HEALTHY CHICAGO

CHICAGO DEPARTMENT OF PUBLIC HEALTH

STIs in Chicago: Current Status and Next Steps

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Overview

- Status of STIs in Chicago
  - Rates, Risk Populations, Community Areas
- Data Sources
  - Reporting Guidance
- Collaboration
  - What can we do together?

Status of STIs in Chicago

Chlamydia, Gonorrhea, and Primary and Secondary (P&S) Syphilis

Counties and Independent Cities Ranked by Number of Reported Cases: United States, 2014

Rank	Chlamydia	Gonorrhea	P&S Syphilis
1	**Los Angeles County, CA** 54,881 cases 547.9/100,000 population	**Los Angeles County, CA** 15,316 cases 152.9/100,000 population	**Los Angeles County, CA** 1,204 cases 12.0/100,000 population
2	**Cook County, IL** **37,371 cases** **713.1/100,000 population**	**Cook County, IL** **10,387 cases** **198.2/100,000 population**	**Cook County, IL** **724 cases** **13.8/100,000 population**
3	**Harris County, TX** 24,785 cases 571.5/100,000 population	**Harris County, TX** 7,126 cases 164.3/100,000 population	**New York County, NY** 497 cases 30.6/100,000 population

Chicago	**27,320 cases** 1,012/100,000 population	**8,306 cases** 307.8/100,000 population	**643 cases** 23.8/100,000 population
State of IL Rate	**66,536 cases** 516.5/100,000 population	**15,971 cases** 124.0/100,000 population	**863 cases** 6.7/100,000 population
U.S. Rate	**1,441,789 cases** **456.1/100,000 population**	**350,062 cases** **110.7/100,000 population**	**19,999 cases** **6.3/100,000 population**

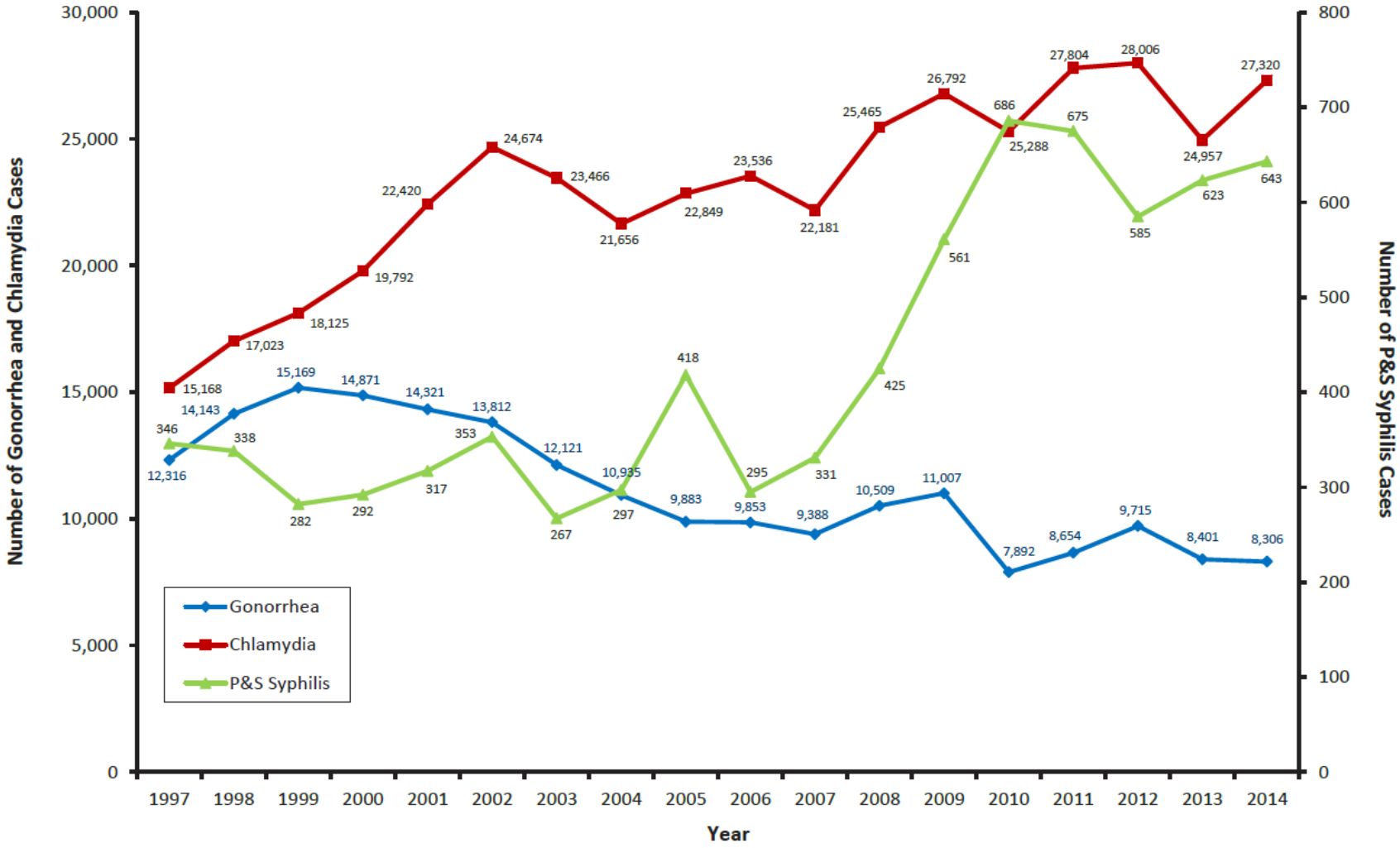
* Centers for Disease Control and Prevention, Sexually Transmitted Disease Surveillance Report 2014

Number of Reported STIs in Illinois, 2014

	Illinois	Chicago	% of Illinois Cases
Chlamydia	66,593	27,320	41%
Gonorrhea	15,971	8,306	52%
P&S Syphilis	863	643	75%
Congenital Syphilis	27	20	74%

Illinois Department of Public Health, 2015

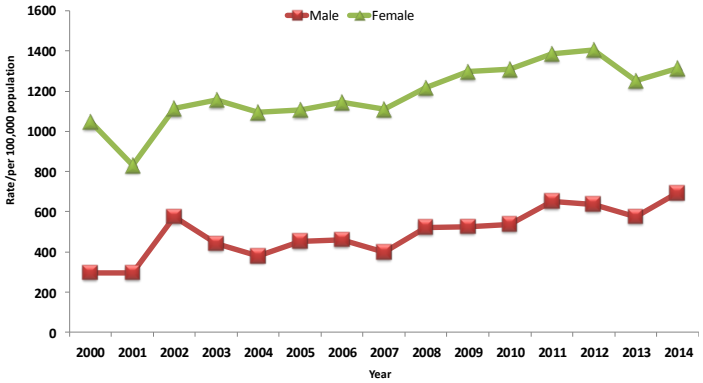
Figure 6. Number of Reported Sexually Transmitted Infections, Chicago, 1997-2014



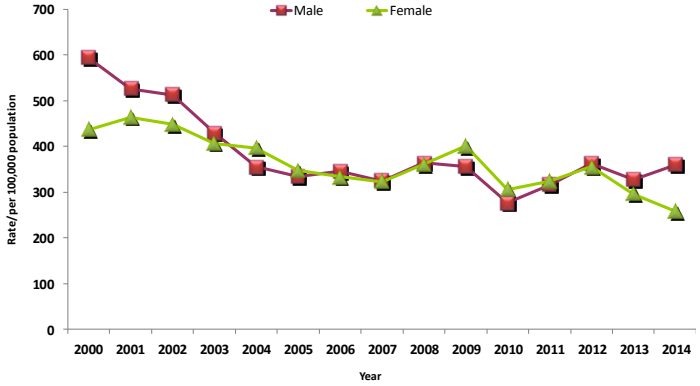
CDPH, HIV/STI Surveillance Report 2015

STI by Sex, 2010-2014

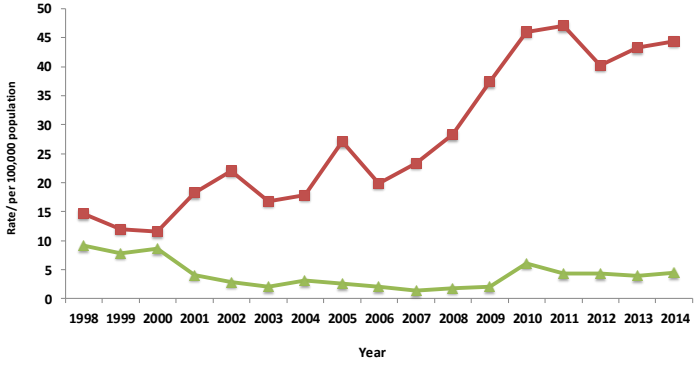
- **Chlamydia** = The number of reported cases among females were about 2x the number of cases among males



- **Gonorrhea** = The number of cases among females were the lowest since 2010 while the number of cases among men were the highest since 2010

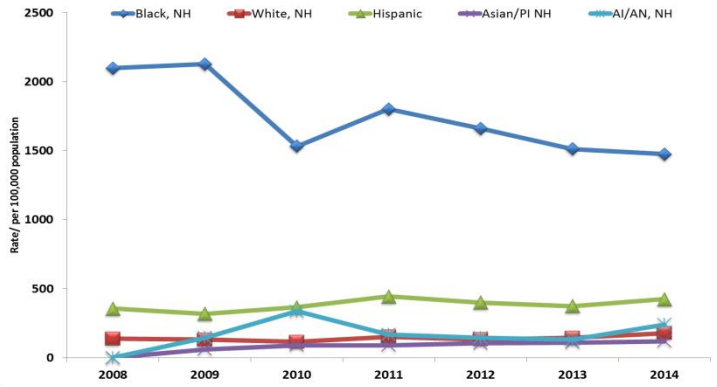


- **P&S Syphilis** = The number of reported cases among males were 9x the number of cases in females

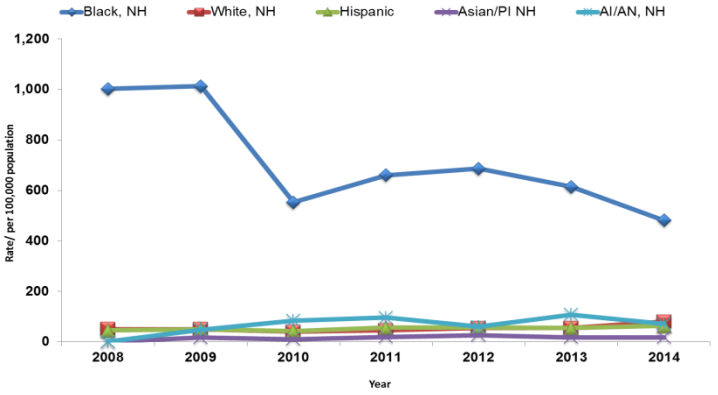


STI by Race/Ethnicity

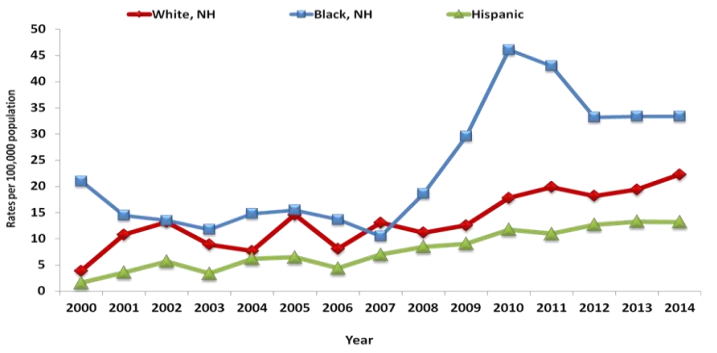
- **Chlamydia (2008-2014)** = Non-Hispanic (NH) Blacks comprised 47.1% of cases



- **Gonorrhea (2008-2014)** = NH Blacks comprised 50.6% of cases



- **P&S Syphilis (2000-2014)** = NH Blacks comprised 43.4% of cases

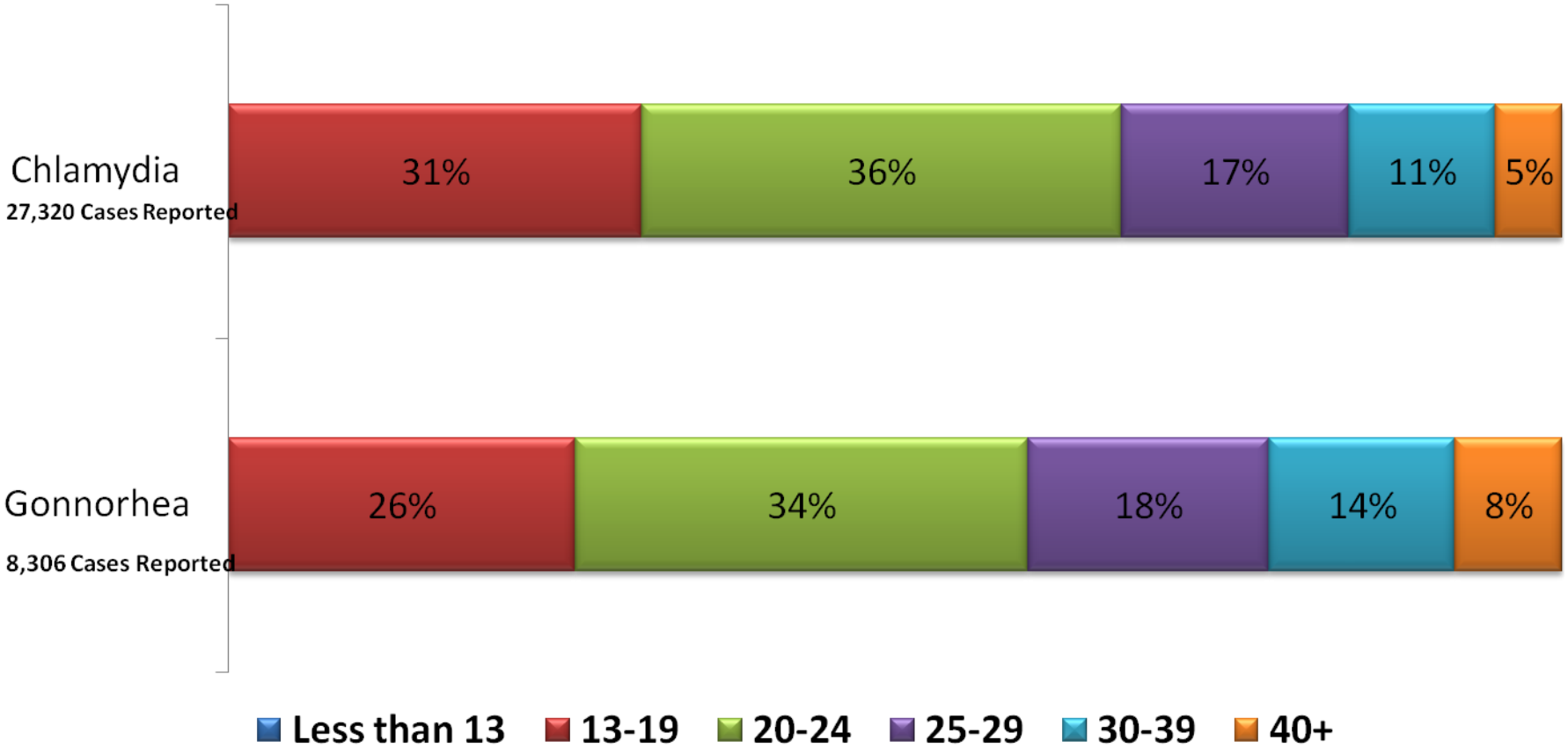


Since 2010, number of reported cases for all STIs have increased for NH Whites and Hispanics

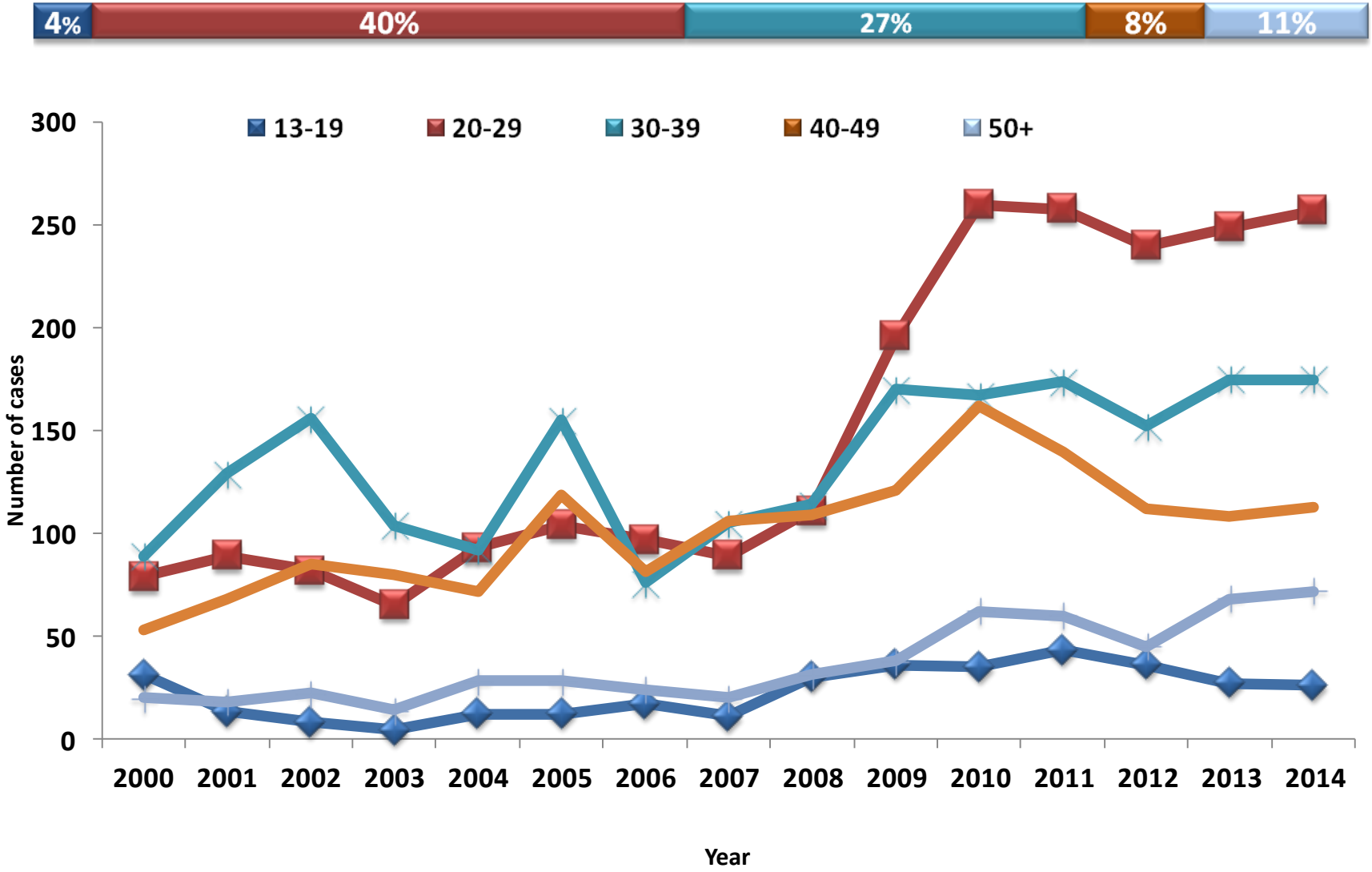
STIs by Age, 2014

- Majority of STI diagnoses in Chicago are concentrated among adolescents and young adults
- Individuals 13-24 yrs old accounted for 59.7% of Gonorrhea cases and 66.7% of Chlamydia cases
- 44.0% of P&S Syphilis cases were reported in individuals < 30 years

Most Reported Chlamydia and Gonorrhea Infections are among 13 – 24-Year-Olds, 2014



P&S Syphilis, Cases by Age groups, Chicago, 2000-2014



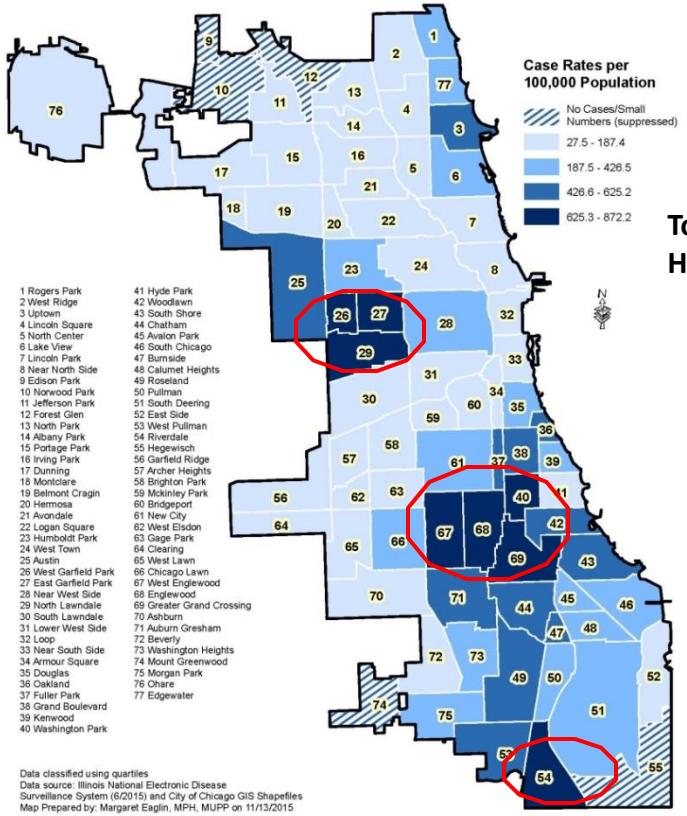
STIs by Community Area, 2014

- Chicago community areas with the highest Chlamydia and Gonorrhea case rates were located in the west and south

- Chicago community areas with the highest P&S Syphilis case rates were located mostly in the north, with other smaller high rate areas in the west and south

Gonorrhea/Chlamydia case rates distribution by community areas, Chicago, 2014

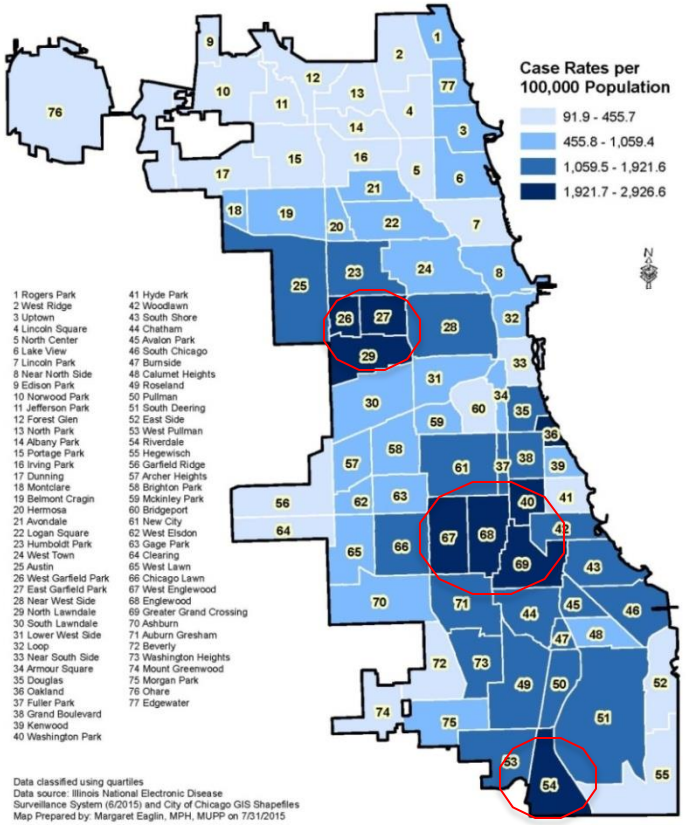
Figure 7. Gonorrhea Case Rates (per 100,000) by Community Area, Chicago, 2014



Top Community Areas with Highest GG/CT Rates-Chicago, 2014

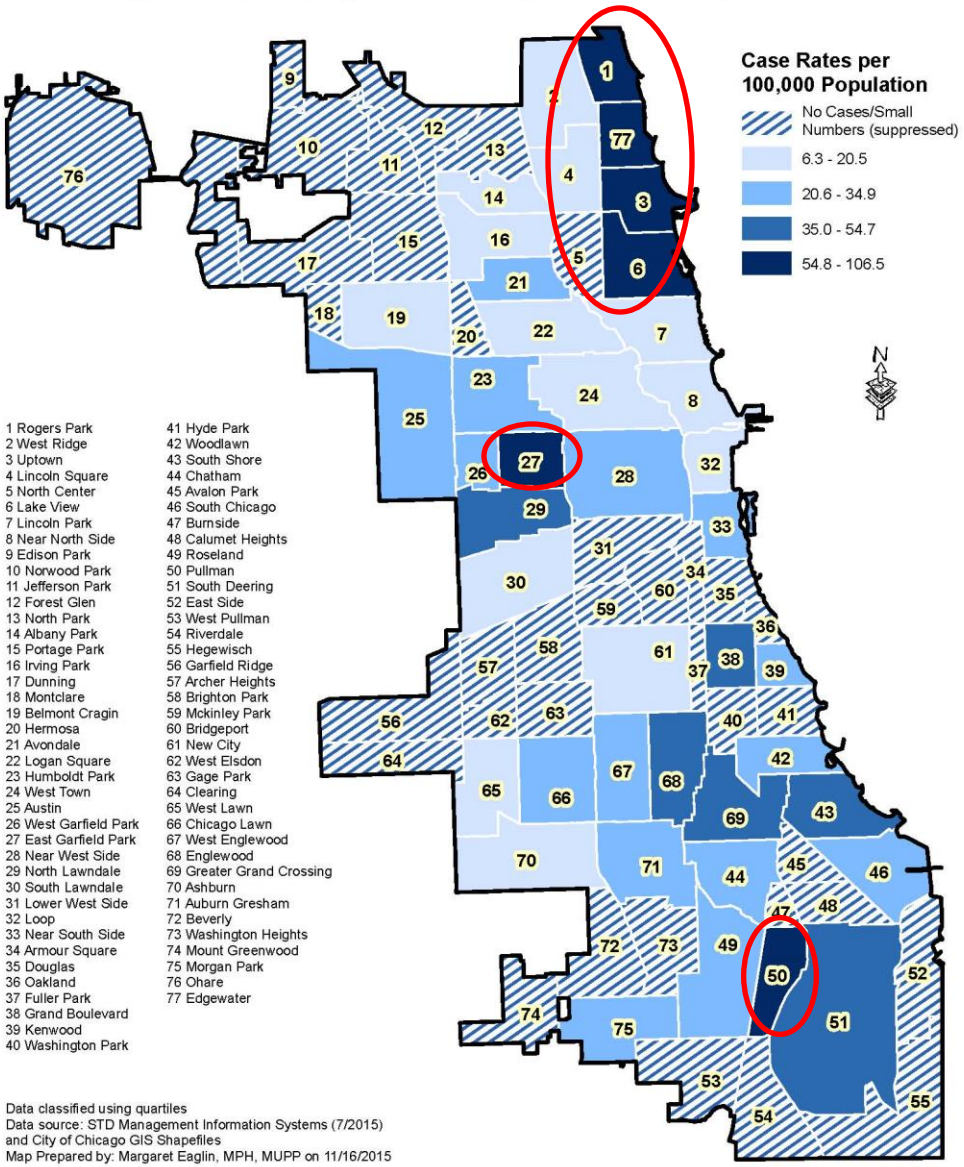
26 WEST GARFIELD PARK
27 EAST GARFIELD PARL
29 NORTH LAWNDALE
40 NORTH LAWDALE
54 RIVERDALE
67 WEST ENGLEWOOD
68 ENGLEWOOD
69 GREATER GRAND CROSSING

Figure 8. Chlamydia Case Rates (per 100,000) by Community Area, Chicago, 2014



CDPH, HIV/STI Surveillance Report 2015

Figure 9. Primary and Secondary Syphilis Case Rates (per 100,000) by Community Area, Chicago, 2014

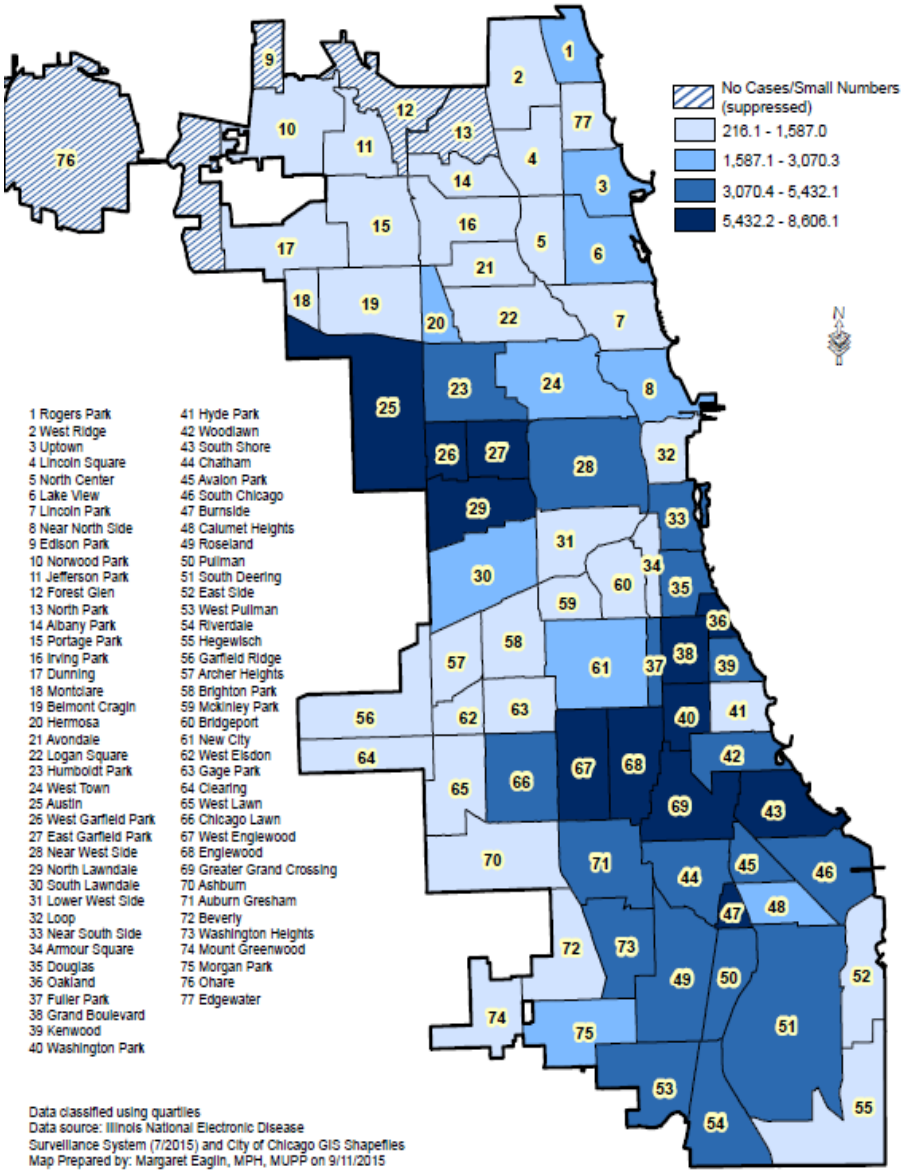


Top Community Areas with Highest P&S Syphilis Rates- Chicago, 2014

1 ROGERS PARK
3 UPTOWN
6 LAKE VIEW
77 ENGEWATER
27 EAST GARFIELD PARK
50 PULLMAN

CDPH, HIV/STI Surveillance Report 2015

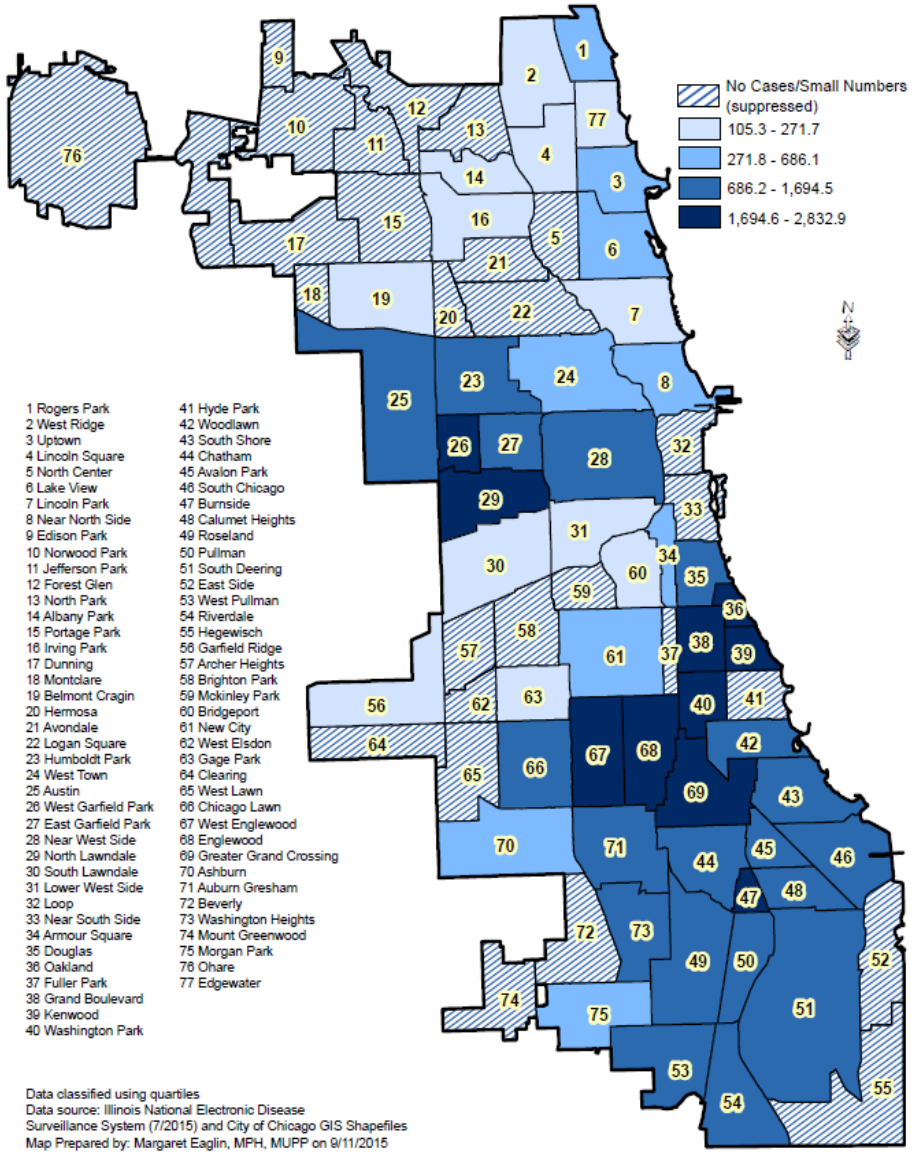
Chlamydia Case Rates (per 100,000) among Adolescents Aged 13-19 by Community Area, Chicago, 2014



1 Rogers Park
2 West Ridge
3 Uptown
4 Lincoln Square
5 North Center
6 Lake View
7 Lincoln Park
8 Near North Side
9 Edison Park
10 Norwood Park
11 Jefferson Park
12 Forest Glen
13 North Park
14 Albany Park
15 Portage Park
16 Irving Park
17 Dunning
18 Montclare
19 Belmont Cragin
20 Hermosa
21 Avondale
22 Logan Square
23 Humboldt Park
24 West Town
25 Austin
26 West Garfield Park
27 East Garfield Park
28 Near West Side
29 North Lawndale
30 South Lawndale
31 Lower West Side
32 Loop
33 Near South Side
34 Armour Square
35 Douglas
36 Oakland
37 Fuller Park
38 Grand Boulevard
39 Kenwood
40 Washington Park
41 Hyde Park
42 Woodlawn
43 South Shore
44 Chatham
45 Avalon Park
46 South Chicago
47 Burnside
48 Calumet Heights
49 Roseland
50 Pullman
51 South Deering
52 East Side
53 West Pullman
54 Riverdale
55 Hegewisch
56 Garfield Ridge
57 Archer Heights
58 Brighton Park
59 Mckinley Park
60 Bridgeport
61 New City
62 West Elsdon
63 Gage Park
64 Clearing
65 West Lawn
66 Chicago Lawn
67 West Englewood
68 Englewood
69 Greater Grand Crossing
70 Ashburn
71 Auburn Gresham
72 Beverly
73 Washington Heights
74 Mount Greenwood
75 Morgan Park
76 Ohare
77 Edgewater

Data classified using quartiles
Data source: Illinois National Electronic Disease Surveillance System (7/2015) and City of Chicago GIS Shapefiles
Map Prepared by: Margaret Eaglin, MPH, MUPP on 9/11/2015

Gonorrhea Case Rates (per 100,000) among Adolescents Aged 13-19 by Community Area, Chicago, 2014



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Repeat P&S Syphilis Infections, 2014

Characteristics of MSM with multiple versus single episodes of P&S syphilis in Chicago (N=3,544)

	Multiple Episodes	Single Episodes
	n = 316	n = 3,228
Median Age(years)	35	33
Median# Sex Partners	**4**	**3**
	Race/Ethnicity, N(%)	
NH White	136 (43.0)	1333 (41.3)
NH Black	134 (42.4)	1180 (36.6)
Hispanic	39 (12.3)	546 (16.9)
Other	7(2.2)	169 (5.2)
	HIV status, N(%)	
Positive	**168 (53.2)**	915 (28.3)
Negative	121(38.3)	1,729 (53.6)
Unk/Refused	27(8.5)	584(18.1)

MSM with multiple episodes were similar to those with single episode with respect to median age ,number of sex partners and race/ethnicity (OR black vs white) = 1.1 (95% CI=0.866-1.431) but were more likely to be HIV positive (OR HIV status) = 2.6 (95% CI: 2.049–3.359).

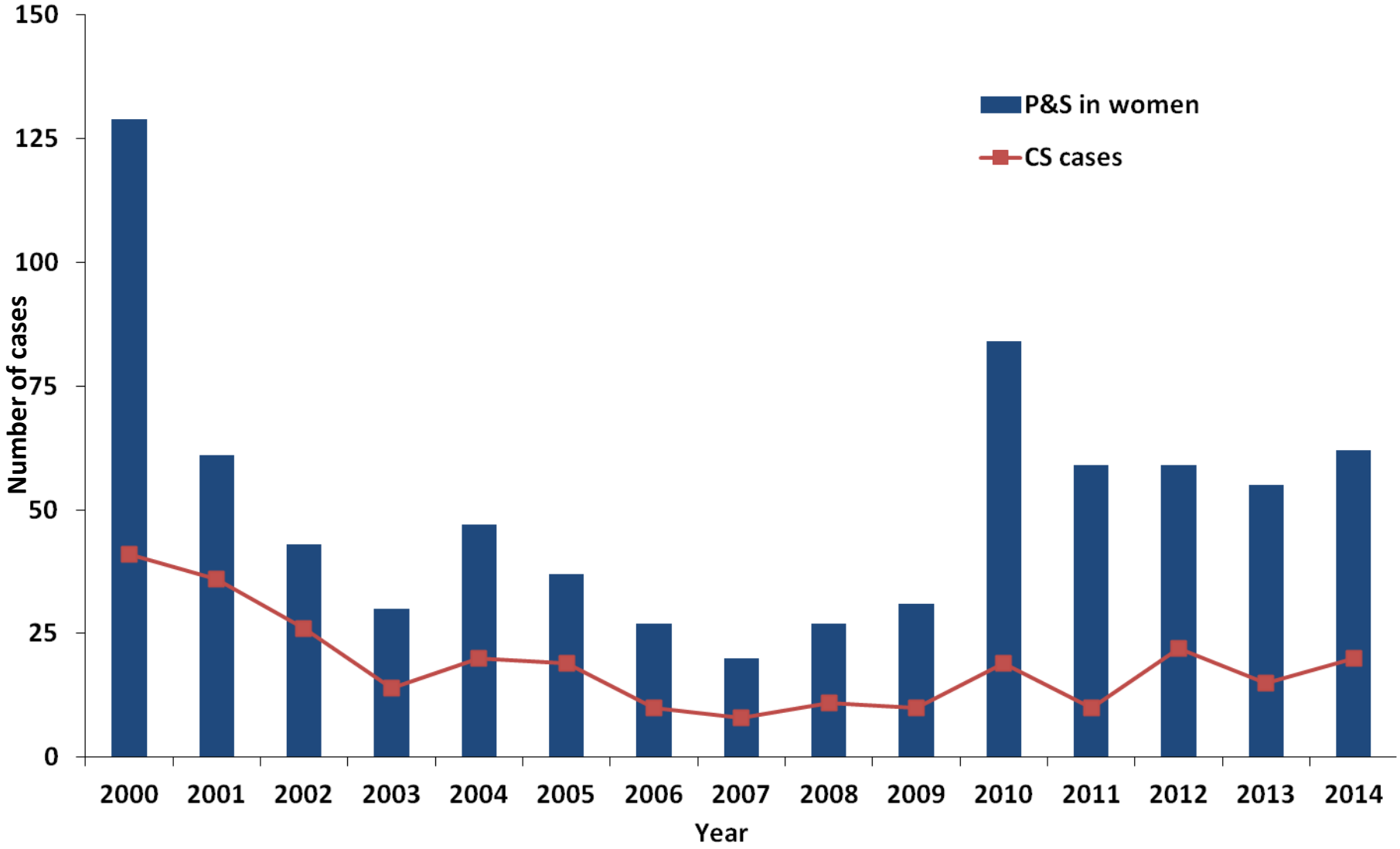
Congenital Syphilis, 2014

- Trends observed in Congenital Syphilis case numbers usually follow trends for P&S Syphilis in females, with a lag of 1-2 yrs

- From 2010-2014, the number of P&S Syphilis cases among females decreased from 84 to 62 cases

- During this same time period, the number of Congenital Syphilis cases increased only slightly (19 to 20 cases)

P&S Syphilis among Women & Congenital Syphilis Cases, Chicago 2000 - 2014



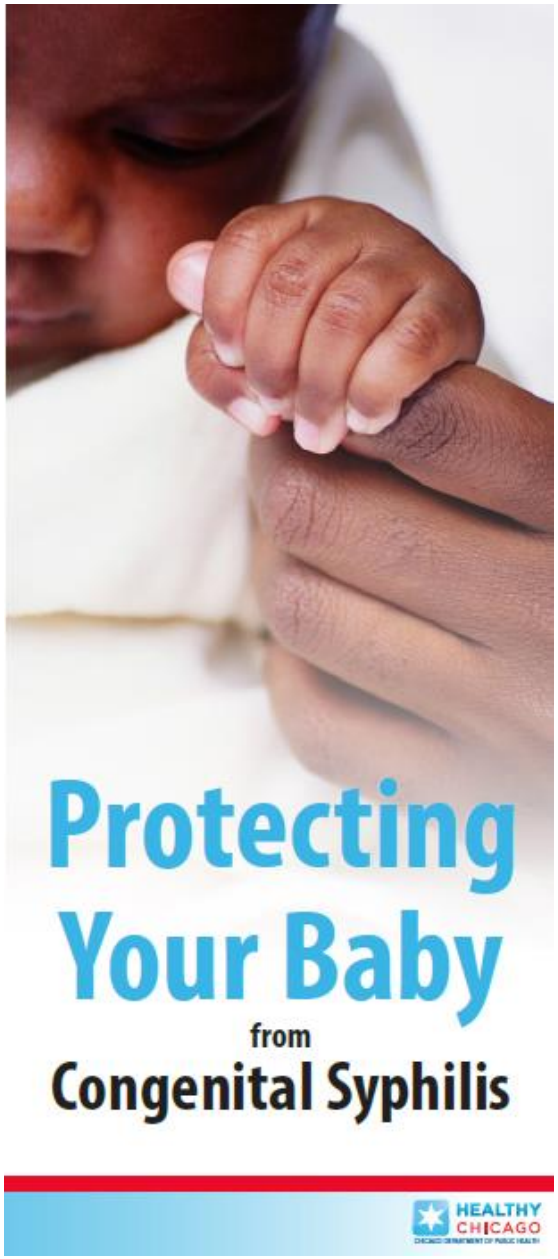
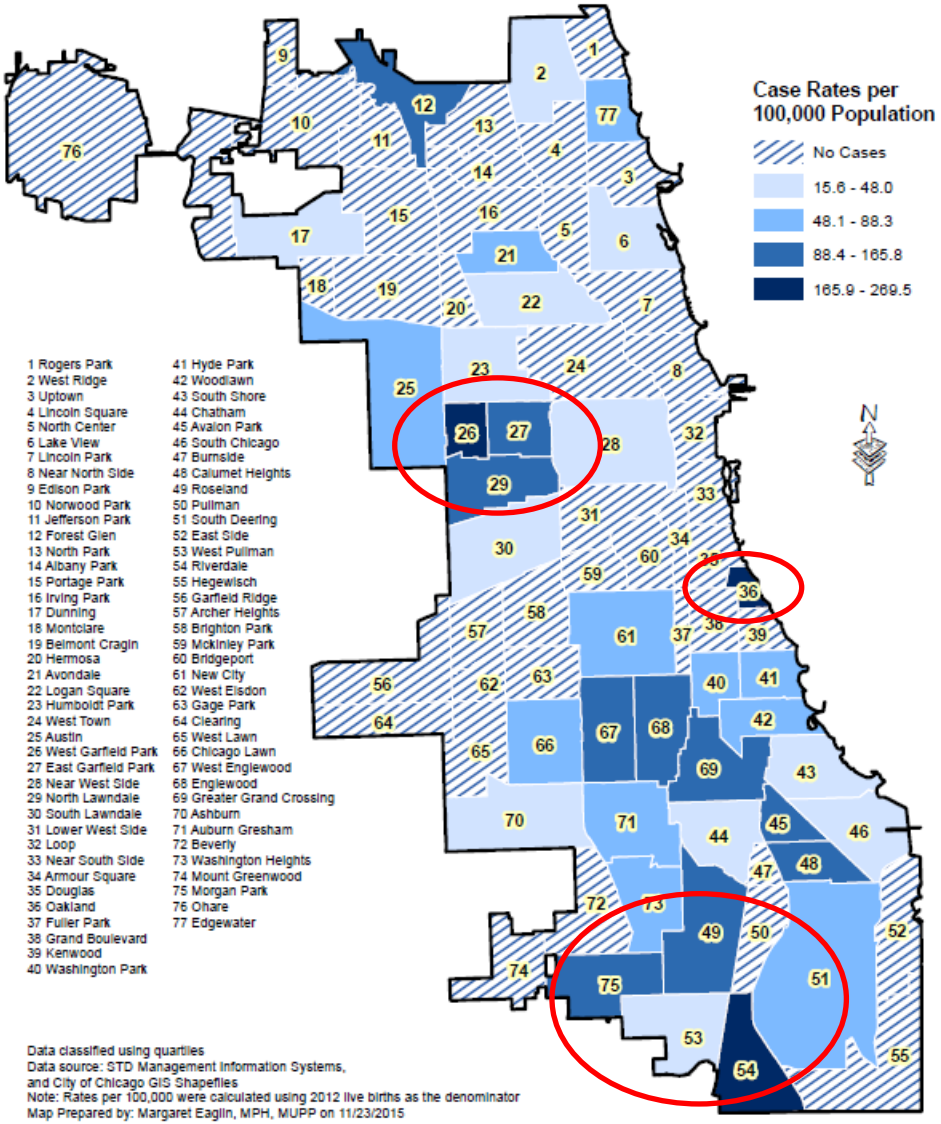


Figure 10. Average Annual Congenital Syphilis Case Rates (per 100,000 live births) by Community Area, Chicago, 2010-2014 (city total rate = 39.7)

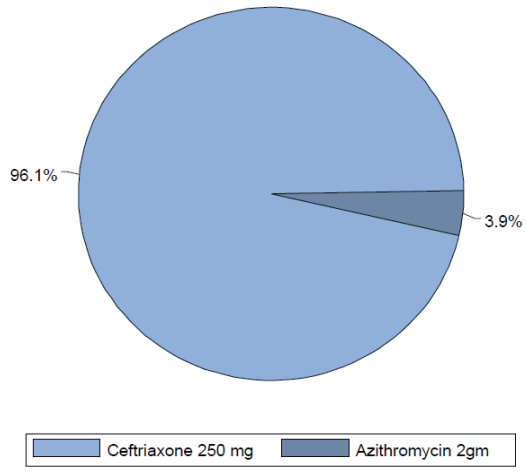


CDPH, HIV/STI Surveillance Report 2015

Gonococcal Isolate Surveillance Project (GISP), 2014

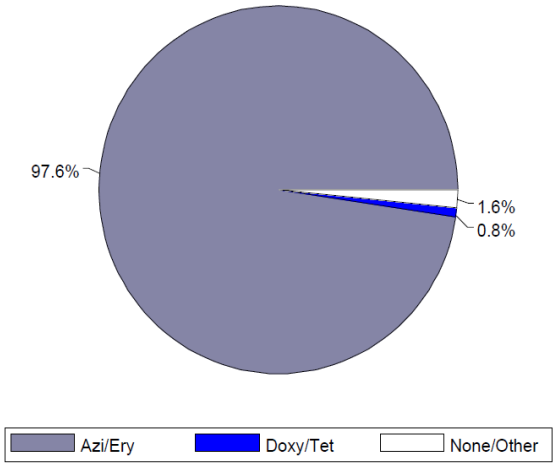
Chicago, Illinois (N=129)

Figure D. Primary antimicrobial drug used to treat gonorrhea among GISP participants, 2014



Chicago, Illinois (N=129)

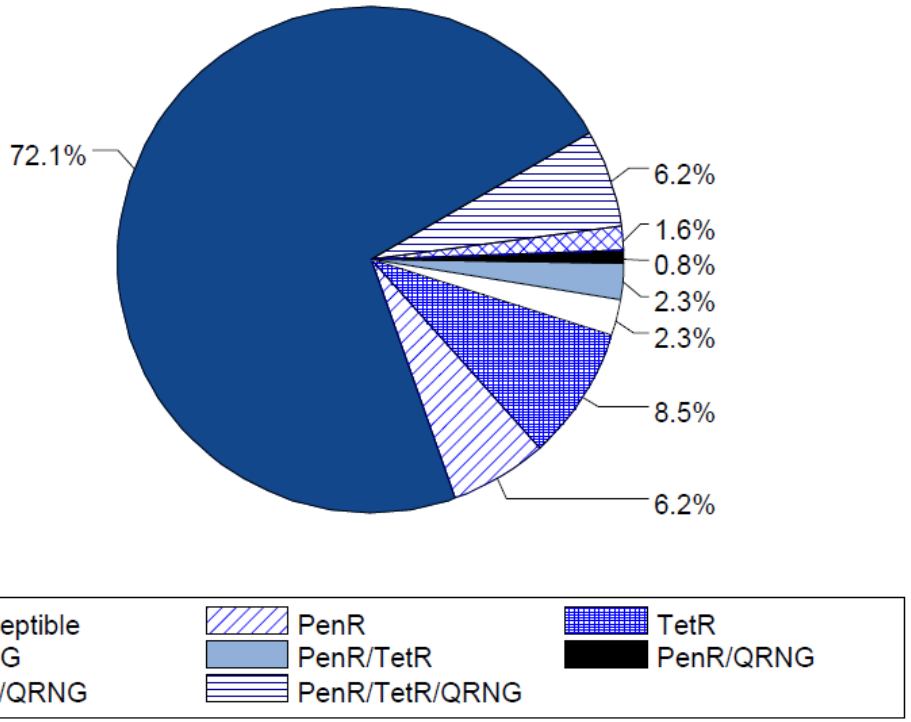
Figure E. Secondary antimicrobial drug used to treat gonorrhea among GISP participants, 2014



Gonococcal Isolate Surveillance Project (GISP) Supplement & Profiles (2014), CDC 2016

Chicago, Illinois (N=129)

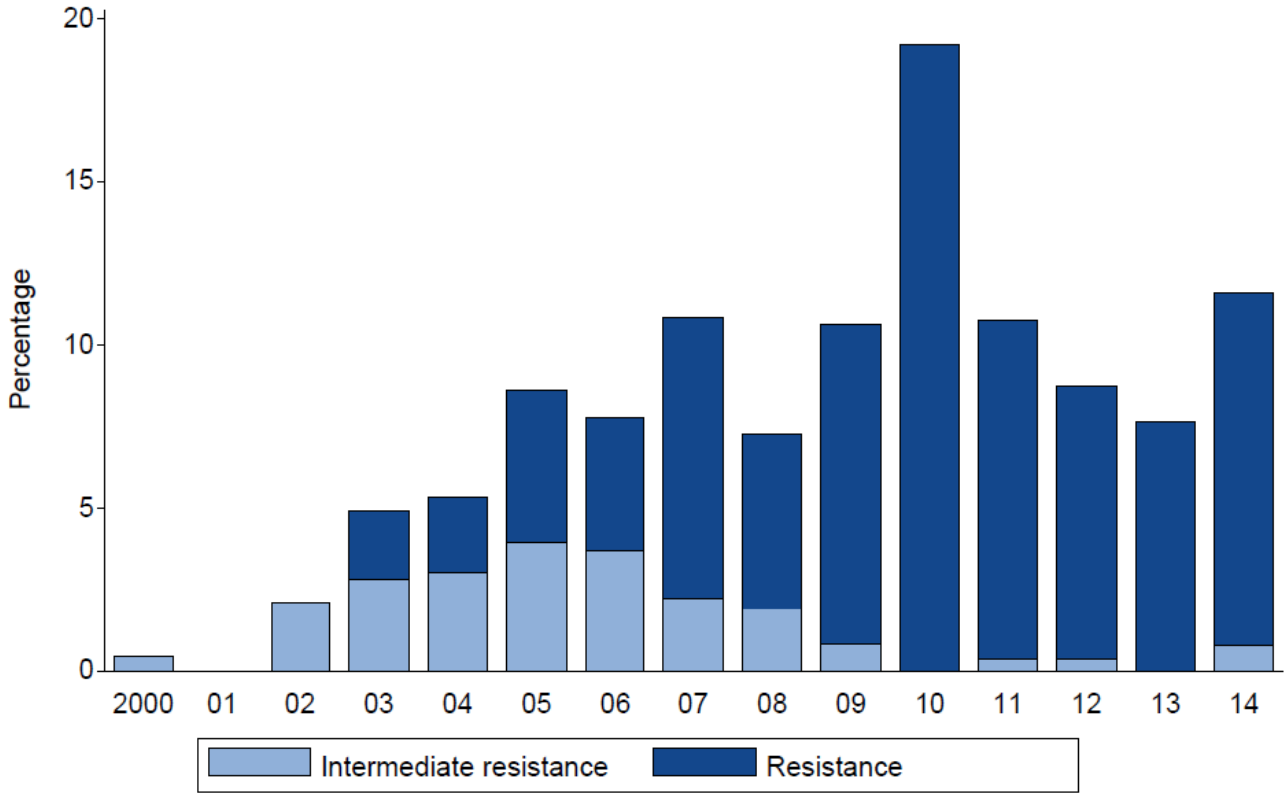
Figure F. Percentage of isolates with penicillin, tetracycline, and/or ciprofloxacin resistance, 2014



Gonococcal Isolate Surveillance Project (GISP) Supplement & Profiles (2014), CDC 2016

Chicago, Illinois

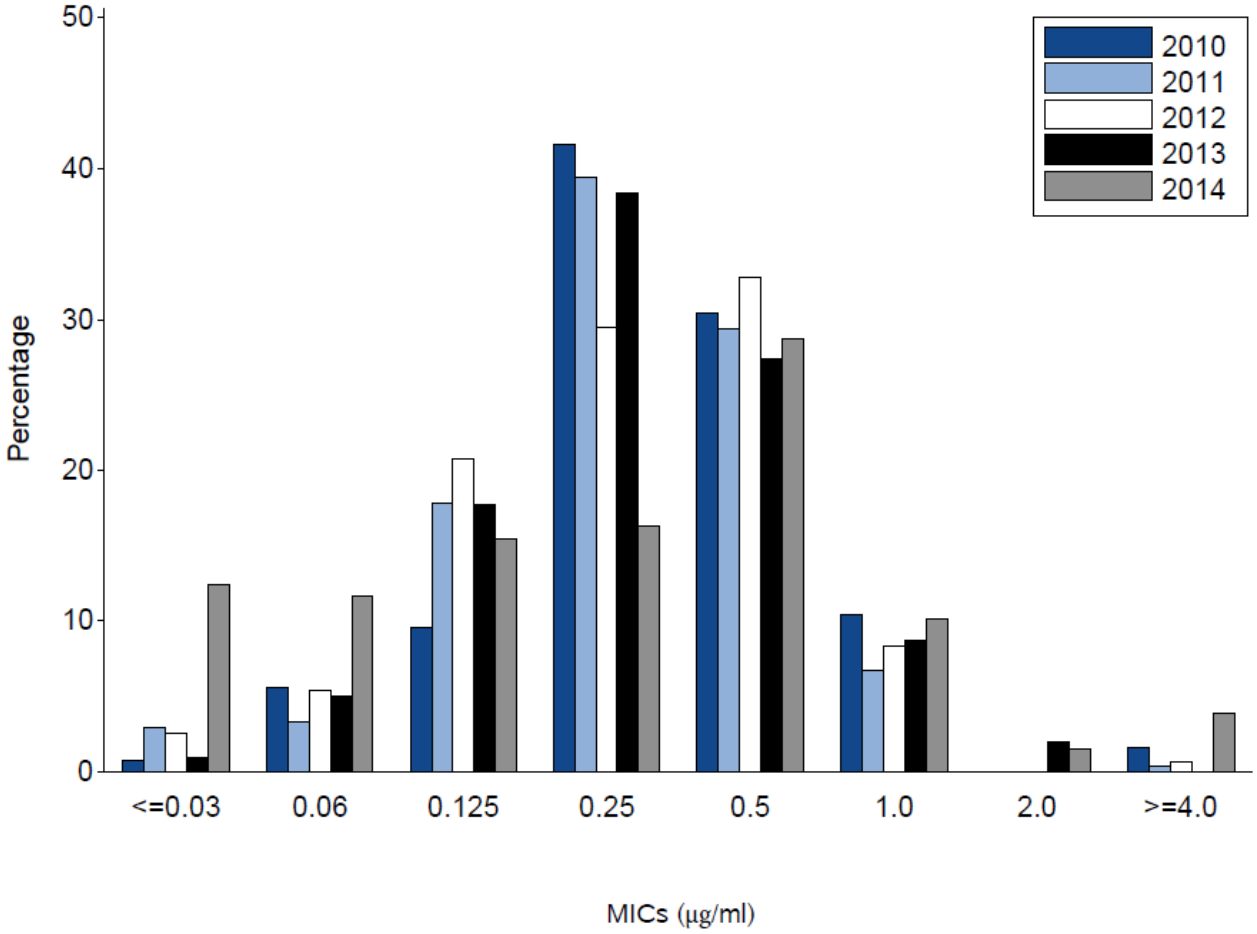
Figure I. Percentage of isolates with intermediate resistance or resistance to ciprofloxacin, 2000-2014



Gonococcal Isolate Surveillance Project (GISP) Supplement & Profiles (2014), CDC 2016

Chicago, Illinois

Figure J. Distribution of azithromycin minimum inhibitory concentrations (MICs) among GISP isolates, 2010-2014



Gonococcal Isolate Surveillance Project (GISP) Supplement & Profiles (2014), CDC 2016

Sneak Peak 2015 STI Data

Ocular Syphilis

Ocular Syphilis Cases Chicago vs West coast, 2015

Jurisdiction	Time Period	Total# cases	Sexual Behavior	Median Age (Range)	Ocular Sign/Symptoms	RPR Test (titer range)	Syphilis Stage	HIV status	Median CD4 count	Median HIV-RNA	Optho Exam	CSF VDRL (# of cases)	Rx (# of case)	Ocular symptoms after Rx
King County, WA[1]	12/1/14-01/30/15	**4**	MSM(7)	39 years (29-52)	Blurry Vision/vision loss &flashing lights	1:256 - 1:4096	Early Latent (3) Late Latent (1)	**Positive (75%)** **3 cases**	111 cells/ml	34,740 copies/ml	Uveitis(4)	Positive(2)	Pen G IV (3) Procaine pen and probenecid (1)	Initial improvement(4), However: 1 pt still had a 2 legally blind after 5 month 1 lost to follow up
San Francisco, CA[1]	12/15/14-03/25/15	8	MSM(6) MSW(1) Female(1)	52 years (35-58)	Blurry vision	1:256 - 1:8192	Secondary(3) Early Latent (4) Late Latent (1)	**Positive (88%)** **6 cases**	291 cells/ml	84,500 copies/ml	Optic neuropathy, Uveitis Retinal	Positive (3)	Pen G IV(8)	Improvement (7) Permanent visual loss after 3 months (1)
Chicago, IL[2]	01/01/15-12/31/15	5	MSM(3) MSM/W(1) MSW(1)	32 years (32-58)	Blurry vision	1:16 - 1:4096	Secondary 2) Late Latent(3)	**Positive (80%)** **4 cases**	221 cells/ml	56,037 copies/ml	Panuveitis (2) Chorioretinitis(2) Papiledema(1)	Positive (2)	Pen G IV(3) Pen G IV&BIC 2.4 IM (1)	Improvement (3) No information (2)

[1]Notes from the Field: A Cluster of Ocular Syphilis Cases — Seattle, Washington, and San Francisco, California, 2014 2015(http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6440a6.htm) **MMWR October 16, 2015**

2015 STI Co-infection Data – Chicago (as of 06.21.2016)

Disease	Total Morbidity	STI/HIV Co-infected (#)	STI/HIV Co-infected (%)
Chlamydia	29,018	839	3%
Gonorrhea	8,786	761	9%
Early Syphilis	1,352	567	42%

D. Kern & I. Tabidze, 2016

2015 MSM HIV/PS Co-infected – Chicago (as of 06.21.2016)

Population	PS Syphilis (#) (n=241)	PS Syphilis (%)	% Change 2014-15
NHB MSM 20-29	55	23%	+96%
NHB MSM 30-39	26	11%	+86%
NHW MSM 30-39	26	11%	+136%
NHW MSM 40-49	25	10%	+39%
NHB MSM 40-49	17	7%	+42%

D. Kern & I. Tabidze, 2016

CDPH Data Sources

Where do the data come from?

- Provider Reporting
  - You! Morbidity and Laboratory reports
- CDPH clinic reporting
  - Screening data
- Federally funded research projects
  - Behavioral associations
- CDPH funded collaborations
  - Specialized focus

We are only as accurate as the data we receive

State of Illinois Reporting Requirements

(77 Ill. Admin Code 693.30)

- Providers must report within **7 days** to local health department diagnosis and/or treatment for a client positive for STI test result

- Laboratories must report within **7 days** to local health department a positive STI result

- Failure to comply **can be punishable by fines up to $500 for EACH violation** or allows the Illinois Department of Public Health to report such violations to the regulatory agency which provides licensing for your health care profession

What happens with the data?

- CDPH STI Surveillance receives **~40,000 cases** each year
  - 4-5 hrs to sift through mail each day
  - Triaged, followed-up, and closed

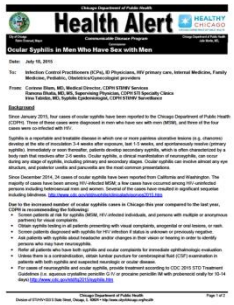
- 13.5 dedicated staff members

- Reported to IDPH and CDC

Collaborations

Reciprocal Reporting

- Case Reporting
  - Morbidity
  - Laboratory
- Provider Visits
  - Report Card
  - Population Metrics
- Communication via HAN



Health Alert

Ocular Syphilis in Men Who Have Sex with Men

Above all else show the data.

Edward Tufte

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Understanding the 'why' behind the 'how many'

- Barriers to health care, medication, etc. for:
  - NH Black females and MSM
  - Individuals living in specific community areas
- Repeat infection
  - Behavioral characteristics
  - Co-morbidities
- Innovative prevention efforts surrounding young Chicagoans

Final Take-aways

- City of Chicago has high morbidities of STIs
  - NH Blacks have the highest burden across all STIs
    - Females
    - MSM
  - Individuals < 30 yrs of age account for the majority of reported STIs in Chicago

- Case reporting is crucial in obtaining accurate information and ensuring all patients are receiving appropriate care

- Provider and community partnerships to explain the 'why' behind the surveillance data

Thank You & Questions?

CDC
Centers for Disease Control and Prevention

HEALTHY CHICAGO
CHICAGO DEPARTMENT OF PUBLIC HEALTH

St. Louis STD/HIV Prevention Training Center

Thanks to:

STI Surveillance Team
Tammy Rutledge
Gabrielle Henley
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Bertha Spearman
Maria Vega
Antonio Andres
Charlayne Guy
Regina Green
Karen Canada
Alison Scot
Joanne Davenport

HIV/STI SER Data Team
Irina Tabidze
Margaret Eaglin
Jeff Lauritsen
Monique Millington
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