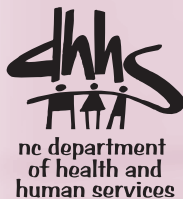


# 2006

## Tuberculosis Statistics for North Carolina



North Carolina Department of Health and Human Services  
Division of Public Health  
General Communicable Disease Control Branch  
Tuberculosis Control Program

## Table of Contents

<b>DEMOGRAPHICS</b> .....	<b>1</b>
<b>RISK FACTORS</b> .....	<b>8</b>
<b>CLINICAL DATA</b> .....	<b>17</b>
<b>SUPPLEMENTAL TABLES</b> .....	<b>22</b>

## LIST OF TABLES

TABLE 1: N.C. AND U.S. CASE RATE AND N.C. RANKING IN U.S. BY CASE RATE 2002-2006 .....	3
TABLE 2: N.C. TB CASE RATES FOR 2002-2006.....	5
TABLE 3: PEDIATRIC CASES BY FOREIGN-BORN STATUS.....	10
TABLE 4: ALCOHOL USE BY RACE AND ETHNICITY 2002-2006 .....	11
TABLE 5: TB CASES WITH HIV INFECTION BY AGE GROUP 2002 - 2006.....	15
TABLE 6: REPORTED HIV RESULTS 2002 – 2006 .....	15
TABLE 7. MAJOR SITE OF DISEASE FOR N.C. TB PATIENTS: 2000 - 2005 .....	20
TABLE 8. FIRST-LINE PRIMARY TB DRUG RESISTANCE IN N.C. PATIENTS: 2001-2005.....	20
TABLE 9: TB CASES AND CASE RATES BY COUNTY 2002-2006.....	23
TABLE 10: FOREIGN-BORN TB CASES BY COUNTY 2002-2006.....	26
TABLE 11: FOREIGN-BORN CASES BY COUNTRY OF ORIGIN 2002-2006 .....	29
TABLE 12: HISPANIC TB CASES BY COUNTY 2002-2006.....	31

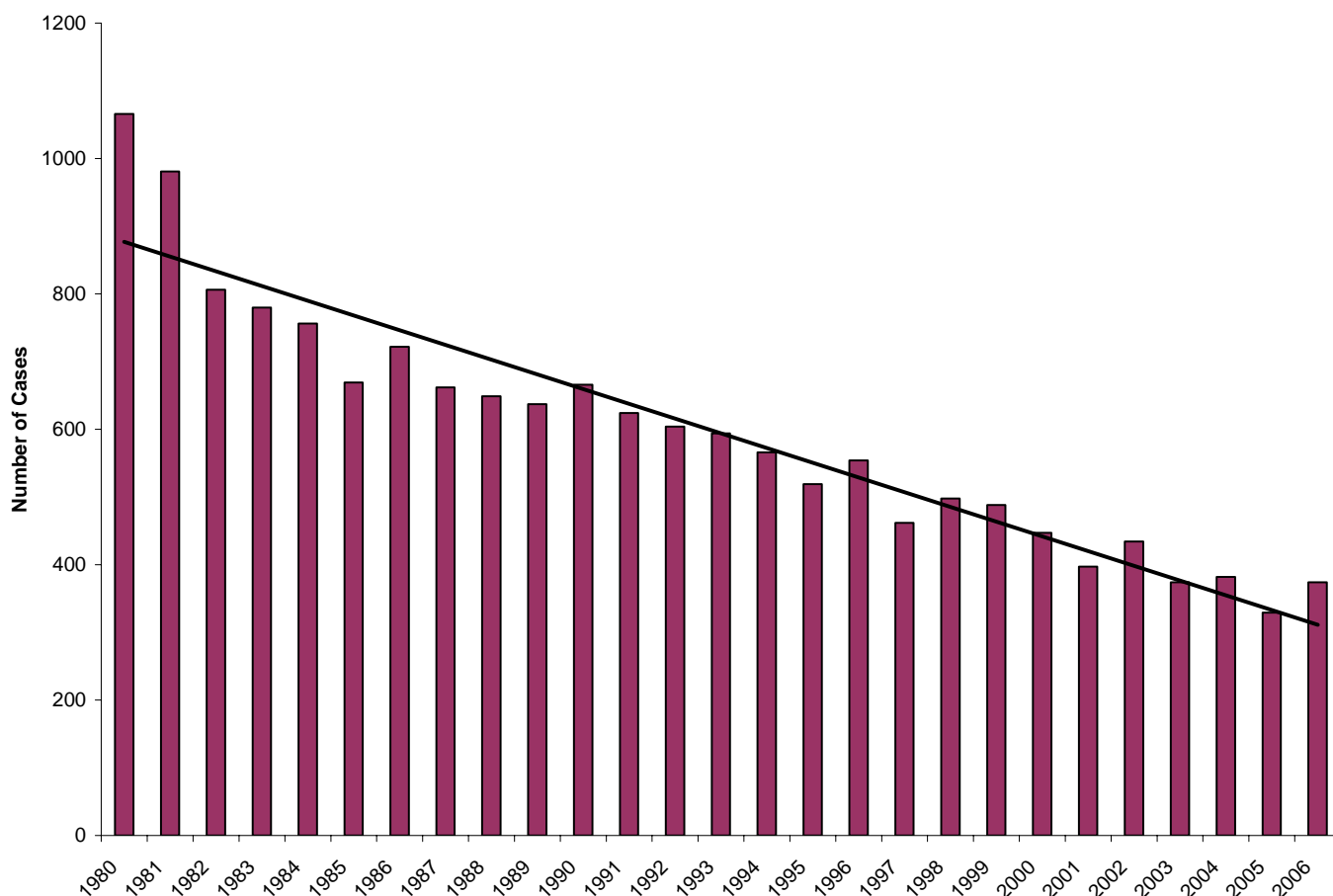
## LIST OF FIGURES\*

FIGURE 1. REPORTED TB CASES IN N.C.: 1980 - 2006.....	2
FIGURE 2. TB CASE RATES FOR N.C. AND THE U.S.: 1980 - 2006.....	3
FIGURE 3. NORTH CAROLINA 2006 TUBERCULOSIS CASES .....	4
FIGURE 4. N.C. TB CASES BY GENDER: 2002 – 2006.....	6
FIGURE 5. N.C. TB CASES BY AGE GROUP: 2002 – 2006 .....	6
FIGURE 6. N.C. TB CASES BY RACE: 2002 – 2006 .....	7
FIGURE 7. N.C. TB CASES BY ETHNICITY: 2002 – 2006.....	7
FIGURE 8. N.C. TB CASES BY NUMBER OF RISK FACTORS: 2002 – 2006 .....	9
FIGURE 9. N.C. FOREIGN-BORN TB CASES: 2002 – 2006.....	9
FIGURE 10. COUNTRIES OF BIRTH FOR 2006 FOREIGN-BORN TB CASES IN N.C.....	10
FIGURE 11. N.C. TB CASES WITH EXCESS ALCOHOL USE: 2002 - 2006.....	11
FIGURE 12. N.C. TB CASES WITH KNOWN NON-INJECTING DRUG USE: 2002 – 2006 .....	12
FIGURE 13. N.C. TB CASES WITH KNOWN INJECTING DRUG USE: 2002 – 2006 .....	12
FIGURE 14. N.C. TB CASES HOMELESS IN YEAR PRIOR TO DIAGNOSIS: 2002 - 2006.....	13
FIGURE 15. N.C. TB CASES THAT WERE RESIDENTS OF A LONG-TERM CARE FACILITY AT TIME OF DIAGNOSIS: 2002 – 2006 .....	13
FIGURE 16. N.C. TB CASES RESIDING IN CORRECTIONAL FACILITY AT TIME OF DIAGNOSIS: 2002 – 2006.....	14
FIGURE 17. N.C. TB CASES WITH HIV INFECTION: 2002 – 2006.....	14
FIGURE 18: N.C. TB CASES WITH UNKNOWN HIV STATUS: 1997 - 2006.....	16
FIGURE 19. N.C. HEALTH CARE WORKERS WITH TB DISEASE: 2002 - 2006 .....	16
FIGURE 20. N.C. TB CASE MORTALITY AND RATES: 2001 – 2005.....	18
FIGURE 21. TIMING OF DEATH AMONG TB CASES IN N.C.: 2001 – 2005 .....	18
FIGURE 22. PREVIOUS DIAGNOSIS OF TB FOR TB PATIENTS IN N.C.: 2002 - 2006 .....	19
FIGURE 23. MAJOR SITE OF DISEASE FOR TB PATIENTS IN N.C.: 2002 - 2006.....	19
FIGURE 24. PATIENTS COMPLETING THERAPY IN N.C.: 2002 - 2005.....	21

## ***DEMOGRAPHICS***

## DEMOGRAPHIC CHARACTERISTICS

Figure 1. Reported TB Cases in N.C.: 1980 - 2006

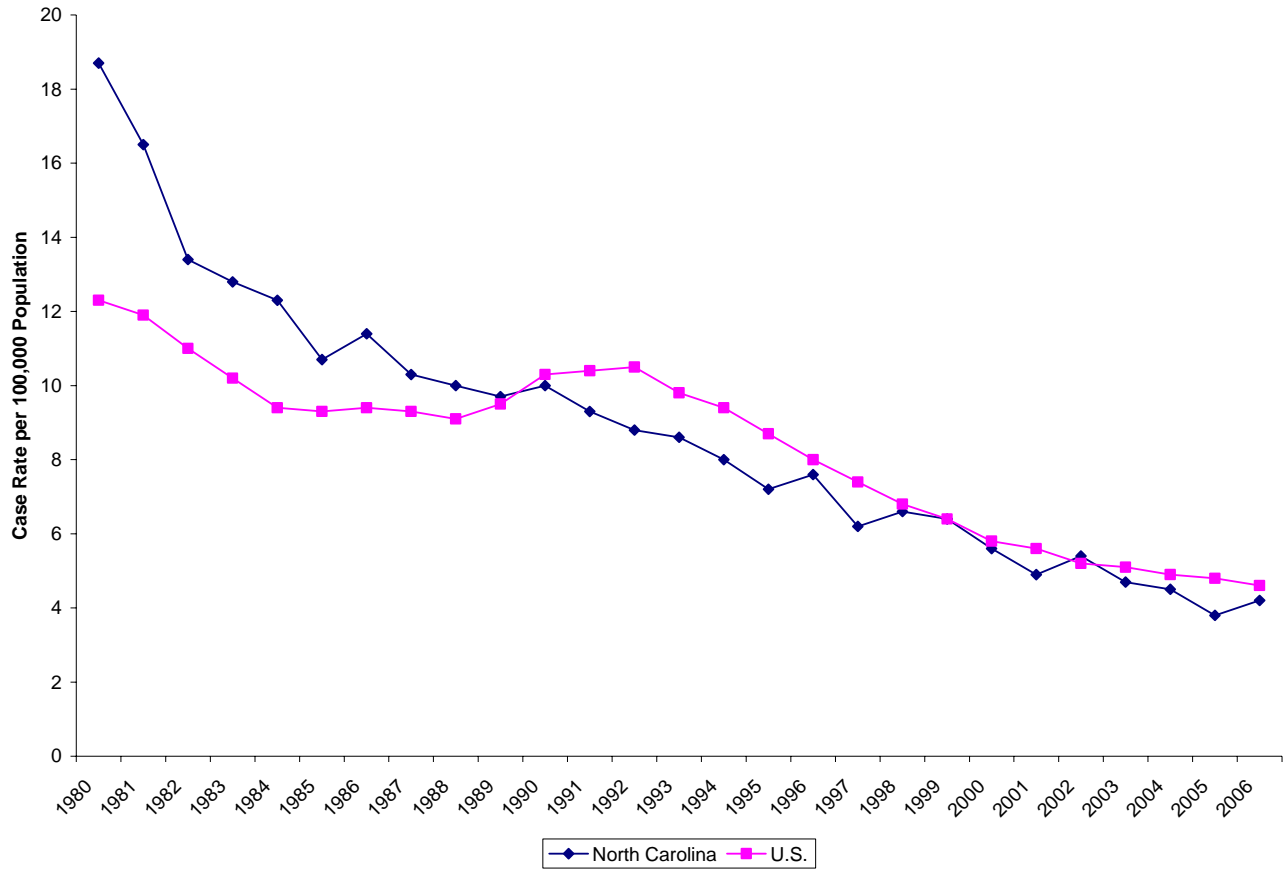


DATA SOURCE: CarotIMS.

As can be seen from Figure 1, the number of cases in North Carolina for 2006 is approximately 35% the number of cases in 1980. The numbers have declined, on average, about 4% per year. TB incidence in North Carolina decreased 14% between 2002 and 2006, down from 434 cases to 374 cases. However, the number of cases reported in North Carolina increased from 329 to 374 between reporting years 2005 and 2006 which is a 14% increase in overall cases.

Both U.S. and N.C. TB Case Rates have dropped significantly since 1980. (See Figure 2.) Although the number of cases has declined in North Carolina in the past five years, the state is ranked as 18<sup>th</sup> highest for case rates in 2006. [See Table 1.]

**Figure 2. TB Case Rates for N.C. and the U.S.: 1980 - 2006**



**DATA SOURCE:** Annual surveillance reports published by CDC.

**Table 1: N.C. and U.S. Case Rate and N.C. Ranking in U.S. by Case Rate 2002-2006**

Year	Rates		N.C. Rank
	U.S.	N.C.	
2002	5.2	5.2	14
2003	5.1	4.4	21
2004	4.9	4.5	19
2005	4.8	3.8	25
2006	4.6	4.2	18

**DATA SOURCE:** Annual surveillance reports published by CDC.

Figure 3 on the following page is a map of 2006 cases in N.C. by county of residence.



Table 2 provides a demographic overview of reported cases and case rates in N.C. from 2002 – 2006. Table 9 provides TB incidence and rates by County. Figures 4, 5, 6 and 7 provide information about percent of cases by gender, age, race, and ethnicity. As can be seen from looking at the 2006 rates in Table 2, the case rate for males is over twice the rate for females, the rates for Asians is very high (38.8 per 100,000), the rate for Blacks/African Americans is over three times that for whites, and the rate for Hispanics is almost four times that for non-Hispanics. Persons over 65 are in the age group with the highest rate.

**Table 2: N.C. TB Case Rates For 2002-2006**

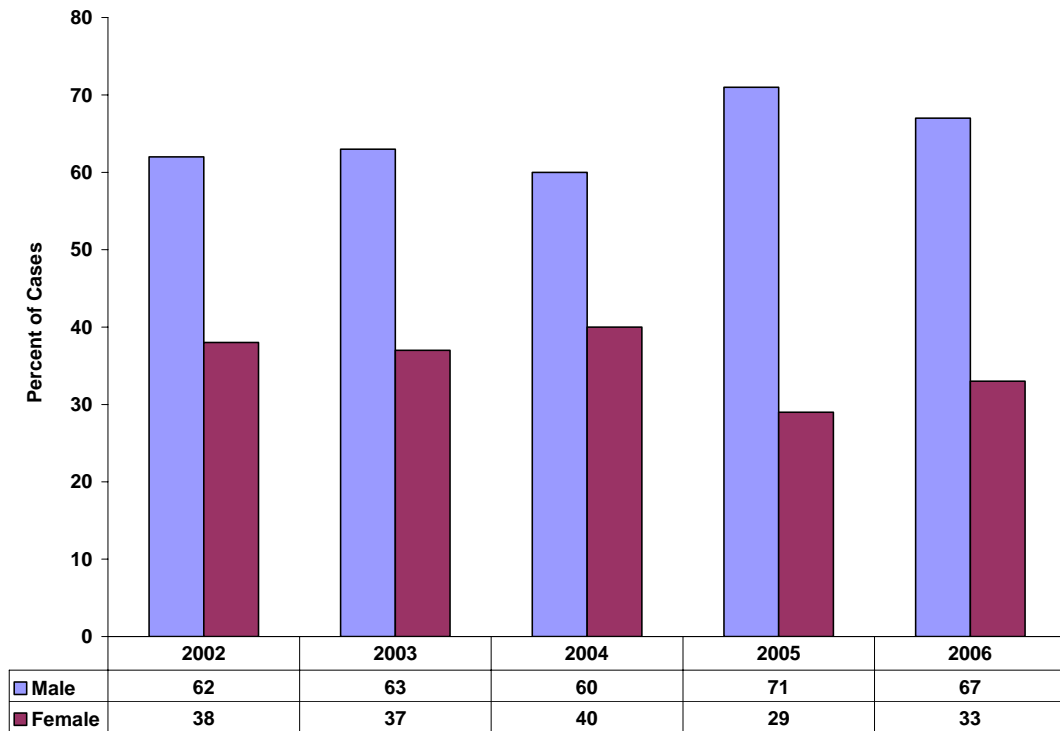
Year	2002		2003		2004		2005		2006	
VARIABLES	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Cases	434	5.2	374	4.4	382	4.5	329	3.8	374	4.2
<b>SEX</b>										
Male	271	6.9	234	5.9	231	5.7	233	5.7	252	6.1
Female	163	3.9	140	3.3	151	3.6	96	2.2	122	2.8
<b>RACE</b>										
White‡	162	2.8	151	2.6	167	2.8	132	2.2	141	2.3
Black/African-American*	229	13.4	185	10.7	168	9.6	159	9.0	166	9.4
Asian/Pacific Islander	39	32.1	*	*	*	*	*	*	*	*
Asian	*	*	29	22.2	42	30.1	28	19.1	57	38.8
Amer. Indian/Alaska Native	4	4.6	7	8.1	5	5.8	9	8.4	8	7.5
Hawaiian/Other Pac. Isl.*	*	*	1	14.4	0	0	1	29.9	0	0
Multi-Racial*	*	*	1	0.8	0	0	0	0	2	1.6
<b>ETHNICITY</b>										
Hispanic	76	17.5	69	15.1	91	18.0	72	13.5	75	14.1
Non-Hispanic	358	4.7	305	4.0	291	3.7	257	3.3	299	3.8
<b>AGE</b>										
0- 4	16	2.8	12	2.0	25	4.2	13	2.2	10	1.7
5-14	16	1.4	5	0.4	6	0.5	7	0.6	7	0.6
15-24	35	3.5	29	2.8	42	4.1	28	2.6	52	4.9
25-44	151	6.1	128	5.2	125	5.0	105	4.2	132	5.3
45-64	110	5.7	120	6.1	96	4.8	106	5.1	100	4.8
>65	106	11.3	80	8.4	88	9.1	70	7.1	73	7.4

**DATA SOURCES:** CaroTIMS for TB cases. Rates for age strata were calculated using population estimates from the American Community Data Survey. Population estimates for race and gender were prepared by the Population Estimates Program of the U.S. Census Bureau under a collaborative agreement with the National Center for Health Statistics. Denominators for computing rates for the state were obtained from the Annual Estimates of the Population for the United States and States, and for Puerto Rico. Rates are per 100,000.

\*CDC change in nomenclature for racial categories beginning with 2003.

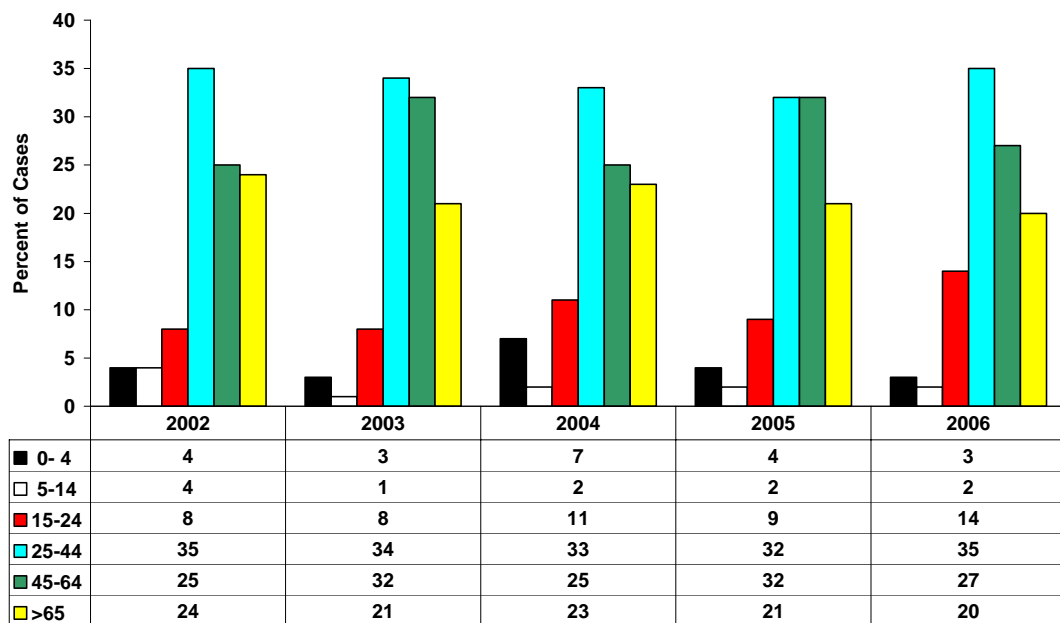
‡Includes White Hispanic and White Non-Hispanic.

Figure 4. N.C. TB Cases by Gender: 2002 – 2006



DATA SOURCE: CaroTIMS.

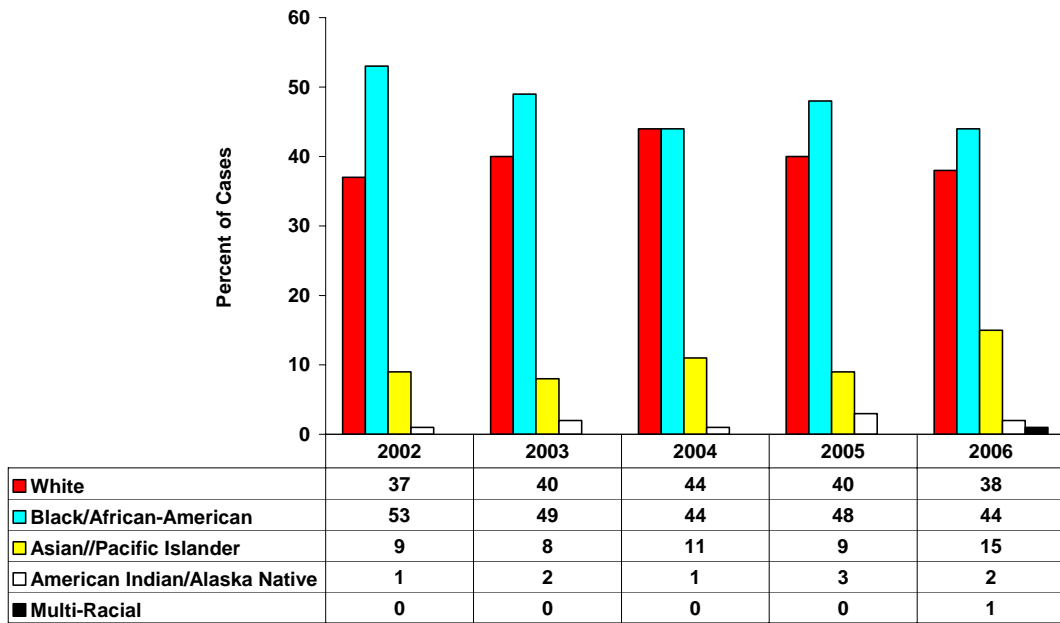
Figure 5. N.C. TB Cases by Age Group: 2002 – 2006



DATA SOURCE: CaroTIMS.

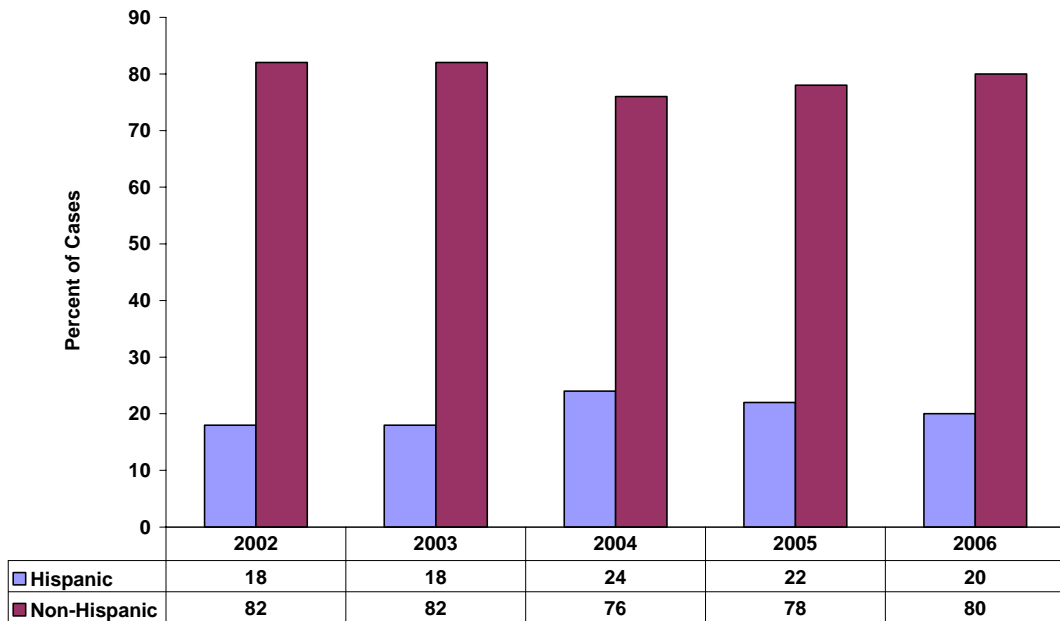


Figure 6. N.C. TB Cases by Race: 2002 – 2006



DATA SOURCE: CaroTIMS.

Figure 7. N.C. TB Cases by Ethnicity: 2002 – 2006



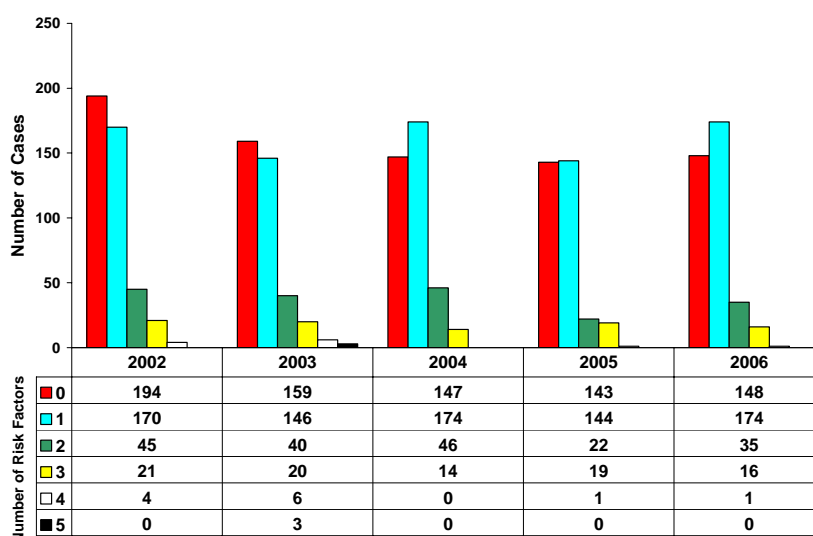
DATA SOURCE: CaroTIMS.

***RISK FACTORS***

## RISK FACTORS FOR TB IN 2006 CASES

There are several risk factors commonly associated with increased incidence of TB. These include: being foreign-born; excess alcohol use; non-injecting and/or injecting drug use; being homeless; being a resident of a long-term care facility or a correctional facility; being co-infected with HIV; and being a health-care worker;. This section of this report describes our TB cases for these factors. As can be seen from Figure 8, many persons have more than one risk factor.

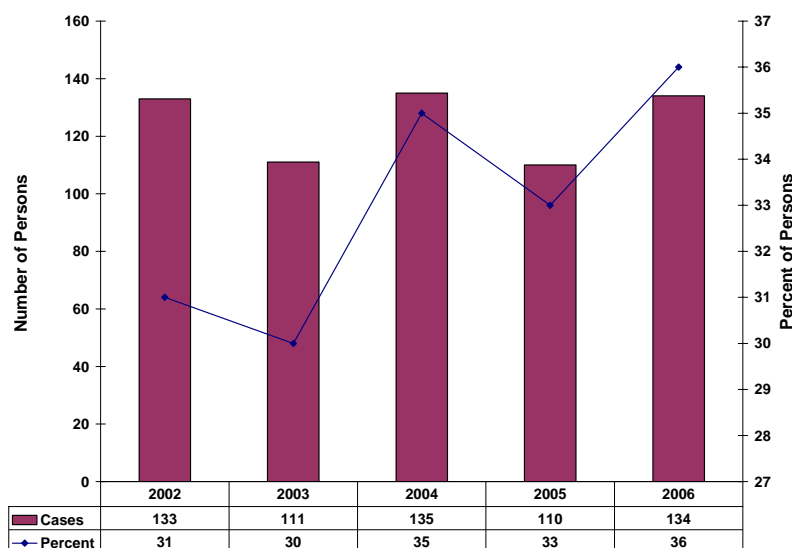
**Figure 8. N.C. TB Cases by Number of Risk Factors: 2002 – 2006**



DATA SOURCE: CaroTIMS.

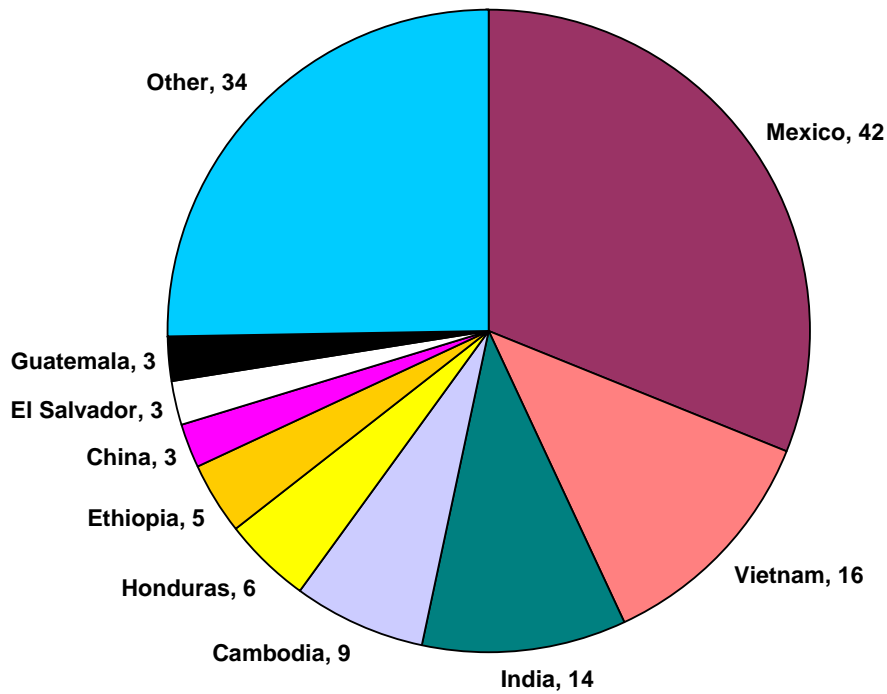
**Foreign Born:** Between the reporting years 2005 and 2006 there was a 21.8% increase in the number of foreign born TB cases (110 and 134 respectively). [See Figure 9.] N.C. has a lower percentage of foreign-born in comparison to the U.S. average. The largest percentage of foreign-born cases are from Mexico (31%) followed by Vietnam (12%) and India (10%). [See Figure 10.]

**Figure 9. N.C. Foreign-Born TB Cases: 2002 – 2006**



DATA SOURCE: CaroTIMS.

**Figure 10. Countries of Birth for 2006 Foreign-born TB Cases in N.C.\***



DATA SOURCE: CaroTIMS.

**Pediatric Cases by Foreign-Born Status:** An examination of pediatric cases by country of origin indicates that approximately 30% are foreign born. However, because children may be U.S. born while their parents are foreign born, this does not necessarily provide a total picture of pediatric risk factors by foreign-born status.

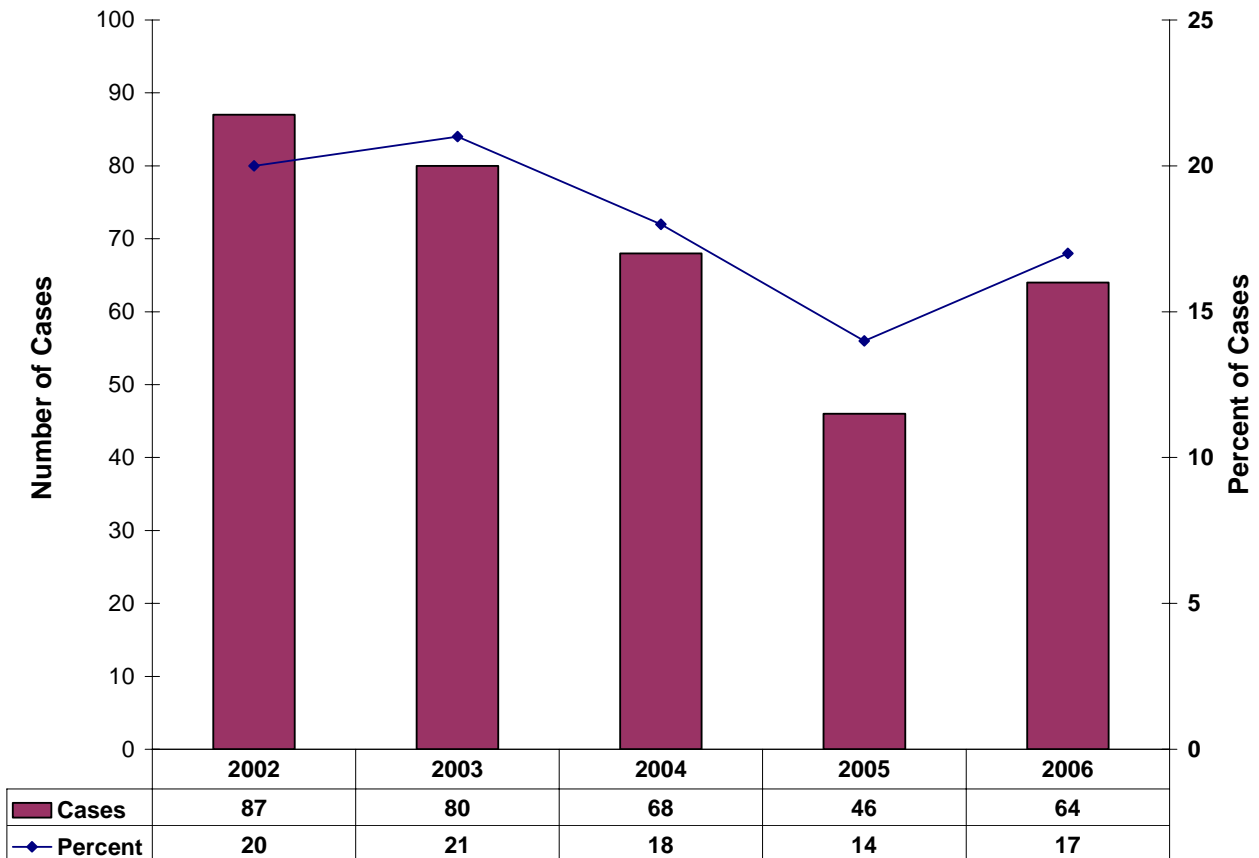
**Table 3: Pediatric Cases by Foreign-Born Status**

	2005		2006	
	U.S. BORN	FOREIGN BORN	U.S. BORN	FOREIGN BORN
<b>0 – 4 YEARS</b>	10	2	8	2
<b>5 – 14 YEARS</b>	4	4	3	3
<b>TOTAL</b>	14	6	11	5

DATA SOURCE: CaroTIMS.

**Excessive Alcohol Use:** There was a 39.1% increase in the number of TB cases with reported excessive alcohol use between 2005 and 2006 (46 and 64 respectively). While the number for 2006 was higher than for 2005, the overall trend from 2002 to 2006 is downward. [See Figure 11.] In 2006, 38% of these persons were white and 62% were African-American. Of the 24 persons who were white, 40% were Hispanic and 60% non-Hispanic. [See Table 4.]

**Figure 11. N.C. TB Cases With Excess Alcohol Use: 2002 - 2006**



DATA SOURCE: CaroTIMS.

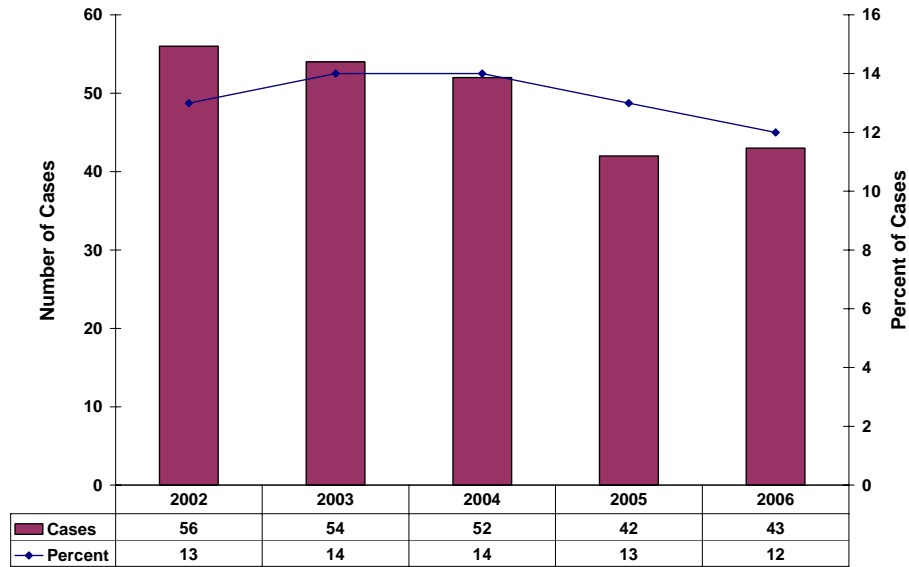
**Table 4: Alcohol Use by Race and Ethnicity 2002-2006**

Year	2002		2003		2004		2005		2006	
	Hisp.	Non-Hisp.	Hisp.	Non-Hisp.	Hisp.	Non-Hisp.	Hisp.	Non-Hisp.	Hisp.	Non-Hisp.
White	7	18	7	21	12	13	3	9	9	15
Black	1	57	0	51	0	42	0	32	0	40
Asian	0	1	0	1	0	0	0	0	0	0
AI/AN	0	3	0	0	0	1	0	1	0	0
HI/OPI	0	0	0	0	0	0	1	0	0	0
Multiple	0	0	0	0	0	0	0	0	0	0
Total	8	79	7	73	12	56	4	42	9	55
<b>TOTAL</b>	<b>75</b>		<b>87</b>		<b>80</b>		<b>68</b>		<b>64</b>	

DATA SOURCE: CaroTIMS.

**Non-Injecting Drug Use:** Non-injecting drug use has been a steady problem for 12 – 14% of our TB patients for several years. The figures do not indicate a clear trend. [See Figure 12.]

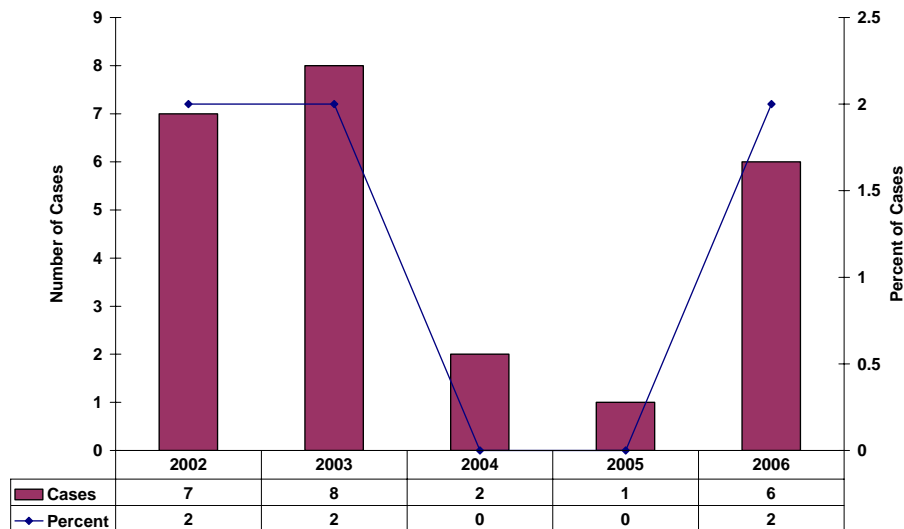
**Figure 12. N.C. TB Cases with Known Non-Injecting Drug Use: 2002 – 2006**



DATA SOURCE: CaroTIMS.

**Injecting Drug Use:** IDU has not been a significant problem for our TB cases in N.C., occurring in only 0 – 2% of our TB cases during any reporting year. [See Figure 13.]

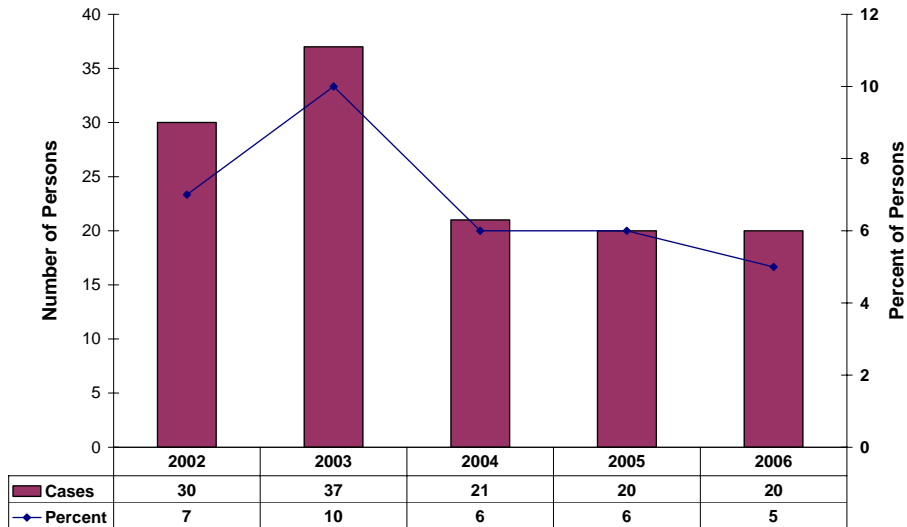
**Figure 13. N.C. TB Cases with Known Injecting Drug Use: 2002 – 2006**



DATA SOURCE: CaroTIMS.

**Homeless:** The number of reported homeless TB cases remained the same from 2005 to 2006 (20 for each year). [See Figure 14.]

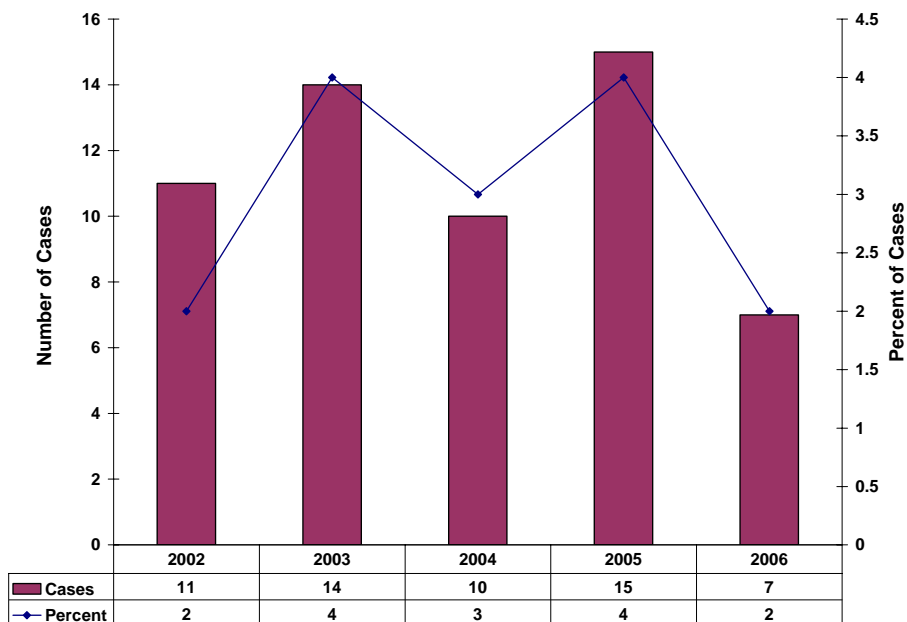
**Figure 14. N.C. TB Cases Homeless in Year Prior to Diagnosis: 2002 - 2006**



DATA SOURCE: CaroTIMS.

**Long Term Care Facilities:** There was a 53.4% decrease in the number of TB cases diagnosed in Long Term Care Facilities during reporting years 2005 and 2006 (15 and 7 respectively). While the numbers are somewhat small, and thus difficult to interpret, the trend does seem to be towards decreasing numbers. [See Figure 15.]

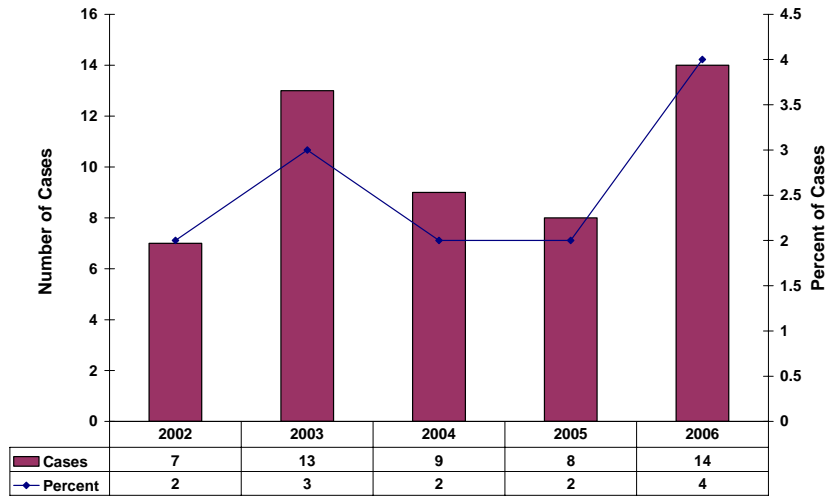
**Figure 15. N.C. TB Cases That Were Residents of a Long-Term Care Facility at Time of Diagnosis: 2002 – 2006**



DATA SOURCE: CaroTIMS.

**Correctional Facilities:** The 2006 case rate for the State Correction population is 25.3 per 100,000. (State Department of Correction average daily inmate population for 2006 was 37,352 and the average local jail population state wide was 18,041 for the month of November 2006.) [See Figure 16.]

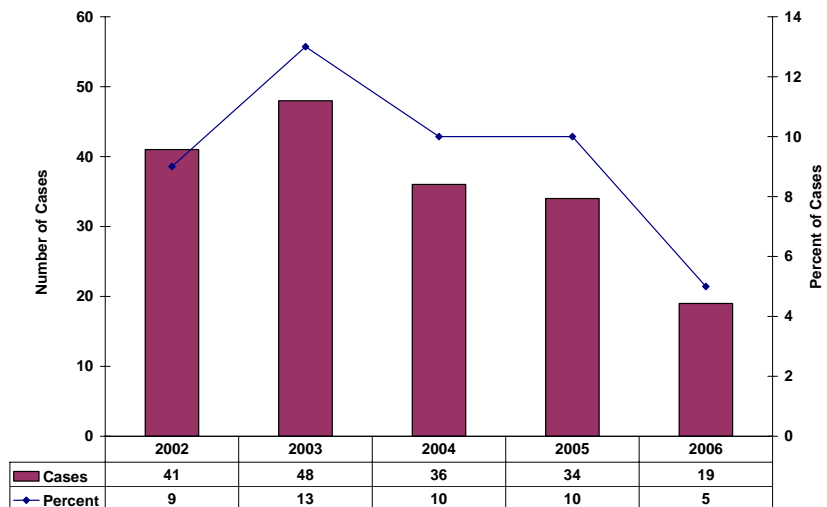
**Figure 16. N.C. TB Cases Residing in Correctional Facility at Time of Diagnosis: 2002 – 2006**



DATA SOURCE: CaroTIMS.; N.C. Department of Correction and DHHS Division of Facility Services, Jails and Detention November 2006 average daily population report.

**HIV Status:** Worldwide, co-morbidity of HIV and TB is the single largest contributor to mortality where TB disease is a factor. Figure 17 shows the number and percentage of cases that had HIV co-morbidity. Table 5 presents the distribution of HIV and TB co-morbidity by age.

**Figure 17. N.C. TB Cases with HIV Infection: 2002 – 2006**



DATA SOURCE: CaroTIMS.



**Table 5: TB Cases with HIV Infection by Age Group 2002 - 2006**

Age Group	2002	2003	2004	2005	2006
0-4	0	1	0	0	0
5-14	0	0	0	0	0
15-24	0	2	2	0	1
25-44	26	31	20	21	14
45-64	13	14	14	13	2
>65	2	0	0	0	2

DATA SOURCE: CaroTIMS.

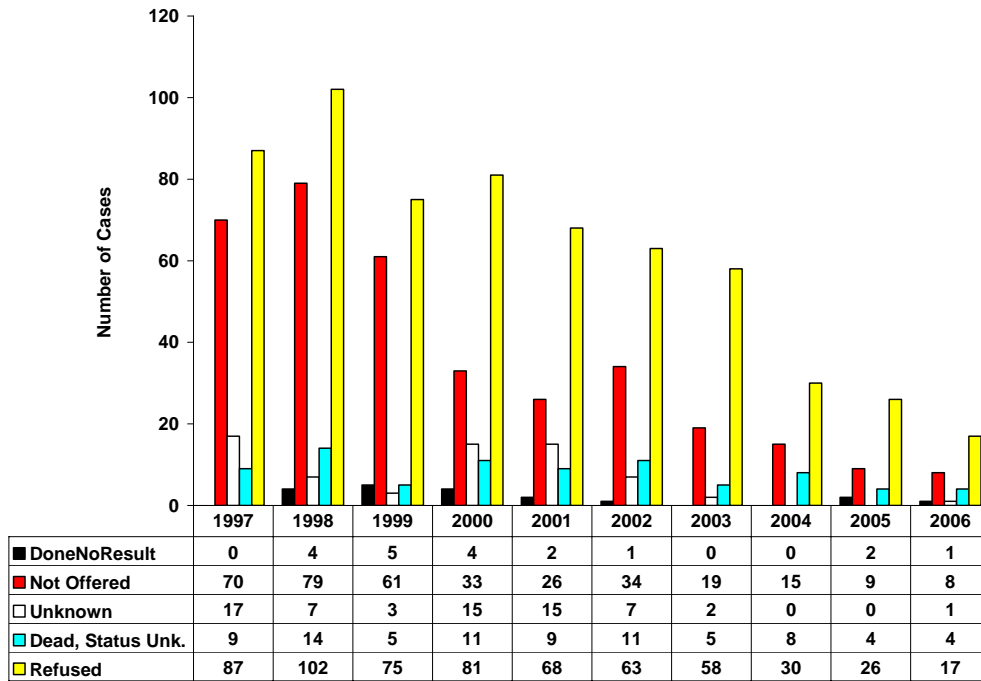
Table 6 and Figure 18 show the progress that has been made in N.C. with respect to standard of care and HIV status—namely, very few cases are not offered HIV testing, and an increasing number of TB cases are accepting the offered HIV test. The number of cases where HIV status is unknown has decreased greatly over the past 10 years. This has happened because fewer patients refuse testing (down from 18.8% in 1997 to 4.5% in 2006) and few patients not being offered testing (down from 15.1% in 1997 to 2.1% in 2006).

**Table 6: Reported HIV Results 2002 – 2006**

Status	2002	2003	2004	2005	2006
Negative	277	242	292	254	324
Positive	41	48	36	34	19
Refused	63	58	30	26	17
Not Offered	34	19	15	9	8
Tested No Result	1	0	0	2	1
Unknown	7	2	0	0	1
Dead and Status Unknown	11	5	8	4	4
Missing	0	0	0	0	0

DATA SOURCE: CaroTIMS

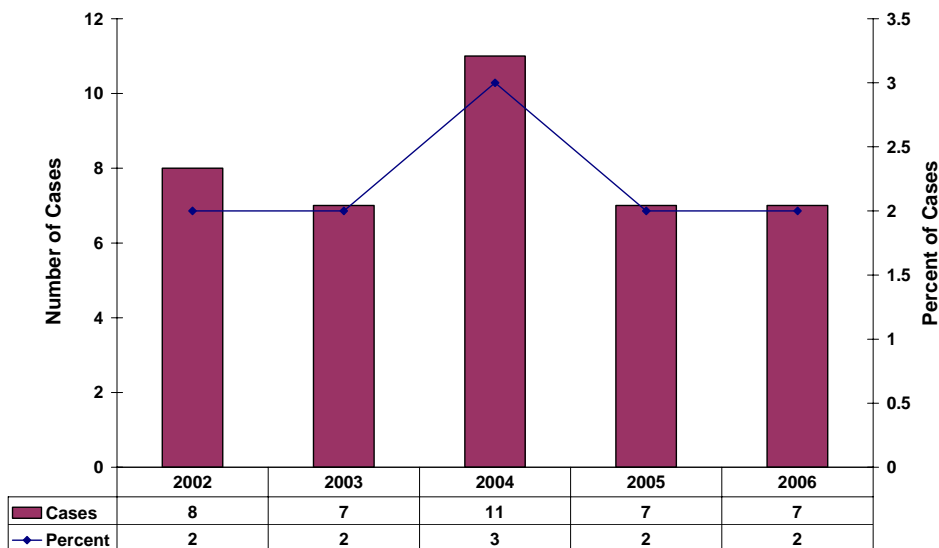
Figure 18: N.C. TB Cases With Unknown HIV Status: 1997 - 2006



DATA SOURCE: CaroTIMS

**Occupation:** The occurrence of TB in persons identified as healthcare workers remains an area that receives close scrutiny and intensive investigation. Figure 19 does NOT indicate TB exposure in health care settings, but rather provides indication that there is not an overall increase in cases among those who could expose others, or be exposed to, TB.

Figure 19. N.C. Health Care Workers with TB Disease: 2002 - 2006



DATA SOURCE: CaroTIMS.

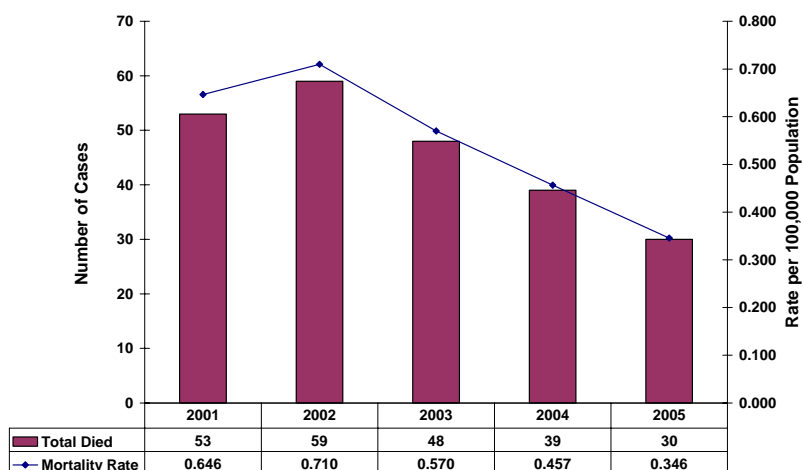
***CLINICAL DATA***

## CLINICAL DATA FOR N.C.

### Mortality of TB Cases in N.C.

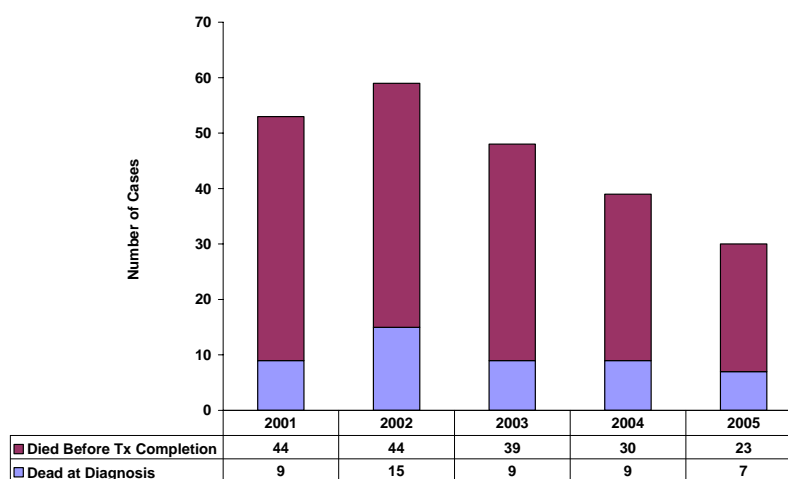
As can be seen from Figures 20 and 21, mortality of TB cases has decreased over the past 5 years. In 2002, there were 53 deaths (nine dead at diagnosis and 44 who died before completion of treatment); by 2005, there were 30 deaths (seven dead at diagnosis and 23 who died before completion of treatment). Prompt diagnosis and treatment is the key to reducing the “dead at diagnosis” category, and close coordination with primary care physicians to address co-morbidities may decrease the number who die before the end of treatment, though more research is needed to better understand the characteristics of those in the two categories.

**Figure 20. N.C. TB Case Mortality and Rates: 2001 – 2005**



DATA SOURCE: CaroTIMS.

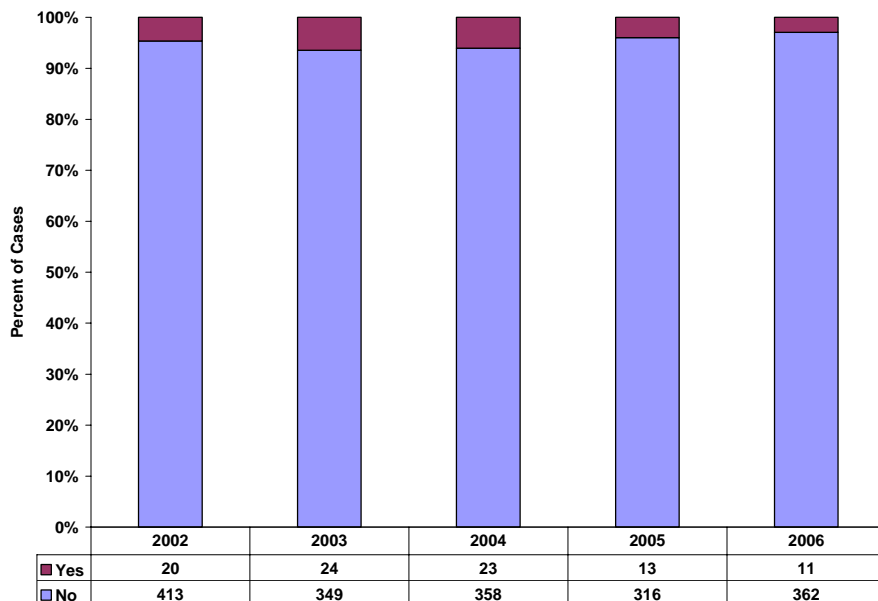
**Figure 21. Timing of Death Among TB Cases in N.C.: 2001 – 2005**



DATA SOURCE: CaroTIMS.

**Previous Diagnosis of TB:** Only a few (11) TB patients in 2006 had a previous diagnosis of TB. This is down from 20 cases in 2002 and 24 cases in 2003. Again, this may be related to greater assurance of completion of therapy with directly observed therapy.

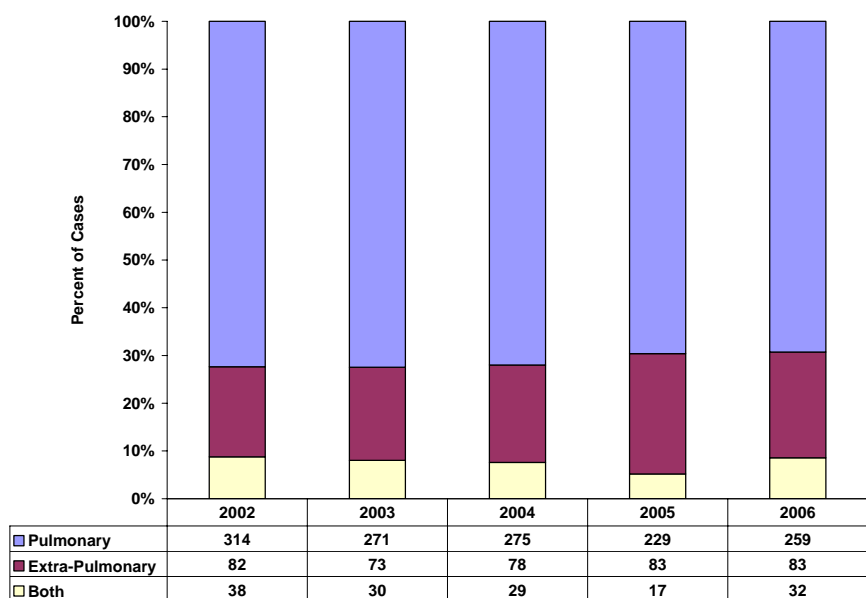
**Figure 22. Previous Diagnosis of TB for TB Patients in N.C.: 2002 - 2006**



DATA SOURCE: CaroTIMS.

**Site of TB Disease:** Figure 23 shows the number and percentage of Pulmonary, Extra-pulmonary and combinations of both Pulmonary and Extra-pulmonary sites of TB Disease for years 2002 – 2006. There was been no significant change from the numbers and percentages reported for years 2005 and 2006. Table 7 provides a more detailed breakout for the major disease sites.

**Figure 23. Major Site of Disease for TB Patients in N.C.: 2002 - 2006**



DATA SOURCE: CaroTIMS.

Table 7. Major Site of Disease for N.C. TB Patients: 2000 - 2005

Site	2002	2003	2004	2005	2006
Bone/Joint	11	11	12	16	10
Genitourinary	8	1	2	8	4
Lymphatic: Cervical	16	17	21	15	20
Lymphatic: Intrathoracic	5	4	5	5	4
Lymphatic: Other	5	10	4	1	7
Meningeal	5	3	7	5	4
Miliary	9	11	13	13	13
Other	11	13	1	6	7
Peritoneal	6	4	9	2	4
Pleural	17	12	16	14	24
Pulmonary	341	288	291	244	277

DATA SOURCE: CaroTIMS

**TB Drug Susceptibility/Resistance Testing:** Drug susceptibility testing is routinely performed on newly reported, culture-positive TB cases. In any given year, only 0 – 4 cases are reported without associated susceptibility testing. In 2006, all 296 culture-proven cases of TB had drug susceptibility reports available. Drug resistance to INH alone in N.C. increased from 7 cases (2%) in 2002 to 11 cases (4%) in 2006. When compared to MDR-TB statistics for the United States, N.C. had 3 (1%) MDR-TB cases in 2005 and 0 MDR-TB cases in 2006 while the U.S. had 95 cases (1.0%) in 2005. Overall, the U.S. and N.C. have similar case percentages.

Table 8. First-Line Primary TB Drug Resistance in N.C. Patients: 2001-2005

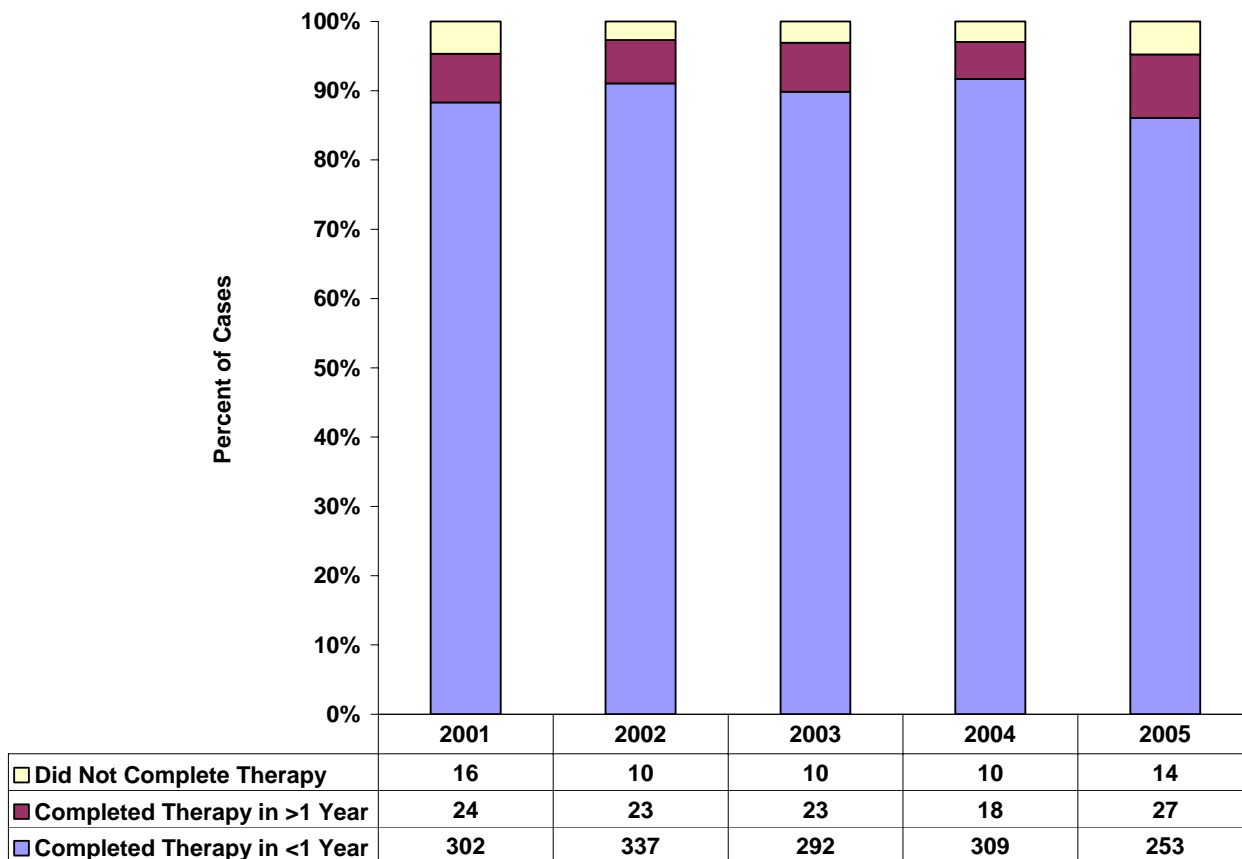
Year	First-Line Primary TB Drug Resistance Over Time 2002-2006*									
	2002		2003		2004		2005		2006	
	#	%	#	%	#	%	#	%	#	%
INH Alone	7	2	11	4	4	1	11	4	11	4
INH & SM	11	3	6	2	10	4	8	3	7	2
MDR (I NH & RIF)	3	1	0	0	1	0	3	1	0	0
Any Drug Resistance	36	10	29	10	29	10	42	16	32	11
**Total Positive Cultures	367		294		289		271		302	

DATA SOURCE: CaroTIMS.

\*\*Total positive cultures with susceptibility results known.

**Completion of Therapy:** Completion of therapy within one year remained between 90% and 92% between 2002 and 2004; however, in 2005, there was a drop to 86%. In 2006, N.C. passed legislation requiring all TB cases be placed on DOT. This is expected to increase the percentage of cases completing therapy within one year. In 2006, 88.3% of cases were totally directly observed and 7% were both directly observed and self-administered. At the time of this report, 4.7% (10 cases) are missing DOT information.

**Figure 24. Patients Completing Therapy in N.C.: 2002 - 2005**



**DATA SOURCE:** CaroTIMS. This includes all patients who were alive at diagnosis, did not die during treatment and who were not Rifampin resistant.

***SUPPLEMENTAL TABLES***



**Table 9: TB Cases and Case Rates by County 2002-2006**

COUNTY	2002		2003		2004		2005		2006	
	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
Alamance	2	1.5	5	3.7	3	2.2	3	2.2	3	2.1
Alexander	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Alleghany	0	0.0	2	18.5	2	18.4	0	0.0	0	0.0
Anson	1	4.0	2	7.9	1	3.9	1	3.9	1	3.9
Ashe	1	4.0	2	8.0	0	0.0	0	0.0	0	0.0
Avery	1	5.6	0	0.0	0	0.0	0	0.0	0	0.0
Beaufort	2	4.4	4	8.8	1	2.2	3	6.5	6	13.0
Bertie	3	15.2	4	20.2	7	35.6	0	0.0	0	0.0
Bladen	3	9.2	1	3.1	1	3.0	3	9.1	1	3.0
Brunswick	3	3.8	1	1.2	1	1.2	2	2.2	1	1.1
Buncombe	4	1.9	3	1.4	3	1.4	4	1.8	2	0.9
Burke	2	2.2	3	3.4	6	6.8	4	4.5	2	2.3
Cabarrus	2	1.4	5	3.5	8	5.5	3	2.0	4	2.6
Caldwell	1	1.3	1	1.3	1	1.3	2	2.5	1	1.3
Camden	1	13.7	1	12.7	0	0.0	0	0.0	0	0.0
Carteret	1	1.7	1	1.6	0	0.0	0	0.0	2	3.1
Caswell	0	0.0	1	4.2	0	0.0	0	0.0	0	0.0
Catawba	3	2.1	1	0.7	1	0.7	3	2.0	1	0.7
Chatham	1	1.9	0	0.0	0	0.0	3	5.3	2	3.5
Cherokee	1	4.0	0	0.0	1	3.9	0	0.0	1	3.8
Chowan	3	20.9	0	0.0	4	27.7	1	6.9	2	13.8
Clay	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cleveland	3	3.1	2	2.1	0	0.0	2	2.1	4	4.1
Columbus	4	7.3	4	7.3	7	12.8	5	9.2	2	3.7
Craven	3	3.3	0	0.0	1	1.1	0	0.0	1	1.1
Cumberland	17	5.6	16	5.2	8	2.6	6	2.0	9	2.9
Currituck	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dare	3	9.3	0	0.0	0	0.0	4	11.5	0	0.0
Davidson	3	2.0	2	1.3	3	2.0	3	1.9	6	3.8
Davie	0	0.0	0	0.0	3	7.9	0	0.0	0	0.0
Duplin	7	13.9	2	3.9	3	5.8	6	11.6	5	9.5
Durham	14	6.0	10	4.2	27	11.3	21	8.7	12	4.9
Edgecombe	5	9.1	5	9.3	1	1.9	3	5.7	4	7.6
Forsyth	16	5.1	16	5.0	12	3.7	13	4.0	14	4.2
Franklin	3	5.9	1	1.9	2	3.8	2	3.7	0	0.0
Gaston	5	2.6	3	1.6	5	2.6	1	0.5	2	1.0
Gates	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Graham	0	0.0	1	12.4	0	0.0	0	0.0	0	0.0
Granville	1	1.9	4	7.6	1	1.9	1	1.9	1	1.8
Greene	2	10.3	4	20.1	2	10.0	0	0.0	0	0.0
Guilford	43	10.1	31	7.2	28	6.4	32	7.2	38	8.5
Halifax	6	10.5	5	8.8	3	5.3	2	3.6	5	8.9
Harnett	3	3.1	2	2.0	4	4.0	3	3.0	4	3.9
Haywood	1	1.8	2	3.6	1	1.8	0	0.0	1	1.8

**Table 9: TB Cases and Case Rates by County 2002-2006 (continued)**

COUNTY	2002		2003		2004		2005		2006	
	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
Henderson	1	1.1	6	6.3	5	5.2	2	2.0	2	2.0
Hertford	4	16.8	2	8.4	3	12.6	1	4.2	2	8.4
Hoke	4	11.1	1	2.7	0	0.0	5	12.3	4	9.4
Hyde	0	0.0	0	0.0	1	17.8	0	0.0	1	17.9
Iredell	2	1.5	2	1.5	2	1.5	2	1.4	2	1.4
Jackson	1	2.9	1	2.9	0	0.0	0	0.0	0	0.0
Johnston	10	7.6	7	5.1	9	6.4	4	2.7	4	2.6
Jones	1	9.8	1	9.8	0	0.0	0	0.0	1	9.7
Lee	3	5.9	2	3.9	4	7.6	1	1.9	1	1.8
Lenoir	7	11.8	6	10.2	3	5.1	3	5.1	7	12.0
Lincoln	1	1.5	0	0.0	2	2.9	0	0.0	1	1.4
Macon	1	3.2	0	0.0	1	3.1	1	3.1	0	0.0
Madison	0	0.0	1	5.0	0	0.0	1	4.9	0	0.0
Martin	5	19.9	4	16.0	1	4.0	1	4.1	2	8.2
McDowell	1	2.3	1	2.3	0	0.0	1	2.3	0	0.0
Mecklenburg	49	6.7	47	6.3	53	6.9	48	6.0	55	6.7
Mitchell	2	12.5	0	0.0	0	0.0	0	0.0	0	0.0
Montgomery	9	33.2	4	14.6	2	7.4	11	40.2	16	57.9
Moore	4	5.2	1	1.3	4	5.0	3	3.7	1	1.2
Nash	7	7.9	4	4.5	6	6.6	7	7.6	6	6.5
New Hanover	4	2.4	15	8.9	6	3.4	5	2.8	10	5.4
Northampton	2	9.2	1	4.6	2	9.3	2	9.3	1	4.6
Onslow	3	2.0	2	1.3	2	1.3	0	0.0	3	1.9
Orange	2	1.7	4	3.3	3	2.5	1	0.8	2	1.6
Pamlico	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pasquotank	2	5.6	5	13.7	1	2.7	1	2.6	1	2.5
Pender	6	13.9	3	6.9	5	11.1	2	4.3	1	2.1
Perquimans	1	8.6	0	0.0	0	0.0	1	8.2	1	8.1
Person	1	2.7	1	2.7	0	0.0	1	2.7	3	8.0
Pitt	7	5.1	5	3.6	7	5.0	5	3.5	5	3.4
Polk	0	0.0	1	5.3	0	0.0	1	5.3	0	0.0
Randolph	3	2.2	5	3.7	1	0.7	0	0.0	1	0.7
Richmond	10	21.5	2	4.3	3	6.5	0	0.0	1	2.1
Robeson	8	6.4	11	8.8	6	4.7	14	11.0	14	10.8
Rockingham	3	3.2	5	5.4	0	0.0	0	0.0	3	3.3
Rowan	1	0.8	0	0.0	7	5.3	0	0.0	5	3.7
Rutherford	0	0.0	0	0.0	1	1.6	0	0.0	0	0.0
Sampson	2	3.2	6	9.6	11	17.6	4	6.3	2	3.1
Scotland	2	5.6	1	2.8	1	2.7	1	2.7	3	8.1
Stanly	1	1.7	2	3.4	5	8.5	2	3.4	2	3.4
Stokes	0	0.0	1	2.2	0	0.0	0	0.0	0	0.0
Surry	2	2.8	2	2.8	0	0.0	0	0.0	0	0.0
Swain	2	15.1	0	0.0	0	0.0	0	0.0	0	0.0
Transylvania	1	3.4	1	3.4	0	0.0	0	0.0	0	0.0
Tyrrell	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

**Table 9: TB Cases and Case Rates by County 2002-2006 (continued)**

COUNTY	2002		2003		2004		2005		2006	
	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE	CASES	RATE
Union	3	2.2	3	2.1	2	1.3	2	1.2	0	0.0
Vance	4	9.1	1	2.3	0	0.0	1	2.3	0	0.0
Wake	57	8.4	46	6.6	53	7.3	34	4.5	52	6.6
Warren	0	0.0	0	0.0	1	5.0	2	9.9	0	0.0
Washington	1	7.4	2	14.8	1	7.4	1	7.5	4	29.9
Watauga	0	0.0	0	0.0	0	0.0	1	2.3	0	0.0
Wayne	8	7.0	5	4.4	9	7.8	16	13.8	8	6.9
Wilkes	4	6.0	1	1.5	1	1.5	1	1.5	2	3.0
Wilson	5	6.6	5	6.6	8	10.5	4	5.2	7	9.0
Yadkin	2	5.4	0	0.0	0	0.0	0	0.0	1	2.6
Yancey	1	5.6	0	0.0	0	0.0	0	0.0	0	0.0
N.C.	434	5.2	374	4.4	382	4.5	329	3.8	374	4.6

DATA SOURCE: CaroTIMS. Case rates were calculated using denominators available at <http://demog.state.nc.us/>. (Go to County/State Projections and then to Annual County Populations.)

**Table 10: Foreign-Born TB Cases by County 2002-2006**

Foreign-Born TB Cases by County 2002-2006						
County	2002	2003	2004	2005	2006	Total Cases 2002 - 2006
Alamance	0	1	0	0	0	1
Alexander	0	0	0	0	0	0
Alleghany	0	0	0	0	0	0
Anson	0	0	0	0	0	0
Ashe	1	0	0	0	0	1
Avery	0	0	0	0	0	0
Beaufort	0	1	0	0	1	2
Bertie	0	1	1	0	0	2
Bladen	0	0	0	0	1	1
Brunswick	0	0	0	1	0	1
Buncombe	1	1	0	3	0	5
Burke	1	0	2	2	1	6
Cabarrus	1	3	3	3	1	11
Caldwell	0	1	0	0	0	1
Camden	1	1	0	0	0	2
Carteret	0	1	0	0	0	1
Caswell	0	0	0	0	0	0
Catawba	1	0	0	1	1	3
Chatham	1	0	0	1	1	3
Cherokee	1	0	0	0	1	2
Chowan	0	0	0	0	2	2
Clay	0	0	0	0	0	0
Cleveland	1	1	0	0	0	2
Columbus	1	1	2	1	0	5
Craven	0	0	0	0	0	0
Cumberland	3	2	2	1	1	9
Currituck	0	0	0	0	0	0
Dare	2	0	0	2	0	4
Davidson	0	0	0	1	4	5
Davie	0	0	3	0	0	3
Duplin	1	1	1	2	0	5
Durham	9	8	13	7	5	42
Edgecombe	0	1	0	0	0	1
Forsyth	11	6	4	7	8	36
Franklin	1	1	0	1	0	3
Gaston	2	1	1	1	0	5
Gates	0	0	0	0	0	0
Graham	0	0	0	0	0	0
Granville	0	3	1	0	1	5
Greene	0	1	0	0	0	1
Guilford	17	12	7	13	22	71
Halifax	0	0	0	0	0	0
Harnett	1	0	0	1	1	3

**Table 10: Foreign-Born TB Cases by County 2002-2006 (continued)**

County	2002	2003	2004	2005	2006	Total Cases 2002 - 2006
Haywood	0	0	0	0	0	0
Henderson	1	3	3	1	1	9
Hertford	1	0	0	0	0	1
Hoke	2	0	0	1	1	4
Hyde	0	0	1	0	0	1
Iredell	2	1	1	0	1	5
Jackson	0	0	0	0	0	0
Johnston	0	2	2	0	1	5
Jones	0	0	0	0	0	0
Lee	1	0	1	0	1	3
Lenoir	0	0	0	0	1	1
Lincoln	0	0	0	0	1	1
Macon	0	0	1	0	0	1
Madison	0	0	0	1	0	1
Martin	0	0	0	0	0	0
McDowell	0	0	0	0	0	0
Mecklenburg	20	15	23	25	27	110
Mitchell	0	0	0	0	0	0
Montgomery	1	1	0	1	0	3
Moore	1	1	2	1	0	5
Nash	0	1	4	2	2	9
New Hanover	1	1	1	2	5	10
Northampton	0	0	0	0	0	0
Onslow	2	1	1	0	1	5
Orange	1	3	1	1	0	6
Pamlico	0	0	0	0	0	0
Pasquotank	0	1	1	0	0	2
Pender	3	2	1	1	1	8
Perquimans	0	0	0	0	0	0
Person	0	0	0	0	3	3
Pitt	0	0	1	0	1	2
Polk	0	1	0	1	0	2
Randolph	1	4	1	0	0	6
Richmond	0	1	1	0	1	3
Robeson	1	1	0	2	0	4
Rockingham	0	1	0	0	0	1
Rowan	1	0	4	0	1	6
Rutherford	0	0	0	0	0	0
Sampson	0	1	7	0	2	10
Scotland	0	0	0	0	0	0
Stanly	0	0	1	0	0	1
Stokes	0	0	0	0	0	0
Surry	0	0	0	0	0	0
Swain	0	0	0	0	0	0
Transylvania	0	0	0	0	0	0
Tyrrell	0	0	0	0	0	0

**Table 10: Foreign-Born TB Cases by County 2002-2006 (continued)**

<b>County</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>Total Cases 2002 - 2006</b>
<b>Union</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>6</b>
<b>Vance</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Wake</b>	<b>30</b>	<b>19</b>	<b>30</b>	<b>17</b>	<b>31</b>	<b>127</b>
<b>Warren</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Washington</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Watauga</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>
<b>Wayne</b>	<b>3</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>0</b>	<b>14</b>
<b>Wilkes</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>
<b>Wilson</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Yadkin</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Yancey</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>N.C.</b>	<b>133</b>	<b>112</b>	<b>135</b>	<b>110</b>	<b>135</b>	<b>625</b>

**DATA SOURCE:** CaroTIMS.

**Table 11: Foreign-Born Cases by Country of Origin 2002-2006**

Year	2002	2003	2004	2005	2006	Total Cases 2002 - 2006
Albania	1	0	0	0	1	2
Algeria	0	1	0	1	0	2
Argentina	0	0	2	0	0	2
Azerbaijan	0	0	0	1	0	1
Bangladesh	0	0	0	1	0	1
Belarus	0	0	0	1	0	1
Benin	1	0	0	0	0	1
Bosnia & Herzegovina	0	0	0	1	0	1
Brazil	0	0	0	0	1	1
Burma	0	1	0	0	1	2
Cambodia	2	0	0	2	9	13
Cameroon	1	0	0	0	0	1
China	0	4	2	1	3	10
Colombia	1	0	0	1	2	4
Congo	1	2	1	3	1	8
Cuba	1	0	0	0	1	2
Djibouti	0	1	0	0	0	1
Dominican Republic	0	0	0	0	1	1
Ecuador	1	0	2	0	1	4
El Salvador	3	2	1	2	3	11
Ethiopia	2	1	5	3	5	16
France	0	0	1	0	0	1
Gabon	0	1	0	0	0	1
Gambia	1	0	1	1	0	3
Georgia	0	0	0	0	0	0
Germany	1	0	0	0	0	1
Guadeloupe	0	0	1	0	0	1
Guatemala	3	4	5	2	3	17
Haiti	0	1	0	0	0	1
Honduras	2	4	7	6	6	25
India	10	7	7	7	14	45
Indonesia	1	2	1	1	1	6
Iran	0	0	1	0	0	1
Ireland	0	0	1	0	0	1
Ivory Coast	0	0	1	0	1	2
Japan	0	0	1	0	0	1
Kazakhstan	0	0	0	0	1	1
Kenya	1	1	4	0	2	8
Korea Democratic Peoples Rep.	1	0	1	0	1	3
Korea Republic of	2	2	3	1	0	8
Kuwait	0	0	1	0	0	1
Laos	2	0	2	1	1	6
Liberia	1	0	0	4	2	7

**Table 11: Foreign-Born Cases by Country of Origin 2002-2006 (continued)**

<b>Year</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>Total Cases 2002 - 2006</b>
Malaysia	0	1	0	0	0	1
Marshall Islands	0	0	1	0	0	1
Mexico	56	48	54	44	42	244
Nepal	0	0	1	1	2	4
Nicaragua	0	0	0	1	0	1
Niger	4	1	0	1	1	7
Nigeria	0	0	0	1	0	1
Pakistan	2	1	0	0	2	5
Peru	1	3	1	2	1	8
Philippines	5	4	7	4	2	22
Pitcairn Islands	0	1	0	0	1	2
Puerto Rico	0	0	1	0	1	2
Romania	0	1	0	0	1	2
Russia/Soviet Union	1	0	1	1	0	3
San Marino	1	0	0	0	0	1
Senegal	0	0	1	1	0	2
Sierra Leone	1	1	0	0	0	2
Somalia	0	1	1	1	1	4
South Africa	0	1	0	1	0	2
Sudan	1	0	1	0	0	2
Syria	0	1	0	0	0	1
Taiwan	0	0	0	1	0	1
Thailand	0	2	1	0	1	4
Togo	1	1	0	0	0	2
Trinidad & Tobago	0	0	0	1	0	1
Turkey	1	0	0	0	1	2
Ukraine	0	0	0	1	0	1
Uruguay	0	0	0	1	0	1
Venezuela	1	0	0	0	0	1
Vietnam	12	7	12	8	16	55
Zaire	5	1	1	0	0	7
Zambia	2	1	0	0	0	3
Zimbabwe	0	1	1	0	0	2

DATA SOURCE: CaroTIMS.



**Table 12: Hispanic TB Cases by County 2002-2006**

Hispanic TB Cases by County 2002-2006						
County	2002	2003	2004	2005	2006	Total Cases 2002 - 2006
Alamance	0	2	0	0	1	3
Alexander	0	0	0	0	0	0
Alleghany	0	0	0	0	0	0
Anson	0	0	0	0	0	0
Ashe	1	0	0	0	0	1
Avery	0	0	0	0	0	0
Beaufort	0	1	0	0	0	1
Bertie	0	1	1	0	0	2
Bladen	0	0	0	0	1	1
Brunswick	0	0	0	0	0	0
Buncombe	1	1	1	3	1	7
Burke	0	0	2	2	1	5
Cabarrus	1	3	2	2	1	9
Caldwell	0	1	0	0	0	1
Camden	0	1	0	0	0	1
Carteret	0	0	0	0	0	0
Caswell	0	0	0	0	0	0
Catawba	0	0	0	2	1	3
Chatham	1	0	0	1	1	3
Cherokee	1	0	0	0	1	2
Chowan	0	0	0	0	2	2
Clay	0	0	0	0	0	0
Cleveland	1	0	0	0	0	1
Columbus	1	1	2	1	0	5
Craven	0	0	0	0	0	0
Cumberland	1	0	1	1	0	3
Currituck	0	0	0	0	0	0
Dare	1	0	0	2	0	3
Davidson	0	0	0	0	3	3
Davie	0	0	3	0	0	3
Duplin	4	1	1	3	1	10
Durham	6	4	8	7	2	27
Edgecombe	0	1	0	0	0	1
Forsyth	9	6	2	3	8	28
Franklin	0	1	0	1	0	2
Gaston	2	1	0	0	0	3
Gates	0	0	0	0	0	0
Graham	0	0	0	0	0	0
Granville	0	3	1	0	0	4
Greene	0	1	0	0	0	1

Table 12: Hispanic TB Cases by County 2002-2006 (continued)						
County	2002	2003	2004	2005	2006	Total Cases 2002 - 2006
Guilford	5	0	1	3	5	14
Halifax	0	0	0	0	0	0
Harnett	1	0	0	1	0	2
Haywood	0	0	0	0	0	0
Henderson	1	3	3	1	0	8
Hertford	1	0	0	0	0	1
Hoke	1	0	0	1	1	3
Hyde	0	0	1	0	1	2
Iredell	2	1	0	2	0	5
Jackson	0	0	0	0	0	0
Johnston	0	2	1	1	1	5
Jones	0	0	0	0	0	0
Lee	1	0	1	0	1	3
Lenoir	0	0	0	0	1	1
Lincoln	0	0	0	0	1	1
Macon	0	0	1	0	0	1
Madison	0	0	0	1	0	1
Martin	0	0	0	0	0	0
McDowell	0	0	0	0	0	0
Mecklenburg	6	9	11	13	10	49
Mitchell	0	0	0	0	0	0
Montgomery	0	1	0	1	1	3
Moore	1	0	1	1	0	3
Nash	0	1	3	2	2	8
New Hanover	1	1	0	2	5	9
Northampton	0	0	0	0	0	0
Onslow	0	0	0	0	1	1
Orange	1	0	0	1	1	3
Pamlico	0	0	0	0	0	0
Pasquotank	0	2	1	0	0	3
Pender	3	2	1	1	1	8
Perquimans	0	0	0	0	0	0
Person	0	0	0	0	3	3
Pitt	0	0	1	0	0	1
Polk	0	1	0	0	0	1
Randolph	1	4	0	0	0	5
Richmond	0	1	1	0	1	3
Robeson	2	1	0	1	0	4
Rockingham	0	1	0	0	0	1
Rowan	1	0	4	0	1	6
Rutherford	0	0	0	0	0	0
Sampson	0	0	7	1	2	10
Scotland	0	0	0	0	0	0

<b>Table 12: Hispanic TB Cases by County 2002-2006 (continued)</b>						
<b>County</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>Total Cases 2001 - 2006</b>
<b>Stanly</b>	0	0	1	0	1	2
<b>Stokes</b>	0	0	0	0	0	0
<b>Surry</b>	0	0	0	0	0	0
<b>Swain</b>	0	0	0	0	0	0
<b>Transylvania</b>	0	0	0	0	0	0
<b>Tyrrell</b>	0	0	0	0	0	0
<b>Union</b>	2	2	1	2	0	9
<b>Vance</b>	0	0	0	0	0	0
<b>Wake</b>	9	6	21	5	8	58
<b>Warren</b>	0	0	0	0	0	0
<b>Washington</b>	0	0	0	0	1	1
<b>Watauga</b>	0	0	0	1	0	1
<b>Wayne</b>	4	2	5	3	0	16
<b>Wilkes</b>	1	0	1	0	1	4
<b>Wilson</b>	0	0	0	0	1	1
<b>Yadkin</b>	2	0	0	0	0	4
<b>Yancey</b>	0	0	0	0	0	1
<b>N.C.</b>	<b>76</b>	<b>69</b>	<b>91</b>	<b>72</b>	<b>75</b>	<b>460</b>

DATA SOURCE: CaroTIMS.