



**Assessment of the performance of TB
surveillance in Kenya:
Main findings, key recommendations and
associated investment plan**

Presented

By

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Country Profile



Counties	47
TB reporting Districts	256
PTLC's	12
DTLC's	256
CU staff	42
TB treatment centers	3076
TB diagnostic sites	1830
MDR TB sites	156
Culture Labs	2
Grant rating June 2013	A2



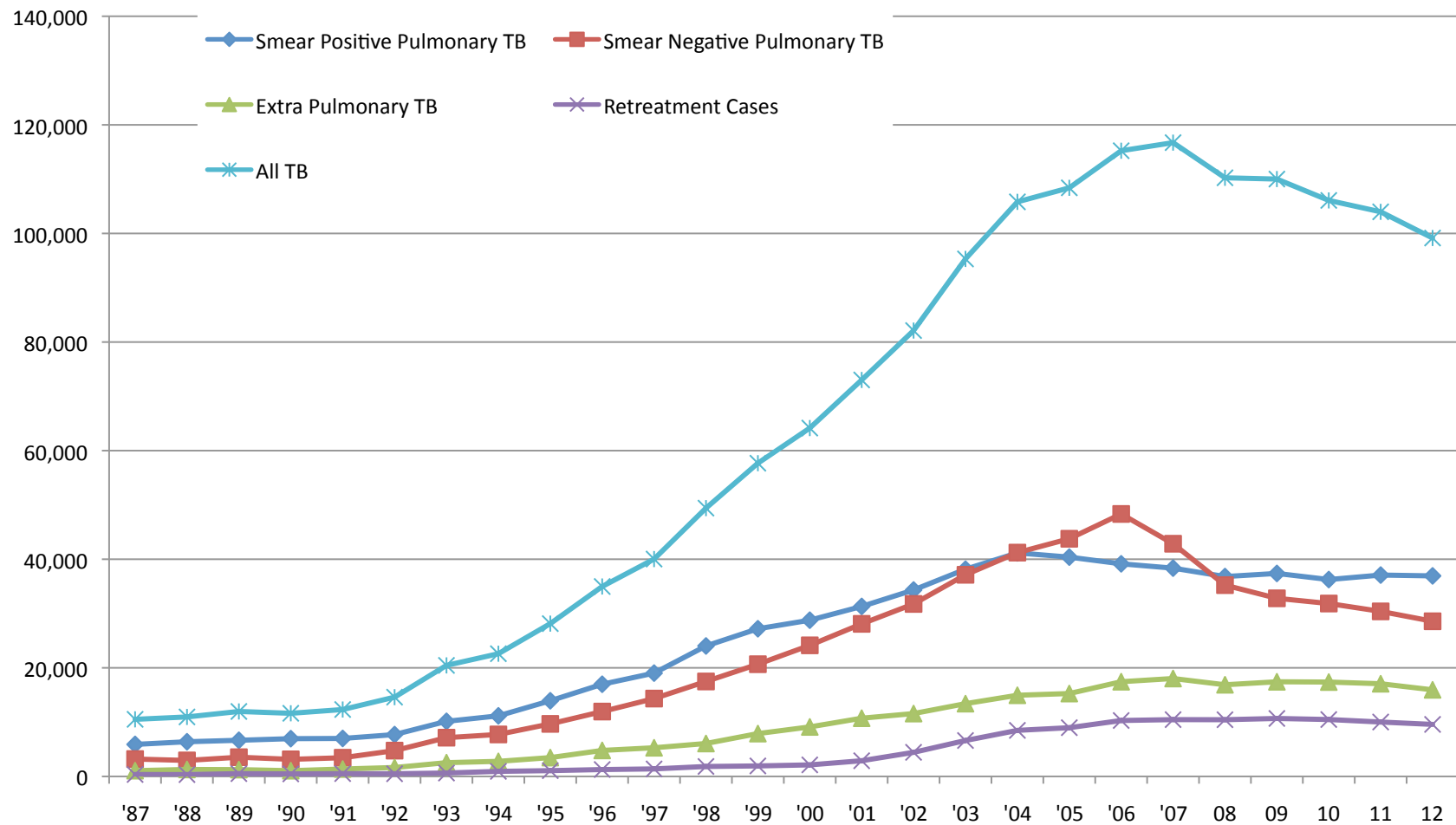
Kenya: Background Information



Population	41 Million(2012)
TB CDR (WHO-2012)	83%
Cases of TB (2012)	99,159
Case Notification Rate (2012)	241/100,000
HIV prevalence (KAIS 2012)	5.6%
TB patients with HIV (2012)	38%
TB Mortality Rate	15/100,000
Prevalence rate(2012)	299/100,000
TB incidence rate(WHO-2012)	272/100,000



TB Case Finding Kenya: 1987-2012



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Program management and coordination



- Coordination bodies include: TB ICC/various TWG
- One national strategic plan (2011-2015)
- Program management structure: Central unit, regional/county and district/sub-county
- Ongoing capacity building including M and E
- Technical supportive supervision at all levels

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Surveillance system Description



- Has been based on WHO recommended paper based system with quarterly reporting.
- health facility -> 256 Basic Management units (district)-> 12 TB Regions -> national
- Transitioned to electronic R&R system-TIBU system
 - Data entry at district level (Case based data 2012)
 - Data entry at facility level to follow
 - <http://pms.dltld.or.ke>
- Vital registration system still weak and TB mortality estimates are obtained from WHO Annual reports
- There are efforts to strengthen the vital registration systems (ICD-10 in hospitals, verbal autopsy (VR) in community)



Standards and Benchmarks for TB Surveillance: Purpose and Outcomes



- Purpose
 - Assess a surveillance system's ability to accurately measure TB cases and deaths in all settings in a standardized way
 - TB notifications in surveillance system ~ TB incidence
 - TB deaths in vital registration system ~ TB mortality
 - Identify gaps in surveillance systems that need to be addressed
- Outcomes
 - Develop M&E investments plans (e.g. Global Fund)
 - Use surveillance data for direct measurement

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Electronic System:TIBU



- Web based system that runs on android mobile devices(Tablets).Windows based system in consideration
- Case based data reported up to national level
- Database stored in cloud: leased from safaricom
- Data encrypted on transmission for security purpose.
- Mobile money transfer
- Currently being integrated with LABWARE and DHIS
- Key Partners:GF, USAID and CDC

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TIBU strengths



- Improved data quality
- Automated Reports
- Simplified data entry
- Simple updating process

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Weakness



- Not sufficient support staff
- Training on reports still a challenge

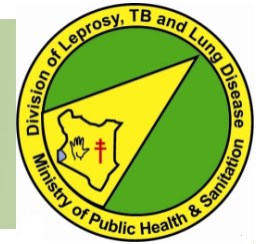
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Method of assement

- Discussions with DLTLD staff,CRL and TIBU development team
- WHO checklist for surveillance standards and benchmarks Applied.
- Desk review of documents, datasets and the reporting system.
- Data analyzed
- Findings discussed at the exit meeting

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RESULTS



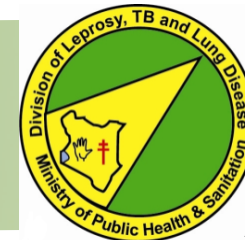
Data Quality



Standard	Main findings	Result
B1.1 Case definitions consistent with WHO guidelines	Case definitions are consistent with WHO guidelines	MET
B1.2 TB surveillance system designed to capture a minimum set of variables for reported TB cases	<p><i>-Paper based system:</i> age x sex breakdown only in new cases sm+, sm- and EP; not for re-treatment cases. (Partially met)</p> <p><i>-Electronic system:</i> (Met)</p>	<p>PARTIALLY MET- Paper System</p> <p>Met-Electronic System</p>
B1.3 All scheduled periodic data submissions received and processed at the national level	<ul style="list-style-type: none"> 99% of expected quarterly reports had been received and processed at national level. However, due to some unusual delays because of the elections, the usual annual meeting that is conducted in April to review and finalize reports had not yet been conducted and is planned for end of April, after assessment. 	PARTIALLY MET



Data Quality (cont.)



Standard	Main findings	Result
B1.4 Data in quarterly reports are accurate, complete, and internally consistent <i>(For paper-based systems only)</i>	-Based on a review of data from one District and clinic, we found 100% match in number of cases in TIBU quarterly case report, facility register and district registers and patient cards	<input checked="" type="checkbox"/> Partially met
B1.5 Data in national database are accurate, complete, internally consistent, and free of duplicates <i>(For electronic case-based or patient-based systems only)</i>	-Data checking for completeness of records: 0 empty records. -Data checking for system missing variables: Data 100% complete for minimum set of variables, except for 1 case missing smear data. -Data checking for duplicates: 2% of cases with duplicate IDs are in system (not yet resolved). -Data checking for inconsistencies: a) -0.05% of cases had age >100 years, b) 0.28% of IDs did not follow correct format, c) 0 cases with date of registration after present date d) 0.005% with date of start treatment after to the date of end treatment	<input checked="" type="checkbox"/> Partially met



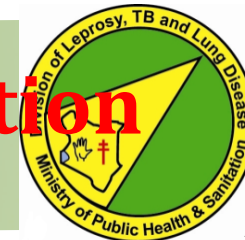
Data Quality (cont.)



Standard	Main findings	Result
B1.6 TB surveillance data are externally consistent	4798 children smears not done + 5338 children with smear +, smear - and EP = 10,136 total cases $10136/98665 = 10.3\%$	MET
B1.7 Number of reported TB cases is internally consistent (within country)	-No vital registration system with accurate and universal causes of death recorded to measure TB mortality.	NOT MET



Population Coverage and Vital Registration



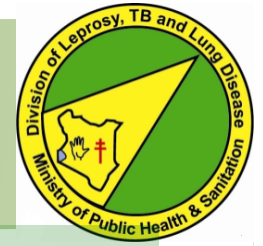
Standard	Main findings	Result
B2.1 All diagnosed cases of TB are reported	-In Kenya, TB reporting is a legal requirement -No national inventory study conducted for TB cases in last 10 years	<input checked="" type="checkbox"/> Partially met
B2.2 Population has good access to health care	-Under-5 mortality rate is 73/1000 (WHO, 2009) -46% total health expenditure is out-of-pocket (WHO, 2011) Out-of-pocket expenditure as % of private expenditure on health = 74% (Kenya NHA report, 2011)	NOT MET
B3.1 Vital registration system has high national coverage and quality	<ul style="list-style-type: none"> -Cause of death is documented in 47% of deaths and >10% of deaths have ICD codes 	NOT MET



Special Populations



Standard	Main findings	Result
C1 Surveillance data provide a direct measure of drug resistant TB in new cases	<ul style="list-style-type: none"> -Culture and susceptibility testing only done routinely for high risk groups (re treatment, MDR TB contacts, HCWs), not routinely for new cases -No DRS has yet been conducted; planning DRS to start soon 	NOT MET
C2 Surveillance data provide a direct measure of the prevalence of HIV infection in TB cases	<ul style="list-style-type: none"> -In 2012, 92461/98690=94% tested; data of # tested are collected in quarterly reports. 	MET
C3 Surveillance data for children reported with TB are reliable and accurate OR all diagnosed childhood TB cases are reported	<ul style="list-style-type: none"> -Ratio of age groups 0-4 (n=1336) to 5-14 (n=3981) years is 0.34 (note: This is based on data for cases with sm+, sm-, EP and excludes smears not done because these data are not disaggregated for 0-4 and 5-14 years (smear not done for 4798 children of <15). -No national inventory study conducted for childhood TB cases in last 10 years 	NOT MET

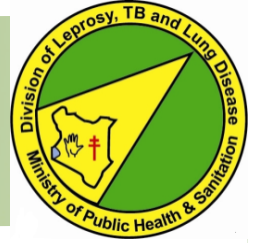


Recommendations: Short Term

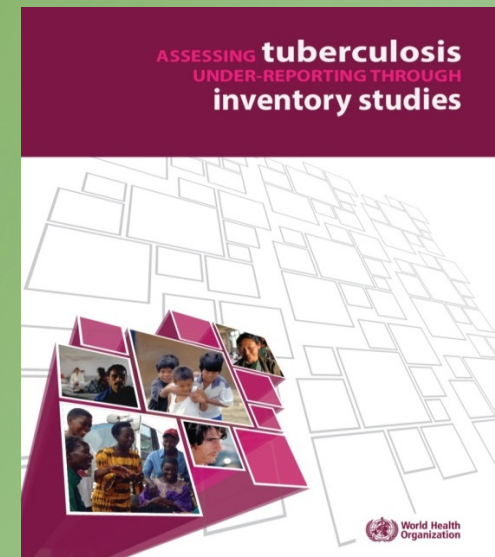
- Hire IT staff (2) and epidemiologist (1) to support electronic system (TIBU) and data analysis at national level
- Review and update system to be consistent with new WHO case definitions and guidelines
- Perform data audit to assess data quality at national level
- Conduct surveillance system evaluation as system moves into next phase of roll-out
- Conduct a national drug resistance survey



Recommendations: Medium Term



- Assess barriers to health care and previously unknown/undiagnosed cases in TB prevalence survey
- Monitor the level of underreporting through an inventory study
- Support strengthening of routine vital registration system to ensure accurate causes of (TB) death in community and hospitals (ICD-10)
- Utilize the information derived from ongoing SARAM in the country





Impact measurement and key program evaluation



- National Program review (Mid and End-term)
- TB Prevalence survey
- Mortality survey
- Delay in TB diagnosis
- Knowledge Attitude and Practice (KAP) survey
- Drug resistant survey
- DQA (Data Quality Audit)
- Inventory study

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THANK YOU