

Financing tuberculosis control: the role of a global financial monitoring system

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Abstract Control of tuberculosis (TB), like health care in general, costs money. To sustain TB control at current levels, and to make further progress so that global targets can be achieved, information about funding needs, sources of funding, funding gaps and expenditures is important at global, regional, national and sub-national levels. Such data can be used for resource mobilization efforts; to document how funding requirements and gaps are changing over time; to assess whether increases in funding can be translated into increased expenditures and whether increases in expenditure are producing improvements in programme performance; and to identify which countries or regions have the greatest needs and funding gaps. In this paper, we discuss a global system for financial monitoring of TB control that was established in WHO in 2002. By early 2007, this system had accounted for actual or planned expenditures of more than US\$ 7 billion and was systematically reporting financial data for countries that carry more than 90% of the global burden of TB. We illustrate the value of this system by presenting major findings that have been produced for the period 2002–2007, including results that are relevant to the achievement of global targets for TB control set for 2005 and 2015. We also analyse the strengths and limitations of the system and its relevance to other health-care programmes.

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Une traduction en français de ce résumé figure à la fin de l'article. Al final del artículo se facilita una traducción al español. الترجمة العربية لهذه الخلاصة في نهاية النص الكامل لهذه المقالة.

Introduction

Control of tuberculosis (TB), like health care in general, costs money. Although some components of diagnosis and treatment can be provided free of charge, such as patient support provided by community volunteers, most inputs – such as national TB programme staff, drugs, laboratory supplies and primary health-care staff and infrastructure – need to be paid for.

Since sustaining TB control at current levels and making further progress to achieve global targets require money, data about funding needs, sources of funding, funding gaps and expenditures are important at global, regional, national and sub-national levels. Such data can be used to answer questions such as: How much money is needed for TB control globally, both in total and for different components of control? How much of the required funding is available, what are the major sources of this funding, and how is the total amount of funding changing over time? Which regions and countries have the biggest needs and funding gaps? To what extent

are countries able to spend the funding mobilized for TB control? Have changes in funding for TB programmes had an impact on their performance and the burden of TB?

In common with efforts to assess funding needs, and track funding and expenditures for other global health priorities,^{1,2} WHO has established a system for global financial monitoring of TB control.^{3–7} In this paper, we explain why this system was set up in 2002 and how it works in practice. We then illustrate its value by presenting major findings concerning the period 2002–2007, including results that are relevant to the achievement of the global TB control targets set for 2005 and 2015. Finally, we analyse the system's strengths and limitations, and its relevance to other health-care programmes.

Why was the global financial monitoring system established?

Establishment of a system for global financial monitoring of TB control re-

flected a major step-up in national and international commitment to TB control dating from around the year 2000. The Stop TB Partnership, which now consists of more than 400 partners, was formed in 2000. In March 2000, 20 of the 22 high-burden countries, which collectively account for approximately 80% of the world's TB cases, committed to achieving WHO's TB control targets through implementation of the internationally recommended DOTS strategy.⁸ The targets were to detect 70% of new smear-positive cases and to cure 85% of detected smear-positive cases by 2005.⁹ In July 2000, the G-8 countries pledged additional resources and set new targets for the control of HIV infection, TB and malaria.¹⁰ The United Nations Millennium Development Goals (MDGs), which provide a framework for development efforts as a whole for the period 2000–2015, were also launched in 2000. They include targets related to TB control, the principal one being to reverse the incidence of TB by 2015.¹¹ The Global Fund to Fight AIDS, Tuberculosis and Malaria

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(referred to subsequently as the Global Fund) was established in 2002, providing a major new opportunity to improve the financing of TB control.

These developments were associated with an increased demand for information about various aspects of funding for TB control, particularly in high-burden countries. During 2001, WHO made it a priority to assess funding needs and funding gaps in high-burden countries and other low- and middle-income countries for the period 2001–2005, using strategic plans, a standardized questionnaire and costing studies; these findings were published in March 2002.¹² Building on these efforts, but recognizing that systematic assessment of financing for TB control would be preferable to more ad hoc studies, WHO established a system for routine monitoring of financing for TB control in late 2002.

The global financial monitoring system in practice

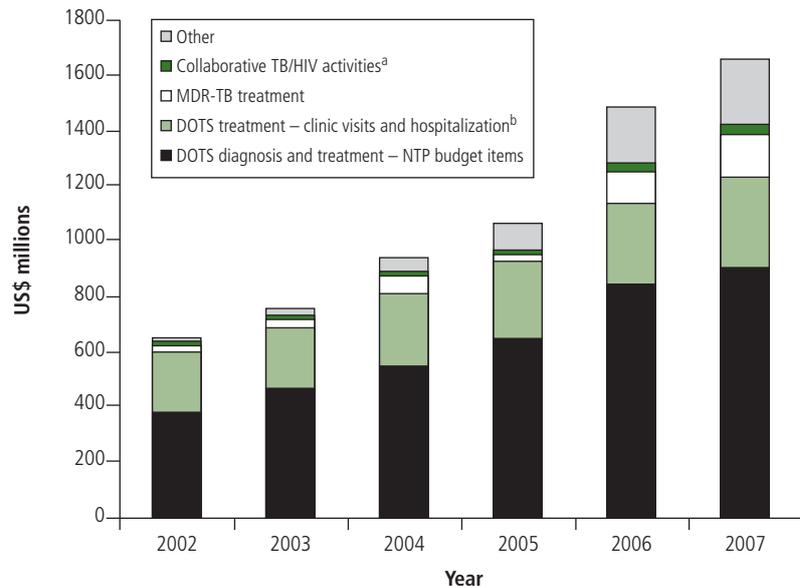
The WHO global financial monitoring system has been operating for five years (five rounds of data collection, 2002–2006; and five rounds of annual reporting, 2003–2007). The system is explained below.

Data collection

The type of data collected, and the methods and sources used, have evolved over time (Table 1, available at: <http://www.who.int/bulletin>). Data on national TB programme (NTP) budgets, utilization of general health services by TB patients during treatment (to capture “health system” costs not reflected in NTP budgets), and funding sources and funding gaps have consistently been collected for the 22 high-burden countries (ranked by their number of cases, these are: India, China, Indonesia, Nigeria, South Africa, Bangladesh, Pakistan, Ethiopia, the Philippines, Kenya, the Democratic Republic of the Congo, the Russian Federation, Viet Nam, the United Republic of Tanzania, Uganda, Brazil, Afghanistan, Thailand, Mozambique, Zimbabwe, Myanmar and Cambodia).

In 2004, the system was expanded to cover all countries as well as expenditure data. This expansion was facilitated by integrating a financial questionnaire into a WHO TB data collection form

Fig. 1. Total costs of tuberculosis control by major cost category in the 22 high-burden countries, 2002–2007



MDR-TB, multidrug-resistant tuberculosis; NTP, national tuberculosis programme. DOTS was the internationally recommended strategy for TB control until 2006, and emphasized diagnosis and treatment of new cases using sputum-smear microscopy and standardized first-line drug regimens.

^a Collaborative TB/HIV activities includes a set of 12 activities aimed at reducing the burden of HIV in TB patients and reducing the burden of TB in people living with HIV.

^b Costs for clinic visits and hospitalization are relatively stable, because increases in the number of patients treated have been compensated for by reduced reliance on hospitalization and outpatient visits to health facilities (e.g. they have been substituted in some countries with more use of community-based volunteers).

that was already being sent to all countries every year for the purposes of collecting epidemiological data (such as case notifications and treatment outcomes). The Global Fund was included as a specific category for reporting funding sources in 2004, to reflect its increasing prominence as a source of external financing. In 2006, budget categories were re-evaluated and revised to allow for monitoring according to the Stop TB Strategy and the Global Plan to Stop TB, 2006–2015, which were launched in 2006 by WHO and the Stop TB Partnership, respectively.^{13,14}

Data management, follow-up and validation

Data management, follow-up and validation are typically done between August and December each year. Data are entered into a database and follow-up queries sent to NTP managers. Particular attention is given to the 22 high-burden countries, and global and regional meetings as well as country missions are used to discuss data.

Various methods are used to check and validate data. These include cross-checking with Global Fund proposals and databases and a recent independent

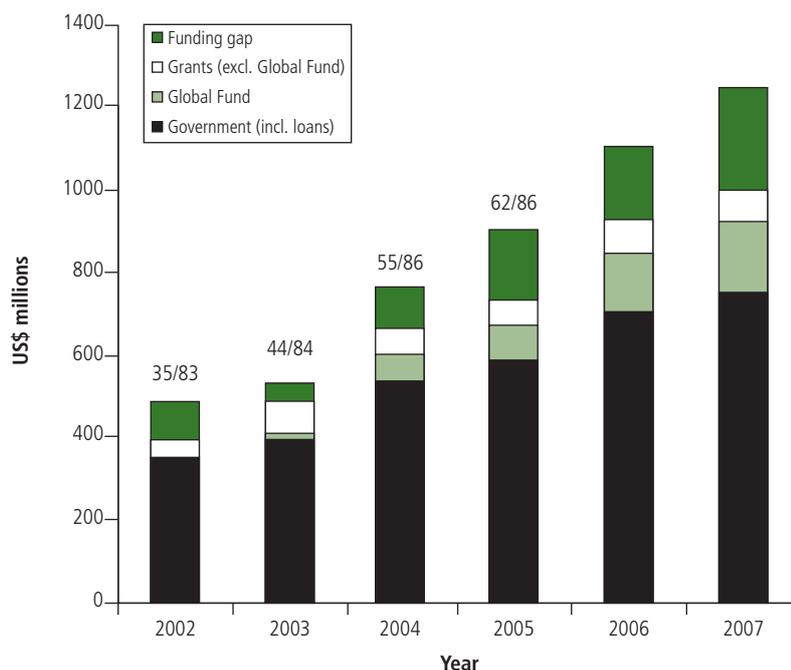
survey of donor financing for TB control;¹⁵ comparisons with recent costing studies and with data reported for previous years; and calculation of indicators that can be predicted (e.g. the price of first-line drugs per patient treated). In addition, WHO country staff who have first-hand knowledge of the NTP are often involved in producing the financial reports.

If National Health Accounts (NHAs) included a subcomponent for TB, they would also be a useful way to validate data. NHAs are designed to provide a comprehensive estimate of national health expenditures, including public, private and donor funds (see: <http://www.who.int/nha/what/en/>). However, while several sub-accounts have been produced for HIV,¹⁶ they do not yet exist for TB.

Data analysis

Standard analyses and related graphs or tables are prepared for individual countries, generally from October to December each year. Summary analyses are also prepared for the 22 high-burden countries combined, and for the six WHO regions. These analyses have evolved and

Fig. 2. National tuberculosis programme budgets, sources of funding and funding gaps in the 22 high-burden countries, 2002–2007^a



^a The figures at the top of the bars show progress towards the World Health Assembly targets set for 2005 (70% case detection rate and 85% treatment success rate). The first figure is the case detection rate achieved, the second figure is the treatment success rate. Data for 2006 and 2007 not yet available.

improved over time (Table 2, available at: <http://www.who.int/bulletin>). By 2007, major analyses included trends in NTP budgets by line item and funding source for 2002–2007; trends in total TB control costs by line item and funding source for 2002–2007; total TB control costs (NTP budgets plus health system costs not included in NTP budgets) as a percentage of total government health expenditures; trends in total costs, budgets, available funding and expenditures on a per-patient basis for 2002–2007; comparisons of planned costs, available funding and actual expenditures; assessment of the relationship between increased funding and programme performance; and comparisons of total costs based on country reports with costs according to the Global Plan to Stop TB, 2006–2015.^{3–7} Examples are provided in the next section.

Some analyses rely on databases managed by WHO's Health Financing and Stewardship department, notably estimates of the total cost of TB control and the percentage of total government health expenditures used for TB control. Total TB control costs are estimated by adding the costs of hospital admissions and outpatient visits to health facilities by TB patients to the NTP budgets

reported on the WHO TB data collection form. Two essential inputs to these calculations are the unit cost of a hospital bed per day and of an outpatient clinic visit, which are taken from a database that includes estimates for every country (see: <http://www.who.int/choice/country/en/index.html>). Comparisons of total TB control costs with total government health expenditures are made using NHA data, which include estimates of total government health expenditure up to 2005 (see: <http://www.who.int/nha/en/>).

How results are presented and disseminated

Results are primarily disseminated via the WHO report *Global tuberculosis control: surveillance, planning, financing*, which is published in March each year.^{3–7} Results are presented both within country profiles for each high-burden country that cover surveillance, planning and financing, and within the main body of the report (Table 2; available at <http://www.who.int/bulletin>). Results are also presented at meetings and conferences, and country profiles are distributed to all countries that report data but for which a profile does not appear in the global report.

Completeness of reporting

The number of countries submitting data has increased over time (Table 3; available at <http://www.who.int/bulletin>). In the last two years, countries reporting complete data have accounted for over 90% of the global burden of TB.

Staffing and operational funding

The development phase of the system in 2002–2003 was funded by a grant of around US\$ 200 000 from the Rockefeller Foundation. Subsequently, funding for staff and operational activities has been provided from a variety of sources, the major one being the United States Agency for International Development (USAID). Operational funding used to date amounts to less than US\$ 50 000 per year. Two staff members are principally responsible for the financial monitoring system (one for about 50% of their time, the other for about 25% of their time).

Major findings and implications for reaching TB control targets

Examples of some of the major results produced by the global financial monitoring system are shown in Figs. 1–5 and Table 4 (available at: <http://www.who.int/bulletin>). These are adapted and simplified versions of figures and tables that are presented in the annual WHO report for 2007.⁷

Fig. 1 shows how the total cost of TB control has changed in the 22 high-burden countries since 2002, by major cost categories. Actual (2002–2005, based on expenditures) and planned costs (2006–2007, based on budgets) amount to US\$ 6.5 billion over six years, increasing from US\$ 0.6 billion in 2002 to US\$ 1.7 billion in 2007. DOTS treatment for new cases of TB accounted for most of these costs. Costs for clinic visits and hospitalization illustrate the contribution made by general health system resources to TB control. These overall figures conceal considerable variation in total costs and funding gaps among countries, as well as in the cost per patient treated (Table 4; available at <http://www.who.int/bulletin>). They also show where there may be scope for improving efficiency – the Russian Federation being a notable example. Here, costs are much higher than in other countries, including those with a

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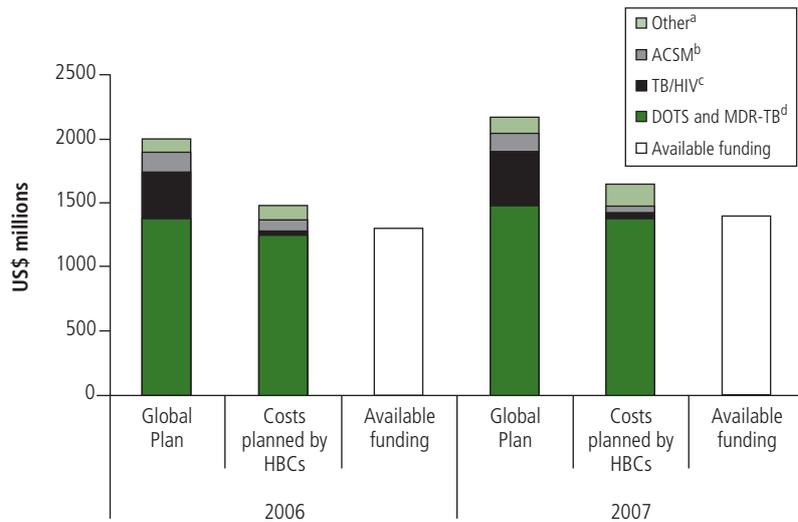
similar income level, due to extensive reliance on hospitalization and on screening and diagnostic methods that do not conform to international guidelines.

Fig. 2 demonstrates how NTP budgets have grown in the 22 high-burden countries over the last six years, from around US\$ 0.5 billion in 2002 to US\$ 1.25 billion in 2007. Most of the funding has come from the governments of these countries, but the contribution from the Global Fund has steadily grown since 2002, reaching almost US\$ 200 million in 2007. Grant funding from other sources has remained comparatively stable. Funding gaps have existed every year, including the target year of 2005. These gaps help to explain why the targets set for 2005 were not achieved in most countries. For example, in 2005 the funding gap reported by high-burden countries was US\$ 172 million.

From 2006 onwards, comparisons between country plans and related budgets, and the Global Plan, assume greater importance. This is because the Global Plan sets out what needs to be done in each year during the period 2006–2015 to achieve the MDG and related Stop TB Partnership targets set for 2015. For 2006 and 2007, Fig. 3 shows that funding requirements based on country plans are about US\$ 500 million less than those according to the Global Plan. The discrepancy is mostly due to the Global Plan's much higher estimates of the funding required for advocacy, communication and social mobilization, and collaborative TB/HIV activities. Besides suggesting a need for plans and budgets that are more in line with the Global Plan, Fig. 3 also highlights a second challenge related to achieving targets set for 2015: filling existing funding gaps. A further challenge – spending the available money – is illustrated in Fig. 4. In 2005, expenditures were less than available funding in three WHO regions, particularly Africa and the Eastern Mediterranean.

Finally, Fig. 5 shows the relationship between increased spending and changes in programme performance. This is measured by comparing changes between 2003 and 2005 in NTP expenditures and the number of new smear-positive patients treated for a selection of 12 high-burden countries. Greater expenditure was strongly associated with improved case-finding in Bangladesh, China, India and Indonesia. However,

Fig. 3. Costs for tuberculosis control in 2006 and 2007 based on country plans compared with the Global Plan to Stop TB, 2006–2015, in the 22 high-burden countries (HBCs)



^a Other includes budgets to engage all care providers in TB control, in both public and private sectors; operational research; and implementation of the practical approach to lung health (PAL).

^b ACSM is advocacy, communication and social mobilization.

^c TB/HIV includes the 12 collaborative TB/HIV activities aimed at reducing the burden of TB in people living with HIV and reducing the burden of HIV in TB patients.

^d See Fig. 1 for explanation of DOTS. DOTS includes any costs associated with diagnosing and treating new cases of TB with first-line drugs. MDR-TB is treatment of multi-drug resistant TB using first- and second-line drugs.

there was no systematic relationship between increased expenditure and improved case detection across all high-burden countries. Further investigation of this relationship is needed on a country-by-country basis.

System strengths

After five years of operation, the global financial monitoring system has improved such that by 2007, data could be analysed and reported for countries representing 90% of the global burden of TB cases. Factors contributing to this level of reporting include an established system for annual collection of epidemiological, planning and financial data; a network of WHO staff in regions and countries who help to complete and follow-up on reports at country level; working relationships with NTP managers that have been built up since 2002; and timely opportunities for follow-up of data in person.

Requests for data and customized analyses that go beyond those done for the annual WHO global TB control report have grown considerably, demonstrating that the system is producing useful data. Clients include the Global Fund, nongovernmental organizations, bilateral donor agencies and the media.

The uses to which the data can be applied have also grown. A recent example is the production of cost estimates for the Global Plan to Stop TB, which made extensive use of the data compiled through the financial monitoring system (see: http://whqlibdoc.who.int/publications/2006/924159487X_eng.pdf). Analyses tailored for use at country level are also being done; for example, in support of resource mobilization efforts. Although separate statistics for the financial data are not available, there were over 300 000 “hits” for the 2006 TB control report as a whole over a one-year period, and it ranked second in terms of downloads of TB-related material from the WHO web site.

System limitations

The system has several limitations related to data collection, analysis and dissemination.

A noteworthy limitation related to data collection is the system's focus on provider costs within the public health-care system. No data are compiled on the costs of private-sector provision (unless financed through public health budgets), nor on expenditures by patient/households, i.e. user costs. The reason is that collection of these data is much more

difficult and time-consuming, and therefore not feasible on a routine basis.

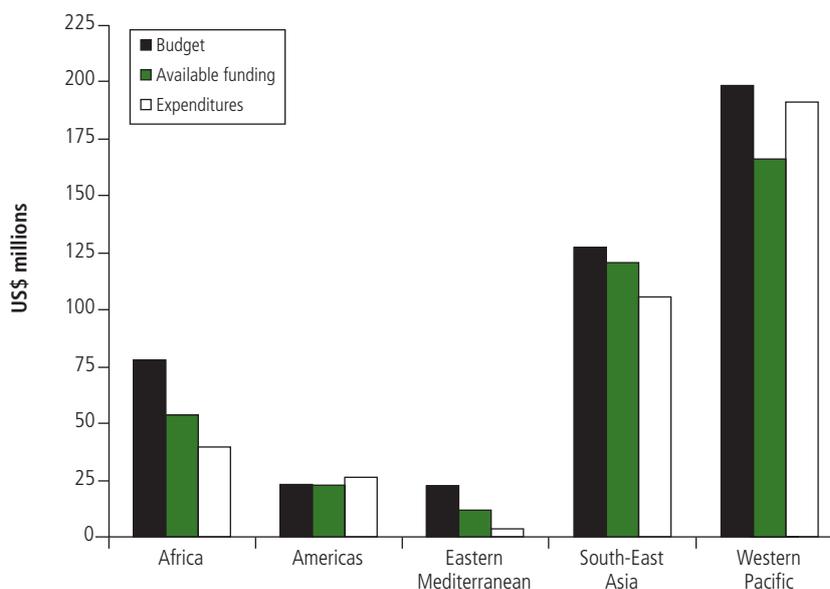
Within the system itself, collection of data requires considerable follow-up with some countries to ensure that a complete financial report is provided. Expenditure data have consistently been more difficult to collect than budget data. Where development and management of TB budgets and expenditures are decentralized, it is difficult to obtain aggregated national data. Reporting by European countries is relatively poor. Budgets and funding for some of the recommended collaborative TB/HIV activities (e.g. antiretroviral treatment for HIV-positive TB patients) are often not reflected in data reported by NTPs. Budgets and funding for collaborative TB/HIV activities reported by NTPs therefore fall short of the total budgets and funding available for these activities, and are being underestimated. This could be addressed by working more closely with resource tracking work undertaken by the United Nations Joint Programme on HIV/AIDS (UNAIDS). Finally, more opportunities to validate data would be useful, for example via country missions during which data could be reviewed and discussed in detail.

Data analysis is undertaken in a short period from October to December, to allow for publication of results in WHO's annual report on TB control in March, on World TB Day. With only two staff working part-time on financial monitoring (see above), this means that some potentially useful analyses are not yet being done. An example is analysis of how funding gaps could be filled, based on trends in domestic government health expenditures, a country's income level and economic growth forecasts, and comparisons of existing funding among countries with similar resources.

The system is also not able to provide information on the funding needed to strengthen health systems as a whole; for example, to improve primary health-care infrastructure and to increase the existing stock of health-care workers. Such costs cannot be budgeted or estimated for TB control alone, nor are they captured in the unit cost estimates used to produce estimates of the total cost of TB control.

Data dissemination could be extended to customize the financial data for particular audiences and to support resource mobilization efforts.

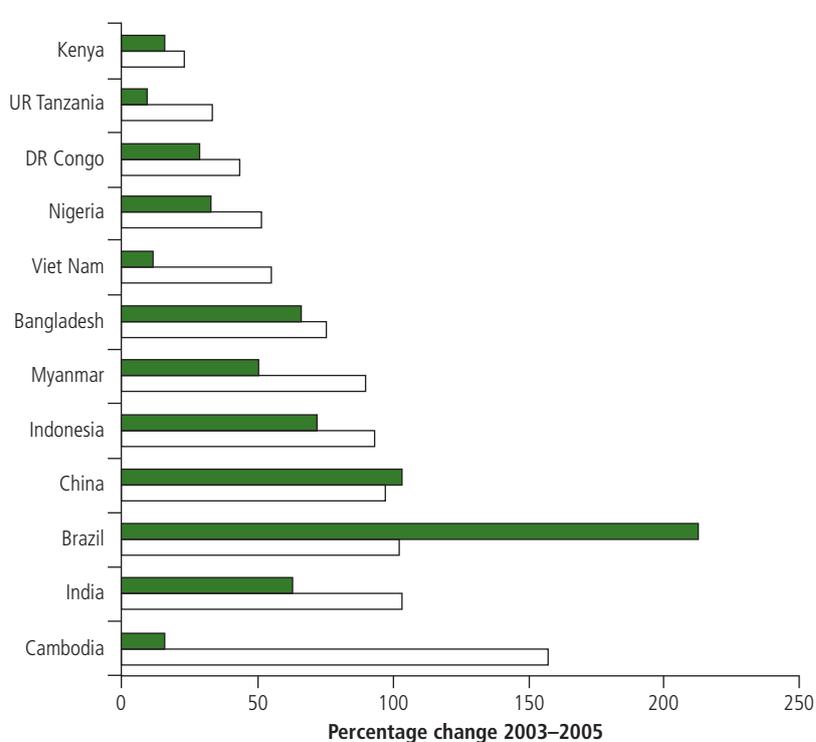
Fig. 4. Comparison of budgets, available funding and expenditures^a in 17 high-burden countries in five WHO regions, 2005^b



^a Expenditures are reported retrospectively, and budgets and available funding are reported prospectively. If budgets are increased or new funds mobilized after the prospective reporting of budget and funding data, expenditures can be higher than prospectively reported budget and funding data.

^b Complete sets of data not available for South Africa, Thailand, Uganda and Zimbabwe. European region (Russian Federation) not shown.

Fig. 5. Relationship between increased spending and programme performance in 12 high-burden countries between 2003 and 2005



■ % change in new smear-positive cases treated under DOTS 2003–2005

□ % change in NTP expenditure 2003–2005

DR Congo, Democratic Republic of the Congo; NTP, national tuberculosis programme; UR Tanzania, United Republic of Tanzania.

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These limitations illustrate the main areas where the existing system for global financial monitoring could be improved, as well as work that is needed beyond this system. Addressing them requires additional staff and operational funding.

Relevance to other health-care programmes

The financial monitoring system that we have discussed is specific to TB control. However, it has broader relevance, including providing useful experience on which other programmes could draw. The need for financial data and the reasons for establishing a system for financial monitoring of TB control are not unique to TB control. For example, some other major health-care priorities are identified by the MDGs: HIV, malaria, maternal and neonatal health, and child health. Systematic resource tracking work is carried out for HIV, and to a lesser extent for immunization programmes. However, all five priorities are likely to require additional funding to achieve the MDG targets.

The TB system also demonstrates that it is feasible to collect financial data, despite initial doubts about countries' willingness and capacity to report such data. At the same time, important general lessons have been learned. These include the need to keep data collection forms short and simple, with clear accompanying explanatory notes. Other lessons are that careful follow-up is essential, with discussions in person often necessary at the beginning; that expenditure data are more challenging to collect than budget data, with both being harder to obtain in decentralized systems; that the quality of financial data reported is often a good indicator of overall programme quality, especially planning and management capacity; that the quantity and quality of data improve over time as people being increasingly familiar with what is being requested; that the presence of WHO staff at country level makes data collection much easier; and that combined with other sources of data, health system as well as programme-specific costs can be assessed.

Conclusions

After five years of operation, the WHO system for global financial monitoring of TB control is able to report systematically on the financial resources required for TB control, as well as on sources of funding and funding gaps. It is also able to assess the extent to which financial needs estimated by countries, and related resource mobilization and actual spending, are sufficient to achieve global targets for TB control. It is able to do this for countries that represent about 90% of the global burden of TB, and that between 2002 and 2007 accounted for more than US\$ 7 billion of actual or planned spending on TB control. While the system has limitations and related areas for improvement, it provides an example of how financing can be routinely monitored that has relevance to other health-care programmes, particularly those concerned with disease control. ■

Competing interests: None declared.

Résumé

Financement de la lutte antituberculeuse : rôle d'un système mondial de surveillance financière

La lutte contre la tuberculose (TB), comme les soins de santé d'une manière générale, est coûteuse. Pour soutenir la lutte antituberculeuse à ses niveaux actuels et pour progresser encore jusqu'aux objectifs mondiaux fixés, il importe de disposer d'informations sur les besoins financiers, les sources de financement, les manques de fonds et les dépenses aux échelles mondiale, régionale, nationale et infranationale. Ces informations peuvent servir à mobiliser des ressources, à relever les évolutions au cours du temps des besoins et des insuffisances en matière de financement, à évaluer dans quelle mesure un financement supplémentaire peut se traduire par une augmentation des dépenses et par des améliorations des performances programmatiques et enfin à identifier les pays ou

les régions présentant les plus grands besoins et les manques de fonds les plus importants. L'article évoque un système mondial pour la surveillance de la lutte antituberculeuse, établi au sein de l'OMS en 2002. Depuis le début de l'année 2007, ce système a comptabilisé pour les dépenses en cours ou prévues plus de US \$ 7 milliard et rapporte régulièrement des données financières sur les pays supportant plus de 90 % de la charge de tuberculose. Nous illustrons l'intérêt de ce système en présentant les principaux résultats obtenus pour la période 2002-2007, y compris ceux en rapport avec la réalisation des objectifs mondiaux pour la lutte antituberculeuse, fixés pour 2005 et 2015. Nous analysons aussi ses points forts et ses limites, ainsi que son intérêt pour d'autres programmes de soins de santé.

Resumen

Financiación de la lucha antituberculosa: papel de un sistema mundial de vigilancia financiera

El control de la tuberculosis, como la atención sanitaria en general, cuesta dinero. Para mantener la lucha antituberculosa en sus niveles actuales y conseguir nuevos avances en pos de las metas mundiales, es importante disponer de información sobre las necesidades, las fuentes y los déficits de financiación, así como sobre los gastos a nivel mundial, regional, nacional y subnacional. Esos datos pueden utilizarse para movilizar recursos; documentar cómo cambian con el tiempo las necesidades y los déficits de financiación; evaluar si los aumentos de la financiación pueden traducirse en aumentos del gasto y si esos aumentos se plasman en mejoras del funcionamiento de los programas; e identificar qué países o regiones presentan las mayores necesidades y déficits de financiación. En este artículo se examina un sistema mundial de

vigilancia financiera de la lucha antituberculosa que se estableció en la OMS en 2002. A principios de 2007 este sistema había permitido controlar gastos reales o previstos por valor de más de US\$ 7 000 millones y estaba notificando sistemáticamente datos financieros correspondientes a países que representan más del 90% de la carga mundial de tuberculosis. A fin de poner de relieve el valor de este sistema presentamos los principales resultados obtenidos para el periodo 2002–2007, en particular los resultados de mayor interés con miras al logro de las metas mundiales de control de la tuberculosis establecidas para 2005 y 2015. Analizamos además los puntos fuertes y las limitaciones del sistema y su trascendencia para otros programas de atención de salud.

ملخص

تحويل مكافحة السل: دور النظام العالمي لرقابة التمويل

تعاين من فجوات في التمويل. وناقش في هذه الورقة النظام العالمي لرقابة التمويل على مكافحة السل، وهو نظام أُسس في منظمة الصحة العالمية عام 2002. وفي مطلع عام 2007 كان هذا النظام قد احتسب أكثر من سبعة ملايين دولار أمريكي للنفقات الفعلية والمخطط لها، كما أنه قدّم تقارير عن المعطيات التمويلية للبلدان التي تزرع تحت أكثر من تسعين بالمئة من العبء العالمي للسل. وقد أوضحنا قيمة هذا النظام باستعراض الموجودات الرئيسية التي أنتجها خلال الفترة 2002 – 2007؛ والتي تشمل على نتائج وثيقة الصلة بتحقيق الأهداف العالمية لمكافحة السل للفترة 2005 – 2015. كما حللنا نقاط القوة ونقاط الضغط لهذا النظام وملاءمته للبرامج الأخرى في الرعاية الصحية.

تحتاج مكافحة السل كغيرها من مقومات الرعاية الصحية بشكل عام إلى تكاليف مالية، وللمحافظة على المستوى الحالي لمكافحة السل ولتحقيق المزيد من التقدّم الذي يجعل بالإمكان بلوغ المرامي العالمية، كان لابد من توفير المعلومات حول الاحتياجات من التمويل ومصادره وفجواته وتكاليف الإنفاق، وهو أمر هام على كل من المستوى العالمي والإقليمي والوطني وفي أجزاء كل بلد على حدة. ويمكن لمثل هذه المعطيات أن تستخدم في الجهود الرامية لاستجلاب الموارد ولتوثيق كيفية تغيّر المتطلبات والفجوات في التمويل بمرور الزمان، ولتقييم فيما إذا كان بالإمكان ترجمة زيادة التمويل إلى زيادة النفقات، وفيما إذا كان بإمكان زيادة النفقات أن تنتج تحسناً في أداء البرامج، وللتعرّف على البلدان أو الأقاليم التي تكون فيها الحاجة على أشدها والتي

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Table 1. Data collected by global financial monitoring system for tuberculosis (TB) control, 2002–2007

Year of data collection	Year of WHO report	NTP budget data ^a	NTP expenditure data	Line items for budget and expenditure data	Categories used for sources of funding for NTP budgets and expenditures	Utilization of general health services by TB patients during treatment (for costs not reflected in NTP budgets/expenditures)	Countries from which data requested	Sources/methods used to collect data
2002	2003	2003 (calendar year)	Not collected	1) Drugs, 2) Diagnostic supplies, 3) Basic NTP activities, 4) Activities to increase case detection, 5) Equipment/vehicles, 6) Treatment observation, 7) Dedicated staff, 8) Dedicated facilities	Government, loans, grants, insurance, other, gap	Projected number of patients to be treated, percentage of TB patients admitted to hospital, average length of stay if admitted, typical number of outpatient visits	22 HBCs	Standardized questionnaires sent to NTP managers
2003	2004	2003	2002	1) Drugs, 2) Staff working on TB control, 3) Initiatives to increase case detection and cure rates, 4) Buildings, vehicles and equipment, 5) Other	Government, loans, grants, other, gap	As above	All	As for 2002, but questionnaire integrated within annual WHO TB data collection
2004	2005	2004	2003	1) First-line drugs, 2) Second-line drugs, 3) Staff working on TB control, 4) Initiatives to increase case detection and cure rates, 5) Collaborative TB/HIV activities, 6) Buildings, vehicles and equipment, 7) Other	Government, loans, Global Fund, grants excluding Global Fund, gap	As above, but requested for new sm+ and new sm−/extrapulmonary cases separately	All	As for 2003
2005	2006	2005, 2006	2004	As for 2004	As for 2004	As for 2004	All	As for 2003
2006	2007	2006, 2007	2005	1) First-line drugs, 2) Staff working on TB control, 3) Routine programme management and supervision activities, 4) Laboratory supplies and equipment, 5) Second-line drugs, 6) Management of MDR-TB (excluding second-line drugs), 7) Collaborative TB/HIV activities, 8) PPM and PAL, 9) Operational research, 10) ACSM and community TB care, 11) Other. Items 1–4 designed to correspond to component 1 of the Stop TB Strategy, i.e. DOTS. Items 5 and 6 combined correspond to MDR-TB management.	As for 2004	As for 2004	All	As for 2003

ACSM, advocacy, communication and social mobilization; Global Fund, Global Fund to Fight AIDS, Tuberculosis and Malaria; HBCs, high-burden countries; MDR-TB, multidrug-resistant tuberculosis; NTP, national tuberculosis programme; PAL, practical approach to lung health; PPM, public–private and public–public mix; sm− sputum smear-negative; sm+, sputum smear-positive.

^a Fiscal year unless otherwise stated.

Table 2. Data analysis and presentation based on the global financial monitoring system for TB control, 2002–2007

Year of report	Major results produced			Presentation of data	
	NTP budgets	NTP expenditures	Total costs	Country profiles for HBCs	Main body of report
2003	Total budget for 2003, with breakdown by line item and funding source, for each HBC and for all HBCs combined; funding gaps 2001–2005 in HBCs	No data collected	Total costs for 2003 for each HBC and all HBCs combined. TB control costs as percentage of total government health expenditures	Summary table for NTP budget and total TB control costs in 2003, broken down by line item and funding source, and accompanying text	Summary tables (n=4) and figures (n=5), and accompanying text
2004	Total budget for 2003 for each country submitting data, broken down by funding source and line item. Summary of budget by funding source for all HBCs. Total Global Fund funding by WHO region	Total expenditures for 2002 broken down by line item and funding source for each country submitting data	Total costs for 2002 and 2003 for each HBC and all HBCs combined; sources of funding for total TB control costs. TB control costs as % total government health expenditures	Summary table for NTP budget and total TB control costs in 2003, broken down by line item and funding source, and accompanying text including comments on expenditure data for 2002	Summary tables (n=5) and figures (n=6), and accompanying text
2005	Total budgets by funding source and line item for each year 2002–2005 for each HBC and all HBCs combined. NTP budget and first-line drugs budget per patient in each HBC. Global Fund funding for HBCs as of end 2004 in HBCs and each WHO region. Regional distribution of NTP budgets by funding source by WHO region, based on information from all countries that reported complete financial data	Expenditures in 2003 compared to available funding and budgets in 2003 for 15 HBCs that had reported a complete set of data	Total cost of TB control by line item and funding source for each year 2002–2005; government contribution to total TB control costs in 2005 compared to GNI per capita; total cost per patient	Four bar graphs showing, for each year 2002–2005: 1) NTP budget by line item, 2) NTP budget by funding source, 3) Total TB control costs by line item, 4) Per patient costs, budgets, available funding and expenditures	Summary tables (n=7) and figures (n=9), and accompanying text
2006	As for 2005, but time series extended to include data for 2006	As above, except data from 2004 used and dataset comprised 17 HBCs, plus change in expenditures compared with change in number of patients treated for 2003–2004	As above for 2005, but time series extended to include data for 2006. In addition, total costs based on country reports for six WHO regions compared with costs implied by Global Plan	As for 2005, but time series extended to include data for 2006	Summary tables (n=8) and figures (n=13), and accompanying text
2007	As for 2006, but data set extended to include data for 2007	As above, except data from 2005 used as well.	As above for 2006, but time series extended to include data for 2007 and comparisons with Global Plan cover 2007 as well as 2006	As for 2006, but time series extended to cover 2007. Pie-chart added to show detailed breakdown of budget in 2007, bar graph added to compare costs according to country reports with costs according to Global Plan	Summary tables (n=7) and figures (n=14), and accompanying text

Global Fund, Global Fund to Fight AIDS, Tuberculosis and Malaria; GNI, gross national income; HBC, high-burden country; NTP, national tuberculosis programme.

Table 3. Number of countries reporting data through global financial monitoring system, 2002–2007

Year of report	High-burden countries (n=22)			All countries (n=211)		
	Complete budget data	Complete expenditure data	Utilization of health services data	Complete budget data	Complete expenditure data	Utilization of health services data
2003	12 ^a	NA	3 ^b	NA	NA	NA
2004	17	15	16	77	74	113
2005	19	17	20	70	69	120
2006	19	17	21	87	73	115
2007	21	19	21	98	83	113

NA, not available.

^a Twelve countries completed the standard WHO questionnaire. These data were supplemented by a) budget data that were available in a different format for three high-burden countries (HBCs) in the Western Pacific Region, and b) Global Fund applications, such that the report included analysis of budget data for 19 HBCs.

^b These data were supplemented by use of estimates from previous analyses.¹²

Table 4. Total funding required, funding gaps and cost per patient treated for 21 high-burden countries^a in 2007, based on country reports

Country	Total funding required (US\$ millions)	Funding gap (US\$ millions)	Cost per patient treated (US\$)
Afghanistan	27	15	585
Bangladesh	27	0	136
Brazil	74	3.0	864
Cambodia	10	3.1	259
China	200	41	250
Democratic Republic of the Congo	35	12	309
Ethiopia	14	0	88
India	119	3.4	91
Indonesia	64	0	185
Kenya	34	29	280
Mozambique	24	7.8	522
Myanmar	19	9.2	238
Nigeria	52	2.3	497
Pakistan	27	17	112
Philippines	31	2.1	222
Russian Federation	594	99	1698
South Africa	235	0	803
Uganda	10	0.8	154
United Republic of Tanzania	15	0.4	248
Viet Nam	23	3.4	283
Zimbabwe	18	2.6	298

^a Excluding Thailand, which reported incomplete data.