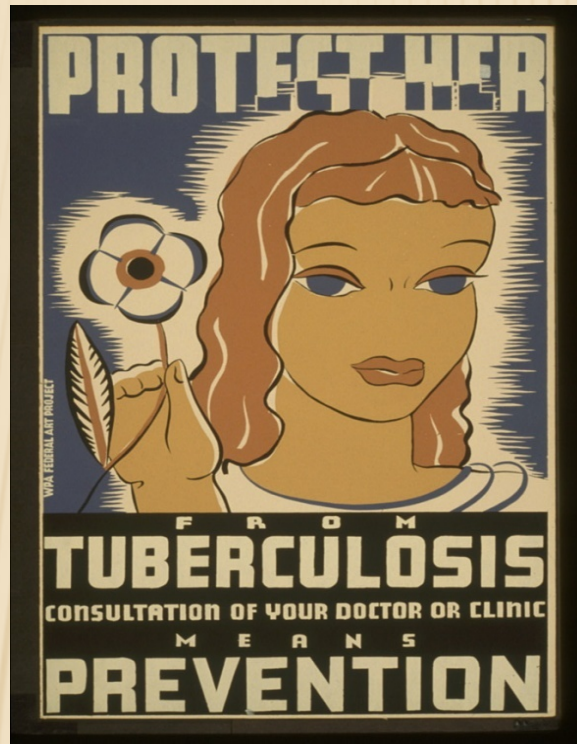


# Tuberculosis in New York State



2008

Annual Statistical Report  
Bureau of Tuberculosis Control



State of New York Department of Health

# 2008 Annual Report

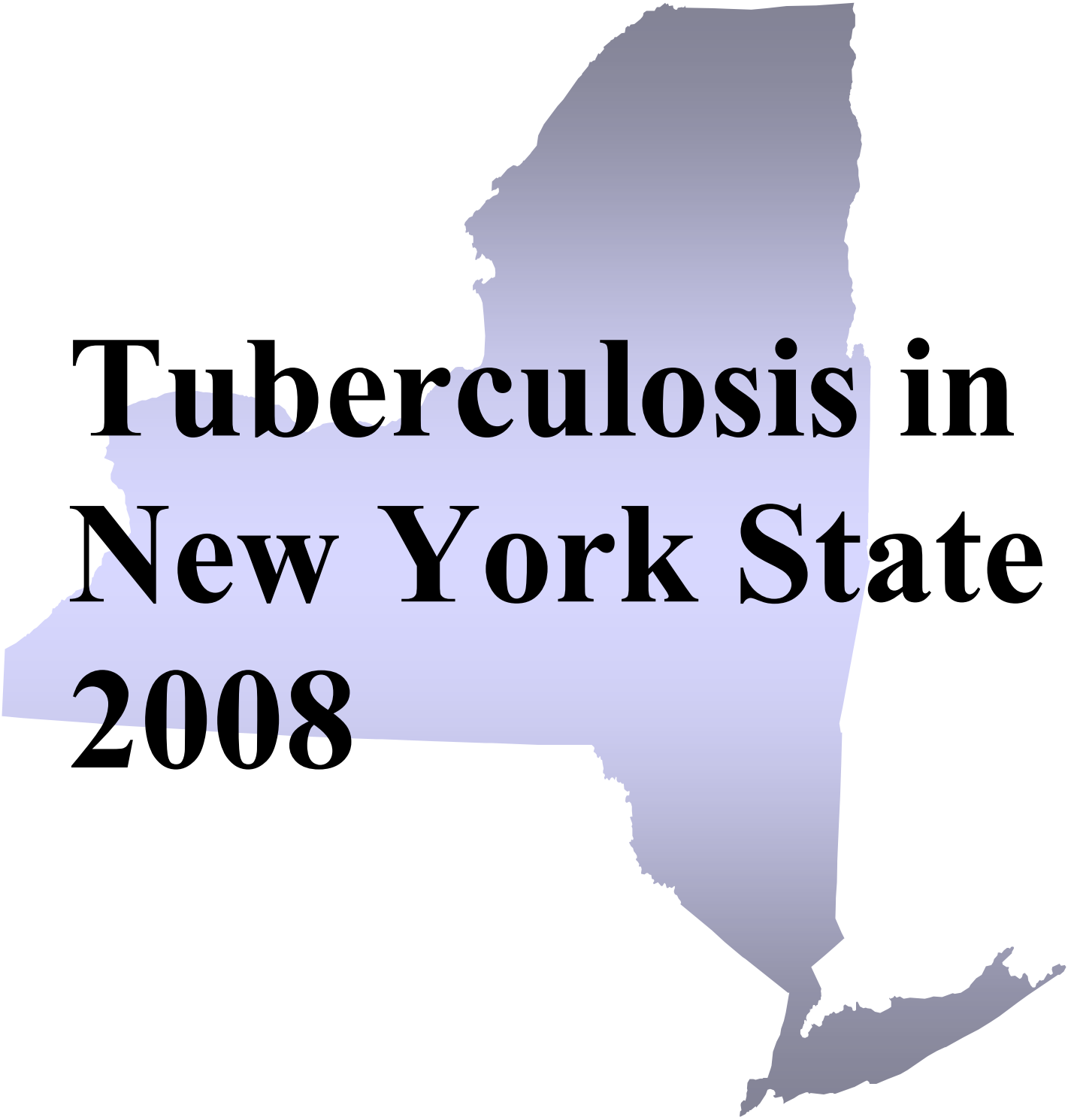
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## SUMMARY

- In 2008, tuberculosis morbidity increased in New York State. The 2008 figure of 1,200 (895 cases in New York City, 305 cases in the remainder of New York State) represents a 2.1 percent increase from the 1,175 cases reported in 2007. The nation as a whole experienced a 3.0 percent decline in reported cases between 2007 and 2008 (13,293 in 2007; 12,898 in 2008). Since 1992, the recent peak epidemic year with 4,574 cases, New York State has experienced a 73.8 percent decrease compared to a national decline of 48.7 percent.
- In New York State (exclusive of New York City), the number of TB cases increased 16.9 percent from 261 cases in 2007 to 305 cases in 2008. The number of TB cases in New York City decreased by 2.1 percent from 914 cases in 2007 to 895 cases in 2008.
- New York State was fifth nationally with a case rate of 6.3 per 100,000 population in 2008. This rate is influenced by New York City, which had a TB case rate of 11.2/100,000. In contrast, New York State (exclusive of New York City) reported an incidence rate of 2.8/100,000. The national average for 2008 was 4.2/100,000.
- Three counties - Nassau, Suffolk, and Westchester - reported over half of the TB morbidity in New York State (exclusive of New York City) in 2008.
- Asians, Hispanics, and blacks had higher rates of TB compared to whites, both in New York City and the rest of the State.
- Among individuals with drug susceptibilities reported in 2008, the number of multiple drug resistant (MDR-TB) cases in New York City remained the same as in 2007, totaling 11 cases. In New York State (exclusive of New York City), there was 1 MDR-TB case in 2008, an increase from 2007.
- Statewide, the proportion of cases contributed by the foreign-born increased from 71.2 percent in 2007 to 75.5 percent (906 cases) in 2008, with people of Chinese origin contributing the greatest number of foreign-born TB cases (136). In New York State (exclusive of New York City) people of Indian origin contributed the greatest number of TB cases (23).





# **Tuberculosis in New York State 2008**



## **Introduction**

New York State Public Health Law and the State Sanitary Code require reporting of all suspected and confirmed tuberculosis cases to the local health unit where a patient resides. All reports received by the local health units are sent to the New York State Department of Health.

In 2008, 1,200 new cases of tuberculosis were reported among New York State residents (Table 1, page 8). New York City reported 895 new TB cases while the rest of the state had 305.

The overall trend in TB cases has been downward in New York State, including New York City, with an increase in 1975 (CDC changed their policy to include reactivated cases as well as new TB cases) and in the early 1990's (period of the most recent TB epidemic).



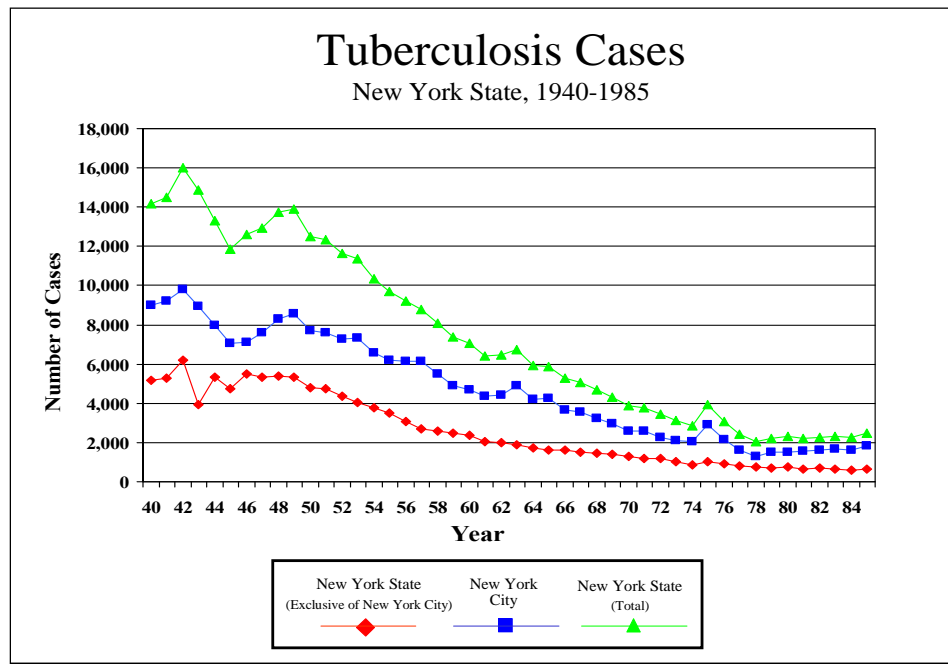
**Tuberculosis Cases**  
1940-2008

Year	New York State (Exclusive of New York City)		New York City		New York State (Total)	
	Number	Rate per 100,000	Number	Rate per 100,000	Number	Rate per 100,000
1940	5,158	85.6	9,005	120.8	14,163	105.1
1945	4,768	74.4	7,062	91.9	11,830	83.9
1950	4,776	68.8	7,717	97.8	12,493	84.2
1955	3,502	43.6	6,214	79.2	9,716	61.2
1960	2,376	26.4	4,699	60.4	7,075	42.2
1961	2,052	22.3	4,360	56.3	6,412	37.8
1962	2,005	21.4	4,437	56.7	6,442	37.5
1963	1,865	19.6	4,891	61.7	6,756	38.7
1964	1,715	17.8	4,207	52.7	5,922	33.6
1965	1,627	16.6	4,242	53.0	5,869	33.0
1966	1,633	16.5	3,663	45.7	5,296	29.5
1967	1,527	15.2	3,542	44.4	5,069	28.1
1968	1,475	14.5	3,224	40.5	4,699	25.9
1969	1,384	13.5	2,951	37.4	4,335	23.9
1970	1,275	12.3	2,590	32.8	3,865	21.2
1971	1,180	11.3	2,572	32.5	3,752	20.4
1972	1,176	11.2	2,275	29.0	3,451	18.8
1973	1,009	9.6	2,101	27.4	3,110	17.1
1974	844	8.1	2,022	26.6	2,866	15.9
1975	1,041	9.9	2,893	38.6	3,934	21.8
1976	916	8.7	2,156	29.0	3,072	17.1
1977	829	7.9	1,605	22.0	2,434	13.6
1978	753	7.1	1,307	18.2	2,060	11.6
1979	699	6.6	1,530	21.5	2,229	12.6
1980	780	7.4	1,514	21.4	2,294	13.1
1981	641	6.1	1,582	22.4	2,223	12.7
1982	674	6.4	1,594	22.5	2,268	12.9
1983	658	6.2	1,651	23.1	2,309	13.1
1984	616	5.8	1,630	22.6	2,246	12.7
1985	638	6.0	1,843	25.5	2,481	13.9
1986	615	5.8	2,223	30.6	2,838	15.9
1987	615	5.8	2,197	30.1	2,812	15.7
1988	688	6.5	2,317	31.8	3,005	16.8
1989	657	6.2	2,545	34.8	3,202	17.8
1990	656	6.1	3,520	48.1	4,176	23.2
1991	748	7.0	3,673	50.2	4,421	24.6
1992	763	7.2	3,811	52.0	4,574	25.4
1993	717	6.7	3,235	44.2	3,952	22.0
1994	641	6.0	2,995	40.9	3,636	20.2
1995	621	5.8	2,445	33.4	3,066	17.0
1996	535	5.0	2,053	28.0	2,588	14.4
1997	535	5.0	1,730	23.6	2,265	12.6
1998	442	4.1	1,558	21.3	2,000	11.1
1999	377	3.5	1,460	19.9	1,837	10.2
2000	412	3.8	1,332	16.6	1,744	9.2
2001	415	3.8	1,261	15.7	1,676	8.8
2002	350	3.2	1,084	13.5	1,434	7.6
2003	340	3.1	1,140	14.2	1,480	7.8
2004	324	3.0	1,039	13.0	1,363	7.2
2005	305	2.8	984	12.3	1,289	6.8
2006	317	2.9	954	11.9	1,271	6.7
2007	261	2.4	914	11.4	1,175	6.2
2008	305	2.8	895	11.2	1,200	6.3

\*Figures after 1974 include reactivated cases

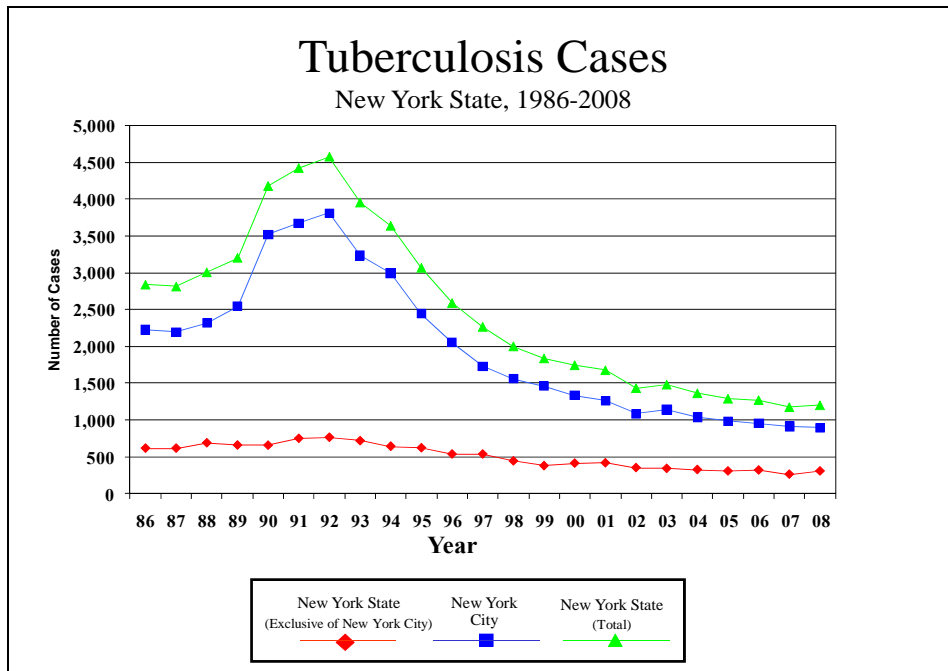
Source: New York State Department of Health  
Bureau of Tuberculosis Control

**Table 1: Tuberculosis Cases 1940-2008**

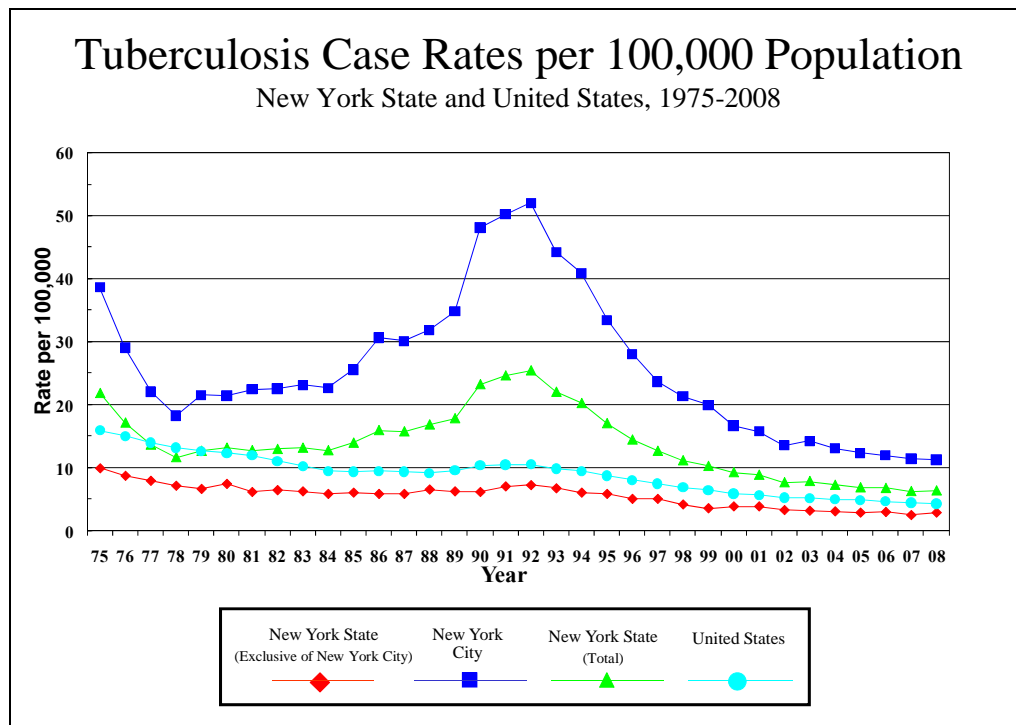


**Figure 1a: Tuberculosis Cases New York State, 1940-1985**

TB cases in New York State have decreased dramatically since 1940. The increase in 1975 was due to a change in CDC policy to include reactivated cases. The increase in the early 1990's represents the peak of the most recent epidemic.



**Figure 1b: Tuberculosis Cases New York State, 1986-2008**

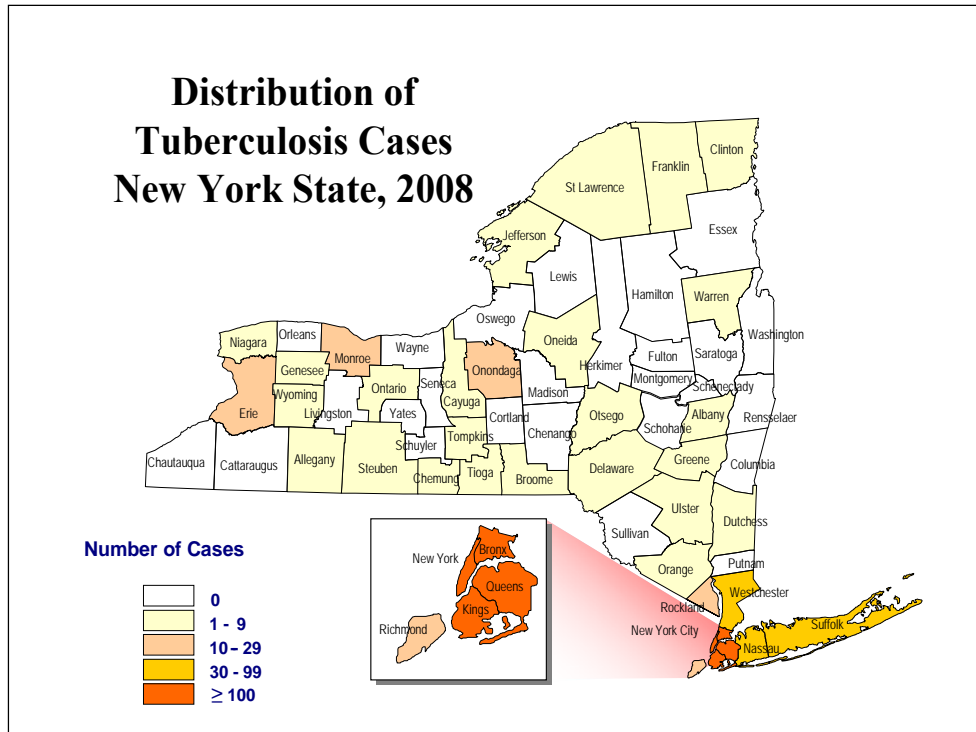


**Figure 2: Tuberculosis Case Rates per 100,000 Population**

Historically, tuberculosis case rates in New York State (exclusive of New York City) have been lower than the national average, while TB case rates in New York City have exceeded national rates. The difference was most evident at the peak of the recent epidemic in 1991 and 1992 when New York City's TB incident case rates exceeded 50 per 100,000 compared to the national rate of approximately 10.5 per 100,000.

For New York State as a whole, the 2008 TB case rate was 6.3 per 100,000 population (New York City, 11.2; New York State exclusive of New York City, 2.8). The national figure for 2008 was 4.2 per 100,000.

## Distribution of Tuberculosis Cases New York State, 2008



**Figure 3: Distribution of Tuberculosis Cases**

New York City represents 74.6 percent of the State's TB cases despite having only 42.2 percent of the population. In New York State (exclusive of New York City), higher numbers of cases were noted in the major metropolitan areas with three counties - Nassau, Suffolk, and Westchester accounting for over half of the TB cases reported in 2008. Thirty-nine counties either had no cases or only one reported case of TB in 2008. Refer to Table 2, page 12 for case numbers by county and geographic region.

## Tuberculosis Cases and Rates\* per 100,000 Population by County and Region

New York State, 2003-2008

	2003		2004		2005		2006		2007		2008	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Albany	8	2.7	5	1.7	6	2.0	8	2.7	7	2.4	4	1.4
Clinton	1	1.3	1	1.3	0	0.0	0	0.0	1	1.3	1	1.3
Columbia	2	3.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Delaware	0	0.0	1	2.1	0	0.0	0	0.0	0	0.0	1	2.1
Essex	2	5.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Franklin	1	2.0	3	5.9	0	0.0	0	0.0	1	2.0	2	3.9
Fulton	0	0.0	1	1.8	0	0.0	0	0.0	0	0.0	0	0.0
Greene	0	0.0	1	2.1	1	2.1	0	0.0	0	0.0	1	2.1
Hamilton	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Montgomery	0	0.0	1	2.0	0	0.0	1	2.0	0	0.0	0	0.0
Otsego	0	0.0	0	0.0	0	0.0	1	1.6	0	0.0	1	1.6
Rensselaer	1	0.7	2	1.3	3	2.0	1	0.7	6	3.9	0	0.0
Saratoga	1	0.5	4	2.0	2	1.0	2	1.0	1	0.5	0	0.0
Schenectady	2	1.4	2	1.4	5	3.4	6	4.1	2	1.4	0	0.0
Schoharie	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Warren	2	3.2	0	0.0	1	1.6	1	1.6	0	0.0	1	1.6
Washington	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Albany Regional Total</b>	<b>20</b>	<b>1.4</b>	<b>21</b>	<b>1.4</b>	<b>18</b>	<b>1.2</b>	<b>20</b>	<b>1.4</b>	<b>18</b>	<b>1.2</b>	<b>11</b>	<b>0.8</b>
Allegany	0	0.0	0	0.0	3	6.0	1	2.0	0	0.0	1	2.0
Cattaraugus	1	1.2	1	1.2	1	1.2	1	1.2	0	0.0	0	0.0
Chautauqua	0	0.0	2	1.4	2	1.4	2	1.4	0	0.0	0	0.0
Erie	21	2.2	25	2.6	11	1.2	11	1.2	9	0.9	16	1.7
Genesee	0	0.0	0	0.0	0	0.0	2	3.3	2	3.3	1	1.7
Niagara	3	1.4	1	0.5	2	0.9	4	1.8	1	0.5	2	0.9
Orleans	2	4.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Wyoming	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.3
<b>Buffalo Regional Total</b>	<b>27</b>	<b>1.7</b>	<b>29</b>	<b>1.8</b>	<b>19</b>	<b>1.2</b>	<b>21</b>	<b>1.3</b>	<b>12</b>	<b>0.8</b>	<b>21</b>	<b>1.3</b>
Chemung	0	0.0	1	1.1	1	1.1	1	1.1	2	2.2	2	2.2
Livingston	1	1.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Monroe	22	3.0	22	3.0	22	3.0	24	3.3	21	2.9	16	2.2
Ontario	1	1.0	4	4.0	1	1.0	1	1.0	1	1.0	1	1.0
Schuyler	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Seneca	1	3.0	0	0.0	0	0.0	1	3.0	0	0.0	0	0.0
Steuben	2	2.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0
Wayne	3	3.2	0	0.0	0	0.0	0	0.0	2	2.1	0	0.0
Yates	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Rochester Regional Total</b>	<b>30</b>	<b>2.4</b>	<b>28</b>	<b>2.2</b>	<b>25</b>	<b>2.0</b>	<b>28</b>	<b>2.2</b>	<b>27</b>	<b>2.1</b>	<b>20</b>	<b>1.6</b>
Broome	6	3.0	6	3.0	2	1.0	3	1.5	4	2.0	5	2.5
Cayuga	2	2.4	0	0.0	1	1.2	0	0.0	0	0.0	1	1.2
Chenango	2	3.9	0	0.0	0	0.0	1	1.9	0	0.0	0	0.0
Cortland	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Herkimer	0	0.0	0	0.0	3	4.7	0	0.0	1	1.6	0	0.0
Jefferson	0	0.0	0	0.0	0	0.0	1	0.9	0	0.0	1	0.9
Lewis	0	0.0	0	0.0	0	0.0	0	0.0	1	3.7	0	0.0
Madison	0	0.0	0	0.0	0	0.0	0	0.0	1	1.4	0	0.0
Oneida	5	2.1	7	3.0	6	2.5	5	2.1	6	2.5	7	3.0
Onondaga	19	4.1	13	2.8	19	4.1	13	2.8	14	3.1	22	4.8
Oswego	1	0.8	1	0.8	0	0.0	1	0.8	2	1.6	0	0.0
St. Lawrence	0	0.0	1	0.9	7	6.3	1	0.9	0	0.0	2	1.8
Tioga	1	1.9	0	0.0	0	0.0	0	0.0	2	3.9	1	1.9
Tompkins	4	4.1	4	4.1	3	3.1	1	1.0	2	2.1	2	2.1
<b>Syracuse Regional Total</b>	<b>40</b>	<b>2.3</b>	<b>32</b>	<b>1.8</b>	<b>41</b>	<b>2.4</b>	<b>26</b>	<b>1.5</b>	<b>33</b>	<b>1.9</b>	<b>41</b>	<b>2.4</b>
Dutchess	7	2.5	11	3.9	7	2.5	9	3.2	3	1.1	7	2.5
Nassau	56	4.2	57	4.3	53	4.0	51	3.8	48	3.6	45	3.4
Orange	14	4.1	9	2.6	3	0.9	4	1.2	7	2.1	8	2.3
Putnam	1	1.0	2	2.1	3	3.1	3	3.1	2	2.1	0	0.0
Rockland	23	8.0	23	8.0	30	10.5	26	9.1	18	6.3	24	8.4
Suffolk	61	4.3	44	3.1	50	3.5	55	3.9	44	3.1	63	4.4
Sullivan	2	2.7	2	2.7	2	2.7	0	0.0	0	0.0	0	0.0
Ulster	2	1.1	3	1.7	1	0.6	3	1.7	3	1.7	3	1.7
Westchester	57	6.2	63	6.8	53	5.7	71	7.7	46	5.0	62	6.7
<b>New Rochelle Regional Total</b>	<b>223</b>	<b>4.5</b>	<b>214</b>	<b>4.3</b>	<b>202</b>	<b>4.1</b>	<b>222</b>	<b>4.5</b>	<b>171</b>	<b>3.5</b>	<b>212</b>	<b>4.3</b>
<b>New York State Total</b>	<b>340</b>	<b>3.1</b>	<b>324</b>	<b>3.0</b>	<b>305</b>	<b>2.8</b>	<b>317</b>	<b>2.9</b>	<b>261</b>	<b>2.4</b>	<b>305</b>	<b>2.8</b>
<i>(Exclusive of New York City)</i>												
Bronx	181	13.6	177	13.3	159	11.9	165	12.4	158	11.9	149	11.2
Kings	361	14.6	314	12.7	322	13.1	291	11.8	283	11.5	264	10.7
New York	238	15.5	200	13.0	183	11.9	164	10.7	183	11.9	159	10.3
Queens	331	14.8	320	14.4	303	13.6	305	13.7	267	12.0	300	13.5
Richmond	29	6.5	28	6.3	17	3.8	28	6.3	23	5.2	23	5.2
<b>New York City Total</b>	<b>1,140</b>	<b>14.2</b>	<b>1,039</b>	<b>13.0</b>	<b>984</b>	<b>12.3</b>	<b>953</b>	<b>11.9</b>	<b>914</b>	<b>11.4</b>	<b>895</b>	<b>11.2</b>
<b>State Total</b>	<b>1,480</b>	<b>7.8</b>	<b>1,363</b>	<b>7.2</b>	<b>1,289</b>	<b>6.8</b>	<b>1,270</b>	<b>6.7</b>	<b>1,175</b>	<b>6.2</b>	<b>1,200</b>	<b>6.3</b>

\*Rates based on 2000 Census

Source: New York State Department of Health  
Bureau of Tuberculosis Control

**Table 2: Tuberculosis Cases and Rates per 100,000 Population by County and Region**

**Tuberculosis Cases and Rates per 100,000 Population  
By Age and Gender  
New York State, 2008**

Age (in years)	New York State (Exclusive of New York City)						New York City						New York State (Total)					
	Number of Cases			Rate per 100,000			Number of Cases			Rate per 100,000			Number of Cases			Rate per 100,000		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
All Ages	305	174	131	2.8	3.3	2.3	895	546	349	11.2	14.4	8.3	1200	720	480	6.3	7.9	4.9
Under 5	9	5	4	1.3	1.4	1.2	7	3	4	1.3	1.1	1.5	16	8	8	1.3	1.3	1.3
5-9	3	3	0	0.4	0.7	0.0	9	2	7	1.6	0.7	2.5	12	5	7	0.9	0.7	1.1
10-14	4	1	3	0.5	0.2	0.8	9	4	5	1.7	1.5	1.9	13	5	8	1.0	0.7	1.2
15-19	17	9	8	2.2	2.3	2.2	35	20	15	6.7	7.5	5.9	52	29	23	4.1	4.4	3.7
20-24	23	15	8	3.5	4.4	2.5	86	49	37	14.6	17.2	12.2	109	64	45	8.8	10.3	7.2
25-34	63	34	29	4.5	4.9	4.2	159	92	67	11.6	13.9	9.5	222	126	96	8.1	9.3	6.8
35-44	46	21	25	2.5	2.3	2.7	159	106	53	12.6	17.3	8.1	205	127	78	6.7	8.4	5.0
45-54	39	22	17	2.5	2.9	2.2	178	120	58	17.6	25.5	10.7	217	142	75	8.5	11.6	5.7
55-64	39	30	9	3.9	6.2	1.7	106	63	43	15.5	20.6	11.4	145	93	52	8.6	11.8	5.8
65+	62	34	28	4.1	5.5	3.1	147	87	60	15.7	24.2	10.4	209	121	88	8.5	12.4	6.0

**Table 3: Tuberculosis Cases and Rates per 100,000 Population**

Sixteen children under the age of 5 were diagnosed with active tuberculosis in 2008 in New York State, a decrease of 33 percent from 2007. New York City's number of cases in this age group decreased from 12 in 2007 to 7 in 2008, a 41.7 percent decrease. For the rest of the state, the number of cases in this age group decreased from 12 to 9.

The highest morbidity rates in New York City occurred within the 45-54 year age group, over 65 and the 55-64 year age group (17.6, 15.7, and 15.5 per 100,000 respectively). The highest rate in New York State (exclusive of New York City) occurred among those in the 25-34 year age group (4.5 per 100,000). Statewide, the highest morbidity rates were found in the 20-24, 45-54, 55-64 and over 65 year age groups (8.8, 8.5, 8.6, and 8.5 per 100,000 respectively).

Statewide, the tuberculosis incidence rate among males was 1.6 times the female rate (7.9 compared to 4.9 per 100,000). The largest disparity by gender occurred in the over 65 year age group, where the male rate was 2.1 times the female rate (12.4 compared to 6.0 per 100,000).

## Tuberculosis Cases and Rates by Gender, Age\*, and Race/Ethnicity\*\* New York State, 2008

	New York State (Exclusive of New York City)		New York City		New York State (Total)	
	N	Rate (per 100,000)	N	Rate (per 100,000)	N	Rate (per 100,000)
<b>GENDER</b>						
Male	174	3.3	546	14.4	720	7.9
Female	131	2.3	349	8.3	480	4.9
<b>AGE</b>						
Under 5 years	9	1.3	7	1.3	16	1.3
5-9	3	0.4	9	1.6	12	0.9
10-14	4	0.5	9	1.7	13	1.0
15-19	17	2.2	35	6.7	52	4.1
20-24	23	3.5	86	14.6	109	8.8
25-34	63	4.5	159	11.6	222	8.1
35-44	46	2.5	159	12.6	205	6.7
45-54	39	2.5	178	17.6	217	8.5
55-64	39	3.9	106	15.5	145	8.6
65+	62	4.1	147	15.7	209	8.5
<b>RACE/ETHNICITY</b>						
White, non-Hispanic	68	0.8	69	2.5	137	1.2
Black, non-Hispanic	45	5.3	232	11.8	277	9.8
Hispanic	103	15.8	263	13.2	366	13.8
Asian	87	33.7	320	40.9	407	39.1
Native American	1	2.8	0	0	1	1.9
Multiple Races	1	0.5	5	1.3	6	1.0
Other	0	---	0	---	0	---
Unknown	0	---	6	---	6	---
<b>TOTAL</b>	<b>305</b>		<b>895</b>		<b>1200</b>	

\*Age calculation based on date of birth and report date.

\*\* Rate Calculations based on 2000 Census do not include those indicating "other race" and not checking "yes" for the Hispanic question.

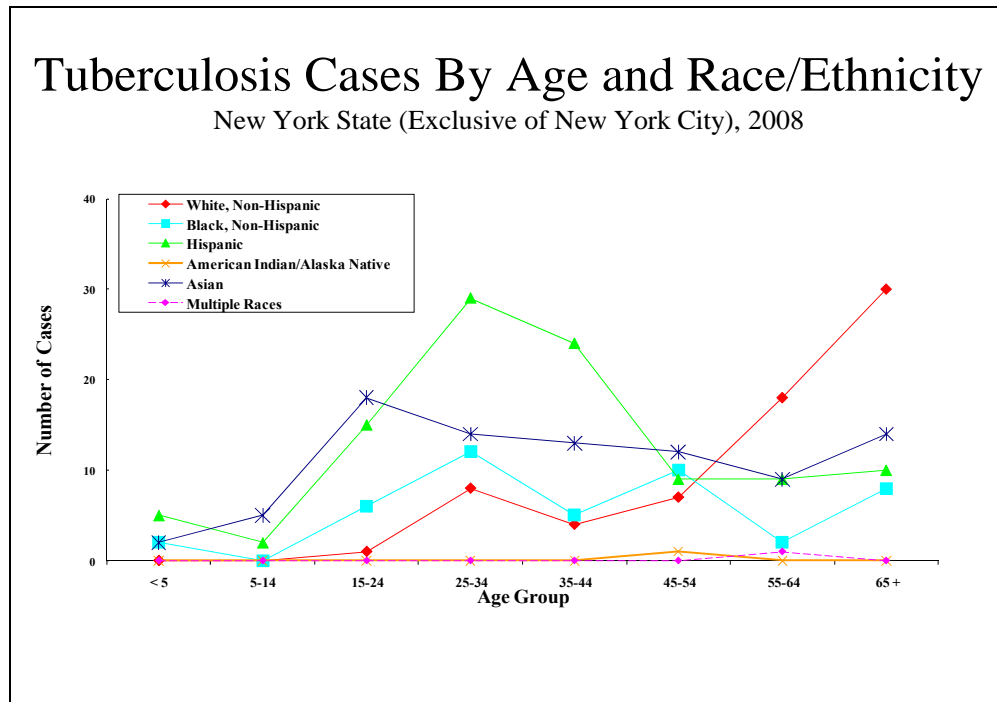
**Table 4: Tuberculosis Cases and Rates by Gender, Age and Race/Ethnicity**

Males accounted for approximately 60 percent of TB cases reported statewide. While the case rates among males and females were similar in New York State (exclusive of New York City), there was a large disparity in New York City where the case rate among males was 1.7 times that of females (14.4 compared to 8.3 per 100,000).

The highest case rates statewide were found among Asians (39.1) and Hispanics (13.8).

## Tuberculosis Cases By Age and Race/Ethnicity

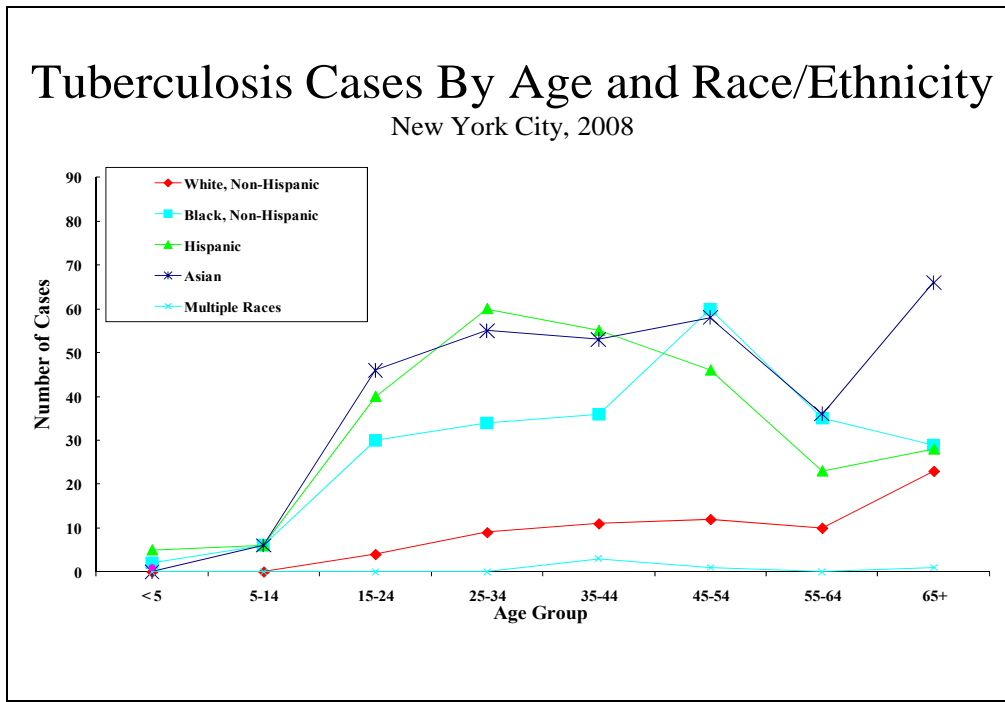
New York State (Exclusive of New York City), 2008



**Figure 4: Tuberculosis Cases By Age and Race/Ethnicity, New York State (Exclusive of New York City)**

Comparison of the age distribution of cases by race/ethnicity for New York State (exclusive of New York City) revealed differences between Asians and Hispanics compared to whites. The number of cases among Asians peaked in the 15-24 year age group (n=18), with a slightly lower peak in the over 65 age group (n=14). The greatest number of Hispanic cases were seen in the 25-34 year age group (n=29), while among white, non-Hispanics, the highest morbidity was in the 65 years and older age group (n=30). Among the black non-Hispanic population, morbidity peaked in the 25-34 year age group (n=12).



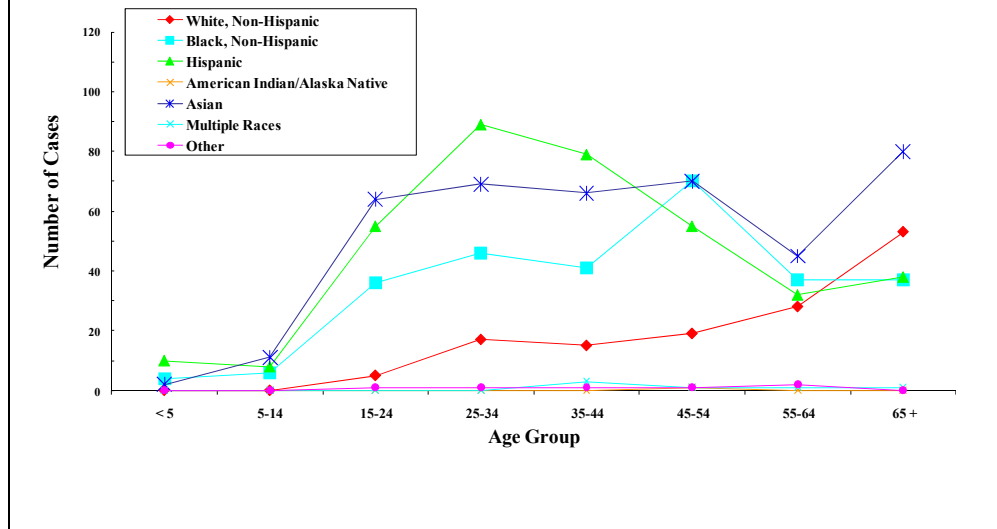


**Figure 5: Tuberculosis Cases By Age and Race/Ethnicity, New York City**

Comparison of the age distribution of cases by race/ethnicity for New York City revealed differences between black, non-Hispanics and Hispanics compared to whites and Asians. The number of cases among black, non-Hispanics peaked in the 45-54 age group (n=60) and the number of Hispanic cases peaked in the 25-34 year age group (n=60). Among white, non-Hispanics, the highest morbidity was in the 65 years and older age group (n=23), similar to Asians with a peak in the same age category (n=66).

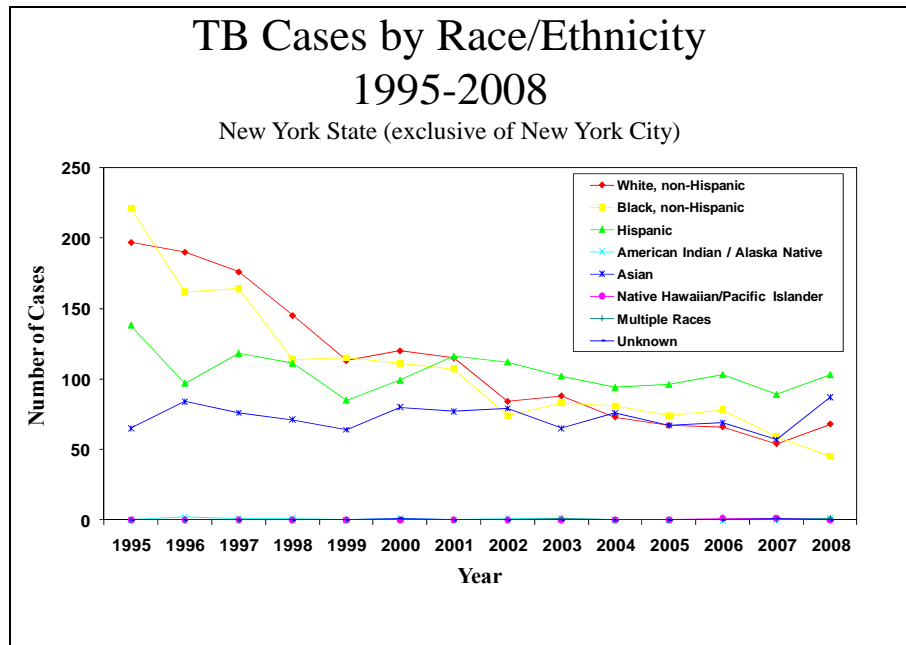
## Tuberculosis Cases By Age and Race/Ethnicity

New York State, 2008



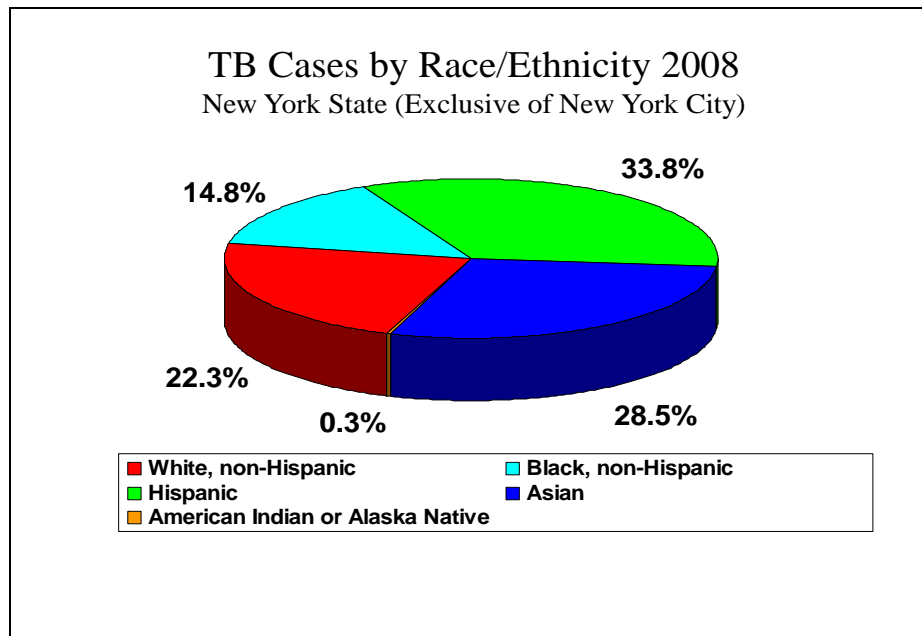
**Figure 6: Tuberculosis Cases By Age and Race/Ethnicity, New York State**

The largest proportion of 2008 statewide tuberculosis cases occurred among Asians (33.9%, N=407), followed by Hispanics (30.5%, N=366), non-Hispanic blacks (23.1%, N=277) and non-Hispanic whites (11.4%, N=137). Morbidity among Asians increased by 18.3 percent (344 cases in 2007 to 407 cases in 2008). Non-Hispanic blacks experienced a 15.5 percent decrease (328 cases in 2007 to 277 cases in 2008). The number of Hispanic cases increased from 347 in 2007 to 366 in 2008. The number of cases reported as multiple races decreased, from 10 in 2007 to 6 in 2008.



**Figure 7: Racial Distribution of TB Cases by Year**

The number of TB cases among white and black, non-Hispanics in New York State (exclusive of New York City) has decreased considerably in the last decade, while the number of TB cases among Hispanics has remained relatively constant. As a result, the proportion of TB cases contributed by Hispanics has increased from 18.1 percent in 1996 to 33.8 percent in 2008, while the proportion among white, non-Hispanics decreased from 35.5 percent to 22.3 percent and black, non-Hispanics decreased from 30.3 percent to 14.8 percent.



**Figure 8: Racial Distribution of TB Cases 2008**

In New York State (exclusive of New York City), Hispanics represented the largest (33.8%) proportion of TB cases in 2008, followed by Asians with 28.5 percent. Black, non-Hispanics represented about one-sixth of all TB cases reported in 2008 and white, non-Hispanics constituted a little over one-fifth of all cases.

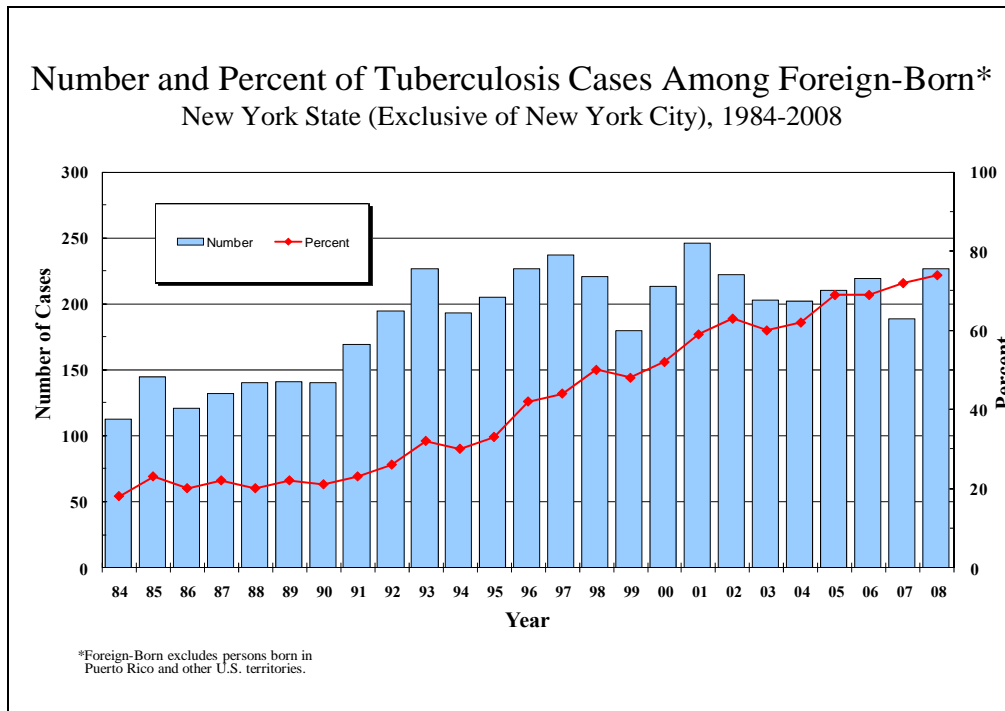
**Tuberculosis Cases by US-Born and Foreign-Born\***  
**Total Number; Number of US-Born; Number and Percent of Foreign-Born**  
**New York State Counties (Exclusive of New York City), 2008**

County	Total Number	US-Born Number	Foreign-Born Number	Foreign-Born Percent
Albany	4	2	2	50.0
Allegany	1	1	0	0.0
Broome	5	1	4	80.0
Cattaraugus	0	0	0	0.0
Cayuga	1	1	0	0.0
Chautauqua	0	0	0	0.0
Chemung	2	2	0	0.0
Chenango	0	0	0	0.0
Clinton	1	0	1	100.0
Columbia	0	0	0	0.0
Cortland	0	0	0	0.0
Delaware	1	1	0	0.0
Dutchess	7	4	3	42.9
Erie	16	8	8	50.0
Essex	0	0	0	0.0
Franklin	2	1	1	50.0
Fulton	0	0	0	0.0
Genesee	1	0	1	100.0
Greene	1	0	1	100.0
Hamilton	0	0	0	0.0
Herkimer	0	0	0	0.0
Jefferson	1	1	0	0.0
Lewis	0	0	0	0.0
Livingston	0	0	0	0.0
Madison	0	0	0	0.0
Monroe	16	5	11	68.8
Montgomery	0	0	0	0.0
Nassau	45	10	35	77.8
Niagara	2	2	0	0.0
Oneida	7	1	6	85.7
Onondaga	22	2	20	90.9
Ontario	1	1	0	0.0
Orange	8	3	4	50.0
Orleans	0	0	0	0.0
Oswego	0	0	0	0.0
Otsego	1	0	1	100.0
Putnam	0	0	0	0.0
Rensselaer	0	0	0	0.0
Rockland	24	7	17	70.8
St. Lawrence	2	0	2	100.0
Saratoga	0	0	0	0.0
Schenectady	0	0	0	0.0
Schoharie	0	0	0	0.0
Schuyler	0	0	0	0.0
Seneca	0	0	0	0.0
Steuben	1	1	0	0.0
Suffolk	63	8	55	87.3
Sullivan	0	0	0	0.0
Tioga	1	1	0	0.0
Tompkins	2	0	2	100.0
Ulster	3	1	2	66.7
Warren	1	1	0	0.0
Washington	0	0	0	0.0
Wayne	0	0	0	0.0
Westchester	62	11	51	82.3
Wyoming	1	1	0	0.0
Yates	0	0	0	0.0
<b>TOTAL</b>	<b>305</b>	<b>77</b>	<b>227</b>	<b>74.4</b>

\*Foreign-Born excludes persons born in Puerto Rico and other U.S. Territories.

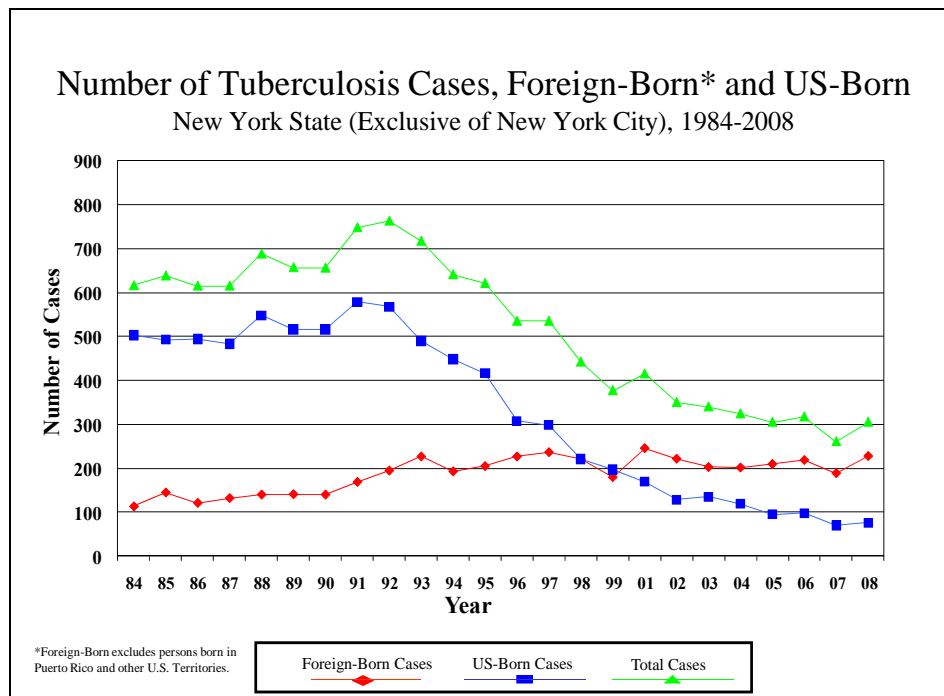
Source: New York State Department of Health  
Bureau of Tuberculosis Control

**Table 5: Tuberculosis Cases by US-Born and Foreign-Born**

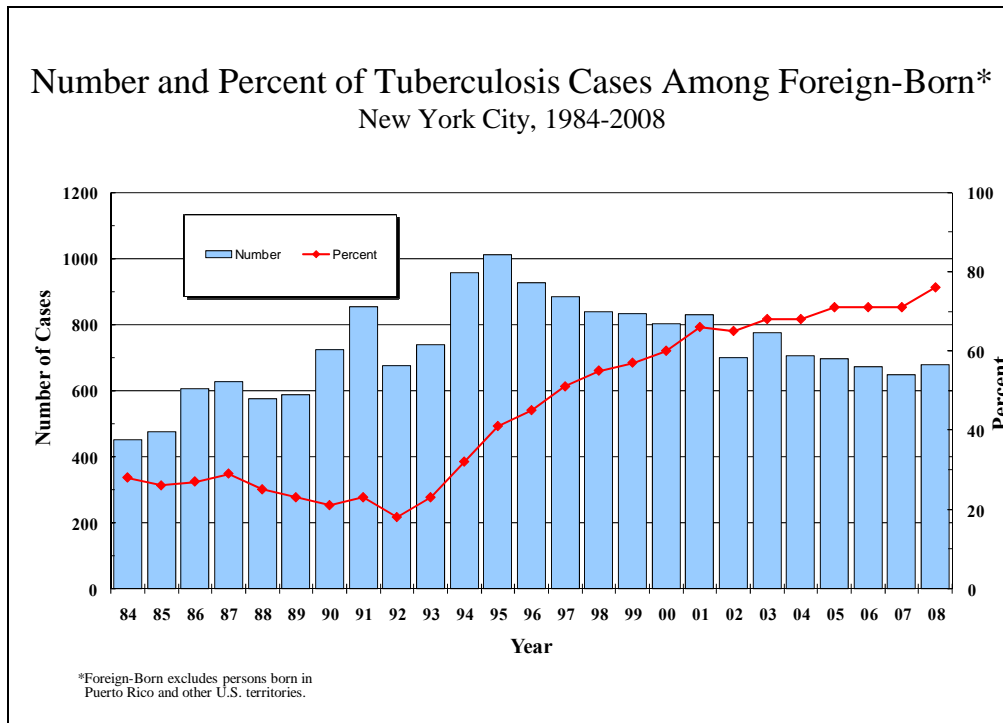


**Figure 9: Number and Percent of Tuberculosis Cases Among Foreign-Born, New York State (Exclusive of New York City)**

The overall number of foreign-born cases in New York State (exclusive of New York City) increased from 189 in 2007 to 227 in 2008. The percent of TB cases reported among the foreign-born also increased from 72.4 percent in 2007 to 74.4 percent in 2008. The proportion of foreign-born cases statewide increased from 71.2 percent to 75.5 percent.

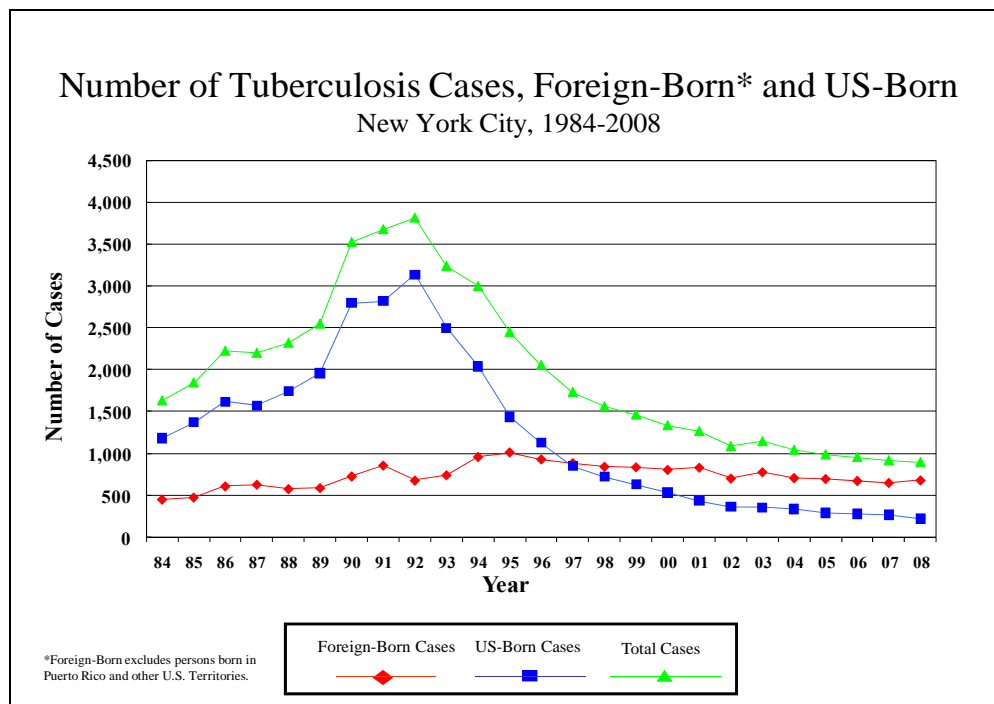


**Figure 10: Number of Tuberculosis Cases, Foreign-Born and US-Born, New York State (Exclusive of New York City)**



**Figure 11: Number and Percent of Tuberculosis Cases Among Foreign-Born, New York City**

The number of cases reported among the foreign-born increased from 648 in 2007 to 678 in 2008 in New York City. The percentage of cases also increased from 71.0 percent in 2007 to 76.0 percent in 2008.



**Figure 12: Number of Tuberculosis Cases, Foreign-Born and US-Born, New York City**

**Tuberculosis Cases by Country of Origin\***  
**New York State, 2008**

	New York State (Exclusive of New York City)	New York City	New York State (Total)
United States	73	194	267
China	4	132	136
Ecuador	20	49	69
Mexico	12	51	63
India	23	36	59
Haiti	9	43	52
Dominican Republic	2	46	48
Philippines	9	38	47
Bangladesh	1	28	29
Puerto Rico	4	22	26
Pakistan	9	16	25
Peru	15	10	25
Burma	14	10	24
Nepal	2	22	24
Honduras	4	15	19
Guatemala	11	5	16
Guyana	3	13	16
El Salvador	13	1	14
Vietnam	11	3	14
Korea, Republic of	1	11	12
Hong Kong	1	11	12
Colombia	5	6	11
Ghana	1	8	9
Poland	3	6	9
Jamaica	0	8	8
Russia	1	7	8
Guinea	0	7	7
Trinidad and Tobago	0	7	7
Taiwan	3	3	6
Nigeria	0	5	5
Senegal	0	5	5
Thailand	3	2	5
Other Countries	47	74	121
Unknown	1	1	2
<b>Total</b>	<b>305</b>	<b>895</b>	<b>1,200</b>

\* Only countries representing  $\geq 5$  TB cases statewide are named.

Source: New York State Department of Health  
 Bureau of Tuberculosis Control

**Table 6: Tuberculosis Cases by Country of Origin**

**Tuberculosis Cases by World Region of Origin**  
**New York State (Exclusive of New York City), 2003-2008**

<u>REGION</u>	2003	2004	2005	2006	2007	2008
Africa	11	15	18	27	21	17
East Asia	34	32	41	34	31	48
Caribbean/South and Central America/Mexico	107	96	108	111	93	101
Europe	18	18	16	11	15	19
India/Pakistan/ Middle East	33	40	27	36	29	42
United States/Canada	135	120	95	98	72	77
<b>TOTAL</b>	<b>338</b>	<b>321</b>	<b>305</b>	<b>317</b>	<b>261</b>	<b>304</b>

**Table 7: Tuberculosis Cases by World Region of Origin**

In New York State (exclusive of New York City), close to half of the foreign-born TB cases (44.5%) originated from the Caribbean region or Central and South America. While that percentage has remained steady throughout the years, we have seen a 54.8 percent increase in the percentage of TB cases contributed by patients of Asian origin over the last year.



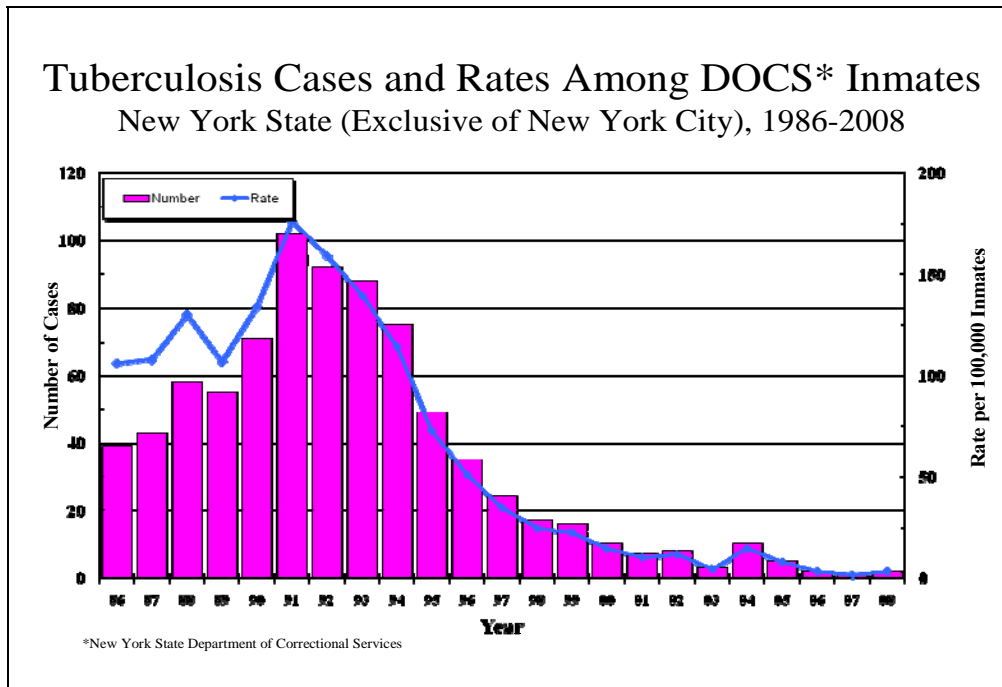
**Table 8**  
**Tuberculosis Cases and Rates per 100,000 Population**  
**Total Number and Rate; Number and Rate in General Population; Number of DOCS\***  
**Inmates**  
**New York State Counties (Exclusive of New York City), 2008**

County	2000 Population	Total Number	Rate per 100,000	General Pop. Number	General Pop. Rate	Inmate Number
Albany	294,565	4	1.4	4	1.4	0
Allegany	49,927	1	2.0	1	2.0	0
Broome	200,536	5	2.5	5	2.5	0
Cattaraugus	83,955	0	0.0	0	0.0	0
Cayuga	81,963	1	1.2	1	1.2	0
Chautauqua	139,750	0	0.0	0	0.0	0
Chemung	91,070	2	2.2	2	2.2	0
Chenango	51,401	0	0.0	0	0.0	0
Clinton	79,894	1	1.3	1	1.3	0
Columbia	63,094	0	0.0	0	0.0	0
Cortland	48,599	0	0.0	0	0.0	0
Delaware	48,055	1	2.1	1	2.1	0
Dutchess	280,150	7	2.5	7	2.5	0
Erie	950,265	16	1.7	16	1.7	0
Essex	38,851	0	0.0	0	0.0	0
Franklin	51,134	2	3.9	1	2.0	1
Fulton	55,073	0	0.0	0	0.0	0
Genesee	60,370	1	1.7	1	1.7	0
Greene	48,195	1	2.1	1	2.1	0
Hamilton	5,379	0	0.0	0	0.0	0
Herkimer	64,427	0	0.0	0	0.0	0
Jefferson	111,738	1	0.9	1	0.9	0
Lewis	26,944	0	0.0	0	0.0	0
Livingston	64,328	0	0.0	0	0.0	0
Madison	69,441	0	0.0	0	0.0	0
Monroe	735,343	16	2.2	16	2.2	0
Montgomery	49,708	0	0.0	0	0.0	0
Nassau	1,334,544	45	3.4	45	3.4	0
Niagara	219,846	2	0.9	2	0.9	0
Oneida	235,469	7	3.0	7	3.0	0
Onondaga	458,336	22	4.8	22	4.8	0
Ontario	100,224	1	1.0	1	1.0	0
Orange	341,367	8	2.3	8	2.3	0
Orleans	44,171	0	0.0	0	0.0	0
Oswego	122,377	0	0.0	0	0.0	0
Otsego	61,676	1	1.6	1	1.6	0
Putnam	95,745	0	0.0	0	0.0	0
Rensselaer	152,538	0	0.0	0	0.0	0
Rockland	286,753	24	8.4	24	8.4	0
St. Lawrence	111,931	2	1.8	2	1.8	0
Saratoga	200,635	0	0.0	0	0.0	0
Schenectady	146,555	0	0.0	0	0.0	0
Schoharie	31,582	0	0.0	0	0.0	0
Schuyler	19,224	0	0.0	0	0.0	0
Seneca	33,342	0	0.0	0	0.0	0
Steuben	98,726	1	1.0	1	1.0	0
Suffolk	1,419,369	63	4.4	63	4.4	0
Sullivan	73,966	0	0.0	0	0.0	0
Tioga	51,784	1	1.9	1	1.9	0
Tompkins	96,501	2	2.1	2	2.1	0
Ulster	177,749	3	1.7	2	1.1	1
Warren	63,303	1	1.6	1	1.6	0
Washington	61,042	0	0.0	0	0.0	0
Wayne	93,765	0	0.0	0	0.0	0
Westchester	923,459	62	6.7	62	6.7	0
Wyoming	43,424	1	2.3	1	2.3	0
Yates	24,621	0	0.0	0	0.0	0
<b>TOTAL</b>	<b>10,968,179</b>	<b>305</b>	<b>2.8</b>	<b>303</b>	<b>2.8</b>	<b>2</b>

\*Department of Correctional Services

Source: New York State Department of Health  
Bureau of Tuberculosis Control

**Table 8: Tuberculosis Cases and Rates per 100,000 Population**



**Figure 13: Tuberculosis Cases and Rates Among DOCS Inmates**

During the late 1980's and early 1990's, a substantial proportion of cases reported by New York State (exclusive of New York City) were in the New York State Department of Correctional Services (DOCS) inmate population. Among the DOCS inmate population, there has been a notable decline in cases since 1991 when 102 new cases (176 per 100,000 inmates) were reported. In 2008, 2 new cases were reported (3.1 per 100,000 inmates). DOCS inmate cases have a wide geographical distribution across New York State and reflect mainly facility location and DOCS policies on periodic relocation of inmates.

**HIV Status Among Tuberculosis Patients**  
**New York State (Exclusive of New York City), 2003-2008**

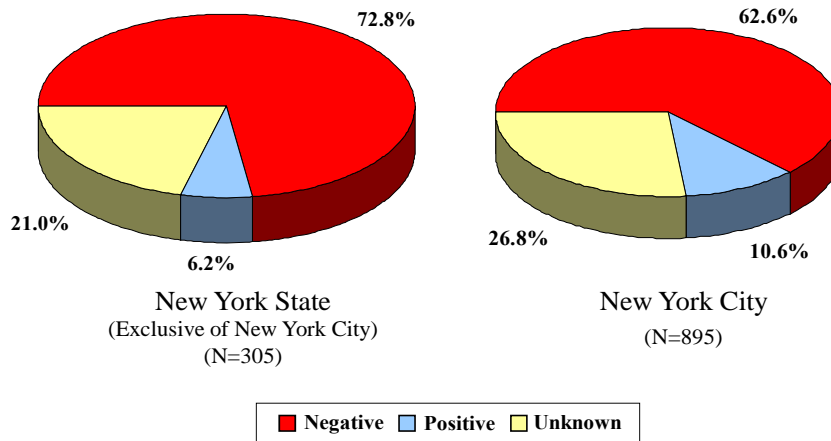
	2003		2004		2005		2006		2007		2008	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
<b>Negative</b>	180	(52.9)	184	(56.8)	176	(57.7)	185	(58.4)	174	(66.7)	222	(72.8)
<b>Positive</b>	30	(8.8)	19	(5.9)	23	(7.5)	26	(8.2)	17	(6.5)	19	(6.2)
<b>Unknown</b>	130	(38.2)	121	(37.4)	106	(34.8)	106	(33.4)	70	(26.8)	64	(21.0)
<b>TOTAL</b>	340	(100.0)	324	(100.0)	305	(100.0)	317	(100.0)	261	(100.0)	305	(100.0)

**Table 9: HIV Status Among Tuberculosis Patients**

Knowledge of HIV status is improving among individuals with active tuberculosis in the general population in New York State (exclusive of New York City), as evidenced by a steady decline in the percent of TB patients with unknown HIV status. Previous comparisons between the HIV and TB registries suggest the high percentage of individuals with unknown HIV status was due to a lack of HIV testing of individuals with TB, and not under reporting of HIV results to the TB registry. In 2008, there was almost a 6 percent increase in the number of patients with a known HIV status compared to 2007 (79 percent and 73.2 percent, respectively).

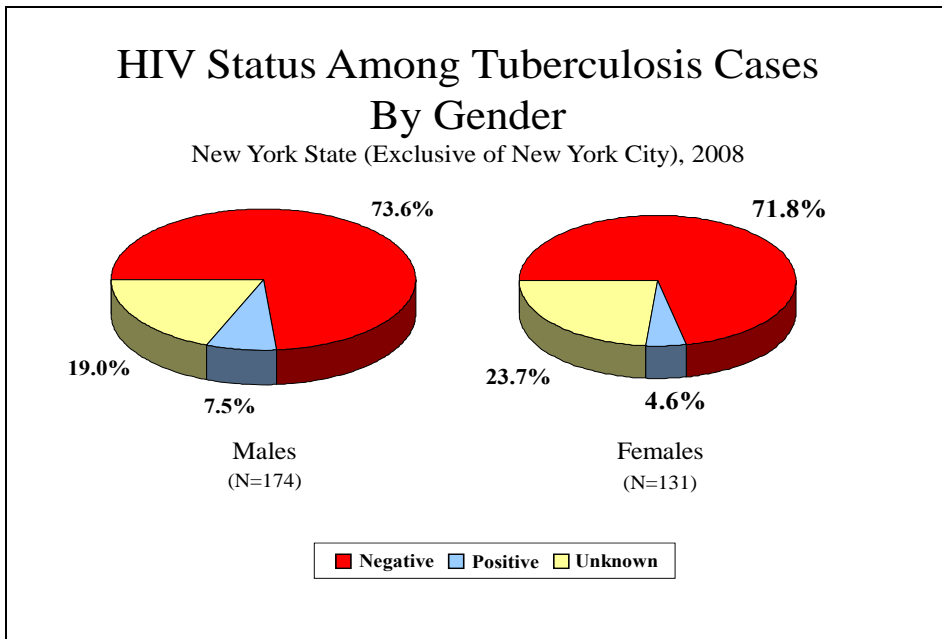
## HIV Status Among Tuberculosis Cases

New York State, 2008



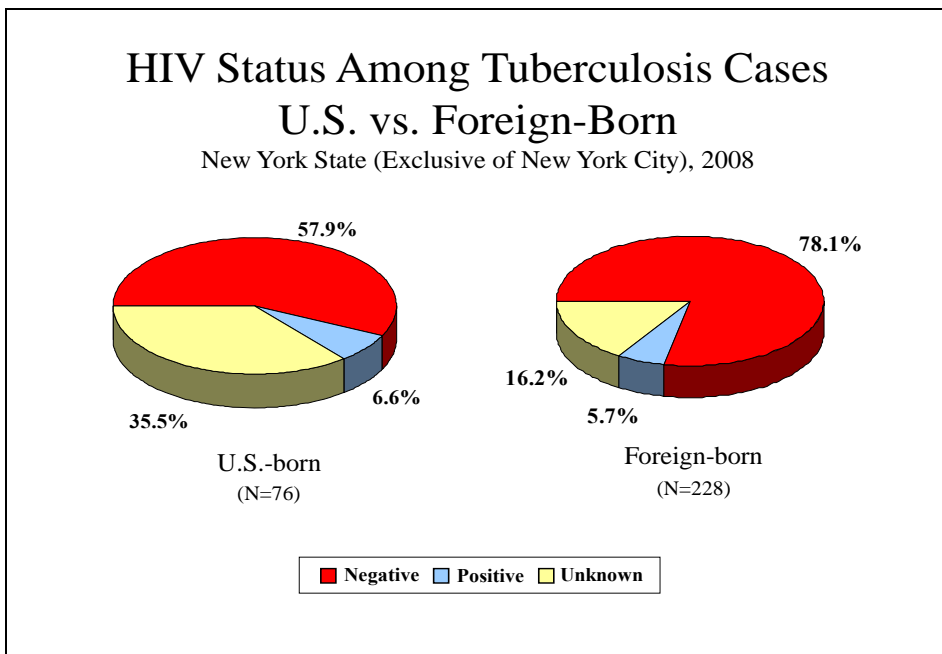
**Figure 14: HIV Status Among Tuberculosis Cases**

In New York City, 73.2 percent of TB patients in 2008 were HIV tested and had results reported to the TB registry: 10.6 percent were HIV sero-positive and 62.6 percent were HIV sero-negative. In New York State (exclusive of New York City), 79 percent of TB patients were tested with results reported: 6.2 percent were HIV sero-positive and 72.8 were HIV sero-negative.



**Figure 15: HIV Status Among Tuberculosis Cases By Gender**

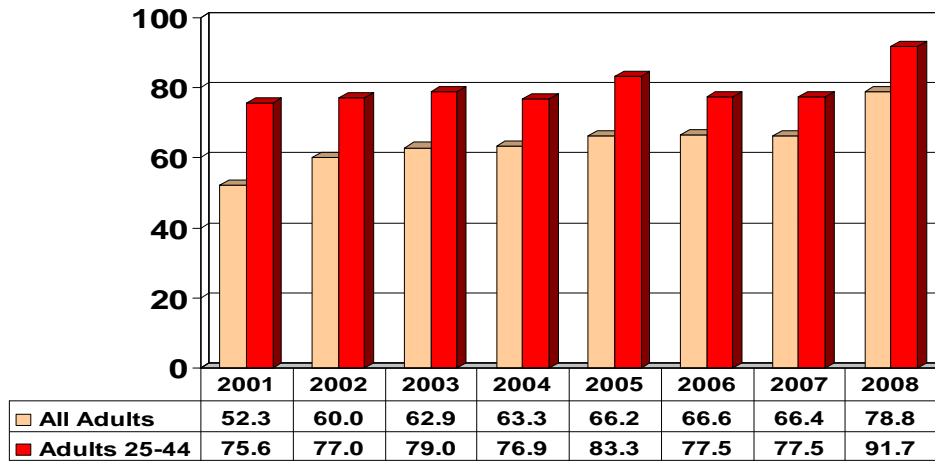
In 2008, approximately 24 percent (N=31) of female TB cases had an unknown HIV status and slightly less than 20 percent (N=33) of males had an unknown status. The percentage of TB cases co-infected with HIV was higher for males than females (7.5%, N=13 for males, 4.6%, N=6 for females).



**Figure 16: HIV Status Among Tuberculosis Cases, U.S. vs. Foreign-Born**

A greater percentage of foreign-born TB cases (83.8%, N=191) reported a known HIV status, than patients born in the United States (64.5%, N=49). The percent of cases reported to be HIV positive was similar between the two populations (5.7%, N=13 foreign-born and 6.6%, N=5 for U.S.-born cases).

Percent of adults with TB who have been  
tested for HIV, 2001-2008  
New York State (Exclusive of New York City)



**Figure 17: Proportion of Adults with TB who have been Tested for HIV**

Due to the high degree of co-infection between HIV and TB it is increasingly important to assess the HIV status of all TB patients. Despite this, only 78.8 percent of all adults with TB had a known HIV status in 2008. In the 25-44 year age group, the percentage (91.7) was much higher and met the New York State objective for 2008 (83%).

**Drug Susceptibility Test Results  
Among Culture Confirmed Tuberculosis Cases  
General Population vs. State Inmates  
New York State (Exclusive of New York City), 2006-2008**

	2006			2007			2008											
	General Population		Inmate Population	General Population		Inmate Population	General Population		Inmate Population	Total Population								
	N	(%)	N (%)	N (%)	(%)	N (%)	(%)	N (%)	(%)	N (%)								
Susceptibility test reported	236		2	238	188	0	188	225	2	227								
Sensitive to all first-line drugs	196	(82.4)	2	(100.0)	198	(83.2)	164	(87.2)	0	(0.0)	164	(87.2)	190	(84.4)	2	(100.0)	192	(84.6)
Resistant to INH and RIF (MDR TB)	3	(1.3)	0	(0.0)	3	(1.3)	0	(0.0)	0	(0.0)	0	(0.0)	1	(0.44)	0	(0.0)	1	(0.44)
INH resistant and RIF susceptible	31	(13.1)	0	(0.0)	31	(13.0)	16	(8.5)	0	(0.0)	16	(8.5)	20	(8.9)	0	(0.0)	20	(8.8)
RIF resistant and INH susceptible	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	3	(1.3)	0	(0.0)	3	(1.3)
Resistant to first-line drugs other than INH and RIF	6	(2.5)	0	(0.0)	6	(2.5)	8	(4.3)	0	(0.0)	8	(4.3)	11	(4.9)	0	(0.0)	11	(4.8)

**Table 10: Drug Susceptibility Test Results Among Culture Confirmed Tuberculosis Cases, General Population vs State Inmates**

In 2008, drug susceptibility tests were performed on 99.1 percent (N=227/229) of culture-positive cases in New York State (exclusive of New York City). Multiple-drug-resistant TB (isolates resistant to at least isoniazid (INH) and rifampin (RIF)) was identified in one case. In 2008, 20 culture-positive individuals were resistant to isoniazid, a 25 percent increase from the 16 cases in 2007. There were 3 culture-positive patients found to be resistant to Rifampin, a large increase compared to 2007 when there were none reported. Two new culture positive cases were reported among state inmates in 2008. Both were sensitive to all first-line drugs.

**Drug Susceptibility Test Results  
Among Culture Confirmed Tuberculosis Cases  
US-Born vs. Foreign-Born\*  
New York State (Exclusive of New York City), 2006-2008**

	2006			2007			2008		
	US-Born Population	Foreign-Born Population	Total Population	US-Born Population	Foreign-Born Population	Total Population	US-Born Population	Foreign-Born Population	Total Population
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Susceptibility test reported	69	169	238	55	133	188	50	176	227
Sensitive to all first-line drugs	63 (91.3)	135 (79.9)	198 (83.2)	49 (89.1)	115 (86.5)	164 (87.2)	46 (92.0)	145 (82.4)	191 (84.1)
Resistant to INH and RIF (MDR-TB)	1 (1.4)	2 (1.2)	3 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.6)	1 (0.44)
INH resistant and RIF susceptible	4 (5.8)	27 (16.7)	31 (13.0)	5 (9.1)	11 (8.3)	16 (8.5)	2 (4.0)	18 (10.2)	20 (8.8)
RIF resistant and INH susceptible	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (1.7)	3 (1.3)
Resistant to first-line drugs other than INH and RIF	1 (1.4)	5 (3.0)	6 (2.5)	1 (1.8)	7 (5.3)	8 (4.3)	2 (4.0)	9 (5.1)	11 (4.8)

\*For whom country of origin information has been obtained.

**Table 11: Drug Susceptibility Test Results Among Culture Confirmed Tuberculosis Cases, US-Born vs. Foreign-Born**

Of the eleven patients with TB resistant to first-line drugs other than isoniazid and rifampin, nine (81.8%) were foreign-born. Ninety percent of the patients susceptible to rifampin yet resistant to isoniazid were foreign-born (N=18/20). All of the patients with TB susceptible to isoniazid but resistant to rifampin were foreign-born (N=3/3).



**Drug Susceptibility Test Results  
MDR-TB**

New York State (Exclusive of New York City), 2003-2008

	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>Culture Positive</b>	256	247	236	239	191	229
<b>Susceptibility Test Reported</b>	256	247	236	238	188	227
<b>Resistant to INH and RIF (MDR-TB)*</b>	6 (2.3%)	6 (2.4%)	3 (1.3%)	3 (1.3%)	0 (0.0%)	1 (0.4%)

\*Among those with susceptibility tests reported.

**Table 12: Drug Susceptibility Test Results, New York State (Exclusive of New York City)**

In New York State (exclusive of New York City), susceptibility results were reported for 99.1 percent (N=227/229) of culture-positive cases in 2008. There was 1 MDR case.

**Drug Susceptibility Test Results**  
**MDR-TB**  
 New York City, 2003-2008

	2003	2004	2005	2006	2007	2008
<b>Culture Positive</b>	872	798	745	553	709	688
<b>Susceptibility Test Reported</b>	866	787	738	549	702	680
<b>Resistant to INH and RIF (MDR-TB)*</b>	21 (2.4%)	18 (2.3%)	24 (3.3%)	18 (3.3%)	9 (1.3%)	11 (1.6%)

\* Among those with susceptibility tests reported.

**Table 13: Drug Susceptibility Test Results, New York City**

In New York City in 2008, susceptibility results were reported for 98.8 percent (N=680/688) of culture-positive cases. The number of MDR cases increased from 9 in 2007 to 11 in 2008.

**Tuberculosis Genotyping Summary by Year**  
**New York State (Excluding New York City), 2006-2008**

	2006		2007		2008	
	N	(%)	N	(%)	N	(%)
<b>Initial Positive Cultures</b>	<b>249</b>		<b>202</b>		<b>233</b>	
<b>False Positives</b>	<b>11</b>	<b>(4.4)</b>	<b>12</b>	<b>(5.9)</b>	<b>5</b>	<b>(2.1)</b>
<b>Control Strain</b>	<b>2</b>	<b>(0.8)</b>	<b>7</b>	<b>(3.5)</b>	<b>2</b>	<b>(0.9)</b>
<b>Contamination</b>	<b>6</b>	<b>(2.4)</b>	<b>4</b>	<b>(2.0)</b>	<b>0</b>	<b>(0.0)</b>
<b>M. bovis BCG</b>	<b>3</b>	<b>(1.2)</b>	<b>1</b>	<b>(0.5)</b>	<b>3</b>	<b>(1.3)</b>
<b>True Positives</b>	<b>238</b>	<b>(95.6)</b>	<b>190</b>	<b>(94.1)</b>	<b>228</b>	<b>(97.9)</b>
<b>Isolates Available</b>	<b>236</b>		<b>188</b>		<b>216</b>	
<b>Complete Genotype</b>	<b>205</b>	<b>(86.9)</b>	<b>126</b>	<b>(67.0)</b>	<b>95</b>	<b>(44.0)</b>
<b>Partial Genotype</b>	<b>24</b>	<b>(10.2)</b>	<b>42</b>	<b>(22.3)</b>	<b>117</b>	<b>(54.2)</b>
<b>No Result</b>	<b>7</b>	<b>(3.0)</b>	<b>22</b>	<b>(11.7)</b>	<b>4</b>	<b>(1.9)</b>

**Table 14: Tuberculosis Genotyping Summary by Year**

Submission of all initial positive cultures for genotyping is required in New York State. Since 2004, real time spoligotyping and subsequent restriction fragment length polymorphism (RFLP) testing at Wadsworth has been supplemented by mycobacterial interspersed repetitive units (MIRU) and spoligotyping in the CDC-sponsored National Tuberculosis Genotyping regional lab in Michigan. The purpose of typing is to identify false positive cultures and to enhance understanding of patterns of TB transmission. In 2006, 99.2 percent of isolates were available for genotyping. This was followed by a slight decrease in 2007 to 98.9 percent and an even further decrease in 2008 to 94.7 percent. The most recent decrease was due to some difficulty obtaining specimens from outside laboratories. The percentage of false-positives identified among those genotyped decreased to 2.1 percent in 2008 compared to 5.9 percent in 2007.

**Tuberculosis Cases By Primary Disease Site**  
New York State, 2008

<b><u>DISEASE SITE</u></b>	<b>New York State (Exclusive of New York City)</b>		<b>New York City</b>		<b>New York State (Total)</b>	
	<b>N</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>
<b>Pulmonary</b>	241	(79.0)	667	(74.5)	908	(75.7)
<b>Lymphatic</b>	26	(8.5)	106	(11.8)	132	(11.0)
<b>Pleural</b>	11	(3.6)	31	(3.5)	42	(3.5)
<b>Miliary</b>	3	(1.0)	0	(0.0)	3	(0.3)
<b>Bone/Joint</b>	9	(3.0)	37	(4.1)	46	(3.8)
<b>Genitourinary</b>	5	(1.6)	10	(1.1)	15	(1.3)
<b>Meningeal</b>	2	(0.7)	13	(1.5)	15	(1.3)
<b>Peritoneal</b>	4	(1.3)	7	(0.8)	11	(0.9)
<b>Other/ Site Not Stated</b>	4	(1.3)	24	(2.7)	28	(2.3)
<b>TOTAL</b>	<b>305</b>	<b>(100.0)</b>	<b>895</b>	<b>(100.0)</b>	<b>1,200</b>	<b>(100.0)</b>

**Table 15: Tuberculosis Cases by Primary Disease Site**

Pulmonary tuberculosis was the primary site of disease in 75.7 percent of cases reported in New York State in 2008. Lymphatic TB disease was the next most frequently observed site, 11 percent of the total.

**Treatment Status of Tuberculosis Cases Reported in 2007\***  
**New York State (Exclusive of New York City)**

<b><u>TREATMENT STATUS</u></b>	<b>Non-MDR</b>		<b>MDR</b>	
	<b>N</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>
<b>Completed</b>	<b>220</b>	<b>(87.3)</b>	<b>0</b>	<b>(0.0)</b>
<b>Prolonged Therapy</b>	<b>4</b>	<b>(1.6)</b>	<b>0</b>	<b>(0.0)</b>
<b>Died</b>	<b>16</b>	<b>(6.3)</b>	<b>0</b>	<b>(0.0)</b>
<b>Uncooperative/Refused</b>	<b>2</b>	<b>(0.8)</b>	<b>0</b>	<b>(0.0)</b>
<b>Lost</b>	<b>7</b>	<b>(2.8)</b>	<b>0</b>	<b>(0.0)</b>
<b>Moved to Another Jurisdiction</b>	<b>1</b>	<b>(0.4)</b>	<b>0</b>	<b>(0.0)</b>
<b>Other or Unknown</b>	<b>2</b>	<b>(0.8)</b>	<b>0</b>	<b>(0.0)</b>
<b>TOTAL</b>	<b>252</b>	<b>(100.0)</b>	<b>0</b>	<b>(0.0)</b>

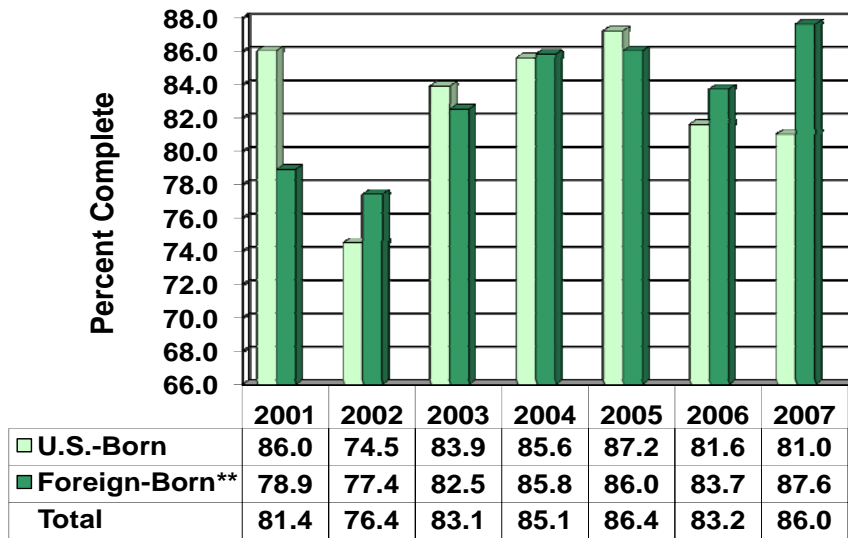
\*Excludes patients found not to have TB and those who were reported at death.

**Table 16: Treatment Status of Tuberculosis Cases Reported in 2007**

Of the 252 non-MDR cases who were alive at diagnosis in 2007 (the most recent year for which complete information is available), 87.3 percent completed a full course of therapy with a completion index of 93.6(completion index = number completed / (number alive at diagnosis - number died on treatment - number moved out of jurisdiction)\*100).

## Percent of TB patients who complete treatment within 12 months\*

New York State (Exclusive of New York City), 2001-2007



\* Among those eligible to complete within 12 months.

\*\* Foreign-Born excludes persons born in Puerto Rico and other U.S. Territories.

**Figure 18: Percent of TB Patients who Complete Treatment within 12 Months**

For 2007 (the most recent year for which complete information is available), 86.0 percent (N=202/235) of patients eligible\*\* to complete treatment within 12 months, did so. While this is less than the national objective of 90 percent, it is greater than the 2007 NYS objective (83%). An additional 8.1 percent (N=19/235) of patients completed treatment in greater than 12 months, for an overall completion rate of 94 percent.

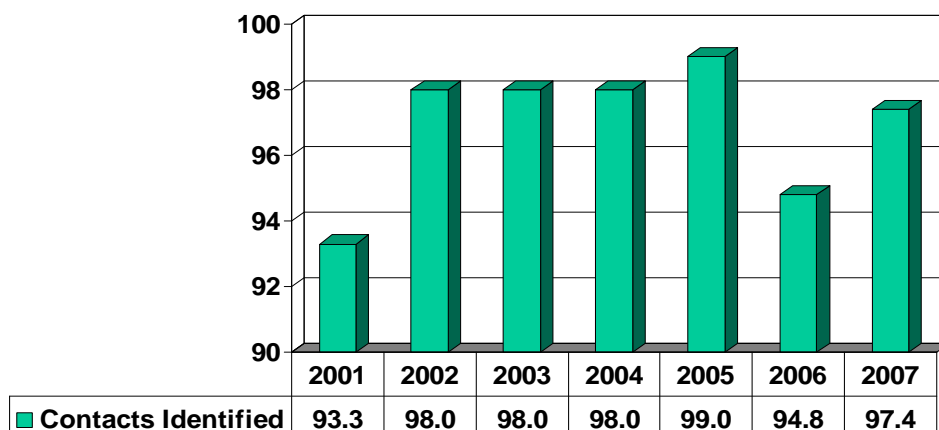
A larger percentage of foreign-born patients completed therapy within 12 months than U.S.-born in 2007 (87.6 and 81.0 percent, respectively).

Feedback from local staff has revealed that most patients not completing therapy within 12 months suffer from significant co-morbidities or adverse drug reactions which result in lengthened treatment regimens.

\*\*Patients with Rifampin resistance, those with meningeal TB and children under 15 who have bone or miliary TB are excluded along with those dead at diagnosis or who died while on treatment.

## Percent of Infectious TB Cases With Contacts Identified

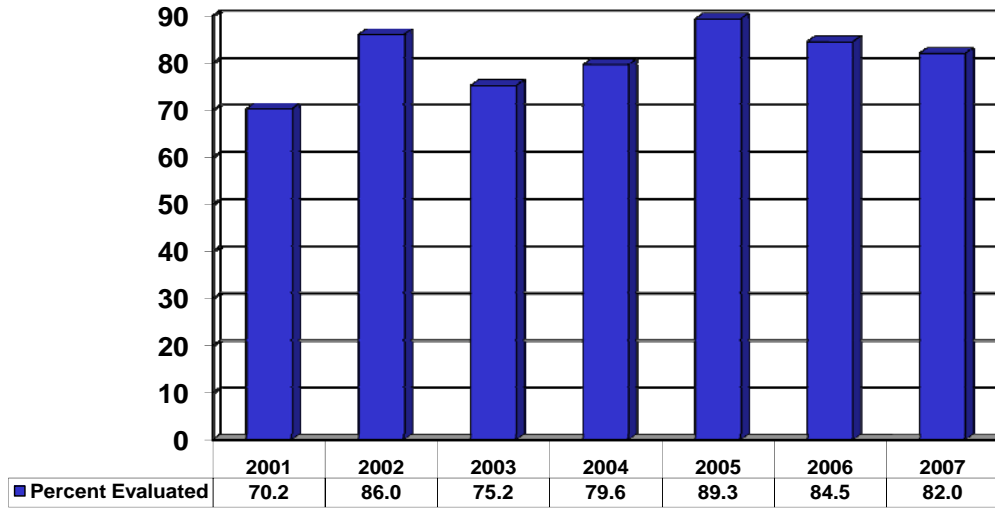
New York State (Exclusive of New York City), 2000-2007



**Figure 19: Percent of Infected Contacts to Infectious TB Cases with Contacts Identified**

In 2007 (the most recent year for which complete information is available), 97.4 percent (N=76) of infectious TB cases had contacts identified. This represents an increase from the 94.8 percent (N=92) for whom contacts were identified in 2006. Reasons contacts were not identified in 2006 include: in U.S. less than 24 hours when case reported, homelessness and patient refusing to identify contacts. In 2007, the two patients for whom contacts were not identified were in federal custody.

**Percent of Contacts to Infectious TB  
Cases Evaluated for LTBI**  
New York State (Exclusive of New York City), 2001-2007

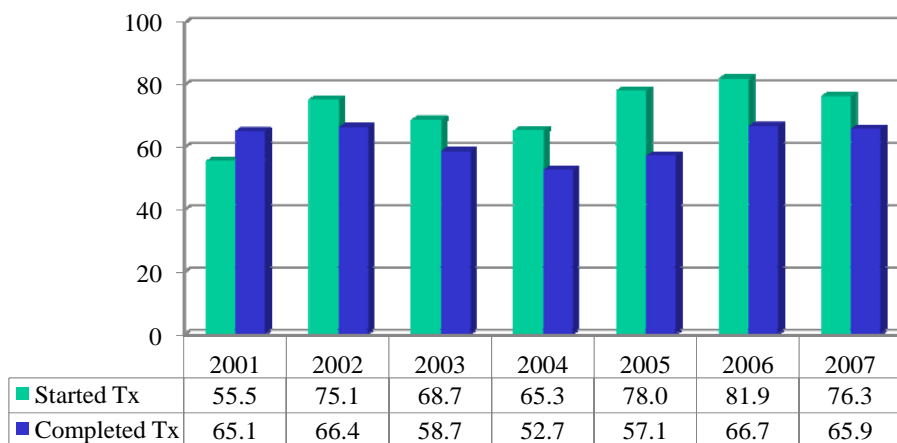


**Figure 20: Percent of Contacts to Infectious TB Cases Evaluated for LTBI**

Eighty-two percent (N=3,322) of contacts to infectious TB cases were evaluated for latent TB infection in 2007 (the most recent year for which complete information is available). This represents an increase from the 80.8 percent (N=5,516) evaluated in 2000, however, still does not meet our state objective of 95 percent.

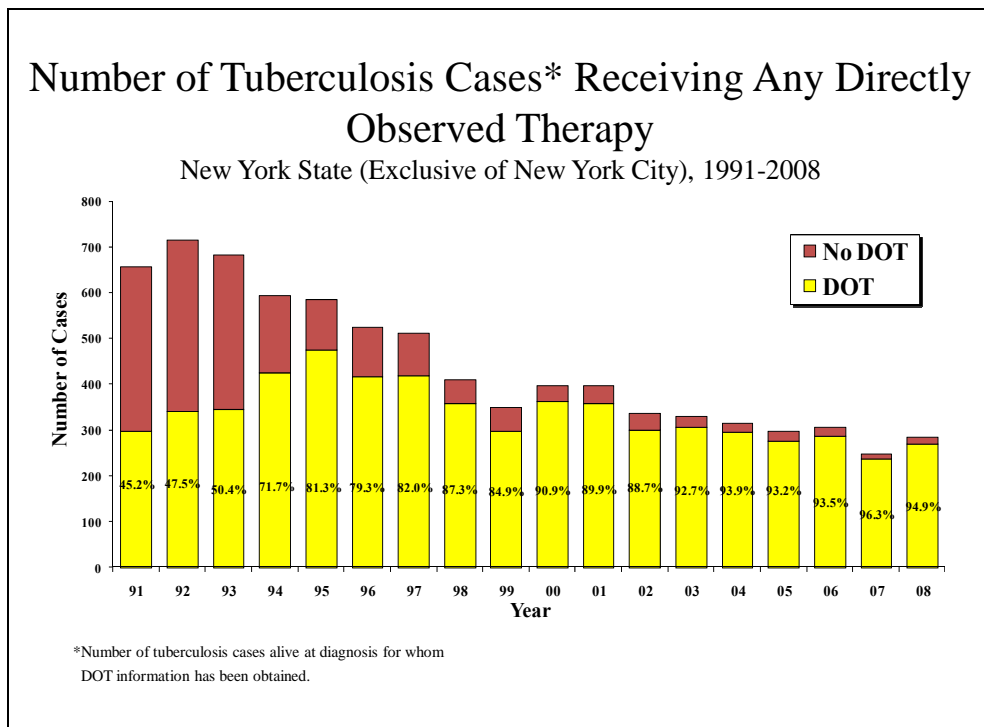


**Percent of Infected Contacts to Infectious TB  
Cases Placed on Treatment and Completed**  
New York State (Exclusive of New York City), 2001-2007



**Figure 21: Percent of Infected Contacts to Infectious TB Cases Placed on Treatment and Completed**

Seventy-six percent of infected contacts to infectious (sputum smear positive) TB cases were placed on treatment in 2007 (the most recent year for which complete information is available), almost a 6 percent decrease from the 82.1 percent in 2006. Almost two-thirds (65.9%) of those starting treatment actually completed the prescribed regimen.



**Figure 22: Number of Tuberculosis Cases and Number Receiving Any Directly Observed Therapy**

In New York State (exclusive of New York City) the proportion of TB cases receiving Directly Observed Therapy (DOT) has been increasing since the early 1990's when it was first actively promoted by the New York State Department of Health, local health units and others. In 1991, 297 cases or 45.2 percent of confirmed TB cases on TB medications received at least part of their therapy as DOT. The proportion of all cases receiving a portion of their treatment as DOT has more than doubled over the intervening years to 94.9 percent in 2008, although this was a slight decrease from the 96.3 percent of the prior year.

Additional New York City tuberculosis data may be obtained by contacting the New York City Department of Health directly or via the Internet at:

<http://www.ci.nyc.ny.us/html/doh/html/tb/tb-reports.shtml>

For questions relating to tuberculosis in New York State or a PowerPoint version of the figures in this report, contact the Bureau of TB Control, New York State Department of Health, at:

[tbcontrol@health.state.ny.us](mailto:tbcontrol@health.state.ny.us)

**TECHNICAL NOTE:**

All population-based rates were calculated using 2000 census figures.