COUNTRY PROFILE

United Republic of Tanzania

The United Republic of Tanzania was among the first countries to adopt the DOTS strategy. Nationwide DOTS coverage was attained in 2002, largely through the successful integration of TB control in the general health services. After reaching a peak in 2001, the number of reported TB cases has remained steady, which may perhaps indicate an end to the rise in TB incidence previously associated with the HIV epidemic. As the HIV prevalence has been constant in the country since 1996, the DOTS programme should be able to achieve a progressive reduction in TB incidence from now on. Improvements have been made in the treatment of patients, but a relatively high death rate is still an obstacle to reaching the global target for successful treatment. While progress has been made in control of both TB and HIV and in ART scale-up, the TB and HIV control programmes have not worked together in the past, and the particular needs arising from the epidemic of TB/HIV coinfection have not received special attention until recently. The government has now developed comprehensive plans for collaborative TB/HIV activities and, thanks to an award from the GFATM, it should be possible to implement them all. Building on the well-managed TB control programme, the collaborative TB/HIV activities will give additional impetus to TB case-finding and treatment. The MoH is also preparing to establish DOTS-Plus within the regular DOTS programme. Further strengthening of human resources, particularly at central level, is essential to meet the needs of these rapidly expanding programme activities.

System of TB control

The NTP is well organized and managed. Under the direction of a small central unit, the regional and district TB coordinators supervise the activities of hospitals and other health centres and monitor programme performance, using formal quality assurance practices. The district health committees are responsible for developing district health plans that include both TB and HIV. Recognizing the importance of the dual epidemic of TB and HIV, the NTP has decided to implement the full package of collaborative TB/HIV activities as part of a comprehensive TB and HIV/AIDS control strategy.

The NRL oversees 2 zonal, 18 regional and 701 district laboratories. Culture is done at the NRL and zonal laboratories, while DST is carried out only at the NRL.

Surveillance and monitoring

The total annual TB notification rate has increased three-fold between 1980 and 2001, and has fallen slightly since then. The notification rate of smear-positive cases has fallen slightly since 1998. Assuming that this is a consequence of the earlier levelling off of the HIV epidemic rather than a decline in case detection rates, the DOTS programme should now begin to reduce the incidence of TB, provided the programme performance is maintained or improved. The estimated rate of smear-positive case detection in 2003 (43%) was low, but the reliability of this estimate is not easily verified using the available tuberculin testing data because the usual methods of analysis based on the Styblo ratio may not apply when the prevalence of HIV is high (see Methods). For this reason, a systematic and quantitative assessment of the completeness of surveillance data or a survey of the prevalence of disease would be very informative. Given the high rate of HIV infection in the country, the treatment success rates are good: 80% for new cases, 79% for relapse cases, 65% for re-treatment after failure and 71% for re-treatment after default. Treatment outcomes for new smear-positive patients have improved steadily since 1995, but the high death rates (11% for the 2002 cohort) are the main obstacle to reaching the 85% target for treatment success.

Improving programme performance

To improve case detection, the number of diagnostic centres has been increased in the districts, and a start has been made on integrating the delivery of TB control into the general health services and into the private sector. In 2003, 1250 general health-

PROGRESS IN TB CONTROL IN THE UNITED REPUBLIC OF TANZANIA

Indicators	
DOTS treatment success, 2002 cohort	80%
DOTS case detection rate, 2003	43%
NTP budget available, 2004	76%
Government contribution to NTP budget, including loans, 2004	14%
Government contribution to total TB control costs, including loans, 2004	64%
Government health spending used for TB control, 2004	11%

Major achievements

- Increased number of diagnostic centres at district level
- Training of 1250 general health-care workers in case detection and treatment
- Maintained high treatment success despite high prevalence of HIV among TB patients
- Strengthening of MDR-TB services and infrastructure in preparation for application to the GLC

Major planned activities

- Expand DOTS by involving communities, the private sector, specialist TB clinics, medical colleges and prison health services
- Introduce DOTS-Plus activities
- Expand collaborative TB/HIV activities to all districts by 2007

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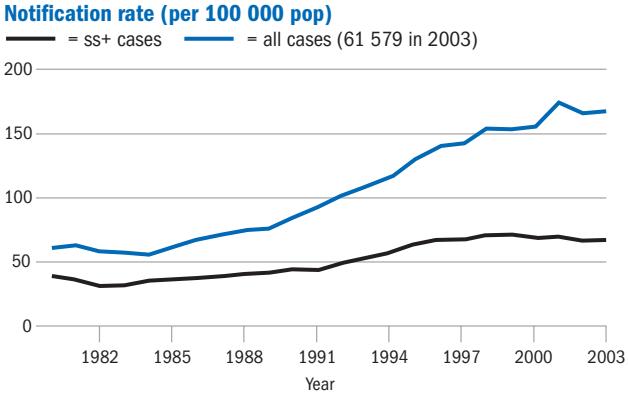
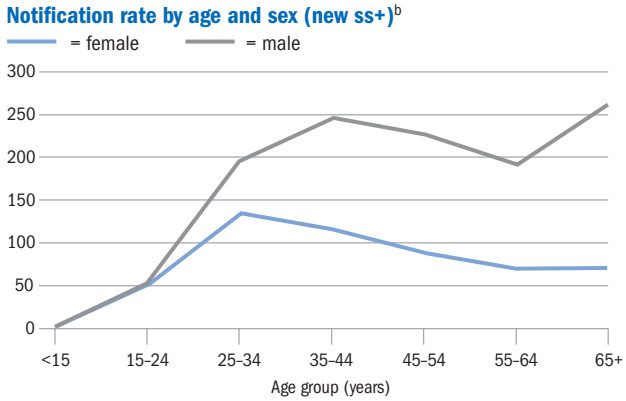
LATEST ESTIMATES[a]	
Population	**36 976 622**
Global rank (by est. number of cases)	14
Incidence (all cases/100 000 pop/year)	371
Incidence (new ss+/100 000 pop/year)	157
Prevalence (all cases/100 000 pop)	524
TB mortality (all cases/100 000 pop/year)	86
TB cases HIV+ (adults aged 15–49, %)	36
New cases multidrug resistant (%)	1.2

TRENDS	2000	2001	2002	2003
DOTS coverage (%)	100	100	100	100
Notification rate (all cases/100 000 pop)	156	173	166	167
Notification rate (new ss+/100 000 pop)	69	69	67	67
Detection of all cases (%)	45	49	46	45
Case detection rate (new ss+, %)	47	46	43	43
DOTS case detection rate (new ss+, %)	47	46	43	43
DOTS case detection rate (new ss+)/coverage (%)	47	46	43	43
DOTS treatment success (new ss+, %)	78	81	80	–

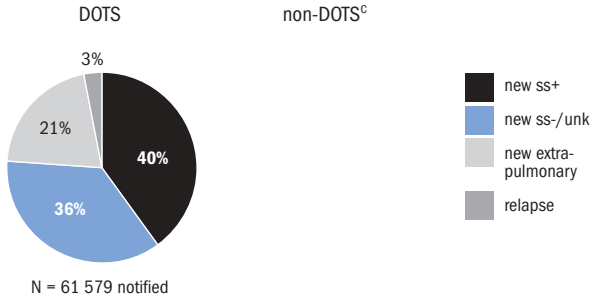
Notification rate (per 100 000 pop)



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

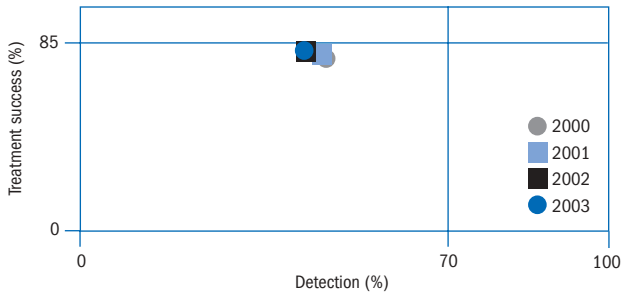


Case types notified

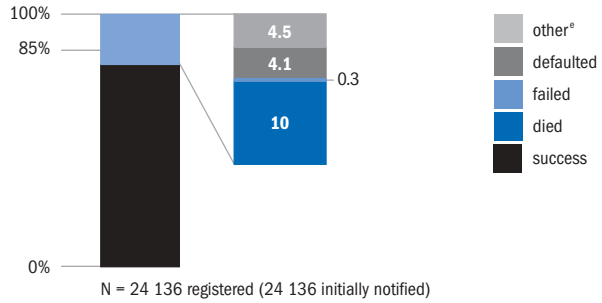


N = 61 579 notified

DOTS progress towards targets[d]



DOTS treatment outcomes (new ss+)



N = 24 136 registered (24 136 initially notified)

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.

care workers were trained on case detection and treatment. The central unit has produced training guidelines and a facilitator module for clinical officers and will develop training guidelines for nurses.

To improve programme performance, it will be necessary to strengthen HR capacity at the central level. Currently, there are only four people to supervise and monitor the TB control programme, to expand DOTS services, to implement training at lower levels and to develop and implement collaborative TB/HIV activities. PATH, with funding from USAID, has recently developed a plan to strengthen HR capacity at central, regional and district level.

The MoH is planning to establish and integrate a DOTS-Plus component within the NTP. Following a WHO mission in spring 2004, plans have been made to: introduce DOTS-Plus, including developing a computerized TB notification system to monitor treatment outcomes among re-treatment cases; construct a new MDR-TB ward within the national TB hospital; set up a technical committee to oversee future implementation of MDR-TB activities; and provide training for medical personnel in management of MDR-TB. A drug resistance survey is scheduled to start in the middle of 2005.

Three areas where programme performance needs to be improved are diagnostic and laboratory services, TB/HIV coordination and links with other health-care providers.

Diagnostic and laboratory services

The quality of the central laboratory services has been significantly improved in preparation for an application to the GLC. New equipment has been installed, and internal quality control is now mandatory; the mycobacterial culture contamination rate has been reduced from 15% to 10% in less than a year. However, laboratories at all levels are still short of qualified staff and the implementation of EQA for smear microscopy is still not satisfactory. A further priority for the laboratory network is to improve the quality of supervision of the peripheral laboratories by the central unit.

TB/HIV coordination

A national TB/HIV strategic plan to cover all districts by 2007 has been developed and includes all the collaborative TB/HIV activities defined in the WHO interim policy. In 2003, the Tanzanian Government successfully applied to the GFATM (round 3) for resources to support collaborative TB/HIV activities in 45 of 120 districts. There is a gap in funding to scale up TB/HIV activities nationally, and there is a need to align TB/HIV activities with the national plan for scaling up access to ART to ensure that HIV-positive TB patients are able to access ART. Implementation of collaborative TB/HIV activities is slow; in order to accelerate their implementation, additional financial resources will be needed as well as increased HR capacity, particularly at central level.

Links with other health-care providers

Anti-TB drugs may only be prescribed and dispensed with the approval of the NTP and using drugs procured and distributed by the NTP. As a result, non-DOTS treatment of TB is very limited in both the private and the public sector, which facilitates the implementation of PPM-DOTS strategies. The NTP has involved NGOs and private hospitals in TB control by providing training, drugs and supervision, and is now expanding this effort to include private clinics. Links with specialist TB clinics, medical colleges and prison health services are also being strengthened.

Partnerships

A range of technical and financial partners are involved in TB control and they have formed an Interagency Coordination Committee that meets once a year. Development Cooperation Ireland, the Government of the Netherlands and the Swiss Agency for Development and Cooperation are the main sources of funds for TB control activities. GLRA, KNCV and WHO all support programme monitoring and offer other technical assistance.

Budgets and expenditures

The NTP budget has increased from about US$ 5 million in 2002–2003 to nearly US$ 9 million in 2004 (from about US$ 90 per patient in 2002–2003 to US$ 133 in 2004). Budget data are not yet available for 2005 since the fiscal year starts in July. The budget was increased in 2004 to pay for dedicated staff, for the implementation of collaborative TB/HIV activities and for investment in buildings and equipment. The available funding has also increased, from around US$ 5 million in 2002 and 2003 to US$ 6.7 million in 2004. Most NTP funding comes from grants, with the government contributing US$ 1.2 million (about 10% of the budget) in 2004. While a grant from the GFATM should make it possible to carry out the planned collaborative TB/HIV activities in selected pilot districts (provided that sufficient staff are available), a funding gap of US$ 0.8 million remains.

In 2003, the government contribution was only US$ 0.6 million rather than US$ 1.3 million as anticipated. However, total available funding was higher than expected, at US$ 5.6 million. Expenditures in 2003 were US$ 3.8 million, i.e. 62% of the funds received. As more funding becomes available through grants, the capacity of the programme to absorb this money may become an important issue.

The total cost of TB control, which includes the cost of dedicated TB beds, clinic visits during treatment and items included in the NTP budget, was between US$ 15 million and US$ 16 million in 2002 and 2003 (about US$ 250–275 per patient treated). If the 2004 budget is fully funded and the money is spent, this could increase to US$ 21 million in 2004 (US$ 320 per patient treated).

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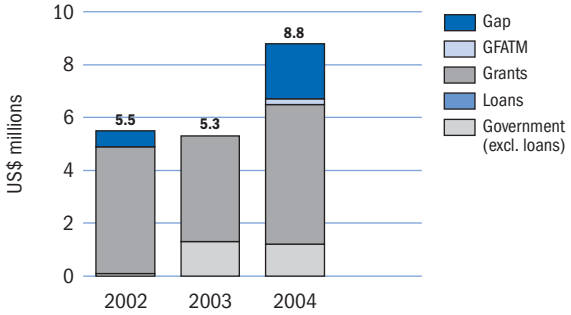
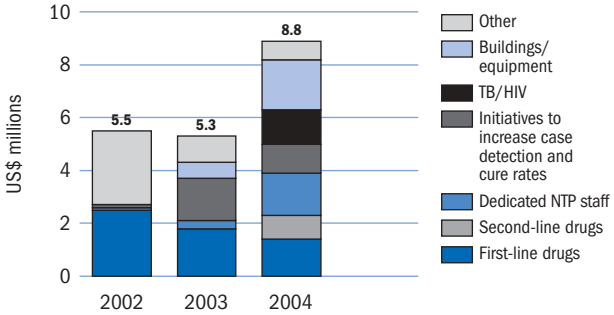
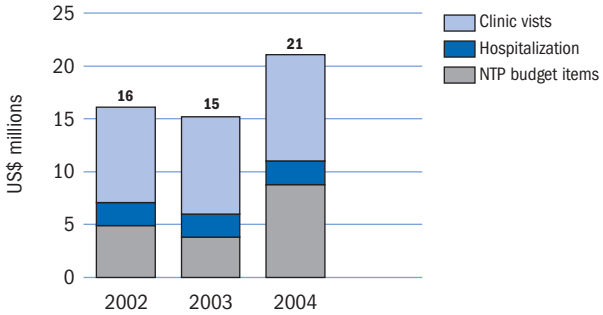
(a) NTP budget by source of funding



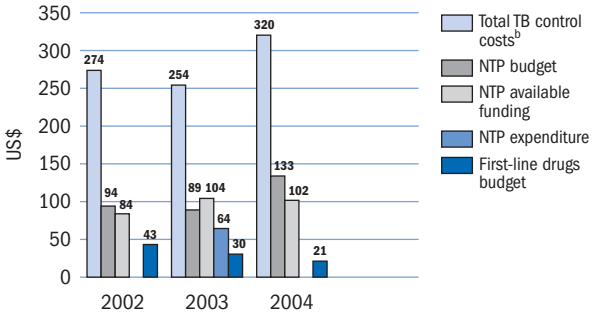
(b) NTP budget by line item



(c) Total TB control costs by line item[a,b]



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



[a] No data available for 2005 – see text for explanation.

[b] Total TB control costs for 2002 are based on available funding, whereas those for 2003 are based on expenditures, and those for 2004 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.