

Overview and Community Impact of Sexually Transmitted Diseases

(Warning: Contains graphic medical images)

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Objectives

- Identify risk factors associated with common sexually transmitted diseases (STD)
- Understand local impact of STDs in central Ohio
- Recognize signs and symptoms of common STDs

Agenda

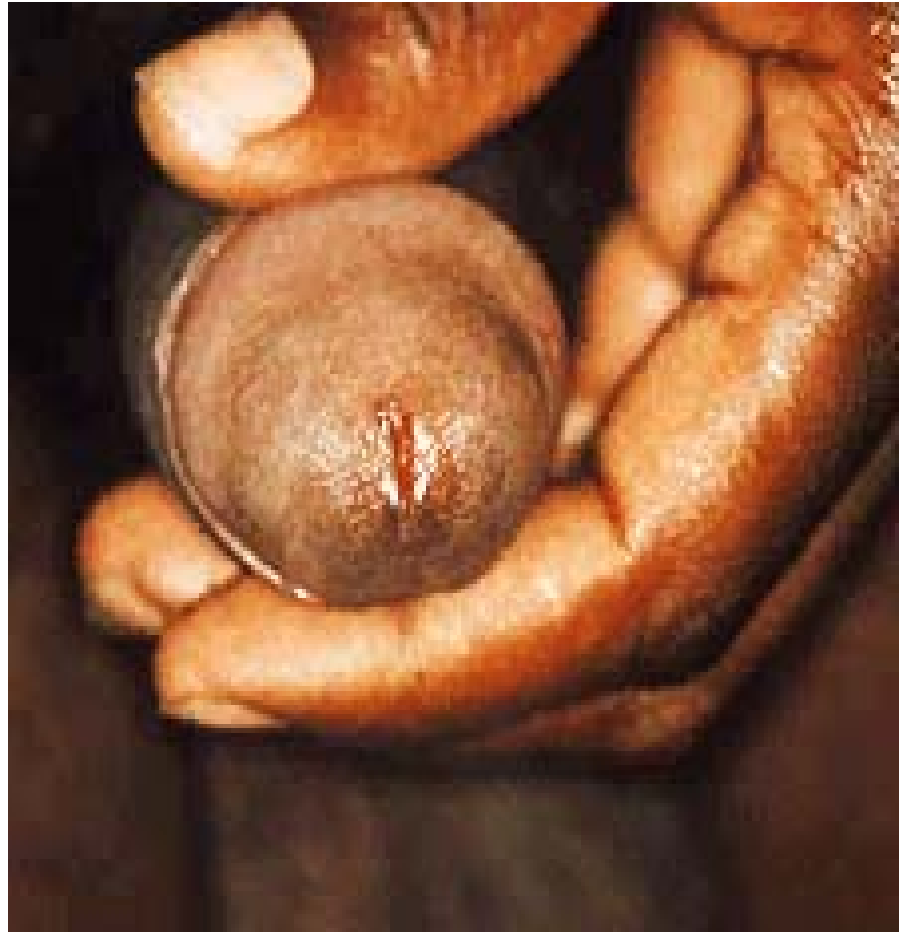
- Chlamydia
- Gonorrhea
- Syphilis
- HIV

Chlamydia trachomatis

- Most frequently reported STI in the US
- Prevalence is highest in persons aged <25
- Annual screening of sexually active adult women ≤ 25
 - Evidence insufficient for screening young men
- Adult women >25 should be screened annually if they have the following risk factors:
 - New sex partner
 - Multiple sex partners

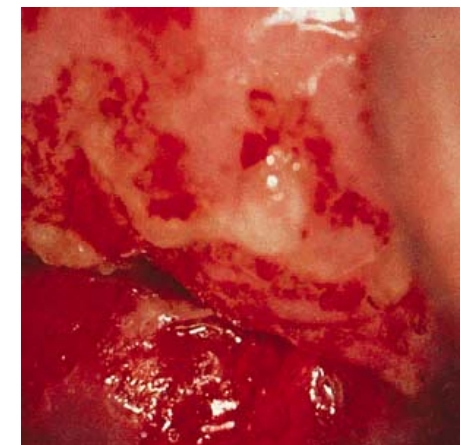
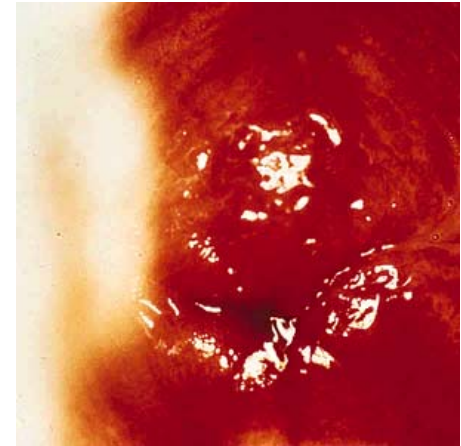
Chlamydia Infections in Men

- Dysuria (painful urination)
- Discharge classically mucopurulent
- Often asymptomatic



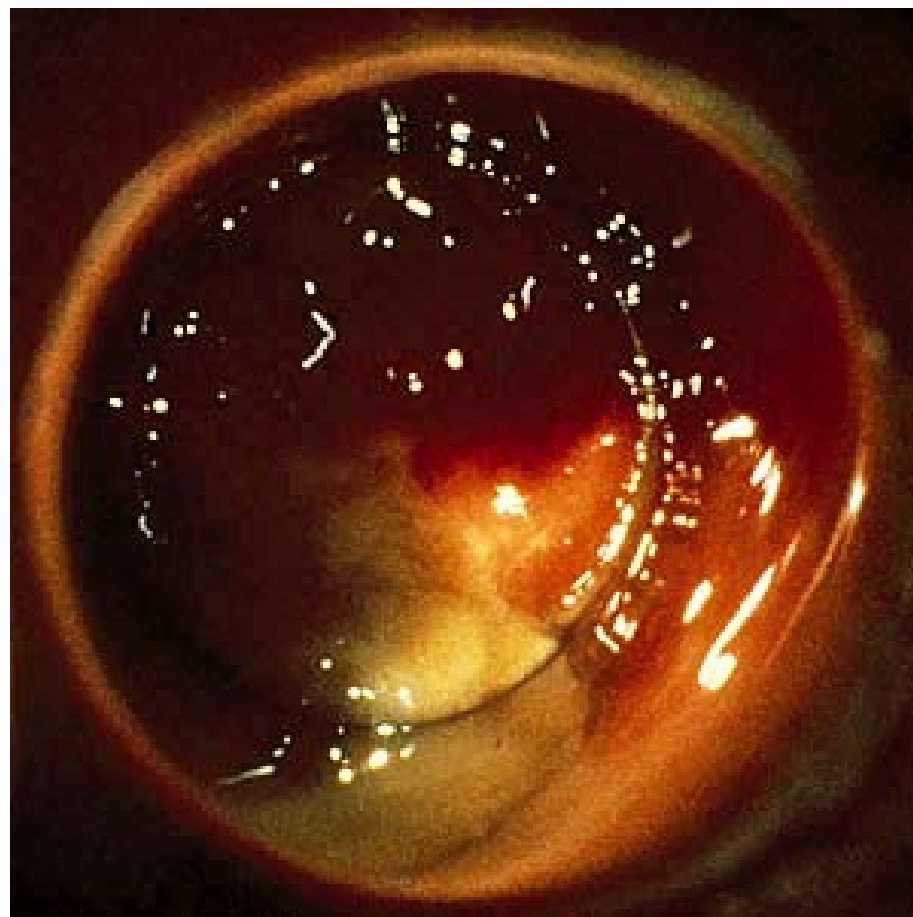
Infections in Women: Cervicitis

- Most often no signs or symptoms (asymptomatic)
- If present signs include
 - Discharge, edema, induced bleeding



Proctitis

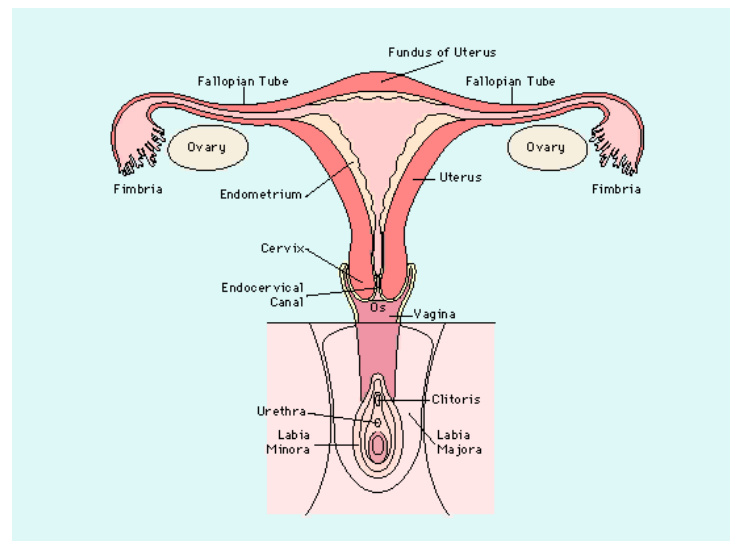
- Caused by direct inoculation from unprotected anal sex
- Symptoms may include
 - Rectal bleeding and pain
 - Mucous discharge
 - Diarrhea



Sequelae for Untreated CT

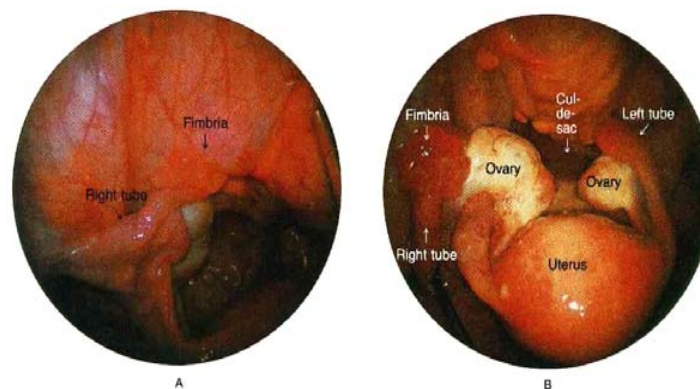
Among women:

- PID (pelvic inflammatory disease)
- Ectopic pregnancy
- Infertility



Among men:

- Prostatitis



Recommended Regimens: CT

- Azithromycin 1 g PO
- Doxycycline 100 mg PO BID for 7 days

Chlamydia – Franklin County

In 2008...

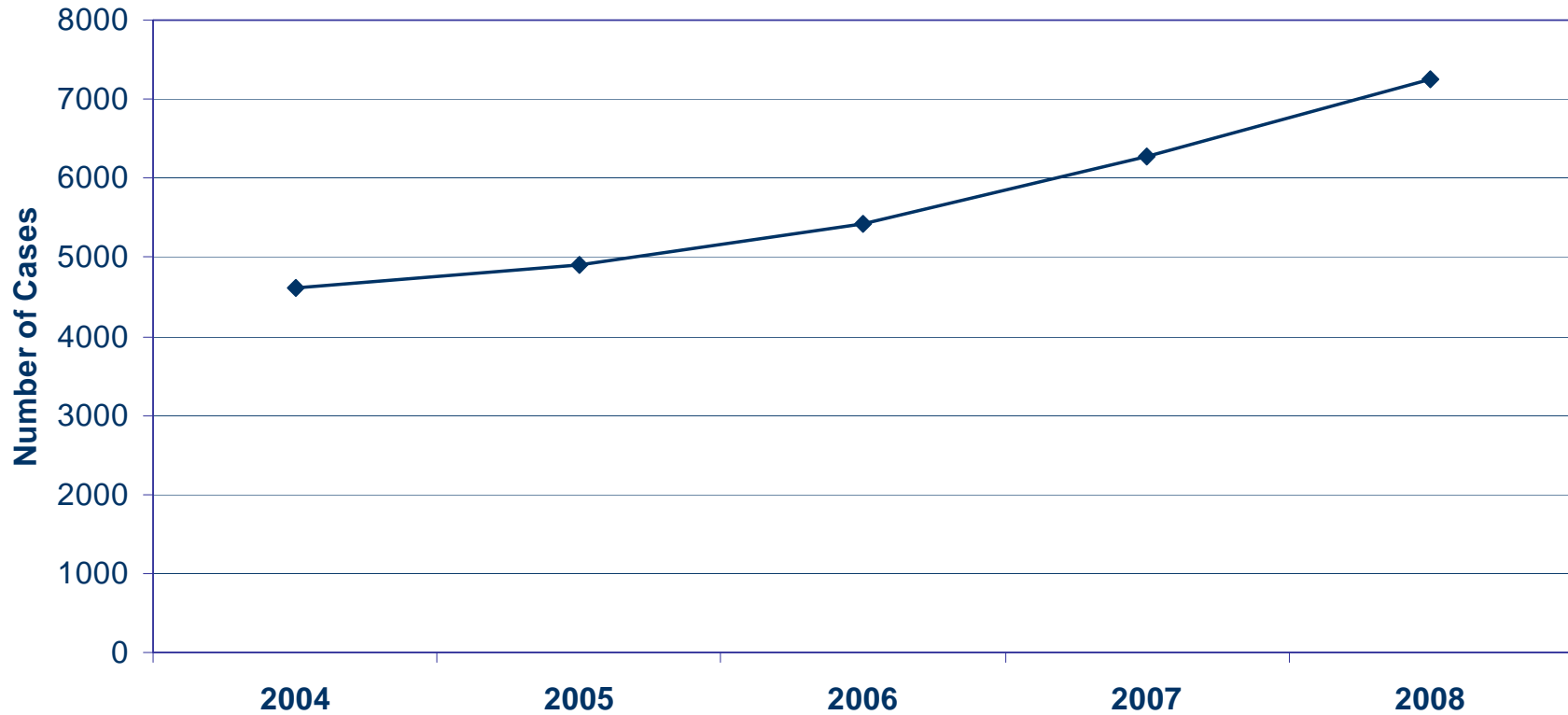
- Over 7,000 chlamydial infections were reported in Franklin County.
 - This case count corresponds to a rate of 642.3 cases per 100,000 population.
- Young people age 15 to 19 years have almost 5 times the reported rate than the total of the population (10-65+).
- Women had 2.5 times the reported chlamydia rates of men.
- The rate of chlamydia among blacks was 10 times higher than that of whites.

Sources:

Ohio Department of Health, STD Surveillance, Analysis for Franklin County by Columbus Public Health, Office of Assessment and Surveillance
Racial break outs include all ethnicities.

Chlamydia - Franklin County

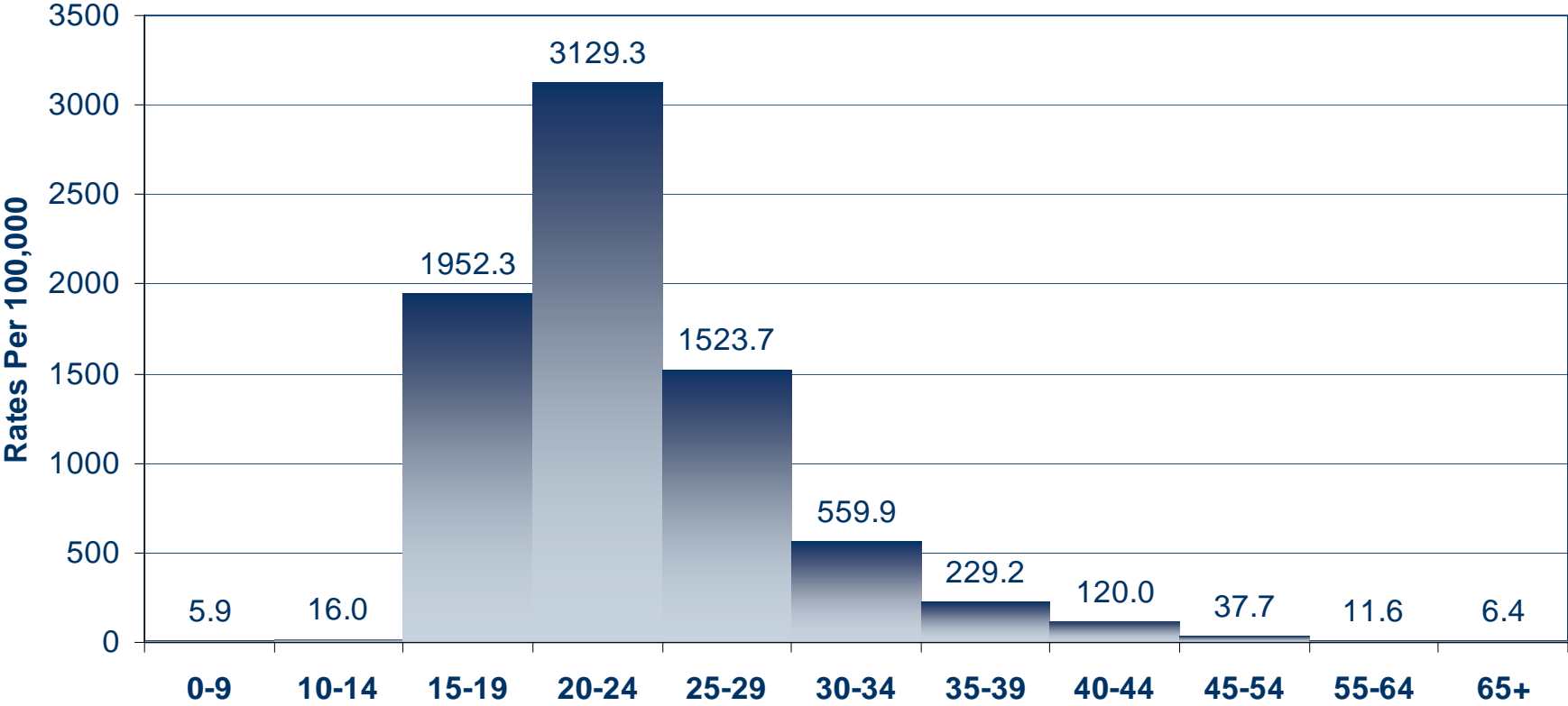
Number of Cases By Year



Source: Ohio Department of Health, STD Surveillance, Analysis by Columbus Public Health, Office of Assessment and Surveillance

Chlamydia - Franklin County, 2008

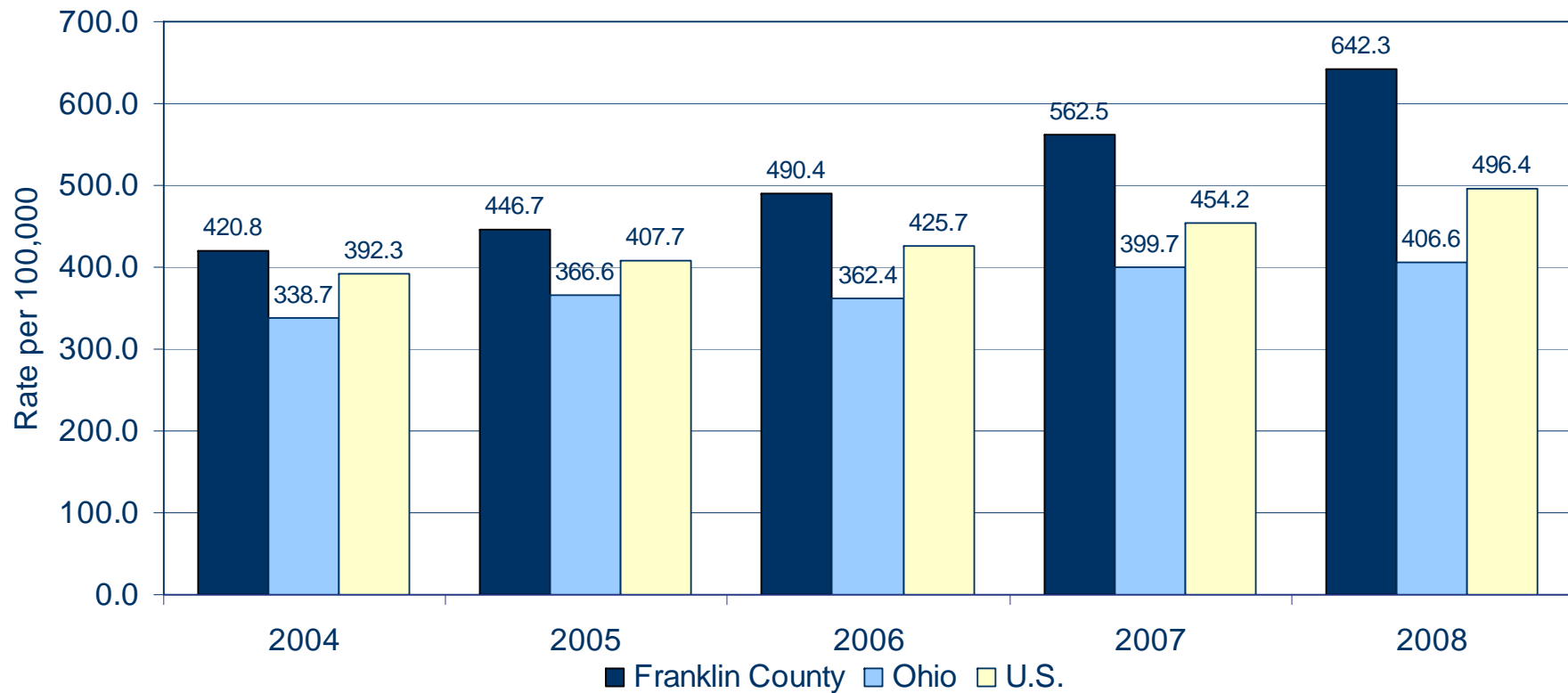
Disease Rates (per 100,000) by Age



Source: Ohio Department of Health, STD Surveillance, Analysis by Columbus Public Health, Office of Assessment and Surveillance

* 973 unknown age

Chlamydia – Franklin County, 2008 Disease Rates (per 100,000) By Year



Sources:

Ohio Department of Health, STD Surveillance, Analysis for Franklin County by Columbus Public Health, Office of Assessment and Surveillance

CDC WONDER On-line Database, November 2009. Accessed at <http://wonder.cdc.gov/std-std-v2008-race-age.html> on Apr 13, 2010

Rates are shown per 100,000 and calculated using census estimates.

Chlamydia– Franklin County, 2008

By Race

The Franklin County rate of chlamydia among blacks was 10 times higher than that of whites.



Both the Ohio and the U.S. rate of chlamydia among blacks was at least eight times higher than that of whites.

Risk Factors for Gonorrhea

- Previous gonorrhea infection
- Other sexually transmitted diseases
- New and/or multiple sex partners
- Commercial sex work
- Drug use

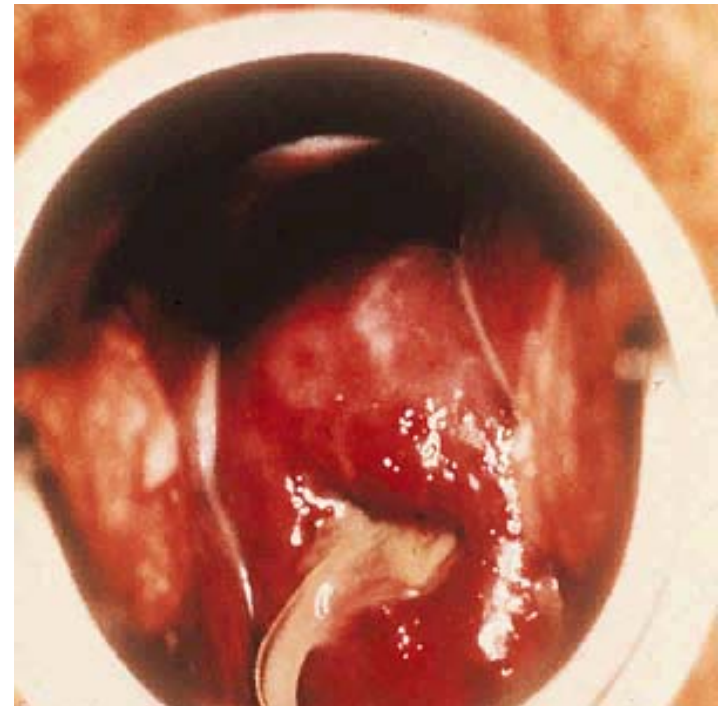
GC Manifestations: Men

- Urethritis:
 - 95% overt, symptomatic disease
 - Incubation period: 3-7 days, usually within 10-14 days after exposure
 - Symptoms: purulent urethral discharge and/or dysuria



GC Manifestations: Women

- 60-80% have symptoms, but many women have minimal symptoms and present only after referral
- Cervicitis:
 - 50% have NO symptoms
 - Incubation period unclear: usually 10 days
 - Symptoms: vaginal discharge, bleeding



GC Manifestations: Women

- Urethritis: dysuria
- Skene's or Bartholin's Abscesses
- PID
 - Symptoms: lower abdominal pain, dyspareunia, spotting, fever



Anorectal Gonorrhea

- Acquired by anal intercourse
- In women: cervicovaginal secretions can contaminate perianal region
- Most cases asymptomatic
- Symptoms: anal irritation, painful defecation, constipation, rectal bleeding and/or discharge, tenesmus

Therapy for Uncomplicated GC of the Cervix, Urethra and Rectum

- Cefixime 400 mg PO
- Ceftriaxone 125 mg IM
- *Ciprofloxacin 500 mg PO
- *Ofloxacin 400 mg PO
- *Levofloxacin 250 mg PO

PLUS

- Doxycycline 100 mg PO BID x 1 week or Azithromycin 1 gm PO *if chlamydia not ruled out*

**avoid on US west coast, in Hawaii, travelers returning from Asia*

Gonorrhea – Franklin County

In 2008...

- Over 3,000 gonorrheal infections were reported in Franklin County.
 - This case count corresponds to a rate of 307.8 cases per 100,000 population.
- People age 20 to 24 years have 4.5 times the reported rate of the total population (10-65+).
- There was no significant difference the reported gonorrhea rates for women and men.
- The rate of gonorrhea among blacks was 16 times higher than that of whites.

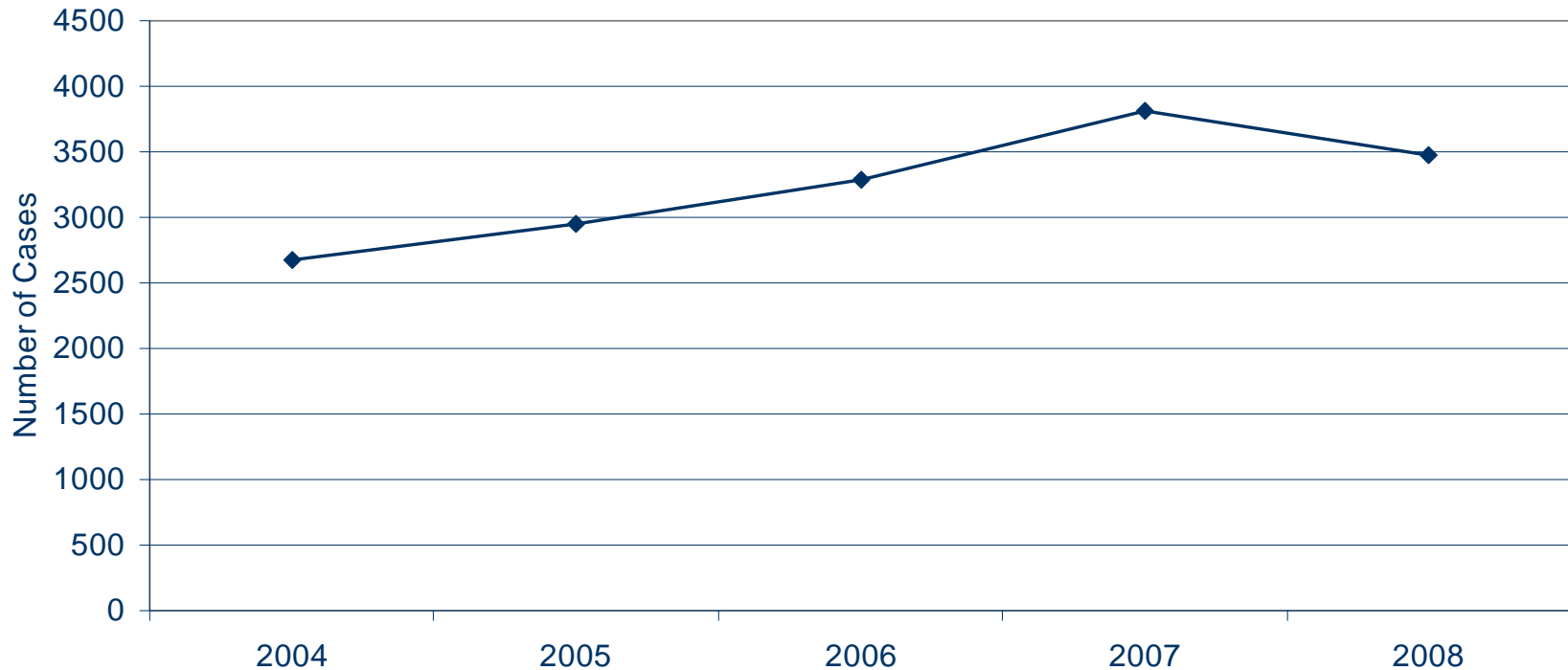
Sources:

Ohio Department of Health, STD Surveillance, Analysis for Franklin County by Columbus Public Health, Office of Assessment and Surveillance

Racial break outs include all ethnicities.

Gonorrhea – Franklin County

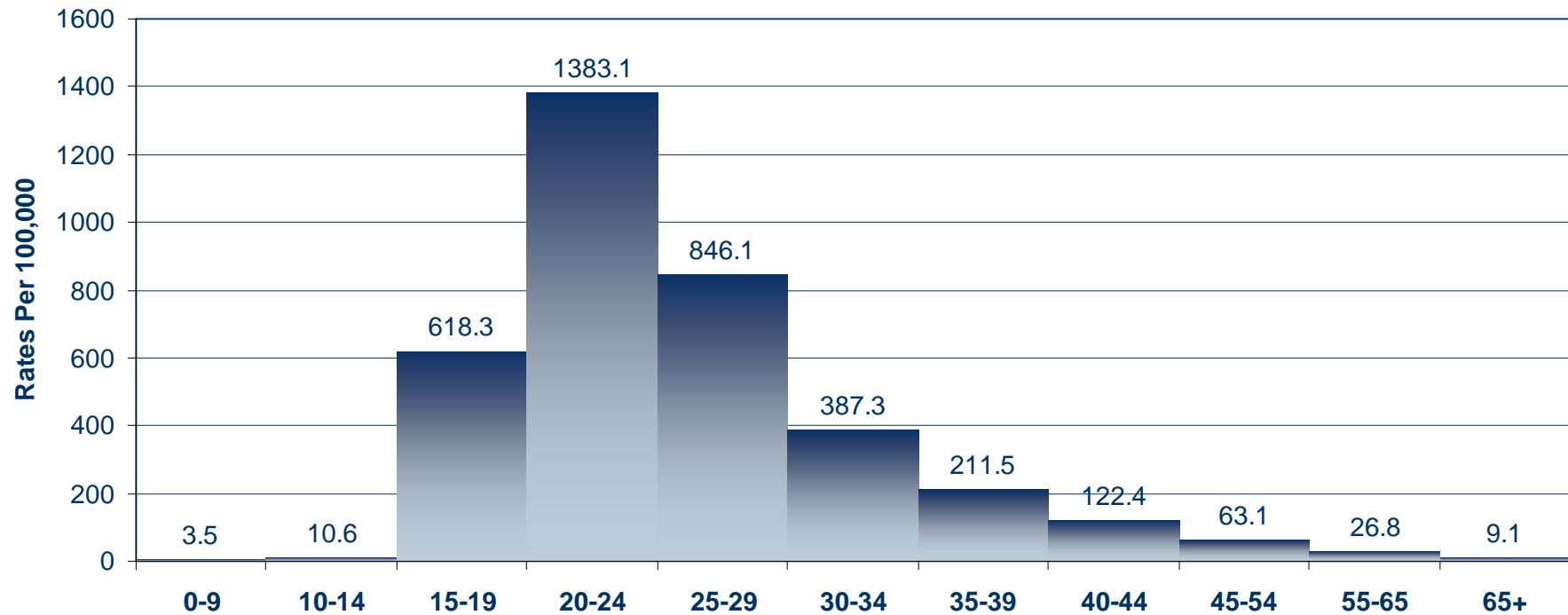
Number of Cases By Year



Source: Ohio Department of Health, STD Surveillance, Analysis by Columbus Public Health, Office of Assessment and Surveillance

Gonorrhea – Franklin County, 2008

Disease Rates (per 100,000) by Age

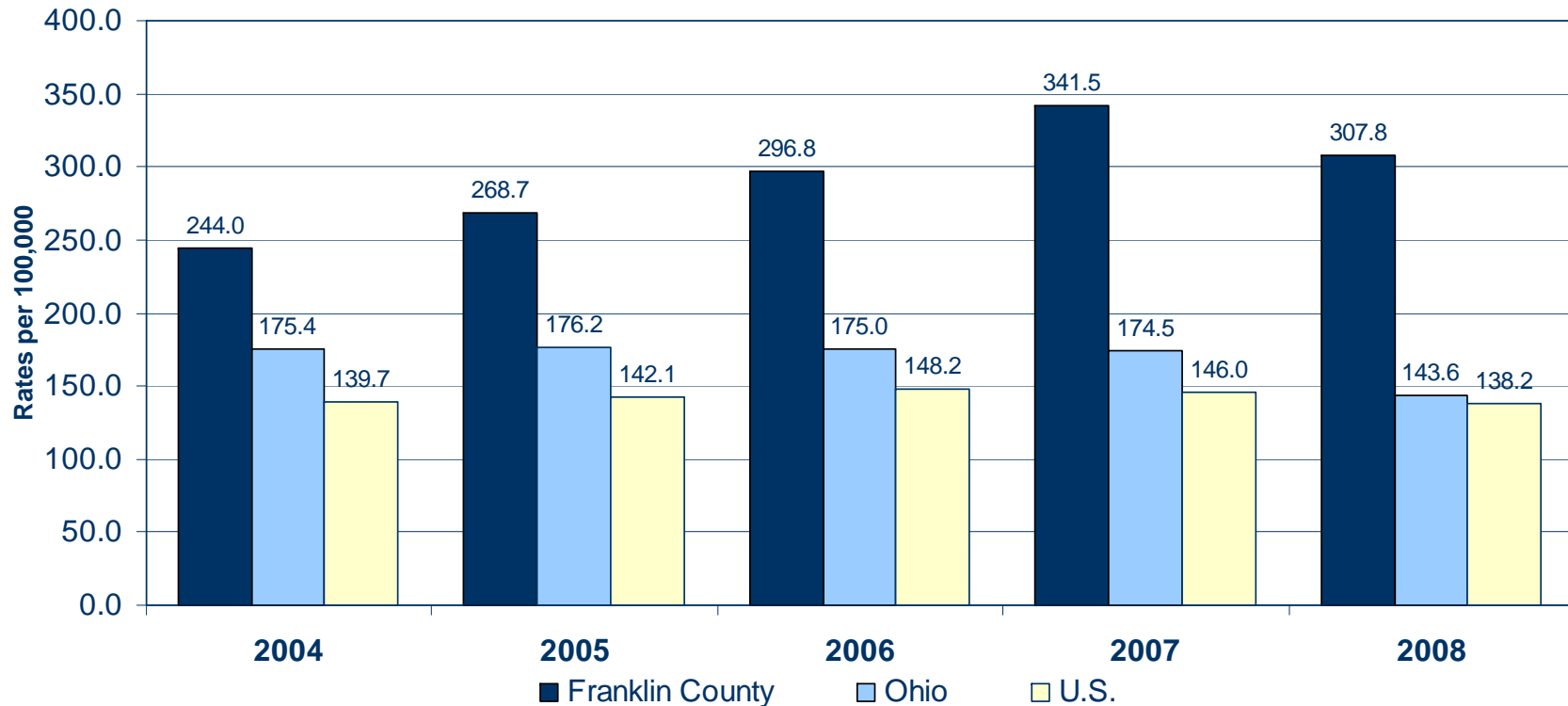


Source: Ohio Department of Health, STD Surveillance, Analysis by Columbus Public Health, Office of Assessment and Surveillance

* 373 unknown age

Gonorrhea – Franklin County, 2008

Disease Rates (per 100,000) By Year



Sources:

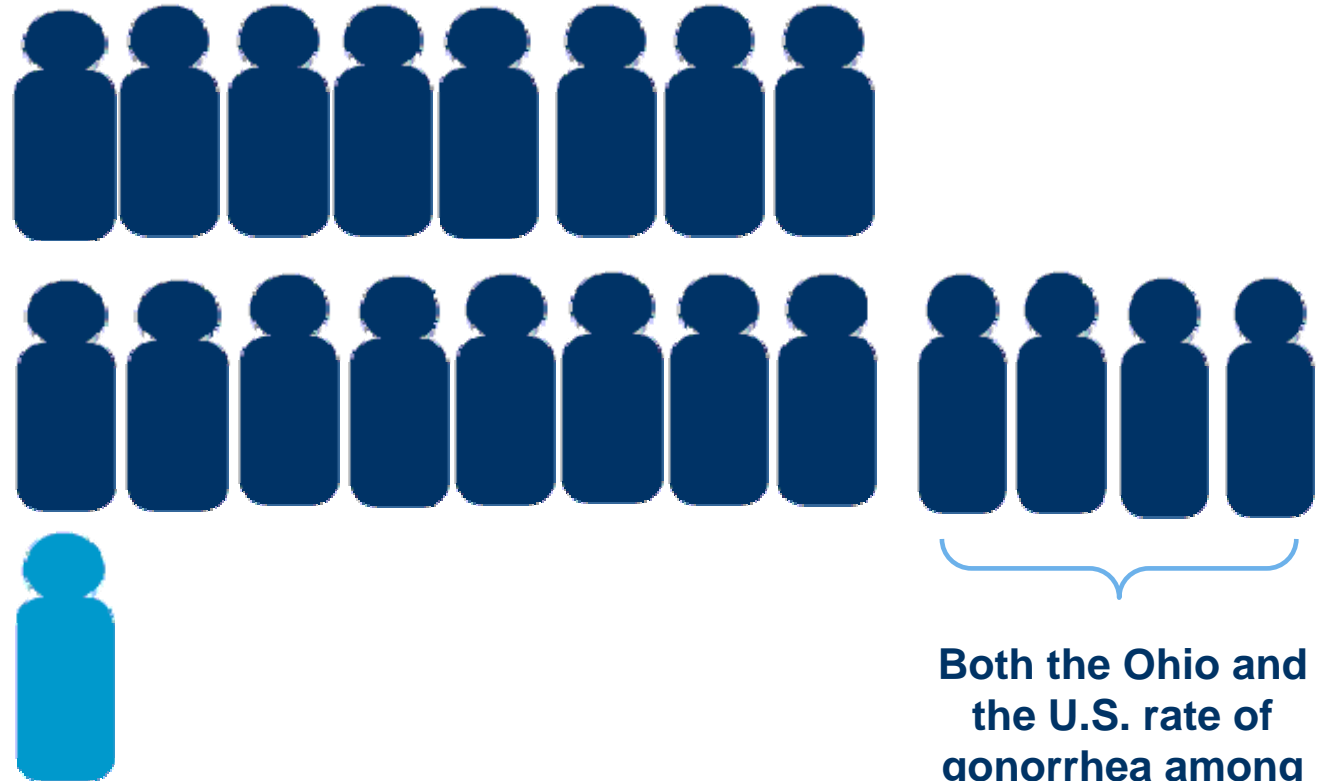
Ohio Department of Health, STD Surveillance, Analysis for Franklin County by Columbus Public Health, Office of Assessment and Surveillance
CDC WONDER On-line Database, November 2009. Accessed at <http://wonder.cdc.gov/std-std-v2008-race-age.html> on Apr 13, 2010

Rates are shown per 100,000 and calculated using census estimates.

Gonorrhea – Franklin County, 2008

By Race

The Franklin County rate of gonorrhea among blacks was 16 times higher than that of whites.



Both the Ohio and the U.S. rate of gonorrhea among blacks was at least 20 times higher than that of whites.

Syphilis:

Who should be screened?

- All pregnant women in Franklin County should be screened **at least twice**:
 - (1) **Initial intake**
 - (2) **28 weeks**
 - (3) Additionally, prior to delivery if high risk; at birth if no prenatal care
- All individuals seeking care/treatment for an STI (sexually transmitted infection)
- Any woman who has a fetal death
- Annual screening for the following:
 - Sexually active patients (especially those with >1 partner)
 - HIV + individuals
 - MSM (men who have sex with men) screened annually at minimum

Syphilis: Stages

- Primary
 - A painless sore called a chancre may be located on the genitals, lips, anus, or other area of direct contact
 - The chancre will last 1-5 weeks and heal without treatment
 - Easily pass it on to sex partners
- Secondary
 - Skin rashes lasting 2 – 6 weeks (average of 4 weeks) on the palms of the hands, bottoms of the feet, or any part of the body
 - Other symptoms include fever, swollen lymph glands, headache, hair loss, and muscle ache
 - Symptoms will go away with or without appropriate treatment
 - Highly infectious



Syphilis: Stages, *continued*

- Early Latent
 - Occurs after the secondary symptoms have disappeared.
- Tertiary (Late Latent)
 - Can appear anytime from a year to 50 years after infection
 - Commonly involves brain, heart, liver and bones
 - Can cause paralysis, mental problems, blindness and death

Congenital Syphilis

- Syphilis during pregnancy associated 40% rate of prematurity or perinatal death; highest risk for poor outcomes with earlier stages of infection (< 4 yrs after maternal acquisition)
- Syphilis transmission can occur *in utero* or from infant exposure at delivery
- Screening guidelines for pregnant women in high morbidity areas: 1st trimester, 28 weeks, at delivery

Syphilis: Treatment for Adults

- Primary, Secondary and Early Latent
 - Benzathine Penicillin G 2.4 MU IM x1 (1 injection weekly for 3 weeks if HIV+)
 - Doxycycline 100 mg BID x14D if PCN allergy
- Late Latent
 - Benzathine Penicillin G 2.4 MU IM weekly for 3 weeks
 - Doxycycline 100 mg BID x28 D if PCN allergy
- Neurosyphilis
 - Infectious Disease Consult recommended
 - Aqueous crystalline Penicillin G for 10-14 days

Syphilis: Case Management

- No sex for at least a week after treatment
 - 2 weeks for those with primary and secondary who take 14 days of Doxycycline
 - 1 month for latent syphilis
- Follow-up testing with RPR (rapid plasma reagin) 3 months following treatment (and again at 6, 12 and 24 months for Latent cases and HIV +)
- Obtain a FTA blood test (fluorescent treponemal antibody)
- Report per Ohio Administrative Code to Columbus Public Health
- Refer to Sexual Health Program
 - 645-7772
- All sex partners in last 90 days need to be identified, tested and treated
- Condom use prevents STIs

Syphilis (primary and secondary)

Franklin County

In 2008...

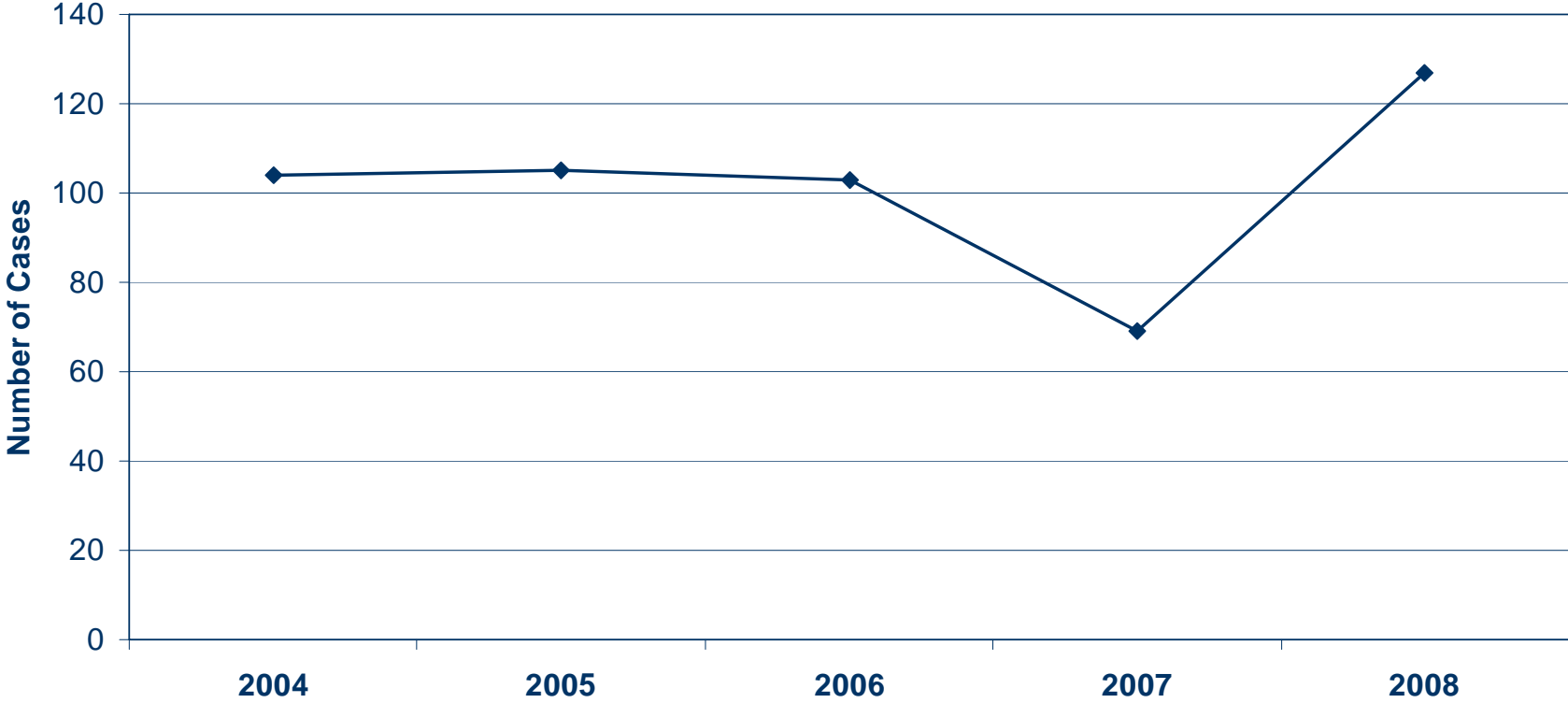
- 127 syphilis infections were reported in Franklin County.
 - This case count corresponds to a rate of 11.2 cases per 100,000 population.
- The highest rates were reported in people ages 25-29 and 35-39 years.
- Men had 1.4 times the reported syphilis rates of women.
- The rate of syphilis among blacks was 6.6 times higher than that of whites.
- In 2009...
- 104 syphilis infections were reported in Franklin County.
 - This case count corresponds to a rate of 9.3 cases per 100,000 population.

Sources:

Ohio Department of Health, STD Surveillance, Analysis for Franklin County by Columbus Public Health, Office of Assessment and Surveillance
Racial break outs include all ethnicities.

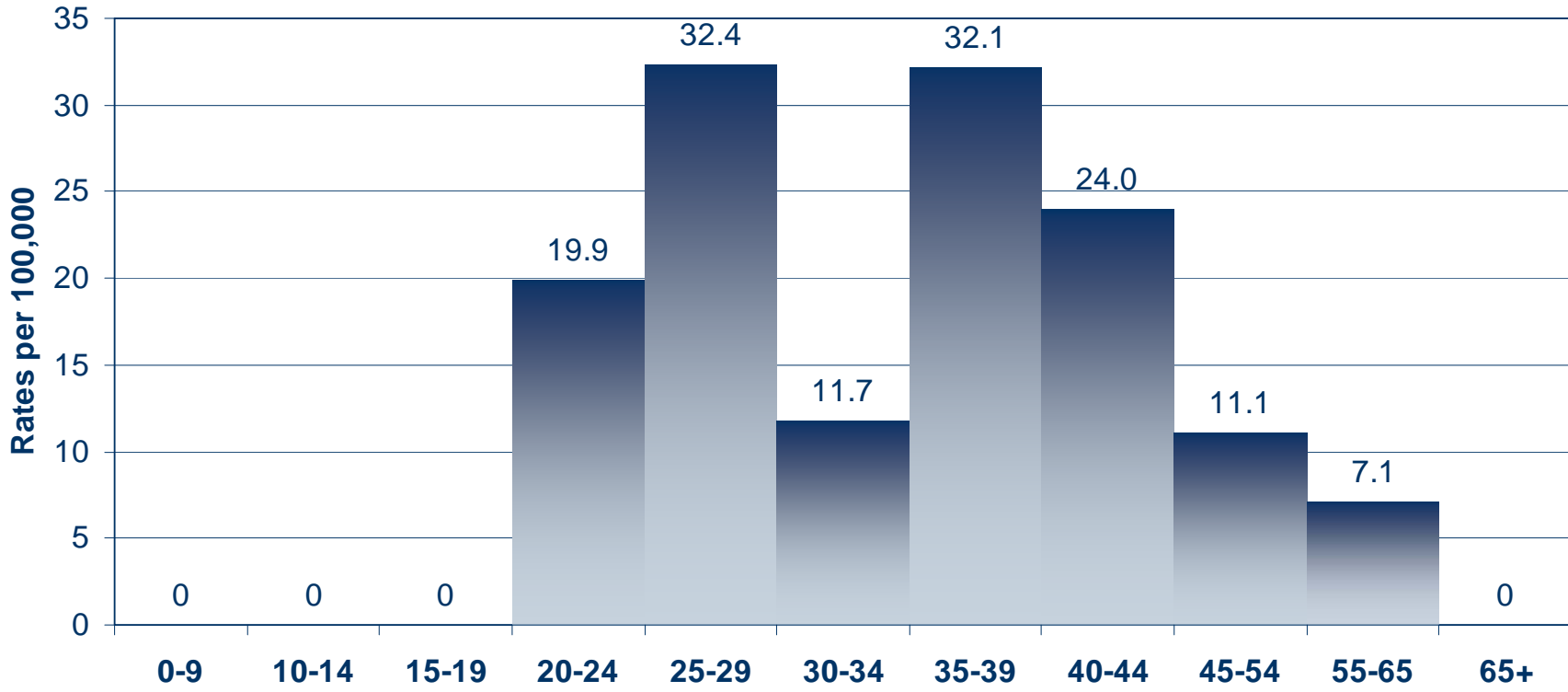
Syphilis (primary and secondary) – Franklin County

Number of Cases By Year



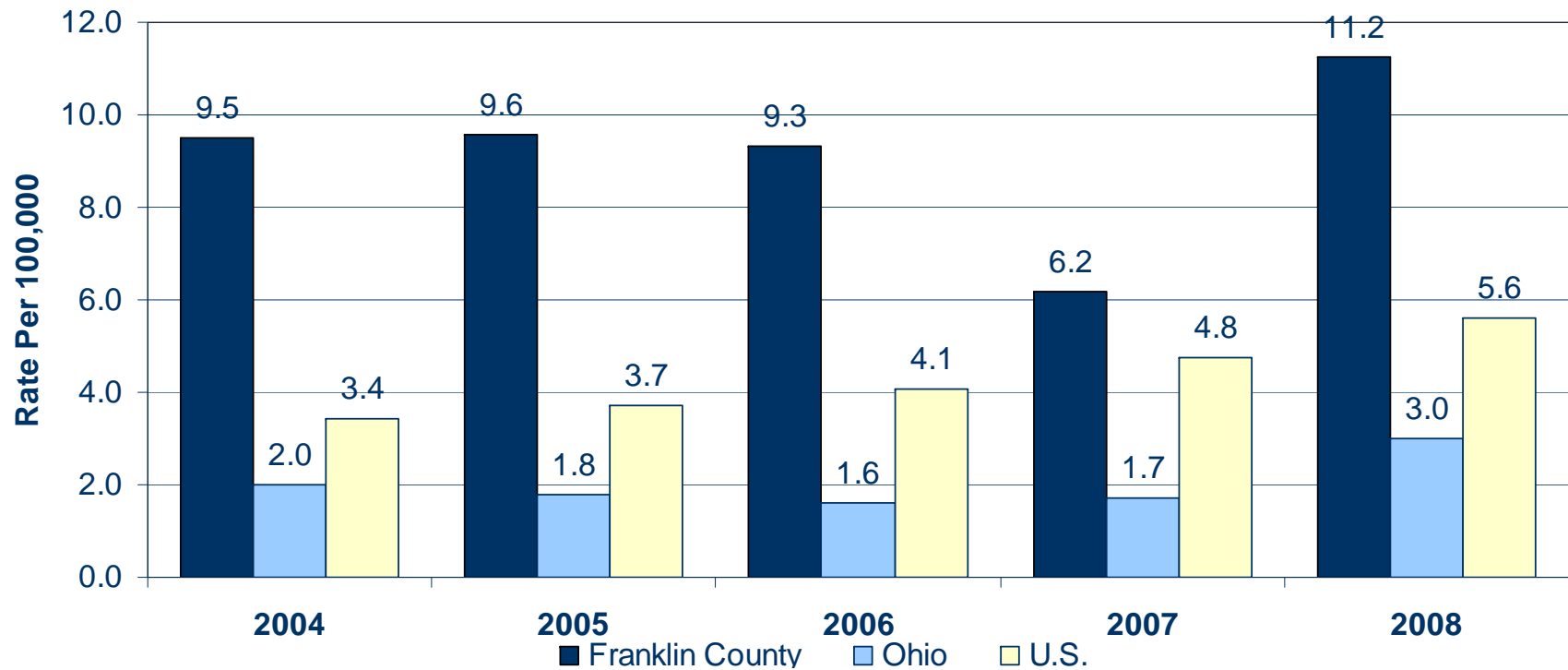
Source: Ohio Department of Health, STD Surveillance, Analysis by Columbus Public Health, Office of Assessment and Surveillance

Syphilis (primary and secondary) - Franklin County, 2008 Disease Rates (per 100,000) by Age



Source: Ohio Department of Health, STD Surveillance, Analysis by Columbus Public Health, Office of Assessment and Surveillance

Syphilis (primary and secondary) - Franklin County, 2008 Disease Rates (per 100,000) By Year



Sources:

Ohio Department of Health, STD Surveillance, Analysis for Franklin County by Columbus Public Health, Office of Assessment and Surveillance

CDC WONDER On-line Database, November 2009. Accessed at <http://wonder.cdc.gov/std-std-v2008-race-age.html> on Apr 13, 2010

Rates are shown per 100,000 and calculated using census estimates.

Syphilis (primary and secondary) - Franklin County, 2008

By Race

The Franklin County rate of syphilis among blacks was 6.6 times higher than that of whites.



The Ohio and the U.S. rates are 6.8 and 7.9 respectively.

HIV/AIDS – Franklin County

In 2007...

- There were 265 people diagnosed with HIV/AIDS and 3,064 living with the disease.
- 57% of those diagnosed were White and 37% were Black.
 - A quarter of those diagnosed or living with HIV/AIDS were Black males which is higher than would be expected given black males only represent 9% of the total population.
- 80% of cases diagnosed were male.

In 2005-2007...

- Persons aged 35-44 accounted for the largest proportion of newly diagnosed HIV/AIDS cases (31%).
- Persons aged 35-44 also accounted for the largest proportion of those living with HIV/AIDS (36%).
- Over 80% of those living with HIV/AIDS were male.
- Nearly half of HIV/AIDS diagnoses were among adolescent and adult males who had male to male sexual contact.

Sources:

Ohio Department of Health, HIV/AIDS Surveillance, Analysis for Franklin County by Columbus Public Health, Office of Assessment and Surveillance
Racial break outs exclude Hispanic.

HIV/AIDS – Ohio

In 2007...

- There were 1,028 people diagnosed with HIV/AIDSs and 15,413 living with the disease.
- 45% of those diagnosed were White and 47% were Black.
- Over 80% of cases diagnosed were male and three quarters of those living with HIV/AIDS were male.
- Persons aged 35-44 accounted for the largest proportion of newly diagnosed HIV/AIDS cases (32%).
- Persons aged 35-54 also accounted for the largest proportion of those living with HIV/AIDS (68%).
- Over half of HIV/AIDS diagnoses were among adolescent and adult males who had male to male sexual contact (61%).

Sources:

Ohio Department of Health, HIV/AIDS Surveillance,
Racial break outs exclude Hispanic.

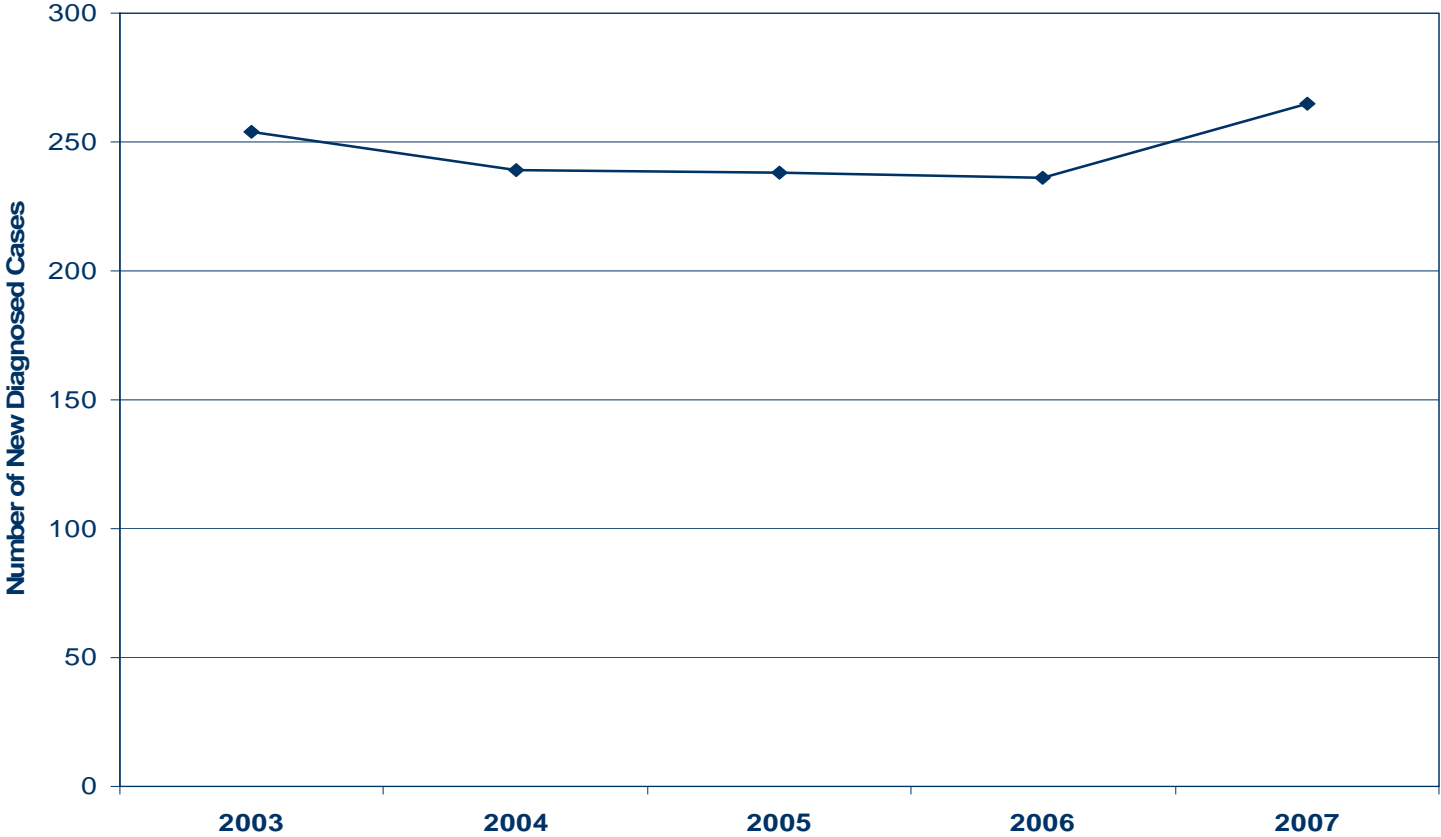
HIV/AIDS – U.S.

In 2007...

- At the end of 2006, an estimated 1.1 million persons in the United States were living with HIV infection, with 21% undiagnosed.¹
- Persons aged 40-49 accounted for the largest proportion of newly diagnosed HIV/AIDS cases (27%).
- Nearly three quarters of HIV/AIDS diagnoses among adolescents and adults were for males.
- African Americans accounted for over half (51%) of the estimated number of HIV/AIDS diagnoses made during 2007. Whites made up a little over a quarter (29%).

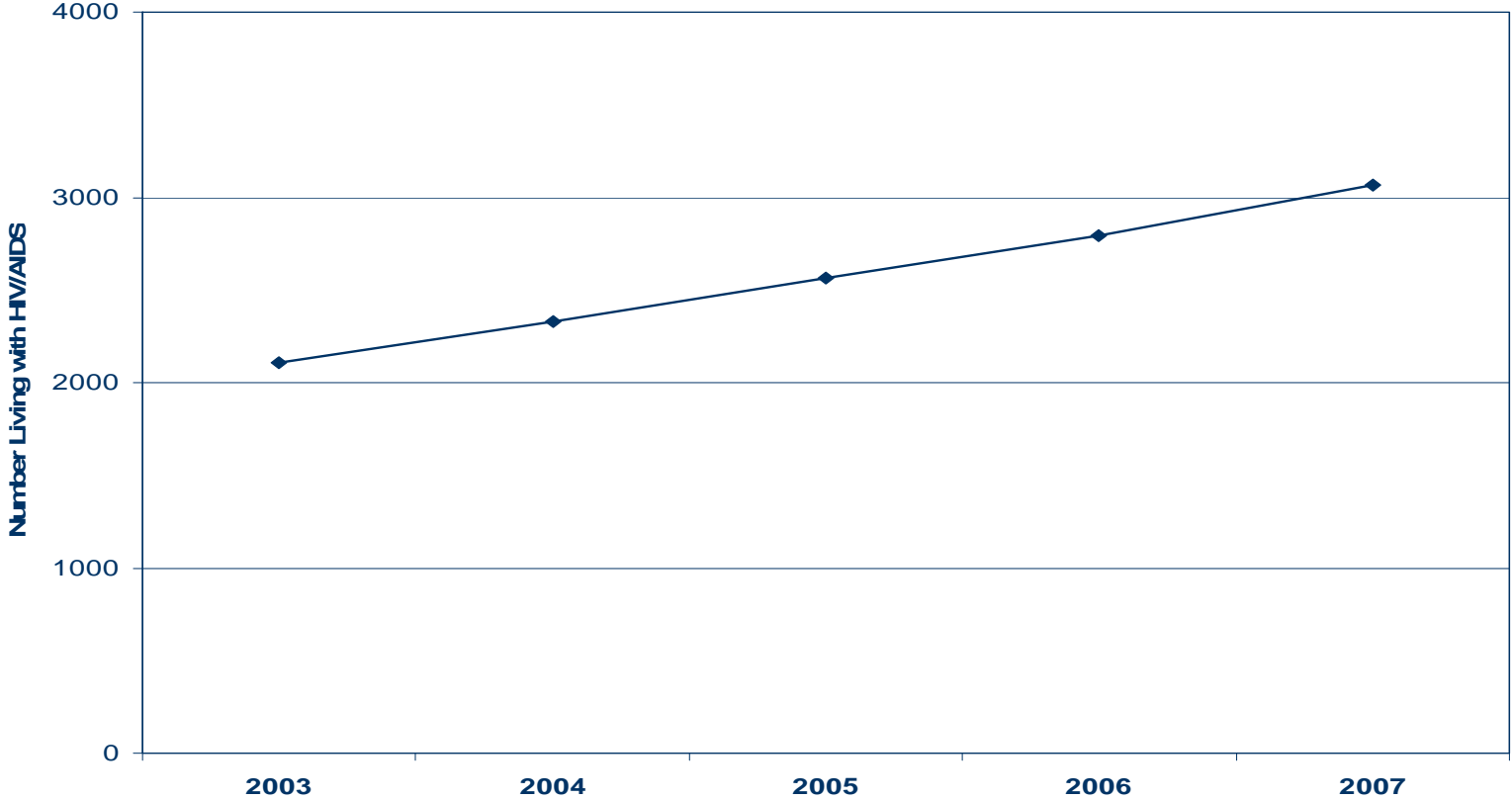
Persons Diagnosed with HIV/AIDS - Franklin County

Number of New Cases By Year



Source: Ohio Department of Health, HIV/AIDS Surveillance, Analysis by Columbus Public Health, Office of Assessment and Surveillance

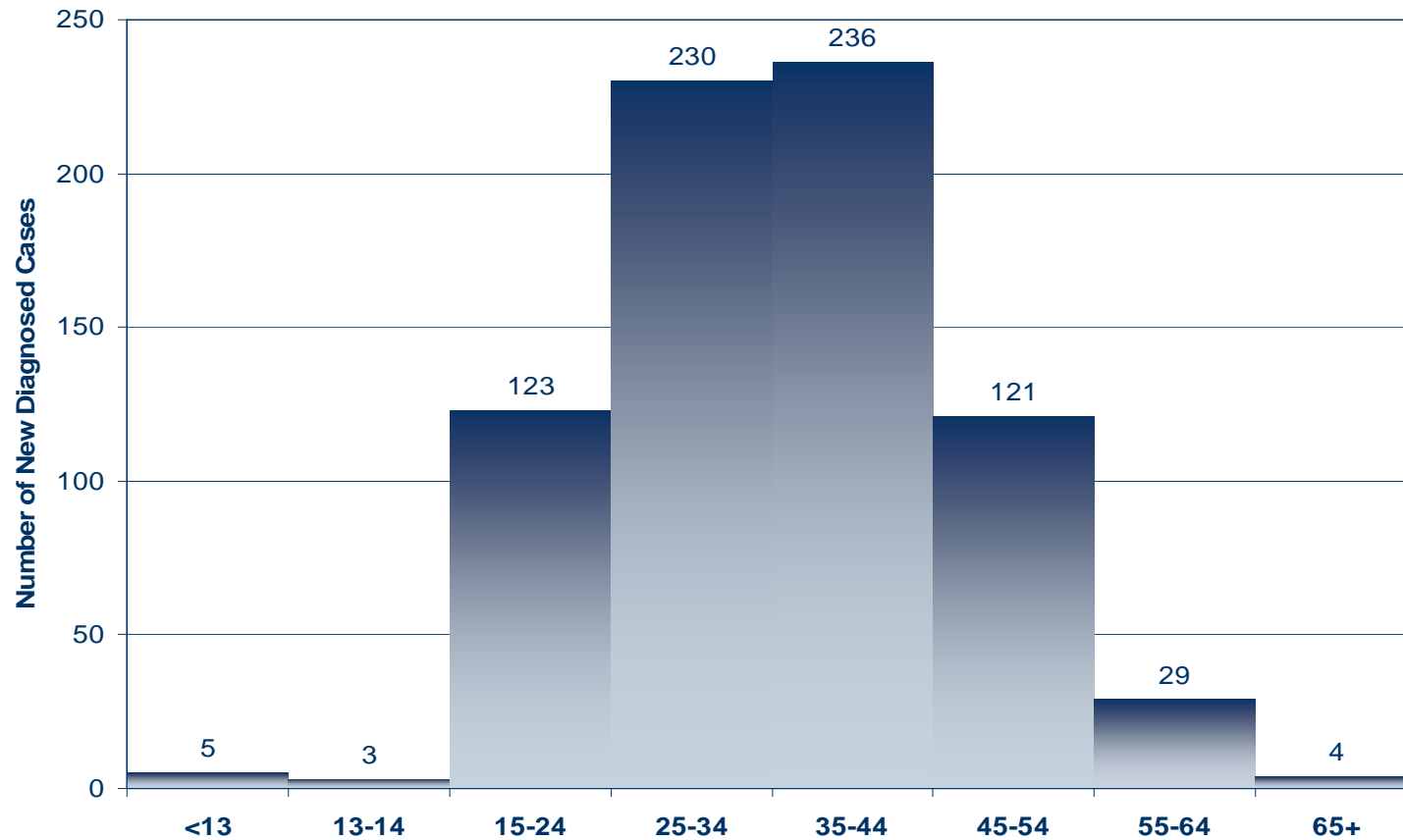
Persons Living with HIV/AIDS - Franklin County Number of Cases By Year



Source: Ohio Department of Health, HIV/AIDS Surveillance, Analysis by Columbus Public Health, Office of Assessment and Surveillance

Persons Diagnosed with HIV/AIDS Franklin County, 2005-2007

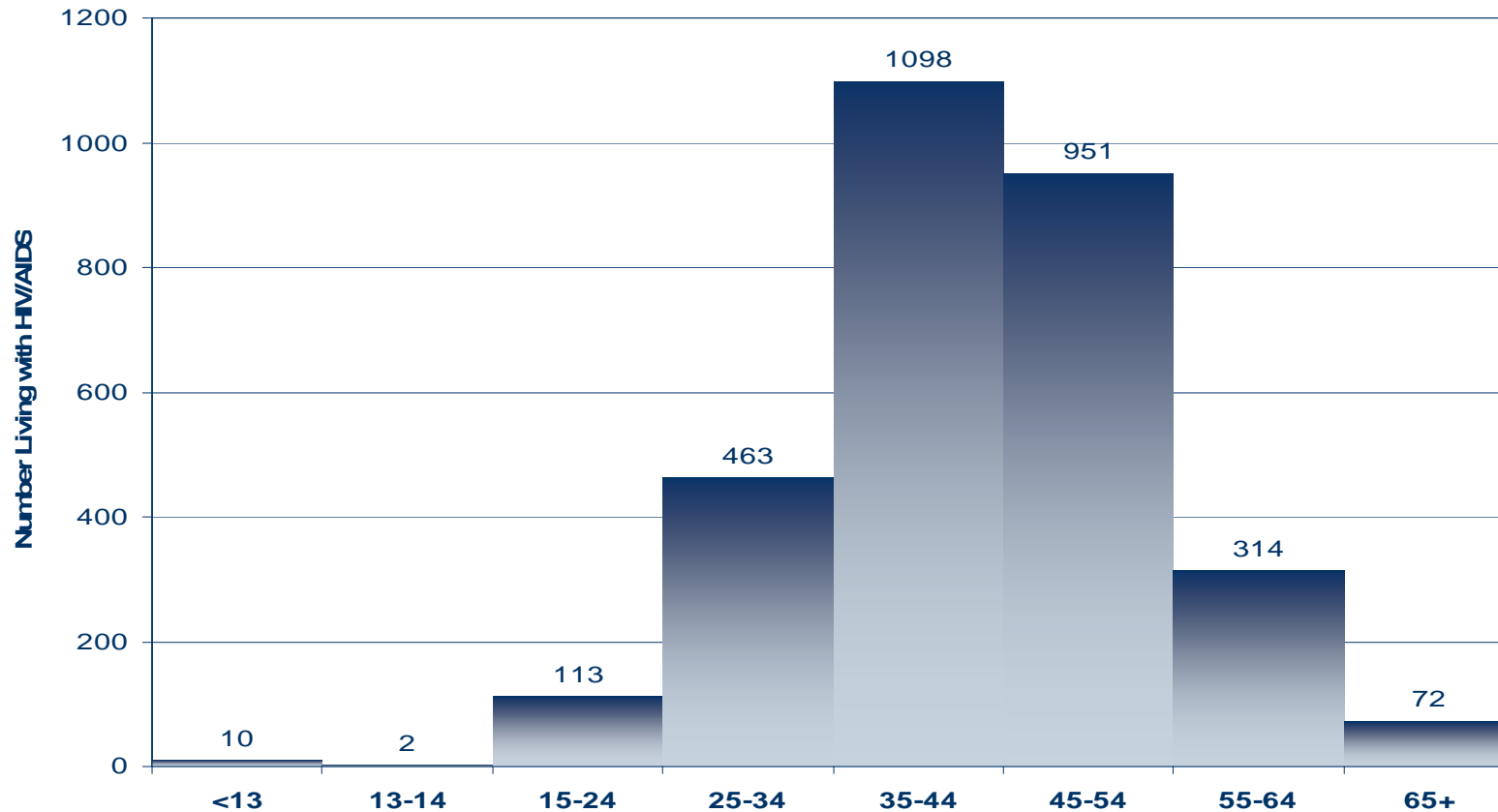
Number of New Cases by Age



Source: Ohio Department of Health, HIV/AIDS Surveillance, Analysis by Columbus Public Health, Office of Assessment and Surveillance

Persons Living with HIV/AIDS Franklin County, 2005-2007

Number of Cases by Age



Source: Ohio Department of Health, HIV/AIDS Surveillance, Analysis by Columbus Public Health, Office of Assessment and Surveillance

Sources

National Statistics for Gonorrhea, Chlamydia, and Syphilis:

US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for HIV, STD and TB Prevention (NCHSTP), Division of STD/HIV Prevention, Sexually Transmitted Disease Morbidity for selected STDs by age, race/ethnicity and gender 1996-2008, CDC WONDER On-line Database, November 2009. Accessed at <http://wonder.cdc.gov/std-std-v2008-race-age.html> on Apr 13, 2010 10:57:46 AM

<http://www.cdc.gov/std/stats08/chlamydia.htm>

<http://www.cdc.gov/std/stats08/gonorrhea.htm>

<http://www.cdc.gov/std/stats08/syphilis.htm>

National Statistics for HIV/AIDS:

CDC. HIV Prevalence Estimates—United States, 2006. *MMWR* 2008; 57(39): 1073-1076.

CDC. *HIV/AIDS Surveillance Report, 2007. Vol. 19.* Atlanta: US Department of Health and Human Services, CDC: 2009. Accessed June 15, 2009.

Hall HI, Ruiguang S, Rhodes P, et al. Estimation of HIV incidence in the United States. *JAMA.* 2008; 300:520-529.

The End

- Questions?

Chlamydia – Ohio

In 2008...

- Over 46,000 chlamydial infections were reported in Ohio.
 - This case count corresponds to a rate of 406.6 cases per 100,000 population, an increase of 2% compared with the rate of 399.7 in 2007.
- Young people age 15 to 19 years have 5.8 times the reported rate of the total population (10-65+).
- Women had 3 times the reported chlamydia rates of men.
- The rate of chlamydia among blacks was 11 times higher than that of whites.

Sources:

Ohio Department of Health, STD Surveillance,
Racial break outs include all ethnicities.

Chlamydia – U.S.

In 2008...

- Over 1 million chlamydial infections were reported to CDC from 50 states and the District of Columbia.
 - This case count corresponds to a rate of 401.3 cases per 100,000 population, an increase of 9.2% compared with the rate of 367.5 in 2007.
- Young people age 15 to 24 years have 5 times the reported rate of the total population (10-65+).
- Women had 2.8 times the reported chlamydia rates of men.
- The rate of chlamydia among blacks was over eight times higher than that of whites.

Gonorrhea – Ohio

In 2008...

- Over 16,000 million gonorrheal infections were reported in Ohio.
 - This case count corresponds to a rate of 143.6 cases per 100,000 population, a decrease when compared with the rate of 174.5 in 2007.
- Young people age 15 to 19 years have 4.6 times the reported rate than the total of the population (10-65+).
- Women had 1.4 times the reported gonorrhea rates of men.
- The rate of gonorrhea among blacks was almost 24 times higher than that of whites.

Sources:

Ohio Department of Health, STD Surveillance,
Racial break outs include all ethnicities.

Gonorrhea – U.S.

In 2008...

- 336,742 cases of gonorrhea were reported in the United States, a rate of 111.6 cases per 100,000 population reflecting a small decrease of 5.4% since 2007.
 - Gonorrhea rates have remained relatively stable over the past 12 years.
- Gonorrhea rates continued to be highest among adolescents and young adults.
- There was no significant difference the reported gonorrhea rates for women and men.
- African Americans had 20.2 times the reported gonorrhea rates of Whites.

Syphilis (primary and secondary) – Ohio

In 2008...

- Over 300 syphilis infections were reported in Ohio.
 - This case count corresponds to a rate of 3.0 cases per 100,000 population, an increase of 76% compared with the rate of 1.7 in 2007.
- Young people age 15 to 19 years have 2.9 times the reported rate than the total of the population (10-65+).
- Men had 5 times the reported syphilis rates of women.
- The rate of syphilis among blacks was 6.8 times higher than that of whites.
- In 2009...
- 349 syphilis infections were reported in Franklin County.
 - This case count corresponds to a rate of 3.0 cases per 100,000 population.

Sources:

Ohio Department of Health, STD Surveillance,
Racial break outs include all ethnicities.

Syphilis (primary and secondary) – U.S.

In 2008...

- The rate of Primary & Secondary syphilis in the United States (4.5 cases per 100,000 population) was 18.4% higher than the rate in 2007 (3.8 cases per 100,000 population).
- The rate of Primary & Secondary syphilis was highest in persons in the 20- to 24-year-old and 25- to 29-year-old age groups (11.4 and 10.7 cases per 100,000 population, respectively).
- Men had 5.1 times the reported syphilis rate of women.
- African Americans had 7.9 times the reported syphilis rates of Whites.