THE REPUBLIC OF KENYA

MINISTRY OF HEALTH

DIVISION OF LEPROSY, TUBERCULOSIS AND LUNG DISEASE, KENYA

The Republic of Kenya

Ministry of Health

DIVISION OF LEPROSY TUBERCULOSIS AND LUNG DISEASE

ANNUAL REPORT

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EDITORIAL BOARD

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Vision

To reduce the burden of lung disease in Kenya and render Kenya free of Tuberculosis and Leprosy

Mission Statement

To improve and sustain Tuberculosis, Leprosy and Lung Disease control gains in order to accelerate the reduction of tuberculosis incidence, intensify leprosy post-elimination activities and control lung disease.

Goal

To reduce tuberculosis incidence, intensify leprosy post-elimination activities and control lung disease.

Mandate

To formulate policies, set standards, identify and mobilize resources, ensure uninterrupted supply of commodities, supervise, coordinate, monitor and evaluate implementation of control activities.

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Foreword

As we progress towards the end of the Millennium Development Goals (MDGs), the year 2012 remained a critical milestone in the control of TB, Leprosy and Lung Disease. This year marked the second year of the promulgation of new constitution that is expected to usher in devolves system government. The government will undertake major restructuring to align with the constitution and is expected to have far-reaching effect in the control of TB, Leprosy and Lung disease. The Division of Leprosy TB and Lung Disease has re-focused itself to execute its mandate of coordination and provision of technical support to the national and devolve units.

In 2012, considerable progress was made in the control of TB and TB/HIV. The country detected 82% of TB cases and achieved treatment success rate of 88%. The downward trends in the prevalence, incidence and mortality attributable to TB has continues to be maintained. TB/HIV registered commendable success following introduction TB/HIV integration and strengthening of provided initiated testing and counselling. Of the 99, 159 TB cases notified in 2012, 94% were tested for HIV and, 98% and 74% of TB/HIV co-infected patients were started on CPT and ART respectively. MDRTB still remains a challenge with an increasing number of diagnosed cases. A total of 225 cases were diagnosed in 2012 and 96% were enrolled on treatment. MDRTB surveillance is now strengthened with launching second TB culture lab in Kisumu and roll out GeneXpert machines. To date 85% of all re-treatment benefit from MDRTB surveillance.

Scarcity of resources remains a big challenge and efforts have been made to source for funding support. The GoK directly funded TB control with support of approximately USD 2.5 for purchase of first-line TB medicines and a further support of USD 3.9m under the WB Health Sector Support Program for securing adequate buffer stock. Substantial support came from key partners that include USAID/CDC, GFATM, WHO, JICA and local and international CSOs

Acknowledgement

DLTLD would like to thank the following organization and actors for their continued support and contribution to TB, TB/HIV, Leprosy and Lung Disease control activities:

- Community and Patients
- Health care workers in public and private sector
- District/ Provincial TB and Leprosy coordinators
- District/Provincial Medical Laboratory Technologists
- World Health Organization
- Center for Disease Control (CDC)
- USAID
- JICA
- Global Fund, LFA and Principal Recipients: AMREF and Ministry of Finance
- KAPTLD
- World Bank
- Local, regional and international civil society organizations
- NASCOP, KEMSA, KEMRI and Institutions of higher learning
- IOM

Chapter 1: DOTS Expansion

1.1 Political Commitment

To address the challenges of Leprosy and Tuberculosis, the Government of Kenya launched the National Leprosy and Tuberculosis Program (NLTP) in 1980 combining the then existing tuberculosis control activities, which had been in place since 1956. The Division of Leprosy, Tuberculosis and lung Disease (DLTLD), is a Division in the Department of Disease Prevention and Control of Ministry of Health.

The funding for TB control has been improving over the years, in 2012 the funding though not enough was sufficient to carry out key activities and provide key support to patients in terms of medicines, laboratory services and improving the capacity of staff to offer the quality services. Global fund was the main financier, followed by USAID (TB care mechanism) and CDC as shown in table 1.1. The government of Kenya continues to provide infrastructure and most of the Technical staff to the TB program to facilitate the provision of services.

		Funding Received 2012				
Activity Line	Actual expenditure 2012 (a)	Government (b)	Loans (c)	Global Fund (d)	CDC (e)	TB Care (f)
First-line TB drugs	1,702,605	1,792,115		1,127,700		
Staff working for TB control (central unit staff and subnational TB staff)	970,568	184,398		958,769		
Routine programme management and supervision activities	2,330,160	75,046		1,082,307		1,873,149
Laboratory supplies and equipment for smears, culture, DST , line probe assays, Xpert MTB/RIF	557,739			982,293	28,956	209,529
PAL (Practical Approach to Lung Health)	54,476			171,748		
PPM (Public-Public, Public-Private Mix-DOTS)		-			-	
Collaborative TB/HIV activities	408,693			210,731	187,204	21,211
Second-line drugs for MDR-TB		-			-	
Management of MDR-TB (budget excluding second-line drugs)	622,526			299,688		262,179
Community involvement		-		870,135		
ACSM (Advocacy, communication and social mobilization)	351,610	15,054		561,779	110,072	
Operational research		-		56,675		
Surveys to measure TB burden and impact of TB control	77,200			2,322,163	248,397	
All other budget lines for TB (e.g., technical assistance)	1,229,910			142,694	151,783	620,841
TOTAL	8,305,488	2,066,612		8,786,681	726,412	2,986,909
*All financial data are inabsolute US Dollars						

Table 1. 1: The Table is a list of activities and sources of funding and expenditures in 2012

1.2 TB Case Finding 2012

Kenya has witnessed a steady decline in TB (All forms) cases notified to the national program since 2006 as shown in figure 1.1.

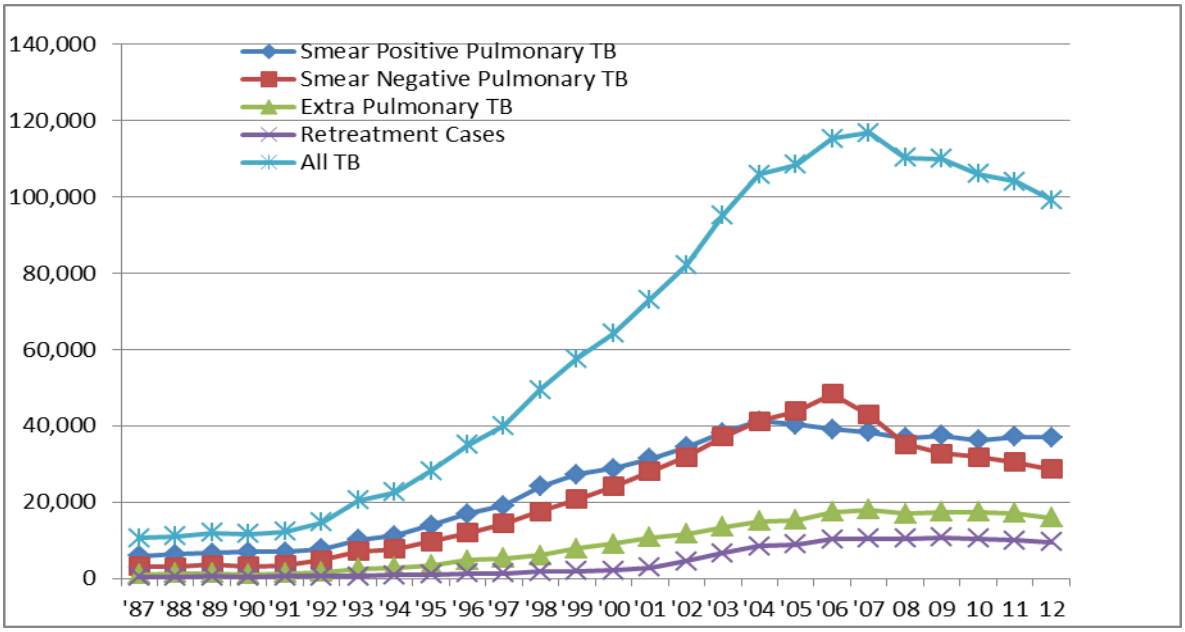


Figure 1. 1: TB case finding Trends: 1987-2012

In 2012, a total of 99,159 TB cases were detected, notified and put on treatment, out of which 37% were new smear positive, 29% were PTB, 10% were retreatment cases and the rest were EPTB and smear not done as shown in figure 1.2.

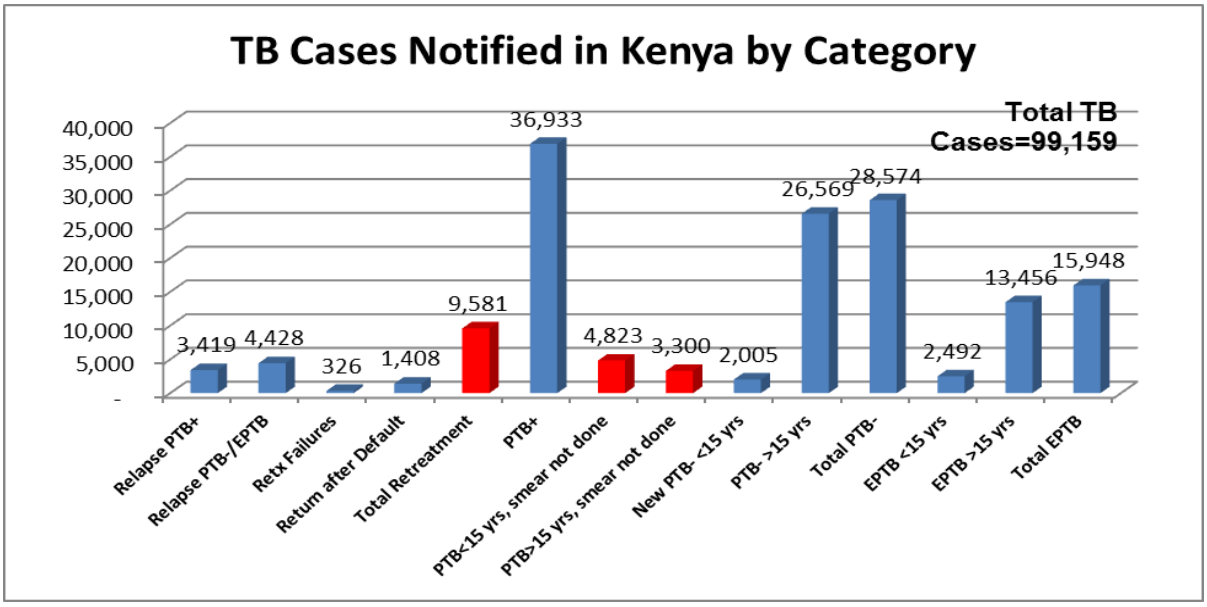


Figure 1. 2: Case Finding Summary

Supervision of treatment and effective case holding is key to desirable treatment outcomes. In 2012 86% of TB cases enrolled on treatment took medication under the supervision of family members or friends, while 2% were supervised by HCWs, 2% by the community volunteers and less than 1% were not done by anybody except self as shown in figure 1.3.

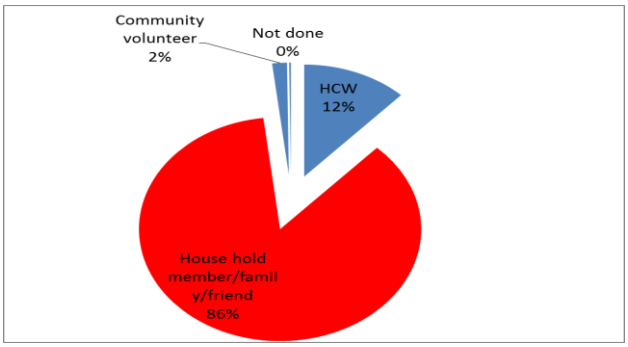


Figure 1. 3: Analysis of DOTs BY

1.3 TB Case Holding

1.3.1 New smear positive PTB

The country attained a cure rate of 82% for new smear positive cases, while 6% completed treatment bringing a treatment success rate of 88% as shown in table 1.2. In terms of regional performance, North Eastern and Rift Valley North TB control regions had the best cure rate at 89%. Eastern North province had the least cure rate at 66% followed by Nyanza north at 70% and Nairobi south at 78% of all registered patients being cured. Eastern north also has the highest default rate at 10%, followed by Nairobi south at 5% and the region with the least default rate is NEP with 2%.In terms of dead rate, Nyanza north reported a dead rate of 6%, and Nairobi North at the least at 1%.

Table 1. 2: Treatment success rate of New PTB+

REGION	Cured	Treatment completed	Failures	Died	Loss to follow up	Transferred out	TSR
NEP	89	3	1	3	2	3	92
RVPN	89	2	0	4	4	1	91
CEP	87	2	1	4	4	2	89
COP	87	2	1	2	4	3	89
WEP	86	4	2	3	3	3	90
EAPS	85	3	1	3	4	3	88
RVPS	85	5	0	4	4	2	90
NBIN	84	7	1	1	4	2	91
NYPS	82	6	1	4	4	3	88
NBIS	78	7	1	2	6	6	85
NYPN	70	12	1	6	5	6	82
EAPN	66	18	1	2	10	4	84
Kenya	82	6	1	3	5	3	88

1.3.2 New smear negative PTB

Treatment success rate among new smear negative PTB (PTB-) averaged 87% nationally and highest performance was witnessed in North eastern province at 93%, while it is the lowest at Nyanza north province at 81% as shown in figure 1.4. While death rate is highest in central province at 9% and the least is Eastern north and Northern Eastern province at 3%.

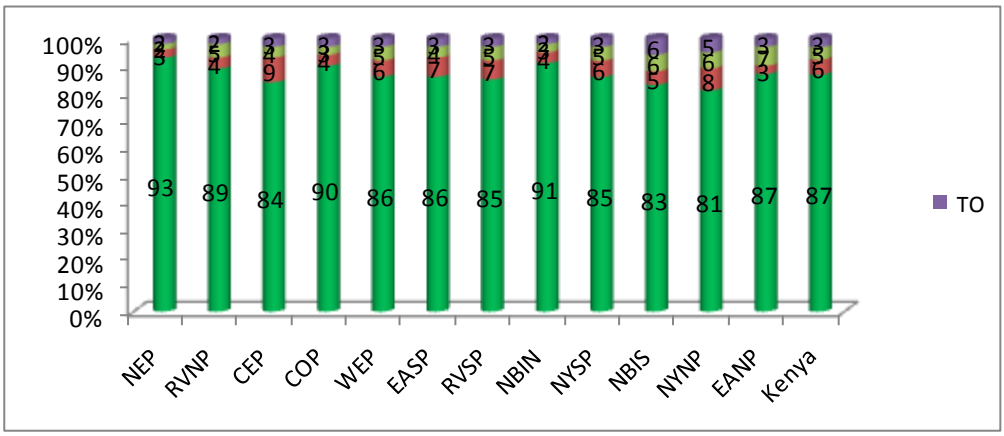


Figure 1. 4: Treatment outcomes for New Smear Negative

1.3.3 New EPTB

Nationally, the country registered an average of 85% treatment success rate among new extra-pulmonary TB as shown in figure 5.

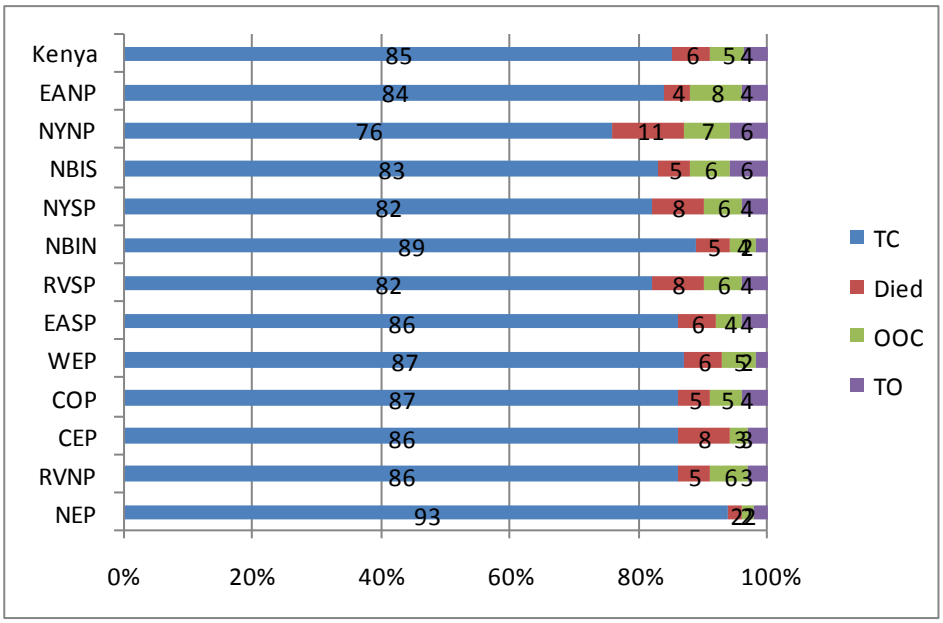


Figure 1. 5: Treatment outcomes for EPTB

1.4 TB in Children

The total number of children with TB reported in 2012 was 10,191 which represented 10.3% of all the cases notified (figure 6). The trend of children with TB from 2008 rose from 11.2% and has remained at 12% for three years and there was a drop in 2012 to 10.3%.

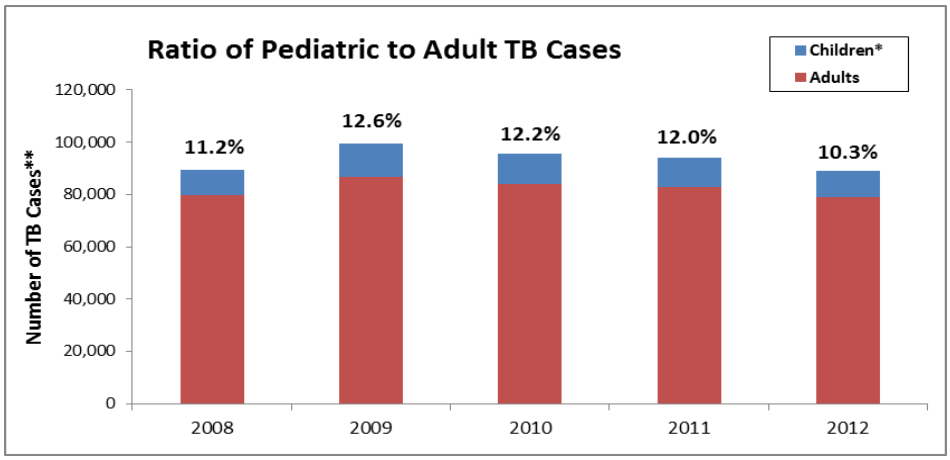


Figure 1. 6: The percentage of pediatric TB cases since 2008

1.5 Public private Mix

The program works with public, private, civil society and vulnerable groups to improve the detection rate of TB and ensure that all possible TB cases are recorded and reported to the national program. Public institutions contributed 89% of all notified cases, while private sector contributed 11% and prisons about 1% in 2012.The private sector and prison showed marginal improvement for 2011 (table 3).

Health Sector	No of TB cases	% Contribution
Public	**87,941**	**88.7%**
Private	**10,382**	**10.5%**
Prisons	**836**	**0.8%**
Total	**99,159**	**100%**

Table 1. 3: Distribution of patients in Public, Private and Prisons in Kenya

Network of private providers

There are about 300 private health institutions that are providing TB treatment in private sector and 236 Private Laboratories are actively engaged in TB Diagnosis (AFB) microscopy with 79% included in the national External Quality Assurance for TB microscopy network

Performance on key indicators

The private has continued to improve on performance on key TB control outcome and output indicators. HIV testing among TB patients stood at 86% while CPT and ART uptake stood at 94% and 72% respectively.

Indicator	Performance
HIV Testing among TB patients	86%
ART Uptake	72%
CPT uptake	94%
Treatment success rate	80.5%
Loss to follow up	7.1%
Transfer out	6.6%
Dead	5.5%

Table 1. 4: Private sector performance on selected indicators

Informal private sector TB control

Kenya has a number of informal sector health providers that is being in TB control. Interventions include:

- Engaging 'small' and informal providers in intensified case finding for TB
- Engaging selected providers in sputum collection from TB suspects

These interventions were implemented in 5 major cities of Kenya namely: Nairobi, Mombasa, Nakuru, Kisumu and Thika in partnership with Key stakeholders such as KAPTLD and GFATM supported CSOs. Presently approximately 715 PPs engaged (Although the number is not constant)

Chapter 2: TB/HIV control

In TB/HIV integration, the program has achieved good results. Testing for HIV in TB patients was 94% in 2012 up from 93% in 2011.The co-infection rate dropped by one point to 38%, while CPT and ART uptake was at 98% and 74% respectively. The program is now focused on achieving universal targets on ART uptake.

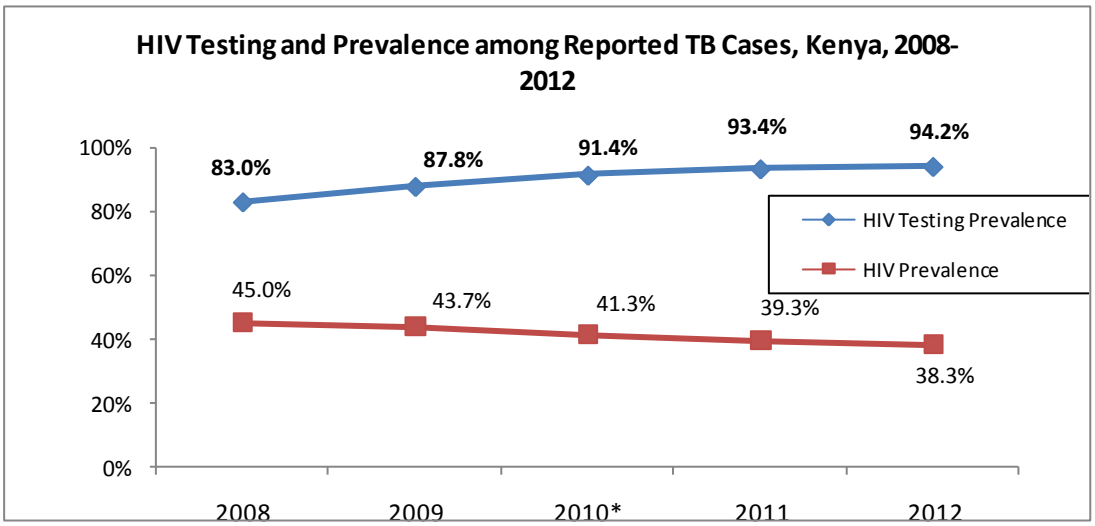


Figure 2. 1: TB/HIV: Percentage Testing Per Province

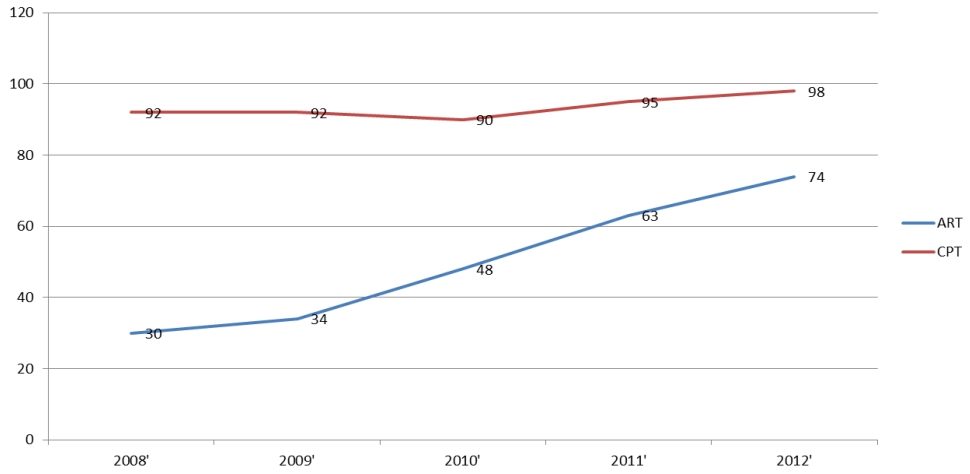


Figure 2. 2: ART and CPT uptake trends

The TB/HIV co-infection is highest among relapse PTB-/EPTB at 57% and PTB smears not done over 15 years with 51%.

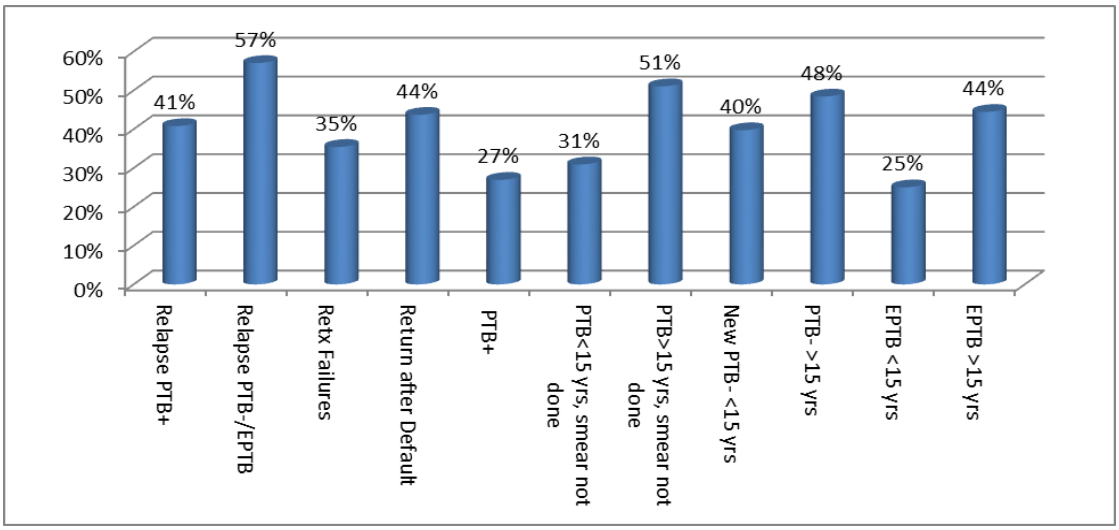


Figure 2. 3: HIV Positivity rate per TB Type

Chapter 3: Drug Resistant TB

3.1 National TB Reference Laboratory; MDRTB surveillance

a) Surveillance for drug resistant TB cases has been intensified in the country.

The National TB reference laboratory has got support in implementing the national strategic plan on the decentralization of culture services. One extra laboratory is operational offering culture and DST services as of January 2012 at KEMRI/CDC Kisumu. Of all the retreatment cases, 85% were investigated for MDR TB by culture method and subjected to drug susceptibility testing for those that are culture positive.

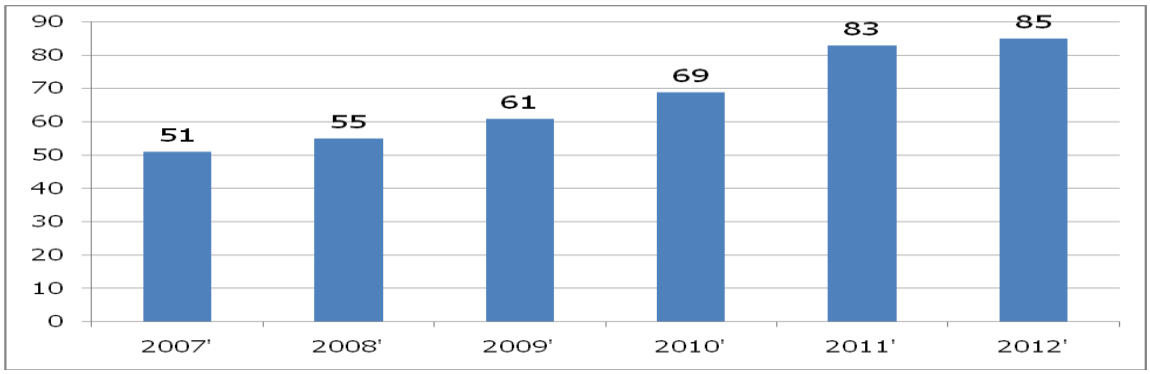


Figure 3. 1: MDR TB Surveillance coverage (%)

The total number of specimen referrals has been increasing over the years by 4 fold from 2511 specimens in 2006, 8870 specimens in 2011 and subsequently 10,319 in 2012 as shown below;

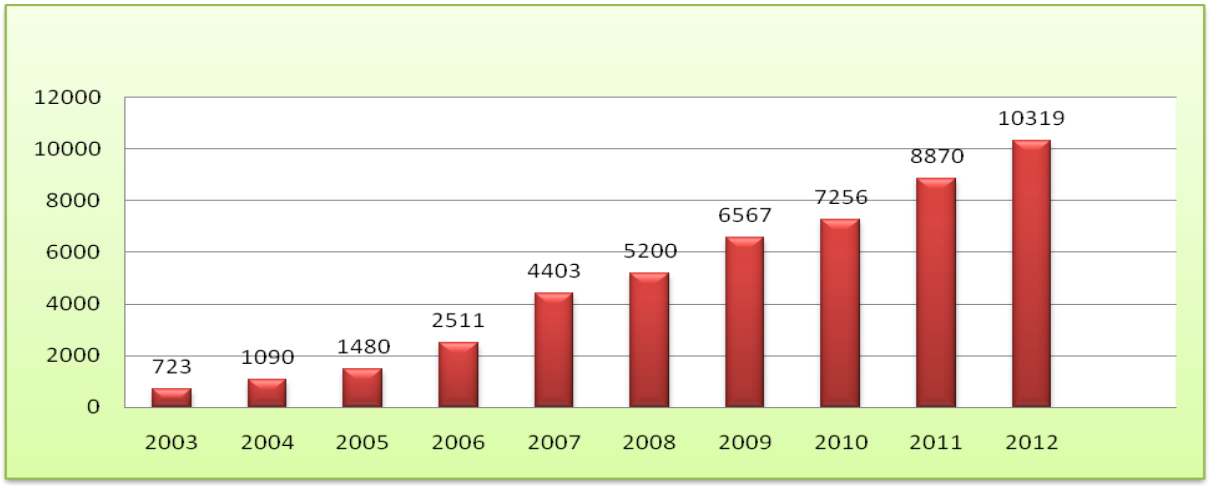


Figure 3. 2: Number of Culture Samples processed

In the year 2012, out of the total samples received and processed-225 were resistant to both Isoniazid and Rifampicin (MDRTB).
The target groups form MDRTB surveillance includes;

- Retreatment cases
- RAD/Failure/Relapses
- DR TB contacts
- New smear positive who do not convert at month 2/3
- Health Care Workers diagnosed with TB
- Smear positive PTB refugees

The introduction of gene expert machines has also helped in early diagnosis and initiation of patients on appropriate treatment. The target groups for GeneXpert include:

- All those eligible for MDRTB surveillance
- For TB Diagnosis include:
    - Children – All under 15 years
    - All symptomatic HIV positive patients

The introduction of GeneXpert is part of the ongoing plans to decrease the morbidity and mortality from a treatable disease as illustrated below;

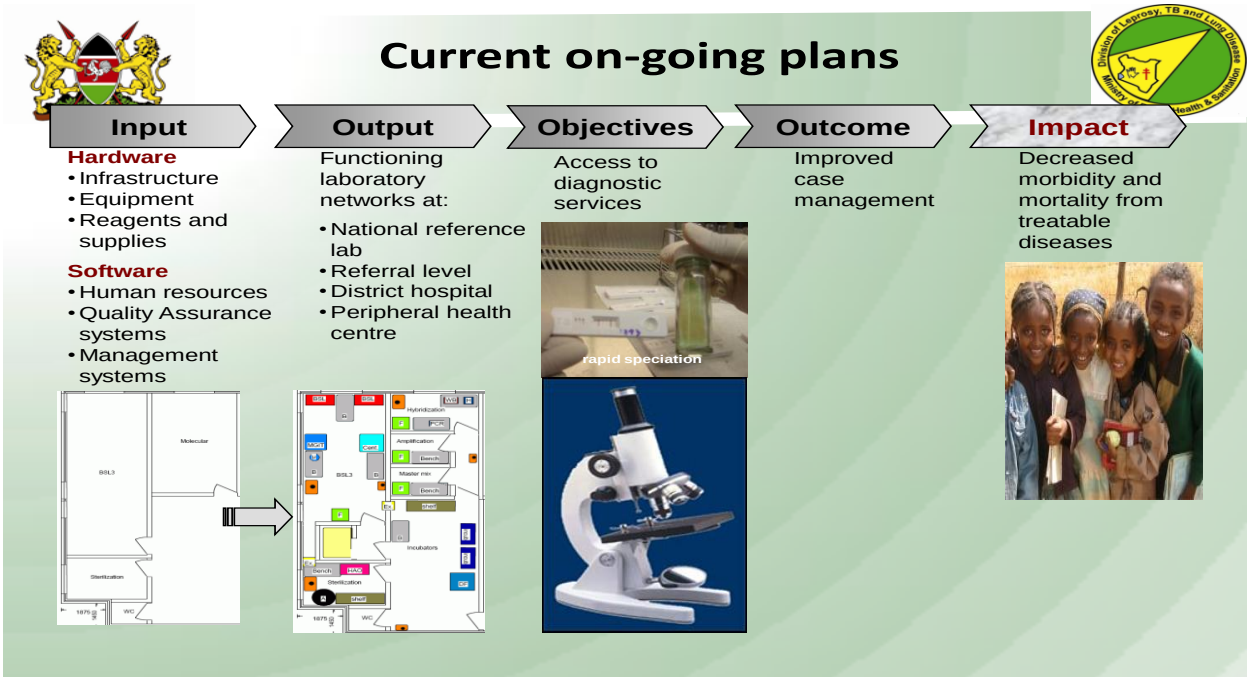


Figure 3. 3: Performance improvement framework for CRL

b) Testing algorithm

The testing algorithm is flexible and has been reviewed to include new technology of GeneXpert for early TB diagnosis and detection of DRTB. The introduction of Liquid primary culture and GeneXpert has seen drug resistance cases get managed better due to fast generation of preliminary results.

c) Quality assurance on culture/ DST

Quality Assurance for both existing and new diagnostic tools has been put in place. The National Tb Reference laboratory is linked to the Supra Reference Laboratory in Brisbane, Australia-99% score in the last round of Quality assurance. Proficiency testing for isolates is done using the Antwerp lab-with 98% score. AFB Microscopy Panel testing is done using the South African based WHO/NICD programme-100% score. Line Probe Assay Panel testing through (WHO)-100% score, GeneXpert currently through CDC Atlanta-pilot programme ongoing.

d) Public Private Laboratory Mix (PPLM)

The cooperation of both public and private laboratories has been strengthened. The technical working group is in place with the responsibility of the national TB reference laboratory taking lead by chairing all the sessions. So far a common understanding has been established in relation to the testing algorithm. A joint testing algorithm has been done currently in final draft. Quality Assurance has been implemented and inter lab testing is done.

e) Progress on Accreditation

The laboratory management is committed to the implementation of Quality management systems which meets the requirements of the ISO 15189 standard. This standard contains management and technical requirements that support the quality management systems in line with the ISO 15189 standards. Currently the national Tuberculosis reference laboratory has attained star 3.

f) Communications

Reporting in surveillance has been paper based till 2010/2012 when the implementation of the Laboratory Information Management System (LIMS) was able to directly link the communication to the PTLC for quick relay of results and notification of samples received.

Below is the illustration of the LIMS system (sample login, assign test, result entry, review and release) used to carry out the functions of communication through email to all clinicians;

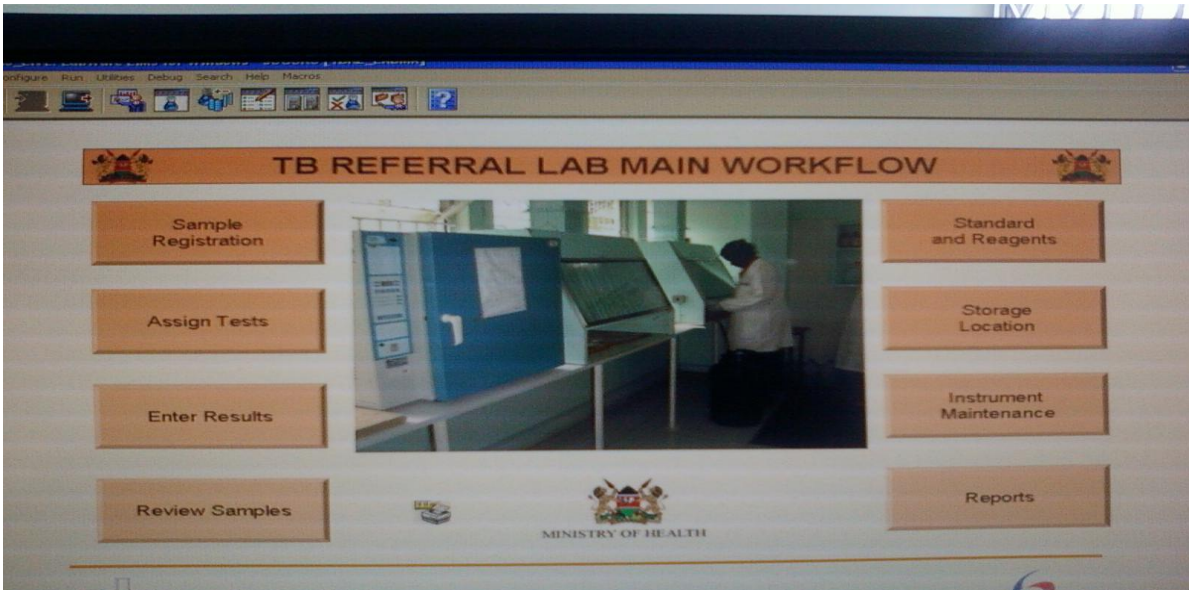


Figure 3. 4: LIMS system currently running in CRL

3.2 DRTB treatment

Kenya registered 225 new cases of MDR TB in 2012 out of which 216 were enrolled on treatment representing 96%.

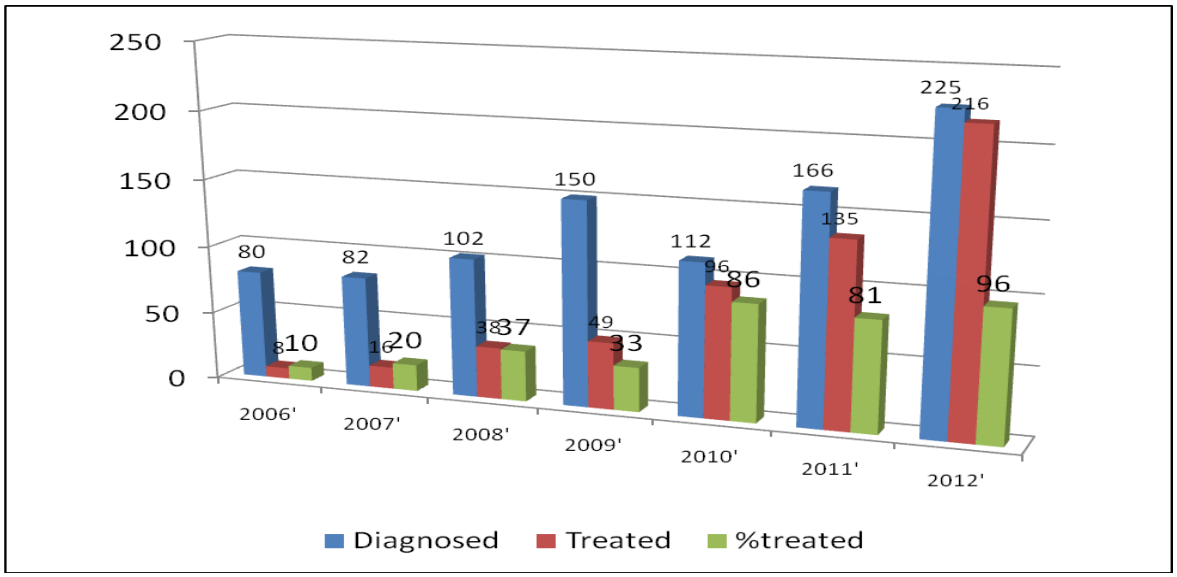


Figure 3. 5: Trends in MDR TB diagnosis and treatment

3.3 MDR TB Case holding

A total of 36 patients were enrolled for treatment in 2009, and 86% successfully completed treatment.

Table 3. 1: Treatment outcomes for MDR TB patients enrolled in 2009

MDR TB Outcomes 2009	Cured	TC	Died	Defaulted	TO	Total
KENYA	27	4	4	1	0	36
TSR	86					

Chapter 4: TB Infection Prevention and Control

The TB IPC training curriculum and materials was finalized in 2012. The new revised training materials are now in use. Field experience shows the Engineering /Environmental module needs to be revised so as to be in keeping with the participants' level of understanding and local conditions.

4.1 Capacity building on TB IPC

In March 2012 three (3) DTLCs from Malindi, Muranga South and Makueni were trained in Uganda by RCQHC on PHC/Community collaborative in TB cared during the training one of the areas requiring attention was TB Infection control. One of the areas identified for strengthening was TB infection control in the community.

A total 102 health-care workers were trained in the year under review. Following these trainings, the teams from the health facilities conducted TB transmission risk assessment in their respective facilities, followed by work plan development. As part of strengthening capacity in TB IC, training modules on infection control have been included in the MDR TB, TB HIV, CBTBC and Nutrition curriculum.

Table 4. 1: TB IC capacity per regions

Region	Planned - # of facilities & HCWs to be trained	# of facilities & HCWs trained	Risk Assessment conducted	Work Plan Development
North Eastern	13 (26)	13 (26)	Yes	Yes
Nyanza North	13 (26)	13 (26)	Yes	Yes
Western	13 (26)	13 (26)	Yes	Yes
North Rift	13 (26)	13 (26)	Yes	Yes
Total	52 (102)	52 (102)	Yes	Yes

N**B: In bracket is the number of participants**

4.2 Implementation of TB infection control

Approximately 99 facilities are currently implementing TB infection control measures. This includes the recently trained facilities and the initial high volume sites. This however does not include those that were trained using partner support in Nyanza North and Central province

4.3 Challenges facing TB IPC roll out

There are three model isolation facilities for MDR TB patients; MTRH, Homabay and KNH, however, the KNH isolation unit is not yet operational.

A number of challenges face TB IPC

- Follow up and supervisions minimal on TB IC.
- Limited funds for scale up of TB IC in all facilities.
- Data and training in the private facility and partners not readily available.
- No reports from the regions on the status of TB IC implementation.
- Inadequate supply of materials and equipment for IPC.
- Inadequate staffing.
- Structures that are poorly maintained and overcrowded facilities with limited physical space.

Chapter 5: Monitoring & Evaluation

5.1Progress towards TB Control Targets

Kenya is progressing well with a performance that meets and exceeds expectations. The country has met the short term WHO targets of case detection and treatment success rate of 82% and 88% respectively. The country has reversed upward trend of the burden of TB disease and there is a sustained decline in prevalence, incidence and mortality attributable to TB. The gains made in TB control is a manifestation of support and contribution of partners and funders that include USAID/CDC, GFATM, WHO, JICA and local and international CSOs under the framework of the TB Inter-agency coordinating committee (TBICC) and aspirations captured in the DLTLD national strategic plan 2006-2010 & 2011-2015.

Table 5. 1: National progress on Impact indicators

Impact/Outcome Indicators	Baseline		2009		2010		2011		2012	
	Date	Baseline	Target	Result	Target	Result	Target	Result	Target	Result
TB Prevalence	2005	414	NA	283	NA	283	NA	283	NA	NA
TB Mortality	2005	32	15	15	15	17	15	17	15	22
TB Case Notification (all forms) rate	2005	287	326	285	256	274	281	261	277	242
Treatment Success Rate (NSP)	2005	80	85.4	85	85	86.5	86	88	87	87
Treatment Success Rate (MDR)	2005	N/A	57	57	65	59	65	59	65	86*

***treatment success rate for MDR TB patients in 2012 is a cohort of patients enrolled in 2009**

Table 5. 2: National progress on Programmatic targets

Programmatic targets	Baseline		2010		2011		2012	
	Date	Baseline	Target	Result	Target	Result	Target	Result
MDRTB surveillance (%)	2005	80	85.4	85	85	86.5	86	88
MDRTB cases started on treatment	2010	NA	NA	94	158	135	158	141
HIV testing (%)	2009	88	NA	91	90	93	90	94
CPT uptake (%)	2009	88	90	99	90	95	96	98
ART uptake (%)	2005	N/A	57	48	65	63	65	72

5.2 Data Quality Control and Audit

5.2.1 On Site Data Verification (OSDV) and Routine Service Quality Assessment (RSQA)

DLTLD in conjunction with the Global Fund Local fund Agency (LFA- PWC) conducted an onsite data verification exercise and routine service quality assessment (RSQA) to sampled districts and facilities in Rift valley north and western TB control regions. Since 2010, OSDV had been conducted in five regions (Nairobi South, Nairobi North, South Rift Valley, Nyanza South, and Coast). Out of the remaining seven regions that OSDV had not been done (North Rift Valley, Nyanza North, Western, Central, Eastern South, Eastern North and North Eastern), purposeful sampling was done to the two regions – North Rift and Western. In both selected regions, two districts were selected using simple random sampling. In each of the two randomly selected districts, four service delivery sites were selected using random sampling. This resulted in a total of eight sites for the OSDV and RSQA as listed below:

Table 5. 3: OSDV Sites visited

Region	District	Facilities
North Rift Valley	Elgeyo	Iten district Hospital
		Tambach SDH
	Nandi Central	Kapsabet District Hospital
		Kabirirsang Health Centre
Western	Busia	Busia Distrct Hospital
		Alupe District Hospital
	Teso South	Amukura Health Centre
		Busibwabu Dispensary

The following indicators were selected for the exercise

- Number of new smear positive TB cases detected and notified to the national program.
- Number (and percentage) of laboratory confirmed MDR-TB patients enrolled on second line treatment among TB cases identified (both private and public sectors).
- Number (and percentage) of TB patients (all forms) tested for HIV amongst all TB patients registered

The exercise was a success with all sites achieving more than 90% overall rating in the performance in general M/E, support supervision and data quality issues. However there were recommendations on DLTLD ensuring that the surveillance system is harmonized with the national health information system. Other recommendations include proper use of bin cards and stock control cards at the health facilities however this was well done at the KEMSA regional and district stores.

5.2.2 Quarterly Review Meetings/ Data Validation Meetings

DLTLD conducts quarterly review meetings to validate data before onward transmission to the central level. During the year 2012, DLTLD conducted 4 review meetings in all the TB control regions. The meetings brought together all district TB and leprosy coordinators to a central level for data cleaning and validation.

5.3 Technical Assistance

USAID is a key partner in TB control in Kenya. The organization supports the program in various aspects including offering technical assistance in data management. During the year 2012, DLTLD had the protocol for prevalence survey approved, hence the recommendation to develop a data management plan. USAID through TB CARE I supported the development of a data management plan for the division by supporting a technical advisor to work with the M/E team to develop one and a draft copy finalized for printing.

5.4 TIBU Electronic Reporting

DLTLD introduced use of TIBU system during the year. A total of 96 DTLCs and 8 PTLCs/DPTLCs from 4 TB control regions were trained on the use of the tablet as well as electronic systems. Currently this has been done country wide with a total of 257 district TB and Leprosy coordinators trained as well as the PTLCs.

5.5 Surveys and Operation Research

During the year the section provided support to other sections of the division including developing work plans, program indicators as well as the study protocols for drug resistance survey, TB prevalence survey, Delay in diagnosis, KAP survey and mortality survey to be funded under the global fund Single Stream Funding (SSF). The protocols were submitted to the

ethical and review committee at Kenyatta National Hospital for approval and all approved. The mortality survey kicked off with validation being done between two data collection methods (verbal autopsy and postmortem) to identify which method best suits the country. Procurement process of the equipment to be used during the prevalence survey was also initiated and few items like laptops and desktops procured in readiness for the survey during the year.

5.6 Planning

Planning is a core activity of the division and this is done in consultation with the DTLCs and PTLCs. The activity is conducted every 2 years, all TB control regions participate and develop plans that sum up to a national plan. During the year the division with support from USAID held successful biennial planning meeting. The meeting brought together districts from each of the 12 TB control regions where they discussed and planned activities to be carried in their districts for the next 2 years.

Chapter 6: Health Promotion and Prevention

6.1 Advocacy Communication and Social Mobilization

The following ACSM activities were carried in 2012;

- Development of the Knowledge, Attitude and Practice (KAP) protocol was finalized and submitted to KNH/UON research and ethical committee.
- Review, development, printing and distribution of information, communication and education (IEC) materials for world TB day.

- The section participated in the development of ISO procedures especially the development of the Section procedures and audits both internal and external.
- Mass media campaign, radio and TV interactive talks (free slots) and newspaper advertisement were carried before World TB Day 2012.
- World TB day was commemorated at Nairobi and all the 12 TB regions.
- Three Technical working group meetings were held against four planned.
- Development of CSO engagement Approach policy guidelines, community health services documents, MDR-TB curriculum development, IPC curriculum, Gender and poverty guidelines and Pediatric TB training curriculum.

6.2 World TB Day 2012

World TB day 2012 national event was commemorated on 23rd March 2012 at Kenyatta International Conference Centre (KICC) officiated by the Hon Beth Mugo, Minister for Public Health and Sanitation and attended by other dignitaries among them The Permanent Secretary Ministry of Public Health and Sanitation, Mark K. Bor, CBS. The global theme "Call for a World Free of TB' and the slogan; "Stop TB in my life time". The Kenya theme was "***Call for Tuberculosis free Kenya***" with slogan "***Adequate financing to stop TB in my life time***".

A number of activities were planned and implemented including creation of public awareness on the basic facts of TB control, screening of TB suspects, social mobilization, Media breakfast briefing meeting held at KICC and public Barazas' held through the country in all the 12 TB regions.

Figure 6. 1: World TB day activities in Kabarnet Town Baringo County

6.2 Community Based TB Care (CTBC)

6.2.1 Global fund TB SSF supported CTBC (AMREF component)

During the year under review (2012) community TB care activities were implemented using mainly the Global funds (SSF). World Health Organization offered both technical and financial support especially in establishing a mechanism of CSO engagement in TB control activities through the ENGAGE TB approach.

The activities were implemented at the district level through partnership between DLTLD and AMREF. AMREF through CSOs provided the logistical support while DLTLD provided technical support.

Table 6. 1: Performance of GF supported CSO activities on selected indicators

Activity	Target	Achieved	% Achieved
Trainings			
Training of HCWs on screening of prisoners & PLWHAs	583	369	63%
Training of HCWs in informal settlement on TB screening	105	95	90%
Training of DHMTs member as TOT in CB DOTS	65	30	46%
Training of CHEWs as TOTs in CB DOTS	65	33	51%
Training of CHWs on CB DOTS for mainstreaming into community strategy	2841	1321	46%
Training of HCWs on nutritional assessment of TB patients	584	348	60%
Review meetings			
Carry out stakeholder meetings for HCWs in informal settlements	16	4	25%

Carry out annual ICF stakeholder meetings at district level	197	35	18%
Carry out biannual meetings of community health units to review CB DOTS activities	76	72	95%
District Annual stakeholders forum for resource mobilization and planning	210	55	26%
Community based activities			
Carry out defaulter tracing for patient interrupting treatment	9373	3564	38%
Carry out contact tracing of NSP	3871	3521	91%
Carry out House hold Visits for infection control	2321	2242	97%
Mapping out of HCWs in informal settlements	-	-	-
Carry out GIS mapping of CBOs/CSOs and undertake technical/core capacity assessments	-	-	-
Average Performance	59%		

6.2.2 Ministry of Finance TB SSF grant civil society component

A number of CSO received GF support from MoF TB SSF grant via Fund management agent (FMA) which is Ernst and Young. The total amount of money disbursed was 670,350 US dollars allocated to 9 organizations which met the selection criteria approved by the TB ICC. A two day sensitization for selected organization was carried out at Egerton University facilitated by DLTLD and Ernst and Young. The selected organizations included AMREF, NAHWO, NEPHAK, and Melchizedek hospital, REMADO, NETMA+, Egerton University, Outreach and CHAK. The activities to be implemented were;

- Training of CHWS and CHEWS.
- School sensitization programs.
- Renovation and installation of solar panels in laboratories in hard to reach areas.

The implementation by these CSOs is expected to end by 30th June 2013.

6.2.3 TB Engage Approach: Integration of Community based TB Activities through Enhanced Engagement of Civil Society Organization (CSOs)

Kenya is one of the countries selected to participate in the strengthening of the CSO/Community Engagement in TB, TB/HIV care through the ENGAGE TB approach in 2012. In the past, the CSOs and communities have been involved in TB, TB/HIV care but their contributions were in many circumstances not included in the country reports on TB Control. The main challenge in documenting their contribution was partly due to lack of policies governing the CSO/community institutions to the public sector, synchronized tools to facilitate capture of data, the scope of data to be shared and forums to share data. Bristol Mayers Foundation (BMF) through WHO,

supported the establishment of a mechanism of engaging CSOs and thereafter systematic documentation of their contribution in TB Control.

Engage TB activities undertaken are:

- Situational analysis of the current status of involvement and contributions by CSO/Communities was conducted in June 2013. A A consultant was hired to conduct the analysis on behalf of the Division.
- CSOs and community representatives of various institutions met and deliberated on operationalization of the ENGAGE TB Approach.
- A National CSO/Community Coordinating Board (NCB) were formed with PLAN International taking the lead.
- Policy guidelines and National CSO code of conduct to guide the engagement were developed.
- The developed policy guidelines was printed and launched by the Deputy Director of Ministry of Public Health &Sanitation witnessed by the CSO/Community senior representatives and affected TB patients.

Figure 6. 2: The launch of the operational guidelines for CSOs

- CSO/Community M&E tools to capture data were developed printed and distributed.
- In line with the ENGAGE TB focus of encouraging organization to include TB in their agenda, two organizations (previously unengaged in TB) were identified to pilot the ENGAGE TB approach in Isiolo and Kajiado Counties.
- Missions to oversee the functions of the pilot CSOs were conducted by DLTLD.

Chapter 7: DLTLD TB and TB/HIV control projects

7.1 Global Fund - TB Single Stream of Funding (TB-SSF) grant

Kenya is currently implementing TB single stream of funding (TB SSF) and has successful submitted a concept note to the Global fund for continued funding in the second phase which will take two and half years. This is dual track funding managed by 2 PRs namely AMREF for non-state actors and Ministry of Finance for the state. The total available fund for the two grants for phase II amounts to USD 22,481,326.

The country still have unmet needs that is hindering the full realization of the TB and TB/HIV control targets and solid progress towards the millennium development goals (MDGs). The additional funding therefore provides the opportunity to strengthen SSF grant to meet the needs of the country in controlling TB and TB/HIV. These funds will be consolidated with the TB SSF grant and it is expected to increase coverage of services and improve of care given to the patients and the affected.

Table 7. 1: TB SSF Grant Summary

Principal Recipient (PR) Name	PR 1 Ministry of Finance	PR 2 AMREF
Grant/SSF Number	KEN-S11-G12-T	KEN-911-G11-T
Grant/SSF start date	1st January 2011	1st January 2011
Phase I start date	1st January 2011	1st January 2011
Phase I end date	30th June 2013	30th June 2013
Phase I grant amount	USD 22,806,712.00	USD 8,366,220.00
Phase II start date	1st JULY 2013	1st JULY 2013
End date	31st December 2015	31st December 2015
Latest available grant rating	A1	B1

7.1.1 Grant performance

The TB SSF grant has continuously improved both in programmatic and management levels. The grant rating was A2 in semester 3 and A1 inn Semester 4 with all the top ten indicators maintaining an overall rating of A1 while the rest of the indicators were rated A2.The grant had few management issues to be addressed including financial audits submission, delay in implementation of activities like prevalence survey which were occasioned by delay in procurement of equipment. There was also a low absorption of funds which stood at 31% December attributed to long procurement process.

7.1.2 GF TB SSF Application for phase II

In May 2012, the country received an invitation from Global fund to apply for phase II of implementation of TB Single Stream of Funding. The program then initiated an elaborate process of program review, by the Global fund secretariat, development partners that include USAID, UN bodies and civil society brought together by the Kenya coordinating mechanisms and TB ICC.

The country formally submitted funding request of USD 21m distributed as shown below.

Table 7. 2: Summary of funding request submitted

Principal Recipient (PR) Name	PR 1 Ministry of Finance	PR 2 AMREF
Grant/SSF Number	KEN-S11-G12-T	KEN-911-G11-T
Phase II start date	1st JULY 2013	1st JULY 2013
End date	31st December 2015	31st December 2015
Total Funds (Phase II)	USD 13,193,043.00	USD 8,316,429.00

7.2 JICA-DLTLD technical cooperation

7.2.1 JICA-DLTLD technical cooperation implementation

JICA began its support to DLTLD in 2011 by the dispatch of a TB laboratory expert for improving quality laboratory services. The technical cooperation;

- Provided technical assistance for the improvement of smear External Quality Assessment (EQA) system.
- Supported the Central Reference Laboratory (CRL) for Tuberculosis in the establishment of smear EQA center at the CRL and effective coordination mechanism.
- Provided technical assistance for the development of National Quality Assured Tuberculosis Culture & Drug Susceptibility Testing Guidelines and National Tuberculosis Laboratory Bio-safety Guidelines.
- Procured and equipped the CRL with necessary laboratory equipments

7.2.2 JICA Technical cooperation support application

Kenya through the Ministry of Finance submitted JICA/DLTLD technical cooperation support on ‘Improving diagnostics for better TB control and Health System Strengthening’ in June 2013.

Key aspect of the proposal included:

Overall Goal: The burden of TB, TB/HIV and lung diseases in Kenya is reduced through improved TB diagnosis.

Purpose: Quality TB diagnosis is assured through strengthening capacity for microscopy and radiological services at health facilities (Level 3 to 5) in targeted province (s)

Key outputs are

- **Output 1:** Training system for both microscopy and radiological services are developed, operationalized and sustained.
- **Output 2**: Quality assurance (QA) for microscopy and radiological services and bio-risk management are improved and operationalized.
- **Output 3:** Quality and use of data is improved, including supervision and feedback at all level.

Chapter 8: DLTLD Quality Management System

The Division has made substantial progress in the year under review towards being ISO 9001:2008 certified. In year 2012, through support from USAID/KNCV –TB care the division has managed to implement the following planned activities:-

- Review of ISO 9001: 2008 Quality Management documents.
- Document review meeting was held from 23rd to 25th May at KNCV-TB care, based on the finding from Stage one external audit.
- A workshop organized in Nakuru to finalize the review process the all the QMS documents were held from 3rd to 8th June 2012.
- Hiring of the consultant to review ISO documents.
- Four sensitization sessions were held on 14th May 2012, 8th August 2012, 15th October 2012 and on 5th November 2012 respectively.
- One management review meeting was held on 9th November 2012.
- One internal audit was organized and conducted on 7th November 2012 and findings formed part of improvement of the QMS documentation process.
- Stage one external audit was conducted on 16th May 2012 by the certifying body Kenya Bureau of Standards (KEBS).
- The division applied for stage II external audit on 31st July 2012, after reviewing the QMS documents as by KEBS recommendations arising from stage I audit.

8.1 Progress towards ISO 9001:2008 Certification

Out of the 17steps towards ISO certification process, the division has managed to implement 15 steps with only 2 steps remaining which are certification/stage II external audit/ and certification/registration. This means that we are at 88.2% on achievement. DLTLD looks forward to completing this process in this financial year 2012/2013.

Chapter 9: Practical Approach to Lung Health (PAL)

9.1 Asthma control

Key intervention include

- Setting up of asthma model clinics
    - Target are all regional/district hospitals
- Asthma TOT training done in August
- The National "Help me breath" campaign which aims at
    - raising awareness on asthma/ advocacy to stakeholders and
- Raise funds for respiratory NCDS locally
- Campaign targeting childhood asthma

In 2012 29 asthma clinics were engaged and reporting on Asthma under the this approaches and 5,851 patients were registered and on follow up:

Table 9. 1: Number of patients registered for PAL per region

Region	No. of HFs
Nairobi	12
Central Province	3
Rift valley south	4
Western	4
Coast	3
Nyanza	3

9.2 PAL

The goal of PAL is to improve quality of care and outcomes of patients presenting with respiratory symptoms at the primary health care setting. Key interventions include

- Based on syndromic management of patient with a cough
- Standardization of Care

- Recognition and management of serious acute respiratory infections (pneumonia) and chronic lung disease (TB, Asthma and COPD)

Activities undertaken include:

- Training of health care workers on PAL has been done in all regions and 185 trained
- Dissemination of PAL guidelines
- Procurement of set of equipments (Spiro meters, Peak flow meters ,Nebulizers) for 35 health facilities through support of Global Fund

Chapter 10: Leprosy control

10.1 Leprosy case finding

In 2012 Kenya notified a total of 145 cases of Leprosy with infectious multi-bacillary forms accounting for 137 cases. Six cases of Leprosy were diagnosed among patients under the age 14 years which signify active and recent transmission.

Table 10. 1: Leprosy cases registered in the year 2012

Cases registered during 1-st half (1) and 2-nd half (2) of the year 2012									
	PB			**MB**			**Total**		
Period	**1**	**2**	total	**1**	**2**	total	**1**	**2**	total
New	4	3	7	61	59	120	65	62	127
Relapse	0	0	0	4	4	8	4	4	8
Transfer in	1	0	1	2	2	4	3	2	5
Return to control	0	0	0	1	4	5	1	4	5
Others	0	0	0	0	0	0	0	0	0
Total	5	3	8	68	69	137	73	72	145

Among the 2012 cases 48% of the cases had disabilities at diagnosis.

Table 10. 2: New Leprosy disability cases registered in the year 2012

Disabilities of registered New cases 2012										
	PB			**MB**			**Total**			
	1	**2**	total	**1**	**2**	total	**1**	**2**	total	
No Disability	2	0	2	28	34	62	30	34	64	49%
Grade 1	1	2	3	19	14	33	20	16	36	27%
Grade 2	1	1	2	10	15	25	11	16	27	21%
Unknown	0	0	0	2	2	4	2	2	4	3%
Total	4	3	7	59	65	124	63	68	131	

There are 36 leprosy endemic districts in Kenya and 5 districts contribute a large case load. These are Msambweni, Kilifi, Kinango, Malindi of Coast region and Nyakach in Nyanza region

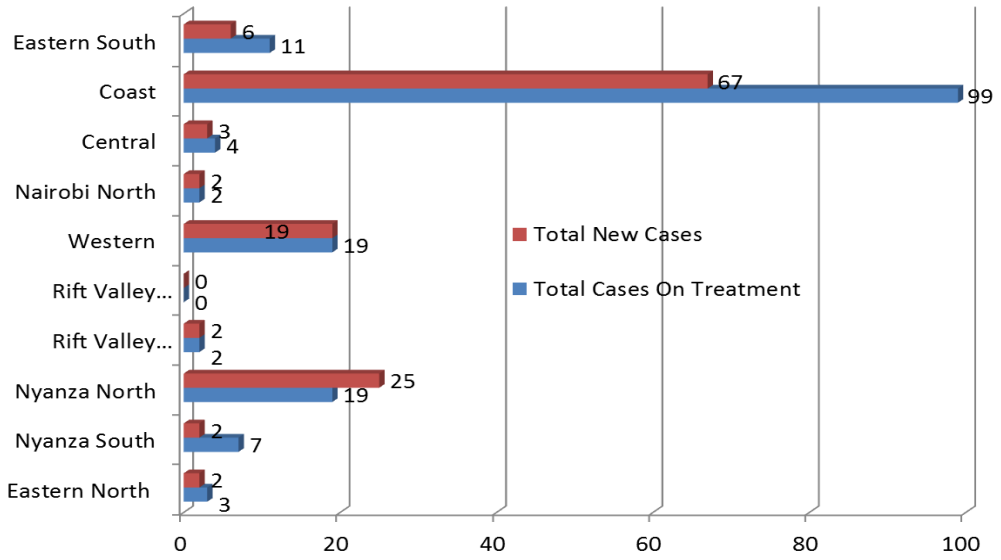


Figure 10. 1: Total Leprosy cases on treatment

10.2 Leprosy Case holding

Case holding remains adequate. In 2012, 90% of PB patients notified in 2010 were released from treatment.

Figure 10. 2: Cohort analysis of PB Leprosy patients who started treatment in 2011

Treatment results PB cases who started treatment 12 - 18 months earlier								RFTs with increased disability	
Period	Year	**RFT**	**TNC**	**D**	**TO**	**OOC**	**Tot.**	nr.	%
1-st half	2011	5	1	0	0	0	6	0	0
2-nd half	2011	4	0	0	0	0	4	0	0
Total	2011	9	1	0	0	0	10	0	0
	%	90	10	0	0	0			

Similarly, 79% of MB cases notified in 2010 were release from treatment.

Figure 10. 3: Cohort analysis of MB Leprosy patients who started treatment in 2010

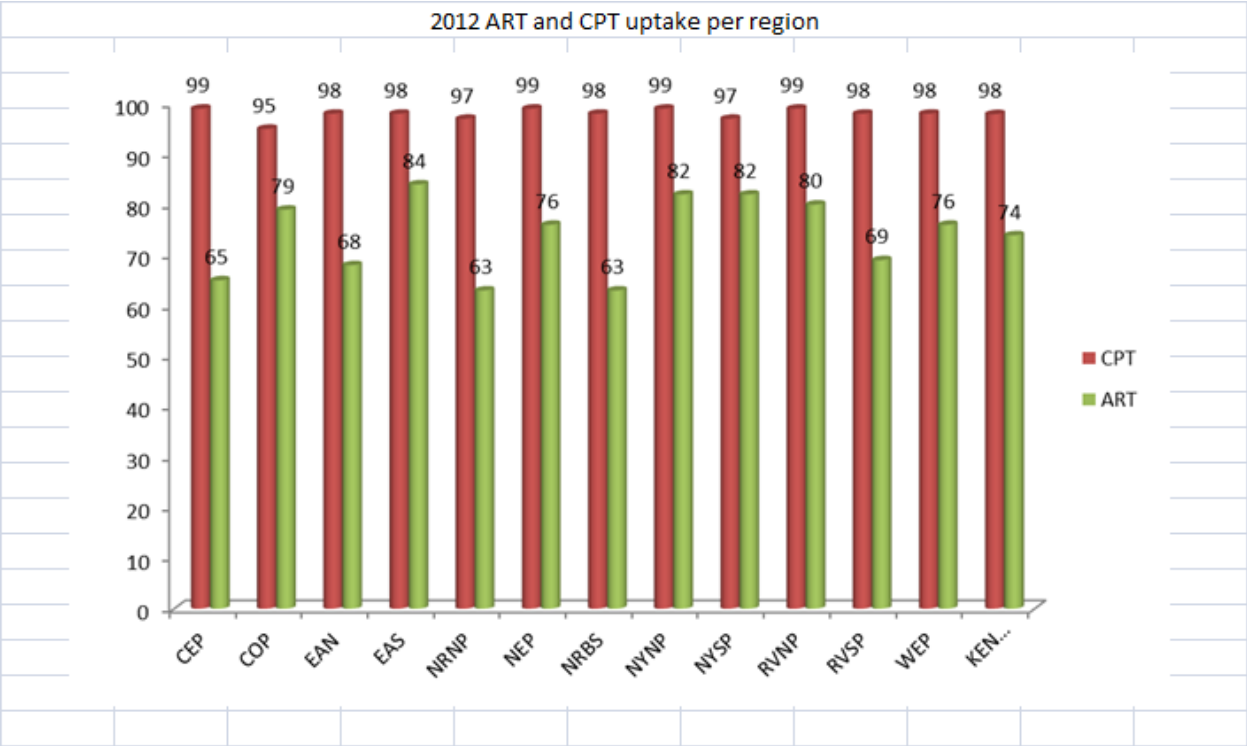
Treatment results MB cases who started treatment 24 - 30 months earlier								RFTs with increased disability	
Period	Year	**RFT**	**TNC**	**D**	**TO**	**OOC**	**Tot.**	Number	%
1-st half	2010	79	5	1	8	5	98	2	3
2-nd half	2010	65	10	1	6	3	85	0	0
Total	2010	144	15	2	14	8	183	2	1
	%	79	8	1	8	4			

Annexes

Annex 1. 1: 2012 Leprosy cases distribution per region and district

Leprosy cases 2012 distribution per region and district									
REGION/STATE OR PROVINCE	DISTRICT	PATIENTS UNDER				NEW		CURED	
		MB CASES		PB CASES		MB	PB	MB	PB
		ADULT	CHILD	ADULT	CHILD				
Eastern North	Isiolo	3	0	0	0	2	0	0	0
	Igembe	0	0	0	0	0	0	3	0
Nyanza South	Nyatike	7	0	0	0	2	0	1	0
Nyanza North	Kisumu East	5	0	0	0	8	0	7	0
	Nyando/Nyakach	10	0	0	0	10	0	7	0
	Homabay	3	0	0	0	6	0	2	0
	Siaya	1	0	0	0	1	0	4	0
Rift Valley South	Kericho/Bureti	1	0	0	0	1	0	2	0
	Nakuru	1	0	0	0	1	0	0	0
Rift Valley North	Nandi	0	0	0	0	0	0	1	0
Western	Mumias	2	0	0	0	0	0	1	0
	Bungoma South	2	0	0	0	2	0	3	0
	Busia	1	0	0	0	1	0	4	0
	Kakamega Central	2	0	0	0	2	0	0	0
	Bunyala	2	0	0	0	1	0	6	0
	Butere	2	0	0	0	0	0	0	0
	Teso	8	0	0	0	13	0	20	0
Nairobi	Dagoretti	2	0	0	0	2	0	0	0
Central	Kirinyaga	3	0	0	0	2	0	1	0
	Nyeri North	1	0	0	0	1	0	0	0
Coast	Malindi	9	0	5	0	7	5	10	3
	Msambweni	27	0	1	0	21	1	17	2
	Kilifi	13	0	2	0	4	1	8	1
	Ganjoni	2	0	0	0	3	0	6	0
	Kaloleni	9	0	0	0	3	0	5	0
	Kwale	4	0	0	0	4	0	8	1
	Kinango	25	0	0	0	17	0	18	0
	Taita	1	0	0	0	0	0	5	0
	Taveta	1	0	0	0	1	0	2	0
Eastern South	Tharaka	0	0	0	0	0	0	1	0
	Kitui	0	0	0	0	0	0	5	0
	Kyuso	0	0	0	0	2	0	1	0
	Mwingi	1	0	0	0	1	0	0	0
	Kibwezi	1	0	0	0	1	0	0	0
	Maara	1	0	0	0	0	0	1	0
	Mbeere	8	0	0	0	2	0	0	0
TOTAL		158	0	8	0	121	7	149	7

Annex 1. 2: 2012 TB/HIV ART and CPT uptake per region



Annex 1. 3: MDR TB cases started on treatment distribution by regions 2008-2012

MDR TB cases started on treatment distribution by regions 2008-2012					
Region	2008	2009	2010	2011	2012
Western	4	4	3	4	10
Central	0	0	1	6	8
Eastern South	0	0	7	13	11
Nairobi South	0	20	25	39	34
Nairobi North	0	13	14	15	21
Nyanza North	0	0	21	11	36
Nyanza N South	0	0	0	5	15
Eastern North	0	0	1	0	3
Coast	0	9	8	17	26
North Eastern	0	3	4	14	26
Rift Valley North	0	3	7	3	14
Rift Valley South	0	0	3	8	7
KENYA	4	52	94	135	211