

COUNTRY PROFILE

Uganda

Uganda is pursuing universal access to DOTS as its TB control strategy. All districts were implementing DOTS as far back as 1997, but the low coverage of general health services means that more than 50% of the population are still without access to TB services, although this proportion is decreasing. TB is a component of Uganda's minimum health-care package, and TB services are integrated in primary health care. However, many health facilities do not yet provide TB diagnosis and care. In 2000, Uganda adopted the community-based TB care model as the best strategy to control TB in the country. Community involvement is recognized as crucial for the success of TB control in Uganda. The NTP is committed to expanding community-based DOTS (CB-DOTS) to all 56 districts; 51 districts have already been covered. Although GFATM funds were approved for Uganda in round 2, a substantial funding gap still remains, meaning that some of the planned activities for 2005 may not be carried out. In December 2004, the Uganda Stop TB Partnership (USTP) was

launched as a major initiative to raise awareness of TB as an important public health problem and to mobilize additional resources for TB control.

System of TB control

Uganda has a decentralized system of governance, with central ministries responsible for policies, standards, quality control, resource mobilization and training. Districts are responsible for management of services at peripheral level. Health service delivery, including TB control, is the responsibility of the health subdistricts (HSDs), which are the functional units for TB control. A total of 214 HSDs each serve about 100 000 people. TB service delivery is fully integrated in the primary health-care system.

TB control in Uganda is organized with a central unit at the MoH run by the NTP manager and one administrative officer. Hitherto, the NTP manager has been assisted by six zonal tuberculosis and leprosy supervisors (ZTLs) based at the periphery, who oversee TB control in their zones. At district level, a district health team

(DHT) oversees TB control. The District Tuberculosis and Leprosy Supervisor, a member of the DHT, is responsible for TB control including data collection, analysis and reporting. Below this level, general health workers handle TB control activities as part of their general duties.

The MoH has recently developed the second five-year "Health Sector Strategic Plan" (HSSP II) covering 2005/2006–2009/2010. HSSP II envisages continued implementation of the minimum health-care package of which TB is one component and foresees continued use of TB performance indicators for monitoring progress of HSSP II implementation. As part of continuing health sector reform, the NTP plans to recall the ZTLs to the centre in order to form, under the guidance of the NTP manager, a strong central team with improved capacity in policy formulation and technical guidance to districts and partners on TB management. The ZTLs will provide a strong technical link between government and partners, and support to the DHTs. Each district has three or more health facilities providing TB diagnostic and treatment services. Through CB-DOTS, treatment is provided at the community level. CB-DOTS is an important service delivery mechanism that is patient-centred and based on participation by civil society, providing accessible, cost-effective TB care; this mechanism is vital to the success of TB control in Uganda.

The NRL in Kampala is responsible for training, DST and EQA. The national coordinator of the laboratory network is responsible for the NRL. Ten regional laboratories based at regional hospitals also provide training and EQA, in addition to smear microscopy. The district laboratories' main responsibility is the supervision of peripheral laboratories, which serve as the main diagnostic units.

PROGRESS IN TB CONTROL IN UGANDA

Indicators

DOTS treatment success, 2002 cohort	60%
DOTS detection rate, 2003	44%
NTP budget available, 2004	83%
Government contribution to NTP budget, including loans, 2004	32%
Government contribution to total TB control costs, including loans, 2004	38%
Government health spending used for TB control, 2004	2%

Major achievements

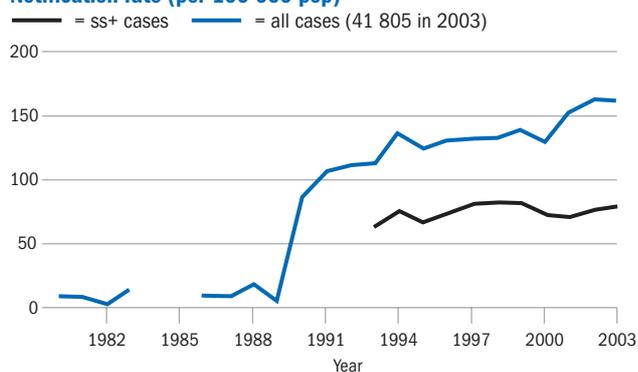
- Expansion of community-based DOTS (CB DOTS) to an additional 11 districts, corresponding to an additional 20% of the country's population
- Formation and launch of the Uganda Stop TB Partnership (USTP) to better harness efforts of all partners on TB control
- Secured additional staff to build NTP capacity; secured additional resources through ISAC

Major planned activities

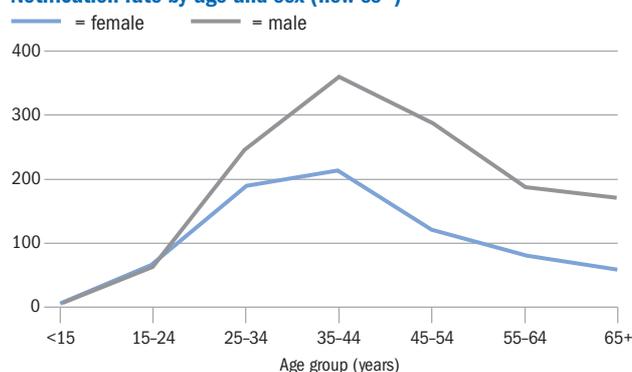
- Complete expansion and consolidation of CB DOTS, ensuring district-wide coverage and high quality of services
- Institute EQA of all laboratories in the country, and strengthen it where it exists
- Update NTP strategic TB control plan to include PPM DOTS as part of the DOTS expansion plan
- Operationalize the USTP

LATEST ESTIMATES ^a		TRENDS	2000	2001	2002	2003
Population	25 826 968	DOTS coverage (%)	100	100	100	100
Global rank (by est. number of cases)	16	Notification rate (all cases/100 000 pop)	129	152	163	162
Incidence (all cases/100 000 pop/year)	411	Notification rate (new ss+/100 000 pop)	73	71	76	79
Incidence (new ss+/100 000 pop/year)	179	Detection of all cases (%)	38	42	42	39
Prevalence (all cases/100 000 pop)	652	Case detection rate (new ss+, %)	50	46	46	44
TB mortality (all cases/100 000 pop/year)	96	DOTS case detection rate (new ss+, %)	50	46	46	44
TB cases HIV+ (adults aged 15-49, %)	21	DOTS case detection rate (new ss+)/coverage (%)	50	46	46	44
New cases multidrug resistant (%)	0.5	DOTS treatment success (new ss+, %)	63	56	60	-

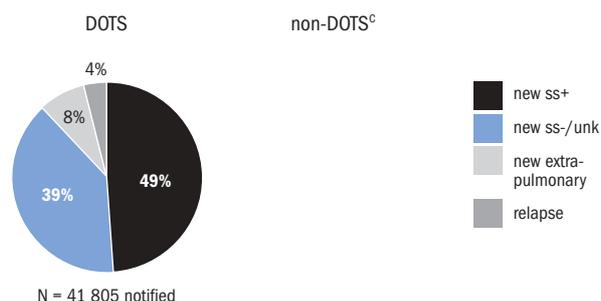
Notification rate (per 100 000 pop)



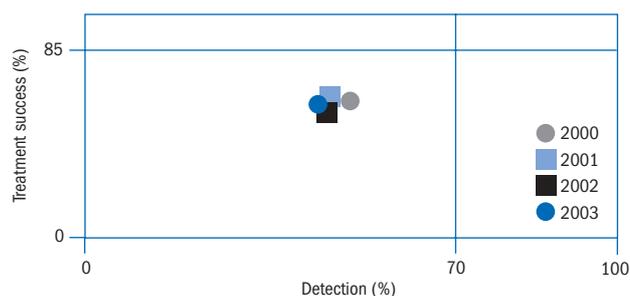
Notification rate by age and sex (new ss+)^b



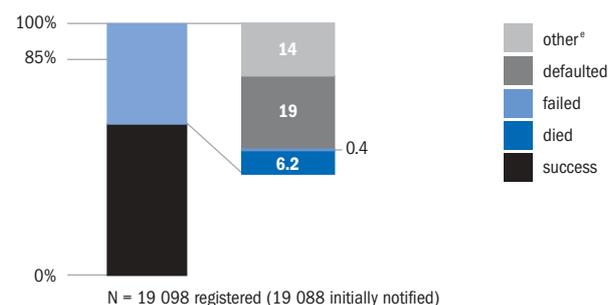
Case types notified



DOTS progress towards targets^d



DOTS treatment outcomes (new ss+)



Non-DOTS treatment outcomes (new ss+)

Notes

ss+ indicates smear-positive; ss-, smear-negative; pop, population; unk, unknown.

Absence of a graph indicates that the data were not available or applicable.

^a See Methods for data sources. Prevalence and mortality estimates include patients with HIV.

^b The sum of cases notified by age and sex is less than the number of new smear-positive cases notified for some countries.

^c Non-DOTS is blank for countries which are 100% DOTS, or where no non-DOTS data were reported.

^d DOTS case detection rate for given year, DOTS treatment success rate for cohort registered in previous year.

^e "Other" includes transfer out and not evaluated, still on treatment, and other unknown.

Surveillance and monitoring

While strong evidence exists that HIV prevalence has been falling in Uganda since the early 1990s, the notification rate of TB cases (all forms) has increased since 2000. The notification rate of new smear-positive cases has remained steady for the past decade. In order to estimate the case detection rate, it has been assumed that the increase in the notification rates of all forms of TB reflects an increase in incidence – and that the case detection rate of new smear-positive cases has fallen since 2000 from 50% to 44%. A plausible alternative explanation is that the case detection rate has improved as the coverage of CB DOTS has been extended throughout the country – and that TB incidence has stabilized or begun to fall. However, given the low access to health services (less than 50%), it is unlikely that the case detection rate is much higher than estimated here.

Notwithstanding the uncertainty surrounding the assessment of the case detection rate, it is clear that the NTP must work to improve treatment outcomes, which have been consistently low. Only 60% of new smear-positive patients were successfully treated in the 2002 cohort; 33% defaulted, were transferred without follow-up or were not evaluated. Cure was bacteriologically confirmed in only half the patients successfully treated; the final smear examination was not done for the other patients. The pattern is similar among patients registered for re-treatment.

A small disease prevalence survey was carried out in Kampala in 2001–2002,¹ finding a prevalence of smear-positive TB of 440 cases per 100 000 population in the periurban community sampled. However, a larger national survey is needed to assess the total burden of TB in Uganda and to set a baseline against which to measure the impact of DOTS. Alternatively, or in addition, a systematic evaluation of the process of diagnosis and reporting in Uganda would allow a reassess-

ment of the case detection rate. The NTP acknowledges that progress has been hindered by non-prioritization of sputum smear examination (15% of new cases were put on treatment without sputum smear results), poor recording and the absence of strategies to recover interrupters and to capture the true treatment outcome of patients who transfer between treatment units. These factors are being addressed systematically.

Improving programme performance

Since early 2004, the NTP has benefited from the ISAC initiative, which greatly contributed to the increased capacity of the central team. An international WHO staff member supports the NTP central unit. The central unit has deployed three recently recruited professional officers at regional level to support the DHTs, with redistribution of regional supervisors to weak areas. However, major HR deficiencies still exist at the central level. CB DOTS is being expanded and, by the end of 2004, was being implemented in 51 out of 56 districts. The full impact of this expansion has not yet been seen.

CB DOTS is being implemented in a phased manner in the HSDs of some districts. Uganda has so far engaged two international NGOs (International Medical Corps and the Malaria Consortium) to implement CB DOTS in remote areas; the NTP plans to expand CB DOTS to the remaining districts early in 2005.

Supervision and monitoring activities have been expanded to all levels of TB control, including the community. A new DOTS expansion plan for the next five years is being developed by the NTP.

In 1996–1997, a DRS was conducted in areas of the country supported by GLRA, giving an estimate of 0.5% MDR in new pulmonary cases and 4.4% MDR in re-treatment cases. Resources are being sought to carry out a new DRS. Uganda plans to apply to the GLC in the context of the new DOTS expansion plan.

Three other areas in which programme performance needs to be improved are diagnostic and laboratory services, TB/HIV coordination and

links with other health-care providers and the community.

Diagnostic and laboratory services

The two main challenges facing the diagnostic and laboratory services are the shortage of qualified laboratory personnel in the general health service and the lack of a countrywide EQA system for sputum smear microscopy. In 2003, only 12 out of 56 districts had implemented EQA for smear microscopy. In 2005, the NTP plans to establish routine EQA in the remaining districts and to strengthen it in those districts where it exists. The NTP will advocate for recruitment of qualified personnel in peripheral laboratories and will train existing personnel as microscopists in the interim.

TB/HIV coordination

An interim national TB/HIV coordinating body comprising the managers of the NTP and of the National AIDS Control Programme and partners (including the AIDS Information Centre, the AIDS Support Organization, GLRA, USAID-funded organizations and WHO) was formed in 2004 to formulate a policy as well as to prepare a proposal for collaborative TB/HIV activities. The committee will ensure phased implementation of collaborative TB/HIV activities in pilot districts and, based on the experiences gained, will frame the policy and strategy for rapid nationwide expansion.

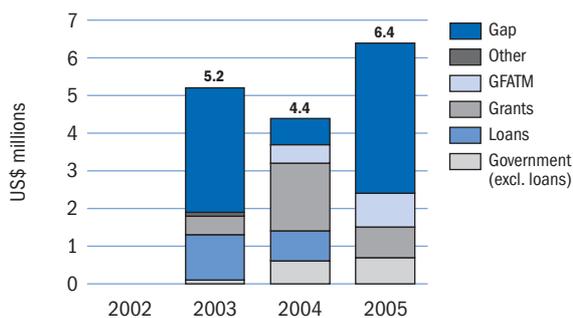
In 2004, WHO appointed an NPO to coordinate TB/HIV activities and oversee the establishment of the committee; its first meeting was planned for mid-January 2005.

Links with other health-care providers

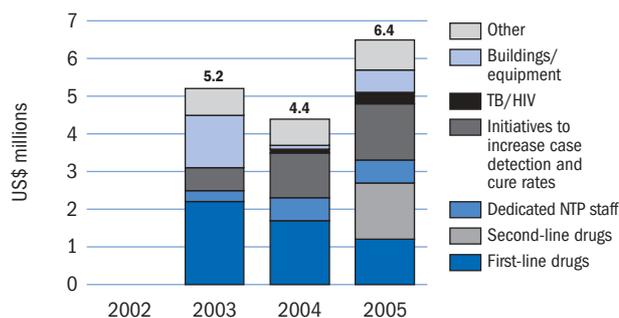
A situation analysis has shown that many patients in urban areas are treated in the private sector. The NTP has initiated a small-scale collaborative project with private hospitals, with plans to expand this initiative to involve individual private medical practitioners. NGOs play an important role in DOTS implementation, and the NTP has involved many general hospitals, a few medical colleges, and prison, army and police health facilities in TB control.

¹ Guwatudde D et al. Burden of tuberculosis in Kampala, Uganda. *Bulletin of the World Health Organization*, 2003, 81:799–805.

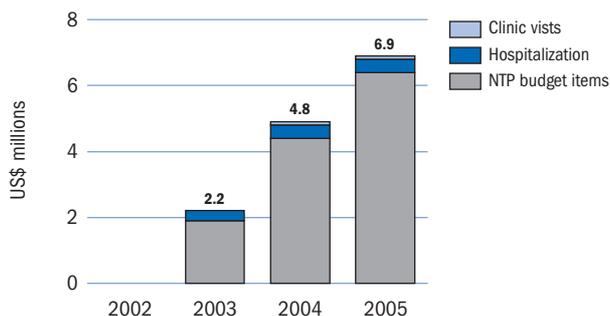
(a) NTP budget by source of funding



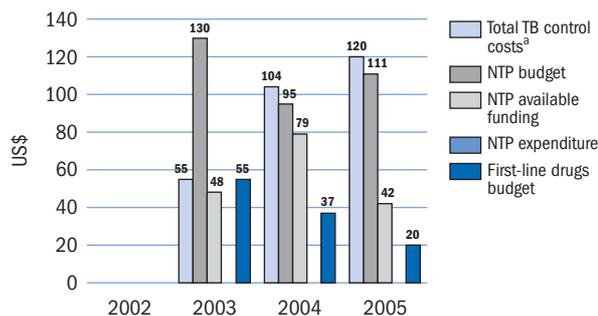
(b) NTP budget by line item



(c) Total TB control costs by line item^a



(d) Per patient costs, budgets, available funding and expenditures



^a Total TB control costs for 2003 are based on available funding, whereas those for 2004 and 2005 are based on budgets. Estimates of the costs of clinic visits and hospitalization are WHO estimates based on data provided by the NTP and from other sources. See Methods for further details.

Links with the community

The success and sustainability of CB DOTS is largely dependent on community involvement and ownership of the programme. In the CB-DOTS strategy, communities participate in selecting lay community members to support patients and ensure treatment compliance. The selected community members work on a voluntary basis, observing and recording the ingestion of each day's medication. In addition, they encourage patients to go for follow-up sputum smears and suspects to go for examination in health units. Community volunteers are responsible to the community and also to the formal health system through a public health worker who supervises and replenishes drug supplies.

Partnerships

The MoH is committed to attaining the targets for DOTS implementation, and has indicated an interest in forming a strong partnership to help the country accelerate towards the 2005 targets. The formation of the USTP was spearheaded by the MoH and supported by WHO and the Global Stop TB Partnership, as well as other part-

ners, in the context of the ISAC initiative. The USTP was launched in December 2004, with the aims of harnessing the contributions of all stakeholders to TB control and raising the profile of TB as a major public health problem. WHO Uganda has offered to host the USTP Secretariat; a Memorandum of Understanding is being prepared to guide their operations.

Budgets and expenditures

The NTP budget has been between US\$ 4.4 million and US\$ 6.4 million during the period 2003–2005 (equivalent to US\$ 95–130 per patient). Despite the approval of a GFATM grant in round 2, Uganda suffers from a persistent funding gap, which is expected to reach US\$ 4 million in 2005, representing 62% of the NTP budget.

The budget for first-line anti-TB drugs has decreased from US\$ 2.2 million in 2003 to US\$ 1.2 million in 2005, whereas the expected number of patients to be treated is rising. The drug budget per patient treated has thus been reduced from US\$ 55 to US\$ 20. This budget for first-line drugs is fully funded. In contrast, while the

budgets for initiatives to increase case detection and cure rates and for collaborative TB/HIV activities have been increasing between 2003 and 2005, implementation of all of the planned activities will depend on the availability of additional funds. A need for second-line drugs has also been identified; a budget of US\$ 1.5 million has been included in 2005, which is for a stock sufficient to treat 1000 MDR-TB patients. However, funding has not yet been secured.

The total cost of TB control, including the costs of clinic visits and hospital stays as well as the NTP budget, will increase from an estimated US\$ 2.2 million in 2003 to US\$ 6.9 million in 2005 (US\$ 55–120 per patient), provided the existing budget gap for 2005 is filled. If no additional funds are secured, total costs will reach only about US\$ 3 million in 2005; the cost per patient will be US\$ 51. The costs of clinic visits, at around US\$ 0.1 million, is relatively low given the small number of visits required to health facilities following the nationwide introduction of CB DOTS.