THE REPUBLIC OF KENYA

MINISTRY OF PUBLIC HEALTH AND SANITATION

DIVISION OF LEPROSY, TUBERCULOSIS AND LUNG DISEASE, KENYA



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The Republic of Kenya

Ministry of Public Health and Sanitation

DIVISION OF LEPROSY TUBERCULOSIS AND LUNG DISEASE

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DIVISION OF LEPROSY TUBERCULOSIS AND LUNG DISEASE

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The staffs working within the Division (Central unit), Central Reference Laboratory, provinces, districts and health facilities) are also commended for making TB control in Kenya a success. It is expected that they will continue to work with renewed energies to ensure that Kenya is free from TB, Leprosy and Lung Disease.

LIST OF ABBREVIATIONS

ALERT	All African Leprosy and Rehabilitation Training Center
CDR	Case Detection Rate
CHEW	Community Health Extension Worker
CHW	Community Health Worker
CIDA	Canadian International Development Agency
CNR	Case Notification Rate (Number of Cases Notified/100,000 Pop.)
DLTLD	Division of Leprosy, TB and Lung Disease
DMS	Director of Medical Services
DST	Drug Susceptibility Testing
DTLC	District TB / Leprosy Coordinator
E	Ethambutol
EPTB	Extra-Pulmonary Tuberculosis
GOK	Government of Kenya
GON	Government of the Netherlands
Η	Isoniazid
HIV	Human Immuno-Deficiency Virus
IUATLD	International Union Against TB & Lung Diseases
KANCO	Kenya AIDS NGOS Consortium
KNCV	Royal Netherlands Tuberculosis Control Association
MB	Multi-Bacillary (Leprosy)
MDT	Multi Drug Therapy (Leprosy)
MOH	Ministry of Health
NGO	Non-Governmental Organization
NTLC	National TB/Leprosy Coordinator
OOC	Out Of Control
PB	Pauci-Bacillary (Leprosy)
PTB	Pulmonary Tuberculosis
PTLC	Provincial Tuberculosis / Leprosy Coordinator
R	Rifampicin
RFT	Released From Treatment (Leprosy)
S	Streptomycin
SCC	Short Course Chemotherapy
SM-	Smear-Negative Pulmonary Tuberculosis
SM+	Smear-Positive Pulmonary Tuberculosis
ST	Sensitivity Testing
TB	Tuberculosis
TC	Treatment Completed
TNC	Treatment Not Completed
ТО	Transferred Out (of an administrative area)
VMT	Voluntary Muscle Testing
WHO	World Health Organization
Z	Pyrazinamide

SUMMARY

The Division continued to execute its mandate aimed at controlling the tuberculosis (TB) epidemic, lung disease and the elimination of leprosy in 2011. In relation to TB control the focus of attention in 2011 remained enhanced implementation of the six elements of the STOP TB strategy formulated by WHO with emphasis on DOTS expansion, improvement in DOTS quality and expansion of TB/HIV collaborative activities, addressing the challenge of MDR TB, Empowering communities with the knowledge about TB and enabling and promoting research. Leprosy control continued to focus on early case finding, intensified supervision in the leprosy endemic districts, development of training guidelines for health care workers, multi-drug therapy and prevention of disabilities.

The total number of TB cases (all forms of tuberculosis) reported in 2011 was 103,981. This is a decrease of 2% compared to the 106,083 cases of TB cases reported in 2010. This is a clear indication that TB burden in Kenya has stabilized and it is beginning to turn round. This stabilization of case notification rate was first noticed 8 years ago and can be attributed previous TB control efforts and the sustained implementation of TB control efforts particularly those aimed at cutting down the levels of transmission in the community. With the increased communication and social mobilization efforts sustained and technical support to implementing units being provided, case notification in 2012 will further reduce.

Tuberculosis treatment results for TB patients who were started on treatment in 2010 show treatment success rates of 87.14% for new smear-positive pulmonary TB cases (n=36,260), 77% for smear-positive re-treatment relapse cases (n=3,668), 77% for smear-positive re-treatment failures cases (n=245), 85.33% for new smear-negative PTB cases (n=31,842), Smear not done 82.77% (10,120), Other re-treatments 79%(5,064) and 84.80% for Extra-Pulmonary TB cases (n=17,382). It is important to note that treatment outcomes have increased with exception of retreatment cases when compared with the year 2010..

There were a total of 102 new leprosy cases in 2011, of which 11 (10%) cases were paucibacillary (PB) and 94(90%) multi-bacillary (MB) cases. This is a decrease of 47% compared to the 154 cases registered the previous year. The number of leprosy patients on the register at the end of the year was 268 cases in 2011. The proportion of disabilities among the newly registered cases still remain high calling for increased support to sensitization of health care workers to increase their index of suspicion for leprosy. Of the 102 new patients 12% had disability grade 2, and an additional 31% had disability grade 1, indicating that 43% of cases presented themselves in an already advanced stage of the disease, either caused by patients or health provider delay. However, in 12% of new cases the disability grade was not recorded. Compared to 2010, case holding declined for both (PB) and (MB) cases. The proportion of cases released from treatment (RFT) declined from 86% in 2008 to 77% in 2009 for PB cases and for MB cases from 74% in 2010 to 70% in 2010. It is important that efforts are intensified to improve the case holding amongst the Leprosy patients. The DLTLD continued to pursue implementation of the quality DOTS strategy through expansion and harnessing gains made in previous years. These initiatives include engagement of all providers (PPM), implementation of activities aimed at mitigating the impact of HIV on TB and TB on HIV. Community engagement and involvement (CB-DOTS), intensification of efforts to control TB in large urban centres, strengthening the laboratory network for TB control, communication and social mobilization and the control of TB in congregate settings.

To enable the DLTLD to implement these initiatives the DLTLD continued to receive financial and technical support from several organizations including the Government of Kenya through the Ministry of Public Health and Sanitation; the Government of the United States of America (USG) through the President's Emergency Plan for AIDS Relief (PEPFAR) whose main implementing agencies in Kenya include the Centers for Disease Control and Prevention (CDC) and the United States Agency for International Development (USAID) through TBCARE I led by the Royal Netherlands Tuberculosis Association (KNCV) and subcontracting APHIA II partners, the Global Fund to fight AIDS, TB and Malaria (GFATM), KAPTLD, African Medical and Research Foundation (AMREF) and World Health Organization (WHO).

Activities carried out by the DLTLD in 2011 are summarized in this report. It is hoped that those who read this report will provide the DLTLD with constructive comments that will assist in the development of new or improved approaches to TB, Leprosy and Lung disease control activities in Kenya and assist the country towards implementing these activities.

1 INTRODUCTION

1.1 History and organization of DLTLD

The Government of Kenya launched the National Leprosy and Tuberculosis Program (DLTLD) in 1980 combining the then existing tuberculosis control activities, which had been in place since 1956, with several leprosy control projects in Western Kenya, Coast and Eastern Province, which had been initiated since the early seventies, into one program: the National Leprosy and Tuberculosis Program (NLTP).

As at 1st July 2007 the National Leprosy and Tuberculosis program (NLTP) was elevated to Division of Leprosy, Tuberculosis and Lung disease (DLTLD), within the Ministry of Public Health and Sanitation in the Department of Disease Prevention and Control. This has given more impetus to the program with new demands and challenges that includes amongst others, critical issues on lung health management and coordination.

In 2011 TB and Leprosy services were delivered through 2,818 health units managed mainly by the Ministry of Public Health and Sanitation, Ministry of Medical services Health (and other Ministries), NGO/FBO health units and some private institutions. Smear microscopy services were available at 1,335 of these health units (see table 1A and B).

	GOK	NGO	PR	Total						
Hosp.	199	105	82	386						
Health C.	794	468	60	1,322						
Disp.	915	139	37	1,091						
Other	8	20	53	81						
Total	1,704 (60.4%)	382 (13.5%)	232 (8.2%)	2,918						

Table 1A: Provision of TB treatment services in 2011

Table 1B:	Provision	of AFB	diagnostic	services in 2011

	GOK	NGO	PR	Total
Lab	679	249	119	1,047
AFB	1099(63.8%)	241 (18%)	241 (18%)	1,581

Provision of leprosy and tuberculosis services are integrated into the general health service at the district level. However special staffs of the DLTLD are responsible for coordination, supervision and technical advice in relation to management of TB and Leprosy at all levels. In 2011, a total of 201 District Tuberculosis/Leprosy Coordinators (DTLCs) were responsible for coordinating the delivery of TB and Leprosy services. These officers were supported by 12 Provincial Tuberculosis/Leprosy Coordinators (PTLCs). Twenty four technical officers were available at the central unit of the DLTLD to provide technical guidance for the national response to TB, Leprosy and Lung disease control. These technical staffs at the central unit were supported by administrative, secretarial and support staff including 7 drivers.

The Organogram of the DLTLD is shown in Annex 2.

1.2 *Technical policies*

For a long time the DLTLD has relied on passive case finding to identify infectious and other forms of both leprosy and tuberculosis to reduce transmission. In 2011, there were efforts to intensify TB case finding through the use of household/community cough monitors, screening for TB in persons found to be HIV infected at HIV testing sites, intensification of TB screening for contacts of patients with PTB through contact invitation and screening of new inmates in prisons. Emphasis was geared towards intensified case finding among the HIV infected clients. The GOK continued to provide free TB treatment at all government owned facilities, most Faith Based (FBO) and NGO health facilities and some private institutions. All the institutions receiving free quality assured anti-TB medicines from the DLTLD (and some private hospitals supplied with anti-TB drugs by the Kenya Association for the Prevention of Tuberculosis and Lung Diseases (KAPTLD)) used the DLTLD TB case recording and reporting tools to report cases on a quarterly basis to the central level through the DTLCs and PTLCs.

1.3 LEPROSY

1.3.1 The extent and trend of leprosy in Kenya

Like most countries, the true prevalence and incidence of leprosy in Kenya is not known. So far, the most reliable indicators to monitor the extent and the trend of the leprosy disease burden is the registered prevalence of cases currently on treatment, and the notification of new cases. Since the introduction of Multi-Drug Therapy (MDT) in 1985, the registered prevalence decreased from 6,558 cases in 1986 to 122 cases by the end of 2011. The number of new leprosy cases detected decreased from 630 in 1986 to 102 in 2011 as shown in *Fig.1 below*

Figure 1: Leprosy New Cases & cases on register by the end of the year: 1986-2010



1.4 Case-finding

1.4.1 Case notification

The number of leprosy cases (new and re treatment) reported decreased by 47% from 154 in 2010 to 122 in the year 2011. Leprosy is no longer a public health problem in Kenya, according to the WHO levels. WHO defines leprosy as a public health problem if there is a registered prevalence of more than one (1) leprosy case per 10,000 population. It is noted that the great majority of new leprosy cases are found in just a few districts in Kenya. However, even in these districts, leprosy is not a public health problem as it has been eliminated, although it is yet to be eradicated. The number of cases on register has increased to 268 in 2011 from 130 at the end of 2010. Concerns on disability is great since most patients (43%) are diagnosed with disabilities i.e. grade 1 and 2. These could be a result of patient or health system delay. Concerted efforts must be made to train health care workers on how to effectively suspect and diagnose leprosy cases.

1.4.2 Leprosy: Epidemiological indicators

Table 2 gives a summary of epidemiological indicators for new leprosy cases put on treatment from 1997 up to 2011.

Indicators/year	·9 7	·98	·99	<u>.</u> 00	601	602	'03	'04	. 05	' 06	' 07	'08	' 09	'10	·11
New PB cases	43	41	25	37	18	13	9	6	12	18	17	14	9	8	11
New MB cases	194	174	166	133	157	141	153	137	146	172	196	153	148	118	94
Total new cases	237	215	191	170	175	154	162	143	158	190	213	167	157	126	105
Pop. (n x 1,000,000)	27.0	27.7	28.7	29.5	30.4	31.4	32.3	33.3	34.4	35.5	36.6	37.1	39.4	40.2	40.4
CDR new cases (n/100,000)	0.9	0.8	0.7	0.6	0.6	0.5	0.5	0.4	0.5	0.5	0.6	0.5	0.4	0.3	0.26
Registered Prevalence 31/12	589	375	214	209	195	148	176	182	180	185	191	200	234	154	122
Reg. prev (n/10,000)	0.2	0.08	0.07	0.07	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.04	0.03
M/F ratio	1.2	1	0.7	1.2	1	1	1.1	1.3	0.9	1.2	1.4	113	1	1.36	1.61
Child < 15 yrs. (%)	8	7	4	5	3	2	5	3	4	4	4	6	7	6	4
MB proportion (%)	83	81	87	78	90	91	94	96	92	91	92	92	90	94	90
Reported disability (%)	97	100	100	95	88	93	87	88	69	78	81	100	91	94	10
Disability grade 0(%)	59	67	55	60	45	36	34	50	61	64	56	54	48	54	39
Disability grade 1(%)	23	15	20	24	27	42	39	34	25	26	26	23	23	25	32
Disability grade 2(%)	16	19	25	16	28	22	27	17	15	10	17	13	20	21	11
MDT coverage(%)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 2: Epidemiological indicators new leprosy cases Kenya: 1997-2011

<u>Child proportion < 15 years</u>: This indicator provides information on the transmission of leprosy in the community (a high transmission level will cause a high proportion of children among newly reported cases of leprosy). In 2011 this proportion was 4%, which indicates a low level of transmission as would be expected but this represents a 2 percent decrease from the previous year.

<u>Male/female ratio</u>: This indicator provides gender differences on the distribution of leprosy. In most countries, the male/female ratio among leprosy patients is unequal with, in general, more males than female cases. However, in Kenya, this ratio on average has been around 1 but in 2011, there were more males than female with Leprosy with a ratio of 1.61.

Proportion of new MB cases: This indicator provides information about the success of a leprosy control program. If infectious cases are detected and treated effectively, the number of new cases will gradually decrease and the proportion of infectious cases (MB leprosy) amongst them will increase. In Kenya the proportion of MB cases has increased from about 25%, before 1990, to 90% in 2011, indicating that leprosy control, so far, is effective.

Proportion of Disability grade 2: This indicator gives information about the delay between noticing the first symptoms of leprosy (hypo-pigmented patches) by the patient and the start of treatment with anti-leprosy drugs (MDT). The longer the delay, the bigger the chance that the patient will have developed nerve impairment and subsequent anatomic and functional damage by the time treatment is initiated. This delay may be caused by patient factors including lack of awareness of the disease by the patient or lack of motivation to report to the health service

(patients delay), or by health system factors including health provider knowledge and skill to properly diagnose and or treat leprosy (health provider delay). In 2010 the proportion of grade 2 disabilities among newly registered leprosy cases was 23%, a 3 percentage increase from 20% in 2009, which is increasing from the recommended level of below 10%. This increase may be explained by health care provider sensitization carried out previously. The proportion of patients presenting with either grade 1 (23%) or 2 (20%) disability was 43% indicating that still a considerable proportion of patients are diagnosed at an already advanced stage of leprosy. This implies that there is a significant delay in the diagnosis and treatment of leprosy. There was no disability grading for 12% of new cases. This is a reason for concern since it implies that a significant proportion of leprosy patients may not be receiving appropriate evaluation and care. The declining prevalence of leprosy coupled with insufficient training and awareness for the disease and its management amongst health workers is most likely contributing to this observation. Thus efforts must be applied to ensure that proper recording and management of cases is instituted immediately.

1.5 Case-holding

Case holding includes all activities directed at reaching the highest possible proportion of patients successfully completing their treatment. This can be observed in the proportion of cases "released from treatment (RFT)". The proportion "out of control (OOC)" is of importance because it is an indicator of the activities of the health services to timely detect possible defaulters, find and motivate them to complete their treatment. The following tables show the results of treatment of PB and MB cases from 1987. Although the WHO - MDT regimen was introduced in 1985, it was not until 1991 that it was fully implemented.

Tables 3 and 4 show the outcome of treatment for the new PB and MB cases from 1987 to 2010

PB	RFT		TNC		Died		ТО		OOC		Total
Cohort	n	%	n	%	n	%	n	%	n	%	n
'8 7	147	55	59	22	1	0.4	10	4	52	19	269
'88	514	66	71	9	4	1	62	8	126	16	777
'89	452	79	73	13	3	1	5	1	40	7	573
'90	260	74	43	12	4	1	5	1	39	11	351
'91	158	70	23	10	2	1	4	2	39	17	226
'92	131	78	11	7	0	0	6	4	19	11	167
'93	132	83	2	1	0	0	10	6	15	9	159
'94	53	79	1	1	2	3	3	4	8	12	67
' 95	62	94	0	0	1	2	3	5	0	0	66
'96	60	90	1	1	0	0	3	4	3	4	67
'9 7	32	100	0	0	0	0	0	0	0	0	32
'98	31	91	0	0	0	0	1	3	2	6	34
'99	32	94	0	0	0	0	1	3	1	3	34
'00	26	74	1	3	0	0	4	11	4	11	35
'01	20	77	1	4	2	8	2	8	1	4	26
'02	23	70	8	24	0	0	2	6	0	0	33
'03	31	74	0	0	0	0	7	17	4	10	42
'04	28	80	2	6	2	6	2	6	1	3	35
'05	27	69	7	18	2	5	2	5	1	3	39

Table 3: Treatment Results of PB cohorts 1987-2010

'06	33	67	6	12	2	4	3	6	5	10	49
'07	39	60	17	26	2	3	3	5	4	6	65
'08	31	70	3	7	0	0	2	5	8	18	44
'09	30	86	1	3	1	3	1	3	2	6	35
'10	51	77	7	11	3	5	3	5	2	3	66

The proportion of PB cases RFT for the 2010 cohort was 77% representing a 9% decline from 86% in 2009 while 3% of patients went out of control. These results indicate that the DLTLD has yet to achieve the recommended treatment results for PB cases of RFT of 90% or higher. With the small numbers of patients, these results are unacceptable and probably suggest the eclipsing of leprosy control activities by the bigger TB problem. However the treatment results of MB cases with a RFT proportion of 70% and a defaulter rate of 9% are unacceptable and are below the recommended range of RFT of 75-80% or higher. The shortening of the treatment duration from two to one year should have contributed to better treatment outcomes.

MB	RFT		TNC		Died		TO		OOC		Total
Cohort	n	%	n	%	n	%	n	%	n	%	Ν
' 87	87	67	5	4	1	1	4	3	32	25	129
'88	778	72	67	6	18	2	7	1	217	20	1087
' 89	131	69	10	5	5	3	11	6	33	17	190
'90	94	59	9	6	9	6	7	4	41	26	160
'9 1	104	62	6	4	3	2	10	6	44	26	167
·92	170	60	18	6	7	2	33	12	53	19	281
'93	186	67	6	2	4	1	25	9	56	20	277
' 94	156	62	17	7	15	6	22	9	41	16	251
' 95	121	66	6	3	7	4	25	14	24	13	183
' 97	166	85	2	1	1	1	15	8	11	6	195
'98	162	84	0	0	3	2	12	6	15	8	192
' 99	115	80	3	2	1	1	9	6	15	10	143
' 00	117	80	4	3	2	1	11	8	12	8	146
' 01	125	80	10	6	2	1	8	5	10	11	156
·02	130	83	7	4	4	3	7	4	9	6	157
·03	172	78	20	9	1	0,1	14	6	13	6	220
' 04	150	80	12	6	3	2	12	6	10	5	150
' 05	141	80	14	8	0	0	12	7	10	6	177
' 06	99	70	23	16	0	0	5	4	14	10	141
' 07	158	73	13	6	0	0	27	12	19	9	217
<u>'08</u>	162	74	23	11	2	1	17	8	14	6	218
' 09	127	70	27	15	1	1	10	6	16	9	181

Table 4: Treatment Results MB cohorts 1987-2008

1.6 Prevention of disabilities

So far, the surveillance system has not picked any reliable data is available concerning prevention of disabilities. The DLTLD leprosy guidelines recommend routine VMT/ST examinations on quarterly basis for each newly registered leprosy patient on treatment and for all patients who present with symptoms suggesting a reaction. Technical support missions

(supervision) have suggested that either VMT/ST examinations are routinely not done or the results of these examinations are not filled in the patient cards. No records/registers are kept on the incidence of reactions or the prevalence of disabilities (no leprosy ward admission register for leprosy patients or a care/disability register). It is recommended that reactions should be treated with prednisolone. It is questionable whether reactions are recognized in time and if so whether appropriate action is taken. Patient record cards, on which this information is supposed to be entered, are often incompletely filled; the technical support to leprosy endemic areas should be intensified to ensure that guidelines are adhered to.

There are about 6 orthopedic workshops in the country, which make footwear and prostheses for leprosy patients. Unfortunately, the DLTLD in the year 2011 did not follow up to establish the status on their outputs.

It is clear, that more emphasis should be placed on leprosy control and in particular, on prevention of disabilities.

Constraints to improved performance

The declining number of cases detected annually has made leprosy a low priority disease. This has resulted in little resources being allocated to leprosy control activities. This translates to very little training and support of peripheral health staff on leprosy control activities. Virtually all the funds available to the DLTLD are earmarked for TB and especially TB/HIV related activities. The country continues to experience challenges in mobilizing resources for sensitization of district health management teams, training of health care workers and intensified supervision in leprosy endemic districts. If leprosy control activities continue to receive little attention, there is a real danger that leprosy may rebound to become a public health threat once again reversing the substantial gains that had been made in efforts to eliminate the disease and move towards eradication.

- The massive burden of TB though showing signs of stabilization continues to eclipse the insignificant leprosy problem. Program staff remains overloaded with the management of high numbers of TB cases and devote less time to the pursuance of leprosy control activities.
- There continues to be a high turnover of trained staff at both peripheral and the district levels.
- Lack of resources set aside for leprosy control.

The country however appreciates the technical and financial support in the procurement of leprosy medicines by World Health Organization.

2 TUBERCULOSIS

2.1 Magnitude of tuberculosis

DLTLD for the fourth year in a row reported a decline in the number of notified TB cases. This is attributed to previous TB control activities that have began to bear fruit leading to stagnation and now beginning an accelerated decline in the incidence of TB. Many other factors may have contributed to the decline including the changing epidemiology of HIV and health care workers skills, attitude and knowledge. The number of reported TB cases had increased tenfold from 11,625 in 1990 to 116,723 cases in 2007 and has now declined to 103,981 in 2011 (*Figure 2*). The average annual increase over the past 10 years is 4% for all forms of TB. However, in the last 5 years, there has been an annual decrease of about -2%. Case Notification Rates (CNR) increased from 53/100,000 population for all forms of TB and 32/100,000 population for sputum smear-positive PTB cases in 1990 to 264/100,000 population and 94/100,000 population respectively in 2011 (*See Figure 7*).

The major reason for the increasing burden of TB in Kenya is the concurrent HIV epidemic. In the 2005 the DLTLD introduced an integrated TB/HIV data collection system that enabled the collection of HIV related information. Data for the year 2011 indicate that the national average co infection with HIV was 39%.

In 2011 the DLTLD surveillance system captured the contribution of the private sector in notifying a total of 9,300 TB patients who were all put on treatment (see table 5).

2.2 Case-finding

2.2.1 Case-finding reporting

The central unit receives case finding reports on a quarterly basis from all districts. These reports are submitted by DTLCs; through their respective PTLCs. Figures 2 through to 8 demonstrate the epidemiology of TB in the country and the provinces.

Figure 2: TB case notification DLTLD Kenya: 1990 – 2011





Figure 3: TB case load by province: 2009-2011

Province	2010'	2011'
North Eastern	2,661	2,791
Western	8,294	8,368
Rift Valley North	8,895	8,929
Central	10,627	10,497
Coast	11,660	11,875
Rift Valley South	11,858	11,357
Eastern	15,433	14,875
Nairobi	17,503	16,891
Nyanza	19,152	18,398
Kenya	106,083	103,981

TB Cases Notified Per Province, 2010-2011



Figure 4: Trend of Prevalence, Mortality and Incidence: 1990-2010







Figure 6: Provincial TB case findings 1987-2011



Figure 7: Case Notification Rates Smear positive PTB and all Types TB Kenya 1990-2011

Figure 8: TB Case Notification Rates: All forms of TB per province in 2011





Figure 9: TB Case Notification Rates: Smear Positive TB per province in 2011

Types of tuberculosis

In 2011, the proportion of sputum smear-positive PTB cases increased by 3% compared to 2010. There was a 3% decline in the proportion of sputum smear-negative PTB cases and adult PTB cases without sputum smear results. *Figure 10* shows the distribution of the different types of TB in 2011. With the high prevalence of HIV in this population it is possible that some of these cases are not true TB cases but represent undiagnosed HIV related disease.

Figure 10: Distribution of TB cases by type, 2011



2.2.2 Gender-age distribution

The age group with the highest TB notification in 2010 remained 25-34 years in both males and females as has been the trend over the last decade. This is the same age category with a high HIV sero-prevalence. Males continue to dominate after the age of 24 over the females who are more below this age group. This trend is clearly shown in *Figures 10, 11 and 12*.



Figure 10: Age Specific CNR New Male All Forms of TB 1995-2010



Figure 11: Age Specific CNR New Female All Forms of TB 1995-2010



Figure 11: Age-specific CNR new male PTB+ cases: 1995-2010

Figure 12: Age-specific CNR new female PTB cases: 1995-2010



2.2.3 Private sector contribution

The private sector both for profit and not for profit provides significant care to TB patients. This sector has flourished since an agreement facilitated by the program between KAPTLD and a drug manufacturing company was signed in 1997. Through this agreement, a drug company

provides high quality anti TB drugs to the private sector in Kenya at a highly subsidized price to patients seeking care in this sector. Since the program has overall supervisory activity, the sector is routinely supervised by program staff and all the policy guidelines used belong to the ministry. To further ensure that quality and standards are acceptable, the M and E tools used in this sector have been standardized and distributed by the DLTLD.

Data collected over the years have shown that about 10% of TB patients in the urban set up are managed by the private sector if Nairobi figures can be generalized to cover the whole country. Initiation of new initiatives in this sector has over the years tended to lag behind the public sector as demonstrated in the testing for HIV amongst TB patients (Table 5).

It is worth noting that in 2010 other provinces have begun reporting on the sector as shown in Table 5.

Province	No. cases:2010	No. cases:2011
NBIN	963	1,228
NBIS	574	627
CEP	1,523	2,014
СОР	522	873
EAPS	110	804
Eastern North	287	262
North Eastern	-	0
Nyanza North	103	697
Nyanza South	291	219
Rift Valley South	1,623	1,647
Rift Valley North	-	0
Western	1,164	668
Total	7,160	9,039

Table 5: Case finding in the private sector

2.2.4 The impact of HIV infection on case-finding

The HIV epidemic is the major cause of TB epidemic in Kenya with 39% of TB being dually infected. HIV may also have contributed to the increase in cases requiring re-treatment especially those cases classified as other retreatment. Even though smear positive pulmonary disease remains the most important type of TB from a transmission standpoint, in situations where HIV prevalence is high as in Kenya, smear negative and extra pulmonary forms of TB assume a great deal of importance because of their contribution to TB morbidity and mortality.

DLTLD is currently able to monitor HIV prevalence amongst TB cases and to track the proportion of TB patients receiving HIV related interventions including HIV testing and counseling, Cotrimoxazole preventive therapy and anti-retroviral treatment.

It is important to note that since 2008 the cohort analysis for patients started on treatment has been stratified by HIV status and what this has demonstrated is the fact that treatment outcomes are poorest in the category of patients where HIV status has not been documents followed by HIV positive TB patients. It is hoped that with the rollout of the provision of ART in TB clinics,

better treatment outcomes will be realized. Figure 13 below shows the proportion of TB cases tested for HIV and the HIV positivity rate amongst those tested. Figure 14 below demonstrates the HIV prevalence amongst the different types of TB with re treatment failures leading followed by EPTB below 15 years. HIV testing is being promoted as a standard care for all TB patients. The rate of testing has been increasing over the years since the introduction of the intervention. Figure 15 indicates that only 7 regions have reached the HIV testing target amongst TB patients of 90% while the rest of the regions are lagging behind.

As expected, with increased coverage of HIV testing, the HIV prevalence amongst TB cases decreases. This probably is caused by a diminishing bias in selecting/offering/availability of HIV testing by the health workers at the different levels of the health care system.



Figure 13: Trend of HIV testing and HIV positivity rate

Figure 14: HIV prevalence for different types of TB: 2011





Figure 15: comparison of CPT and ART uptake : 2003-2011

2.2.5 Case-finding in refugee camps

The refugee camps in Kenya, under the UNHCR, participate in TB control activities under the guidance of the DLTLD. There are four camps: Hagadera, Ifo and Dagahaley (Dadaab) in Garissa District and Kakuma, located in the North of Turkana District. In 2011 a total of 575 cases were reported by the Daadaab camps. Those tested for HIV accounted for 100% and only 7 (1%) tested HIV positive. These cases were included in the national figures. However it is important to note that most of the immigrants have integrated into the communities in North Eastern province and Nairobi and are served by the general health care system.

2.3 Case-holding

2.3.1 Case-holding reporting and terminology

The case-holding results show the outcome of treatment for the different types of TB cases. Results of the refugee camps are reported separately. Since 2008 the DLTLD started analyzing the outcome of treatment of all categories of TB patients.

The terminology used in assessing the results of treatment (treatment outcome) includes the following:

Cured	: Completed treatment and smear-negative at the end of treatment
TC	: Completed treatment, but no smear taken at the end of treatment
Died	: Died of any cause during TB treatment
Failure	: Smear-positive at 3, 5 or end of treatment
OOC	: Out of control/absconded from treatment

: Transferred out to another administrative area (province) TO

Success rate : Proportion of PTB+ cases cured and completed treatment

Short Course Chemotherapy (SCC) implementation 2.3.2

Short course chemotherapy (SCC) for new smear positive PTB cases was initiated in 1993 and fully implemented in the whole country by the end of 1997. Implementation of SCC for Smear negative PTB and Extra-Pulmonary TB commenced in 1997 and covered the whole country by the second half of 1998. Since then, the whole country is under DOTS giving a 100% geographic DOTS coverage.

2.3.3 Regimen used

Kenya subscribes to the internationally accepted WHO strategy in TB control and treatment which has been tailored from WHO recommended regimes.

The following regimes continue to be used in Kenya:

- 1. 2RHZE/4RH for new cases with smear-positive PTB (Category 1), smear negative PTB and extra-pulmonary TB (Category 3)
- 2. 2SRHZE/1RHZE/5RHE (re-treatment regimen) for smear positive relapse cases, recurrent negative PTB/EPTB cases, failures and defaulters (Category 2).
- 2RHZ/4RH for new cases of smear positive or negative PTB or EPTB who are younger 3. than 15 years

2.3.4 SCC treatment results of new sputum smear-positive PTB cases

As usual, TB treatment outcomes are reported for the year preceding the year in question, in this case the cohort of 36,260 patients put on treatment in 2010 was analyzed. A treatment success rate of 85.43% as in figure 16 was achieved. This puts Kenya amongst countries that have achieved the WHO recommended treatment success rate. Coupled with the improved case detection rate of 82% amongst all forms of TB cases, Kenya stands to improve on TB control targets beyond set targets. This result is a very reasonable performance when the high rate of HIV in TB patients is taken into account. Tuberculosis cases co-infected with HIV are at risk of dying from non-TB opportunistic infections during treatment for TB. The reported death rates of TB patients remained low at about 4%, but an estimated 30% of the out of control cases are most probably cases who died at home and were not reported as such.

Figure 16: Results of SCC treatment cohorts of new smear-positive PTB cases: 1994 -2010



2.3.5 Re-treatment results

Since 2003 the DLTLD has put a lot of emphasis on obtaining sputum smear results during the continuation phase, and especially at the end of treatment as a known form of monitoring treatment. Patients put on re treatment regiment are considered high risk for resistant strains of TB and subsequent development of resistant forms. Figure 17 shows that there has been a gradual improvement in treatment outcomes for this category of patients. This resulted in a small increase in the proportion of cases cured and an equally small decrease in cases that completed treatment without a smear result.

Figure 17: Treatment results for smear-positive re-treatment cases at 8 months: 1994-2010. Results at 8 months (end of treatment)



2.3.6 Results of SCC treatment for smear-negative and extra-pulmonary TB cases

The 6 months SCC regimen replaced the 8-month standard regimen for sputum smear-negative PTB cases and Extra Pulmonary TB cases in 2007 (*see section 3.3.3 - Regimens used*). The treatment success rates for new sputum smear negative and extra pulmonary PTB cases are 84.03% and 83% respectively, death rates were at 6% and the out of control rates 4% (figure 18 and 19). This can be explained by the higher HIV prevalence in both categories of patients.


Figure 18: Treatment results for new smear negative PTB cases: cohorts 2004-2010

Figure 19: Treatment results new extra-pulmonary TB cases: cohorts 2005-2010



3 SECTIONAL ACTIVITIES

3.1 Nutrition care and support

In the past 3years the division has embarked on mainstreaming of nutrition care within its programs to mitigate the effect malnutrition on patients with malnutrition. National data on nutrition assessments carried out on TB patients at the initiation of treatment indicate that 60% of the patients have low body mass index (<18.5), However only 30% of the patients receive nutritional support.

3.1 Key Activities

3.1.1 Development of training materials

Nutrition in tuberculosis training curriculum was finalized through the support of AMREF and is awaiting printing A 3 hour nutrition component was included in the DR –TB training curriculum. Similarly a 2 hour session was included in the Community based TB care training curriculum and 3 day comprehensive nutrition training developed for community health workers.

3.1.2 Nutrition Monitoring and Evaluation

Considering reports from field support supervision, nutrition indicators in the routine TB register and community tools were modified to ensure clarity. Nutrition support was re-coded into three categories including: Nutrition education, micronutrient supplement and food support. Reporting on these indicators was done by 30% of the districts.

3.1.3 Capacity building

Nutrition in TB training

Pilot training on Nutrition in TB supported by Walter Reed where 30 participants from their supported sites in North and South Rift conducted.

Malteser International supported the training of 35 community health workers from their supported sites in Nairobi. This is aimed at establishing outpatient care and support for acute malnourished TB patients and those at risk to prevent deterioration and promote health.

3.1.4 Advocacy and resource mobilization

The advocacy for nutrition and mobilization of resources continued in the year. USAID through AED opened up the Food by Prescription food support to TB patients without HIV. This was a step in the right direction considering 60% of TB patients are undernourished at the time of diagnosis.

GOK through the division of nutrition and partners will continue supporting tuberculosis patients with micronutrients basically vitamin A and extra food rations by special program through groups and on request to the CD/DO/Area chief.

3.1.5 Supportive supervision

The nutrition program officer participated in supportive supervision in Central, Western and several regions and participated in poverty and gender evaluation in Kitui and Mutomo areas of Eastern south.

3.1.6 Funding

Through the global fund single stream funding a number of nutrition activities were funded to be undertaken by CSO'S

3.1.6 Challenges and Constraints

- Gap on nutrition information.
- Inadequate nutritional supplements for the undernourished
- Patient's food in the TB Manyattas which are administratively under MOPHS but in medical services care.
- Extra food support for patients on drug resistant TB therapy

3.2 **TB HIV**

HIV infection is Still accounts for a large proportion of TB cases in Kenya while TB remains the greatest single cause of morbidity and mortality among PLHIV in Kenya. In 2011, up to 40% of the notified TB cases in the country were HIV seropositive. Although there lacks on the real burden of TB among people living with HIV approximately 16% of all notified TB cases were referred from non TB, HIV testing, care and treatment sites.

The magnitude of the dual epidemic in the country, called for renewed efforts in the scale up of the implementation of the full spectrum of the collaborative TBHIV activities by DLTLD AND its partners with a focus on providing quality and comprehensive care.

3.2.1 Key activities

Implementation TBHIV activies were geared towards achieving three main objectives namely:

- Setting up mechanisms for collaboration between the HIV and TB program
- Reducing the burden of HIV amongst TB patients
- Reducing the burden of TB amongst People living with HIV/AIDS

3.2.1.1 Strengthening Mechanism for Collaboration

In the course of the year, TB/HIV committees at national, provincial and districts levels continued to hold their quarterly collaborative meetings at respective levels with support from partners in the field.

At the national level, DLTLD, NASCOP and partners during their meetings mainly focused on discussing strategies to ensure that the full spectrum of collaborative activities were implemented including the roll out of rifabutin as a substitute for rifampicin in patients with TB and also on second line antiretroviral therapy

3.2.1.2 Reducing the burden of HIV among TB patients

DLTLD introduced HIV testing in clinical settings in 2005 as an entry point to comprehensive care for the dually infected. This is offered in the context of the three C's (Counseling, Consent and Confidentiality). Over the years the division has consistently met and exceeded targets set for HIV testing among TB patients. Like the other years, the division met the 90% target and surpassed it with 2 points. Efforts are being made to address challenges that limit the achievement of the Divisions ultimate goal of making HIV testing universally accessible to all TB patients and suspects.



Figure 20: HTC Uptake in Kenya

Treatment of HIV related opportunistic infections in the TB/HIV coinfected individuals significantly reduces mortality. Towards this end, DLTLD has continued to scale up the provision of cotrimoxazole preventive therapy with the aim of not only reducing mortality but also to improve the patients' quality of life. By the end of 2011, 99% of all HIV infected TB patients had been put on CPT surpassing the year's 80% target.

Concomitant initiation of ART and ant-TB therapy is life saving. In 2011, deliberate efforts were made to improve access to early antiretroviral therapy through integration of ART in TB clinics. The division for the first time achieved and surpassed its ART targets. Nationally, 69% of all TB/HIV coinfected patients against a 50% Target received ART compared to 47% the previous year. It is also worth noting that the revision of the ART guidelines may have contributed to the improved ART uptake.

The division has continued to provide HIV prevention care and support services in all the service delivery points including condom promotion and distribution. In 2008, DLTLD introduced prevention with positives (PwP); an intervention that calls for meaningful involvement of PLHIV in prevention of the spread of HIV. In the same year reporting and recording tools were modified to start capturing key indicators of performance of this intervention including sexual partner testing. Although the division has done well in the implementation of PwP, the division with its partners carried out a joint support supervision to implementing sites during which challenges facing providers in recording of the indicators were noted. The division has since then engaged in a process of revising its data capture tools to improve the data quality

3.2.1.3 Decreasing the burden of TB among PLHIV

In the past few years, the ministry has been focusing on the scale up of activities geared towards reducing the burden of TB among PLHIV namely Intensified TB case finding (ICF), Infection Prevention and Control (IPC) and isoniazid Preventive Therapy (IPT) in an effort to optimize the implementation of TB/HIV collaborative activities.

Intensified TB case finding

Although the current monitoring and evaluation tools do not support routine reporting on the proportion of PLHIV screened for TB, reports from support supervisory visits indicate that a large proportion of PLHIV in HIV endemic regions are routinely screened. During the year, the TBHIV TWG revised the intensified TB case finding tool to

make it more sensitive for the purpose of supporting IPT. An additional section was include in the tools for recording IPT intervention.

Isoniazid preventive therapy (IPT)

During the year significant gains were made towards the implementation of IPT. In a ptlc MEETING HELD at Elmentaita Lodge, provincial coordinators agreed to ROLL OUT IPT in 2 facilities in each of the 12 TB control regions. This was followed by finalization and rollout of the integrated ICF/IPT tools in a PASCO-PTLC meeting held in NAkuru in October. The implementation of IPT in the 24 selected sites is an adds to the previously supported groups/ sites:

- Congregate settings; prisons, military, children homes
- Target groups; HCW, children exposed to open TB
- Selected health programs whith adequate systems and structures; e.g. EDARP, AMPATH and MSF
- Controlled research programs

3.2.2 Capacity building

TB/HIV Capacity building was centered on provision of comprehensive TB/HIV care particularly strengthening the capacity of the HIV program to screen for TB, the TB program to handle ARV and the two programs capacity to conduct operation research. At the national level, the DLTLD TB/HIV focal person attended the Pan African Thoracic Society's Methods in Epidemiological Clinical and Operations Research (MECOR) training.

Peripheral health care workers underwent training to improve their capacity in managing the dually infected patients. Some of the capacity building activities include training in TB/HIV, IMAI, PWP, Nutrition in TB as well as a series of mentorships programs that were targeted at the poorly performing districts.

3.2.3 Funding

Funding for TB/HIV collaborative activities was received from various sources including GOK, Global Fund, CDC, USAID and other partners. Activities funded during the year included trainings, procurement of M&E tools and logistic support.

3.2.4 Challenges

One of the greatest challenges facing the dually infected patient relates to linkage to comprehensive care and treatment and specifically linkage to ART. Although TB treatment services have been decentralized to low level facilities, HIV treatment services are still offered in a limited number of higher level facilities. This presents a challenge in access of HIV care and treatment to majority of the TB patients on treatment at low level facilities. To overcome this challenge, DLTLD and NASCOP scaled up targeted decentralization of ART to TB treatment sites with remarkable results.

Other challenges that continue to impede implementation include how to strengthen health care delivery systems to sufficiently respond to increasing resource demands, financial, human resource, logistics and infrastructure. In particular, there is shortage of funds to train all health care workers in all health facilities (both public and private), creation of space in the TB clinics to respond to the additional demands for testing for HIV and for offering counseling and provision of ARV. Training of HCW has mainly been through partner support and in particular CDC, TB CAP and WHO, PEPFAR. None PEPFAR funded Partners in the field have also played a key role in supporting training of health care workers.

3.3 Leprosy Control

Kenya has achieved leprosy elimination targets and is now pushing towards leprosy eradication. This requires additional resources for the intensification of post-elimination leprosy activities.

3.3.1 Key Activities

The division carried out a number of activities towards leprosy control including: resource mobilization, development of leprosy training materials and SOPs, support supervision and on job training of health care providers.



DLTLD management staff share a light moment with AIFO president (left) and country office staff in DLTLD central unit during the president's visit to Kenya.

3.3.2 Capacity building

Owing to the decrease in number of leprosy cases, there is a general loss of competence of health care workers in diagnosis and management of leprosy. To ensure that trainings and sensitizations are done in a systematic and standardized manner DLTLD, and partners with support from AIFO developed a leprosy training curriculum that is to be pretested in 2012. This curriculum will be used to conduct leprosy training in Leprosy endemic areas.



The division hopes to receive more support in the next financial year to support additional activities including dermatology polyclinics, patient rehabilitation and coordination meetings.

3.3.3 Funding

The division received funding support from AIFO Kenya office with commitment from the Italian office for additional funding support the next financial year. DLTLD staff with support of AIFO also participated in community based rehabilitation activities within Nairobi.

The division continues to receive funding support from WHO through the provision of anti-leprosy medicines free of charge to Kenya.

3.3.4 Challenges and Constraints

There has been minimal funding of leprosy control activities since its elimination in 1989. Consequently, there has been no focused training of staff on leprosy. The division therefore recommends on the job training of care providers during routine support supervision. This is not usually effective given the large number of health facilities to be supervised.

3.4 Programmatic Management of Drug Resistant TB (PMDT)

3.4.1 Case Finding

MDRTB cases diagnosed and notified to WHO in 2011 were 166 patients. There were 2 XDRTB diagnosed and notified to WHO in March and November 2011. However the one diagnosed in March died after 2 months whereas the other one is on treatment

Meetings

Meeting with PTLCs and stakeholders at Merica to review the SOPs and M & E tools in May 2011

Nakuru review meeting in June 2011 with PTLCs where ways of managing the DRTB patients was deliberated on.

Workshop on developing PPM and work place policies was done in Machakos in August 2011 **Capacity building**

Activity	No. trained	Source of
		funds
TOTs on DRTB	60	World Bank
Health care workers trained on DRTB	360	TBCARE
Health care workers trained on DRTB	360	GF
Health care workers trained on DRTB	105	Water reed
Sensitization of staff in private sector	500	GF
Total	885	

Patient support

All the MDRTB patients received transport and nutritional support from TBCARE and GF Decentralization of DRTB services increased from 26 sites in 2010 to 84 sites in 2011

Commodity supply

Second line drugs were donated by UNITAID for 189 new patients. Masks supply was sufficient during the year procured through CDC and GF support

Supervision

Mentorship mission was successfully done in February 2011 where 10 officers from Kenya DLTLD visited Rwanda to learn the best practices in DRTB management. This mission was supported by World Bank

Kenya hosted GLC mission in August 2011 which offered technical assistance Supportive and targeted supervision was done throughout the country

3.5 Pharmaceutical Management unit

This unit is responsible for handling the supply chain management of the divisions' medicines in order to avoid interrupted supply to all facilities in the country. The unit has two pharmacists, one pharmaceutical technologist and two record officers. One pharmacist joined the division in May 2012. There were many activities that were undertaken by the Unit in the year.

3.5.1 Key activities

3.5.1.1 Finalization and Dissemination of the post market surveillance report -2009

The results of the PMS report were finalized and disseminated among the Key stake holders through support from the Management Science for Health in collaboration with the Pharmacy & Poisons Board.

3.5.1.1 Missions and Meetings

a. Global Drug Facility (26-30 September 2011)

A Monitoring mission organized by the World Health Organization (WHO) for the Global Drug Facility (GDF) support for 2nd term 1st year paediatric grant and adult direct procurement was conducted in September 2011. Two consultants from the GDF i.e. Dr Pierre-Yves Norval (WHO HQ) and Barbara-Kashi Carasso (HMST – WHO consultant) participated in this annual supervisory visit.

The mission Purpose/objective of visit;

- Review performance of National TB programme in drug management, programme management and case management
- Review adherence to GDF terms and conditions of support
- Follow up on recommendations made by previous GDF mission
- Estimate TB drug needs (FLD) for adults and children for next year
- Determine if GDF support should continue

To assess the country's preparedness to garner the second year support of pediatric TB medicines from GDF. This mission was very successful since the country was fully prepared. Several recommendations were made by the GDF consultants to further strengthen TB medicines management in the country. These recommendations have been adopted.

b. Green Light committee

The pharmaceutical unit participated actively in the preparations for the green light committee visit in the country in August 2011. The visit included a visit to the KEMSA stores, and sampled field visits to see the rational utilization of the first & second line anti-TB medicine in the treatment facilities.

3.5.1.2 Commodity security sub-committee

The Pharmaceutical unit continued to meet and evaluate the status of the commodities in the country. These meetings were made possible through commodity management meetings were supported by Management Science for Health (MSH).

3.5.1.3. Review of the Data recording and reporting tools workshop

A joint meeting was held to review the commodity recording and reporting tools at Nyeri. The meeting involved all the stakeholders and a small team was selected to finalize the tools drafts for printing.

3.5.2 DLTLD FORECASTING, QUANTIFICATION & PROCUREMENT PLANS

a. Forecasting & Quantification and Procurement Planning for DLTLD commodities 2011/2012 and 2012/13 – 2013/14

Forecasting and Quantification exercise was conducted to ensure commodity security in the country. This exercise involved the use of appropriate and agreed upon software in quantification of the division's one year commodity requirements (2010/2011) for medicines and laboratory reagents

There were two exercises which were carried out for this exercise;

i. Forecasting & quantification for financial year 2011/2012:

This meeting was conducted in July 2011 at Machakos. The exercise was led by the DLTLD in collaboration with other stakeholders. The financial gap analysis was determined and shared with the government and other stake holders.

The DLTLD was able to use the report to lobby for more support from the government and partners i.e USAID where by the DLTLD received support for the second line drugs from the partner. The government made an increment of the annual budget for the procurement of commodities from Ksh 150 million to Ksh 210 million

ii. Forecasting & quantification for financial year 2012/2013 to 2012/2014

The forecasting and quantification for the financial year 2012/2013 to 2012/2014 was done in March 2012 at Nakuru –Merica hotel. This activity looked to identify the DLTLD requirements for the financial year 2012 to 2014. According to this report, the 2012/2013 financial gap is **KSH 853,061,060.25**. This report will be disseminated to all the key partners in June 2012.

3.5.3 COMMODITY MANAGEMENT

a. Handing over of the commodity management from the DTLCs to the pharmacists:

The decision to transfer the management of commodities to the department of pharmacy at the districts was arrived at with instructions from the director of medical services & Director of Public Health.

The handing over of commodity management was aimed at improving the commodity management and quality of the rational use of the anti-TB medicines and other related commodities. The handing over process involved sensitization of the district pharmacy staff at the districts hospitals and organizing for a smooth transitioning for the reporting at the districts level between the DTLCs and the Pharmacists

b. The pharmacy unit achievements are;

- Participated in the development of the guidelines for the Lung disease
- Revised the commodity recording and reporting tools
- Participated in the training of the medium level managers
- Attended the national DRTB training at Nairobi
- Dr Richard Muthoka attended the "Crown Agents Certificate in Procurement for Senior Executives October 2011" in London, UK
- Dr Newton Angwa received a 2 year fellowship from the MOPHS to undertake a masters program on Epidemiology from May 2012 2014

c. Challenges

- Delayed procurement of anti-TB medicines caused shortages and challenges in redistribution and understocking of medicine commodities at the facilities
- Delay in distribution of TB/leprosy commodities and servicing orders by KEMSA remains a big challenge
- Late and low reporting rates (less than 70%), therefore leading to challenges in Quantification and Forecasting of commodities
- Challenges in the management of Adverse drug reactions especially among patients who are on second line drugs

4 **PREVENTION AND HEALTH PROMOTON SECTION**

ADVOCACY, COMMUNICATION AND SOCIAL MOBLILZATION

Introduction

Under Prevention and Health Promotion section there are four units namely:

- Advocacy, communication and social mobilization (ACSM)
- Infection prevention and control (IPC)
- Community based TB care, poverty and Gender
- TB in Congregate settings (which include Prison services, Informal settlements, School programs among others)

Officers in this section

Samuel Misoi-ISO/ACSM focal person and Head of Prevention & Health Promotion (P&HP) Jane Onteri- ACSM, Coordinator Everline Mbaisi - Infection prevention and Control, Coordinator Susan Gacheri –CTBC, Poverty and Gender, Coordinator James Sekento – TB in congregate settings coordinator

MASS MEDIA CAMPAIGNS

Under Global Funds Round 5, funds were available to carry out mass media campaigns using TV, radio and newspapers to create public awareness and drive demand for TB services. The overall goal of the mass media campaign project was to reduce the delays in TB diagnosis, ensure improved and early case finding by educating the members of the public on essentials of TB management. The overall objective was to carry out mass media campaign on TV, radio and newspaper including community linked messages to drive for the demand for TB services. It was estimated that airing of live talks, TV, Radio and newspaper adverts will reach at least 12 million people in 6 weeks. The campaign was carried as from March to April 2011

The following activities were carried:

- a. Interactive radio talks,
- b. Radio spots/commercials
- c. Radio and TV spots/commercials and
- d. Newspaper advertisements, using developed materials.

Activity	Number aired	Comments
Interactive radio talks	38	• A total of 6 topics, two sessions each were covered in six weeks in the interactive live talks in both the national and regional radio stations
Radio spots/ commercials	1,176	 Radio spots/commercials were aired for a total of 6 weeks The airing was during prime time for both the national and regional stations Spots were aired in English, Swahili, Luo, kikuyu, kisii, kalenjin, Meru, Somali, Luhya and Kamba FM tations
TV spots/commercials	444	 TV spots/commercials were aired in 6 stations for a total of 6 weeks Two TV stations that is KBC and Citizen TVs provided 6 and 5 weeks sponsorship respectively The timing for airing was during prime time
Newspaper Advertisement	54	 A total of 54 newspaper adverts were placed in 5 selected newspapers. Two adverts were placed in 4 newspaper per week for a total of 6 weeks In one, one advert was placed in newspaper per week for a total of 6 weeks

World TB Day 2011

The World TB Day (WTBD) is commemorated annually to remember work done by the early scientists; this event takes place annually on 24th March, worldwide.

In 2011 was second year of the two-year World TB Day Campaign built around the theme of Innovation and the slogan; "On the move against tuberculosis". This year's campaign challenged us to look at the fight against TB in an entirely new way: that every step we take should be a step towards TB elimination.

The major activity planned for 2011 World TB Day commemoration were to carry out public education and pamphleteering on the basic facts of TB prevention, control and treatment activities country wide.

The following activities were carried out:

- i. planning meeting =n 8,
- ii. design of the IEC and promotional materials = n10 (different types),
- iii. speeches =1,
- iv. newspaper supplements =placed in 4 newspapers,

IEC and Promotional Materials

The following are the IEC materials that were printed for WTBD

Item	Quantity	Item	Quantity
Posters TB prevention	2500	Round neck T-shirts	900
Reflector Jackets	250	Ordinary Caps	150
Road Banners	14	Round caps	150
Roll up Banners	6	Stickers	300
FAQs on TB	5,000	Sun visors	300
Media Kit – Soft Copy	300	Calendars	2,050
Polo T-shirt	900	Media Kit –hard copy	400

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The IEC and promotional materials were distributed to all the TB zones and the partners

Speech and Newspaper supplements/Adverts

The committee developed one speech for the minister to present during WTB day commemoration. The following Newspapers were engaged in placement of supplements and adverts:

Newspaper	Activity
Nation	Supplement (25 th March)
Standard Newspaper	Supplement (24 th March)
Taifa Leo	Supplement (24 th March)
The Star	Supplement (24 th March)

Actual event / Procession

The world TB day 2011 main event was held in Eastern South, Machakos Town. The procession led by Police Band was flagged off by the Minister for Public Health and Sanitation. The motorcylce, Ministry of health staff, MTC students, partners and the general public participated in the procession.

Flagging off the Procession



The above photograph on the left shows the Minister flaggig off the procession and on right viewing some of the exhibitions at Kenyatta Stadium, Machakos Town

GLOBAL JUORNALIST MISSION

The Division of Malaria, TB and HIV/AIDS receives global fund for prevention and control of the three diseases. For this reason global fund send global journalists on a mission to assess the global fund activities, achievements and the challenges. The mission took place as from 26^{th} to 28^{th} September 2011.

The following Journalist visited the country:

- 1. Koen Vidal Belgium
- 2. Marcela Rojo Global Fund Media Officer
- 3. Natalia Matter Protestant Press Agency- Frankfurt
- 4. Aretha Yarak Wesite of Veja Magazine Brazil

- 5. Muiguel Rozas Pashley Print Media
- 6. Mia Collios Freelance Photography
- 7. Iweger Adterstan Swedish daily
- 8. E. Baris Altintas Today's Famen Turkey

Community TB care, Poverty and Gender

The Division of Leprosy, TB and Lung Disease in line with the international Stop TB strategy implemented Community TB Care (CTBC) activities throughout the year with support from the Government, partners and NGOS.

Main activities done at the national level were:

- 1. Policy and policy document development/ review
 - a) Community TB Care raining Curriculum & manuals were Reviewed with support from AMREF
 - b) Community Health Strategy training curriculum for Community Health Workers: A 10 hour session(module 12) on TB was developed and integrated into the curriculum
 - c) A focused group discussion (FGD) on Poverty 7Gender was conducted in Kitui and Mutomo district in August. FGD findings being incorporated into the policy document.
 - d) Development of the Poverty & Gender policy document on progress.
 - e) A CHWs Health education tool (FLIP Chart) pretested in Riruta Health center. Population reached-approximately 600.
- 2. Technical Support supervision to provincial and district levels were done alongside the routine DLTLD supervisions to Provinces and districts
- 3. Technical meetings: The Division continued to actively participate in the Community Health Strategy ICC (CHS-ICC) meetings coordinated by Hernett.
- 4. Operational research:
 - a) A Focused group discussion on Gender & poverty was done in August in Kitui and Mutomo districts
 - b) Protocol on validation of verbal autopsy was developed and submitted to KHN ERC (August).
- 5. WTBD: Community members including youth groups actively participated in the WTBD commemoration in Machakos (Kenyatta stadium).

Key activities implemented at the community level included:

- 1. Patient referrals
- 2. Defaulter tracing
- 3. Contact tracing and
- 4. Provision of DOT: This was done mainly done by family members.

TB Infection Control

Tuberculosis remains a major global health problem. In 2010, there were an estimated 8.5-9.2 million cases and 1.2-1.5 deaths. TB is the second leading cause of death from an infectious disease worldwide. TB infection control is one of the components of STOP strategy with a goal of reducing the global burden of TB.

Progress in scaling up TB infection control

Kenya began intensifying TB infection control implementation in 2009; key steps undertaken included;

- Training of health care workers
- Assessment of health facilities for risk of TB transmission
- Development of health facilities TB IC work plans
- Implementation of TB IC interventions
- Follow up visits and supervisions

Priority was given to high volume facilities and drug resistance treatment sites.

Development of training materials

The need to establish a common training curriculum was identified that led to commencement of the process of curriculum development. This included development of trainers' manual, participants manual and the slides. The first meeting was held in Mombasa in May 2011 that culminated in draft documents. The curriculum was pretested in a training conducted in November 2011 at Machakos Technical Training Institute. A second meeting to complete the development process has been scheduled for 3rd quarter of 2011/2012 financial year.

Developing human capacity

Under the support of World Bank, a training of trainer was conducted in November 2011 in Machakos, with 25 TOTs trained. The participants were drawn from the 12 regions focusing mainly on the new PTLCs, provincial nursing officers, provincial public health officers and hospital nursing officers.

Training of healthcare workers on TB infection control was conducted in December 2011 in seven regions under the support of Global Fund, as shown in the table below

Region	No. facilities (No.	Risk Assessment	Work Plan
	Healthcare Workers	conducted	Development
	Trained)		
Nairobi North	5 (25)	Yes	No
Nairobi South	6 (25)	Yes	Yes
Coast	5 (25)	Yes	No
Central	5 (25)	Yes	Yes
Rift Valley South	6 (25)	Yes	Yes
Eastern South	4 (25)	Yes	Yes
Eastern North	5 (25)	Yes	No
Nyanza North	5 (25)	Yes	Yes
Nyanza South	5 (25)	Yes	Yes
Total	46 (225)		

 Table 1: TB IC Activities and number of healthcare workers trained

In total 175 health-care workers were trained. This adds up to over 265 healthcare workers trained so far on TB IC. Following the 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.

Implementation of TB infection control

Approximately 44 facilities are currently implementing TB infection control measures. This includes the recently trained facilities and the initial high volume sites.

Personal protective equipment

There was an adequate supply of N95 respirators. These were distributed to all regions with MDR TB treatment sites.

Isolation facilities

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

Challenges

- Follow up and supervisions minimal
- Limited funds for scale up of TB IC in all facilities
- Data and training in the private facility not readily available
- DTLCs not trained
- No reports from the regions on the status of TB IC implementation

TB in Congregate Settings

The activities in this unit have not been fully implemented due to some coordination issues, despite the hiccup, activities covering school health and prisons have been going on. Some of the activities being implemented by GK Prison health services, Ministry of Health and partners. IMC has been the key partner in implementations of TB c control activities in Prison. The other partner who has interest in the uniformed services is the PATH. The data from two key partners and Prison Health Services need to be compiled in future. Prison health facilities contribute 1% of the total patients under treatment in the country.



ISO Certification Process

Main ISO activities by DLTLD in 2011 were undertaken which included hiring of consultant to complete the development of ISO documents, undertaking two internal audits, staff sensitization, carrying out corrective action arising the two internal audits and improvement of QMS & documentation process. The remaining key steps for ISO Certification process are application for certification/registration, stage 1 and 2 external audits and certification

Out of the 17 steps involved in the ISO certification process, the division has managed to implement 13 steps with 4 steps remaining. This denotes that we are at 76% on achievement. DLTLD looks forward to complete this process by end this financial year 2011/2012

TB sputum smear microscopy services 2011

In 2011 microscopy diagnostic services sites increased from 1475 to1581 a moderate increase from the previous year majority of which are mainly GOK and Mission hospital facilities. Sputum smear microscopy is still the main lab diagnostic method for tuberculosis. The division has introduced LED FM microscopes in 150 high volume laboratories this includes all eight PGH laboratories and busy district hospitals. The microscopy diagnostic sites coverage per population has gone down to 1 lab to 26,000 compared to 100,000 as recommended by WHO. The division is now keen on improving the quality of services in the current laboratories rather than decentralizing further.

	Workload 2011 (smears)							
	Province	Total smears	pos	%				
1	Nyanza N	35322	4458	12.6				
2	Coast	80772	6544	7.8				
3	Estern North	16958	2430	14.3				
4	Eastern South	84385	10235	12.1				
5	North Eastern	13818	1611	11.7				
6	Nyanza North	85553	7344	8.6				
7	Rift valley North	56839	6126	10.8				
8	Nairobi north	76544	7765	10.1				
9	Nairobi South	83064	10280	12.4				
10	western	46246	5402	11.7				
11	Central	88469	9387	10.6				
12	Rift valley South	78205	8509	10.9				
I	kenya	669256	73777	11 .0				

EQA

GFATM and TBCARE continued supporting EQA activities in all regions in terms of per diems, lunches and transport to DMLTS and PMLTs to enable them give EQA feedback to diagnostic centres. By the end of 2011 EQA coverage was 84 %. With an average concordance of 97 % see table below

TABLE 1: KENYA 2009 QT 4 to	2011 Q	T 3 Al	FB MIC	CROSC	OPY E	QA AN	ALYS	IS
		QT				QT 1,		QT3
	QT 4, `	1,	QT 2,	QT 3,	QT 4,	' 11	QT 2	' 11
Quarters	'09	'10	'10	'10	'10		'11	
Number of operational laboratories	1,226	1,283	1,283	1388	1431	1538	1,581	1581
Number of those rechecked (%)	593	732	558	1030	1082	1230	1,283	1292
EQA coverage	48%	57%	43%	74%	76%	80%	81%	82%
Number of positive slides rechecked	884	1,164	787	1428	1,562	1746	2113	2257
Number of negative slides rechecked	5,776	7,118	5,563	10431	10,882	12372	11894	12517
Overall percentage positives in the								12%
laboratories' routine	12%	13%	13%	13%	12%	12%	11%	
Overall percentage high false positives	11%	5%	8%	6%	6%	4%	5%	4%
Overall percentage false negatives	1%	1%	1%	1%	1%	1%	1%	1%
Overal percentage true positives / all								99%
positives	99%	99%	99%	99%	99%	99%	99%	
Overall detection proportional to the								1.03
controllers	0.96	1.01	1.01	1.01	0.98	1.05	0.95	

TABLE 4; 2011 QT 3 ERROR RATES

/									
	Total								
	FP	Total FN	HFP	LFP	HFN	LFN	QE		
ERROR									
RATES	6.1%	0.8%	4.0%	2.1%	0.5%	0.3%	4.2%		

AFB & EQA Trainings

TBCAP supported a regional EQA training workshop here in Nairobi which involved several African countries. Five lab staff from Kenya attended. This was closely followed by TOT for the newly introduced TBCAP tools for all PMLTs and in charges of referral hospital labs. 50 DMLTS in four provinces were trained on the usage of the newly introduced TBCAP laboratory tools. Partners such as Walter Reed, APHIA II, ICAP, PATH etc also supported trainings in their target districts.

One staff from CRL attended 2 weeks Culture and DST training in South Africa while 2 lab other staff also attended a 5 day training on Bio safety in the same place. These trainings were supported by CDC coag'

Lab Supplies

Lab commodities especially Stains and other consumables for ZN staining were adequate and no shortages were reported in all the provinces. Facilities using Fluorescent microscopes experienced shortage of ethanol. No renovations took place in 2011. Jica seconded a TB lab medical technologist who assisted the division in areas of sputum smear microscopy and culture and DST. Through JICA support the division acquired 102 Fluorescent microscopes and 20 form TBCARE which were distributed to all labs with a workload of 5 and above smears per day. Training on the usage of the FM LED microscopes was also carried out in the sites with FM JICA support. Jica also assisted in training all the users

Constraint

Human recourse remains a big challenges as majority of the diagnostic centres at the peripheral level are manned by one lab staff. There is also a high staff turnover, which affects the quality of our work. Infrastructure is a big problem in terms of space and ventilation. This is a big concern in the area of infection control.

3.5 Central reference TB laboratory (CRL-TB)

The Central reference TB laboratory plays a critical role in MDRTB diagnosis, surveillance, and patient management.

During the year, the Central reference laboratory ensured that:

- Drug resistance testing was done among previously treated TB cases (FLD/SLD)
- Laboratory processes are quality-assured in cooperation with a partner supranational reference laboratory.
- Strengthening laboratory information and surveillance systems is done to ensure detection and monitoring of the epidemiological profile of mono resistant, poly, multidrug-resistant and extensively drug resistant tuberculosis and monitor achievement in its prevention and control.

MDRTB surveillance was contacted among retreatment TB case and their contacts. By the end of 2010, sputum for 69% of all the retreatment cases and MDR contacts in the country had been submitted to the CRL for routine culture and DST. This was below the national target of all (100%) sputum submission for the retreatment cases.

 Table 6: Trend of sputum submission to CRL 2005 to 2010

Year	2005	2006	2007	2008	2009	2010
Sputum Samples	1,460	2,511	4,403	5,135	6,569	7,256
Number of retreatment cases	8,975	10,299	10,462	10,444	10,676	10,479
Percentage submission	16%	24%	42%	49%	65%	69%

The CRL has taken advantage of the funding support to make available, sufficiently trained and motivated staff to enable diagnosis, treatment and care of tuberculosis including multidrug-resistant and extensively drug-resistant tuberculosis, as an integral part of efforts to address the overall health workforce crisis; strengthening laboratory systems, through increasing capacity and adequate human resources, and accelerating access to faster and quality-assured diagnostic tests through technology transfer at the Reference TB laboratory.

3.6 Pharmaceutical Unit

This unit is responsible for handling the supply chain management of the divisions' medicines in order to avoid interrupted supply to all facilities in the country. The unit had two pharmacists, one pharmaceutical technologist who joined the division in November 2010 and two record officers in 2009. Many activities were undertaken throughout the year.

3.6.1 Key activities

3.6.1.1 Finalization of the post market surveillance report

The results of the PMS report were finalized and shared among the key stake holders. This report was further shared in the international union on November 2010.

3.6.1.2 Missions and Meetings

Global Drug Facility (March 2010)

A Monitoring of GDF support for 2nd year paediatric grant and adult direct procurement was conducted in March 2010. Two consultants from the GDF participated in this annual supervisory visit.

The mission had the following objectives;

- a) Quantification of next drug supply needs (including the last two years of the WB-TOWA grant for adult anti-TB drugs)
- b) Recommendation on renewal of GDF support
- c) Verification of adult anti-TB drugs procurement with government funding
- d) Discussion of the new WHO paediatric dosage recommendations

To assess the country's preparedness to garner the second year support of pediatric TB medicines from GDF. This mission was very successful since the country was fully prepared. Several recommendations were made by the GDF consultants to further strengthen TB medicines management in the country. These recommendations have been adopted.

Green Light committee

The pharmaceutical unit participated actively in the preparations for the green light committee visit in the country in August 2010. The visit included a visit to the KEMSA stores and sampled field visits

Commodity security sub-committee

The unit formed a national coordinating commodity management committee with specific terms of reference early in the year. Several committee meetings have been held and this has led to streamlining of commodity management activities in the division including involving other partners and technical experts in this field. The commodity management meetings were supported by Management Science for Health (MSH).

3.6.1.3 Electronic Data reporting training, piloting and roll-out

The division managed to train DTLCs as ToT's in all districts on the use of the electronic aggregated data reporting tools. Currently, over 70% of the districts in the country are able to send their reports electronically to the Logistics management Unit at KEMSA

3.6.1.4 Quantification and Funding for DLTLD commodities

Forecasting and Quantification exercise was conducted to ensure commodity security. This exercise involved the use of Quantimed software in calculating the division's two year commodity requirements (2010/2011) for medicines and laboratory reagents and equipment. A concise report was reproduced for this exercise listing the commodity requirement and finances required in having these commodities. Technical and financial support provided by partners; - MSH, KNCV/TBCAP and the GF –PSCMC

3.6.1.5 DLTLD commodity financial gap analysis for 2010 and 2011

The funding for DLTLD commodities was made possible through support from the Government, Global fund, WHO, GDF and UNITAID (is supporting treatment of up to 390 MDR-TB patients with half the number being put on treatment).

The first phase of World Bank TOWA funding (USD 2 million) for first line TB commodities was approved and drugs delivered from September 2010. The second disbursement of USD 2 million is waiting signing of the agreement for the payments to be effected by the NACC to the GDF.

Currently, the division has a financial gap of **Ksh 182,300,750** to meet medicines need. Since 2006, Global Drug Facility (GDF) stopped supporting procurement of the adult anti-TB first line drugs

3.6.2 Achievements

- Rolled out of distribution of commodities from KEMSA direct to all the districts
- Training, piloting and roll-out of the electronic data reporting by the DTLCs
- Revised the TOTs LMIS training curriculum for use by the health care workers
- Participation in the development of the medium level managers training curriculum
- Involvement of partners in the monthly commodity sub-committee meetings
- Participation in the development and training of HCWs on ACEM-IT
- Forecasting and quantification of the DLTLD commodities
- Participation in the development of division's strategic plan (2011-15)

3.6.3 Challenges

- Delay in distribution of TB/leprosy commodities and servicing orders by KEMSA.
- Late and low reporting rates (less than 50%), therefore leading to challenges in Quantification and Forecasting of commodities
- Inaccurate filling of LMIS tools due to lack of training especially for DTLC's and other health care workers

Slow pace of involvement of pharmacists in integrated commodity management at the district level

Policy, planning and Research Section

Throughout the year, the section continued to spearhead monitoring and evaluation activities for various programs within the national office and the field as well as manage routine TB, leprosy and DRTB surveillance data.

3.6.4 Key activities

3.6.4.1 Development of the new strategic plan

The year 2010 marked the end of DLTLDs strategic plan 2006-2010. Meetings were held to develop the new strategic plan for DLTLD during this period which was successfully crowned by the launch of the new strategic plan 2011-2015 on the 20th September 2010 to mark a new dawn for DLTLD.

3.6.4.2 Biennial planning meeting

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

3.6.4.3 Support supervision

Support supervision was carried out in the 12 TB control provinces with support from CDC, Global Fund, WHO and USAID. This was not done as planned due to competing tasks but the ones carried out were redirected to focus on the 30 poorly performing districts.

3.6.4.4 PDA reporting and recording system

Implementation of PDA has been ongoing and the section has been offering technical support to the implementing regions. Plans to roll out the PDA system of reporting to the remaining regions by the end of 2011 are underway.

3.6.4.5 Development of the web based surveillance system

DLTLD through the section is in the process of establishing a web based surveillance system to ease data management. Planning meetings were held between the division and the technical advisor in the year 2010.

3.6.4.6 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 division was also invited to participate in an on operational research training conducted by the regional centre for quality health care (RCQHC) in collaboration with Makerere University (Uganda) and the ministry of Public Health and Sanitation. The training attracted 22 participants from Kenya, Uganda, Tanzania, Rwanda and Burundi. Six (6) Kenyan participants attended the training. The main objective of the training was to enhance the capacity of health program managers, administrators and policy makers to commission and utilize Operations Research for service delivery improvement.

During the year the following assessments were conducted and their findings disseminated to DHMT members:

- Integrating HIV testing into routine drug resistance surveillance methods in Kenya
- Motivating and De motivating factors among health care workers at facility level in Kenya
- Routine data quality assessment (DQA)
- Workload assessment

3.6.4.7 Capacity building

The M/E section also carried out capacity building to field officers with support from Global Fund. The trainings were directed to mainly the DTLCs, DPHNs and DHRIOs with the aim of improving among other things recording and reporting.

No of Trainings	Thematic area	Target Group	Where conducted
5	MDR-TB	Health Care Workers	Eastern South, Central, Coast, Rift Valley
			North and Eastern North
1	ACSM	Health Care Workers -	Rift Valley North
		DHMT	
1	IPC	Journalist	Nairobi
2	TB/HIV	CHEWs	Rift Valley South, Eastern North
4	M&E	DHMT members	Coast, Eastern North, North Eastern and
			Nyanza North
1	Core TB	DTLCs	
3	Nutrition in TB		Coast, Central, Western, and Rift Valley
			North
1	TB/HIV through	Health Care Workers	Western
	Advanced Continuing		
	Medical Education - IT		
15	Commodity Management	Health Care Workers	Nationally
2	ISO – (TOT and Auditors	DLTLD staff	Nakuru
	training)		
2	TB/HIV - IMAI	Health Care Workers	Coast, Nyanza

3.6.5 Funding

During this period the division applied for global fund round 9 and qualified for funding under the new mechanism of funding by global fund. This mechanism called for consolidation of all grants (round 5 and 6 phase II and round 9) into one single stream of funding with a total budget of \$23,616,018. The process of consolidation went on during this period with development of a consolidated work plan, Performance Framework, PSM Plan and the M/E plan. Negotiations for funding are ongoing and the grant signing expected to be completed in January 2011.

3.6.6 ISO 9001:2008 certification process

The Division was selected by the ministry of public health and sanitation as a pilot for implementation of quality management system. The division began to commute the 17 steps process towards attaining a mark of quality and reputation in the healthcare sector. The first step for the division was to participate in the sensitization of senior management at the ministry.

The DLTLD staff was involved in three day training in ISO certification process offered by Kenya Bureau of Standards and a project team was identified to lead the process in having the division ISO-certified.

3.7 Advocacy, Communication and Social Mobilization (ACSM)

3.7.1 Key ACSM activities

3.7.1.1 Finalization of sensitization guides for community and health workers

The finalization of development of the community and the health workers sensitization guides were done with support from APHIA II Western. The guidelines are complete waiting to be printed when funds are made available.

3.7.1.2 World TB Day 2010 commemoration

The World TB Day (WTBD) was on 24th March, worldwide, the national event was held at Nakuru town

The year 2010 theme was "**Innovation**", and the slogan was "*On the move against tuberculosis, innovate to accelerate*". The campaign focused on individuals around the world who had found new ways to stop TB and served as an inspiration to others. The theme runs for two years from 2010 and 2011.

The major activities carried out during World TB Day commemoration included public education and pamphleteering on the basic facts of TB prevention, control and treatment activities country wide, Screening of TB suspects, inspection of MDR TB facility at Kenyatta National Hospital and the launch of intensified case finding in Prisons by the assistant Minister for Public Health and Sanitation.

Other activities included the production of IEC and promotional materials, speeches, newspaper supplements and involvement of media in dissemination of messages on basic facts on TB. A procession was held in Nakuru led by Police band.

The IEC and promotional materials were distributed to all the TB zones and the partners

3.7.1.3 Mass Media Campaigns: Radio, TV live talks, spots newspaper adverts and newspaper supplement

The following Radio and TV stations gave free slots on live talks: KBC- TV, Radio Umoja, Family Media, KTN, Coro FM, KBC Radio and Kenya Times during WTB day. News paper adverts were placed in 2 newspapers while newspaper supplement were placed in Standard, Nation and Nairobi Star newspapers. The planed national Mass media preparation started in October through support from Global fund Round 5. The campaign involved interactive live talks, spots/commercials and placement of adverts on the newspapers.

3.7.1.4 Capacity building

TB/HIVACSM training

This event took place in North Rift, Baraton University in February 2010, with a total of 33 District Health management Members trained with support from Walter Reed.

ACME –IT

The ACME –IT is Advancing Continuing Medical Education through Information Technology. This project was organized with support from PATH Kenya through its APHIA Western II project and EC Associates. The interactive distant learning brought together four institutions in western province, namely:

- Busia District Hospital
- Lugari District Hospital
- Mbale Provincial Rural Training Center/Vihiga District Hospital (joint learning center)
- Provincial General Hospital (Kakamega)

Division of Leprosy, Tuberculosis and Lung Disease provided leadership and the curriculum for the presentations.

3.7.2 STOP TB Partnership, Kenya

The Stop TB partnership was inaugurated in Kenya with formation of the National Steering Committee consisting of 12 members drawn from various organizations. Interim Secretariat with 3 officers was drawn from DLTLD and KAPTLD. The Steering committee organized and held successful Pre launch event presided over by the Minister for Public Health and Sanitation Hon. Beth Mugo. The Partnership is a nonprofit organization that is open to individual or corporate membership with a vision to support TB control activities in the country and especially in resource identification and mobilization through advocacy at all levels.

3.8 Infection Prevention and Control

3.8.1 Key activities

TB infection control remains a major programmatic intervention in TB control especially in this era of HIV epidemic and the increasing prevalence of drug resistant TB. TB infection control is a combination of measures aimed at minimizing the risk of TB transmission in various settings.

3.8.1.1 Follow up TB IPC visits

TB IPC follow up visits were done to some of the facilities with trained IPC teams and had earlier been funded to sensitize HMT through the TBCAP support. These facilities included Kakamega, Machakos, Embu, Meru, Nakuru, Kitale, MTRH and Thika. The visits revealed major improvements being undertaken to ensure minimal or no transmission of TB within health care settings. Majority (those with adequate space) of the facilities observe the outdoor waiting bay policy to enhance dilution of contaminated air and reduce infection in waiting areas.

3.8.2 Capacity Building

To ensure adequate capacity building, TB IPC modules have been included in the MDR, TBHIV and CBDOTS training curriculum. Approximately 80 HCWs were trained under the ACME – IT that was piloted in the Western part of the country under the support of PATH.

During the year, WHO did support sensitization of HMTs and development of IPC plans for the facilities that did not benefit during the previous funding from TB CAP. The Division, through the IPC focal person participated in the development of the Kenya Prisons Strategic Plan 2011-2015 to ensure the IPC component is well addressed in the prisons which form a major congregate setting.

There were minimal trainings of health care workers in the year due to minimal funding for trainings. However, two officers attended a TB IPC training organized by RCQHC, in Uganda.

3.8.3 IPC personal protective gear

There was an adequate supply of N95 respirators through the support of CDC and global fund; hence no stock outs were realized during the year. The division, through KEMSA also purchased disposable gloves and aprons as part of protective gear for use in MDR treatment centres in the year 2011.

3.8.4 Isolation facilities

There were three hospitals with isolation facilities: MTRH, Homabay and KNH. The isolation facility at KNH was not ready to admit patients by the end of the year due to financial problems. Isolation shall only be considered in special cases i.e. poor adherents; refugees; XDR TB disease; mobile populations and patients with complications necessitating admission.

3.9 Community TB Care, Poverty and Gender

The Division of Leprosy, TB and Lung Disease in line with the international Stop TB strategy implemented CTBC, Poverty and Gender activities throughout the year with support from the Government, partners and NGOS.

3.9.1.1 Policy document development/ review

During the year, WHO supported a 5 day workshop to review M&E tools. The workshop was held in July and participants were drawn from DLTLD (all levels officers), NASCOP, MOPHS, Nutrition department and KAPTLD.

The following tools were updated:

- Community Referral form
- Monthly CHWs reporting form
- Quarterly reporting forms

Other documents reviewed but are yet to be finalized were CHWs training curriculum and manuals, CTBC Guidelines and training Job aid for CHWs.

TB- Poverty & Gender policy document (final draft) was also developed.

3.9.1.2 Capacity building

Sensitization of District Health management teams and training of CHWs was done in four districts with support from WHO.

Training of CHEWs on CTBC from Hard to reach districts (Marsabit, Samburu East, Moyale, Samburu Central, Turkana Central, Turkana South, Turkana North, Kajiado North, Loitokitok Manyatta jillo Marsabit) was done in March by AMREF/DLTLD using GFs.

3.9.1.3 Out-reaches activities by TB patients

TB Advocates in Coast province were supported for 5 months (August -November) to curry out outreach activities. In total 25 TB advocates were supported by WHO to undertake the following activities:

- Door to door campaigns,
- Active case finding
- Referral of suspects
- Defaulter tracing
- Health education through community sensitization

60

Summary of outreach activities undertaken by TB Advocates

TB Indicators	Total Number
Number of TB Outreaches undertaken	74
No of suspects referred to the health facility	183
No of patients enrolled under care	17
Number of Defaulters traced	0
Number of patients who completed treatment	11
No of times supervised by a health care worker	2

Lessons learned

- Engaging TB patients goes a long way in breaking TB-related stigma within the community.
- TB patients, when engaged as treatment supporters, result in better treatment outcomes.
- Communities when engaged on TB become very instrumental in providing information on TB prevention, care and support.

3.9.1.4 Technical Support supervision

Supervision of community TB care control activities was done throughout the year alongside other routine scheduled program. Additional technical support was given to partners implementing TB Reach Project (KAPTLD, IMC) and NGOs (NEPHAK) funded with Global funds.

3.9.1.5 Mission visits

A team from Ethiopia conducted an experience sharing visit on TB Control Program in Coastal Province. The objective of the mission was to share the experience on how to run a successful TB program from national level down to the community

3.9.1.6 Conferences, Workshops and seminars

Susan Gacheri participated in the 41st International Lung union conference in November 2010, and made 2 oral presentations on:

- Partnership between NTP(Government) and Civil Societies in implementing the 3Is
- Developing and Implementing a competency-based curriculum for District managers in TB Control

She also participated in a number of workshops including:

- December: participated in the review of CHWs curriculum for the MOPHS (Community Health services).
- September: Participated in the National biennial meeting in Mombasa
- September: Participated in the 3rd PIA Regional learning meeting held in Kigali, Rwanda. During this workshop, DLTLD emerged with best performer on quality of TB health services.
- August: Coordinated and facilitated the District TB managers training: 24 DTLCs and DMLTS were trained.
- July: Participated in the Regional PIA experts meeting in Kampala
- March: Coordinated the 3RD PIA learning session held in March in Thika with support from RCQHC. DTLCs from 15 districts participated.

3.10 General Lab Services

In 2010 microscopy diagnostic services sites increased from 1,183 to 1,335 majority of which are mainly GOK and Mission hospital facilities. Sputum smear microscopy is still the main lab diagnostic method for tuberculosis. The division is in the process of introducing LED microscopy in high volume laboratories and several laboratories have graduated to using LED Fluorescent microscopes. These include all 8 PGH laboratories and a few busy district hospitals such as Homabay, Port Reitz, Kericho and Blue house. The microscopy sites coverage per population has gone down to 1 lab to 30,000 population compared to 50,000 as recommended by WHO. The division is now keen on improving the quality of services in the current labs rather than decentralizing further.

3.10.1 Key Activities

3.10.1.1 Smear Microscopy

Diagnostic sites continued to screen TB suspects and monitor patients' treatment progress as shown in the tables below

Sputum microscopy in 2010

		Patients	Patients							
	Province	New	Pos	%	F/Ups	Pos	%	Total smears	Pos	%
1	Nairobi North	30,479	4,456	14.62	6,863	320	4.7	87,480	11,512	13
2	Coast	23,063	3,583	15.54	8,327	458	5.5	70,805	8,077	11
3	Central	24,216	3,300	13.63	7,691	613	8	59,078	9,409	16
4	Nairobi South	27,353	3,581	13.09	10,290	952	9.3	78,278	9,478	12
5	Western	14,415	1,905	13.22	3,855	282	7.3	34,072	4,270	13
6	Nyanza S	14,267	2,046	14.34	5,378	233	4.3	41,202	5,369	13
7	North Eastern	7,026	912	12.98	1,919	109	5.7	18,389	1,944	11
8	Eastern north	5,946	1,170	19.68	1,325	73	5.5	14,350	2,338	16
9	Eastern South	32,161	5,514	17.14	11,836	635	5.4	75,223	9,590	13
10	Nyanza North	35,470	5,450	15.37	7,383	480	6.5	67,408	9,411	14
11	RVN	22,420	3,373	15.04	7,122	407	5.7	57,473	6,645	12
12	RVS	27,656	4,793	17.33	11,048	610	5.5	74,937	10,893	15
	Total	264,472	40,083	15.16	83,037	5,172	6.2	678,695	88,936	13



Suspect Positivity Rate

TBCAP continued supporting EQA activities in all regions for DMLTS and PMLTs to give EQA feedback to diagnostic centres. By the end of June 2010 EQA coverage was 68 % with an average concordance of 97 %. See table below

1	No of operational labs	1,335
2	Lab rechecked	868
3	EQA coverage	68 %
4	No of positives checked	1,951
5	No of negative checked	12,861
6	Overall positivity rate	13 %
7	High false positives	6 %
8	False negatives	1 %
9	Over all true +ves /all +ves	99 %
10	Over all detection proportion to controllers	1,0
11	% concordance	97.3 %

FACILITIES WITH EQA RETURNS							
			WITH	WITHOUT		≥ 95 %	
PROVINCE	QUARTER	TOTAL FACILITIES	RETURNS	RETURNS	% RETURNS	CON	% CON
1 Rift Valley North	1	108	66	42	61.1	45	68.2
	2	116	74	42	63.8	52	70.3
2 Rift Valley South	1	138	74	64	53.6	53	71.6
	2	148	79	69	53.4	52	65.8
3 Western	1	77	26	51	33.8	18	69.2
	2	94	40	54	42.6	17	42.5
4 Nyanza South	1	77	42	35	54.5	34	81.0
	2	68	42	26	61.8	33	78.6
5 Nyanza North	1	88	62	26	70.5	36	58.1
	2	108	65	43	60.2	43	66.2
6 Central	1	98	66	32	67.3	36	54.5
	2	102	58	44	56.9	38	65.5
7 Eastern North	1	17	7	10	41.2	2	28.6
	2	17	5	12	29.4	2	40.0
8 Eastern South	1	132	94	38	71.2	75	79.8
	2	136	37	99	27.2	24	64.9
9 North Eastern	1	32		32	0.0		0
	2	32		32	0.0		0
10 Coast	1	94	46	48	48.9	40	87.0
	2	104	64	40	61.5	53	82.8
11 Nairobi North	1	56	36	20	64.3	21	58.3
	2	63	35	28	55.6	24	68.6
12 Nairobi South	1	43	21	22	48.8	18	85.7
	2	51	43	8	84.3	24	55.8
SUB-TOTAL	1	960	540	420	56.3	378	70.0
	2	1039	542	497	52.2	362	66.8

3.10.2 Capacity Building

3.10.2.1 Trainings

TBCAP supported regional EQA training workshop in Nairobi which involved several African countries. Five lab staff from Kenya attended. This was closely followed by TOT for the newly introduced TBCAP tools for all PMLTs and in charges of referral hospital labs. 50 DMLTS in four provinces were trained on the usage of the newly introduced TBCAP laboratory tools. Partners such as Walter Reed, APHIA II, ICAP, PATH etc also supported trainings in their target districts.

One staff from CRL attended 2 weeks Culture and DST training in South Africa while 2 lab other staff also attended a 5 day training on Bio safety in the same place. These trainings were supported by CDC-COAG.

3.10.2.2 Lab Supplies

Lab commodities especially Stains and other consumables were adequate and no shortages were reported in all the provinces. GFATM supported renovation of 50 diagnostic centres ia all 12 TB zones in the country.

3.10.3 Constraints

Human recourse remains a major challenge as majority of the diagnostic centres at the peripheral level are manned by one lab staff. There is also a high staff turnover, which affects the quality work. Infrastructure is a big problem in terms of space and ventilation. This is a big concern in the area of infection control.

3.10.4 Achievements

- All PGH Labs now using FM
- Microscope repair contract in place
- New lab staff employed
- Renovation of labs going on in 51 labs in the country under R6 GFATM
- Recruitment and retention of lab staff through GF rd 6 support

3.11 Human Resource/Administration

The section is charged with the staff management and development, fleet management, organizational sharing and learning, procurement and financial management.

3.11.1 Key Activities

3.11.1.1 Staff Movements

The division received 10 new members of staff and 4 left to other ministries. The new members of staff were deployed as follows:

- 1 Epidemiologist -Head of Care and treatment section
- 2 accountants Accounts unit
- 1 PHO M&E unit
- 1 Pharmacy technologist -KEMSA
- 1 Driver -Administration
- 1 Secretary -Administration
- 1 Procurement -Administration
- 1 Laboratory technologist -Lab In Charge CRL
- 1 Clinical officer -MDR TB

3.11.1.2 Recruitment of medical laboratory technologists

The DLTLD through the support of Global Fund under round 6 was able to employ an additional 15 MLTs in April 2010; this brings to a total of 115 MLTs working in various facilities in Kenya.

3.11.1.3 Capacity building

The DLTLD staff both from the central unit and field participated in the various in-service training programs offered by the division and by partners. There was also attendance of both local and international participation of meetings and conferences. The following capacity building activities took place in 2010

3.11.1.4 Development of documents

The Administration and Human resource section participated in the DLTLD strategic planning process. The HR agenda was put in the DLTLD strategic plan.

The section was able to review the District TB mangers' curriculum with the technical assistance of the HR consultant from KNCV and hope to complete the process in 2011.

3.11.2 Challenges and constraints

- Resignations of hired staff after recruitment by public service commission
- Lab technicians not willing to work in hard to reach areas
- Delay in filling the vacancies left due to the bureaucracies in of replacement of staff
- Lack of funds to support long term courses
- Lack of conference room for meetings

GLOBALFUND REPORT

The Division of Tuberculosis, Lepsosy and Lund Disease received a grant from Global fund worth **USD22**, **506**,**712** for a period of 33 months starting January 2011. The program received the first disbursement of USD 5, 353, 60 through the Principal recipient which is the ministry of finance to finance various TB control activities. Some of the activities supported by the grant include:

Patient support

194 MDRTB patients were supported in terms of transport, food support and lab investigations in various MDRTB treatment sites. This has contributed to improved treatment results, alleviated the burden of disease among families majority of whom live in poverty.

Training.

The following trainings were undertaken in all the TB control regions to improve capacity of health care workers to deliver better services in their areas of concern.

Training Name	Number of Healthcare workers trained
AFB refresher course	775
MDRTB-Training	525
Intergrated management of adulthood illness and TB/HIV	75
IPC	100
Management Courses(PMU)	4

Health system Strengthening

The program recruited 4 project management officers and 50 clinical officers to improve its capacity and continues to support already over 150 lab technicians in the field. There was also procurement of 150 computer desktops, 150 printers, 150 UPSs and 198 Tablets to strengthen districts in the area of electronic reporting and LED Microscopes. The process of procuring additional motor vehicles has begun and they are expected to be delivered in 2012.

Operation Research

Under this grant 4 studies are to be carried out which are:

- 1. Prevalence survey(yet to start due to delay in procurement)
- 2. Mortality Survey-already underway
- 3. KAP survey-awaiting ethical approval
- 4. Delay in diagnosis-awaiting ethical review

The grant was rated at A2 (meets expectation) in the 2 PUDR reports submitted in the year inspite of many challenges including delay in disbursement of funds and lengthy procurement process which reduces the fund absorption rate which stood at 44% of the disbursed funds.



MAIN DISTRIBUTION LIST

- 1. Permanent Secretaries MOPHS and MOMS
- 2. Director of Medical Services
- 3. Director Public Health and Sanitation
- 4. Head Department of Disease Prevention and Control
- 5. World Health Organization Kenya Country office
- 6. CDC country office
- 7. USAID
- 8. KANCO
- 9. TBCARE1
- 10. Provincial Medical Officers
- 11. Provincial TB Leprosy Coordinators
- 12. Medical Officers of Health
- 13. District TB Leprosy Coordinators
- 14. TBCAP
- 15. Centre for Respiratory Diseases Research- KEMRI
- 16. AMREF
- 17. Malteser International
- 18. PATH- Kenya
- 19. Kenya Association for the Prevention of Tuberculosis and Lung Diseases
- 20. International Organization for Migration (IOM)
- 21. ICAP
- 22. IMC

DISTRICTS IN KENYA



1 - Mt. Elgon	7 - Busia	13 - Nyamira	19 - Nyandarua	25 - Mbeere	31 - Nithi	37 - Nyando	44 - Maragua
2 - Marakwet	8 - Siaya	14 - Kisii	20 - Murang'a	26 - Malindi	32 · Machakos	38 - Rachuonyo	43 - Tharaka
3 - Trans Nzoia	9 - Vihiga	15 - Homa Bay	21 - Kiambu	27 - Bungoma	33 - Nyambene	39-Suba	
4 - Uasin Gishu	10-Kisumu	16 - Migori	22 - Thika	28 - Meru	34 - Bondo	40 - Gucha	
5 - Nandi	11 - Kericho	17 - Kuria	23 - Kirinyaga	29 - Baringo	35 - Teso	41 - Keiyo	
6 - Kakamega	12 - Bornet	18 - Trans Mara	24 - Embu	30 - Nyeri	36 - Butere Mumisa	42 - Buret	

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Annex 2: Organizational structure of the DLTLD within the Ministry of Public Health and Sanitation



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