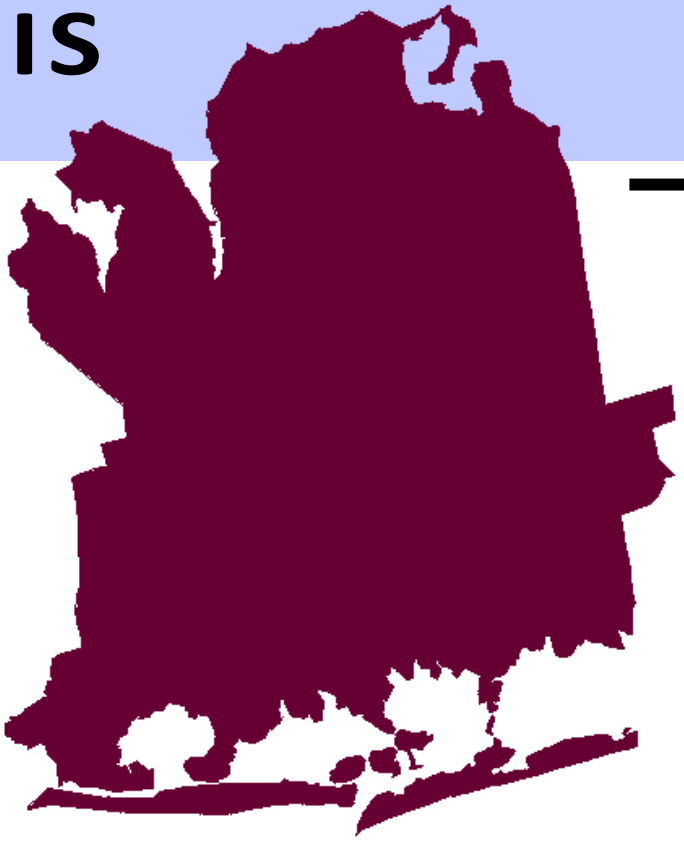
EPIDEMIOLOGY OF TUBERCULOSIS



Nassau County Department of Health |

Tuberculosis Control | May 2023

TABLE OF CONTENTS

METHODS

All data on Tuberculosis (TB) cases in Nassau County 1993-2021 was obtained from the New York State Communicable Disease Electronic Surveillance System (CDESS). Countries, territories, and Nassau County localities are all based on CDESS entries and codes. Data was downloaded as a Microsoft Excel document and analyzed using Microsoft Excel. All graphs were created in Microsoft Excel.

All population data was obtained from the United States Census Bureau. This includes population by county, populations by sex, populations by age, populations by race, populations by ethnicity, and populations by zip code. Rates were calculated using decennial census data from 1990, 2000, 2010 and American Community Survey 5-year Estimates (ACS) for 2020. Rates were based on the decennial census data from the start of each decade (1990-1999 rates were calculated with 1990 census data, 2000-2009 were calculated with 2000 census data, 2010-2019 were calculated with 2010 census data, and 2020-2021 were calculated with 2020 ACS data).

All data reflects the most complete available as of May 2023.

CORE ACTIVITIES

SURVEILLANCE

The Nassau County Department of Health Tuberculosis Control (NCDOH TBC) keeps records for all suspected and confirmed cases of TB as well as contacts to confirmed cases of TB. The Electronic Clinical Laboratory Reporting System (ECLRS) requires laboratories to report cases of suspected and confirmed TB to the health department. Patient information from the health department is reported to the state through the Communicable Disease Electronic Surveillance System (CDESS). Use of electronic reporting for both reporting to and from TBC allows for faster and more efficient transmission of case information.

TBC evaluates and monitors newly arrived immigrants participating in the B1/B2 program. Immigrants suspected of having TB based on their TST (TB skin test screening for infection) and x-ray are reported to the state through CDESS, and information is recorded so that follow-ups may be done.

DIRECTLY (DOT) OR SKYPE (SOT) OBSERVED THERAPY

Observed Therapy is the standard of care for TB patients in Nassau County. It is the most effective way to ensure that patients adhere to and are able to complete their treatments. Patients are observed in person (DOT) or electronically (SOT) as they take their medications by TBC staff to guarantee proper maintenance of their anti-TB drug regimen. TBC offers DOT and SOT to all patients receiving medication for TB disease. In addition to watching patients take medication, the TBC staff members also provide referrals and serve as a liaisons to TBC.

CONTACT INVESTIGATION

In order to identify and prevent the spread of TB, TBC performs contact investigations, testing individuals who have been exposed to patients with TB. Pulmonary TB cases have contacts identified. Once identified, contacts are evaluated for TB disease and latent TB infection (LTBI). Those with active TB disease are treated, as well as those with LTBI. Identifying those at risk for active TB disease allows TBC to prevent the transmission of TB bacteria and recommend treatment for LTBI.

	Target	2020
Smear positive cases with contacts identified[1]	100%	100%
Contacts to smear positive cases evaluated[2]	88%	85%
Contacts who initiated treatment	81%	70%

[1]Smear positive refers to sputum specimens where acid fast bacilli are visible.
[2]31% of evaluated contacts were found to have LTBI.

COMMUNITY OUTREACH

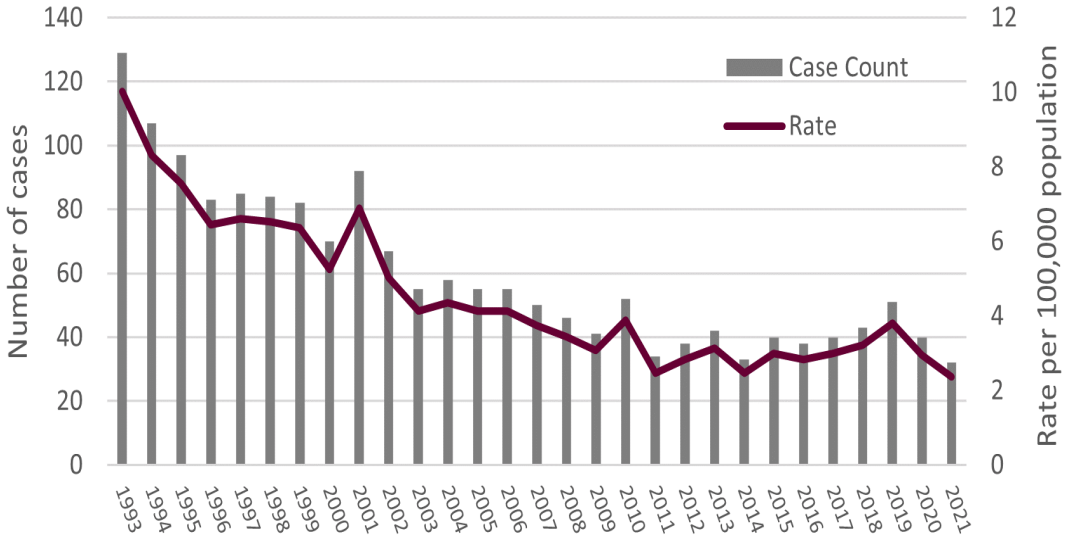
TBC is highly involved in the Nassau County community and works to keep the community healthy and informed. Aside from providing DOT to TB patients, TBC provides information to the community to create awareness of TB symptoms, treatments, and prevention methods. Information is given by TBC staff at site visits during large-scale investigations through presentations.

Additionally, materials for patients and providers, or anyone interested in more information on TB are available on the NCDOH website: http://www.nassaucountyny.gov/

PROFILE OF TB CASES

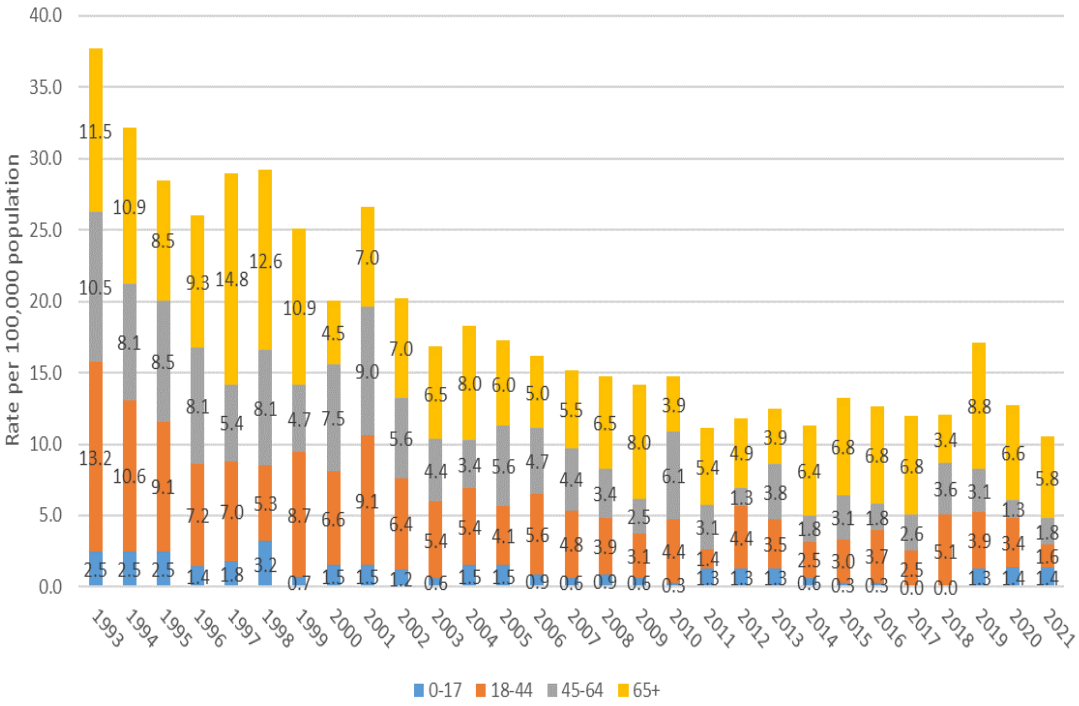
TOTAL

Figure 1: Tuberculosis cases and rates, Nassau County, 1993-2021



AGE

Figure 2: Tuberculosis rates per 100,000 by age, Nassau County, 1993-2021



For nearly three decades, both the cases and incidence of tuberculosis in Nassau County have been steadily decreasing. In 2021, the rate was at its the lowest, **2.4 per 100,000 population**.

This is a 25% decrease from 2020, and a **76% decrease from 1993**.

The 2021 Nassau County rate of 2.4 is consistent with **the 2021 national rate** of tuberculosis, also 2.4 per 100,000.

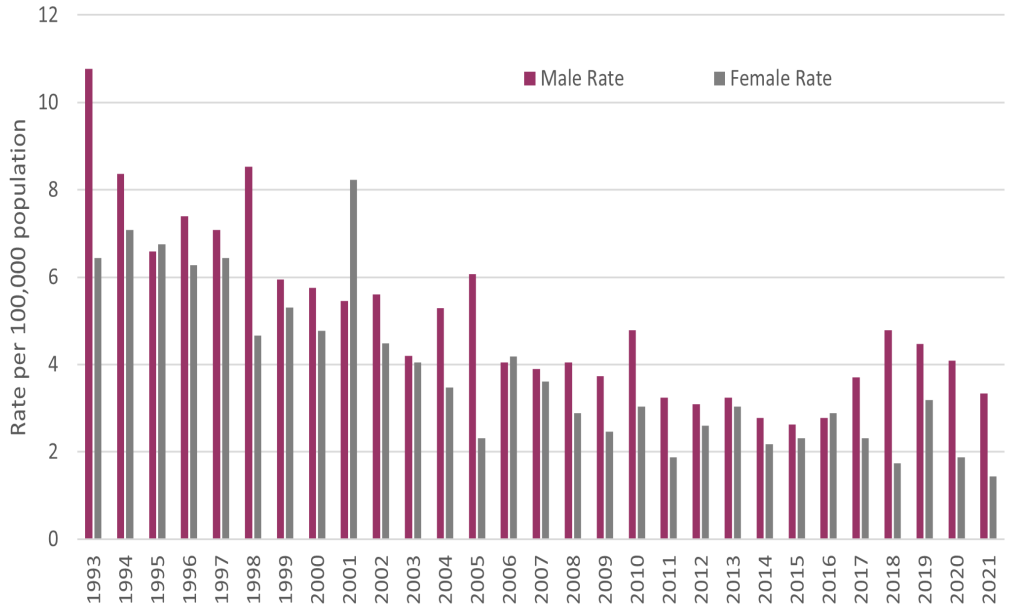
In 2021 as well as the majority of years from 1993 to 2021, **patients age 65 years and older had the highest rate of TB**.

The age group with the **lowest rate of TB** in 2021 and the majority of years from 1993-2021 was **0-17 years.**

PROFILE OF TB CASES

SEX

Figure 3: Tuberculosis rates by sex, Nassau County, 1993-2021

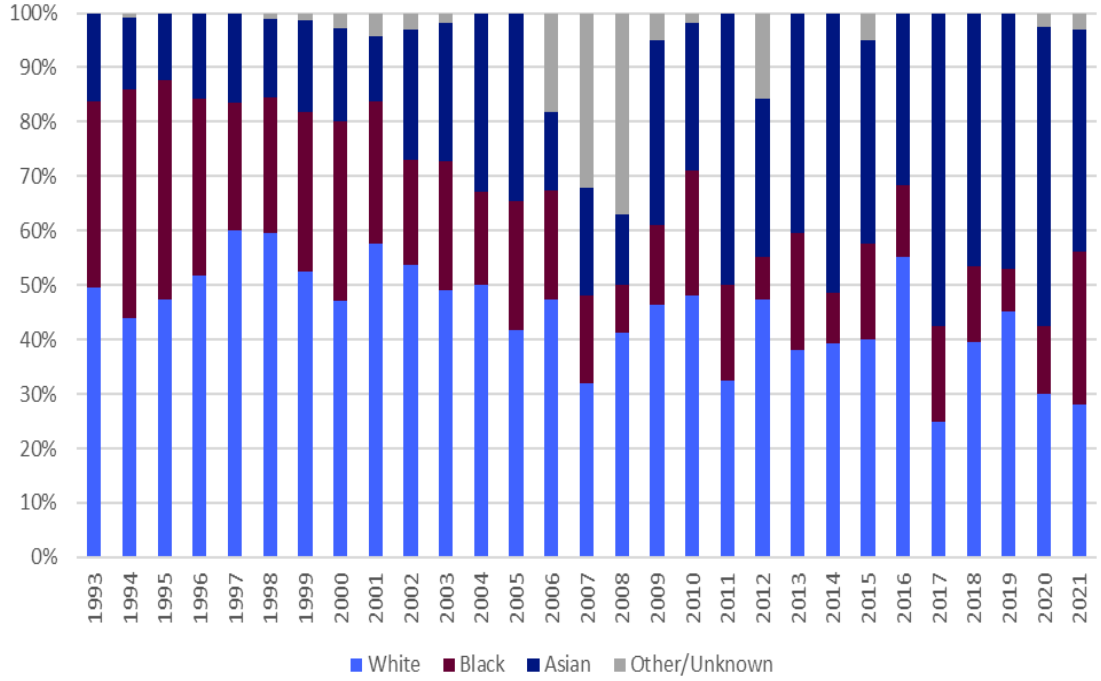


Males and females made up 56% and 44% of all cases since 1993, respectively.

The rate of TB for males exceeded that of TB for females in **25 of the 29 years** reported (86%).

RACE

Figure 4: Tuberculosis cases by race, percent of total cases by year, Nassau County, 1993-2021



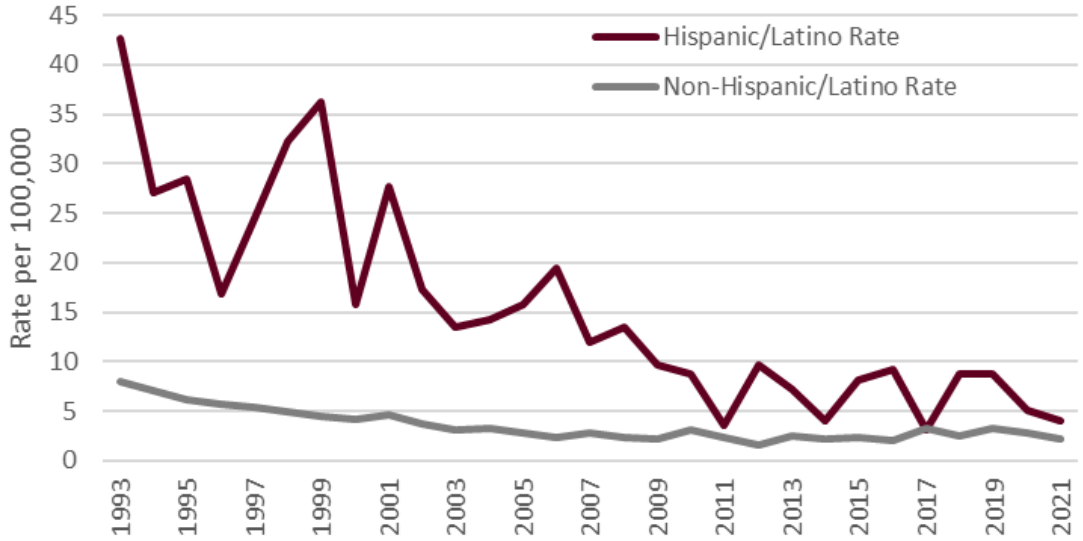
In 1993, Whites comprised 50% of cases, Blacks 34% and Asians 16%. In 2021 Whites and Blacks comprised 28% each and Asians 41%.

2011 was the first year in which the percent of cases among Asian/Pacific-Islanders (50%) was greater than the percent of cases among Whites (32%).

PROFILE OF TB CASES

ETHNICITY

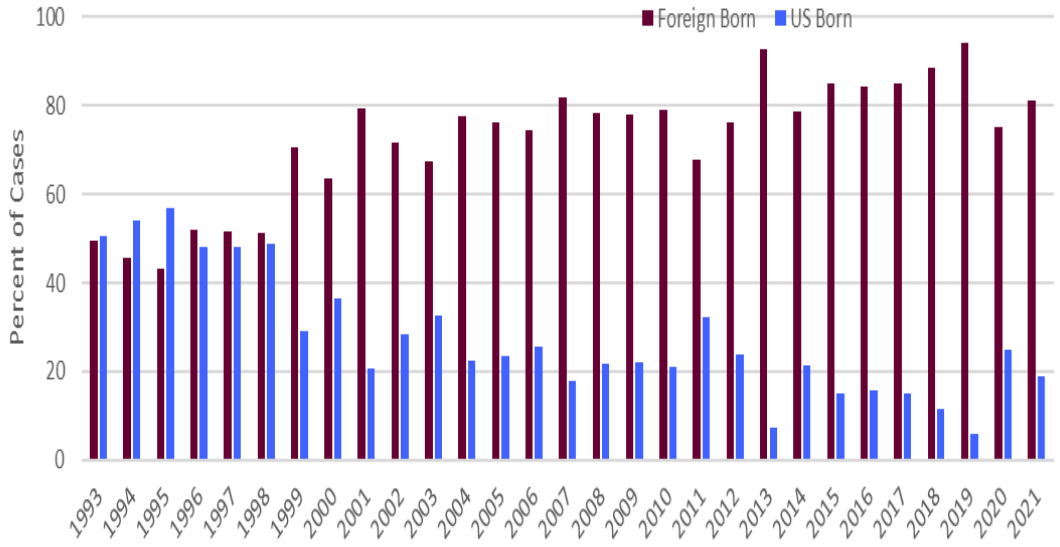
Figure 6: Tuberculosis rates by ethnicity, Nassau County, 1993-2014



The rate of TB among Hispanics/ Latinos is consistently higher than the rate among Non-Hispanics.

BIRTHPLACE

Figure 6: Tuberculosis cases by birthplace, Nassau County, 1993-2021



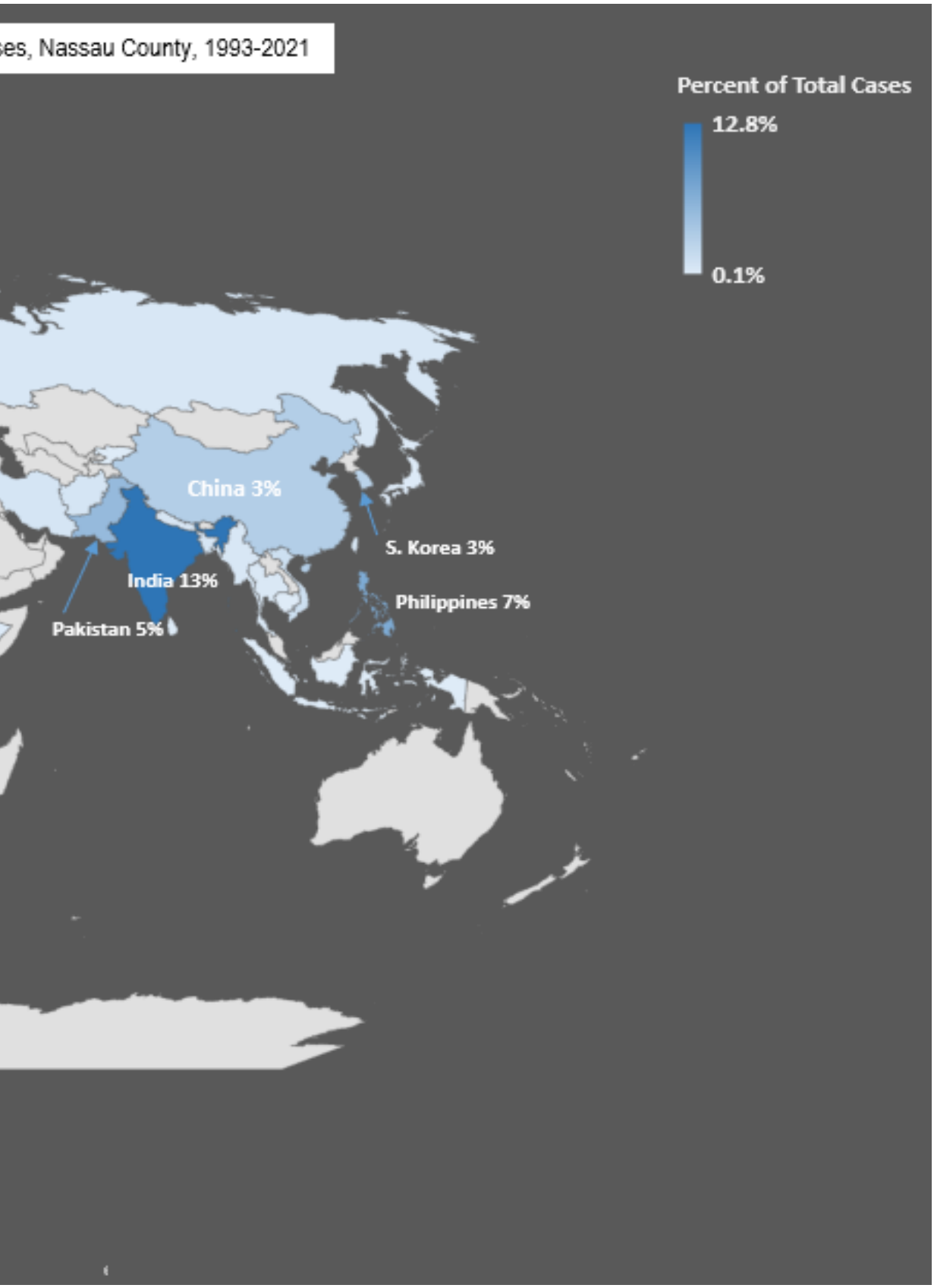
Since 1999, foreign-born TB patients have consistently outnumbered U.S.-born TB patients.

In 2021, foreign-born TB patients made up **81% of all TB cases** in Nassau County.

PROFILE OF TB CASES

COUNTRY OF BIRTH

Figure 7: Patient Country of birth as percent of total TB cas



Top 10 countries of birth for Nassau County TB cases from 1993-2021 by number of cases:

1. India
2. El Salvador
3. Haiti
4. Honduras
5. Philippines
6. Peru
7. Pakistan
8. United States
9. China
10. South Korea

United States, as a country of birth, comprised **4%** of all Nassau County TB cases.

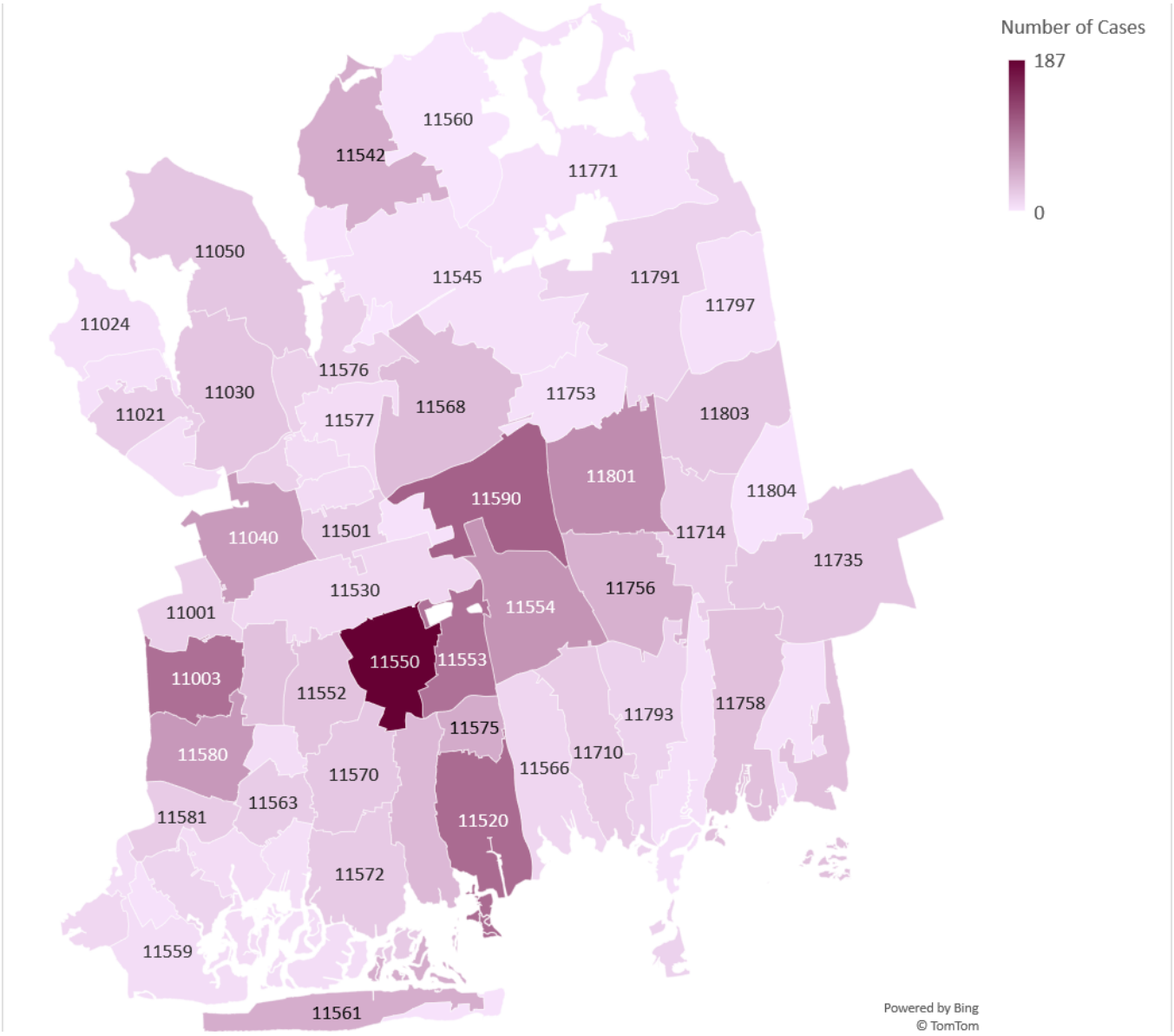
There were **85 unique countries and territories of birth** represented among Nassau County TB patients between 1993 and 2021.

India and El Salvador were the only countries to each contribute to **at least 10% of all TB cases in Nassau**

PROFILE OF TB CASES

ZIP CODE

Figure 8: Number of cases by zip code, Nassau County, 1993-2021



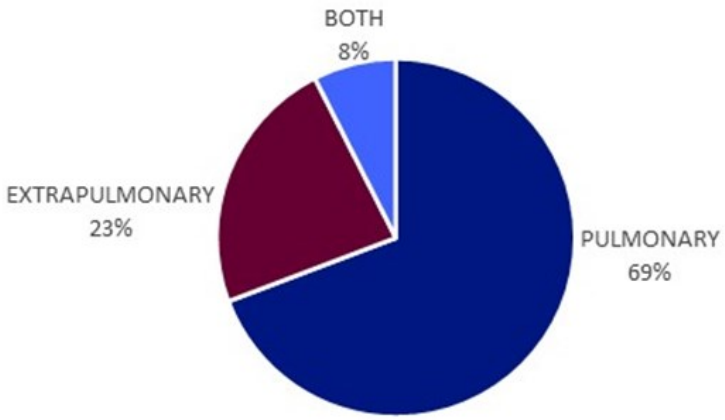
Top 10 zip codes 1993-2021 by cumulative number of cases:

1. Hempstead 11550
2. Westbury 11590
3. Freeport 11520
4. Elmont 11003
6. Hicksville 11801
7. East Meadow 11554
8. Valley Stream 11580
9. New Hyde Park 11040

PROFILE OF TB CASES

SITE OF DISEASE

Figure 9: Tuberculosis cases by site of disease, Nassau County, 1993-2021

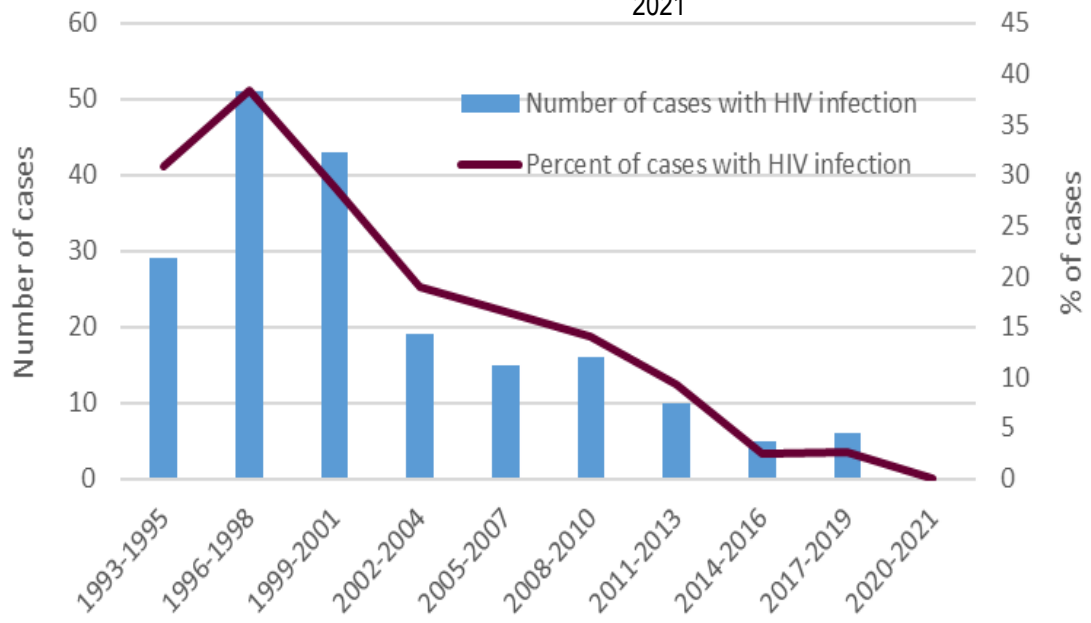


TB can occur in the lungs, somewhere other than the lungs, or both in and outside of the lungs. Common extrapulmonary sites include lymphatic, bone/joint, and pleural.

69% of all TB cases from 1993 to 2021 had pulmonary TB. Of these, 8% also had extrapulmonary TB. 23% of cases had extrapulmonary TB only.

HIV COINFECTION

Figure 10: 3-year total HIV infection among TB cases, Nassau County, 1993-2021



Tuberculosis is an opportunistic infection and therefore poses a much greater threat to those with weakened immune systems, such as those living with HIV infection. All patients with TB should be tested for HIV. New York State's Public Health law states that HIV testing must be offered to all persons between the ages of 13 and 64 years as part of routine care.

PROFILE OF TB CASES

TREATMENT COMPLETION

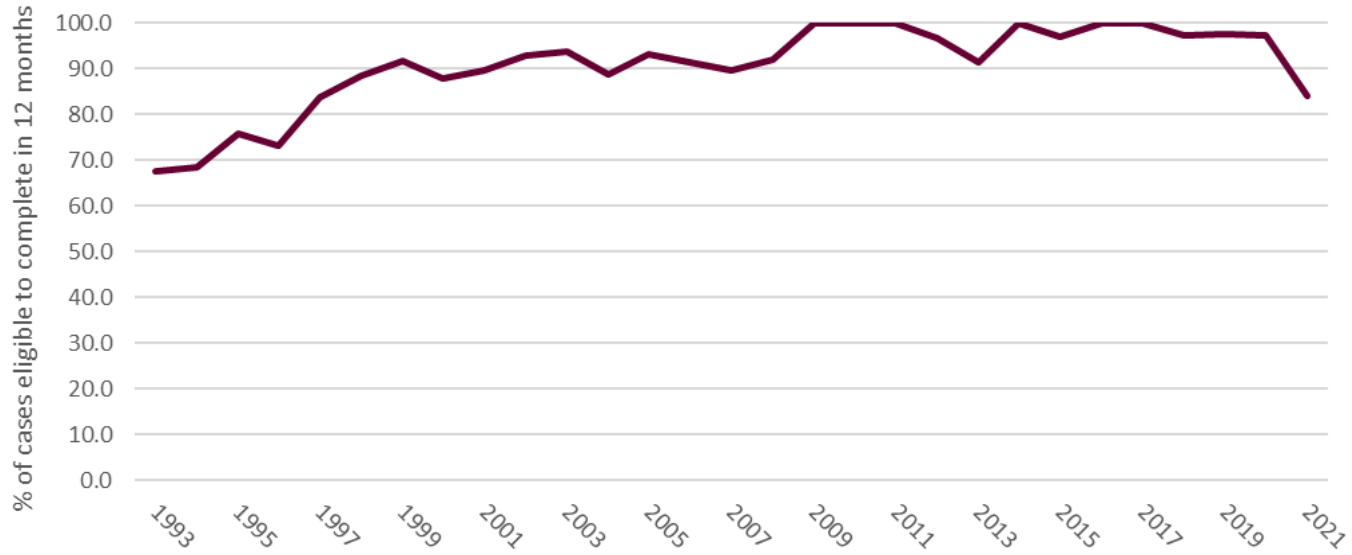


Figure 11: Percent of those eligible cases that complete treatment within 12 months

The objective is that 100% of cases complete treatment within 12 months of starting treatment.

Cases are not eligible to complete within 12 months if they have meningeal, bone/joint/skeletal, multidrug resistant, or rifampin resistant TB, or are children under 14 years with disseminated (miliary) TB.

Since 1993, **88%** of the total number of patients with TB who qualified completed treatment within 12 months.

In 2009, 2010, 2011, 2014, 2016 and 2017, **100%** of those who qualified completed treatment within 12 months.

ACKNOWLEDGMENTS

Prepared by:

The Office of Epidemiology, Biostatistics and Planning,

Nassau County Department of Health

CONTACT US

Nassau County Department of Health

Tuberculosis Control

200 County Seat Drive

Mineola, NY, 11501

Phone: (516)-227-9664

Fax: (516)-227-9643

https://www.nassaucountyny.gov/5435/Tuberculosis

NASSAU COUNTY
LONG ISLAND, NEW YORK