GREEN LIGHT COMMITTEE INITIATIVE

of the Working Group on Multidrug-Resistant Tuberculosis (MDR-TB) of the Stop TB Partnership

Green Light Committee Initiative

Scaling up the global fight against MDR-TB

ANNUAL REPORT 2009

World Health Organization

Stop TB Partnership

WHO/HTM/TB/2010.14

This publication contains the annual report of the Green Light Committee of the Stop TB Working Group on Multidrug-resistant Tuberculosis and does not necessarily represent the decisions or policies of the World Health Organization.

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ANNUAL REPORT 2009

Green Light Committee Initiative

of the Working Group on Multidrug-resistant Tuberculosis

of the Stop TB Partnership

Green Light Committee (GLC) of the Working Group on MDR-TB STOP TB PARTNERSHIP

Secretariat housed at WHO Geneva

Hospital Francisco J. Muñiz
Indus Hospital
International Union against Tuberculosis and Lung Diseases
KNCV Tuberculosis Foundation
Médecins Sans Frontières
State Agency Infectology Centre of Latvia Tuberculosis and Lung Diseases Clinic
Partners in Health
United States Centers for Disease Control and Prevention
World Health Organization

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Message from the GLC Chair

Since its inception in 2000, the Green Light Committee (GLC) Initiative has worked to ensure that patients receive appropriate treatment for drug-resistant tuberculosis (DR-TB) with quality-assured second-line drugs (SLDs) in programmatic settings that prevent the emergence of further drug resistance. By the end of 2009, more than 63 000 patients had been approved for treatment in 113 projects spanning 71 countries; to date, 29 000 patients have received or are currently receiving treatment for multidrug-resistant tuberculosis (MDR-TB).

As we mark the tenth anniversary of the GLC, the successes of this approach are clearly evident. On the policy level, the clinical and programmatic management of MDR-TB has been accepted as an integral part of national TB control strategies worldwide. A number of high-MDR-TB burden countries have created national plans for the scale-up of diagnostic and patient-management capacity; more countries now have plans for universal access to MDR-TB treatment than ever before.

Despite these successes, it is clear to all partners in this mechanism that in order to achieve global universal access to MDR-TB treatment in a timely fashion, we need to rethink our approaches to scale-up. Early diagnosis of drug resistance continues to be a major challenge. Since the beginning of 2008, the GLC Initiative has been working in close collaboration with the Global Laboratory Initiative (GLI) to ensure appropriate diagnostic capacity in countries. The GLI is on track to diagnose more than 130 000 DR-TB patients by 2011. While this is a major step forward, much more needs to be done by countries to ensure that they have the required diagnostic capacity to cope with this growing epidemic.

After diagnosis, it is essential that patients with drug-resistant TB be managed within programmes capable of monitoring adverse events and reliably delivering treatment over 18–24 months. This means access to both quality-assured second-line anti-TB drugs and strengthened programmatic capacity in countries. Innovative funding mechanisms, such as the Global Fund to fight AIDS, Tuberculosis and Malaria and UNITAID, put universal treatment for MDR-TB within reach for many countries. The task before the international TB community is to develop appropriate mechanisms that will ensure that countries are able to undertake this complex health intervention: not only will international partners have to change the way that technical assistance is provided to countries (over the spectrum of short, medium and long term, augmented by Technical Assistance Centres), but countries will have to adopt innovative approaches to care delivery. The World Health Assembly called for community-based approaches to care last year, in its resolution WHA62.15. Models for using networks of ambulatory care that extend into patient communities already exist. We are now at the critical juncture of ensuring that what we have learned globally over the last two decades is

disseminated and adapted to different country settings with the rapidity that befits this airborne epidemic.

The GLC, the Stop TB Partnership and the World Health Organization (WHO) are all currently involved in thinking about how best to achieve the goal of universal treatment for MDR-TB. As we look to the future, it is clear that the GLC mechanism will need to adapt to changing global circumstances and needs. As I approach the end of my term as Chair of the GLC, on behalf of the committee I should like to thank all our colleagues in the MDR-TB Working Group, the Global Drug Facility, the Stop TB Partnership, WHO and international partner organizations – and in the countries themselves – for their work in ensuring that this vision of universal access to MDR-TB treatment becomes a reality. We look forward to our continued work together.

Salmaan Keshavjee, MD, PhD
Chair
Green Light Committee

Message from the GLC Secretariat

The 10th anniversary of the GLC Initiative is approaching and with it the time to look back, celebrate achievements, draw lessons learned and review our approach to the problems encountered and challenges that remain to be tackled.

The GLC was established in 2000, recognizing that MDR-TB could not be managed without access to quality-assured SLDs against -tuberculosis. Furthermore, it was not known whether a complex health intervention such as MDR-TB management could effectively be implemented in resource-limited settings.

Since then, quality-assured SLDs have become much more widely available, and the GLC Initiative with all its partners was able to show that MDR-TB management is feasible and can be implemented according to international standards in resource-limited countries.

These achievements would not have been possible without the generous backing of donors, in particular the Global Fund, PEPFAR, UNITAID and Eli Lilly, all of which are deeply engaged and continue to extend their support to treat and care for people with MDR-TB.

The applications that programmes have submitted to the GLC during 2009 clearly show that there is a need to move from pilot projects to countrywide implementation plans, otherwise universal access will not become a reality. Indeed, while the GLC Initiative has been successful in demonstrating proof of principle and there have been year on year increases in the number of patients treated in GLC programmes, progress towards reaching universal access to MDR-TB diagnosis and treatment has been insufficient. Currently only 10% of estimated MDR-TB patients are being diagnosed, 30% of whom are being treated according to WHO standards, and thus only 3–4% of all estimated MDR-TB cases receive gold standard care.

The GLC Initiative will have to renew itself by taking into account the changing environment and circumstances in which it operates; it has started to do so with a global debate on how to best support scale-up of DR-TB management.

When analysing the reasons why scale-up has been so slow, while global agencies must take some responsibility, the main challenges are being faced at the country level. The development of in-country capacity through various mechanisms, while taking into account the respective local requirements, will be key for moving ahead over the coming years.

Programmes, partners and members need to join forces to make sure that universal access to DR-TB management by 2015 does not become an empty promise.

In 2009, partners and WHO started to review the current GLC mechanism in order to better meet the needs of programmes and countries scaling up DR-TB management under evolving circumstances and we will continue to do so in 2010.

We look forward to continuing working with you.

Dr Wieslaw Jakubowiak
Team Leader
Green Light Committee Secretariat

Executive summary

10 years of the Green Light Committee Initiative and its achievements

The GLC was established by WHO and partners in 2000 in light of the recognition that lack of access to quality-assured second line anti-tuberculosis drugs (partly as a result of their high price) was one of the major obstacles to implementing MDR-TB management.

At the time, it was also recognized that, while access to second-line drugs (SLDs) must increase, the limited amount of quality-assured drugs available should only be used in projects meeting the standards set in international guidelines to avoid the development of resistance to SLDs. Thus the GLC mechanism was established to support small-scale projects before there was evidence on the feasibility and cost–effectiveness of MDR-TB management in resource-limited settings.

By 2005, compelling evidence on the feasibility, effectiveness and cost–effectiveness of MDR-TB management under programmatic conditions was obtained from the projects approved and monitored by the GLC[1]. Drawing upon experience in GLC projects, WHO developed international guidelines for the programmatic management of DR-TB. Committee members played an important role in the development of these guidelines in 2006 and the emergency update in 2008[2].

Major reductions in the prices of SLDs were achieved through negotiations with pharmaceutical companies although there remains considerable scope for future price reduction. The pooled procurement of drugs and the push for prequalification of SLDs have resulted in manufacturers of generic drugs in India and South Africa being approved by the WHO Prequalification Programme.

The GLC reviews and debates the merit of available scientific evidence, programmatic information and professional experience. Through this activity, the GLC continually updates and refines its own and WHO's understanding and perspective on measures to control DR- TB. The GLC provides its expertise to individuals, donor agencies, bilateral organizations, international organizations, ministries of health and national TB programmes, etc.

The decision of the Global Fund to Fight AIDS, Tuberculosis and Malaria that all procurement of medications to treat MDR-TB using Global Fund grants must be conducted through the GLC

[1] http://www.stoptb.org/wg/mdrtb/about.asp
[2] http://whqlibdoc.who.int/publications/2008/9789241547581_eng.pdf

mechanism was a major boost for MDR-TB management expansion in resource-limited countries.

The GLC mechanism has been successful in expanding political and financial commitment to MDR-TB control by increasing the number of partners supporting MDR-TB control, which now include: the Global Fund, UNITAID, Eli Lilly MDR-TB Partnership, USAID, PEPFAR and the Bill & Melinda Gates Foundation. By the end of 2009, the GLC had approved cumulatively 63 107 MDR-TB patients for treatment in 71 countries.

In April 2009, health ministers or their representatives from the 27 countries with a high burden of MDR-TB and of extensively drug-resistant tuberculosis (XDR-TB), together with five other countries, donors, affected communities and technical agencies, called for action to meet the mounting threat posed by MDR-TB. At the meeting arranged by WHO, the Ministry of Health of the People's Republic of China and the Bill & Melinda Gates Foundation, in Beijing, China, participants sought to develop a consensus and political commitment in high-burden countries and the rest of the world. The meeting was intended to prompt immediate action to scale up the prevention and management of MDR-TB and to begin establishing five-year national strategic plans for MDR-TB within national TB and health sector plans.

Comprehensive recommendations for urgent action included:

- forecasting the control of MDR-TB epidemics;
- identifying and filling gaps in TB control;
- providing MDR-TB and XDR-TB management and care;
- initiating action to solve the health workforce crisis;
- responding to the laboratory bottleneck;
- ensuring access to quality-assured anti-TB medicines;
- reserving the availability of anti-TB medicines to accredited care providers;
- prioritizing TB infection control;
- maximizing opportunities to conduct research on MDR-TB and XDR-TB;
- financing MDR-TB and XDR-TB control and care.

Following the Beijing Call for Action, the Sixty-second World Health Assembly in May 2009 adopted a resolution urging all WHO Member States to achieve universal access to diagnosis and treatment of MDR-TB and XDR-TB by 2015; it requested a strengthening of the Green Light Committee Initiative in order to expand access to concessionally priced and quality-assured first- and second-line medicines through encouraging and assisting local pharmaceutical producers in high-burden countries to qualify under the GLC mechanism.

In 2009, 30% more applications were submitted from countries to the GLC Initiative compared with previous years, and the number of patients approved for treatment remained at the same level compared to the previous year. In order to ensure that a high standard of treatment is

provided to patients, the GLC Initiative continues to provide support to countries through technical assistance and monitoring/evaluation activities.

The development of plans and budgets for scaling up diagnosis and treatment of MDR-TB that are in line with the Global Plan to Stop TB, the Beijing Call for Action and the 2009 World Health Assembly resolution on MDR-TB and XDR-TB were supported. Consultants were trained in the use of the WHO planning and budgeting tool, and the GLC Initiative supported high-burden countries to develop MDR scale-up plans. During the First GLC Forum in October 2009 held in Geneva, 23 countries presented their draft plans.

Despite impressive progress, many challenges remain to achieving universal access to treatment. The GLC looks forward to working with partners to overcome the main barriers, which include:

- at the country level: weak political commitment and insufficient capacity (including difficulties of diagnosis and treatment with the current tools);
- at the international level: support mechanisms that are inadequately resourced;
- inadequate interaction of country and international levels (push–pull mechanism).

None of the achievements of the GLC Initiative in 2009 would have been possible without the involvement of its many technical partner organizations with global reach to countries and affected patients in need, and the dedicated work of the consultants who form a strong network of highly competent and motivated individuals enabling the Initiative provide its services. The generous support of the major donors of the GLC Initiative – PEPFAR, UNITAID, the Global Fund and Eli Lilly – is gratefully acknowledged; their continued collaboration in the coming years is the foundation of the much needed life-saving treatment to DR-TB patients around the world.

Important recommendations by the GLC in 2009

- Projects to be asked to shift progressively to the use of levofloxacin 750 mg as the fluoroquinolone of choice.
- High-dose levofloxacin (1000 mg) can be used in patients with ofloxacin resistance.
- The GLC recommends the use of high-dose levofloxacin (1000 mg) for XDR-TB patients. Moxifloxacin can also be used.

GLC Initiative in brief

The **Green Light Committee (GLC)** is an independent, technical expert advisory group to WHO and the Stop TB Partnership. It guides and reviews proposals seeking access to lower-cost second-line treatments to ensure adherence to WHO guidelines.

The **Global Drug Facility (GDF)** is the Initiative's procurement arm, arranging the supply of both first- and second-line anti-TB drugs at reduced prices.

The **GLC Secretariat** is hosted by the Stop TB Department at WHO, Geneva, and works closely with GLC members, national TB programmes, nongovernmental organizations, technical and funding agencies, WHO offices at country and regional levels and Stop TB Working Groups. The Secretariat provides guidance to countries and programmes seeking technical assistance, funding and access to lower cost second-line treatments.

The GLC Initiative was launched by the Stop TB Partnership in 2000 to support countries in their fight to halt MDR-TB, and its role was re-affirmed by health ministries of Member States through the WHA resolution in 2009.

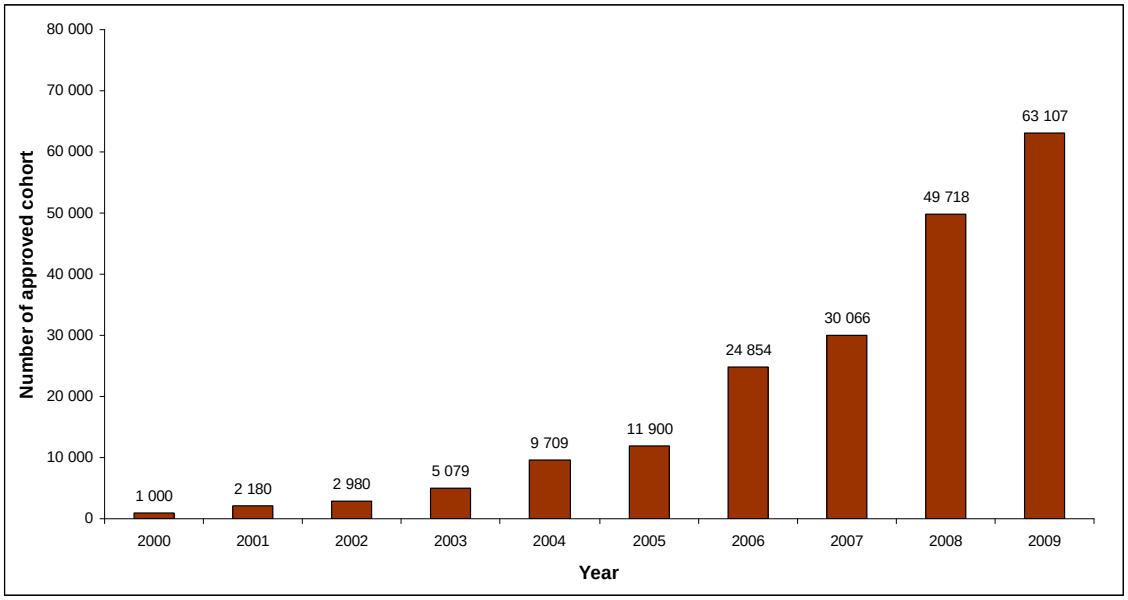
The GLC Initiative has developed a mechanism to assist countries in adapting the framework described in the *Guidelines for the programmatic management of drug-resistant tuberculosis*[3] to country-specific contexts.

Countries that meet the framework requirements, with a strong foundation in the DOTS treatment strategy and a solid plan to manage DR-TB, can benefit from quality-assured SLDs at reduced prices, technical assistance throughout the implementation process, assistance in monitoring performance and knowledge-sharing facilities. Furthermore, it helps to raise potential donors' interest and operates in collaboration with the Global Fund, UNITAID, USAID and corporate sector stakeholders.

The GLC debates the latest updated information on drugs and treatment policy, data analysis and new developments in the field of TB, and the results of these deliberations are disseminated by the Secretariat. Since 2000, the GLC has approved treatment for over 63 000 people in 65 countries; cumulative totals up to the end of 2009 are shown in Figure 1.

[3] http://whqlibdoc.who.int/publications/2008/9789241547581_eng.pdf

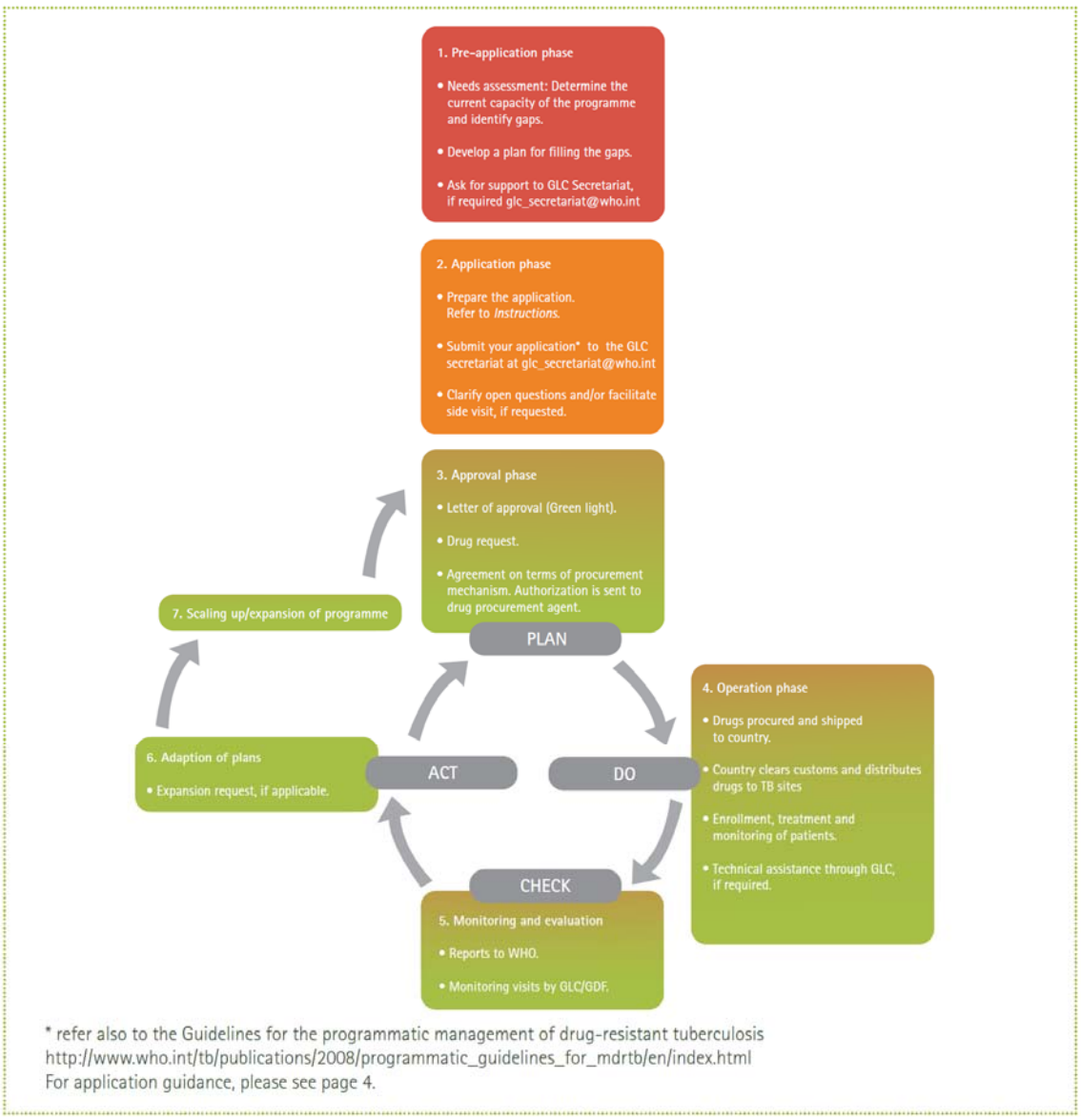
Figure 1. Cumulative number of approved patients, 2000–2009



GLC mechanism

The GLC has developed a mechanism to assist countries in adapting the framework described in the Guidelines for the Programmatic Management of Drug-Resistant Tuberculosis to country specific contexts. Countries that meet the framework requirements, with a strong DOTS foundation, and a solid plan to manage DR-TB, can benefit from quality-assured second-line drugs at reduced prices. The GLC also offers technical assistance during the pre-application phase, before starting the programme, and monitors programme implementation.

Figure 2. Flow of activities in the GLC mechanism



Green Light Committee members

Members of the GLC are drawn from the Stop TB Partnership Working Group on MDR-TB, representing organizations with clinical, advocacy, scientific and managerial expertise. WHO is a permanent member of the GLC.

In 2009, committee membership of the World Care Council (WCC) came to an end. Other GLC members expressed their appreciation of WCC's work on the committee and specifically recognized the role of WCC in implementation of the framework of the Patients' Charter and inclusion of patients' rights and responsibilities in Chapter 19 of the revised WHO Guidelines.

The GLC consults outside experts as needed. In 2009, because of the increased workload caused by the majority of projects entering the scale-up phase, the committee decided to call for nomination of another technical member to maintain its composition of nine technical institutions. As a result, the Indus Hospital, Pakistan, joined the GLC during its 57th meeting on 15–16 October 2009 to serve as the ninth technical member.

GLC members perform the following functions:

- review applications to the GLC and monitoring and evaluation reports, either individually as a primary (in-depth) reviewer or as part of the whole committee;
- participate in GLC discussions and decisions regarding all applications and other GLC matters, including face-to-face meetings, paper-based correspondence and electronic communications (teleconferences, e-mail and the Internet);
- comply with agreed deadlines in accordance with the review cycle dates;
- attend all GLC meetings and participate in all GLC decisions; if attendance by the principal representative is not possible, the institution’s alternate member should attend;
- make recommendations to WHO on specific instructions to programmes interested in applying to the GLC;
- conduct pre-assessment of respective programmes and promote technical assistance to potential and approved programmes;
- improve GLC processes by contributing to GLC-related policies and procedures regarding application reviews, country visits and report writing;
- share in GLC activities equally with other members; if necessary, outside expert advice may be sought by individual committee members, but external input must be agreed to by the designated GLC member institution and channelled through the formal institutional representative (the principal or alternate GLC member);

- actively promote and advocate for the mission and objectives of the GLC at Stop TB Partnership forums, conferences, scientific symposia and meetings with potential or approved GLC programmes.

All members are required to adhere to rules of conflict of interest and confidentiality: they cannot participate in the decision-making regarding applications from programmes/projects in which they have or have had a direct or perceived conflict of interest.

Members of the Green Light Committee in 2009

(the principal member is listed first)

Hospital Francisco J. Muñiz, Argentina
Dr Domingo Palmero, Dr Ximena Gonzalo

The Hospital Francisco J. Muñiz, inaugurated in 1904, is a reference hospital for infectious diseases. In addition to TB diagnosis and treatment, the hospital deals with HIV/AIDS, pneumonia, meningitis, hepatitis, endemic mycoses, Chagas disease and other regional diseases. Patients from all over the country receive MDR-TB consultation and treatment in the clinic or the hospital, where training in MDR TB management is regularly carried out. The TB/MDR-TB control programme of Buenos Aires City is located in the hospital.

Indus Hospital, Pakistan
Dr Aamir Khan, Dr Hamidah Hussain

Indus Hospital is a faith-based nongovernmental organization constituted by local and expatriate doctors and business people providing hospital care free of charge for the poor. The hospital started its operations in July 2007 and provides MDR-TB treatment. The tertiary-care facilities at the hospital are complemented by a community outreach programme focused on prevention and early detection of disease, encouraging community involvement and ownership.

International Union Against Tuberculosis and Lung Disease
Dr Jose Caminero, Dr Arnaud Trebucq

The Union was established in Paris in 1920 by an international conference attended by 31 countries; at present, almost 200 countries have joined. In 1978, in response to a request from the Minister of Health of the United Republic of Tanzania, The Union proposed the establishment of a National Tuberculosis Programme under the direction of the government, supported and coordinated by The Union. This was the forerunner of The Union's technical assistance programme, which was subsequently extended to nine low-income countries and

later became the basis of WHO's DOTS strategy. In 1998, The Union joined WHO and other international partners to form the Stop TB Initiative, which later became the Stop TB Partnership. The Union offers many training courses and technical assistance to a number of countries.

KNCV Tuberculosis Foundation, the Netherlands
Dr Agnes Gebhard, Dr Jacques van den Broek

KNCV Tuberculosis Foundation is a national and international centre of expertise for TB control and a medical development organization. The organization is committed to reducing TB in the Netherlands and worldwide, in some 40 countries. It does so by means of policy development, technical assistance, advisory services, training programmes, capacity building and epidemiological and operational research.

As a medical development organization, KNCV Tuberculosis Foundation:

- is at the forefront of TB control and policy development;
- is committed to reducing tuberculosis worldwide;
- is a partner in development of the DOTS method and the Stop TB strategy**;**
- provides advice to national TB control programmes to attain “Quality DOTS” in collaboration with long-standing partners.

Médecins Sans Frontières (MSF)
Dr Francis Varaine, Dr Myriam Henkens

MSF is an international humanitarian aid organization that provides emergency medical assistance to populations in danger in more than 70 countries. In countries where health structures are insufficient or even non- existent, MSF collaborates with authorities such as the ministry of health to provide assistance. TB is one of the priority issues for MSF, for which MSF has been an advocate for improved diagnosis and treatment, particularly of MDR-TB. MSF has been a member of working groups of the Stop TB Partnership, providing strategic input and sharing clinical and many research data and advocacy approaches. MSF is running projects that are providing MDR-TB treatment in several countries.

Partners in Health (PIH)

Dr Salmaan Keshavjee (Chair) Dr Jaime Bayona

Partners in Health (PIH) has been a leader in implementing community-based strategies for combating MDR-TB in resource-poor settings, most notably in Haiti, Lesotho, Peru and the Russian Federation – in each case establishing the first effective MDR-TB treatment programme in these countries. In partnership with the local and national TB programmes in Peru and the Russian Federation, PIH has published clinical care manuals for management of MDR-TB in English, Russian and Spanish and is currently developing TB training curricula for community health workers in a variety of languages. PIH continues to advocate for expanding access to treatment for TB and for development of new, more effective drugs to combat the disease. In this role, it is the convener of RESIST TB (Research Excellence to Stop TB Resistance). PIH's expert TB clinical team is made up of faculty members at the Harvard Medical School's Department of Global Health and Social Medicine, who represent some of the most experienced implementers of MDR-TB measures in the world. PIH's representative to the GLC is currently chair of the committee. PIH and its partner organizations manage MDR-TB Centres of Excellence in Lesotho, Peru and the Russian Federation, which work extensively with WHO and national governments to scale up treatment . More than 14 000 MDR-TB patients have been treated in settings where PIH works, and data from PIH sites have informed global policy on the clinical and programmatic management of MDR-TB.

State Agency Infectology Centre of Latvia Tuberculosis and Lung Diseases Clinic (CTLD)

Dr Vaira Leimane, Dr Gunta Dravniece

The CTLD manages the National TB Programme in the vanguard of TB control efforts in the Baltic region. The programme was initiated in 1995, in advance of the rest of the former Soviet Union, and follows the WHO DOTS strategy. Latvia was the only country in the region performing large-scale treatment of MDR-TB patients according to WHO's DOTS-Plus strategy, with 200–250 patients each year being treated with drugs funded by the government. The CTLD is a treatment and teaching facility with the capacity to conduct theoretical and practical training in all aspects of TB management and control, including the role of primary health care, laboratories and surveillance. It has ongoing research projects covering these aspects of TB control.

United States Centers for Disease Control and Prevention (CDC)

Dr Timothy Holtz, Dr Chuck Daley

For over 60 years, CDC has been dedicated to protecting health and promoting health and quality of life by preventing, controlling and eventually eliminating TB and MDR-TB from the United States of America, and by collaborating with other countries and international partners in controlling TB and MDR-TB worldwide. CDC is committed to programmes that reduce the health and economic consequences of the leading causes of death and disability, thereby ensuring a long, productive and healthy life for all people.

World Health Organization (WHO)

Dr Wieslaw Jakubowiak, Dr Matteo Zignol

WHO is the directing and coordinating authority for health within the United Nations system. It is responsible for providing leadership on global health matters, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries and monitoring and assessing health trends. WHO houses the secretariat of the GLC initiative and is a standing member of the GLC.

GLC activities in 2009

Applications to the GLC

In 2009, 53 applications (19 new applications and 34 expansion requests) were submitted by 34 countries. Of these, 44 were approved.

Treatment was approved for 13 389 patients, bringing the cumulative total of patients approved under the GLC Initiative since 2000 to 63 107.

From its inception to the end of 2009, the GLC had granted approval to 176 applications from 71 countries. The full list of countries and sites is given in the section Regional profiles. Of the total applications that have been approved, 63% were new applications and 37% were expansion requests. Expansions of existing projects have increased over time and reached 74% of all requests received in 2009. The overall approval rate of applications is 85%. The breakdown of applications received and their outcomes from 2000 to 2009 is shown in Tables 1 and 2 and Figures 3, 4 and 5.

Table 1. Breakdown of GLC applications received, 2000–2009

Year	GLC applications			Monitoring/site visits carried out
	Applications (countries)	New	Expansion	
2000	4 (4)	4	0	0
2001	2 (1)	2	0	8
2002	7 (7)	6	1	8
2003	14 (13)	13	1	11
2004	14 (13)	10	4	16
2005	15 (12)	10	5	17
2006	27 (19)	22	5	16
2007	31 (20)	21	10	42
2008	41 (32)	23	18	39
2009	53 (34)	19	34	84
TOTAL	**208 (155)**	**130**	**78**	**241**

Figure 3. Proportion of new and expansion applications received, 2000–2009

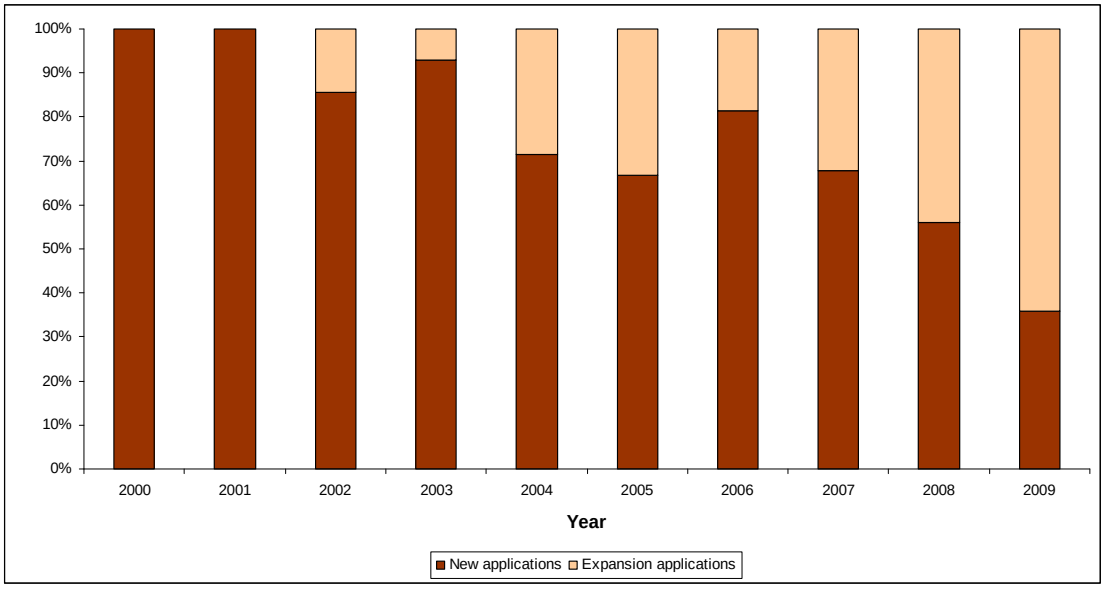


Table 2. Outcome of GLC applications received, 2000–2009

Year	No. of GLC applications approved	Patients approved		
		Total	New applications	Expansion applications
2000	2	1 000	1 000	0
2001	3	1 180	1 180	0
2002	1	800	0	800
2003	9	2 099	2 099	0
2004	17	4 630	1 334	3 296
2005	12	2 191	1 455	736
2006	25	12 954	5 754	7 200
2007	24	5 212	2 126	3 086
2008	39	19 652	3 647	16 005
2009	44	13 389	3 304	10 085
TOTAL	**176**	**63 107**	**21 899**	**41 208**

Figure 4. Outcome of GLC applications received, 2000–2009

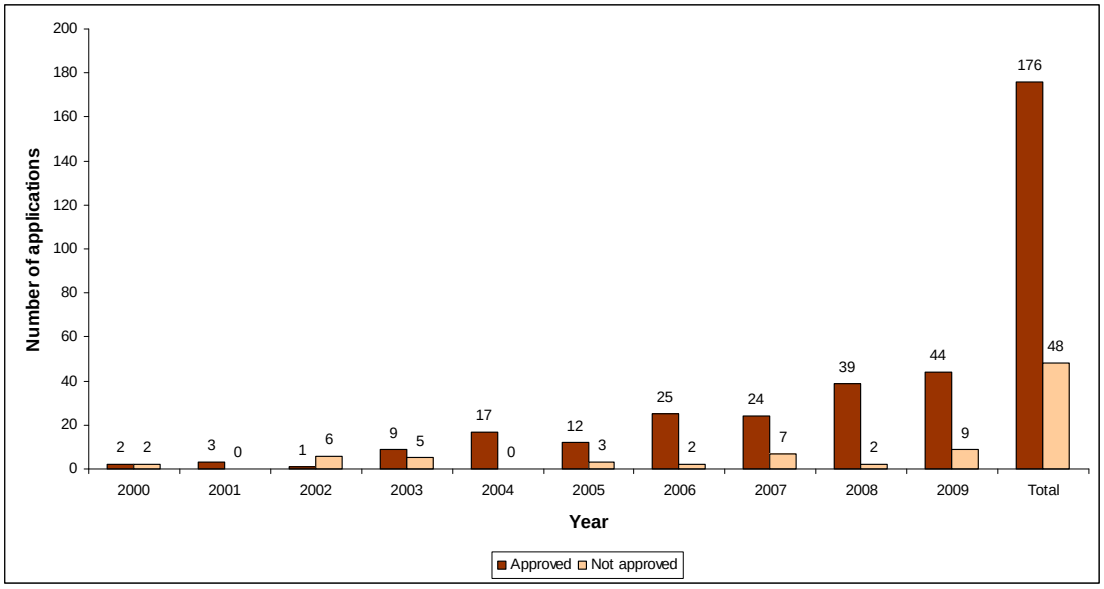
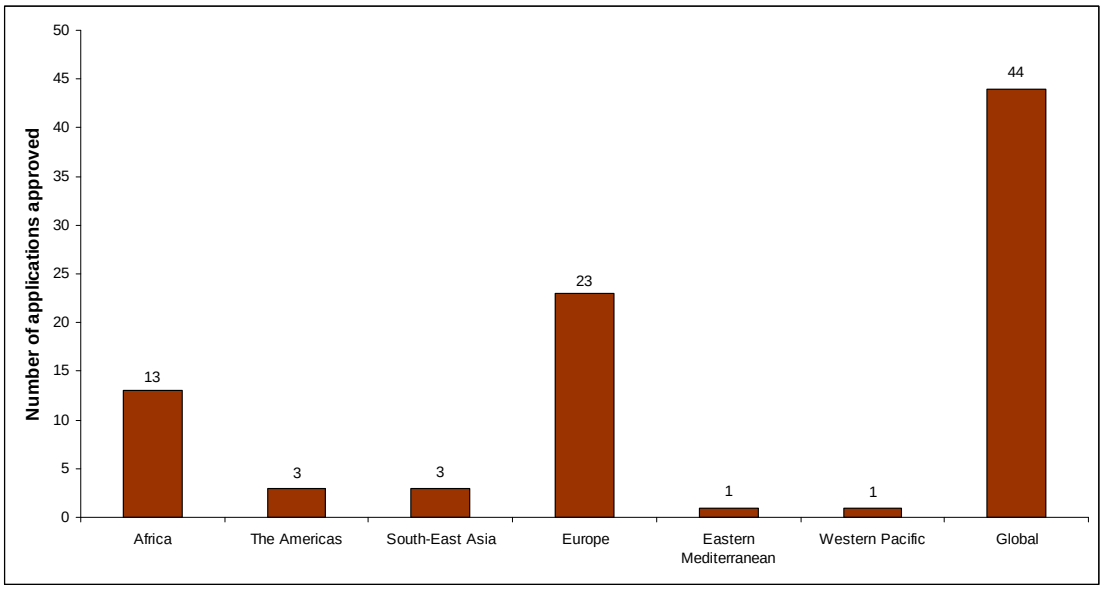


Figure 5. GLC applications approved, by WHO region, 2009



Committee meetings

Six meetings of the GLC took place in 2009: the 53rd and 56th meetings were held at WHO headquarters in Geneva; the 55th took place in Riga, Latvia; the 54th in Montreux, Switzerland; and the 57th in Annecy, France. The 58th meeting was conducted by teleconference facilities.

Highlights from the six meetings included the following.

- Monitoring mission reports (70) were reviewed and guidance was provided.
- The GLC application instructions were revised to make them more useful for countries.
- A subgroup was created to make recommendations on the choice of fluoroquinolone to be used; it recommended that levofloxacin would be the drug of choice for MDR-TB management:
  - projects were asked to shift progressively to the use of levofloxacin 750 mg;
  - high-dose levofloxacin (1000 mg) can be used in patients with ofloxacin resistance;
  - the use of high-dose levofloxacin (1000 mg) was recommended for XDR-TB patients; moxifloxacin can also be used.
- The outcome of the Beijing meeting was discussed, and the GLC re-confirmed its commitment to support the scale-up of MDR-TB management.
- The system for allocating drugs from the strategic rotating stockpile (SRS) was revised to improve the mechanism.
- GLC member Jaime Bayona was nominated to the Price Negotiation task force.
- A procedure was developed for the emergency delivery of SLDs to low-income countries with proven MDR-TB or XDR-TB case(s) and no other means of obtaining MDR treatment, through the GLC Initiative for access to treatment with SLDs for fewer than ten patients.
- The establishment of a regional buffer stock to facilitate drug delivery was discussed; a pilot scheme is being established in the Western Pacific Region.

Monitoring, evaluation and technical assistance

Monitoring and evaluation of the implementation of programmes approved by the GLC is an integral part of the GLC mechanism to support countries to monitor their performance and to identify possible areas in need of improvement and devise solutions.

GLC monitoring missions are carried out annually (the first mission is conducted six months after arrival of the SLDs in the country) and technical assistance is provided whenever the need has been identified by the country or during monitoring and evaluation missions.

Monitoring/evaluation and technical assistance activities are managed by the GLC Secretariat and WHO regional and country offices. In 2009, 84 monitoring and evaluation and technical assistance missions were carried out by GLC consultants in 54 countries, organized by the GLC Secretariat. Table 3 lists the countries by WHO region.

The reports of the missions were reviewed by the GLC and shared with the programme and all relevant partners. In general, missions identified the main bottlenecks as related to laboratory capacity, drug management and human resources, and worked with the programme and partners to identify solutions to overcome them according to the local context.

Table 3. GLC monitoring/ evaluation and technical assistance missions, by WHO region, 2009

Africa	The Americas	South-East Asia	Europe	Eastern Mediterranean	Western Pacific
Burkina Faso	Bolivia	Bangladesh	Armenia	Egypt	Cambodia
Democratic Republic of the Congo	Colombia	India	Azerbaijan	Jordan	China
Guinea	Costa Rica	Nepal	Belarus	Lebanon	Mongolia
Kenya	Dominican Republic	Thailand	Bulgaria	Morocco	Philippines
Lesotho	Ecuador	Timor-Leste	Georgia	Pakistan	Viet Nam
Mali	El Salvador		Kazakhstan	Sudan	
Nigeria	Guatemala		Kyrgyzstan	Syrian Arab Republic	
Rwanda	Haiti		Lithuania	Tunisia	
Senegal	Mexico		Republic of Moldova		
Swaziland	Nicaragua		Russian Federation		
	Paraguay		Serbia		
			Tajikistan		
			Ukraine		
			Uzbekistan		

Training and workshops

WHO planning and budgeting tool for TB control: training of trainers (ToT) workshop for MDR-TB experts

A workshop was organized at WHO headquarters in Geneva, Switzerland, on 29 and 30 July 2009, with the following objectives:

- to familiarize participants with two tools that can be used to help develop or revise plans for MDR-TB diagnosis and treatment (MDR Assessment tool and Planning tool);
- to develop a good knowledge and understanding of the WHO planning and budgeting tool for TB control, with specific attention to the components of the tool that are most relevant to MDR-TB;
- to discuss how consultants can use the WHO TB planning and budgeting tool to support countries to scale up the diagnosis and treatment of MDR-TB.

The workshop methodology was a combination of presentations and group work using real data from Myanmar. The relevant components of the tools were explained by the facilitators.

The 14 participants in the training course were selected from the list of existing consultants. The workshop was well accepted by all participants. Afterwards, the participants were assigned to assist countries (mainly in Eastern Europe) to update their MDR plan and budget. The consultants trained at this workshop also agreed to facilitate the subsequent workshop in Tashkent in September 2009.

Planning and budgeting for scaling up MDR-TB diagnosis and treatment in high MDR-TB burden countries in the European Region

Many countries that had started with small pilot MDR-TB treatment projects were moving towards countrywide implementation. In response to a request from the European Regional Office for support to assist 13 high MDR-TB burden countries to develop or update the MDR-TB component of their respective national TB plans, a workshop was held in Tashkent, Uzbekistan, on 14–18 September 2009.

During the first and second days of the meeting, participants from Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan were given detailed explanations of the WHO planning and budgeting tool. During the following days, countries were provided with assistance to plan and budget the component on MDR-TB, human resources, drug management, infection control, laboratory aspects, social support, training, monitoring, and recording and reporting.

All high-burden countries were expected to present their plans during the 7th meeting of the MDR-TB Working Group, in Geneva on 12 October 2009.

First Green Light Committee Forum

The First Green Light Committee Forum was held on 13 and 14 October 2009 in Geneva, Switzerland.

The forum gathered 168 participants, including representatives from 34 countries, and served as a platform to share knowledge and promote best practices. Projects and programmes approved by the GLC reported progress and shared their experiences.

The forum enabled interaction of the projects' representatives with the Global Fund, GLC experts and the GLC Secretariat, strengthening the network of GLC-approved projects and partners; it contributed to hastening scale-up of sustainable interventions and building country-level capacity to make universal high-quality treatment of DR-TB a reality.

Challenges regarding SLD supply, drug regulation, drug procurement, and recording and reporting were identified collectively, and possible solutions were outlined. Firm recommendations to overcome some of the challenges included the improvement of forecasting of actual SLD demand based on country data, better coordination of implementing agencies, and a common action plan for GDF, GLC, funding agencies, etc.

Different models of care to achieve rapid scale-up were discussed, with a regional focus and bearing in mind the requirements of various settings. The current global shortages of SLDs and of human resources at both the global and national levels were identified as main limiting factors for the successful scale-up of DR-TB management and need to be addressed urgently. The supply and procurement of second-line anti-TB drugs were reviewed and discussed, and possible solutions were indentified to address current problems in light of the major scale-up of DR-TB management globally.

National plans to respond to the M/XDR-TB epidemic were drafted and shared during the MDR TB working group meeting preceding the forum.

The network of projects and countries implementing MDR-TB part of component 2 (Address TB-HIV, MDR-TB, and the needs of poor and vulnerable populations) of the Stop TB Strategy were strengthened in order to prepare for and facilitate the ongoing scale-up. The forum facilitated the creation of multiple links between involved parties and the streamlining of knowledge sharing.

Expert-to-project and project-to-project technical assistance was reviewed and promoted. During the session on recording and reporting (R&R), reporting from GLC projects was reviewed, lessons learnt were summarized and good practices were shared for replication.

GLC programme review

Summary of patient enrolment and treatment outcomes

The GLC approved 81 MDR-TB management projects in 50 countries from 2000 to 2009. The countries – 7 in Africa (AFR), 12 in the Americas (AMR), 6 in South-East Asia (SEAR), 15 in Europe, 5 in the Eastern Mediterranean (EMR) and 5 in the Western Pacific (WPR) – are listed in Table 4. This section summarizes the MDR-TB patient enrolment and treatment outcomes of these projects and provides an overview of enrolment in the country programmes compared with the number of patients approved by the GLC during the same period.

Aggregated data on notification and treatment outcomes of 29 260 patients were collected by the GLC mechanism team, WHO, in line with the international definitions and according to the reporting format presented in the WHO *Guidelines for the programmatic management of drug-resistant tuberculosis*, 2006.

Table 4. MDR-TB management projects approved by the GLC, by WHO region, 2000–2009

Africa	The Americas	South-East Asia	Europe	Eastern Mediterranean	Western Pacific
Burkina Faso Democratic Republic of the Congo Guinea Kenya Lesotho Rwanda United Republic of Tanzania	Bolivia Costa Rica Dominican Republic Ecuador El Salvador Guatemala Haiti Honduras Mexico Nicaragua Paraguay Peru	Bangladesh India Indonesia Myanmar Nepal Timor-Leste	Armenia Azerbaijan Belarus Bulgaria Estonia Georgia Kazakhstan Latvia Republic of Moldova Romania Russian Federation Serbia Tajikistan Uzbekistan	Egypt Jordan Lebanon Syrian Arab Republic Tunisia	Cambodia China Mongolia Philippines Viet Nam

Methods

Data collection from GLC-approved projects is performed on an annual basis by the GLC mechanism team in WHO. A standard form, in line with the WHO recommendations, is used for collection of aggregated notification and treatment outcome data. The data are disaggregated by classification groups based on the history of previous treatment (new, relapse, treatment after default, treatment after failure of Category I regimen, treatment after failure of Category II regimen, new extrapulmonary, other) and by treatment outcome groups (cured, treatment completed, died, failed, defaulted, transferred out, still on treatment). The validity of the data is assured through cross-referencing with data reported in the annual monitoring mission reports.

Aggregate data reported were entered into a database built with Microsoft Access™ software. Notification data of patients enrolled from January 2000 to December 2009 and treatment outcome data of patients enrolled from January 2000 to December 2007 were analysed.

Results

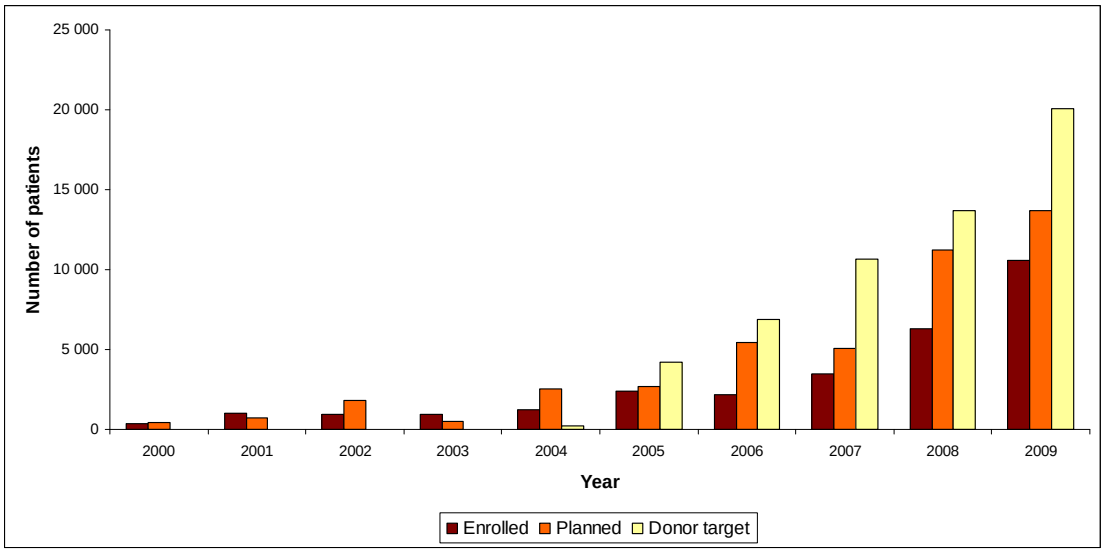
2009 annual data.

In 2009, 16 new projects started implementation and 65 projects continued and expanded their activities: 10 531 MDR-TB patients were enrolled on treatment in 2009.

The enrolment rate compared with planned targets increased significantly from 55% in 2008 to 77% in 2009; however, actual enrolments still fell below the planned enrolment and donor targets (the Global Fund and UNITAID).

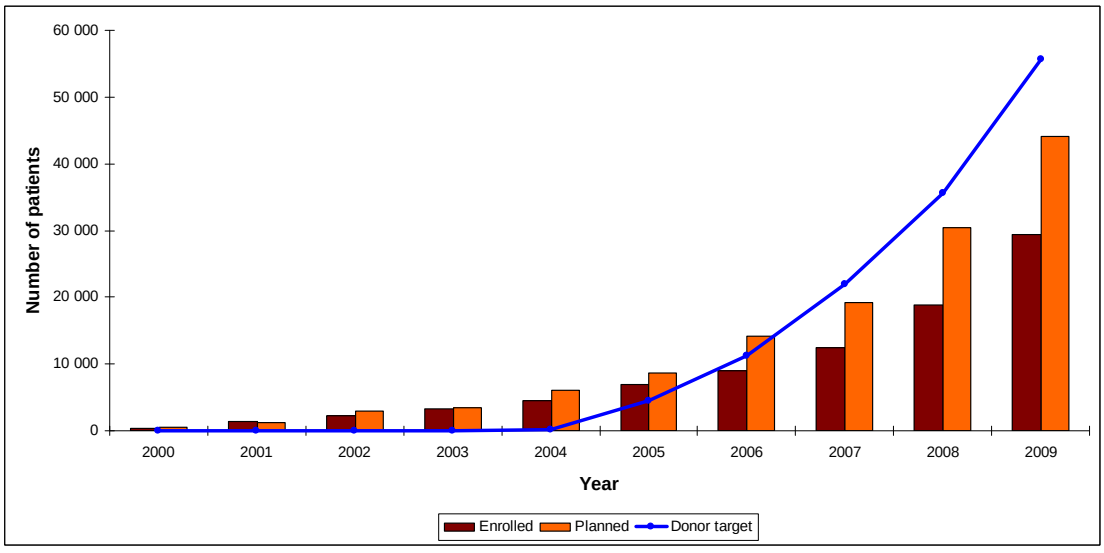
The number of patients approved by donors for treatment, planned to be enrolled and actual numbers enrolled are shown in Figures 6 and 7.

Figure 6. Number of patients approved by donors for treatment, planned and actual enrolment, 2000–2009



Notes: Donor target = GF and UNITAID targets according to proposals approved.
Enrolment planned- as per GLC-approved applications.

Figure 7. Cumulative number of patients approved by donors for treatment, with planned and actual enrolment, 2000–2009



Note: Enrolment planned- as per GLC-approved applications.

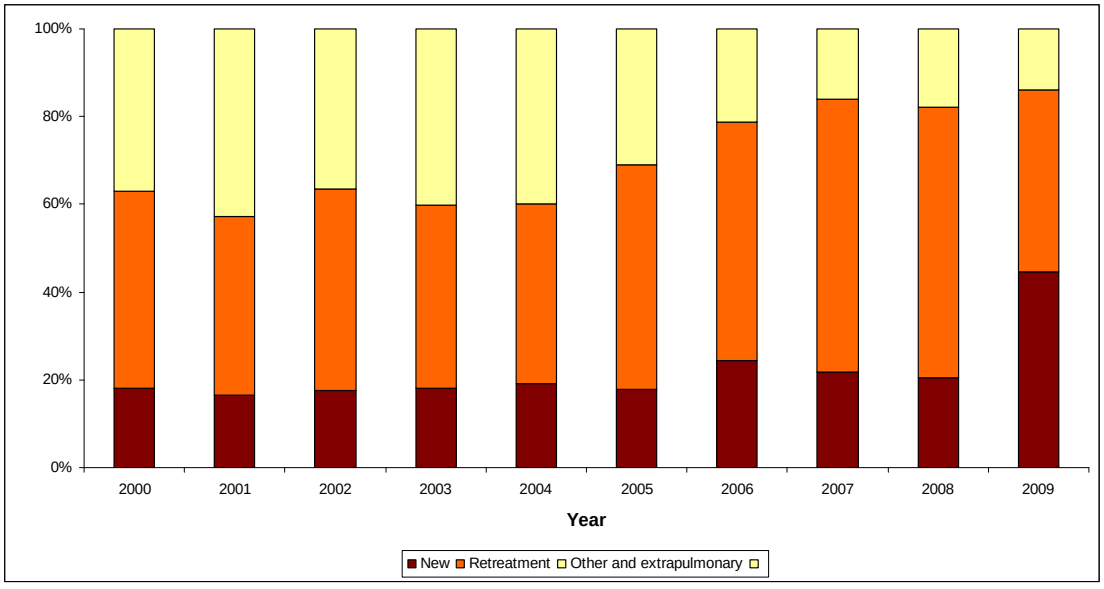
Notification data 2000–2009

A total of 29 287 MDR-TB cases have been enrolled in 81 GLC approved projects during the period 2000–2009. The majority of patients had received anti-TB treatment prior to being diagnosed with MDR-TB and enrolled on DR-TB treatment (new cases: 29%, retreatment: 51%). The breakdown of total patients by enrolment category is shown in Table 5 and Figure 8.

Table 5. Breakdown of patients by enrolment category, 2000–2009

Enrolment category	No. of patients	Proportion of patients (%)
New	8 505	29
Relapse	3 453	12
After default	955	3
After failure Category I	3 873	13
After failure Category II	6 402	22
New extrapulmonary	293	1
Other	5 806	20
TOTAL	**29 287**	**100**

Figure 8. Distribution of enrolled cases by classification group, 2000–2009



Treatment outcome data 2000–2007

Out of all DR-TB cases enrolled on treatment from 2000–-2009, a treatment outcome is available for a total of 12 535 cases enrolled during the period 2000–2007. Details are shown in Table 6. Only 20% of all patients enrolled were new cases and 52% previously treated (relapse, after default and after failure combined). The enrolment group registered as "other" combined 28% of patients who did not fit into any other category, mainly because they had received multiple treatment regimens prior to the current enrolment.

Table 6. Treatment outcome for enrolled patients, 2000–2007

Enrolment category	Treatment outcome							Total patients	
	Cured	Treatment completed	Died	Failed	Defaulted	Transferred out	Not evaluated	No. per category	Proportion (%)
New	1 345	183	178	116	330	21	350	2 523	20
Relapse	946	93	182	170	287	7	140	1 825	15
Default	119	33	77	51	122	2	50	454	4
After failure Category I	882	160	144	83	270	14	197	1 750	14
After failure Category II	1 221	164	241	201	346	58	242	2 473	20
New Extra-pulmonary TB	6	39	2	6	3	0	2	58	0.5
Other	1 750	123	465	269	520	16	309	3 452	28
TOTAL	**6 269**	**795**	**1 289**	**896**	**1 878**	**118**	**1 290**	**12 535**	
Proportion of all patients	50.0%	6.3%	10.3%	7.1%	15.0%	0.9%	10.3%		
Treatment success rate:									
	56.4%								
Treatment success rate, excluding those still on treatment:									
	62.8%								
Other outcome rates:			11.5%	8.0%	16.7%	1.0%			

Treatment success rates for all projects varied between 31% and 81% in 2000–2007, with the average rate of 63% (the projects with cohorts of fewer than 20 patients were not taken into consideration). The highest treatment success rates were reported in Rwanda and in a carceral community in Azerbaijan (see Table 7 for selected success rates).

Table 7. Treatment success rates for DR-TB patients in selected populations, 2000–2007

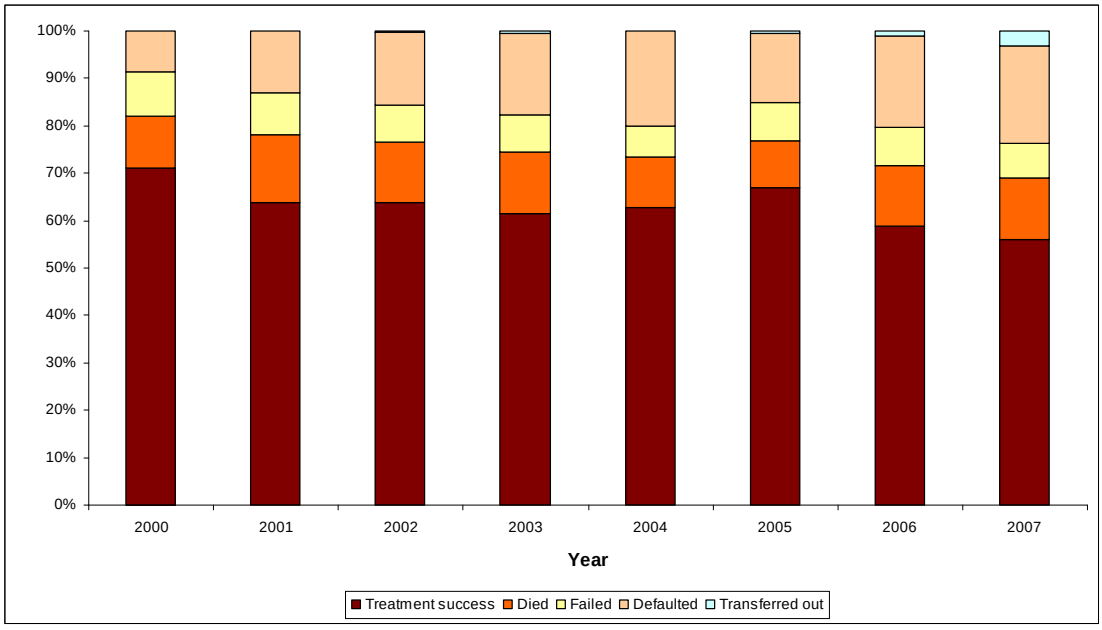
Ranking	Country or area/ Programme name	Treatment success rate (%)	No. of patients
Highest success rate			
1	Rwanda	81	52
2	Azerbaijan	81	57
3	Bolivia	77	34
4	Dominican Republic	73	80
5	Haiti	73	82
Lowest success rate			
1	Georgia (GF)	31	61
2	Burkina Faso	33	21
3	Georgia (Abkhazia province)	39	99
4	Tunisia	39	31
5	Russian Federation (Arkhangelsk province)	42	193

Overall, as shown in Table 8, the highest treatment success rates were reported in new cases (61%) and after failure of Category I (60%), while the lowest was in the after default group (33%).. The low treatment success rate in the after default group was mainly due to high death, failure and defaulter rates (17%, 11% and 27%, respectively) in the same group. The new extrapulmonary patient group was included under other. Treatment outcomes are expressed graphically over the same period in Figure 9.

Table 8. Treatment outcome based on enrolment category, 2000–2007

Category	Treatment outcome rate (%)				
	Treatment success	Died	Failed	Defaulted	Transferred out
New	61	7	5	13	1
Relapse	57	10	9	16	0
After default	33	17	11	27	0
After failure Category I	60	8	5	15	1
After failure Category II	56	10	8	14	2
Other	55	13	8	15	0

Figure 9. Treatment outcome by year, 2000–2007



Limitations of methodology used

When interpreting the treatment outcome, the fact that different treatment approaches and regimens were used across the different projects needs to be remembered; it will most likely have had an impact on the treatment outcomes, thus limiting the comparability of the results. Also the different programmes implement patient follow-up differently, and treatment support structures vary in their quality.

Drug management: procurement for GLC-approved programmes

The collaboration between the GLC and the Global Drug Facility (GDF) for the provision of quality assured second-line anti-TB medicines to countries in need began in late 2006. Since its inception, this partnership has seen much growth and development, with 2009 being no exception.

Grants

In July 2007, UNITAID agreed to fund a joint project with the GDF and the Global Fund called the MDR-TB Scale-up Initiative. The aim of this joint endeavour was to increase access to quality-assured SLDs to treat patients with MDR-TB in 17 eligible countries and positively impact the dynamics of the MDR-TB drug market. In 2009, an expansion of the current project was approved by the UNITAID board, increasing the project funding from US$ 37 662 000 earmarked for 5756 patient treatments to US$ 54 046 000 for a total of 15 606 patient treatments and extending UNITAID support to 18 countries. The successful implementation of this project allows MDR-TB patient treatments to be delivered to 18 countries from 2007 to 2012.

Since project inception, 15 of the initial 17 approved countries have placed orders. In 2009, 12 countries placed orders to the value of US$ 4 203 670. Thirteen countries, including some that had placed orders in 2008, received deliveries totalling US$ 5 688 264 in 2009.

Direct procurement

GDF continued to see a steady increase in the volumes of SLDs procured through its direct procurement service. In 2009, 38 countries purchased anti-TB second-line medicines through direct procurement, an increase compared with the 33 countries who obtained them through direct procurement in 2008. The value of medicines procured also increased from US$ 17 562 399 in 2008 to US$ 22 349 833 in 2009.

Strategic rotating stockpile for MDR-TB treatments

In November 2008, UNITAID signed a Letter of Agreement with the Stop TB Partnership, initiating the MDR-TB Acceleration of Access project: a strategic rotating stockpile (SRS), building on the original MDR-TB scale-up initiative under which an original stockpile was approved for 800 patient treatments. The primary objective of the project was to increase the current stockpile level from 800 patient treatments to 5800 patient treatments. This increase is

expected to allow for improved and accelerated service to patients enrolled under GLC-approved country projects and programmes.

The SRS for MDR-TB drugs was fully operational in 2009 and serviced 39 countries. For the majority of anti-TB medicines in the stockpile, target volumes had been reached with the exception of Capreomycin and Kanamycin. GDF took action to remedy this in 2010.

Technical assistance to GLC programmes by GDF

In 2009, GDF organized, assisted with or participated in many support interventions for programmes accessing SLDs along with the GLC Initiative, including:

- presented and participated in the monitoring and evaluation mission to Ecuador in November;
- participated in the technical support mission to Moscow, Russian Federation, with the aim to assess existing obstacles in the procurement of SLDs;
- participated in the procurement and supply management mission to Santo Domingo, Dominican Republic, in July to assess implementation of the programme, identify gaps and achievements; assess the needs and readiness for TB programme expansion; collect data of patients on treatment; and identify challenges in the management of patients.

Improving access to SLDs

With the aim of increasing SLD access for GLC-approved projects, GDF launched an Expression of Interest in September 2008–August 2009 for evaluation of prospective manufacturers of SLDs for the GLC programme. The general results of the evaluation of product dossiers are indicated below:

- 53 dossiers submitted;
- 3 corresponded to products not included in the Expression of Interest and thus were not accepted for evaluation;
- 23 product manufacturers were found to comply with quality standards;
- 27 product manufacturers were found not to comply with quality standards.

Before this proactive supplier identification process, GDF was in a situation of having only two out of 11 MDR products with two or more sources and no XDR drug products with a quality-assured source. After completing the process, GDF was able to involve more manufacturers and could supply seven of the 11 MDR products from two or more sources, and three out of five XDR drug products had at least one source.

Price negotiation

GDF entered into price negotiations with suppliers of GDF-approved products and established a Task Force on Price Negotiation, which comprised representatives of donors, the GLC and the GDF to facilitate this work. The first price negotiation meetings took place during the last quarter of 2009. GDF will continue its efforts in this area in 2010.

WHO Prequalification Programme (PQP) of anti-TB medicines

The eighth and ninth invitations to manufacturers of anti-tuberculosis medicines to submit an Expression of Interest for product evaluation to the WHO Prequalification Programme were launched in March 2009 and August 2009, respectively. Both lists included additional SLDs according to suggestions made from the GDF and Stop TB Department, related to new strengths and/or new finished pharmaceutical products.

In 2009, two new SLDs were prequalified: Cycloserine and Para-amino salicylate sodium, details of which are given in Table 9.

Table 9. Second line anti-TB drugs prequalified in 2009

Drug	Formulation	Manufacturer	Packing	Date of prequalification
Cycloserine	Capsules 250 mg	Aspen Pharmacare Limited	HDPE bottle 100	19 June 2009
Para-amino salicylate sodium	Delayed release granules 60% w/w	Macleods Pharmaceuticals Ltd	LDPE bag placed in triple laminated Alu/PET/Alu/ LLDPE sachet further packed in HDPE container 100g	14 December 2009

New dossiers were submitted in 2009 to WHO PQP for the following products:

- Amikacin 100 mg/2ml injection
- Amikacin 250 mg/2ml injection
- Amikacin 500 mg/2ml injection
- Capreomycin 1 g injection
- Ofloxacin 200 mg tablets
- Ofloxacin 400 mg tablets
- Levofloxacin 250 mg tablets
- Levofloxacin 500 mg tablets
- Kanamycin 1.0 g injection
- Kanamycin 0.5 g injection
- Moxifloxacin 400 mg tablets
- Ethionamide 250 mg tablets
- Cycloserine 250 mg tablets

GDF expects more dossiers will be submitted and accepted for assessment by WHO PQP and/or the Stringent Regulatory Authority (SNRA) in 2010.

Support for GDF MDR procurement activities

Business Advisory Committee

The Business Advisory Committee (BAC) was established by the Stop TB Partnership Coordinating Board in 2006 to assist GDF in identifying and resolving any potential difficulties and opportunities. The BAC is composed of 10 members with a strong background in pharmaceutical and diagnostic business operations. Due consideration is given to appropriate geographical representation and expertise. In 2009, the BAC held its 5th and 6th meetings during which recommendations were made in several key MDR areas:

- devising ways in which to meet challenges presented by the pending MDR-TB scale-up;
- facilitating further alignment with GLC to improve data collection and forecasting mechanisms;
- evaluating the extent of GDF's involvement in the drug registration process;
- initiating an effective tool for capturing feedback on technical assistance provided through GDF and TB team;
- resolving any bottlenecks relating to Pre-Qualification;
  making recommendations regarding percentage of compensation for quality-assured products in competitive tenders;
- determining key action steps following Beijing meeting in March 2009.

The BAC also performed two Management Reviews as per ISO 9001:2000 requirements.

Management and operational functions

GDF further developed its management and operational functions in 2009.

- Development of its Order Management System to include an improved reporting component to provide increased ease and flexibility.
- Division of GDF's procurement team into two sub-teams: one focusing on first line drugs and diagnostics, and the second team focusing on MDR-TB. In the last quarter of 2009, GDF recruited a new team leader for the MDR-TB team to allow for increased focus on this growing area.
- **R**ecruitment of a procurement officer to focus on assisting with registration issues for both first- and second-line drug products and avoid bottlenecks. Elaboration of registration policy and creation of a registration database for SLDs available through GDF. An analysis of registration needs in GLC/GDF-serviced countries was

completed; data are being collected on procedures and documentation required for registration in priority countries.

Some challenges faced in 2009

In terms of manufacturing capacity and its effect on access and procurement efficiency, there were availability issues with four products, Amikacin, Moxifloxacin, Kanamycin and PAS Acid.

- Due to the announcement by Medochemie that it was were moving its production from Greece to Cyprus, in early 2009 GDF experienced a negative impact on the supplies for Amikacin.
- Bayer, which manufactures and supplies Moxifloxacin, had, at the end of 2008, announced that it could not supply this product for the treatment of MDR-TB patients due to the lack of sufficient toxicology data. An agreement was reached in the first quarter of 2009 – after a short period of supply interruption – that Bayer UK would make a limited number of batches of this product available through its distributor to satisfy the demand from WHO/GDF as a short-term solution. GDF is engaged in sourcing additional potential suppliers, such as Cipla, for this product. The final status on quality assurance assessment and eligibility will be available in 2010.
- During the third quarter of 2009, GDF was informed that the manufacturer for Kanamycin (Panpharma) had temporarily interrupted the production of the finished product due to a problem with the quality of the active pharmaceutical ingredient (API). While all corrective measures were being taken to address the deficiencies found, production will not restart until the source of the API used for product is in line with GDF's stringent quality assurance policy and requirements. GDF has been actively exploring other quality-assured sources of Kanamycin, in order to minimize risk of supply interruption. In the last quarter of 2009, negotiations were concluded with Meiji, Japan, an alternative supplier for Kanamycin 1 g solution for injection: Kanamycin from Meiji is expected to be available from the first production run in April 2010.
- GDF/IDA have, during this reporting period, further addressed the availability issues with PAS acid supplied by Jacobus Pharmaceutical Company Inc. Compared to the situation at the end of 2008 with reported shortages of this product, a gradual improvement has been achieved. Early in 2009 it was confirmed that Jacobus had increased its production capacity.

In light of the availability issues previously faced with PAS acid, GDF made it a priority either to source alternative suppliers for PAS acid or to source alternative products that could be substituted for PAS acid in MDR-TB patient treatment regimens. In order to secure uninterrupted supply to GLC-approved projects, the potential usage of PAS sodium was

extensively discussed with the GLC and a technical task group was established (GDF, GLC, IDA and DMSC[4]) to explore the feasibility of including this product in treatment regimens and subsequently in GDF's product catalogue. The technical task group undertook a risk–benefit assessment of PAS sodium and endorsed a provisional approval to supply this product for emergency cases.

Challenges and opportunities for 2010

- **MDR-TB scale-up**. In anticipation of a significant increase in countries procuring SLDs, GDF is increasing its engagement of the market to ensure adequate numbers of suppliers of quality MDR-TB medicines and sort out key bottlenecks in the drug supply chain.
- **Human resources**. Recruitment of a new General Manager for GDF will play an important role in the direction of GDF in 2010, and the recruitment of three new staff for the MDR-TB team will support the dramatic scale-up of MDR-TB patients expected to be diagnosed and treated in 2011 and beyond.
- **Forecasting**. To continue building on the improvements to forecasting mechanisms that will be needed to allow for manufacturer engagement.
- **Financing**. Increasing donor awareness of the need for ensuring sufficient and sustainable financing for operations (technical assistance, staffing and capacity building) as well as medicines and commodities.
- **Direct procurement**. As the volume of direct procurement service increases, development of a sustainable model will be essential – enhanced marketing and branding is required to demonstrate the value added and GDF comparative advantages.

[4] Drug Management sub-Committee of the Stop TB Partnership MDR-TB Working Group

Financial partners in global DR-TB control effort

In 2009, the following partners continued their support to the GLC Initiative that, without this collaboration, could not have been successful: the United States Agency for International Development (USAID); the US President's Emergency Plan for AIDS Relief (PEPFAR); the Eli Lilly MDR-TB Partnership; UNITAID and the Global Fund.

The Global Fund. The Global Fund has continued to extend its support to the GLC Initiative, in 2009 providing the largest share of the funding. In May 2009, the existing Memorandum of Understanding between the Global Fund and the Stop TB Partnership was amended and signed to improve the flow of funds, upgrade the reporting on developments in country MDR-TB programmes/projects and strengthen the cooperation. To help control the spread of drug resistance and ensure access to affordable, quality-assured drugs, the Global Fund has mandated GLC review for all of its programmes with an MDR-TB component and procurement of SLDs. Through this partnership, the Global Fund is contributing US$ 50 000 per grant per year for GLC activities under a cost-sharing scheme.

The US President's Emergency Plan for AIDS Relief (PEPFAR). PEPFAR has been instrumental in accelerating the delivery of GLC technical assistance on MDR-TB to grants approved by the Global Fund. In 2009, PEPFAR continued to support the strengthening of the GLC Initiative and addressin0g bottlenecks in order to scale up absorption capacity, improve the performance of MDR-TB programmes and substantially increase patient enrolment rates. Technical assistance has been provided directly to the implementing stakeholders and focused on developing country capacity.

UNITAID. The partnership between the GLC Initiative and UNITAID allows for the provision of affordable and quality-assured SLDs for MDR-TB programmes in at least 17 low- and middle-income countries and is contributing to the scale-up of MDR-TB management worldwide. Furthermore, its financial support to the rotating stockpile mechanism ensured that lead times could be shortened significantly.

The Eli Lilly MDR-TB Partnership. The Eli Lilly Partnership provided funds for technical assistance to MDR-TB programme/project implementation in non-Global Fund countries in collaboration with the Eli Lilly partners and the funding for the training course for MDR-TB consultants. In 2009, the Eli Lilly MDR-TB Partnership reiterated its support and supplied sizeable quantities of several key SLDs at concessional prices to the programmes/projects approved by the GLC.

Overall, donor support to the country programmes/projects within the framework of the GLC Initiative has increased in comparison with previous years.

Financial resources

Exceptionally, the financial resources are presented for the biennium 2008–2009. Because of the transition from the previous system of accounting to the Global Management System (GSM), balances were moved *en masse* and it is not feasible to split them between 2008 and 2009.

In 2008 and 2009, the operating budget for the GLC Initiative consisted of US$ 5 221 733. It included the cost of managing GLC operations such as reviewing of applications and regional activities, as well as the human resource costs required to operate the GLC Secretariat and the SLD procurement team of the GDF.

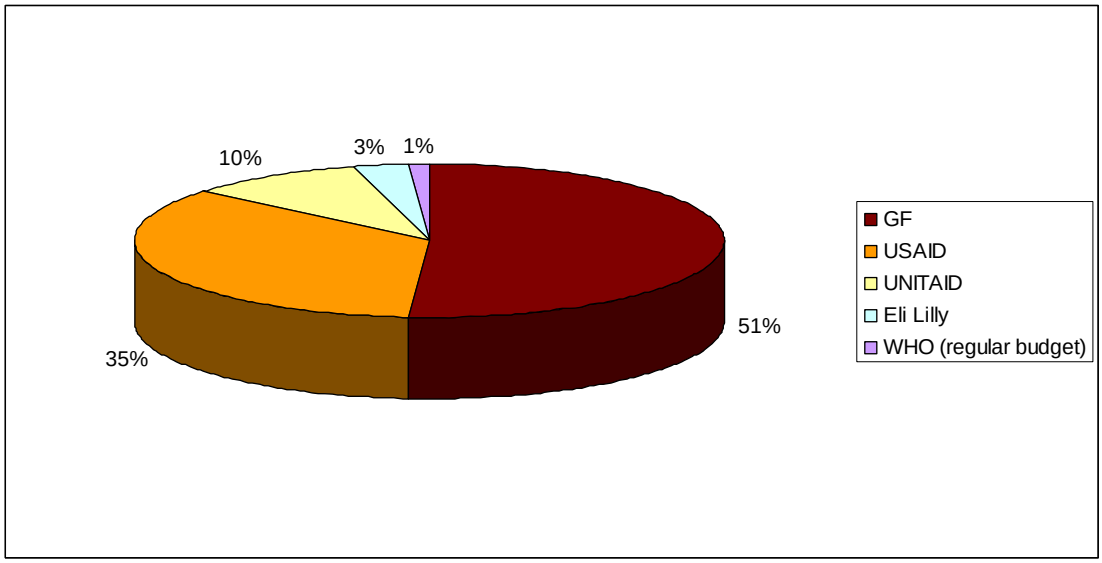
Most of the funds were provided by the long-standing partners of the GLC Initiative (see Table 10 and Figure 10). The Global Fund is the largest contributor, providing 51% of the total budget for the Initiative. USAID also continued its generous support by providing 35% of the required resources. UNITAID covered 10% of the GLC Initiative operating budget, while Eli Lilly provided 3% and WHO the remaining 1% of the total funds in 2008 and 2009.

Table 10. Income and expenditure of the GLC, 1 January 2008–31 December 2009 (US$)

Donor	Income	Expenditure	Balance
Global Fund	2 675 000	972 828	1 702 172
USAID	1 825 744*	1 822 488	3 256
UNITAID	502 801	502 801	0
Eli Lilly	160 424	93 598	66 826
WHO (regular budget)	57 764	57 764	0
TOTAL	**5 221 733**	**3 449 479**	**1 772 254**

* USAID (PEPFAR) fund (total **2 827 260)** which was used for GLC specific activities only (laboratory, infection control, drug resistance surveillance related funds were not included).

Figure 10. GLC income, 2008–2009



Green Light Committee members and partners providing technical support to countries account for 29% of the total budget, while GLC operations and meetings account for 7%; 14% of the funds were disbursed to the regions to perform technical assistance at the regional level, while salaries and human resource costs comprised 37%. These and other details are given in Table 11.

As the number of countries applying to the GLC is rapidly increasing, the needs of the GLC Initiative are augmenting too. Countries with applications in 2009 are expected to scale up implementation of their programmes in 2010, thereby increasing the number of patients being treated under the GLC Initiative and moving towards universal access. The GLC will also need to substantially increase the total amount of technical support provided to countries in order to strengthen regional and country capacity to meet the forthcoming demand.

Table 11. GLC expenditure summary, 1 January 2008–31 December 2009 (US$)

Donor	Partners' contracts (including TA)	GLC operations and meetings	WHO HQ GLC team costs*	GLC regional services	Programme support costs	TOTAL
Global Fund	234 326	245 000	252 190	30 333	210 979	**972 828**
USAID	714 716		479 231	418 500	210 041	**1 822 488**
UNITAID			502 801			**502 801**
Eli Lilly	41 464			33 678	18 456	**93 598**
WHO (regular budget)			57 764			**57 764**
TOTAL	**990 506**	**245 000**	**1 291 986**	**482 511**	**439 476**	**3 449 479**
	29%	7%	37%	14%	13%	

* Including technical assistance and monitoring and evaluation.

The GLC will continue to explore new partnership opportunities to raise more funds and expand its working collaboration with the existing as well as new partners to further the achievement of global targets in MDR-TB control.

The operating budget supports the SLD procurement function of the GLC Initiative. The procurement budget consists of UNITAID's grant to GDF as well as the direct procurement services to countries financed mostly by the Global Fund. Table 12 presents the total value of orders placed for SLDs by procurement type.

Table 12. Total value of orders placed for second-line drugs by procurement type, 2009

Procurement type	Amount (US$)
Global Fund and others (direct procurement orders)	**22 349 833**
UNITAID (grant procurement order)	**4 203 670**
TOTAL	**26 553 503**

Planned activities 2010

During 2010, the GLC Initiative will continue to provide support to working towards universal access for MDR-TB management through its core activities.

Policy development and normative functions

Data collection and analysis from countries/regions with GLC-approved programmes will inform policy development regarding the planning, implementation of the DR-TB management component, as well as contribute to developing the update of WHO's *Guidelines for the programmatic management of drug-resistant tuberculosis*.

Capacity building

Countries moving from the currently prevailing project approach to countrywide scale-up of MDR-TB management to reach universal access will require significant additional technical support: Therefore a large number of competent consultants will be needed to support the planning, implementation, monitoring and evaluation of MDR-TB management on a large scale. Furthermore, the strengthening of capacity at the country level will be crucial if scale-up is to be achieved. The following training activities are planned for implementation in 2010:

- training for DR-TB consultants in India and Peru;
- Global Fund portfolio managers' training;
- drug management training:
- AFR: First-line drugs follow-up workshop and SLDs training, Ghana;
- AFR/EMR: Consultants' workshop for first- and second-line drug management, Kenya;
- EUR: Consultant's drug management training, Ukraine;
- EUR: Drug management training for national TB programme, Georgia.

Drug procurement

Meticulous forecasting is key to appropriate drug management and to increases in global SLD production and quality assurance. Activities in 2010 will include refining the forecasting mechanism at the global level to increase interest of SLD manufacturers, development of alternative procurement mechanisms, implementation of the Strategic Revolving Fund and improvement of the functioning of the strategic rotating stockpile

Regional and country support

In order to meet the ambitious targets set for MDR-TB scale-up by the global community, a crucial task is to assist countries to build the critical in-country human resource capacity. The model of technical assistance and training programmes has to be able to redress the health manpower shortage and build sufficient in-country capacity.

While the current activities of monitoring and evaluation concerning GLC-approved countries will have to continue, additional activities will need to be implemented over the coming years to meet scale-up targets. Monitoring and evaluation tools will need to be harmonized, and intensive technical assistance should be made available to support the development of MDR components of TB plans in high DR-TB countries.

Regional profiles

African Region

Key indicators

Population	804 865 016
Estimated TB burden, 2008	
Incidence	2 828 485
Prevalence	3 809 650
Mortality	385 055
Estimated cases of MDR-TB, 2008	69 000
Percentage of TB cases that are HIV-positive, 2008	38

9 (out of 22) high TB burden countries: Democratic Republic of the Congo, Ethiopia, Kenya, Mozambique, Nigeria, South Africa, Uganda, United Republic of Tanzania, Zimbabwe
4 (out of 27) high MDR-TB burden countries: Democratic Republic of the Congo, Ethiopia, Nigeria, South Africa
28 (out of 41) TB/HIV priority countries: Angola, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Lesotho, Malawi, Mali, Mozambique, Namibia, Nigeria, Rwanda, Sierra Leone, South Africa, Swaziland, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe

GLC specific information

Total number of countries approved: 22 (Benin, Botswana, Burkina Faso, Cameroon, Democratic Republic of the Congo, Ethiopia, Ghana, Guinea, Kenya, Lesotho, Liberia, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia)

Total approved patients	4 465
Total enrolled patients, 2009	407
Total enrolled patients, cumulative	1 218
Treatment success, 2007	49.2%

Region of the Americas

Key indicators

Population	919 896 357
Estimated TB Burden, 2008	
Incidence	281 682
Prevalence	221 354
Mortality	29 135
Estimated cases of MDR-TB, 2008	8 200
Percentage of TB cases that are HIV-positive, 2008	13

1 (out of 22) high TB burden country: Brazil
0 (out of 27) high MDR-TB burden country
2 (out of 41) TB/HIV priority countries: Brazil, Haiti

GLC specific information

Total number of countries approved: 15 (Belize, Bolivia, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Paraguay, Peru, Uruguay)	
Total approved patients	11 601
Total enrolled patients, 2009	1 141
Total enrolled patients, cumulative	6 634
Treatment success, 2007	56.5%

South-East Asia Region

Key indicators

Population	1 760 485 706
Estimated TB Burden, 2008	
Incidence	3 213 236
Prevalence	3 805 588
Mortality	477 701
Estimated cases of MDR-TB, 2008	130 000
Percentage of TB cases that are HIV-positive, 2008	5.7

5 (out of 22) high TB burden countries: Bangladesh, India, Indonesia, Myanmar, Thailand
4 (out of 27) high MDR-TB burden countries: Bangladesh, India, Indonesia, Myanmar
4 (out of 41) TB/HIV priority countries: India, Indonesia, Myanmar, Thailand

GLC specific information:

Total number of countries approved: 8 (Bangladesh, Bhutan, India, Indonesia, Myanmar, Nepal, Sri Lanka, Timor-Leste)

Total approved patients	3 341
Total enrolled patients, 2009	618
Total enrolled patients, cumulative	1 284
Treatment success, 2007	63.8%

Eastern Mediterranean Region

Key indicators

Population	584 354 906
Estimated TB Burden, 2008	
Incidence	674 585
Prevalence	929 166
Mortality	115 137
Estimated cases of MDR-TB, 2008	24 000
Percentage of TB cases that are HIV-positive, 2008	2.2

2 (out of 22) high TB burden countries: Afghanistan, Pakistan
1 (out of 27) high MDR-TB burden country: Pakistan
2 (out of 41) TB/HIV priority countries: Djibouti, Sudan

GLC specific information

Total number of countries approved: 6 (Egypt, Jordan, Lebanon, Pakistan, Syrian Arab Republic, Tunisia)

Total approved patients	2 412
Total enrolled patients, 2009	109
Total enrolled patients, cumulative	476
Treatment success, 2007	62.5%

European Region

Key indicators

Population	889 169 869
Estimated TB Burden, 2008	
Incidence	425 038
Prevalence	322 310
Mortality	55 688
Estimated cases of MDR-TB, 2008	81 000
Percentage of TB cases that are HIV-positive, 2008	5.6

1 (out of 22) high TB burden countries: Russian Federation
15 (out of 27) high MDR-TB burden countries: Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Tajikistan, Ukraine, Uzbekistan
2 (out of 41) TB/HIV priority countries: Russian Federation, Ukraine

GLC specific information:

Total number of countries approved: 18 (Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Republic of Serbia, Romania, Russian Federation, Tajikistan, Ukraine, Uzbekistan)

Total approved patients	30 290
Total enrolled patients, 2009	7 235
Total enrolled patients, cumulative	17 014
Treatment success, 2007	54.0%

Western Pacific Region

Key indicators

Population	1 788 176 627
Estimated TB Burden, 2008	
Incidence	1 946 012
Prevalence	2 007 681
Mortality	261 770
Estimated cases of MDR-TB, 2008	120 000
Percentage of TB cases that are HIV-positive, 2008	2.3

4 (out of 22) high TB burden countries: Cambodia, China, Philippines, Viet Nam
3 (out of 27) high MDR-TB burden countries: China, Philippines, Viet Nam
3 (out of 41) TB/HIV priority countries: Cambodia, China, Viet Nam

GLC specific information

Total number of countries approved: 7 (Cambodia, China, Micronesia, Mongolia, Philippines, Samoa, Viet Nam)

Total approved patients	11 043
Total enrolled patients, 2009	1 088
Total enrolled patients, cumulative	2 793
Treatment success, 2007	63.1%

Regional summaries of programmes, patients and funding

Figure 11. GLC-approved programmes, by WHO region and source of funding, 2009

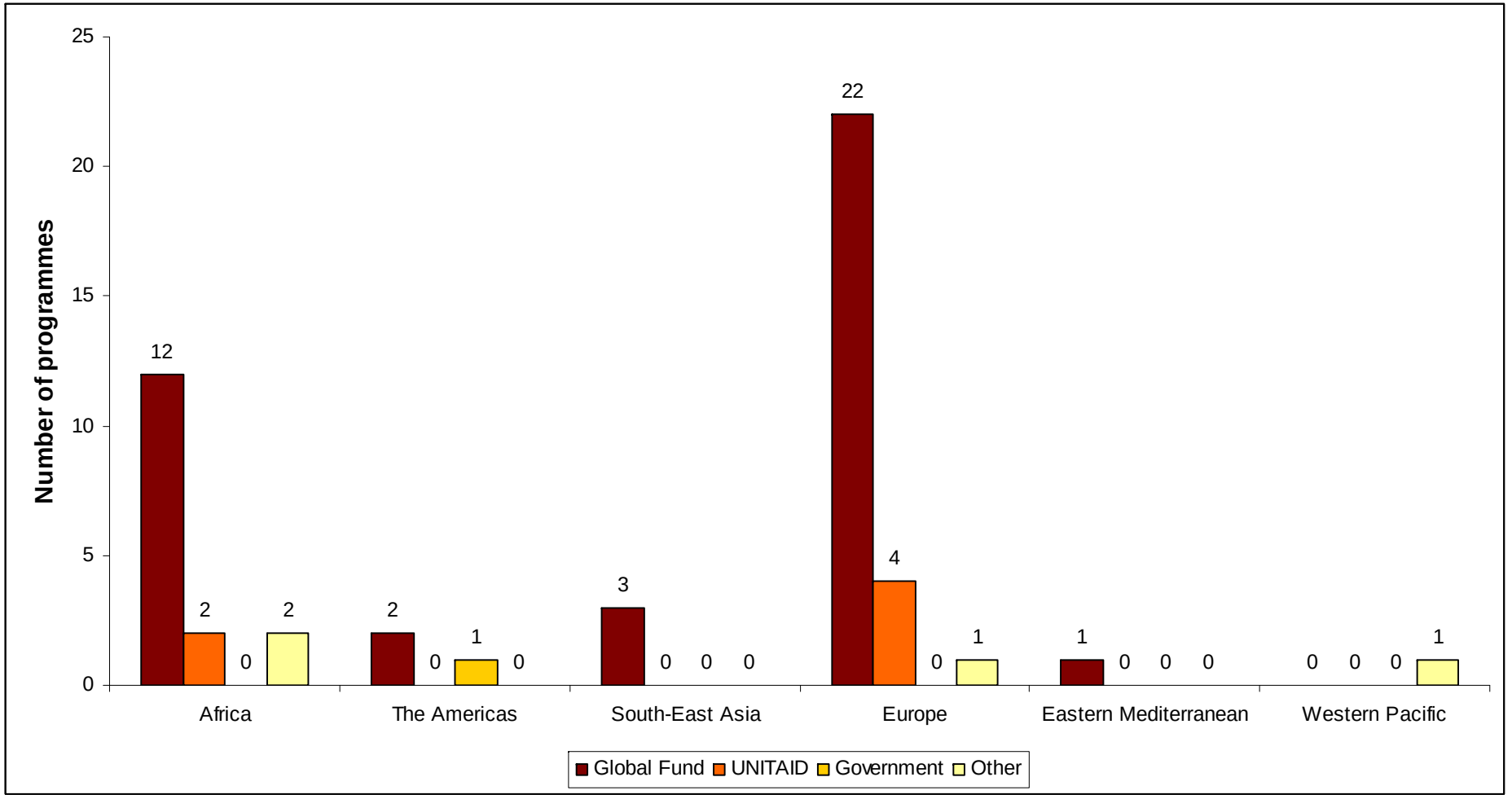


Figure 12. GLC-approved patients, by WHO region and source of funding, 2009

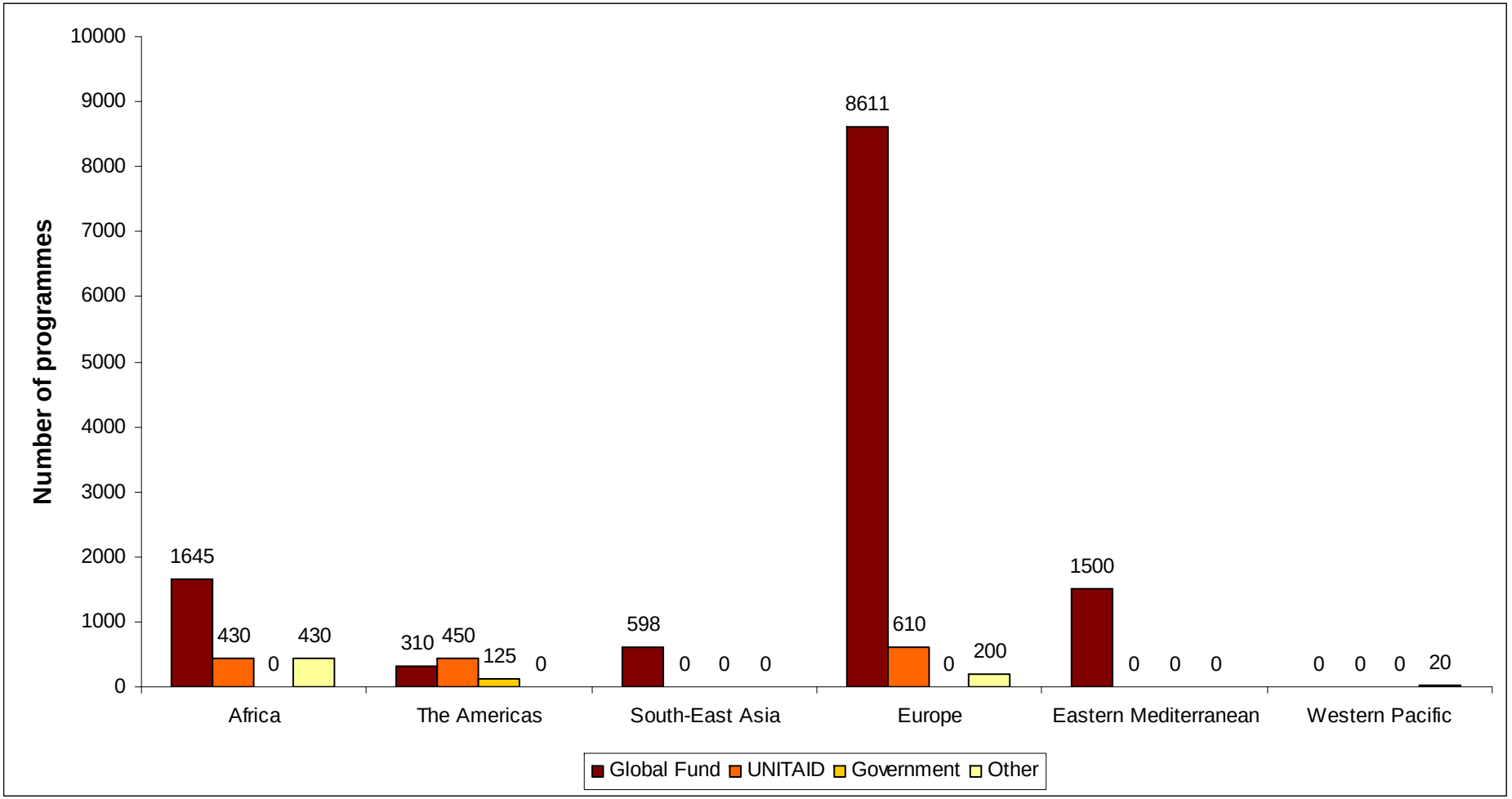


Figure 13. GLC-approved patients, by WHO region and source of funding, 2000–2009

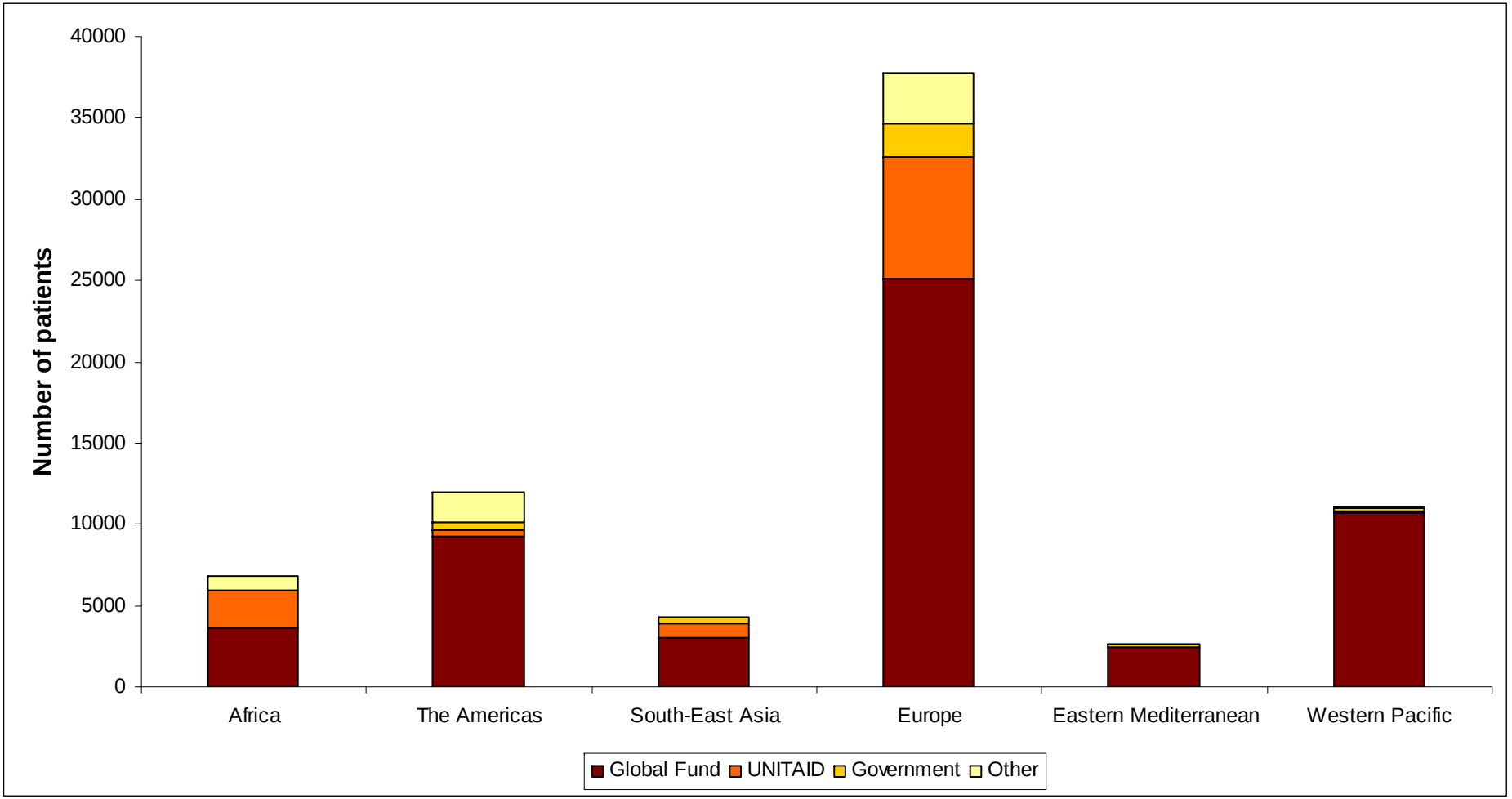
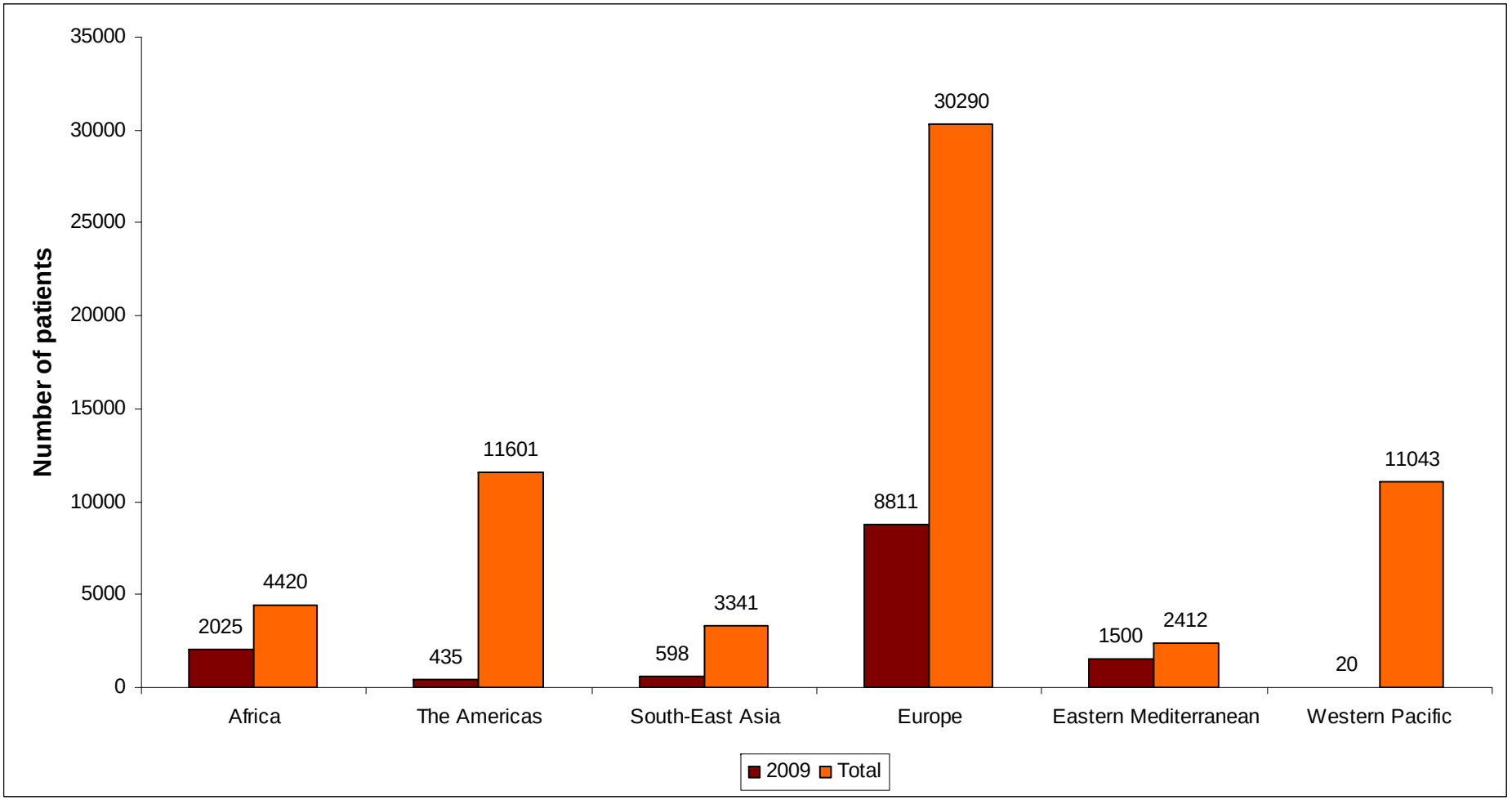


Figure 14. GLC-approved patients, by WHO region, 2009 and 2000–2009



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Stop TB Partnership