



TB Elimination in the Caribbean: The Suriname Experience

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Background



- Population size: 541 638 (2012 census)
- Total area 163,820 km²
- 10 administrative districts and 62 regions
- 70% of the total population live in the 2 urban districts which comprises 0.5% of the total area
- Upper middle income country

Health care structure

Policy

- Ministry of Health

Prevention and surveillance implementation

- Bureau of Public Health

Primary Health Care

Regional Health Services: Coastal area
Medical Mission: Interior
Private family clinics: Urban and rural area

Secondary Care

5 hospitals (2 private, 3 government)

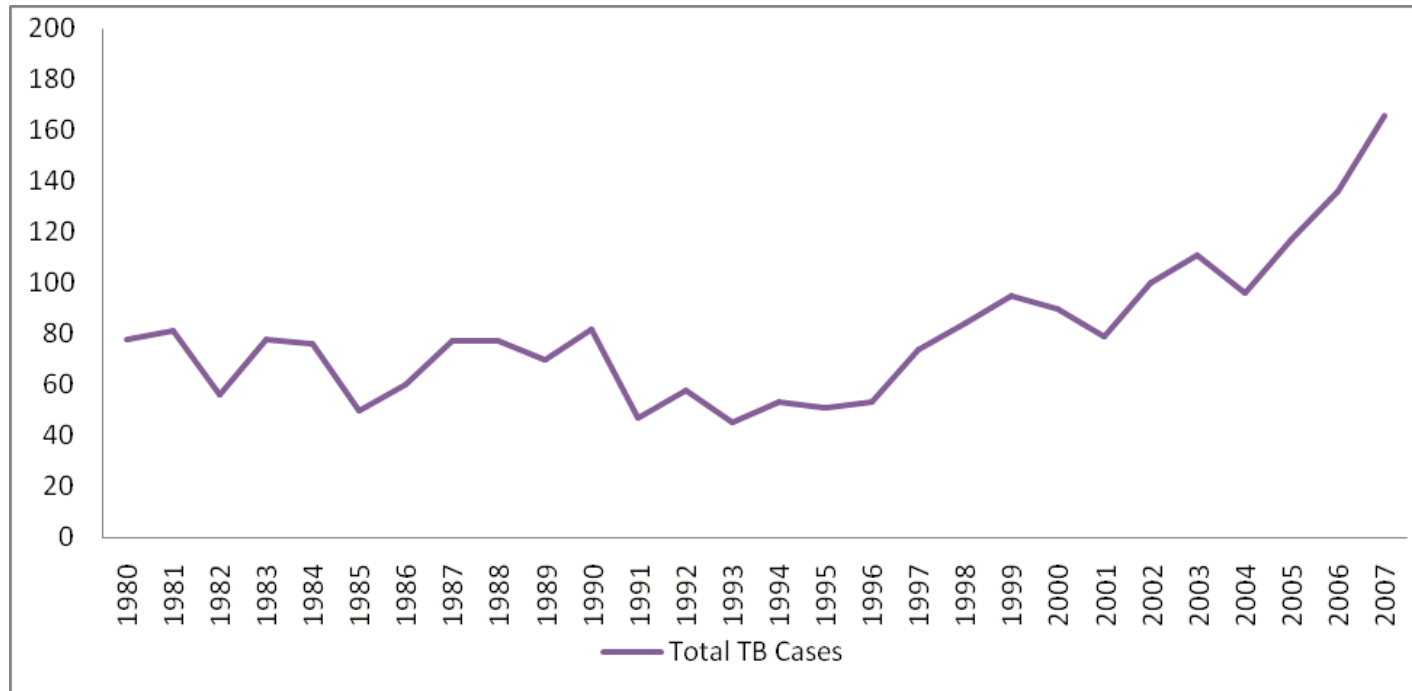
Tertiary Care

Radio therapeutic centrum, thoracic surgery, neurosurgery, Dialysis centers

History of TB control

- In the 60's a successful TB control
- Very few cases lead to decrease funding and a lower priority status for the TB program
- The upcoming of HIV/AIDS and the weak TB control program led to an increase of cases in the number of TB cases in the 90's
- Until 2011 no DOTS implementation
- Treatment success rate new smear positive was 69% in 2009

History of TB control'



History of TB control

Figure 10. Top 10 countries by estimated prevalence of HIV among incident TB cases, 2010

(Countries with at least n=100 incident TB cases only)

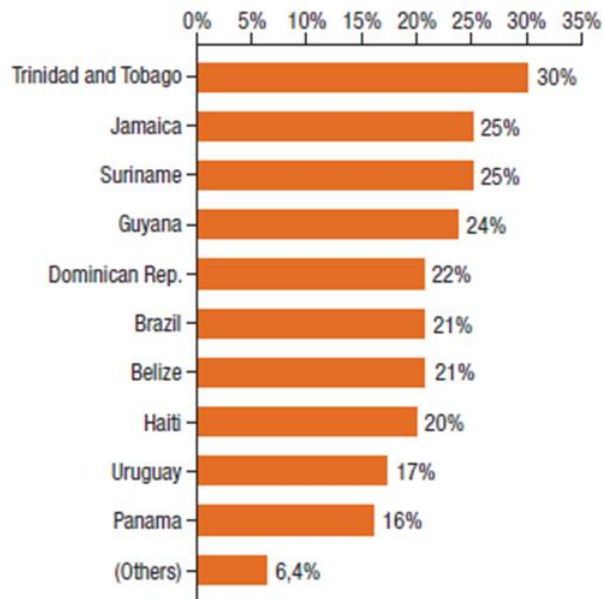
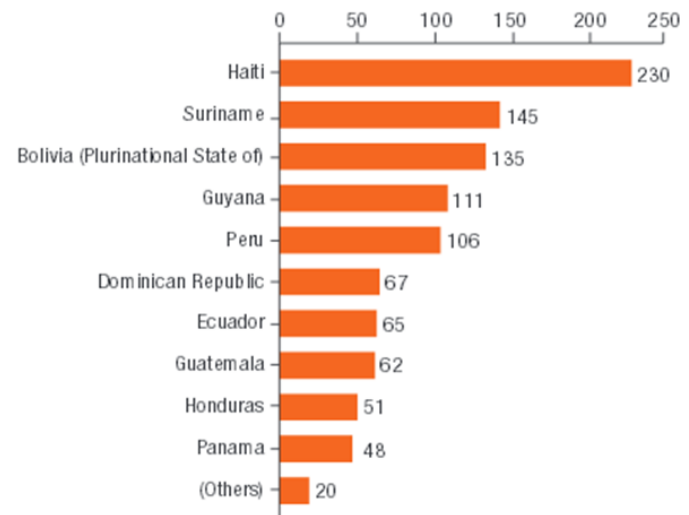


Figure 6. Region of the Americas: Top 10 countries by estimated TB incidence

(Per 100,000 population)



source: PAHO, Regional Report 2011

TB Project 2010-2015

Doing what it takes To Stop TB in Suriname

- Goal
 - To Reduce TB morbidity, mortality and disease transmission while preventing the development of drug resistance



TB Project 2010-2015

Doing what it takes To Stop TB in Suriname

- Overall Objectives:

1. To ensure early case detection of at least 70% of existing cases of smear positive TB cases
2. To achieve a cure rate of at least 85 % among new sputum smear positive cases
3. To achieve high quality diagnosis and treatment for people with TB and TB/HIV

Strategy of implementation

- Pursue high quality DOTS expansion and enhancement
- Address TB/HIV, MDR-TB and other challenges
- Contribute to health system strengthening
- Engage all care providers
- Empower people with TB and communities
- Enable and promote research

Activities

- Expand the sites for sputum collection and treatment
- TA for the NRL and peripheral laboratory
- Development our first guideline for TB control(translation of CTBG)
- Training of medical doctors, nurses and CHW
- Increase awareness among the community
- Sensitization of community based organization
- Introduction of DOT and trained “dot- supporters”
- Screening of villages for active case finding
- Screening of prison and establish a policy of screening for TB prior to enter the prison.

Achievements

- Capacity building
 - Training and supervision of staff from NRL and peripheral labs by UMMASS
 - Participation of NTP staff in international training/conferences
 - Training of staff from implementing institutions by the NTP

Achievements

- Improvement of TB register and reporting
- Increased case detection
- Increase awareness for TB in the community
- Implementation of new diagnostic tool (Xpert MTB/Rif)



Case notification 2000-2013

Year	Number of cases	Notification rate (per 100,000)
2000	89	20.6
2001	71	18.3
2002	94	22.9
2003	102	23
2004	95	19.3
2005	101	20.5
2006	116	23.5
2007	123	25
2008	98	19.9
2009	158	32.1
2010	201	40.8
2011	132	26.8
2012	135	27.4
2013	141	28.6

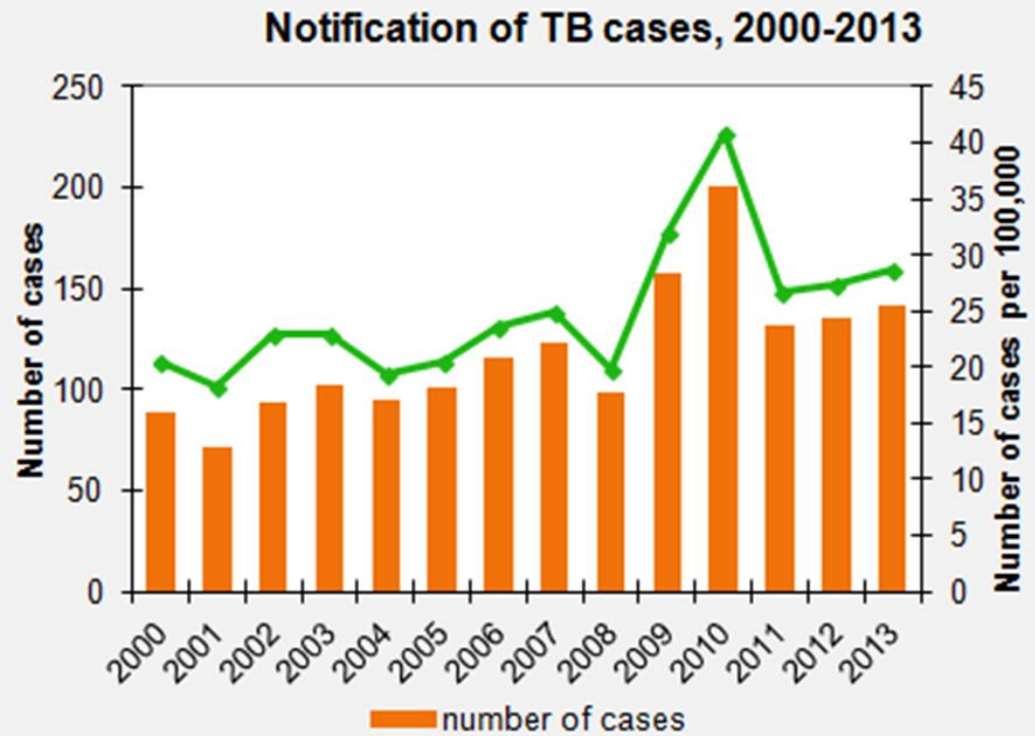


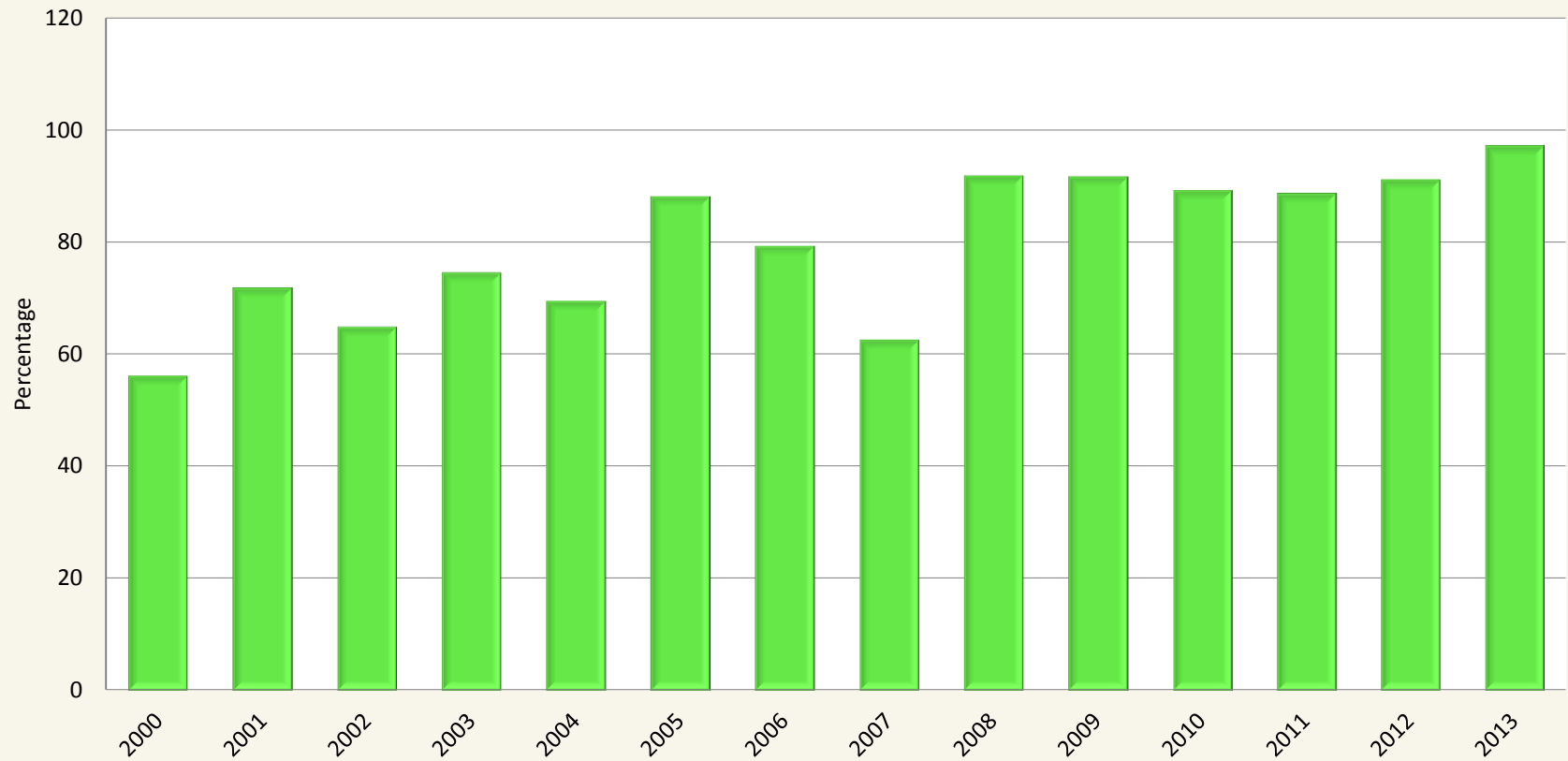
Table 1: TB cases and notification rate, 2000 - 2013

Figure 2 Number of TB cases and notification rate, 2000 - 2013

Estimated Case detection rate increases from 24 % in 2000 to 73 % in 2014

HIV testing in TB

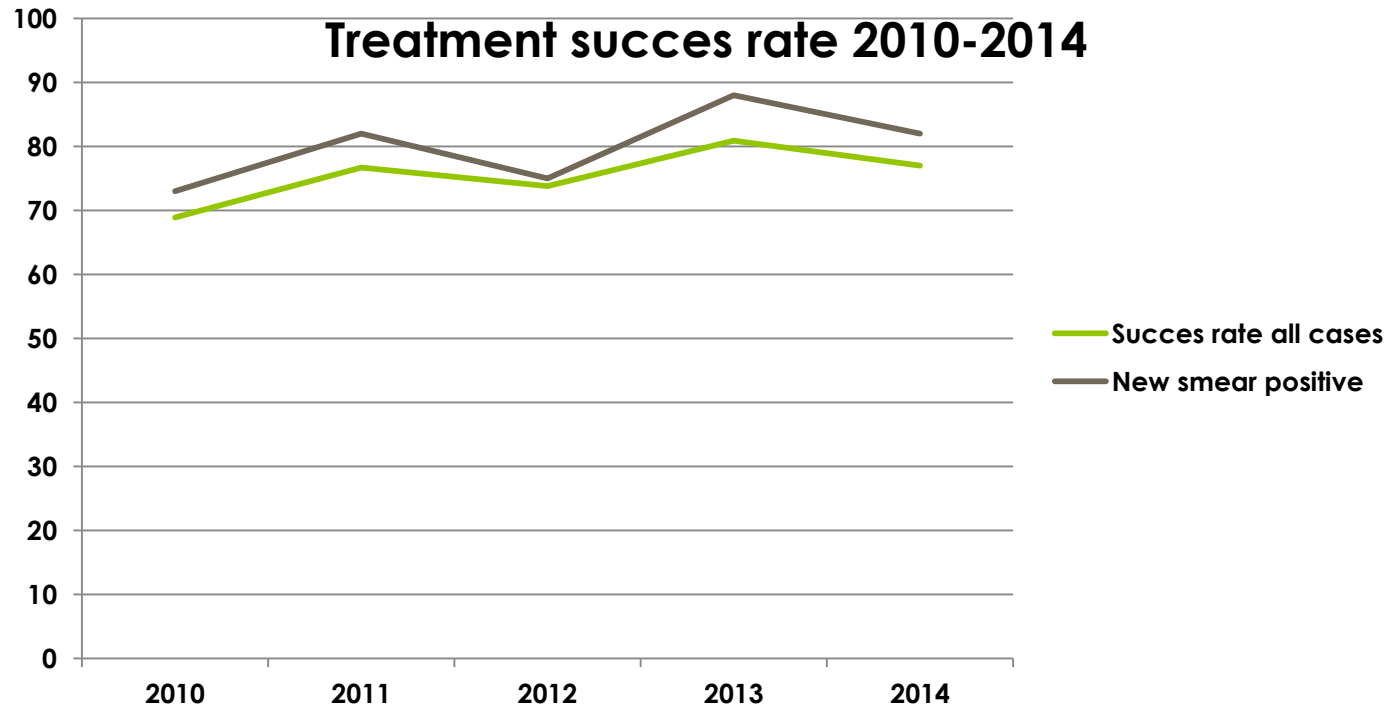
Percentage TB patients tested for HIV, 2000 - 2012



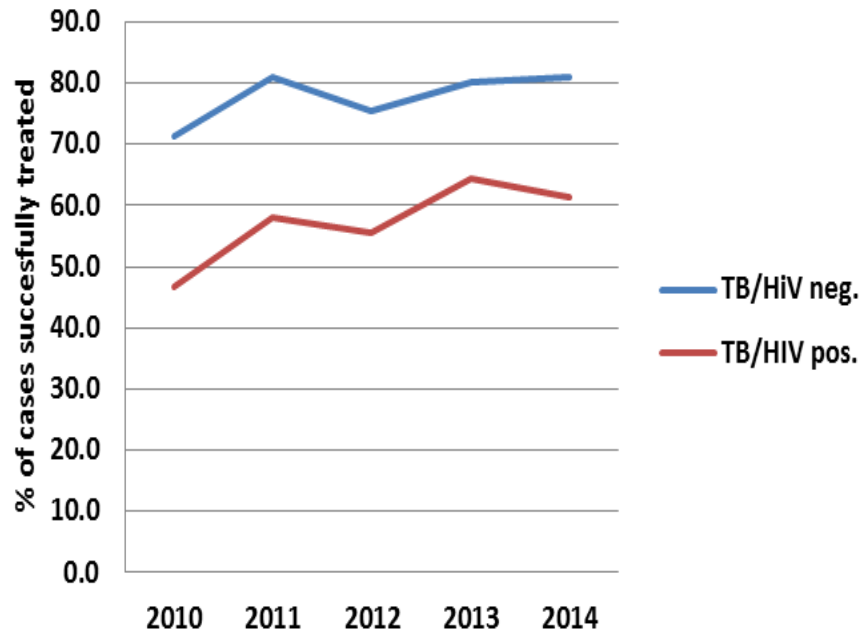
TB/HIV co-infection

Year	# TB cases	TB/HIV
2010	201	58 (28.9 %)
2011	132	38(28.79%)
2012	138	36(26.09%)
2013	141	31(21.99%)
2014	158	44(27.85%)

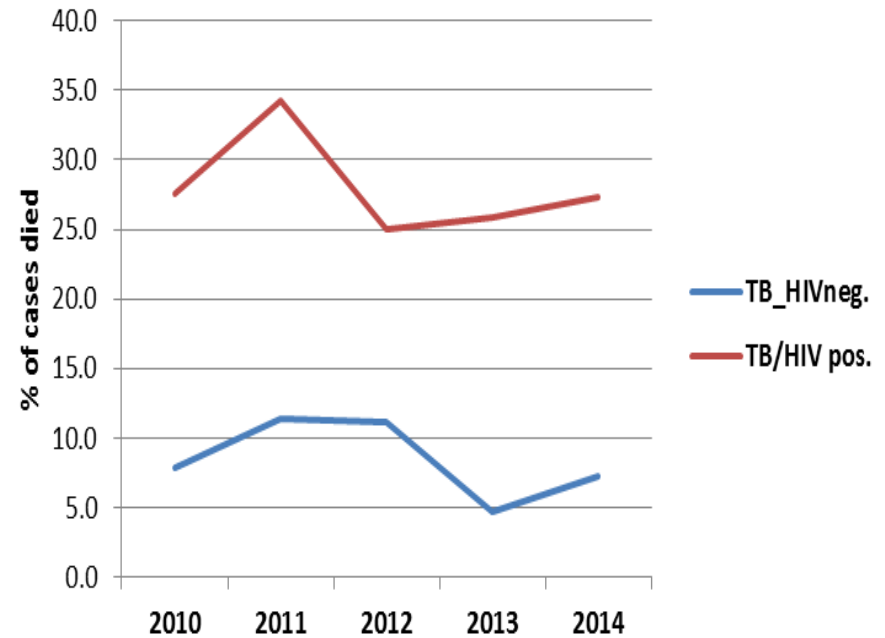
Treatment outcome



Treatment outcome HIV neg versus HIV pos TB



Case fatality HIV neg vs HIV pos



Determinants of Mortality in TB patients

Table 8. Demographic characteristics, smear microscopy results and risk factors of new TB patients died or survived in the cohort of 2011-2013 in Suriname (n=286)

	Cases (% of n)	Controls (% of n)	Total (% of n)	Crude OR (p value)
Male	29(10)	180(63)	209(73)	1.9(0.1637)
Female	6(2)	71(25)	77(27)	0.52(0.1637)
HIV pos	17(6)	51(18)	68(24)	3.7(0.000235)
HIV neg	18(6)	200(70)	218(76)	0.27(0.000235)
Ethnic Group				
Chinese	0(0)	2(0.7)	2(0.7)	1.77(0.596146)
Creole	16(6)	87(30)	103(36)	1.56(0.214435)
Mixed	4(1)	35(12)	39(13)	0.79(0.367224)
Hindustani	8(3)	37(13)	45(16)	1.7(0.216704)
Indigenous people	2(0.7)	22(8)	24(8)	0.6(0.541991)
Caucasian	0(0)	2(0.7)	2(0.7)	1.77(0.596146)
Maroon	3(1)	35(12)	38(13)	0.57(0.380336)
Javanese	2(1)	31(11)	33(12)	0.43(0.249636)
Age categories				
0-4	1(0.3)	7(2.4)	8(3)	1.02(0.981685)
5-14	0(0)	3(1)	3(1)	1.18(0.515562)
15-24	0(0)	25(9)	25(9)	0.12(0.050645)
25-34	3(1)	57(20)	60(21)	0.31(0.0543)
35-44	10(4)	70(24)	80(28)	1.03 (0.932794)
45-54	8(3)	52(18)	60(21)	1.13 (0.770822)
55-64	5(2)	24(8)	29(10)	1.57 (0.38575)
>64	8(3)	13(5)	21(7)	5.42(0.000172)
Diabetes mellitus	6(2)	26(9)	32(11)	2.7(0.04218)
Other risk factor for TB	2(0.7)	26(9)	28(10)	0.52(0.386418)
Smear positive	15(5)	183(64)	198(70)	0.27(0.00027)
Smear negative	19(7)	63(22)	82(29)	3.6(0.00027)

TB/HIV Indicators

TB/HIV 2014	number	%
TB patients with known HIV status	154	97
HIV positive TB patients	44	29
HIV positive TB patients receiving cotrimoxazol preventive therapy (CPT)	27	61
HIV positive TB patients receiving ART	32	73
HIV positive people screened for TB	-	
HIV positive people provided isoniazid preventive therapy (IPT)	-	

Progress toward the objectives

1. To ensure early case detection of at least 70% of existing cases of smear positive TB cases
2. To achieve a cure rate of at least 85 % among new sputum smear positive cases
3. To achieve high quality diagnosis and treatment for people with TB and TB/HIV

Lessons learned & Challenges

- Political commitment may diminished and must be maintained
- Lack of TB/HIV collaboration affect overall outcome
- Homeless/drug abuses
- Sustainability of DOT in remote areas
- Lack of commitment of staff in the peripheral areas
- MDR preparedness

New National strategic plan 2015-2020

- Detect 95% of expected sputum positive TB cases, cure 95% of these case

Acknowledgements

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Thank you

