Section 8. Tuberculosis

Tuberculosis (TB) is an infection caused by the bacteria *Mycobacterium tuberculosis*. TB is a disease that is spread from person to person through the air; infection can occur by sharing airspace for an extended period of time in an enclosed setting such as one's home or in a small office. TB usually affects the lungs. Bacteria are put into the air when a person with active TB of the lungs coughs, sneezes, laughs, or sings.

TB skin or blood tests help identify persons who have been infected. Most people who are infected do not develop active TB disease, known as latent TB infection (LTBI). Some people with LTBI will progress to active TB disease but it may take several years after they were initially infected before they become sick. LTBI is a condition in which TB bacteria are alive but inactive in the body. People with LTBI may greatly reduce the chance of progressing to TB disease by taking treatment for their infection. Persons with weakened immune systems (e.g., those with HIV) are at greater risk for progressing from LTBI to active TB disease.

Active TB is defined as an illness in which TB bacteria are multiplying and attacking a part of the body, usually the lungs. Symptoms of TB of the lungs may include a cough that lasts for three weeks or more, coughing up blood or blood stained mucus, loss of appetite, unexplained weight loss, drenching night sweats, extreme fatigue, sore throat or hoarseness. A person with active TB disease may be infectious and spread TB bacteria to others. TB is a disease than can be cured if treated properly.

This section describes TB surveillance data reported in the District from 2007 to 2011. Cases reported in the figures represent cases of active TB disease and not LTBI; LTBI is not a reportable condition in the District.

Summary

After a spike in the number of cases reported in 2006, the District has experienced considerable success in reducing the number of TB cases and consequently the TB case rate among District residents. In 2011, 55 cases of TB were reported (Table 12). The number of TB cases in the District had a record low in 2009 and in 2010. There was a record decline in the number of TB cases reported nationwide in 2009, as well. The national decline may have resulted from changing migration patterns because the TB case rate fell among foreign-born persons more dramatically than in any previous or subsequent year.[1] Refer to appendix table 11 for more information on TB cases reported between 2007 and 2011 in the District.

All positive TB cultures are tested for susceptibility to the medications used in treatment. Multi-drug resistant TB (MDR-TB), or TB that is resistant to two of the first-line treatment agents (isoniazid and rifampin) has been observed infrequently in the District. Two cases of MDR-TB were reported in 2006 and one case of MDR-TB was reported in 2010. No cases of MDR-TB were reported in 2011.

HAHSTA attributes the reduction in TB cases and the low number of drug resistant cases to using Directly Observed Therapy (DOT) as the standard of care for all active TB cases, the provision of case management services for all active TB cases, and rapid contact investigation which includes education and evaluation.

Table 12. Reported Tuberculosis Rate per 100,000 persons
District of Columbia 2007-2011

	2007		2008		2009		2010		2011	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
District Total	59	10.0	54	9.1	41	7.7	42	7.2	55	8.9

[1]CDC. Trends in Tuberculosis – United States, 2010. MMWR 60(11);333-337.

Figure 37. Reported Cases of Tuberculosis by Disease State and Year of Diagnosis
District of Columbia, 2007-2011

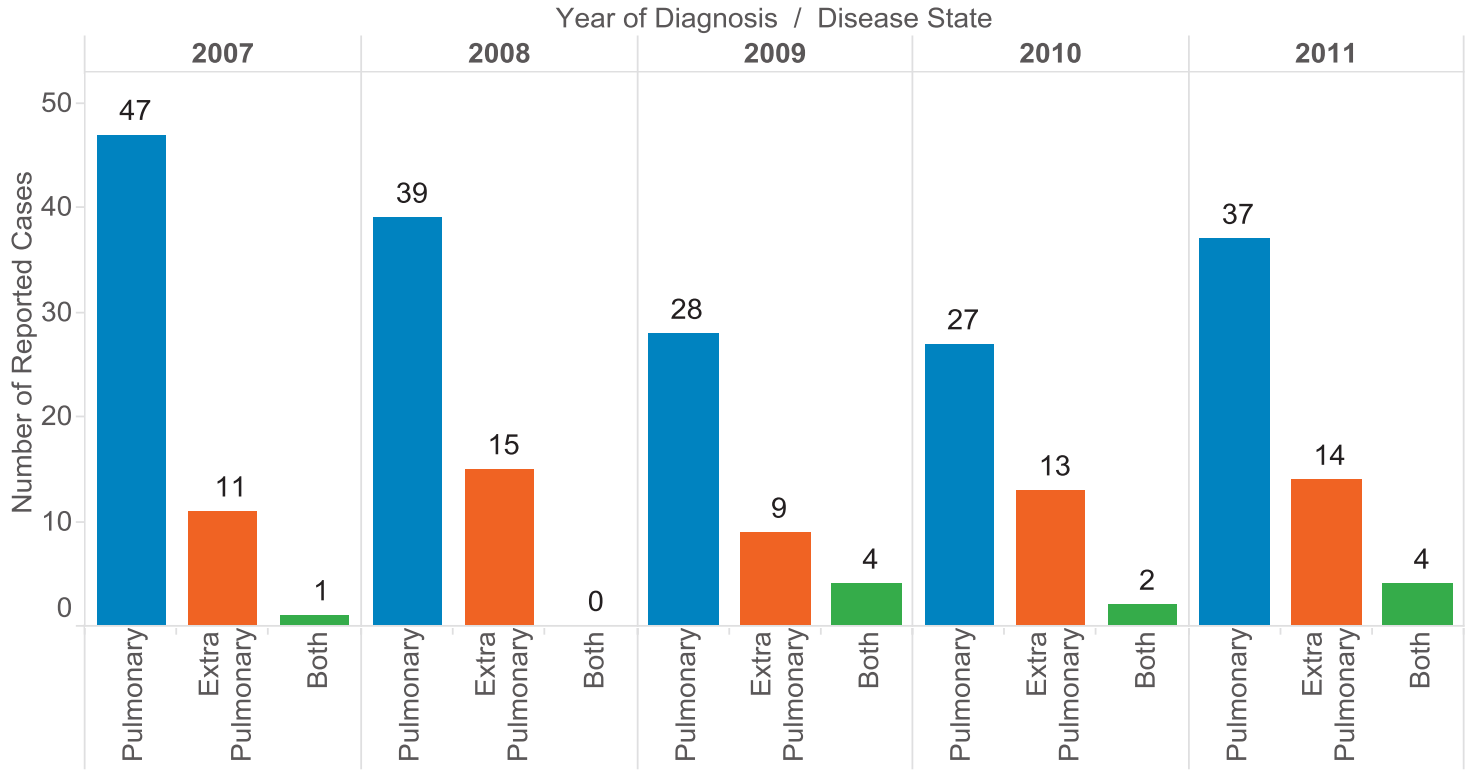


Figure 38. Reported Cases of Tuberculosis by Sex and Year of Diagnosis
District of Columbia, 2007-2011

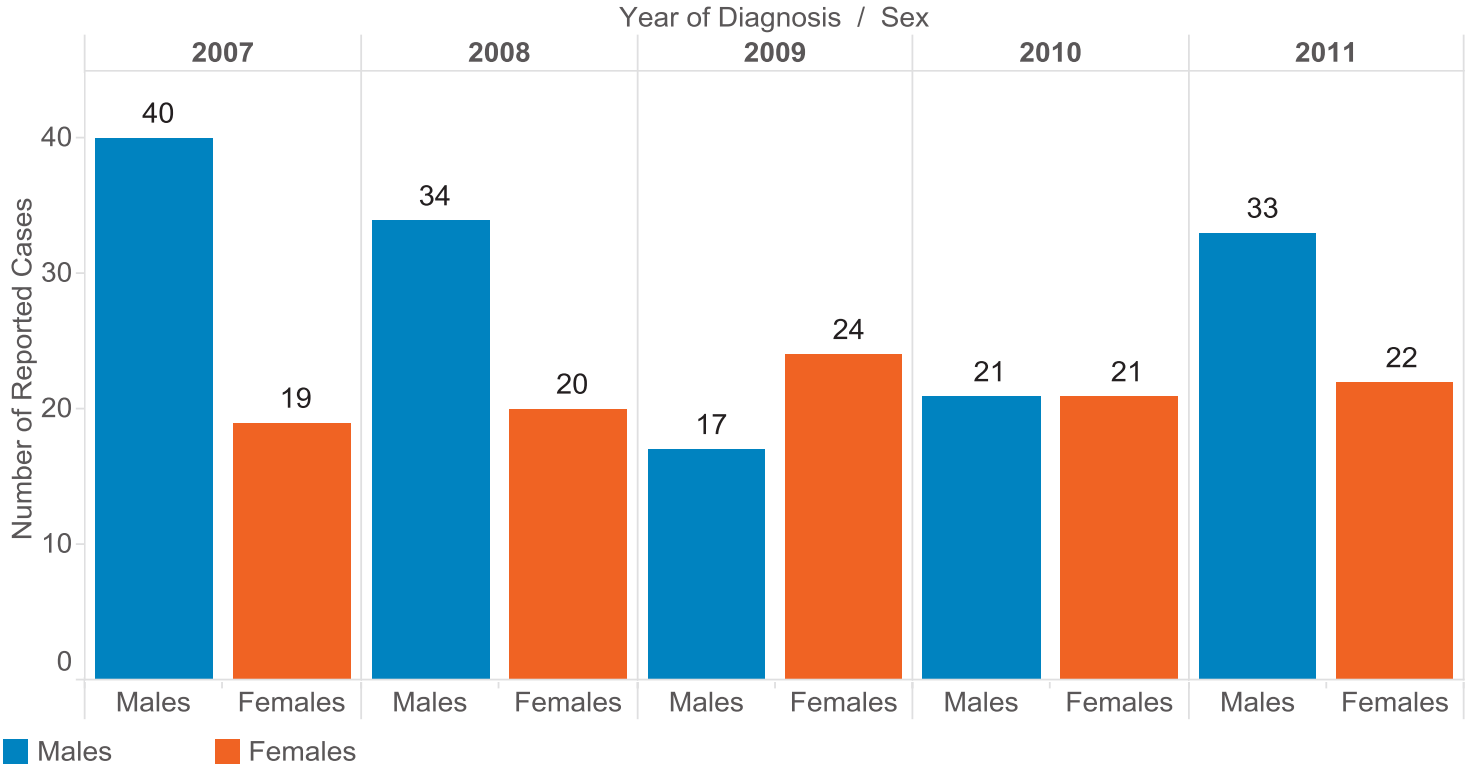


Figure 39. Reported Cases of Tuberculosis by Age at Diagnosis and Year of Diagnosis
District of Columbia, 2007-2011

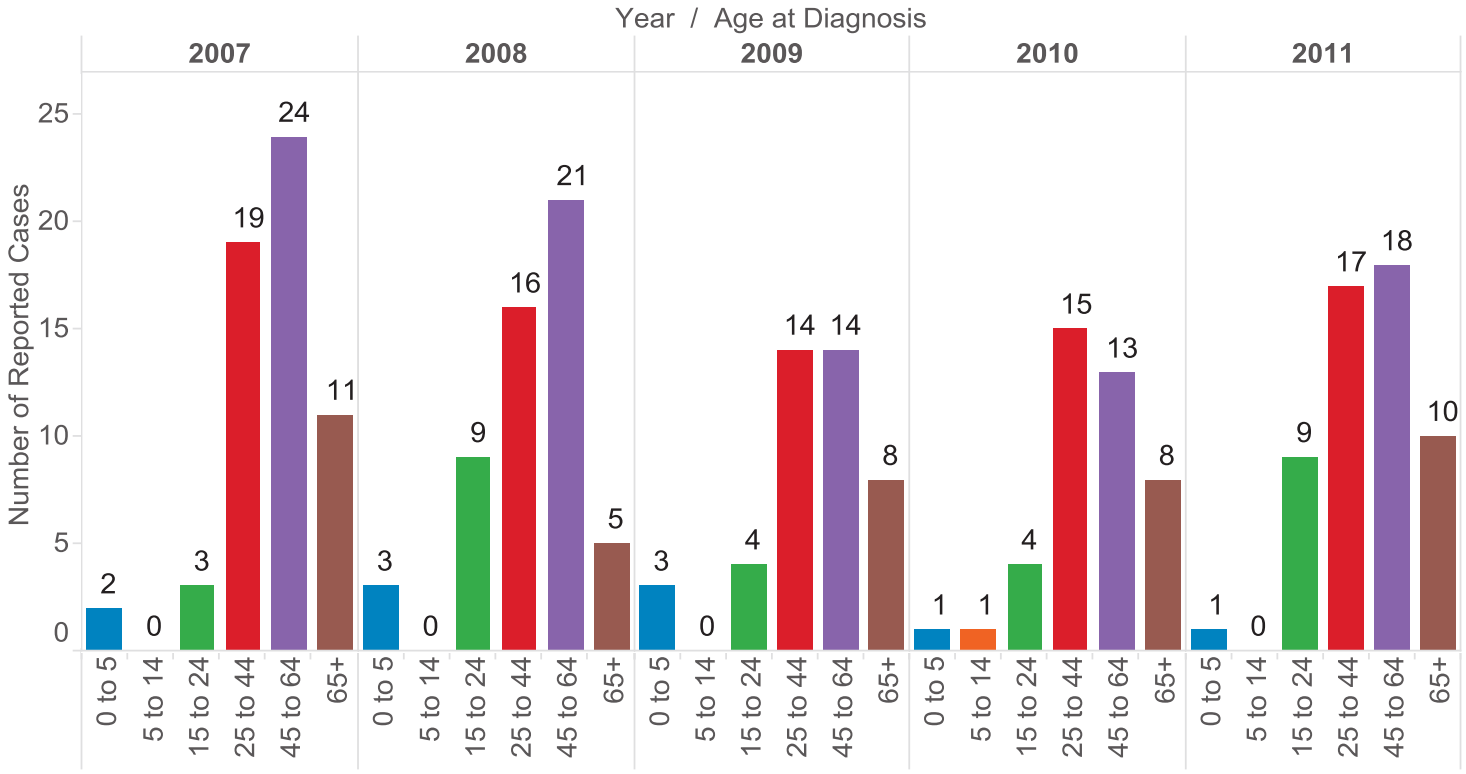


Figure 37
- The proportion of extra pulmonary cases of TB has increased over time, from 18.6% in 2007 to 25.5% in 2011. Extra pulmonary TB, by definition, occurs in parts of the body other than the lungs or respiratory system and is not considered infectious.
- Occasionally, persons may be infected with TB in multiple parts of the body. Over the report period, a total of eight people were infected with both pulmonary and extra pulmonary TB.

Figure 38
- Overall, 57.5% of reported TB cases were among men. Historically, TB is more prevalent among men, however the men to women ratio has shifted in recent years.

Figure 39
- Approximately 36% of cases reported during this time period were 45-64 years of age.

Figure 40. Reported Cases of Tuberculosis by Race/Ethnicity and Year of Diagnosis
District of Columbia, 2007-2011

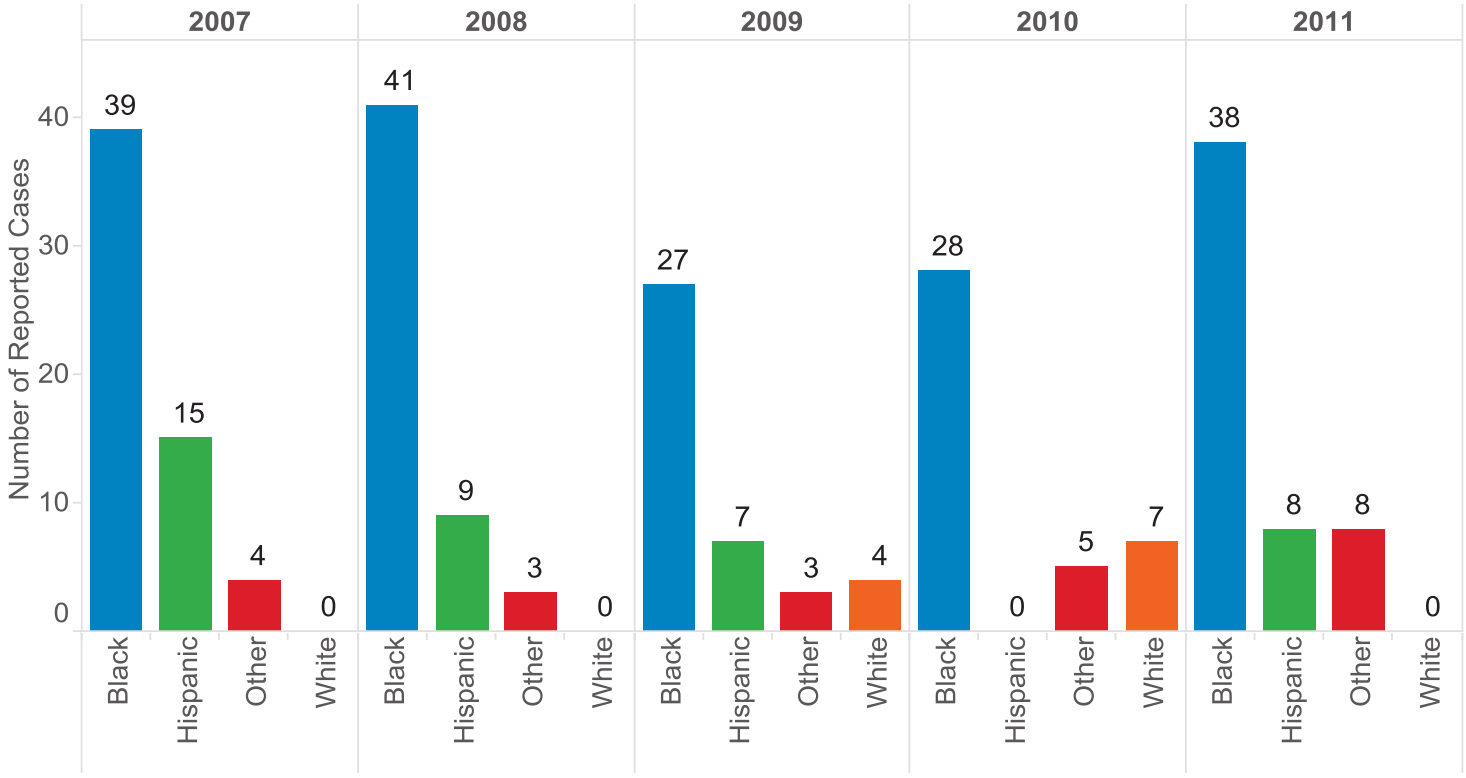


Figure 41. Reported Cases of Tuberculosis by Place of Birth and Year of Diagnosis
District of Columbia, 2007-2011

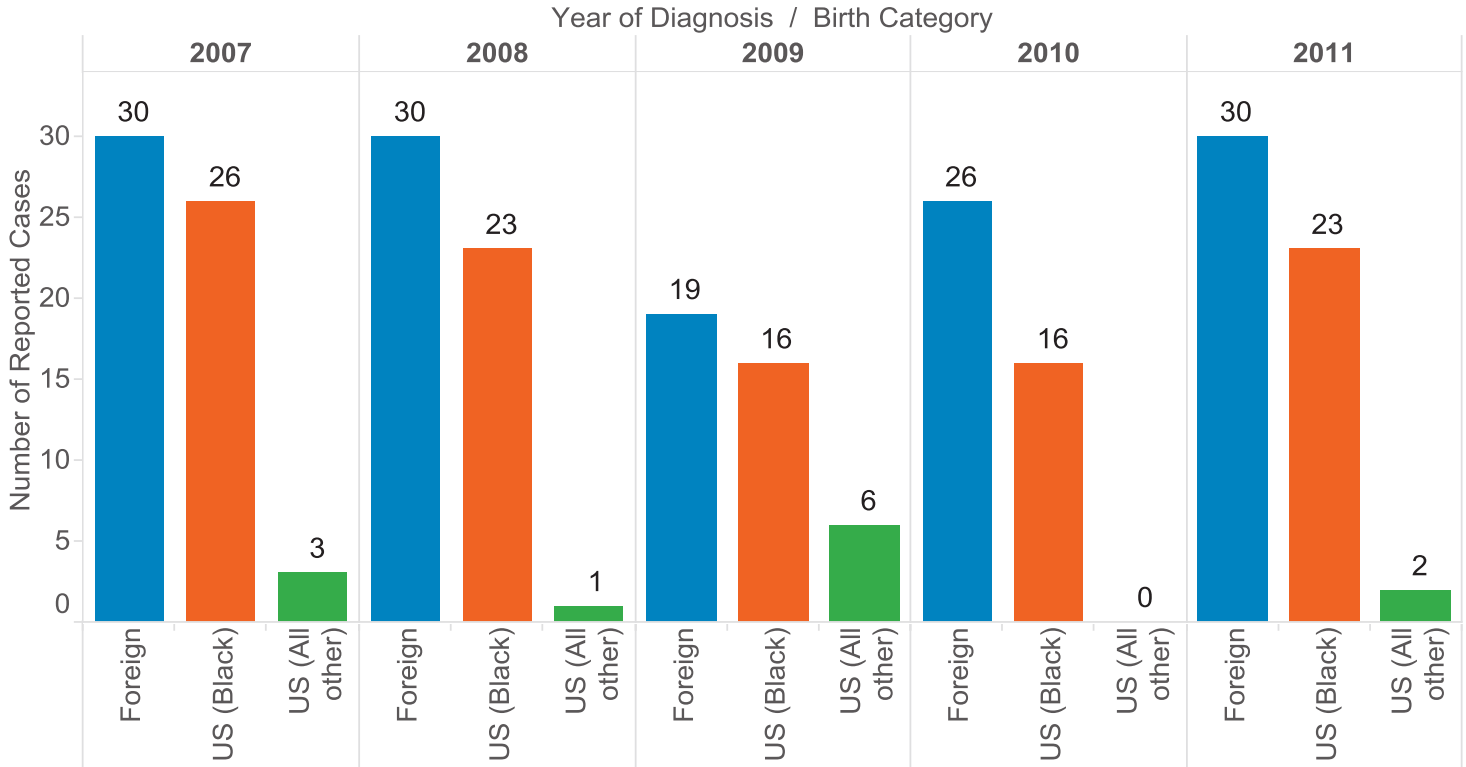
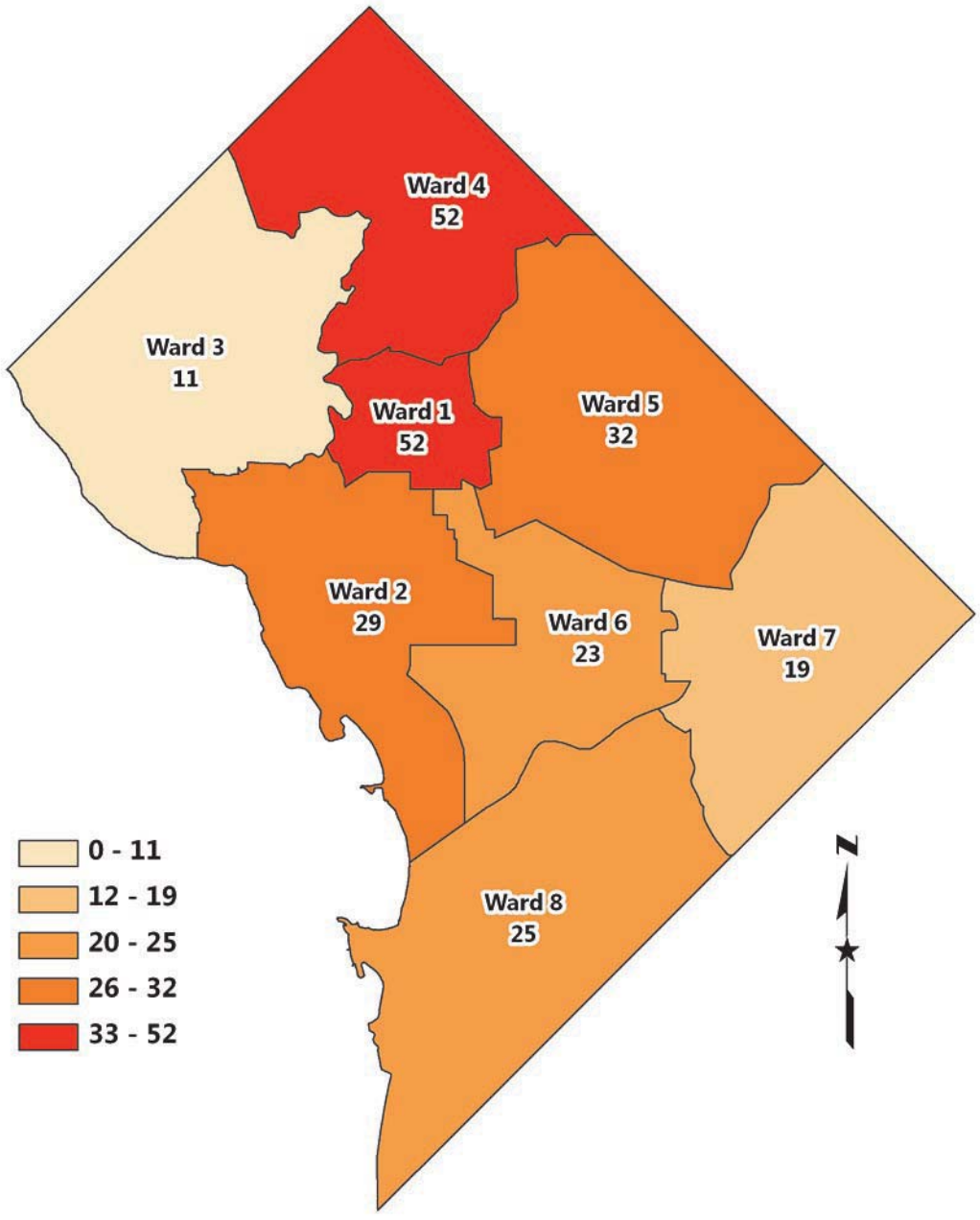


Figure 40
- More than two-thirds of TB cases reported each year were black.

Figure 41
- The proportion of cases reported among foreign born persons remains high in the District. Foreign born persons represented 50.8% of cases in 2007 and 52.7% of cases in 2011. This is similar to national data.
- The proportion of TB cases among US-born blacks decreased from 44.1% in 2007 to 24.1% in 2010. In 2011 however, this proportion increased to 43.6%.

Map 8. Number of Reported Cases of Tuberculosis by Ward
District of Columbia, 2007-2011



- Ward information was available for 96.4% of the tuberculosis cases diagnosed between 2007 and 2011.
- Over the five years, Ward 1 and Ward 4 had the most reported cases (52).
- Ward 3 had the least number of cases (11), followed closely by Ward 7 (19).