



COOK COUNTY HEALTH & HOSPITALS SYSTEM

Cook County Department of Public Health Quarterly Report to the Cook County Board of Commissioners 2nd Quarter 2017



**COOK COUNTY HEALTH
& HOSPITALS SYSTEM**
CC+HS

CCDPH Communicable Disease Control and Prevention Unit

The central aim of the Communicable Disease Control Unit is to monitor, prevent and control the spread of infectious diseases within suburban Cook County.



What does the CD Unit Do?

- Investigates more than 15,000 cases of infectious diseases every year in **suburban Cook County**
- Prevents and controls outbreaks
- Responds to emerging and re-emerging threats
- Monitors syndromic surveillance data
- Is available 24/7/365



The CD Control and Prevention Unit is comprised of Six (6) programs

General Communicable Diseases

Vaccine-Preventable Diseases

Sexually Transmitted Infections and Human Immunodeficiency Virus Surveillance and Prevention

Tuberculosis Surveillance and Prevention

Infection Prevention

Enhanced Surveillance and Informatics



General CD Program

- Covers ~60 diseases and conditions
 - Enteric Diseases (like salmonella, norovirus)
 - Respiratory Diseases (like legionellosis)
 - Rash/skin Diseases (methicillin-resistant *S. aureus* [MRSA], invasive *S. pneumophilia*)
 - Vector-borne diseases (like Zika, West Nile Virus)
 - Bioterrorism agents (like tularemia, anthrax)



Enhanced Surveillance and Informatics Program

Oversees Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)

- Chief complaint data, basic demographic data
- 45 hospitals contributing ~6,000 records/day
- 2,000,000+ records/year
- West Nile Virus Surveillance
- Influenza-like Illness Surveillance



Vaccine-Preventable Diseases Program

- Covers 15 vaccine-preventable diseases and related conditions, including:
 - Influenza, Measles, Mumps, Pertussis, Chickenpox
- Providing guidance to schools and congregate settings
- Controlling and preventing outbreaks (like mumps)



Infection Prevention Program

- Investigation of clusters of persons with infectious diseases in out-of-hospital settings
 - Long-term care facilities, nursing homes
 - Schools, daycares
- Project with Long-term care facilities, Chicago Department of Public Health, Rush, other partners eg. enterobacteriaceae (CRE)

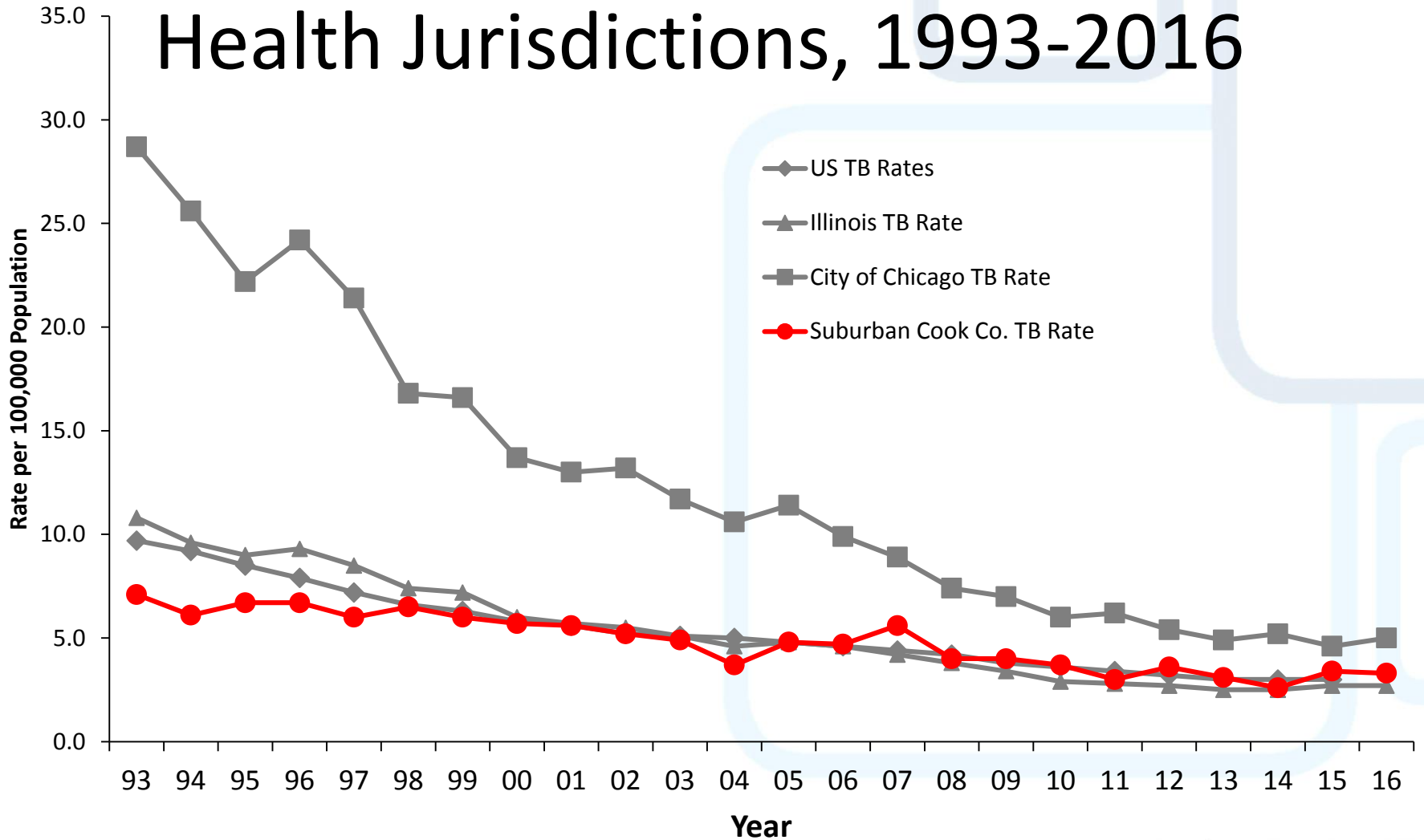


Tuberculosis Surveillance

- Case and contact investigations, data entry, laboratory and other clinical data
- Close collaboration State and National Public Health Agencies
- Surveillance



Tuberculosis Rates, Selected Public Health Jurisdictions, 1993-2016



Sexually Transmitted Diseases/Human Immunodeficiency Virus Program

- Process more than 11,000 cases per year
- Surveillance Operations
 - Case investigations of chlamydia, gonorrhea, and syphilis (including congenital syphilis)
 - Training providers on reporting
- Field Operations
 - Risk- and harm-reduction counseling, partner services
 - Human Immunodeficiency Virus cases
 - Adolescents with 2 or more sexually transmitted infections in a rolling 12 month window



Focus Areas

- Rabies Reporting Quality Improvement
- Recent Mumps Outbreak
- Sexually Transmitted Infections Initiatives and Quality Improvement



Rabies Exposures and Potential Human Rabies Exposures

- 2,000 Emergency Department (ED) visits annually among suburban Cook County residents for animal bites (from ESSENCE)
- Rabies is a central concern, fatal after symptoms begin
- **There are no human rabies cases; Potential exposures, however, are common**
- Work closely with Cook County Animal Control, especially in relation to bats



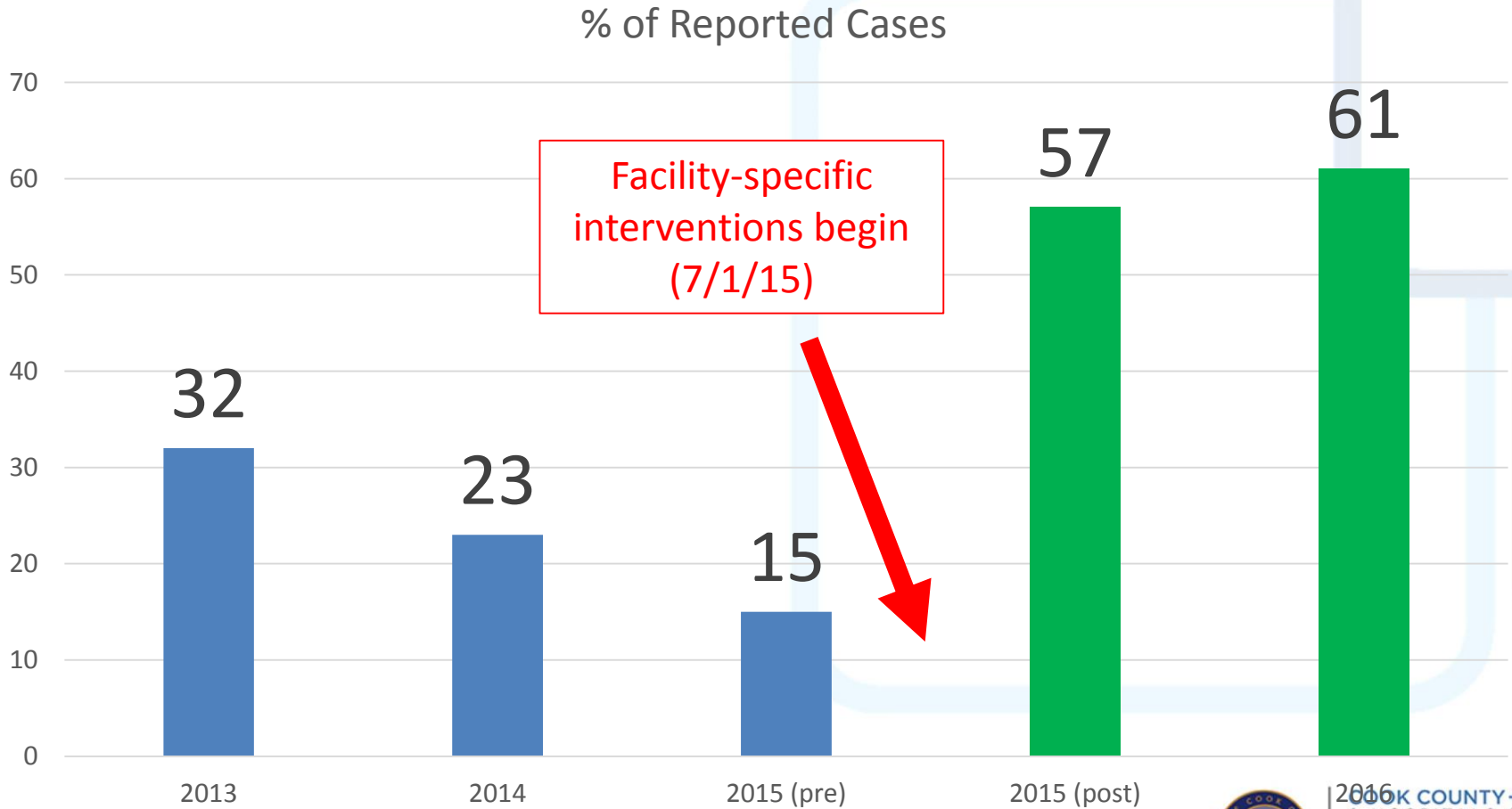
Rabies Exposures and Potential Human Rabies

Exposures Quality Improvement: Phase 1

- Compare syndromic surveillance data and traditional reports to estimate under-reporting;
- Intervene with Infection Preventionists at facilities with lower rates of reporting



Reporting in Pre- and Post- Intervention Periods



Rabies Exposures and Potential Human Rabies

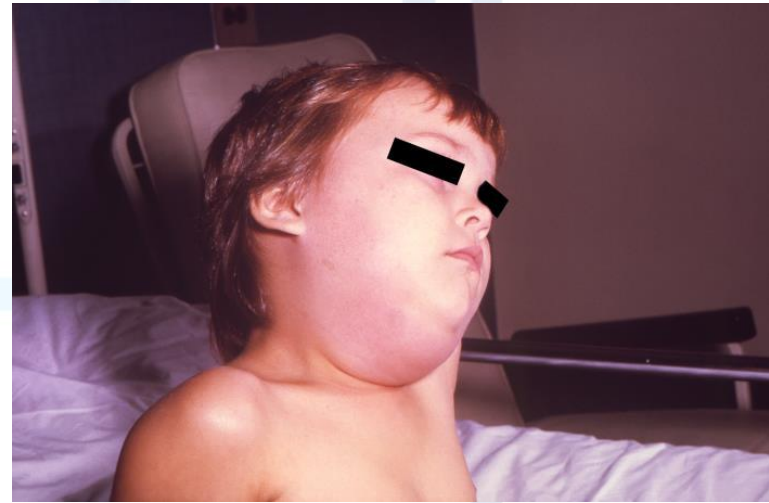
Exposures Quality Improvement: Phase 2

- Ensure hospitals in suburban Cook County give rabies post-exposure prophylaxis (PEP) only when necessary
- Rabies Immune Globulin and injections are given at appropriate sites on appropriate days



Mumps Outbreak

- Northwestern Cook County
- Late Feb – present
- Multi-jurisdictional
- Intense media interest
- 41 cases total, 17 in suburban Cook County (12 students, 5 adults)
- Joint guidance with Lake Co. Health Department
- Clinic operations – adult measles-mumps-rubella vax at school



Source: Centers for Disease Control and Prevention



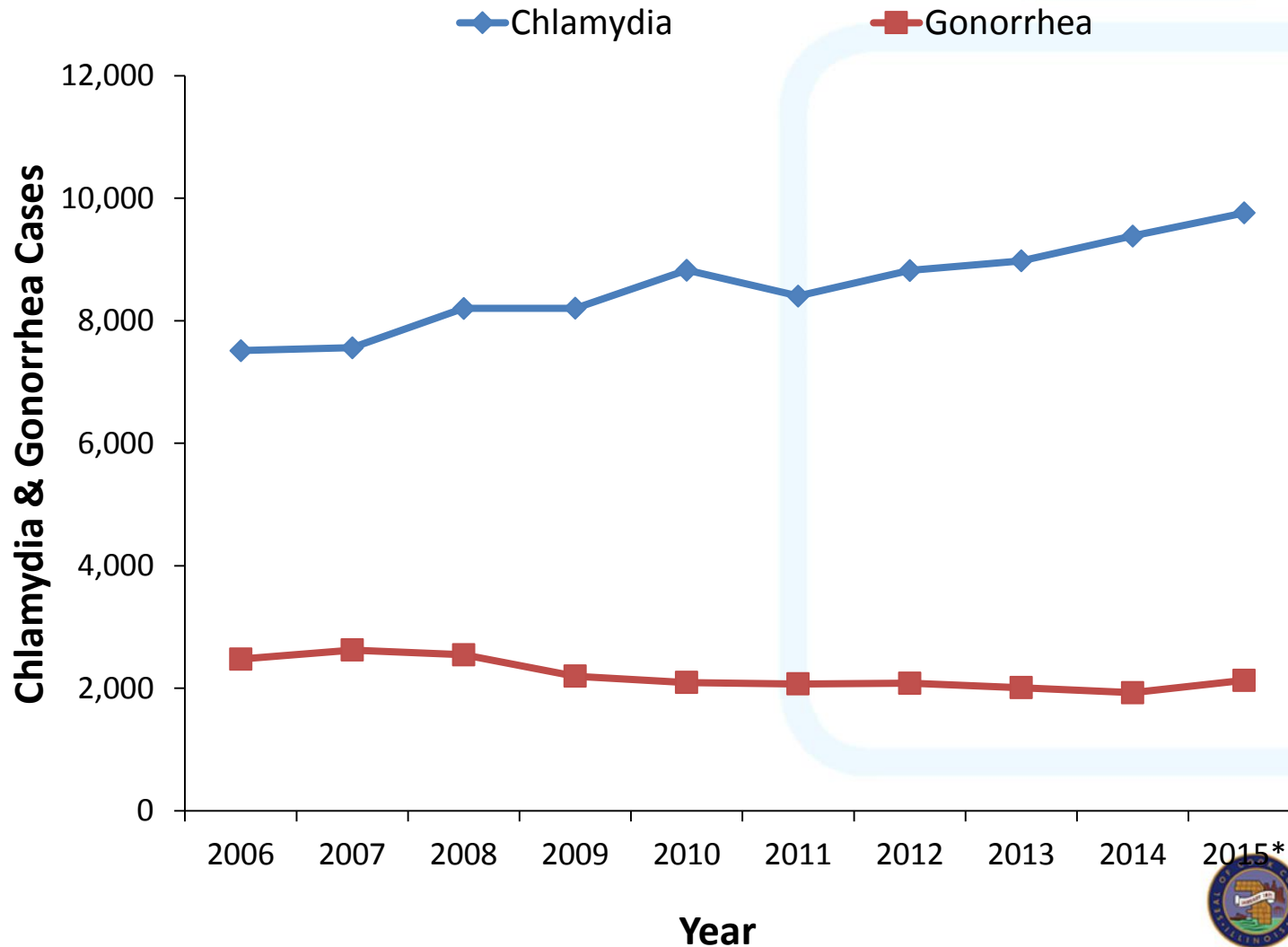
Sexually Transmitted Infections

- 9,000 chlamydia cases 2,000 gonorrhea cases
- 500 syphilis cases
- Cook County (including the City of Chicago) ranked second in number of chlamydia* and gonorrhea cases* in 2015
- We need to get serious about treatment and prevention

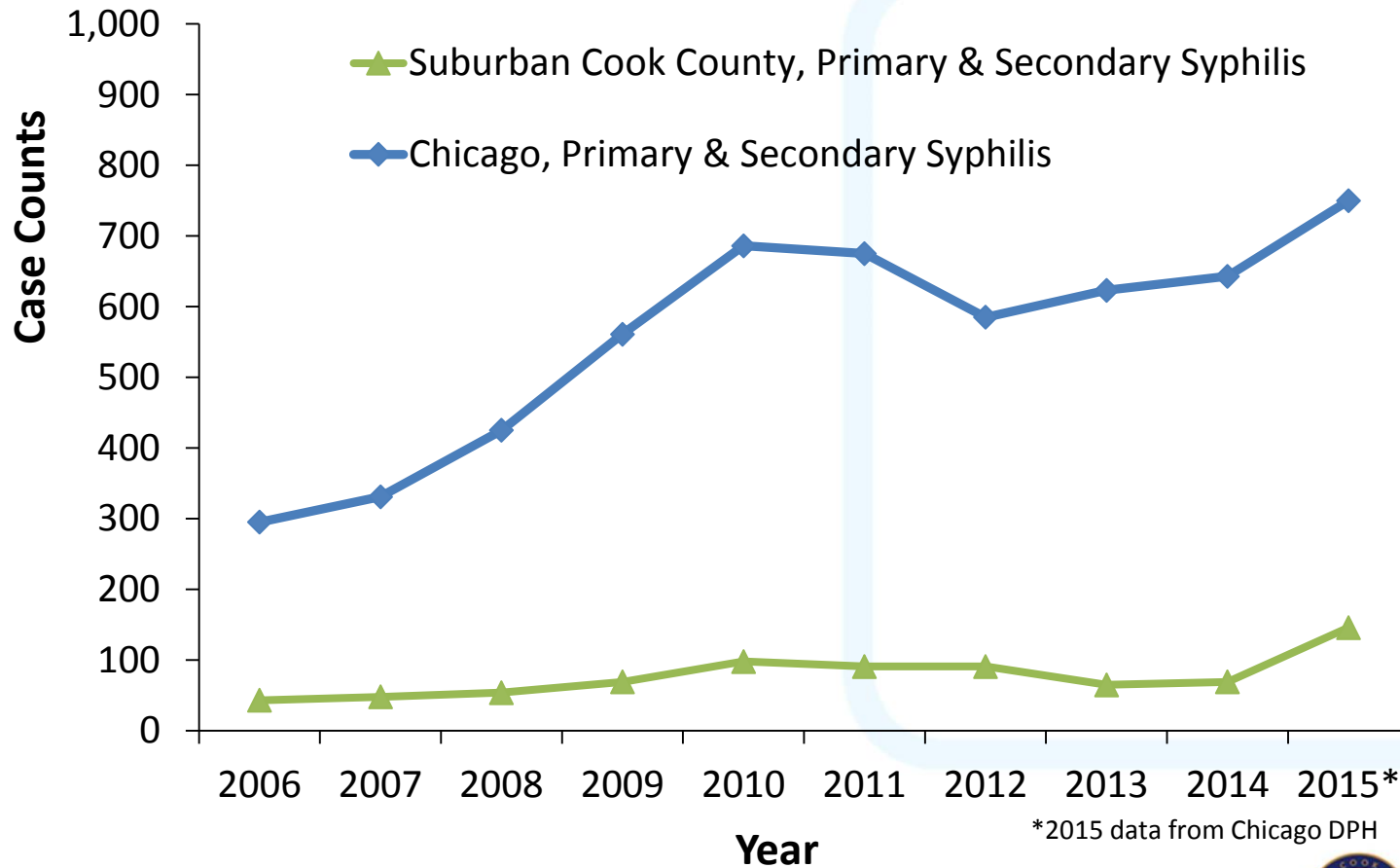
*Source: CDC. <https://www.cdc.gov/std/stats15/tables/9.htm>; <https://www.cdc.gov/std/stats15/tables/20.htm>



Counts of Sexually Transmitted Infections, Suburban Cook County, 2006-2015



Counts of Primary and Secondary Syphilis Cases, Suburban Cook County & Chicago, 2006-2015



*2015 data from Chicago DPH



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CCHHS

Presentation Title in Footer | Date

Sexually Transmitted Infections Projects at CCDPH

- CCHHS Strategic Plan Goals
 - Gonorrhea Education/Intervention Efforts
 - Condoms in CCHHS Clinics
- Overcoming barriers to use of Expedited Partner Therapy
- Gonorrhea and Syphilis Education Packets; revisions to website
- Electronic case reporting from CCHHS facilities



Sexually Transmitted Infections Projects at CCDPH

- Collaborative meetings with Chicago Department of Public Health to decrease County wide disease burden
- Syphilis Quality Improvement; Council of State and Territorial Epidemiologists Annual Meeting
- Ongoing multiple infections project, Kaizen Process Event



Outcome Metric: Reduce Repeat Infections among 13-19 Year olds with Chlamydia and/or Gonorrhea

13-19 year olds
with gonorrhea
and/or chlamydia

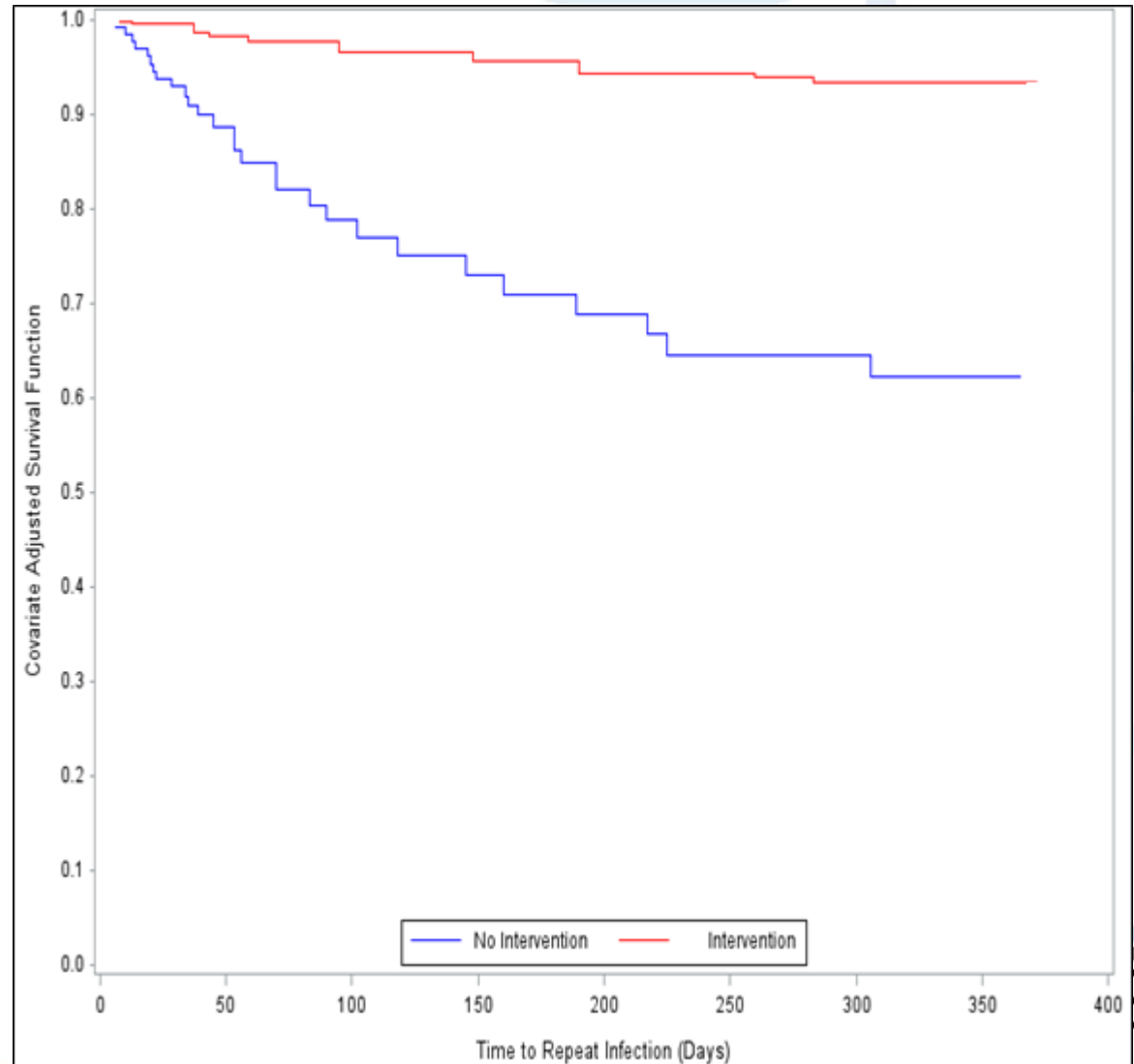
RESULTS

- Hazard Ratio:
0.144 (0.051, 0.401)

85% REDUCTION

in repeat infections comparing
those who received intervention
to those who did not (over 12
months of follow-up)

- Cases followed for 12-months post eligibility
- Individuals censored at age 20.
- Demographic factors not significantly associated with the outcome



Syphilis Quality Improvement

Efficiency Metrics

1. Ensure 98% of reported syphilis cases assigned to field staff within 3 work days of receipt of the case.
2. All assigned primary and secondary syphilis cases are acknowledged within 3 work days.
3. All assigned primary and secondary syphilis cases are investigated and closed within 30 days.



Syphilis Quality Improvement

Outcome Metrics

- Increase the primary and secondary syphilis contact index to 0.70
- All primary and secondary syphilis cases have a recent HIV test
- Reduce the proportion of partners of primary and secondary syphilis cases closed as “Unable to Locate” by 33%
- We are currently working on establishing firmer baselines with most recent data for these metrics.

