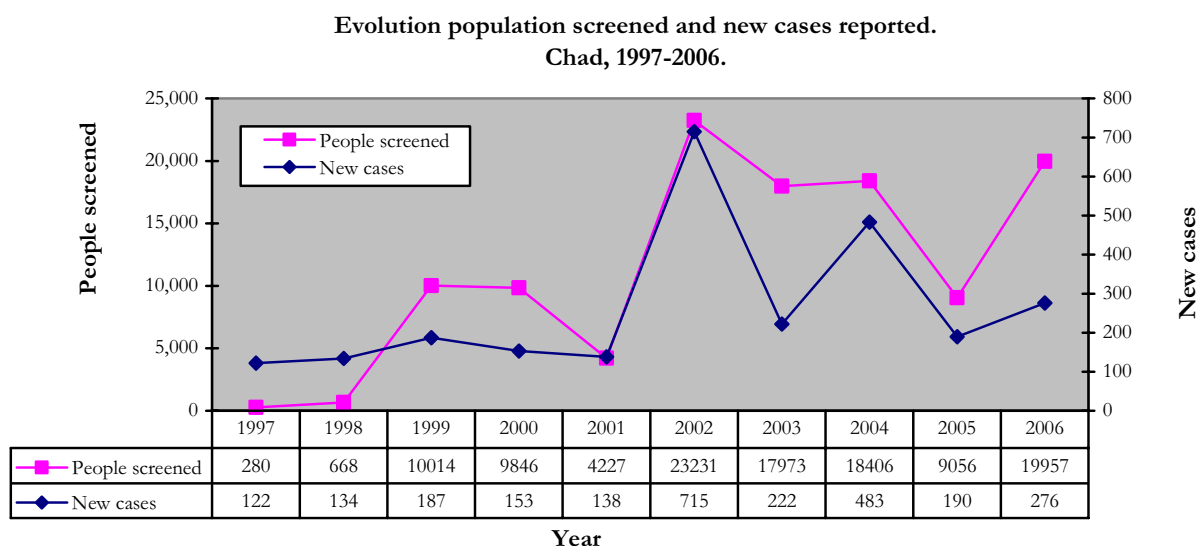
Chad (no country representative; data from WHO)

The HATNCP is well equipped and trained, but staff members are ageing. Staff renewal should therefore be seriously considered. WHO and French bilateral cooperation provide support to the HATNCP.

Transmission occurs in one province (Logone Oriental) where the Mandoul focus is situated. Surveys in 2003 in old foci of Moïssala, Tapol and Yamodo provided no cases. In 2005 a survey in the former focus of Goré provided no cases

Efforts made since 2002, in which a regional team organized by WHO supports the national team, have permitted a considerable increase in the population placed under surveillance, boosting the number of cases detected. The decreasing trend of new cases detected in past years is a consequence of the reinforced control activities.

Figure A3.20 **Population under active screening and new HAT cases reported to WHO, Chad, 1997–2006**



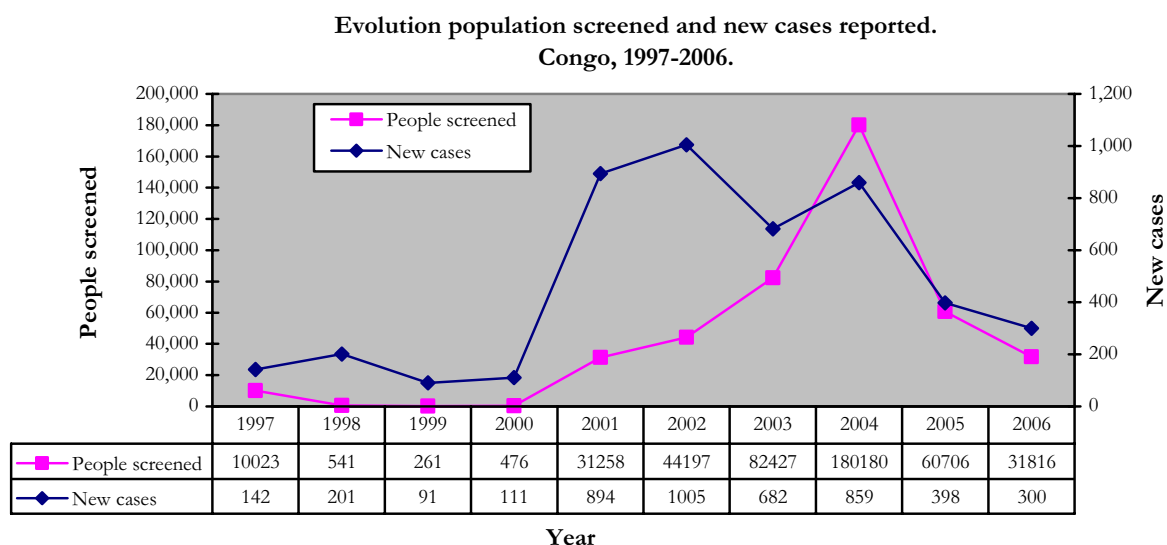
Congo (Stéphane Ngampo, Head, Sleeping Sickness National Control Programme)

The HATNCP was created in 1979. At central level, its staff are well trained and equipped, but gaps exist at the peripheral level, with budget shortages. The HATNCP works with MSF-Holland in carrying out control activities in all major foci. Unfortunately, MSF-Holland ended its support to the HATNCP in February 2007, and the French bilateral cooperation programme, which also supported HATNCP activities in areas not served by MSF-Holland, ended its programme in 2006. Some support was received from Belgian cooperation in 2001–2006. Currently the only support for the HATNCP comes from WHO.

Transmission occurs mostly along the Congo river. There are three classical foci, affecting six departments: Vallée du Niari (Bouenza, Niari and Pool departments), Couloir (Plateaux and Pool departments) and Cuvette (Cuvette department).

There was an important increase in activities in 2001, after the social instability during the late 1990s. This increase was achieved with the support of partners. The increase in the number of cases reported is related to this improvement in case-finding.

Figure A3.21 **Population under active screening and new HAT cases reported to WHO, Congo, 1997–2006**



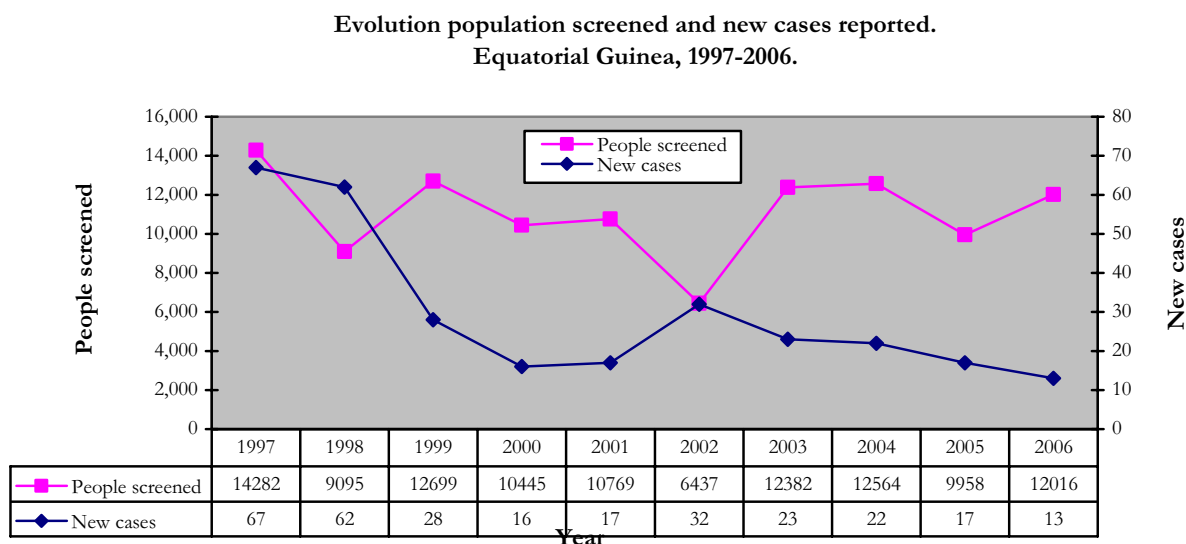
Equatorial Guinea (Dr Pedro Ndongo Asumu, Director, Sleeping Sickness National Control Programme)

The HATNCP, which has been operational since 1985, is well equipped and staff are well trained. The Spanish bilateral cooperation programme has provided financial support for surveillance since 1985. WHO provides technical support.

Transmission occurs in one province (Litoral), which includes the Campo, Cogo and Mbini foci. Despite continuous active case-finding surveys in Luba focus (Bioko island), no cases have been reported during the past six years.

The screened population ranges between 6437 and 14 282. The number of cases shows a decreasing trend, from 67 in 1997 to 13 in 2006.

Figure A3.22 **Population under active screening and new HAT cases reported to WHO, Equatorial Guinea, 1997–2006**



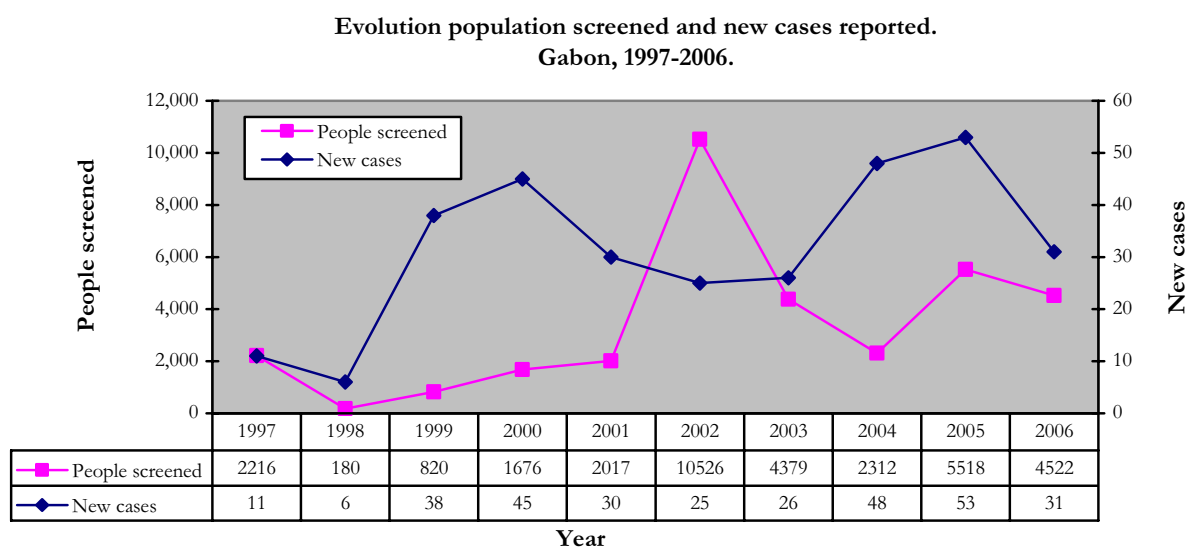
Gabon (Paulette Mengue M'eyi, Director, Sleeping Sickness National Control Programme)

The HATNCP is well equipped and its staff are well trained.

Transmission occurs in Estuaire Ouest Region (Bokoué, Ikoy-Tsini, Komo, Komo-Ntoum, Mbei, Muni-Noya, Océan Gongoué and Océan-Mondah foci), with occasional cases in Ogooué-Maritime (Océan and Samkita foci).

Improvements in the quantity and quality of active case-finding with the support of WHO, have resulted in an increase in the number of cases detected.

Figure A3.23 **Population under active screening and new HAT cases reported to WHO, Gabon, 1997–2006**



4. MAJOR ENDEMIC COUNTRIES (*T. b. gambiense*)

Angola (Dr Vatunga Gedeão, *Instituto de Combate e Controlo das Tripanossomias* (ICCT))

The ICCT leads and coordinates all control activities. It is well supported by the Government of Angola, including financial support, and there are sufficient numbers of staff who are well trained and highly dedicated (staff are paid by the Government).

Although 30 years of civil war brought many difficulties in HAT control, the peace agreement reached in 2002 improved the situation, increasing accessibility and presence of control activities.

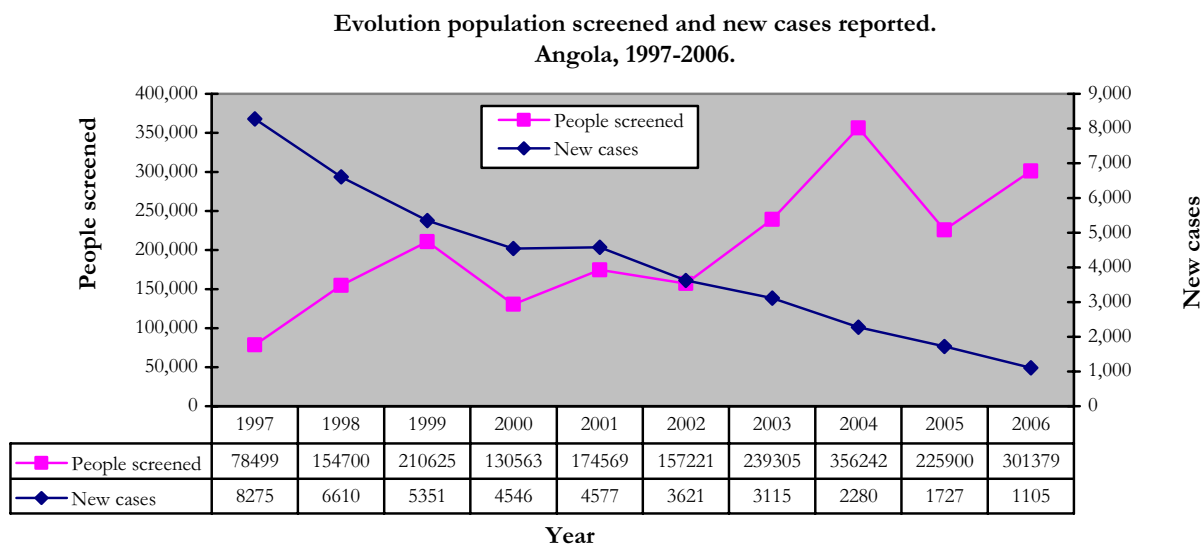
Some areas, however, are still inaccessible, and some structures are inoperative. The geographical extent and population size of endemic areas have resulted in weak coverage. Currently, there is collaboration from WHO, Caritas, *Instituto Portugues de Medicina Preventiva* and Fundanga. Some of partners (MSF, Belgian bilateral cooperation and French bilateral cooperation projects) have recently ended their support.

There are 21 centres of treatment and 12 mobile teams. Transmission occurs in seven provinces in the north-west (Bengo, Kuanza-Norte, Kuanza-Sud, Luanda, Malanje, Uige and Zaire) and in an unknown situation in the south east (Cuando Cubango) where *T.b.rhodesiense* was transmitted in the past.

There are 47 HAT foci: Ambaca, Ambriz, Ambuila, Banga, Bembe, Bolongongo, Buengas, Bula Atumba, Bungo, Cacusó, Cambambe, Cangandala, Cangola, Cazengo, Cuiaba, Damba, Dande, Golungo Alto, Gonguembo, Icolo e Bengo, Libolo, Luanda, Lucala, Maquela, Maringa, Mbanza Kongo, Mucaba, Mussende, Nambuanguongo, Negage, Noqui, Nzeto, Pango Aluquem, Puri, Quibala, Quibaxe, Quiculungo, Quimbele, Quítese, Rivungo, Samba Cajú, Sanza Pombo, Songo Soyo, Tomboco, Uige.

Despite reporting more than 1000 new cases in 2006, Angola reported an increase in the population placed under surveillance, from 78 499 in 1997 to 301 379 in 2006; a substantial decrease occurred during the same period in the number of new cases reported, from 8275 to 1105.

Figure A3.24 **Population under active screening and new HAT cases reported to WHO, Angola, 1997–2006**



Democratic Republic of the Congo (Dr Victor Kande Betu Kumeso, Director,
Sleeping Sickness National Control Programme)

The HATNCP, a vast structure in charge of control activities, receives important support from a Belgian bilateral cooperation project that allows it to maintain 46 mobile teams. Apart from WHO, France and Denmark also provide bilateral support for HAT control activities. In addition, Memisa, Fometro, MSF-Belgium and MSF-Swiss are implementing control projects that are coordinated by the HATNCP. There is also support from scientific institutions: IMTA (Tropical Medicine Institute, Anvers), STI (Swiss Tropical Institute) and DNDi (Drugs for Neglected Diseases Initiative). The government also provides support, but there are problems with this budget that require resolution. HATNCP staff are well trained and effective, but salaries are low and depend on allowances paid by the partners. In some endemic areas, there is a lack staff in peripheral structures.

Active case-finding is carried out by 46 mobile teams. Passive detection and treatment are performed in specialized structures (centre de diagnostic et traitement) but are also following an integration process in primary health care using fixed structures (health centres and reference hospitals). The ongoing peace process, heavily supported by the United Nations, has permitted improved accessibility to areas where the disease is endemic, facilitating the work of mobile teams.

The Democratic Republic of the Congo is the most heavily HAT-affected country, reporting 67% of the total HAT cases notified in the past 10 years. Transmission occurs in nine provinces: Bandundu, Bas-Congo, Equateur, Kasai Occidental, Kasai Oriental, Katanga Nord, Kinshasa, Maniema and Orientale.

Out of 385 zones sanitaires (health districts), 202 are affected by HAT transmission:

- 40 in Bandundu Province: Bagata, Bandundu, Boko, Bokoro, Bolobo, Bosobe, Bulungu, Djuma, Feshi, Gungu, Idiofa, Inongo, Ipamu, Kajiji, Kasongo-Lunda, Kenge, Kikongo, Kikwit-Nord, Kikwit-Sud, Kimbau, Kimputu, Kingandu, Kiri, Koshibanda, Kwamouth, Lusanga, Masimanimba, Moanza, Mokala, Mosango, Mushie, Nioki, Ntandembelo, Oshwe, Pay kongila, Popokabaka, Sia, Vanga, Yasa-Bonga, Yumbi.
- 19 in Bas Congo Province: Boma, Boma-Bungu, Gombe-Matadi, Kangu, Kibunzi, Kimpese, Kimvula, Kinkonzi, Kwilu-Ngongo, Lukula, Luozi, Mangembo, Matadi, Mbanza-Ngungu, Mwanda, Nsona-Mpangu, Seke-Banza, Sona-Bata Tshela,
- 30 in Equateur Province: Bangabola, Befale, Bikoro, Bogose Nubea, Bokonzi, Bominenge, Bomongo, Boso Mandji, Bosobolo, Boto, Budjala, Businga, Bwamanda, Gbadolite, Gemena, Karawa, Kungu, Libenge, Lisala, Loko, Lukolela, Mbandaka, Mbaya, Mobayi Mbongo, Mompono, Ndage, Ntondo, Tandala, Wangata, Zongo.

- 21 in Kasai Occidentale Province: Bena-Leka, Bulape, Bobozo, Demba, Ilebo, Kakenge, Kananga, Katende, Katoka, Luambo, Lubunga, Luebo, Luiza, Lukonga, Masuika, Mikope, Mushenge, Mweka, Ndesha, Tshikaji, Yangala.
- 37 in Kasai Orientale Province: Bibanga, Bipemba, Bonzola, Dibindi, Dikungu Tshumbe, Diulu, Kabeya-Kamuanga, Kabinda, Kalambayi, Kalenda, Kanda Kanda, Kanskele, Kasansa, Lodja-Nord, Lodja-Sud, Lubao, Lubilanji, Lukelenge, Luputa, Lusambo, Makota, Miabi, Minga, Mpokolo, Mukumbi, Mulumba, Muya, Mwene-Ditu, Ngandajika, Nzaba, Tshilenge, Tshilundu, Tshishimbi, Tshitenge, Tshofa, Tshudi Loto, Wembo-Nyama.
- 6 in Katanga Nord: Kabalo, Kalemie, Kaniama, Kongolo, Mbulala, Nyunzu.
- 8 in Maniema Province: Kabambare, Kasongo, Kibombo, Kunda, Lusangi, Salamabila, Samba, Tunda.
- 8 in Orientale Province: Ango, Aru, Doruma, Dungu, Isangi, Yabaondo, Yahisuli, Yakusu.
- 33 in Ville de Kinshasa Province: Bandalungwa, Barumbu, Binza Météo, Binza Ozone, Biyela, Bumbu, Funa-Limete, Kalamu, Kasa-Vubu, Kikimi, Kimbanseke, Kingabwa, Kingasani, Kinkole, Kinshasa, Kintambo, Kisenso, Kitokimosi, Lemba, Makala, Maluku I, Maluku II, Masina I, Masina II, Matete, Mont Ngafula I, Mont Ngafula II, Mont-Amba, Ndjili, Ngaba, Ngiri Ngiri, Nsele, Selembao.

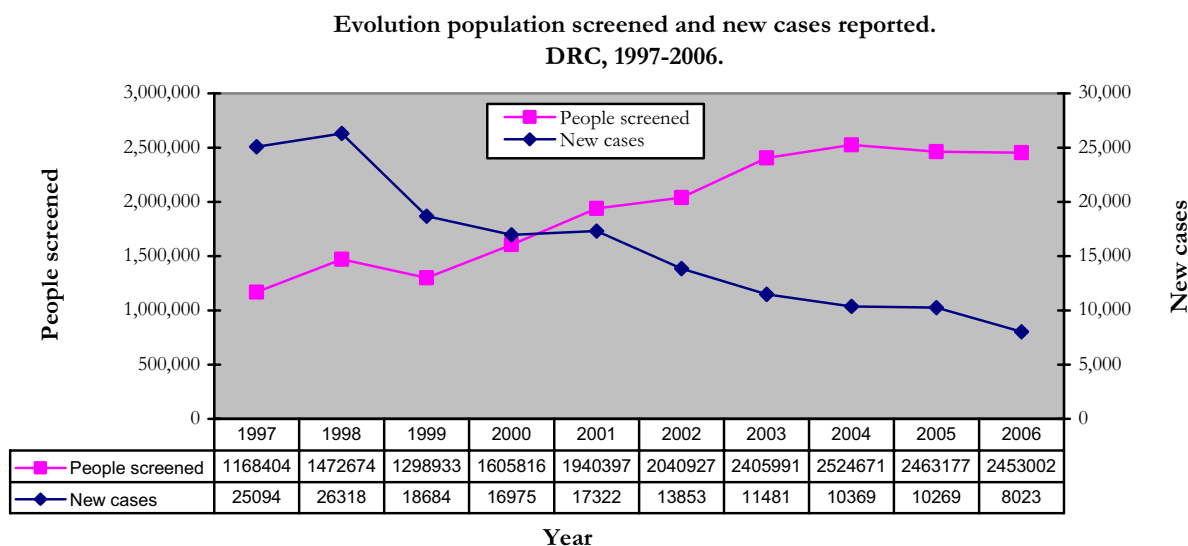
Although difficult to define, foci have been described in the following areas:

- In Bandundu Province: Bakali Konzi, Bakali Wamba, Bampila, Bandundu, Djuma Mikwi, Fleuve Chenal, Fleuve Kwa, Fleuve Mfimi, Inzia Luie, Fankana Kalakitini, Kafi Gobari, Kamoutsha, Kasai, Kwango, Kwango Wamba, Kwenge-Kwilu, Kwenge Vushi, Kwilu, Kwilu/Kikwit, Lac Mai Ndombe, Loange, Lubwe-Kasai, Lukula, Lukula Gobari, Lukula Inzia, Lukula Sud, Mfimi Lukeni, Molokai, Ngampoko, Nkara Dwe, Pipio.
- In Bas Congo Province: Boma Bungu, Bundi, Isangila, Kakongo, Kimpese, Kimvula, Kongo Songololo, Lufu, Mbayu, Mongo Luala, Nsumbi, Ntimans, Patu, Sona Bata, Sumbi Nord, Vaku, Yambi.
- In Equateur Province: Chenal, Lac Tumba, Lua Mongala; Maringa, Ngiri.
- In Kasai Occidentale Province: Lubi, Lulua, Rails.
- In Kasai Orientale Province: Mbuyi Mayi Kalelo Lubilanji, Sankuru.
- In Katanga Province: Fleuve Congo, Lubilashi, Lulua, Riviere Lukuga
- In Maniema Province: Fleuve Congo, Riviere Dila, Riviere Kama, Riviere Lufuu, Riviere Lulindi, Riviere Ndandaluka.

- In Orientale Province: Doruma, Lomani, Fleuve Congo.
- In Ville de Kinshasa Province: Buma Riviere Tshuenge, Chenal Fleuve Congo, Lukunga Mayi mabe, Riviere Ndjili Lukaya.

In some specific areas, the HAT epidemiological status is still not well known given problems of accessibility. There has been a clear increase in the population placed under surveillance, from 1 168 404 in 1997 to 2 453 022 in 2006 (more than double), and a substantial decrease during the same period in new numbers of cases reported, from 25 094 to 8 023. Despite the number of cases detected in the past years, this decrease can be considered an important success in control activities.

Figure A3.25 **Population under active screening and new HAT cases reported to WHO, Democratic Republic of the Congo, 1997–2006**



Sudan (Dr John Rumunu, Director-General for Preventive Medicine)

After the Comprehensive Peace Agreements signed in 2005, Sudan was organized under the motto “one country, two systems”. According to this premise, there is central “Federal Ministry of Health” and a “Ministry of Health, Government of Southern Sudan (MoH-GoSS)” based in Juba.

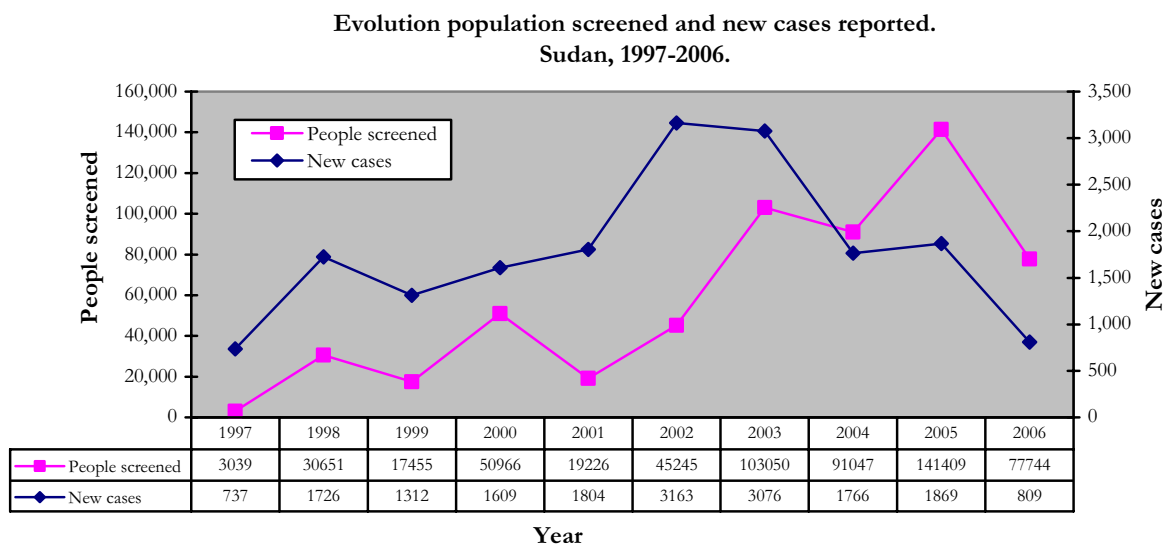
The central HATNCP is based in Khartoum and supported by the Tropical Medicine Research Institute, but currently it is not performing control activities in the south where the HAT foci are located. In the south, the MoH-GoSS Directorate of Preventive Medicine includes different disease control programmes, including sleeping sickness.

There is a focal point for Sleeping Sickness at the MOH-GOSS level, but not within the HATNCP. They exist also MoH at state level but still not fully organized to handle SS activities. Control activities are mainly led by NGOs: Currently MSF-Spain, Malteser, Merlin and IMC (International Medical Corps) and occasionally SP (Samaritan Purse) and AAH (Aktion Africa Hilfe). MSF-F and MSF-CH withdrew in 2006. MoH-GoSS carries out diagnosis and treatment activities in Juba Hospital. The MoH-GoSS and State MoH should organize taking over the lead in control activities, introducing policies, technical guidelines and standardized report system and transferring activities from NGOs before they leave.

HAT transmission occurs in the states of Eastern Equatoria (Torit and Magwi Counties), Bahr el Jebel or Central Equatoria (Yei, Lanya, Kajo-Keji and Juba counties) and Western Equatoria (Mundri, Maridi, Ibba, Yambio, Ezo and Tambura counties). The ongoing peace process has permitted improvements in accessibility to endemic areas, but there is still insecurity related to the presence of LRA (Lord Resistance Army).

In the new scenario, NGOs are reducing or closing their HAT control programmes. Ending 1990's, the NGOs established control programs in the re-emerging foci: The population under surveillance increased from 3039 in 1997 to 141409 in 2005. Linked to that, there is an increment in the number of cases reported from 1997 (737 new cases) to 2003 (3076 new cases), and then the number of cases start a decreasing trend related to the successful control activities (809 in 2006). But a concern arises regarding the remarkable decrease in the population screened in 2006 related to the withdrawal of some NGOs.

Figure A3.26 **Population under active screening and new HAT cases reported to WHO, Sudan, 1997–2006**



5. ENDEMIC COUNTRIES NOT REPORTING CASES IN THE PAST 10 YEARS

These countries did not participate in the meeting; data from WHO.

Countries endemic for *T. b. rhodesiense* not reporting cases in the past 10 years.

Botswana

The country has excellent health structures but no specific HAT surveillance system, for which there is apparently no need. In the past, transmission occurred in the Okavongo Delta (Chobe and Ngamiland). However, HAT cases have not been reported from that area for decades (since 1983) and it is believed that transmission no longer occurs. A large tsetse fly control programme has been implemented for many years in this area and the vector has been considered as eradicated.

Burundi

There is no specific structure for HAT surveillance in the country. Transmission previously occurred in north-east Burundi. Constant monitoring during 1979–1980 did not disclose any new HAT cases.

Ethiopia

There is no dedicated surveillance structure in the country. The last HAT cases were reported in the late 1970s and early 1980s from the Gambella Region in the western part of the country. No new cases have been reported since then (last case reported in 1983).

Namibia

There is no specific structure for HAT surveillance. Sporadic cases were reported from the Caprivi Strip along the far eastern border of Cuando Cubango Province in Angola. However, transmission in that area is no longer believed to take place since no cases have been reported for several decades. A coordinated programme with Angola, Botswana and Zambia for vector eradication in Caprivi is ongoing.

Swaziland

There is no dedicated HAT surveillance structure in the country. While tsetse flies and animal trypanosomiasis still exist in the country is uncertain. No human cases have been reported for several decades.

Countries endemic for *T.b. gambiense* not reporting cases in the past 10 years

Gambia

There are no dedicated structures for surveillance. No cases have been identified or reported for several decades throughout the country (last case was reported in 1982).

Guinea Bissau

There are no dedicated structures for surveillance. In the past, endemic areas included the Cacheu, Gabú, São Domingos and Bolama/Bijagos regions. The last case was reported in 1989 from the Archipelago de Bijagos. Surveillance ceased in the 1990s.

Liberia

There are no dedicated structures for surveillance, and surveys are therefore not performed. Cases were sporadically identified in the Bong Mines Region in the late 1960s and early 1970s. Some cases were reported from Bong Hospital in 1980s but they were not confirmed by health authorities. The conflicts experienced in the 1990s could provoke a re-emergence of the disease in the historical foci, but the absence of a surveillance system prevents confirmation.

Niger

There are no structures dedicated to HAT surveillance in the country. The endemic area was located in the south-west area of the country in the border with Burkina Faso and Benin, along the Niger River (Arrondissement de Say). No case has been reported in several decades. The last case was recorded in 1970.

Senegal

There is no dedicated structure for surveillance. Cases were sporadically reported from the Casamance Region in the 1970s and 1980s, but no cases have been reported since then.

Sierra Leone

There is no dedicated structure for surveillance. Between 1970 and 1986 some sporadic cases of sleeping sickness were diagnosed in Tonkolili, Bombali and Kailahun districts. A WHO assessment mission in April 2007 in former transmission area, in Bo district did not report any case.

