



Cook County Department of Public Health Third Quarterly Report 2018

Terry Mason, MD
Chief Operating Officer



COOK COUNTY HEALTH
& HOSPITALS SYSTEM
CC+HHS

Cook County Department of Public Health

TUBERCULOSIS PREVENTION and CONTROL



Cook County DEPT. of
Public Health

Promoting health. Preventing disease. Protecting you.



COOK COUNTY HEALTH
& HOSPITALS SYSTEM
CCHHS

Why is Tuberculosis Important?

“Still the leading cause of Death from any single Infectious Disease”

World Health Organization (WHO) 2016

- **1/3 of the world - infected with tuberculosis**
- **Can be dormant for years before becoming infectious**
- **Increasing incidence of drug resistant TB in some countries**
- **Can prevent deaths - early diagnosis and treatment**
- **Global travel causes spread**



Cook County DEPT. of
Public Health
Promoting health. Preventing disease. Protecting you.



**COOK COUNTY HEALTH
& HOSPITALS SYSTEM**
CCHHS

Presentation Title in Footer | Date

Basic Tuberculosis (TB) Facts

- **Caused by a *Mycobacterium tuberculosis***
- **Spread from person to person through the air**
- **People nearby may breath in these bacteria and may become infected without knowing it.**



Cook County DEPT. of
Public Health

Promoting health. Preventing disease. Protecting you.



COOK COUNTY HEALTH
& HOSPITALS SYSTEM
CCHHS

Presentation Title in Footer | Date

Basic TB Facts (continued)

- **Not all TB is infectious**
- **Can cause significant morbidity and mortality**
- **Leading killer in those with HIV**
- **Serious risk for continued spread worldwide**
- **World Health Organization launched the “END TB” Strategy in 2015**



WORLD TB DAY
MARCH 24



COOK COUNTY HEALTH
& HOSPITALS SYSTEM
CCHHS

Presentation Title in Footer | Date

TB Disease Progression

- **May be infectious for weeks to months before diagnosis**
- **5 – 10% of all HIV(-) TB will progress from infection to disease. 12-20 times higher in those with HIV**
- **On average, 25 – 30% of close contacts become infected**
- **Average person with infectious tuberculosis may infect 30 other individuals**

Southeast Florida National TB Center 2018



Cook County DEPT. of
Public Health
Promoting health. Preventing disease. Protecting you.



**COOK COUNTY HEALTH
& HOSPITALS SYSTEM**
CCHHS

Presentation Title in Footer | Date

Latent Tuberculosis Infection (LTBI)

- TB without signs & symptoms, or x-ray or culture evidence of tuberculosis (TB) disease.
- Up to 13 million people in the United States have this infection.
- 650,000 to 1.3 mil of those will develop active TB disease in their lifetime, unless they receive adequate treatment for LTBI.

Centers for Disease Control



Cook County DEPT. of
Public Health

Promoting health. Preventing disease. Protecting you.

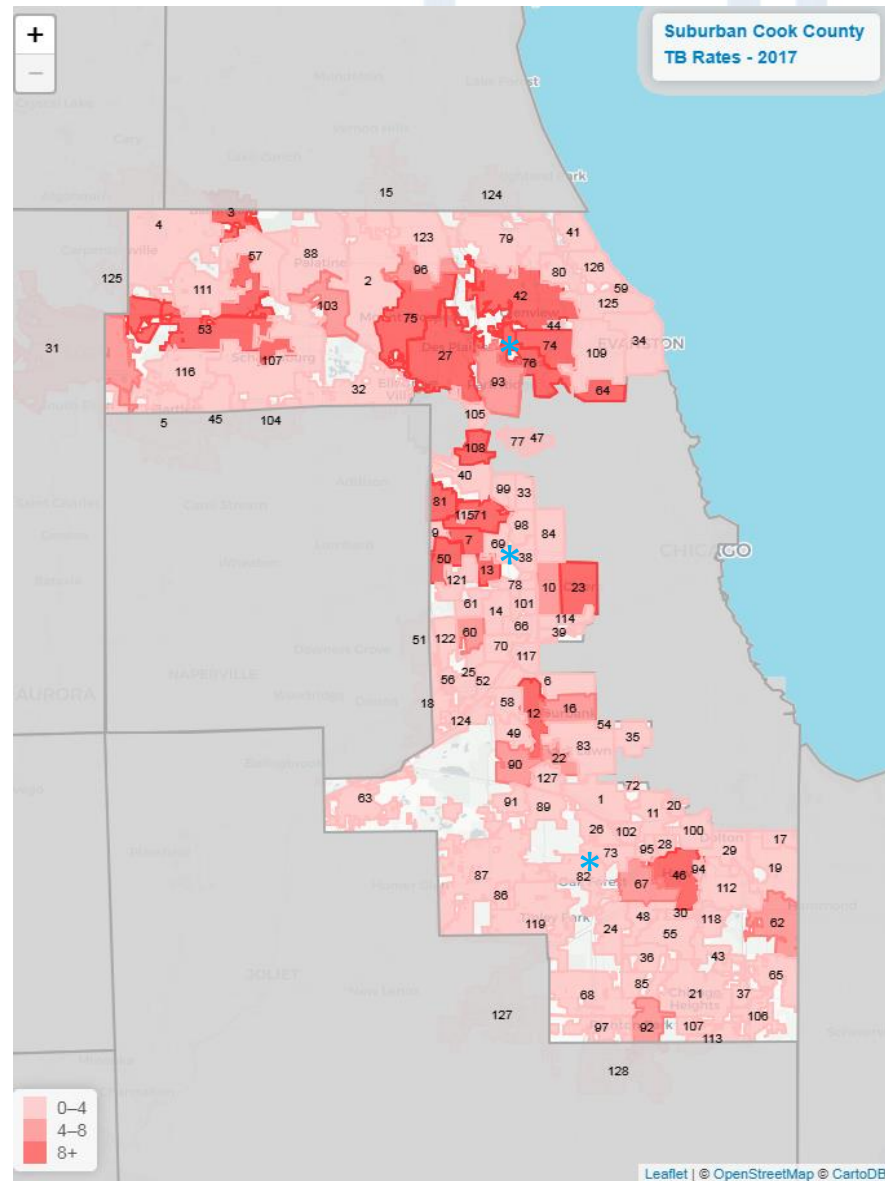


COOK COUNTY HEALTH
& HOSPITALS SYSTEM
CCHHS

Presentation Title in Footer | Date

2017 TB Rates by Municipality, Suburban Cook County

- *CCDPH Clinics: Des Plaines
Forest Park
Oak Forest



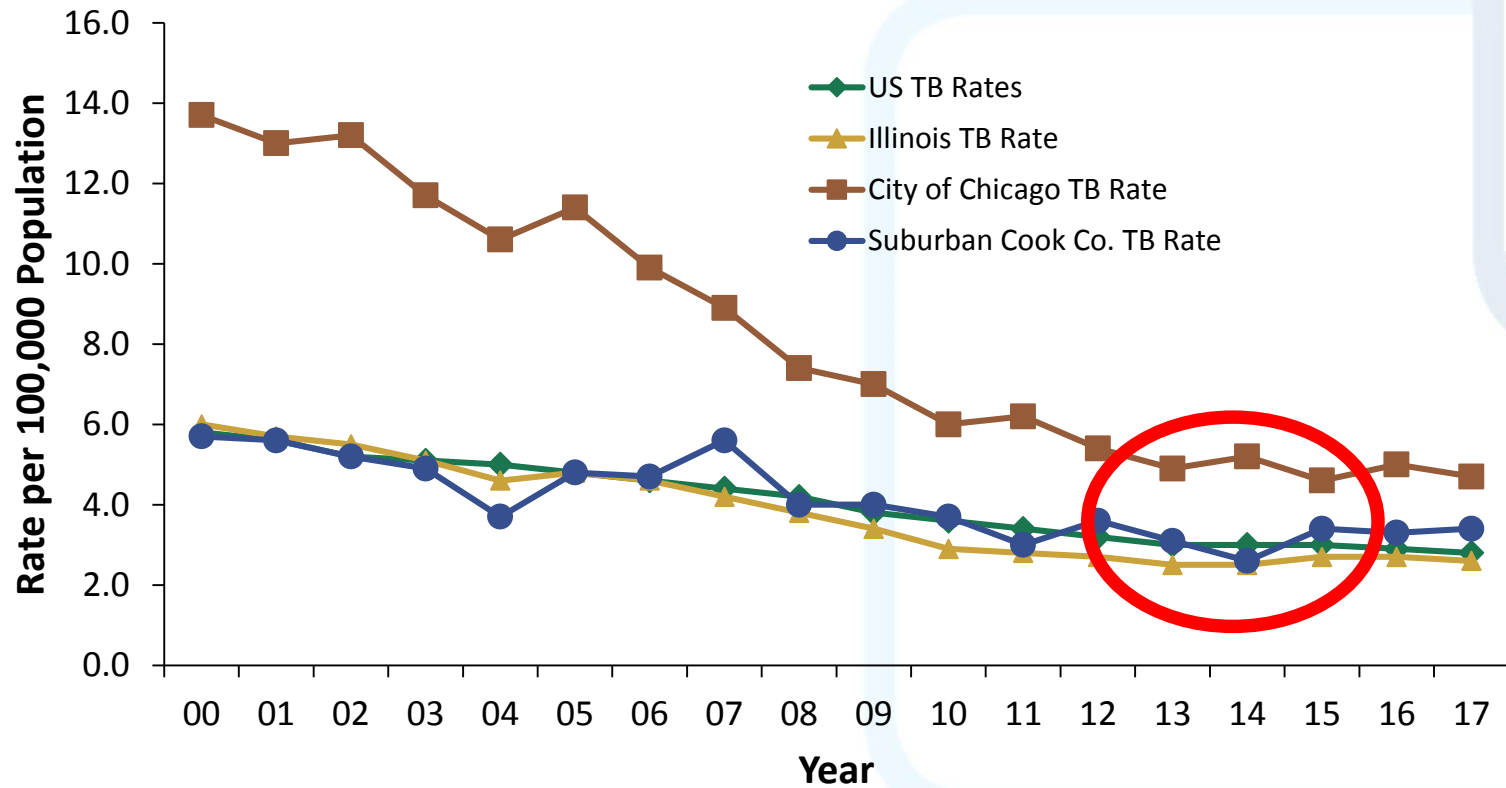
Cook County DEPT. of
Public Health

Promoting health. Preventing disease. Protecting you.



COOK COUNTY HEALTH
& HOSPITALS SYSTEM
CCHHS

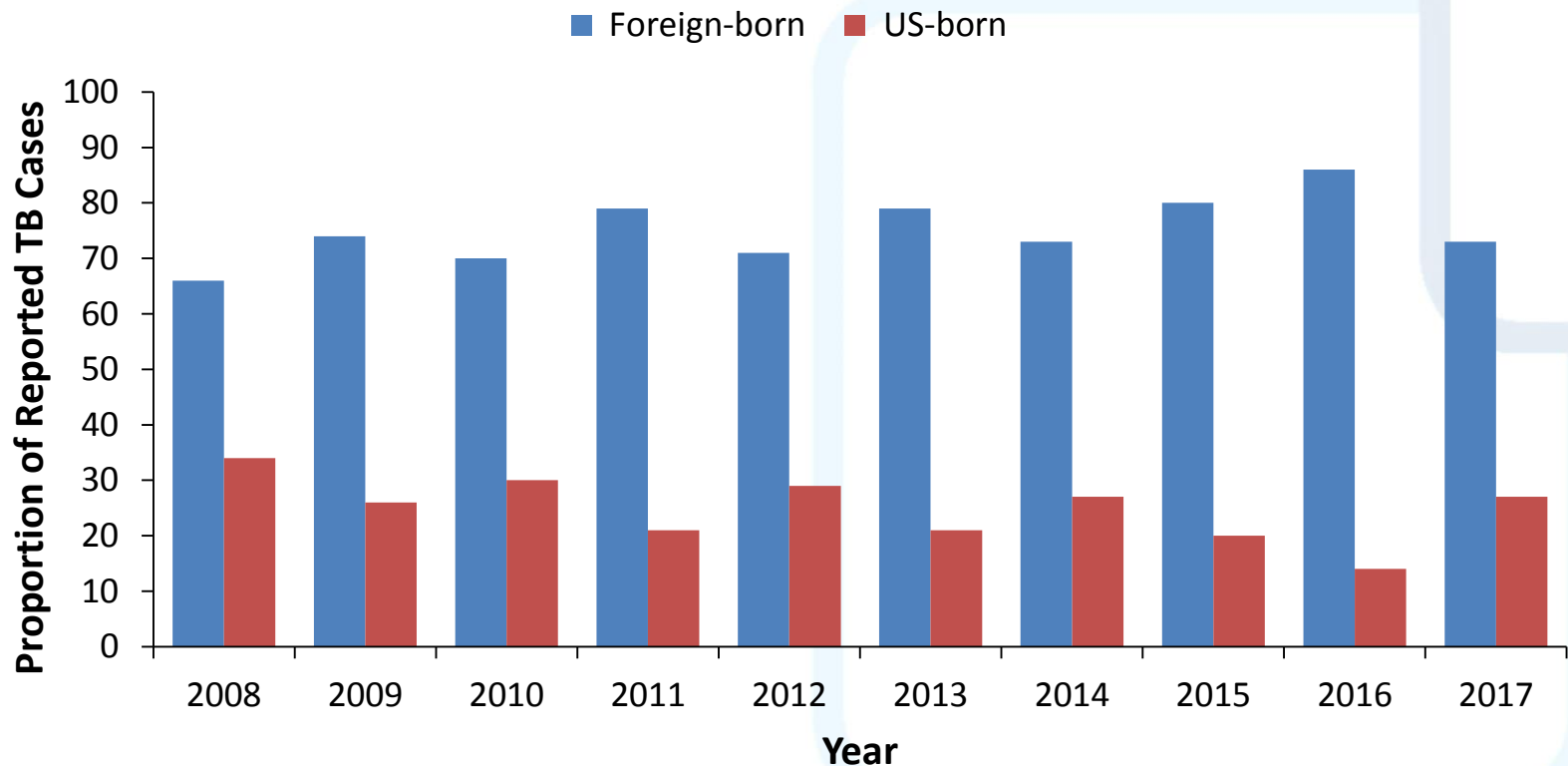
TB Trends



TB rates are down overall, but the rate has flattened out in recent years.



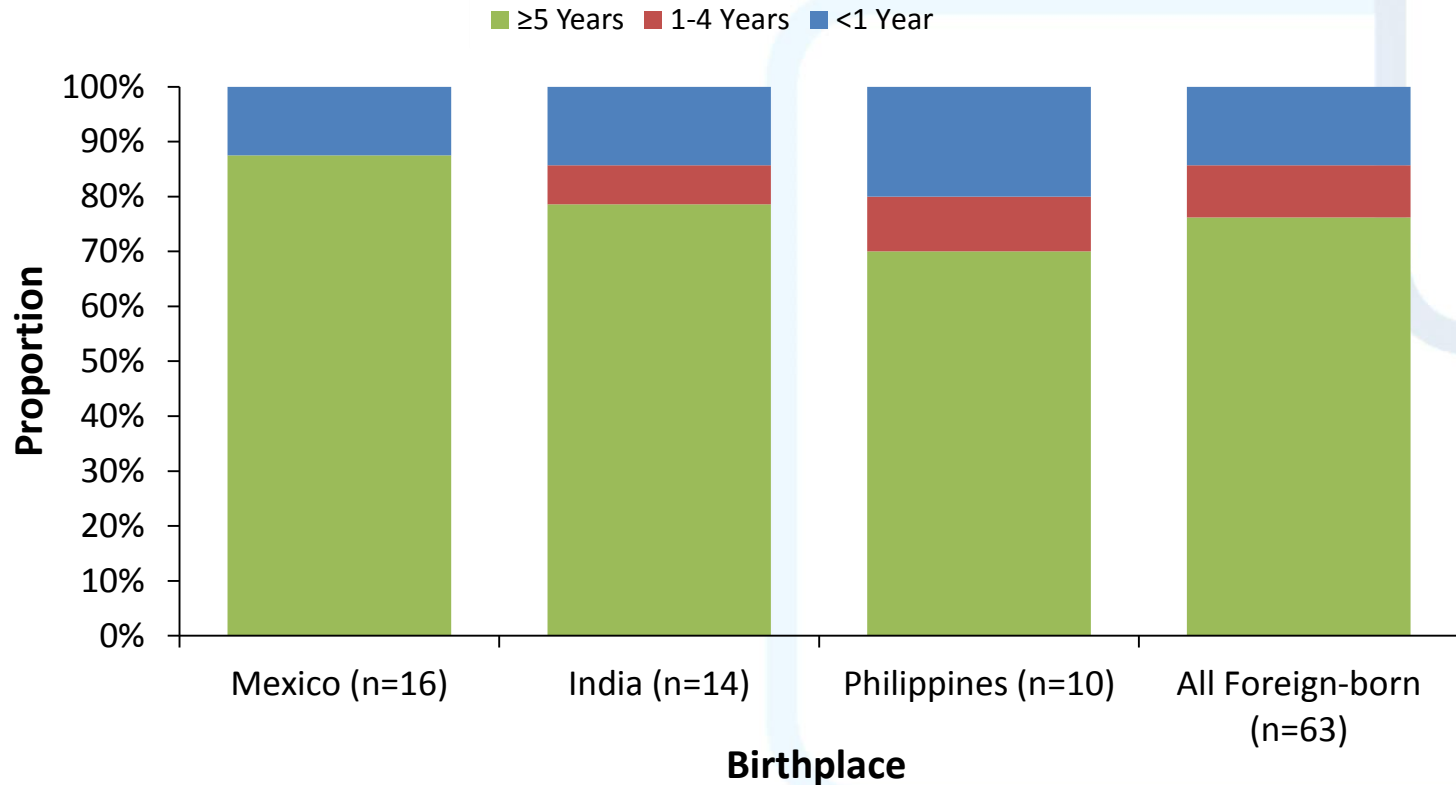
2017 TB Cases by Birthplace: Foreign-born vs. US-born



73% of TB cases in 2017 were born overseas.



Length of Time in U.S. and TB Diagnoses in Foreign-born Persons, Suburban Cook County, 2017



>70% have been living in the USA for 5 or more years



TB Rates by Percent of Census Tract Residents Living Below Federal Poverty Level, Suburban Cook County, 2017

Percentage of Census Tract (CT)
Residents Below Federal Poverty

Level (Number of CTs)*	Number of TB Cases†	TB Rate per 100,000 Population¶
0-4.9% (8 CTs)	9	19.3
5-9.9% (22 CTs)	31	26.8
10-19.9% (25 CTs)	27	20.8
20-100% (12 CTs)	14	18.9

* Census tracts in which at least one case of TB lived.

† Census tract data missing for 5 cases.

¶ Denominators calculated from affected census tracts only.

No clear correlation between TB rates and poverty rates.



Goals of Tuberculosis Program

- **Mission:** To promote health and quality of life by preventing, controlling, and eventually eliminating tuberculosis (TB)

STOP THE SPREAD OF TUBERCULOSIS

- Evaluate immigrants and refugees
- Find & evaluate TB contacts at home, work, school and other
- Isolate people with infectious TB until no longer contagious
- Provide treatment to all active and latent TB cases
- Closely monitor all patients to completion of treatment



Role of the Health Department

Mandated by State and Federal Government

- Identify active cases and provide or ensure treatment
- Provide case management
- Directly Observed Therapy (DOT)
- Identify, evaluate and treat contacts of cases/high risk persons
- Epidemiologic surveillance



Cook County DEPT. of
Public Health

Promoting health. Preventing disease. Protecting you.



COOK COUNTY HEALTH
& HOSPITALS SYSTEM
CCHHS

CCDPH Tuberculosis Clinics

Eligibility:

- Resident of suburban Cook County
- No income or insurance requirements

Criteria:

- Referral from Illinois' National Electronic Disease Surveillance System
- Referral from medical provider for suspicion of tuberculosis
- Referral from U.S. Immigration Services
- Report of positive tuberculosis test elsewhere
- Contact of TB case
- Symptoms of tuberculosis



CCDPH Latent TB Infection 2017

- **Average length of treatment = 6 months (3 – 9 months).**
- **Latent Tuberculosis Infection (LTBI) cases are monitored and managed by TB RN case managers with monthly visits**
- **All LTBI cases under 5 years of age require daily home visits to supervise medication administration**
- **Short course treatment for 12 weeks requires directly observed therapy (DOT).**



CCDPH Active Tuberculosis 2017

- **86 active cases diagnosed in 2017**
- **Average length of treatment = 9 months (range 6 – 24 months)**
- **Toxicity of 1st line drugs: over 50% require treatment modifications due to significant side effects**
- **Close monitoring of side effects by nursing staff**
- **Minimum of monthly MD visits**
- **Most require daily home visits to insure compliance, safety and to reduce risk of developing drug resistance**



CCDPH TB Treatment and Control

- CCDPH operates 3 TB clinics in suburban Cook County
- Three clinics needed due to size of jurisdiction (700 sq miles), TB cluster locations and limited availability of public transportation options.
- Provide medical care, nursing, case management, x-ray, phlebotomy, medication
- Des Plaines = 63% of visits
- Forest Park = 29% of visits
- Oak Forest = 8% of visits (2015 – 2017 data)
- 1 physician rotates to all 3 sites weekly:
 - 4 sessions at Des Plaines,
 - 2 or 3 at Forest Park
 - 1 at Oak Forest



Case Management

- **Monitor and ensure the quality of all TB-related activities in their jurisdiction.**
- **CDC requires that all TB patients assigned a case manager wherever they receive care.**
- **Each TB patient is assigned an RN Case Manager who ensures that all treatment and public health activities affiliated with the TB patient are completed for each patient.**



Clinical Care

- **One CCHHS physician provides direct clinical care to all TB patients: active and LBTI and Immigration referrals**
- **Serves as Medical Director for all 3 clinical sites.**
- **Evaluates and follows up on all screening chest x-rays for active, immigration and LBTI cases.**
- **Monthly case conferences where all active cases are reviewed with Nurse case managers and DOT nurses.**
- **Does procedures on cases as indicated.**
- **One part time physician sees patients 1 session/wk at Forest Park and fills in as necessary.**
- **Division of Pulmonary Med at Stroger Hospital/CCHHS provides backup and credentials our Medical Director.**



Directly Observed Therapy

- **Most effective strategy to ensure adherence**
- **DOT should be used for ALL patients with TB disease, including children and adolescents.**
- **There is no way to accurately predict whether a patient will adhere to treatment without this assistance**
- **An RN or LPN meets with a TB patient every day or several times a week**
- **The patient takes the TB medicines while the RN or LPN watches**
- **The patient is asked about any problems or side effects with the medication**



CCDPH Directly Observed Therapy

- **Average of 6,000 miles driven each month, to perform over 600 DOT visits in homes, schools and places of work**
- **North region – 3 LPNs**
- **Central region – 1 LPN**
- **South region – 2 LPNs**

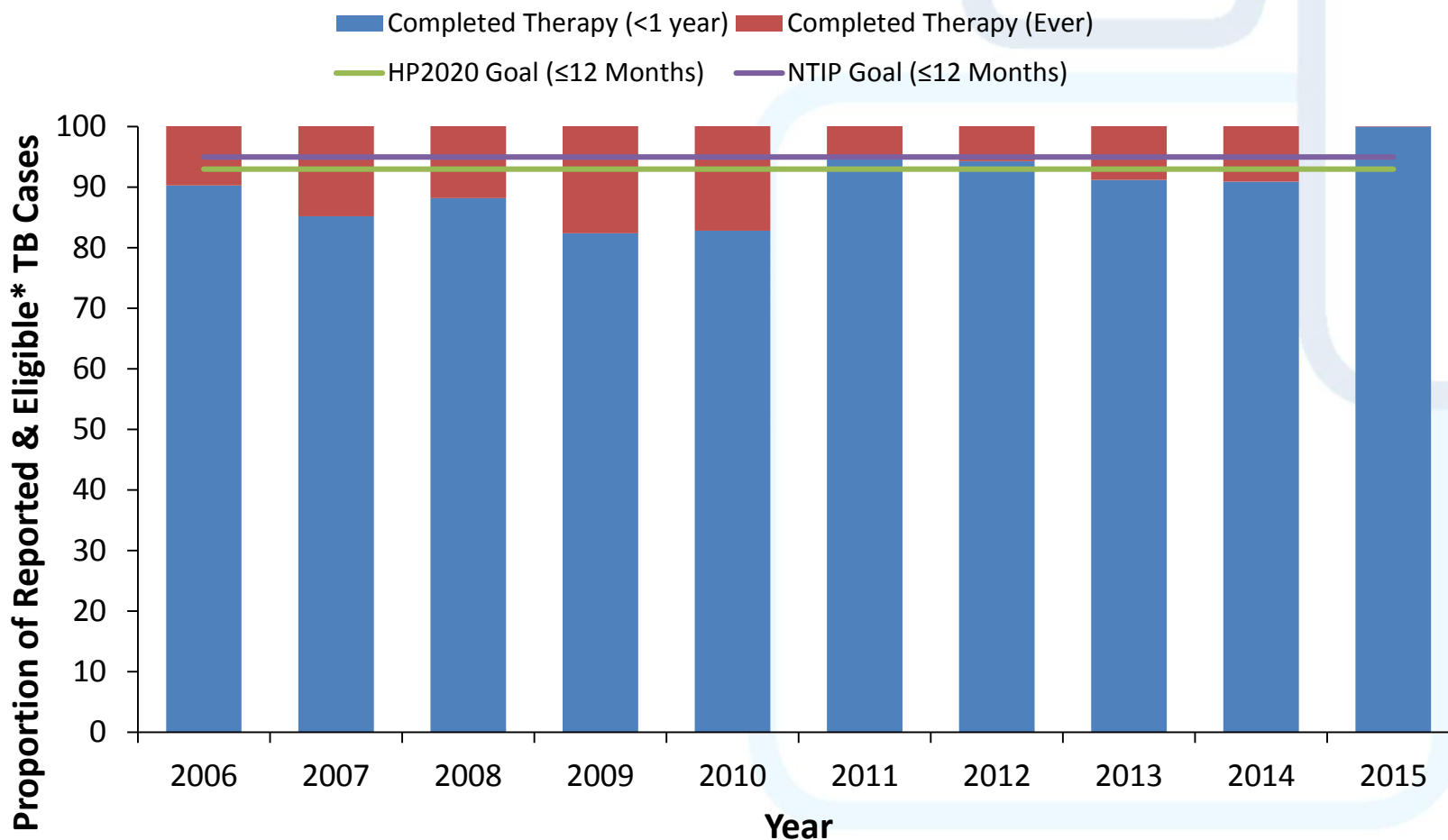


Video Observed Therapy (VOT)

- Plan to implement Video DOT on select cases in 2018, to reduce travel and to enable DOT for more cases
- Cooperative agreement through Illinois Department of Public Health (IDPH) and local health departments
- IDPH contracted with AICure to provide technology and training to local health departments
- Cost to CCDPH = \$25/VOT patient/month
- Current travel cost for in person DOT = \$36 - \$158/month depending on location and number of visits



Completion of Therapy



Questions?

