

Section 1: Tuberculosis Incidence in Zimbabwe

This is defined as: The Number of new tuberculosis cases arising in a given year, expressed usually as a rate per 100,000 population or as a percentage. It is a frequently used epidemiological measure of how commonly new cases of a given disease or condition occur in a population.

Table 1: shows The Crude Number of Incident Tuberculosis Cases in Zimbabwe:

Year	No. of cases
2000	76000
2001	78000
2002	78000
2003	79000
2004	78000
2005	76000
2006	74000
2007	70000
2008	66000
2009	62000
2010	58000
2011	55000
2012	52000
2013	45000
2014	42000
2015	38000

This can be represented by the following graph showing the general trend in TB cases numbers in the country over the last 15 years. It shows that there is gradual (slow rate) of decrease in the total (net) number of new TB cases in the country.

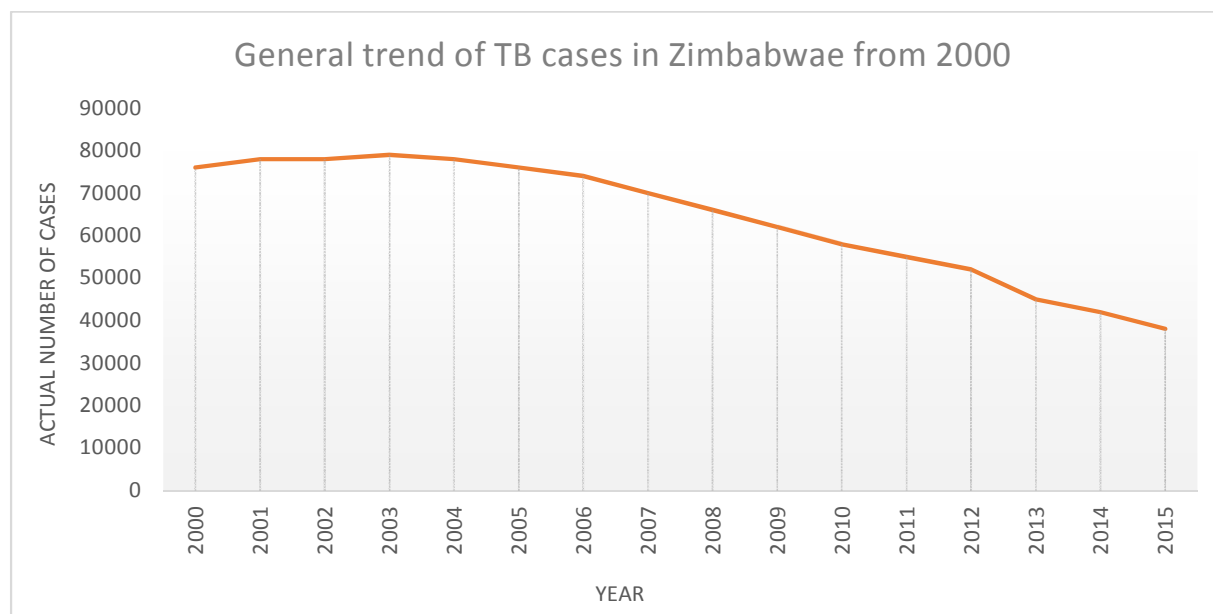
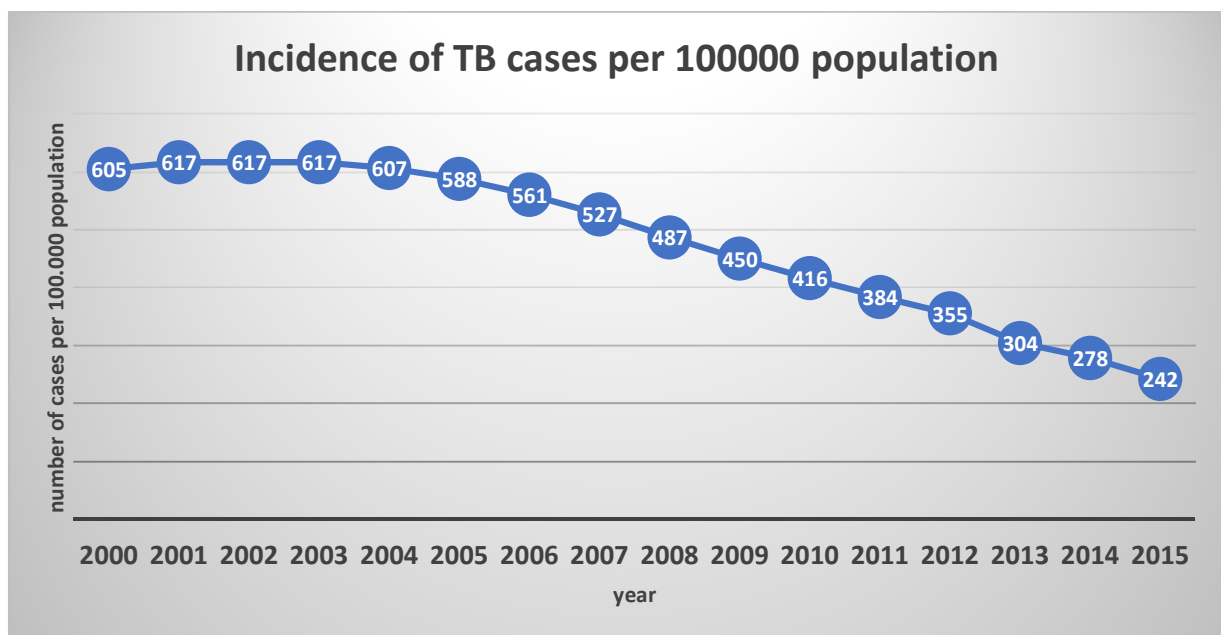


Table 2: shows the rate of new incident cases (expressed per 100000 population per year) in Zimbabwe

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rate of cases	605	617	617	617	607	588	561	527	487	450	416	384	355	304	278	242

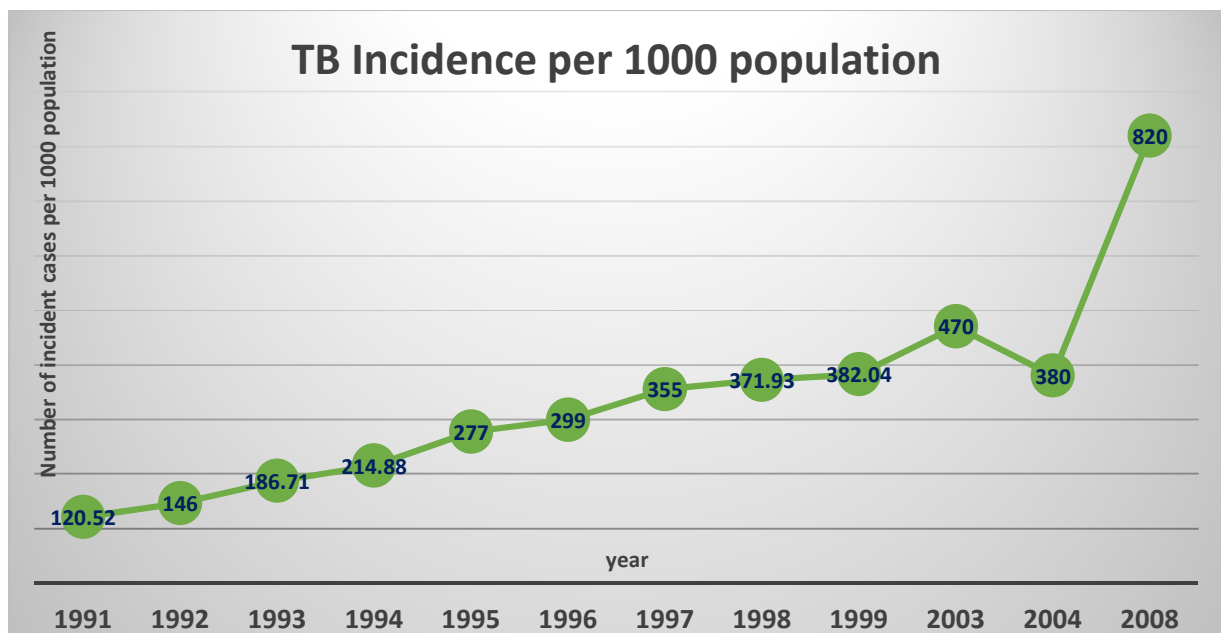
This can also be represented in the following graph:



► The graph shows that the rate of incident TB cases was nearly stable between the years 2000 and 2006 and it started to decrease in a slow rate in the following 10 years.

Table 3: shows the rate of incidence of TB cases /1000 population as reported in Zimbabwe national statistics database(ZIMDAT):

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2003	2004	2008
Rate of incidence	120.52	146	186.71	214.88	277	299	355	371.93	382.04	470	380	820



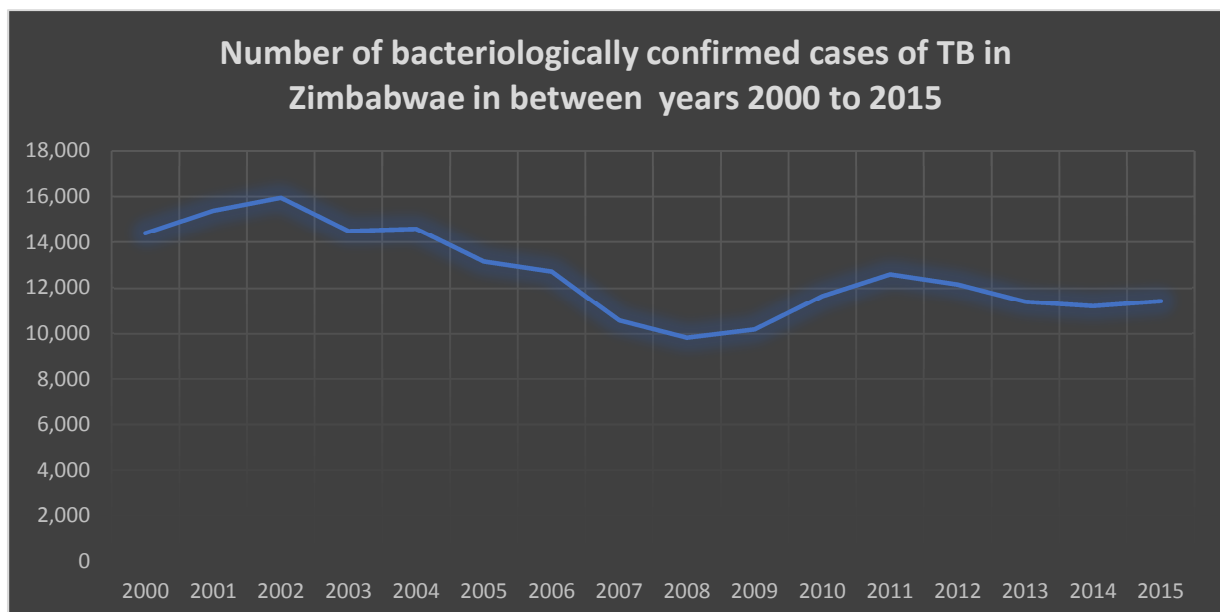
► The graph shows the rate of new incident cases of TB is slowly increasing in between the years 1991 and 1999. The rate of increase was small and nearly stable (average of 20-40 cases per 1000 population per year).

► Although there are missing data for some years, there has been a surge in the number of cases per 1000 population in between year 2003 and 2008 (350/1000 population increase) which is far exceeding the small rate of increase in the previous 10 years (during the nineties).

Section 2: Tuberculosis Diagnosis and Notification

Table 4: Shows Bacteriologically Confirmed Pulmonary Tuberculosis New Cases in Zimbabwe

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Number of cases	14,392	15,370	15,941	14,488	14,581	13,155	12,718	10,583	9,830	10,195	11,654	12,596	12,163	11,404	11,224	11,440



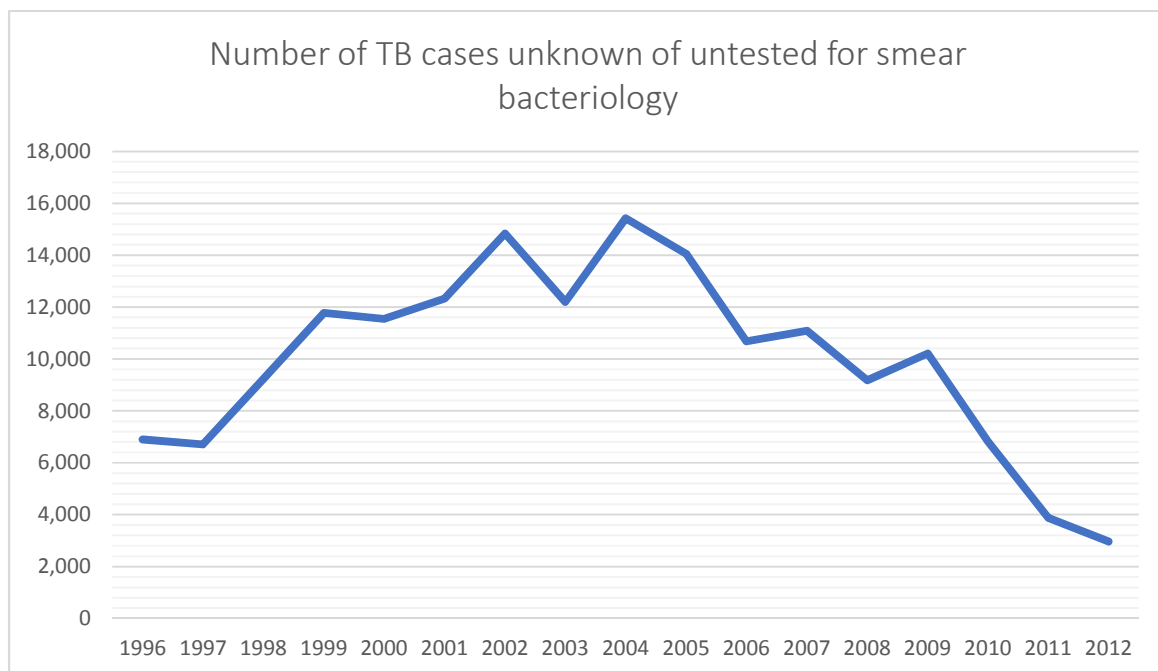
► The above graph shows that the number of cases diagnosed by conventional culture is not too much fluctuating and is ranging around 12,000 cases although noticed to be slightly higher in the early years of the millennium.

► This may be due to the nature of TB diagnostics which is still the conventional smear microscopy and despite the introduction of newer gene xpert diagnostics, smear bacteriology is still considered the golden standard.

Table 5: Shows Smear Unknown or Untested Pulmonary Tuberculosis New Cases in Zimbabwe

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Number of cases	6,902	6,705	9,232	11,774	11,547	12,321	14,831	12,194	15,430	14,059	10,686	11,095	9,174	10,212	6,816	3,869	2,962

This can be shown in the following graph:



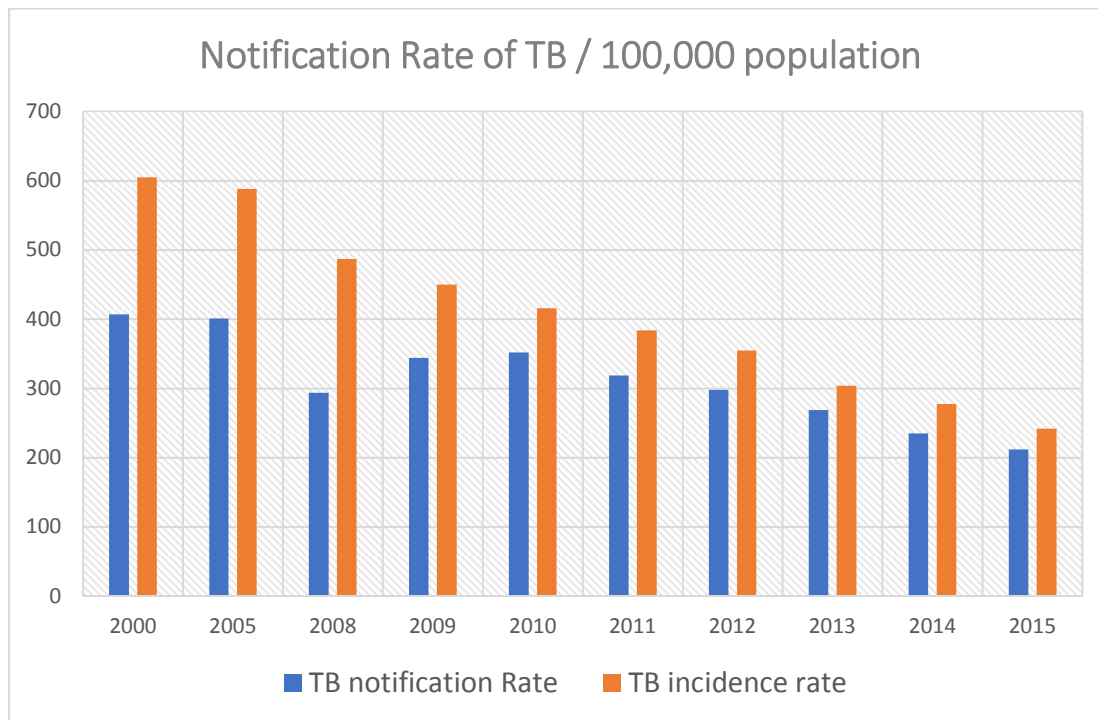
► From the above graph, it is obvious that there is a general great fluctuation in the number of unknown or undiagnosed cases by smear microscopy.

► Since 2009, there is a sharp decrease in the number of bacteriologically undiagnosed cases from 10000 reaching 3000 in 2012 (with 7000 cases of better diagnosis), which may reflect better application of diagnostics for confirmation of cases that may be due to better health service and laboratory service coverage to areas of need.

Table 6: shows national TB notification rate per 100000 population

(national TB case notification \ 100000 population) and compared to actual TB incidence /100000 population in Zimbabwe:

Year	2000	2005	2008	2009	2010	2011	2012	2013	2014	2015
Case Notification	407	401	294	344	352	319	298	269	235	212
Case incidence	605	588	487	450	416	384	355	304	278	242



► The above combined column graph can compare the rate of cases of TB notified to actual case incidence rate per 100,000 population.

► It is noticed that there was a gap between notification rate and incidence rate during the years 2000, 2005, 2008 with about 200 cases not notified.

► Since 2009, that gap is noticed to gradually decrease over the years with increased rate of notification per new incident cases to reach around 40 cases which are not notified per year recently as compared to 200 ten years ago.

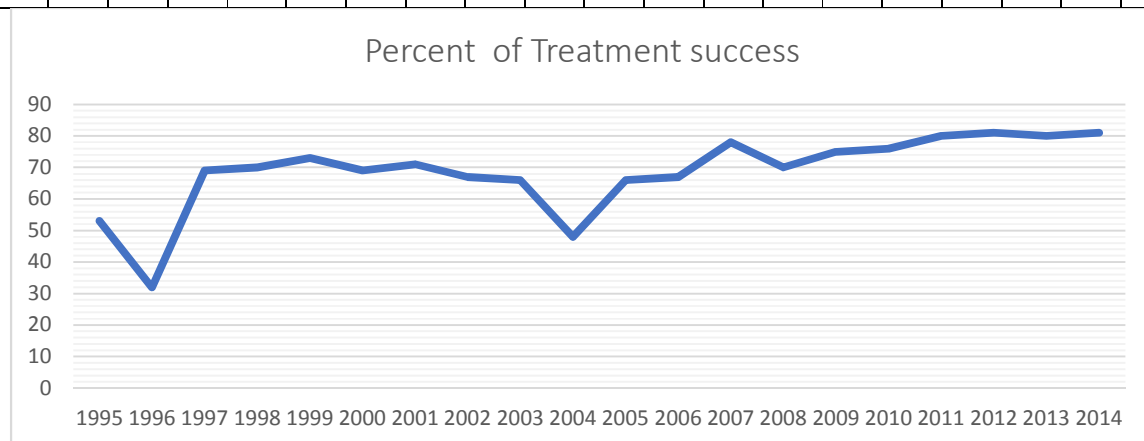
Section 3: Tuberculosis Prognosis in Zimbabwe

(Treatment Success and disease morbidity)

Treatment success rate for TB is defined as the percentage of all new tuberculosis cases (or new and relapse cases for some countries) registered under a national tuberculosis control Programme in a given year that successfully completed treatment, with or without bacteriological evidence of success ("cured" and "treatment completed" respectively)

Table 7: Treatment Success Rate: As reported by World Health Organization, Global Tuberculosis Report

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Percent treatment success	53	32	69	70	73	69	71	67	66	48	66	67	78	70	75	76	80	81	80	81



- ▶ The line graph shows a slightly fluctuating rate of success around 70%.
- ▶ Although some peak decreases, the rate gradually increased and stabilized around 80% since 2011.
- ▶ This may indicate that better strategies for DOTS implementation are needed.

Table 8: Tuberculosis New Cases and Relapse Cases in Zimbabwe

No. of cases	Year
50.855	2000
56.222	2001
59.17	2002
57.117	2003
56.162	2004
50.454	2005
44.328	2006
40.277	2007
36,650	2008
42,971	2009
44,209	2010
38,404	2011
35,760	2012
32,899	2013
29,653	2014
26,990	2015

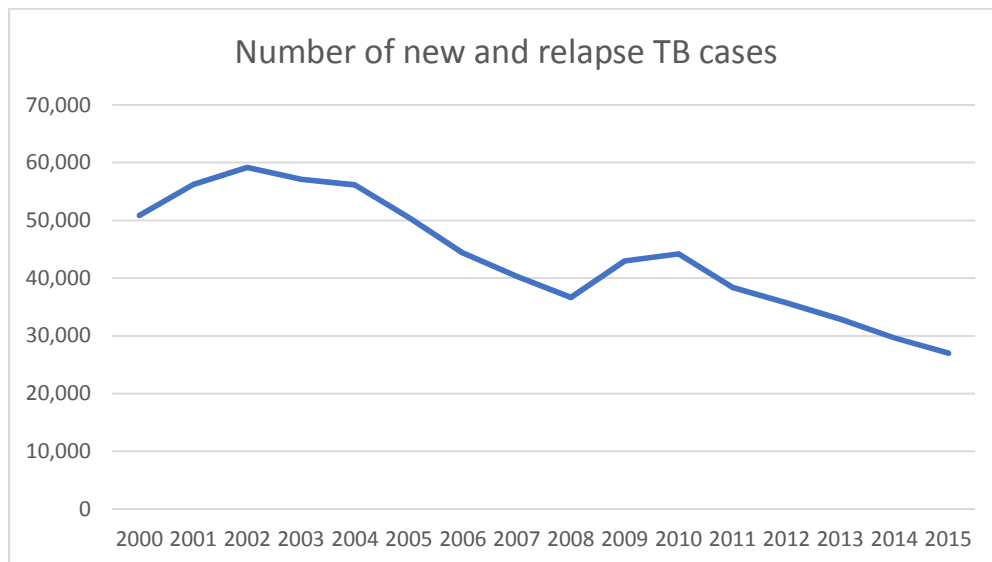
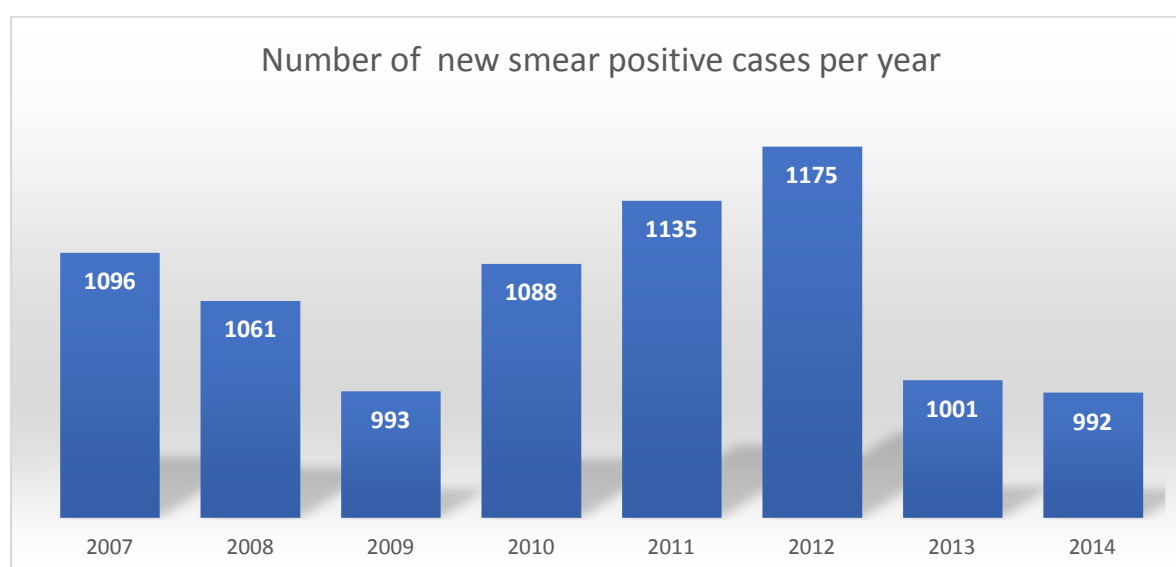


Table 9: Number of Sputum Positive Pulmonary Tuberculosis New Cases in Zimbabwe (per 100000 population) As reported by Zimbabwe national health profile 2014 by ministry of health and child care department of epidemiology and disease control

Year	2007	2008	2009	2010	2011	2012	2013	2014
No. of new smear positive cases	1096	1061	993	1088	1135	1175	1001	992



► Although the overall number of new cases is in general gradual decrease, sputum positive new cases are highly fluctuating in between year 2007 and 2014

► This may reflect that dependence on smear microscopy for report of treatment or diagnosis is highly variable and can be affected by laboratory service access.

Table 10: TB mortality rate (TB death rate \100,000 population) from world data atlas Zimbabwe - Tuberculosis death rate

year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Death rate	18	17	16	18	19	22	25	25	24	15	12	14	15	13	13	11

