

NH STD Update 2012

Focus on Young Adults

Jodie Dionne-Odom, MD

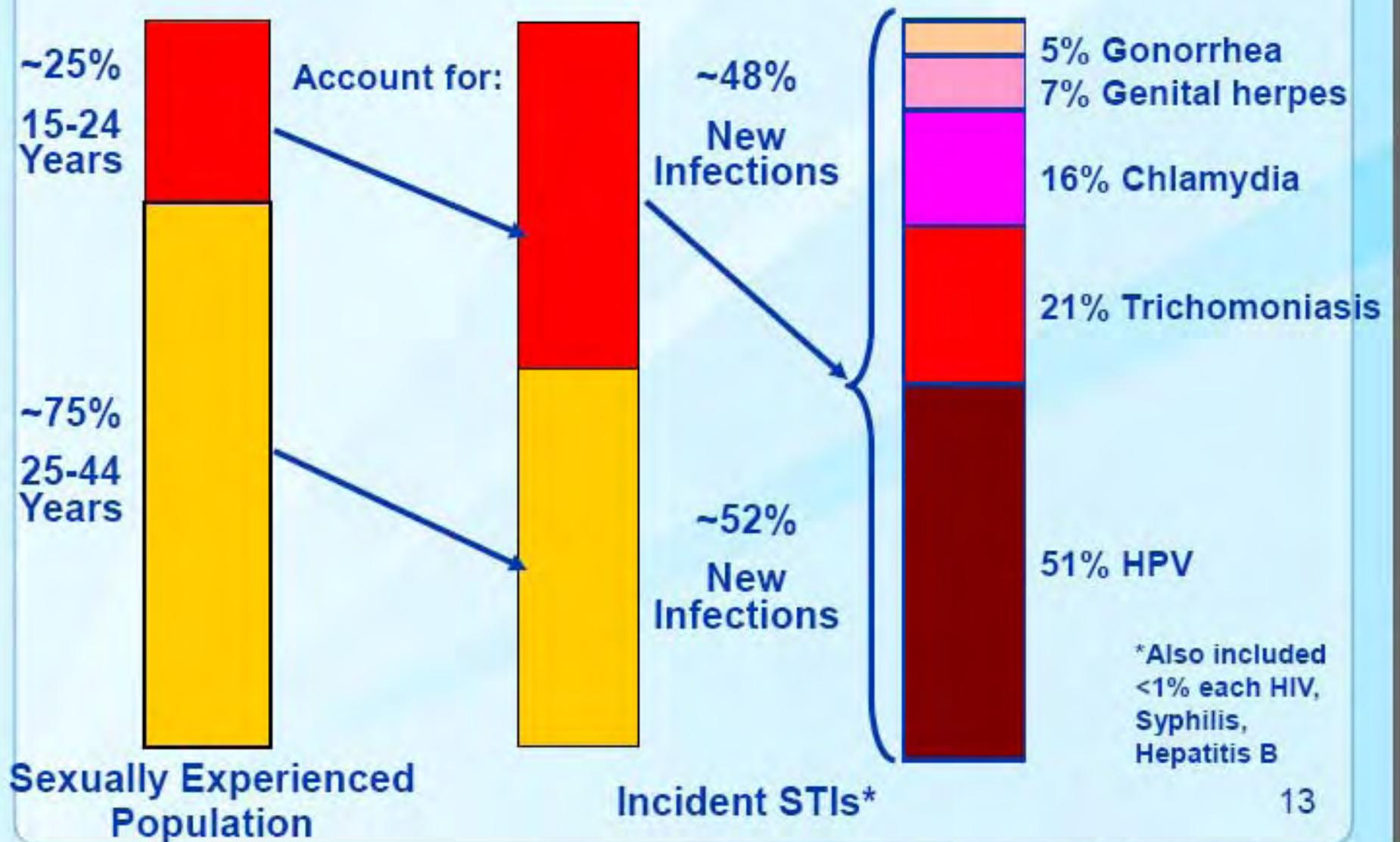
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12 April 2012

Outline

- Gonorrhoea
- Chlamydia
- Syphilis

Estimated Youth STI Incidence, 2000



Summary of Impact

- Youth aged 15-24
 - Are seen in a variety of clinical practice settings by providers with different backgrounds and training
 - Account for $\frac{1}{4}$ of ever-sexually active population aged 15-44 years, *but*
 - Acquire nearly $\frac{1}{2}$ of all new STIs
 - 88% of new STI cases are from 3 infections: HPV, trichomonas, and chlamydia

CDC Recommendations

Adolescent STI Screening

- ❑ Annual *C. trachomatis* (CT) screen all sexually active females aged ≤ 25 yrs
- ❑ Annual *N. gonorrhoeae* (GC) screen all at-risk sexually active females
 - Females aged < 25 years are highest risk for gonorrhea infection
- ❑ Discuss HIV screening with all adolescents and encourage testing for those at risk
- ❑ Begin cervical cancer screening at age 21 in most cases

Adolescent Screening

What about boys?!

- ❑ Insufficient evidence to recommend routine chlamydia screening in young men
 - feasibility
 - efficacy
 - cost
- ❑ Consider screening adolescent/young adult males in clinical settings associated with high chlamydia prevalence
 - adolescent clinics, correctional facilities, STD clinics, MSM
 - defined by the CDC those known to have a 1% or greater prevalence of infection among patient population served.

CDC Recommendations Screening for Other STIs

- ❑ Routine screening of asymptomatic adolescents for certain STIs (syphilis, trichomoniasis, BV, HSV, HPV, HAV, HBV) not recommended
- ❑ MSM and pregnant adolescents might require more thorough evaluation

Gonorrhoea and Chlamydia





SHE MAY LOOK CLEAN - BUT

PICK-UPS
"GOOD TIME" GIRLS
PROSTITUTES

SPREAD SYPHILIS AND GONORRHEA

You can't beat the Axis if you get VD

Symptoms

Men	Women
<p>Burning on urination Penile discharge Painful/swollen testicles Symptoms occur 2-7 days after infection</p>	<p>Asymptomatic infection is common Symptoms usually mild Burning on urination Vaginal discharge Bleeding between periods or after sex</p>

Complications

- **PID**
- **Infertility**
- **Epididymitis**
- **Skin lesions**
- **Arthritis**
- **Increased susceptibility to contracting HIV**

Complications in Women

- Pelvic inflammatory disease resulting from untreated infection involving the uterus or Fallopian tubes.
 - **Up to 40% of untreated women.**
- PID can lead to chronic pelvic pain, infertility, and potentially fatal ectopic pregnancy.
- Infertility: 15%-24% with 1 episode PID secondary to GC or chlamydia
- 7X risk of ectopic pregnancy with 1 episode PID
- Chronic pelvic pain in 18%

Pelvic Inflammatory Disease



Source: Cincinnati STD/HIV Prevention Training Center

Cutaneous Skin Lesions Secondary to Systemic Gonorrhea





<http://www.lib.uiowa.edu/hARDIN/MD/cdc/gonorrhea12.html>

Figure 14. Gonorrhea—Rates, United States, 1941-2010

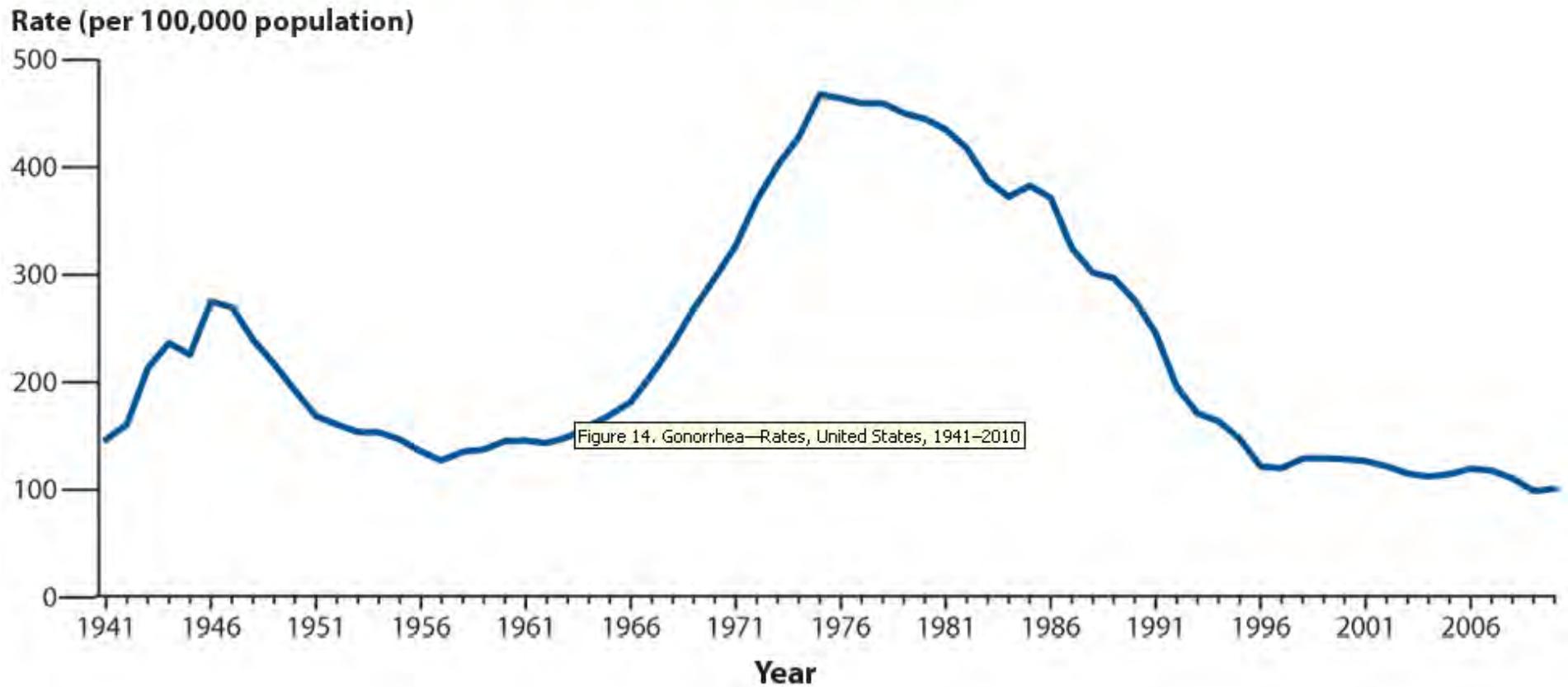


Figure 1. Chlamydia—Rates by Sex, United States, 1990-2010

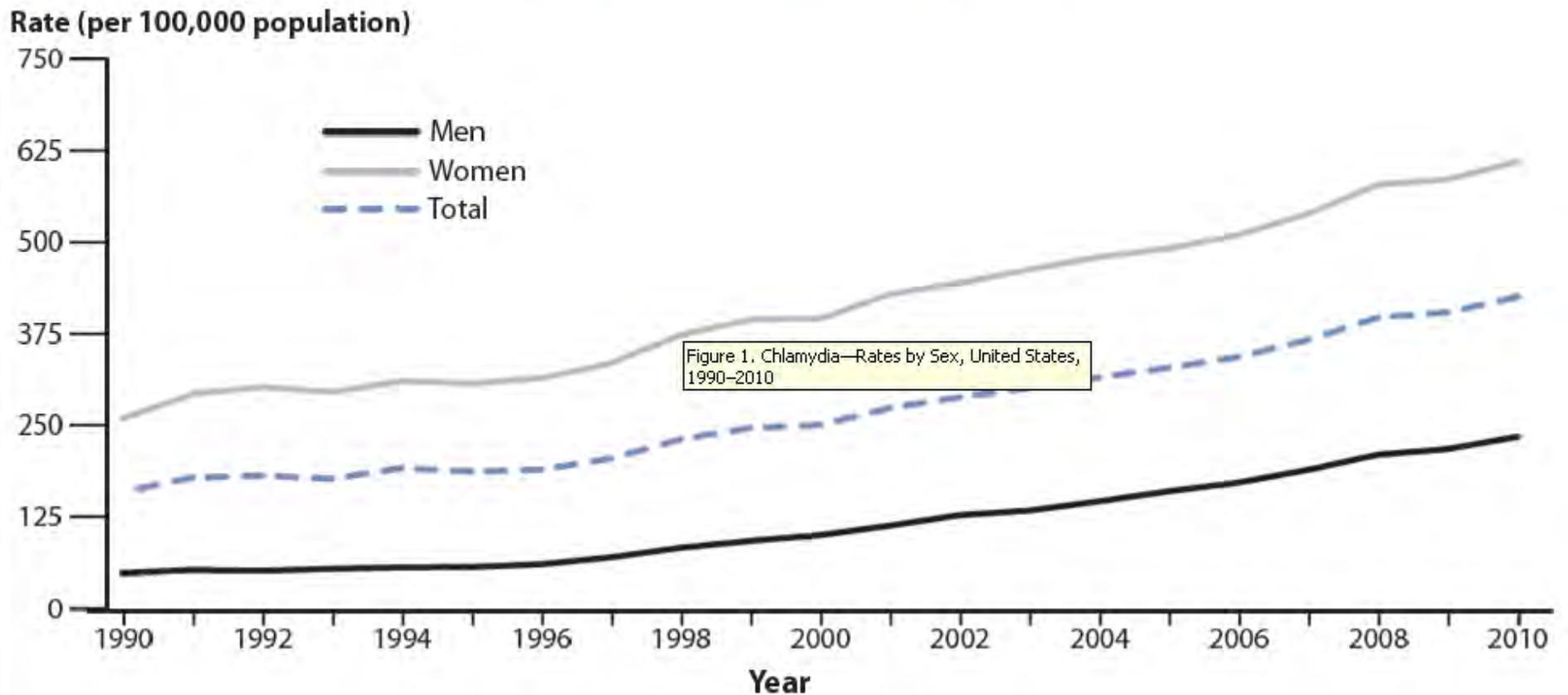


Figure 16. Gonorrhea—Rates by Region, United States, 2001-2010

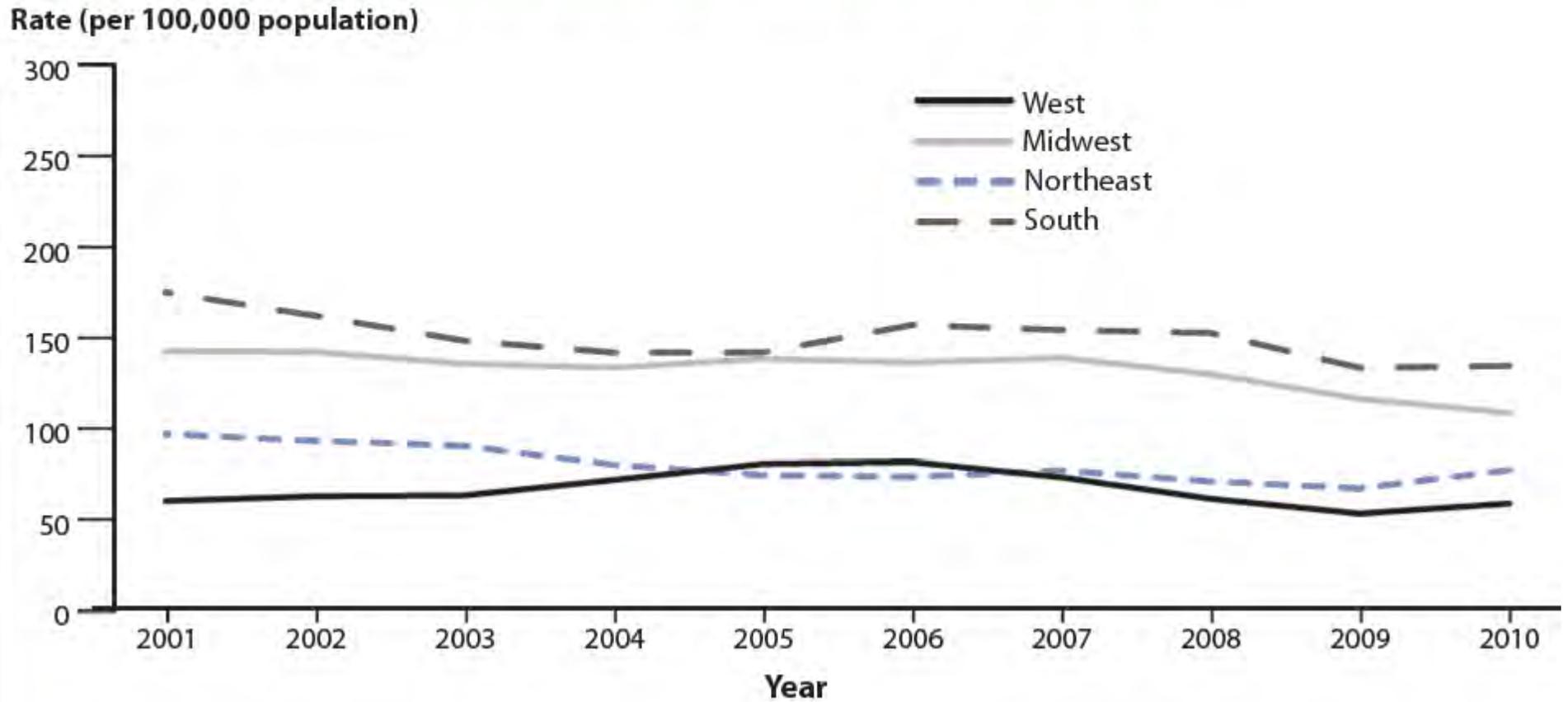
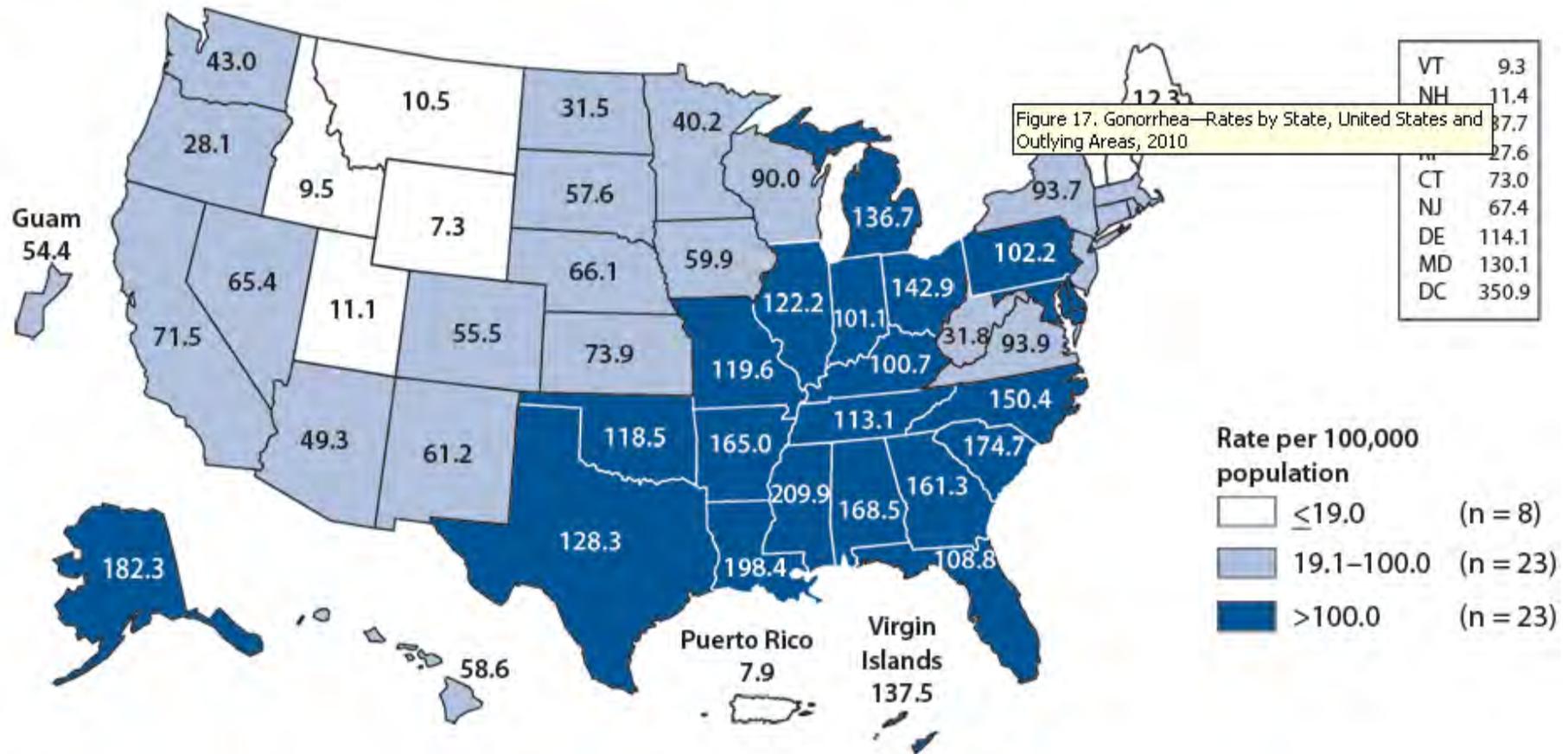


Figure 17. Gonorrhea—Rates by State, United States and Outlying Areas, 2010



NOTE: The total rate of gonorrhea for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 99.6 per 100,000 population.

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Figure 19. Gonorrhea—Rates by Age and Sex, United States, 2010

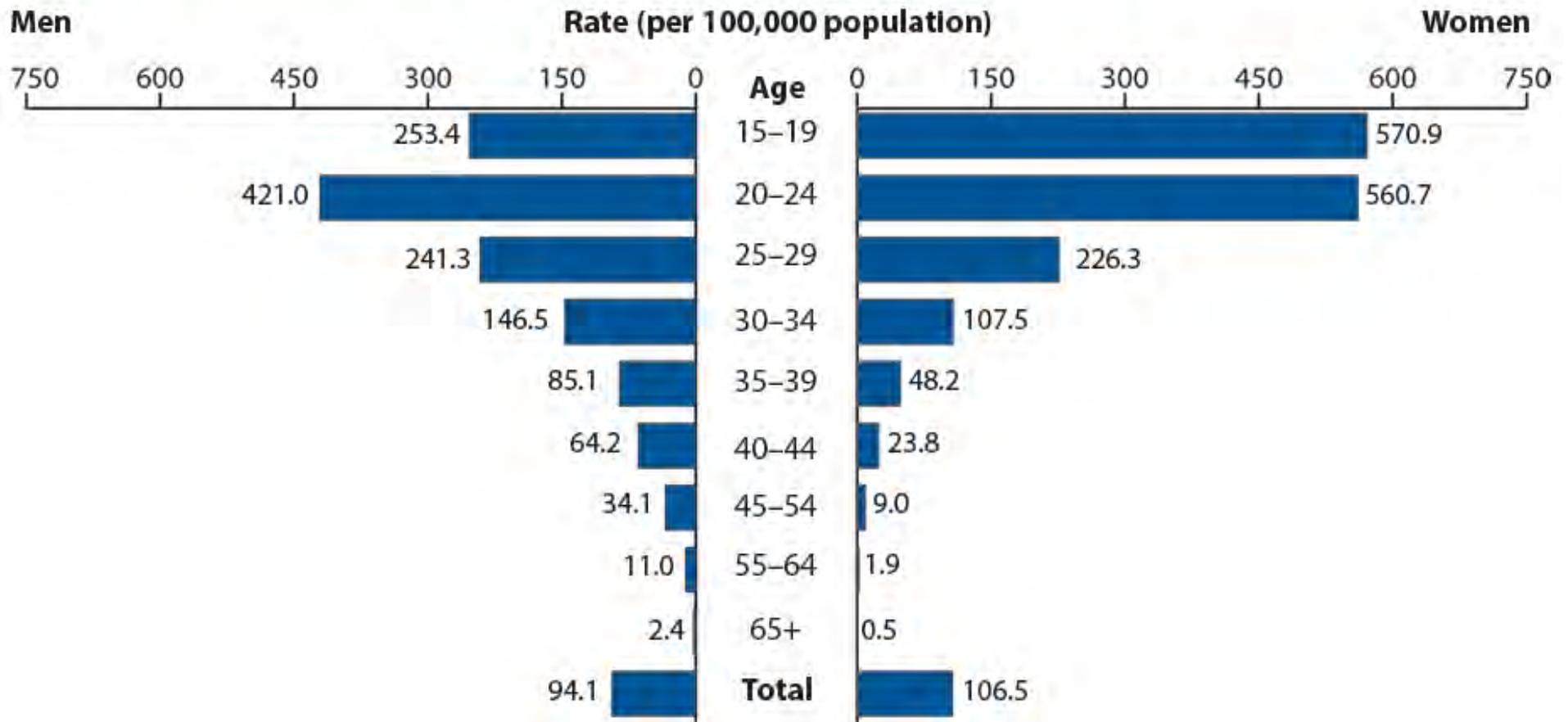
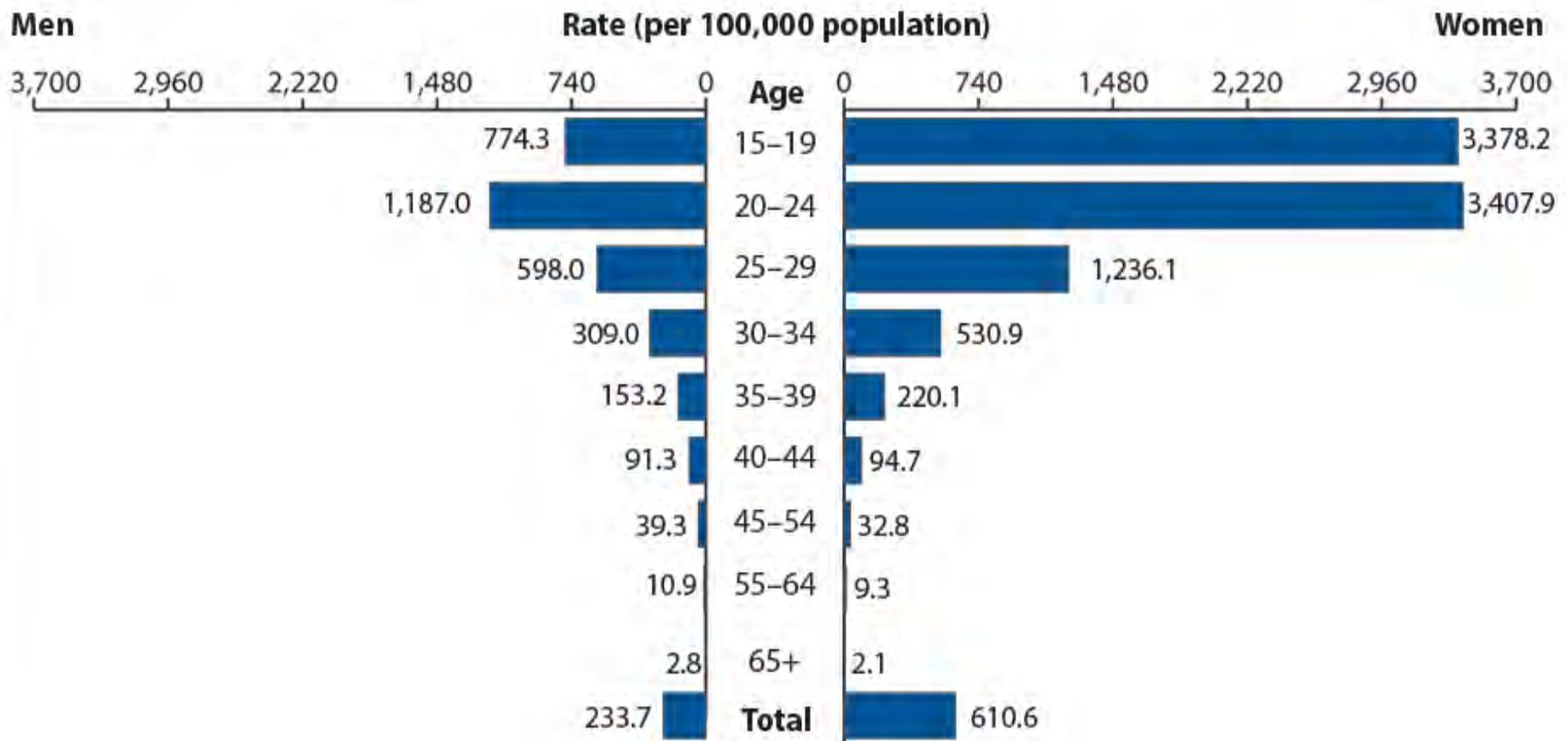


Figure 5. Chlamydia—Rates by Age and Sex, United States, 2010



[Next Figure](#)

Figure 22. Gonorrhea—Rates by Race/Ethnicity, United States, 2001-2010

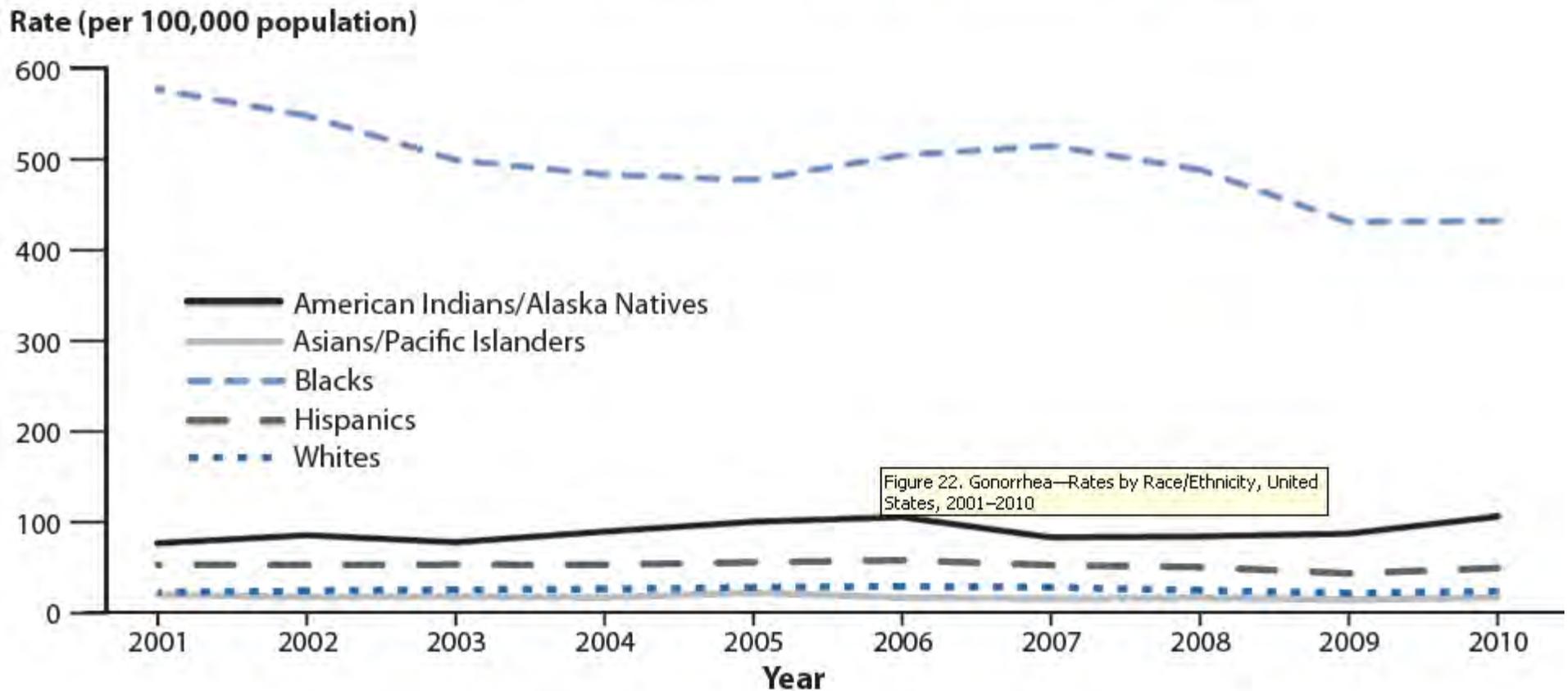


Figure 24. Gonorrhea—Percentage of Reported Cases by Sex and Selected Reporting Sources, United States, 2010

Percentage

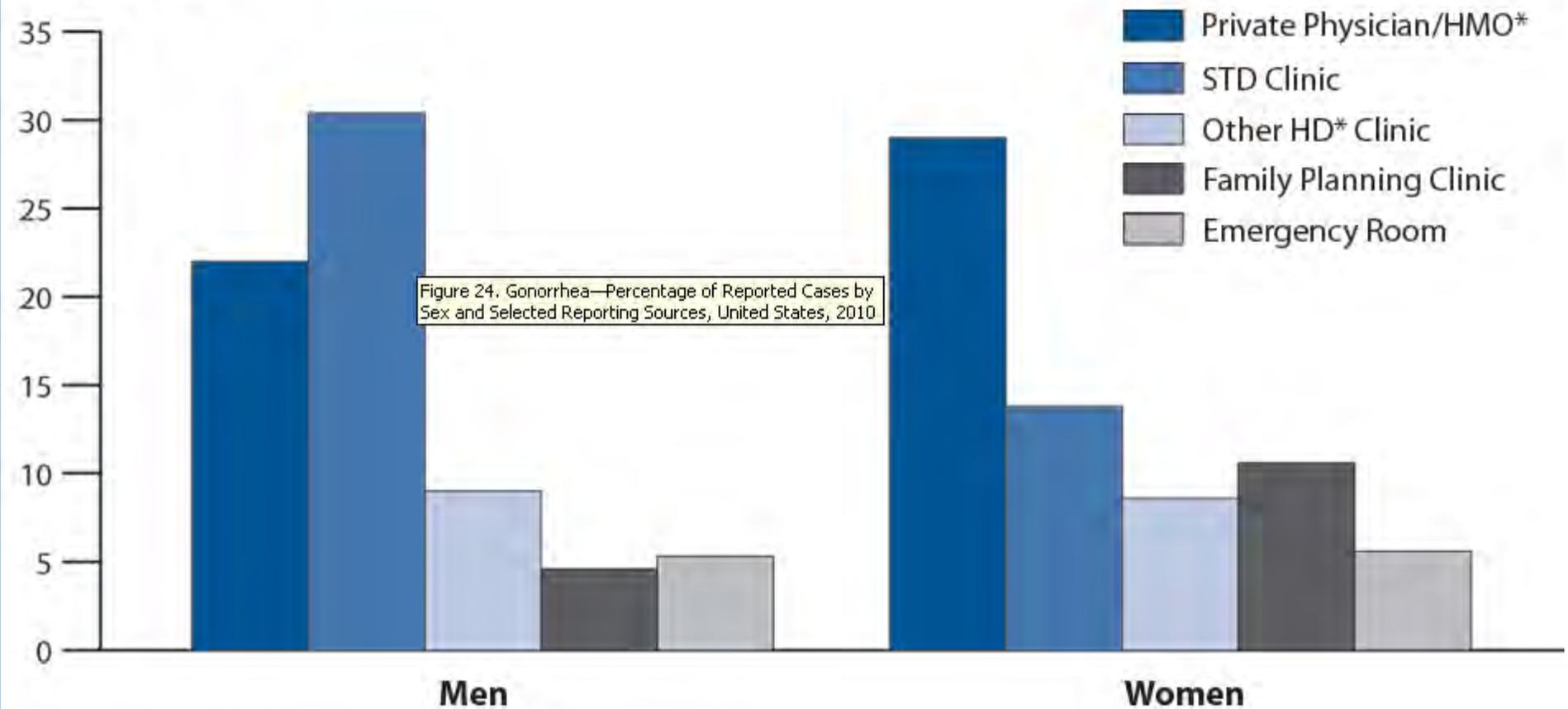
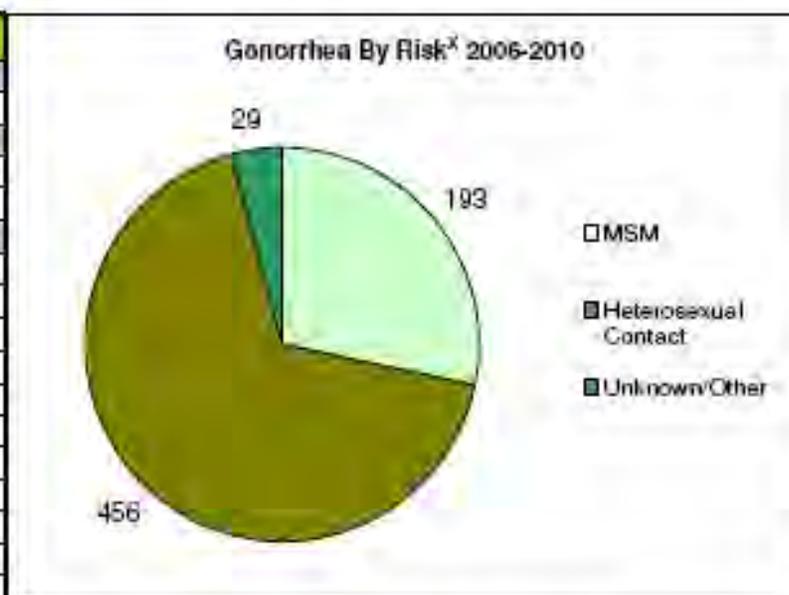


Figure 24. Gonorrhea—Percentage of Reported Cases by Sex and Selected Reporting Sources, United States, 2010

* HMO = health maintenance organization; HD = health department.

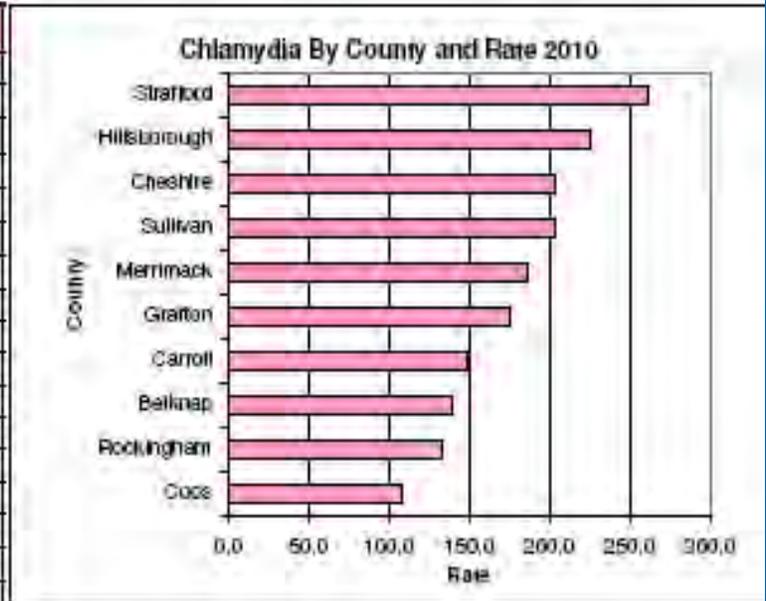
New Hampshire Infectious Disease Surveillance Section
 STD/HIV Summary Report
 2006-2010
 Gonorrhea

YEAR	2010		2009		2008		2007		2006	
	Cases	Rate*								
TOTAL	146	11.1	117	8.8	100	7.6	138	10.5	177	13.5
GENDER	Cases	Rate*								
Male	68	13.6	62	9.5	52	8.0	75	11.6	82	12.7
Female	58	8.7	55	8.2	48	7.2	63	9.4	95	14.3
AGE-SPECIFIC	Cases	Rate*								
0-12	1	*	0	0.0	1	*	0	0.0	0	0.0
13-19	24	21.6	23	17.8	20	15.2	27	20.3	34	25.4
20-24	44	52.0	29	32.4	33	37.4	44	50.3	50	57.7
25-29	31	42.4	21	27.1	15	19.6	17	22.8	31	42.8
30-34	12	16.8	10	10.1	5	4.9	7	6.6	19	17.4
35-39	5	6.1	7	9.7	17	23.5	18	24.6	21	27.6
40-44	9	9.3	11	12.9	5	5.6	14	15.2	7	7.5
45-49	11	9.7	7	6.1	1	*	7	6.1	7	6.1
50-54	3	*	4	*	2	*	1	*	5	5.0
55-59	2	*	5	5.4	1	*	3	*	3	*
60+	4	*	0	0.0	0	0.0	0	0.0	0	0.0
RACE	Cases	Rate*								
White	99	7.9	91	7.2	71	5.6	112	8.9	131	10.4
Black	14	64.4	6	33.1	10	57.4	11	65.9	17	106.7
Asian/Pacific Isl.	1	*	1	*	1	*	0	0.0	4	*
American/Alaskan Nat	1	*	0	0.0	0	0.0	0	0.0	1	*
Other/Unknown	31	201.3	19	131.9	16	127.9	15	110.4	24	181.8
ETHNICITY	Cases	Rate*								
Hispanic†	4	*	8	21.7	8	22.5	8	23.6	6	18.6
COUNTY/CITY‡	Cases	Rate*								
Belknap	3	*	2	*	1	*	6	9.8	5	8.2
Carroll	0	0.0	5	10.4	5	10.4	5	10.4	4	*
Cheshire	13	16.9	4	*	2	*	5	6.5	5	6.5
Coos	1	*	5	15.9	2	*	2	*	2	*
Grafton	10	11.2	5	5.8	5	5.8	8	9.3	8	9.4
Hillsborough	61	15.2	49	12.1	46	11.4	60	14.9	81	20.2
Manchester	28	25.6	28	25.5	24	22.0	35	32.1	55	50.4
Nashua	17	19.7	6	6.8	12	13.8	13	14.9	9	10.3
Merrimack	13	8.9	14	9.4	9	6.0	12	8.1	16	10.8
Rockingham	30	10.2	20	6.7	22	7.4	29	9.8	39	13.2
Stafford	7	5.7	9	7.3	8	6.5	9	7.4	9	7.5
Sullivan	8	18.2	4	*	0	0.0	2	*	8	18.8

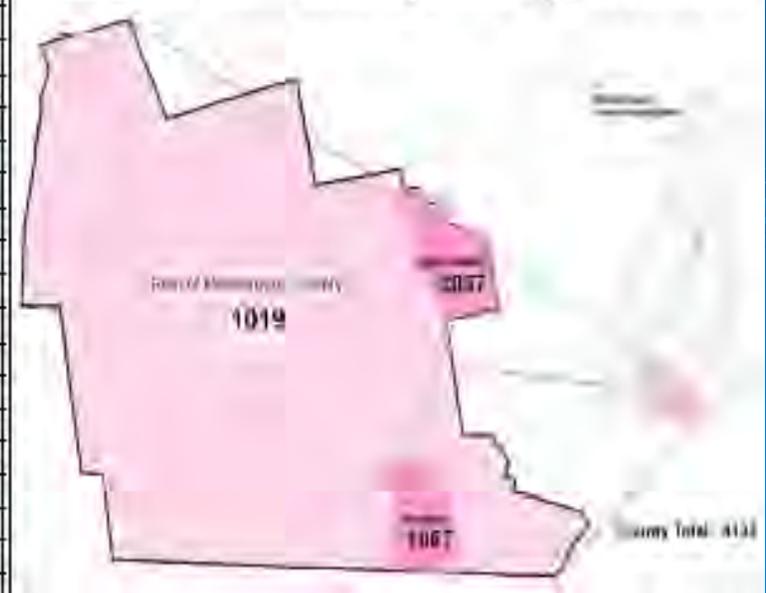


New Hampshire Infectious Disease Surveillance Section
 STD/HIV Summary Report
 2006-2010
 Chlamydia

YEAR	2010		2009		2008		2007		2006	
	Cases	Rate*								
TOTAL	2484	188.7	2100	158.5	2096	158.6	2065	156.0	2013	153.4
GENDER	Cases	Rate*								
Male	657	101.2	559	85.6	556	85.6	525	80.9	515	79.6
Female	1827	273.9	1541	229.4	1538	229.5	1530	229.0	1498	225.2
AGE-SPECIFIC	Cases	Rate*								
0-12	0	0.0	2	*	2	*	0	0.0	1	*
13-19	774	695.6	575	444.1	667	506.2	661	496.5	633	473.1
20-24	1062	1256.1	939	1048.5	845	966.6	851	973.0	840	968.9
25-29	360	537.5	357	460.7	356	465.1	344	461.2	337	465.7
30-34	138	193.4	25	25.3	32	31.3	15	14.1	26	23.8
35-39	61	74.3	135	187.1	115	169.0	117	159.7	112	147.3
40-44	25	25.8	48	56.2	56	62.8	50	54.4	44	46.9
45-49	12	10.8	11	9.6	10	8.7	10	8.7	11	9.6
50-54	10	8.9	3	*	7	6.6	6	5.8	8	8.0
55-59	6	6.2	4	*	5	5.6	1	*	0	0.0
60+	3	*	1	*	1	*	0	0.0	1	*
RACE	Cases	Rate*								
White	1596	127.1	1656	131.2	1701	134.9	1677	125.3	1655	131.9
Black	73	326.8	65	368.8	69	395.9	85	509.0	98	615.0
Asian/Pacific Isl.	35	98.1	27	102.0	25	96.4	21	83.5	23	94.4
American/Alaskan Nat	12	114.0	12	311.9	5	131.5	11	283.2	4	*
Other/Unknown	768	4987.3	340	2359.6	296	2103.9	361	2657.3	233	1765.0
ETHNICITY	Cases	Rate*								
Hispanic†	84	228.9	107	290.2	109	307.1	119	350.7	154	478.2
COUNTY/CITY‡	Cases	Rate*								
Belknap	84	139.8	77	125.5	89	145.2	87	142.6	73	119.9
Carroll	71	148.5	49	102.4	62	128.9	50	104.4	56	118.0
Cheshire	157	203.6	129	167.4	149	193.1	110	142.0	71	91.8
Cook	36	108.9	37	117.5	45	141.0	32	99.0	41	125.9
Grafton	156	175.0	126	146.0	108	125.2	125	146.1	125	146.5
Hillsborough	901	224.8	771	189.9	766	189.6	857	212.8	838	208.9
Manchester	423	386.1	374	340.2	375	343.6	438	401.8	447	409.5
Nashua	244	282.1	206	237.1	192	220.1	217	249.2	206	236.5
Merrimack	274	187.1	199	133.5	215	144.3	200	134.6	207	140.0
Rockingham	394	133.5	358	119.6	339	113.6	283	95.3	335	113.2
Stratford	322	261.5	256	207.1	244	198.5	254	206.0	218	180.6
Sullivan	89	202.5	98	229.6	79	182.5	57	132.3	49	114.8



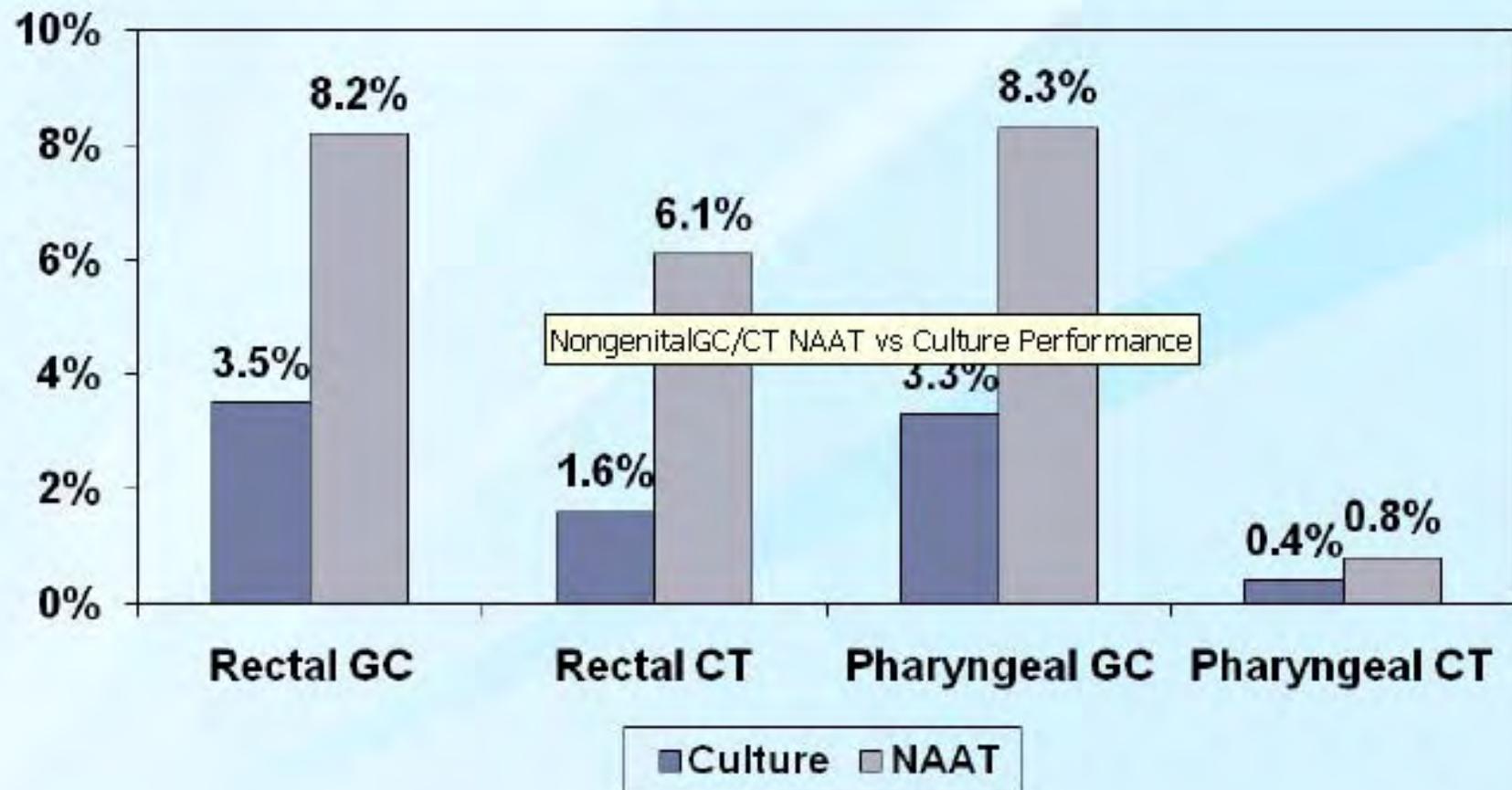
Chlamydia - Hillsborough County, 2006-2010



New Chlamydia and Gonorrhea Testing Options

- ❑ Nucleic acid amplification tests (NAATs)
 - most sensitive CT lab tests
 - CDC-recommended
 - vaginal swabs preferred female specimen
 - urine preferred male specimen
- ❑ Rectal and oropharyngeal swab GC/CT NAATs
 - not FDA-cleared
 - some labs met requirements for GC and CT NAATs on rectal swabs and GC NAATs on oral swabs

Nongenital GC/CT NAAT vs Culture Performance



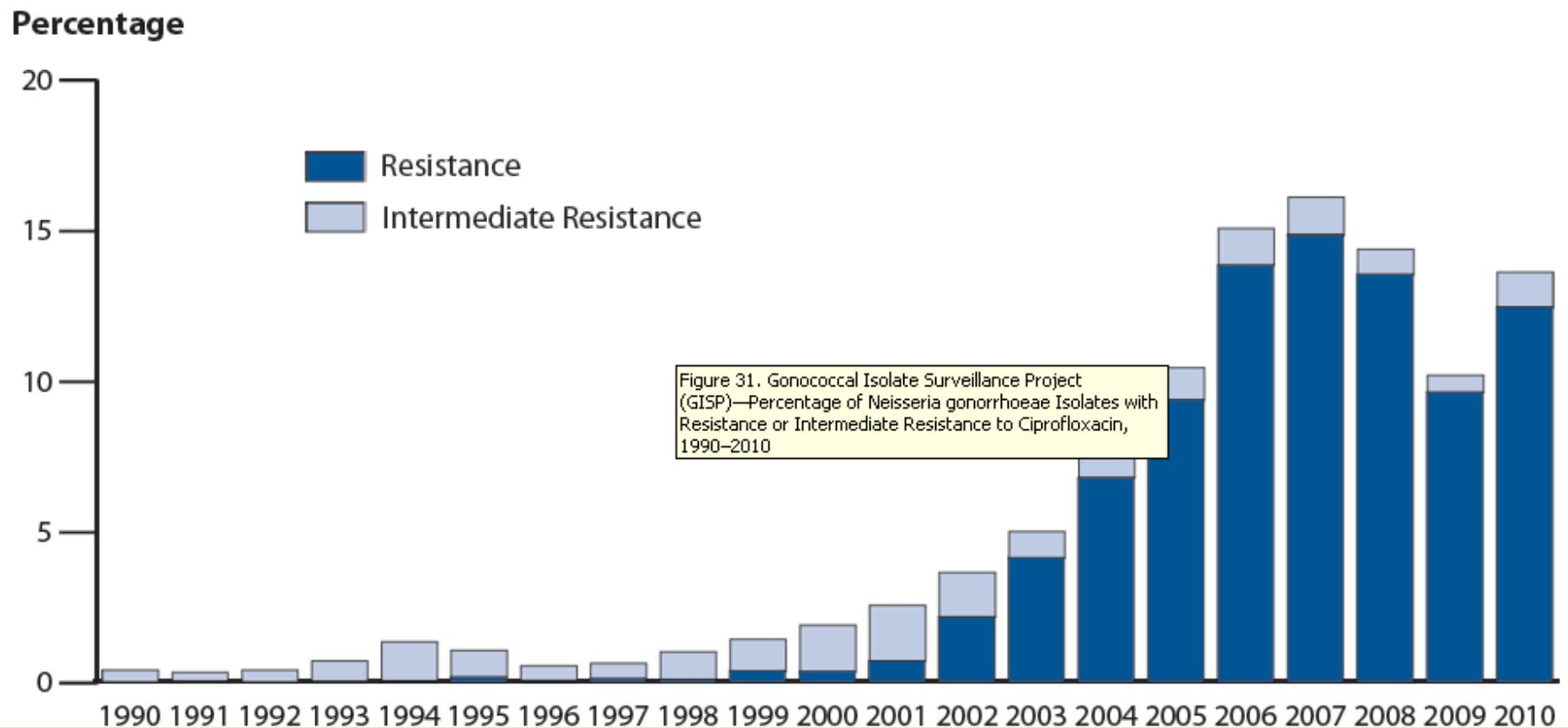
Prevention and Control

- GC and CT are reportable diseases.
- We investigate contacts and source of infection
 - **Interview patients and notify sex partners.**
 - **Sexual contacts (within 60 days before symptom onset or diagnosis) should be tested, and treated.**
 - **Most recent sex partner (even if outside these time limits) should be tested, and treated.**
 - **Avoid sexual intercourse until tx complete**

Gonorrhea Treatment

- ❑ **DUAL THERAPY** for gonorrhea treatment
- ❑ Gonococcal antimicrobial resistance remains an issue in U.S.
- ❑ Penicillin, tetracycline or quinolones are no longer gonorrhea treatment options!!!
- ❑ CDC recommends **dual therapy** (2 antibiotics) for gonococcal infections at all anatomic sites
 - concerns about possible emergence of cephalosporin-resistant gonorrhea in U.S.

Figure 31. Gonococcal Isolate Surveillance Project (GISP)—Percentage of *Neisseria gonorrhoeae* Isolates with Resistance or Intermediate Resistance to Ciprofloxacin, 1990-2010



Gonorrhea Treatment

- ❑ Recommend tx with ceftriaxone IM over cefixime PO when possible
 - Limited efficacy of cefixime for pharyngeal infection
 - Consider Rx with Ceftriaxone if pt may also engage in oral sex and oral GC test not done
 - In clinical trials, ceftriaxone cured 99% of uncomplicated urogenital, anorectal and pharyngeal GC infections

New Recommendation: Ceftriaxone 250 mg dose

- ❑ Growing geographic distribution of in vitro decreased cephalosporins susceptibility
- ❑ Reports of ceftriaxone treatment failures
- ❑ Improved efficacy of ceftriaxone 250 mg in pharyngeal infection
- ❑ Simple and consistent recommendation for treatment in all anatomic sites

PCN and Cephalosporin Allergy

- ❑ Possible 10% cross-sensitivity risk with 1st generation cephalosporins among PCN-allergic patients
- ❑ No evidence of increased anaphylaxis risk among PCN-allergic patients with 2nd and 3rd generation cephalosporins used to treat *N. gonorrhoeae*
- ❑ Anaphylaxis with cephalosporins is rare event

Treatment for Uncomplicated Gonorrhea Infection of the Cervix, Urethra or Rectum

Recommended Regimens

Ceftriaxone 250 mg IM in a single dose

OR, IF NOT AN OPTION

Cefixime 400 mg orally in a single dose

OR

Single-dose injectible **cephalosporin** regimens

PLUS

Azithromycin 1g orally in a single dose

OR

Doxycycline 100 mg orally twice a day for 7 days

Treatment for Uncomplicated Gonorrhea Infection of the Pharynx

Recommended Regimens

Ceftriaxone 250 mg IM in a single dose

PLUS

Azithromycin 1g orally in a single dose

OR

Doxycycline 100 mg orally twice a day for 7 days



The NEW ENGLAND JOURNAL *of* MEDICINE

Perspective
FEBRUARY 9, 2012

The Emerging Threat of Untreatable Gonococcal Infection

Gail A. Bolan, M.D., P. Frederick Sparling, M.D., and Judith N. Wasserheit, M.D., M.P.H.

It is time to sound the alarm. During the past 3 years, the wily gonococcus has become less susceptible to our last line of antimicrobial defense, threatening our ability to cure gonorrhea and prevent severe sequelae. (0.04% of those in the GISP) had a MIC of ceftriaxone of 0.25 μ g per milliliter in the first half of 2011, the proportion of GISP isolates with an elevated ceftriaxone MIC of ≥ 0.125 μ g per milliliter was 1.1%.

Bolan NEJM 366:485-7

Neisseria gonorrhoeae With High-Level Resistance to Azithromycin: Case Report of the First Isolate Identified in the United States

Alan R. Katz,^{1,2} Alan Y. Komeya,² Olusegun O. Soge,³ Mandy I. Kiaha,² Maria Veneranda C. Lee,² Glenn M. Wasseman,² Eloisa V. Maningas,⁴ A. Christian Whelen,^{1,4} Robert D. Kirkcaldy,⁵ Steven J. Shapiro,⁵ Gail A. Bolan,⁵ and King K. Holmes³

¹Department of Public Health Sciences, John A. Burns School of Medicine, University of Hawaii at Manoa; ²Communicable Disease Division, Hawaii Department of Health, Honolulu; ³Gonococcal Isolate Surveillance Project Regional Laboratory, Department of Global Health and Center for AIDS and STD, University of Washington, Seattle; ⁴State Laboratories Division, Hawaii Department of Health, Pearl City; and ⁵Division of Sexually Transmitted Disease Prevention, Centers for Disease Control and Prevention, Atlanta, Georgia

We report on the first *Neisseria gonorrhoeae* isolate in the United States identified with high-level resistance to azithromycin. This report discusses the epidemiologic case investigation, the molecular studies of resistance-associated mutations and *N. gonorrhoeae* multiantigen sequence typing, and challenges posed by emerging gonococcal antimicrobial

was later positive for *N. gonorrhoeae* by culture; a second specimen was negative for *C. trachomatis* by NAAT.

The gonococcal isolate was subsequently tested on 2 May 2011 for antimicrobial resistance using Etest (BioMérieux Clinical Diagnostics, Marcy l'Etoile, France), which demonstrated a minimum inhibitory concentration (MIC) of azithromycin >256 µg/mL. The isolate was sent to the Centers for Disease Control and Prevention's (CDC) Gonococcal Isolate Surveillance Project (GISP) Regional Laboratory (University of Washington, Seattle), where testing by reference agar dilution method [1] revealed an MIC of azithromycin >512 µg/mL. The isolate was resistant to tetracycline (MIC = 2.0 µg/mL) but susceptible to cefixime (MIC = 0.125 µg/mL), ceftriaxone (MIC = 0.03 µg/mL), and cefpodoxime (MIC = 0.25 µg/mL). Although cefixime susceptible, the MIC was 1 dilution from the Clinical and Laboratory Standards Institute (CLSI) breakpoint of 0.25 µg/mL for susceptibility. A field investigation by HDOH was initiated, and molecular characterization of the isolate was undertaken.

RESULTS

Field Investigation

Test of Reinfection

- ❑ High CT, GC, and TV reinfection rates
 - untreated partners re-exposure
 - new partners new exposure
- ❑ Retest ♀ and ♂ for CT and/or GC ~3 months after treatment or whenever persons next present for care
- ❑ Consider retest ♀ for TV at 3 months after treatment
- ❑ Regardless if believes sex partners treated

Syphilis



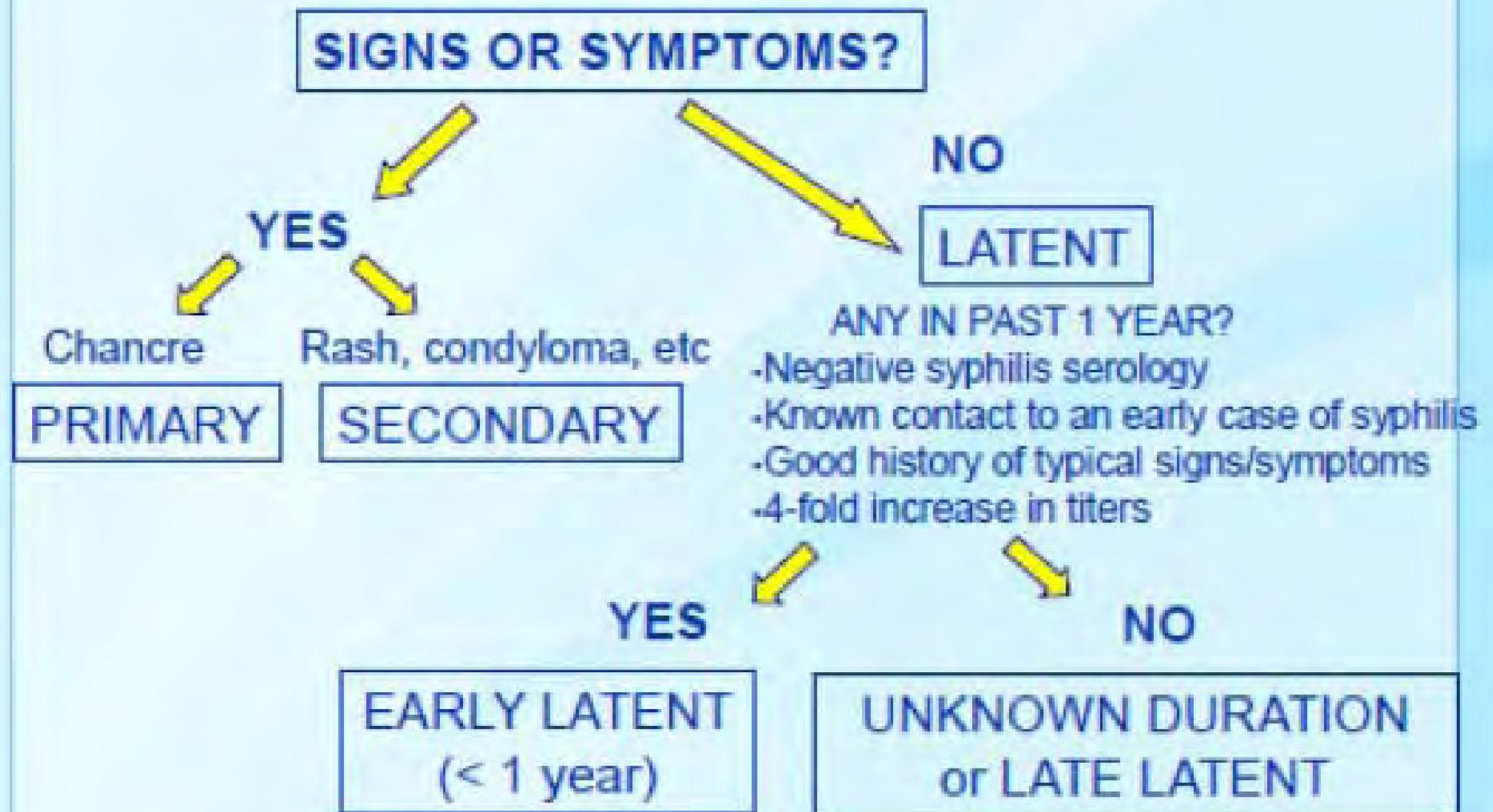


Secondary Syphilis

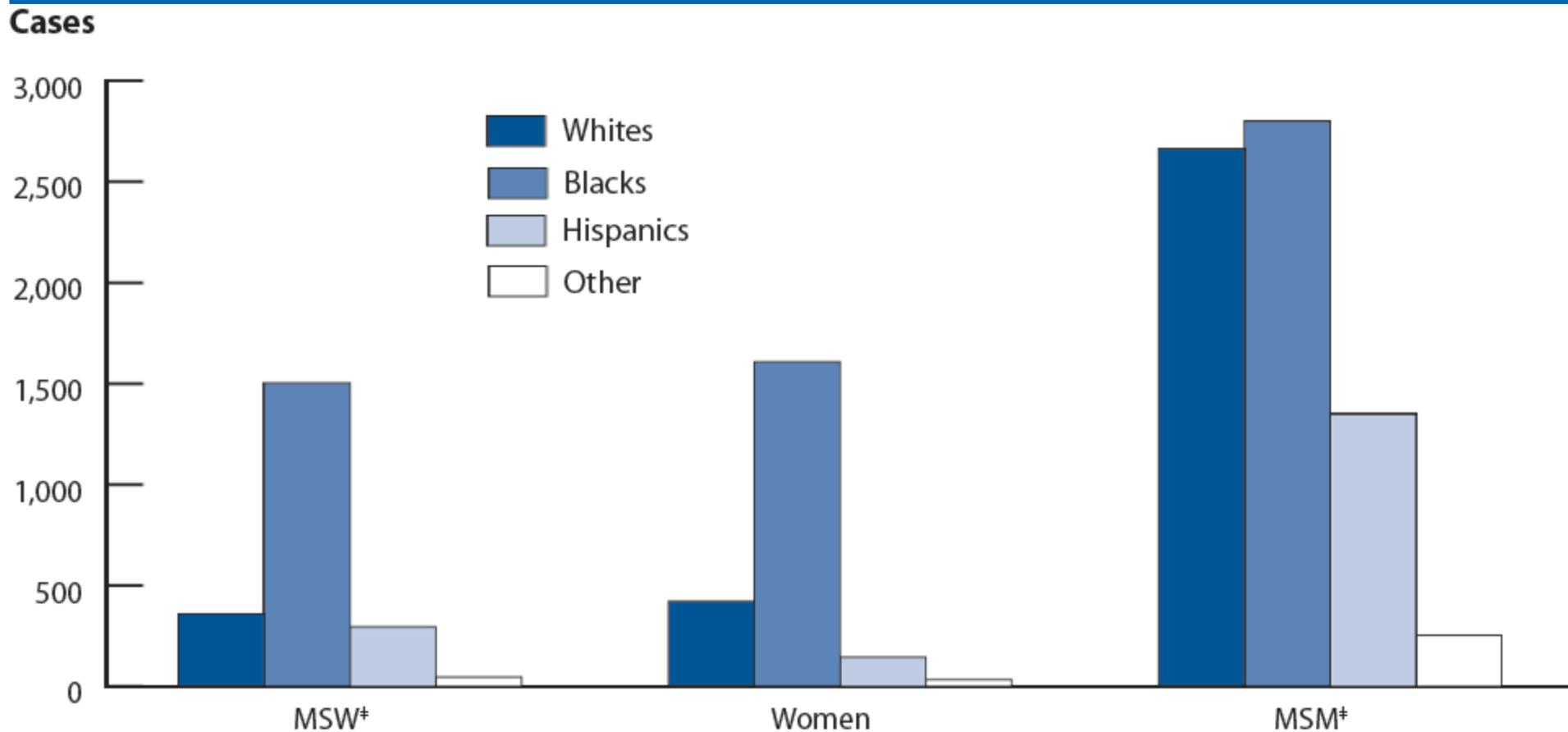
- Skin rash, mucous membrane involvement
- As ulcer healing or weeks later
- Non itchy rash
- Fever, LA, alopecia, HA



Syphilis Staging Flowchart

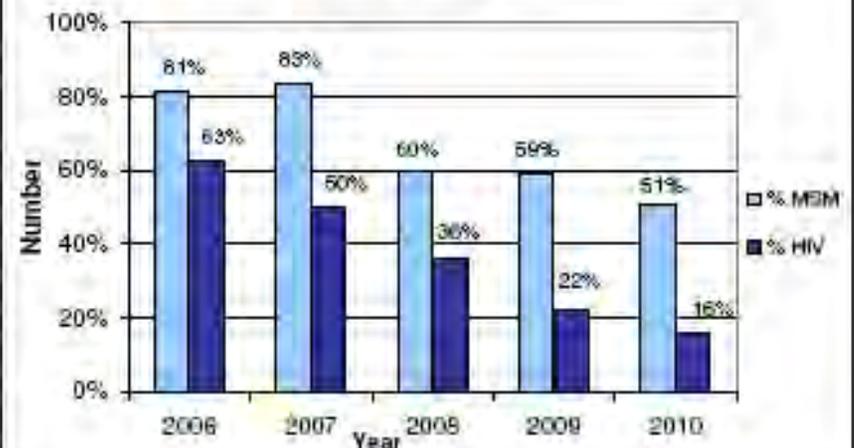


Primary and Secondary Syphilis—Reported Cases by Sex, Sexual Behavior, and Race/Ethnicity, United States, 2009

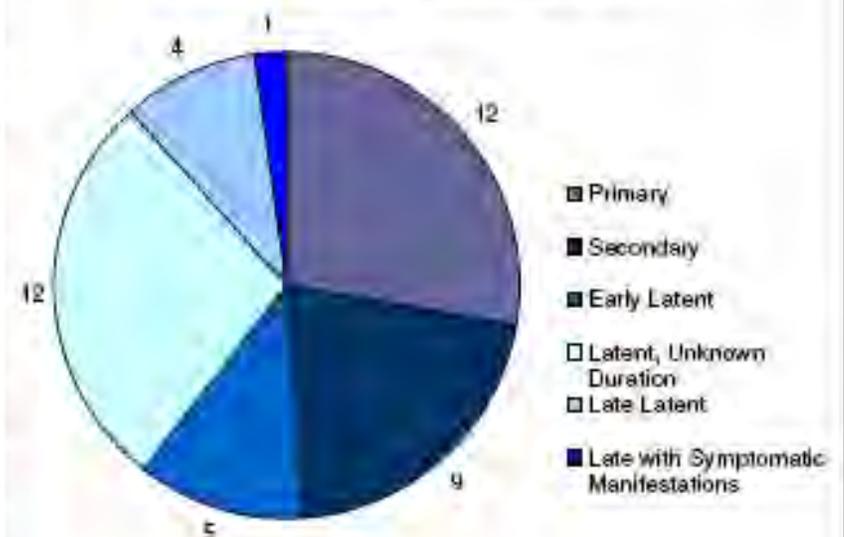


YEAR	2010		2009		2008		2007		2006	
	Cases	Rate*								
TOTAL	43	3.3	37	2.8	25	1.9	42	3.2	16	1.2
GENDER	Cases	Rate*								
Male	38	5.1	29	4.4	25	3.8	40	6.2	14	2.2
Female	10	1.5	8	1.2	0	0.0	2	+	2	+
AGE-SPECIFIC	Cases	Rate*								
0-12	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13-19	0	0.0	2	+	1	+	1	+	0	0.0
20-24	9	10.6	4	+	0	0.0	1	+	2	+
25-29	6	8.2	3	+	1	+	0	0.0	2	+
30-34	5	7.0	4	+	8	5.9	12	11.3	2	+
35-39	1	+	3	+	2	+	4	+	3	+
40-44	2	+	5	5.9	4	+	6	6.5	3	+
45-49	6	5.3	5	4.4	4	+	9	7.8	2	+
50-54	6	5.3	4	+	7	6.6	5	4.8	2	+
55-59	1	+	3	+	0	0.0	1	+	0	0.0
60+	7	2.7	4	+	0	0.0	3	+	0	0.0
RACE	Cases	Rate*								
White	35	2.8	28	2.2	25	2.0	41	3.3	13	1.0
Black	1	+	0	0.0	0	0.0	1	+	3	+
Asian/Pacific Isl.	2	+	2	+	0	0.0	0	0.0	0	0.0
American/Alaskan Nat	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other Unknown	5	32.5	7	48.6	0	0.0	0	0.0	0	0.0
ETHNICITY	Cases	Rate*								
Hispanic†	2	+	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY/CITY†	Cases	Rate*								
Belknap	2	+	2	+	0	0.0	0	0.0	1	+
Carroll	1	+	1	+	1	+	0	0.0	0	0.0
Cheshire	4	+	2	+	0	0.0	3	+	0	0.0
Cook	1	+	0	0.0	0	0.0	0	0.0	0	0.0
Grafton	2	+	1	+	2	+	2	+	0	0.0
Hillsborough	18	4.5	14	3.4	11	2.7	12	3.0	7	1.7
Manchester	9	8.2	4	+	5	4.6	9	8.3	1	+
Nashua	3	+	3	+	1	+	6	6.9	1	+
Merrimack	4	+	4	+	4	+	5	3.4	1	+
Rockingham	7	2.4	8	2.7	9	3.0	8	2.7	5	1.7
Stafford	4	+	5	4.0	2	+	0	0.0	0	0.0
Sullivan	0	0.0	0	0.0	1	+	0	0.0	0	0.0

Primary, Secondary and Early Latent Syphilis % MSM and % HIV, 2006-2010



Syphilis Infection By Clinical Stages, 2010



Serologic reactivity in syphilis patients

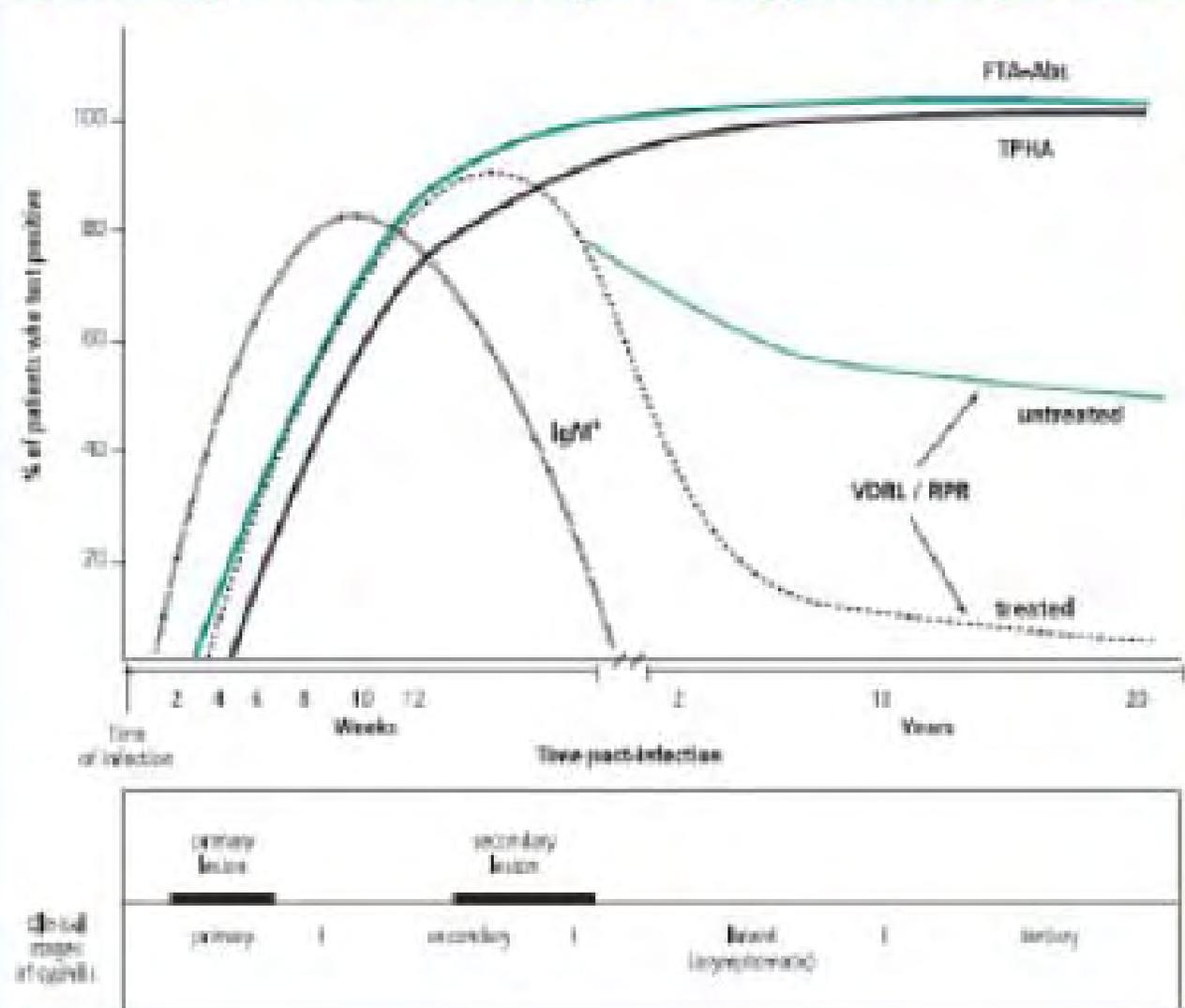


Table 1. Sensitivity and Specificity of Serologic Tests for Syphilis

Test	Sensitivity during stage of infection, % (range)				Specificity, % (range)
	Primary	Secondary	Latent	Late	
Nontreponemal tests					
VDRL [14]	78 (74–87)	100	96 (88–100)	71 (37–94)	98 (96–99)
TRUST [14]	85 (77–86)	100	98 (95–100)	NA	99 (98–99)
RPR [14]	86 (77–99)	100	98 (95–100)	73	98 (93–99)
Early treponemal tests					
MHA-TP [15]	76 (69–90)	100	97 (97–100)	94	99 (98–100)
TPPA [16]	88 (86–100)	100	100	NA	96 (95–100)
TPHA [17]	86	100	100	99	96
FTA-ABS [14]	84 (70–100)	100	100	96	97 (94–100)
Enzyme immunoassays					
IgG-ELISA [18]	100	100	100	NA	100
IgM-EIA [19]	93	85	64	NA	NA
ICE [20]	77	100	100	100	99
Immunochemiluminescence assays					
CLIA [21]	98	100	100	100	99

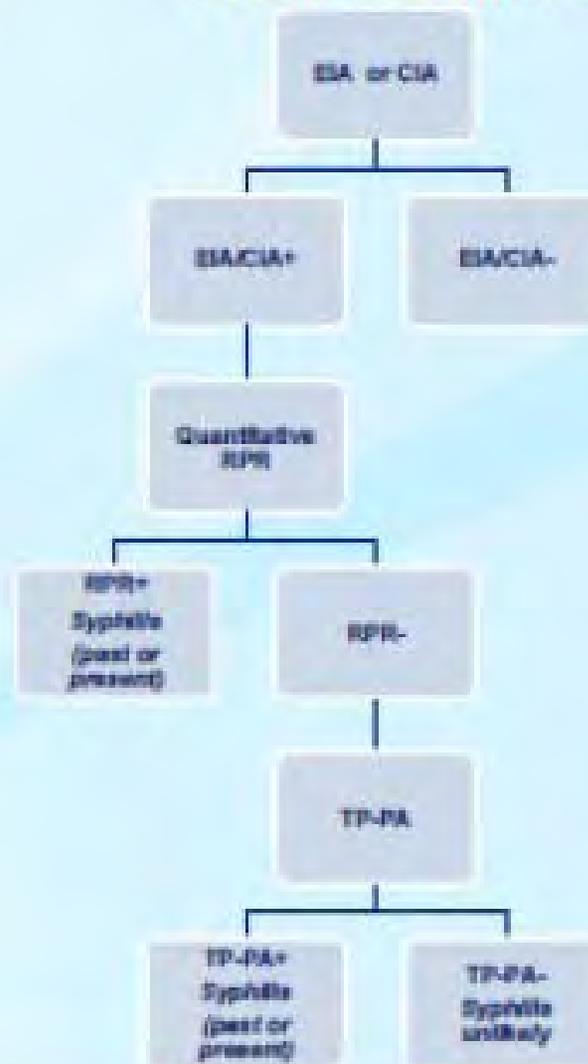
NOTE. CLIA, chemiluminescence assay; ELISA, enzyme-linked immunosorbent assay; EIA, enzyme immunoassay; FTA-ABS, fluorescent treponemal antibody absorption assay; ICE, immune-capture EIA; MHA-TP, microhemagglutination assay for *Treponema pallidum*; NA, not available; TPHA, *T. pallidum* homologous agglutination assay; TPPA, *T. pallidum* particle agglutination; TRUST, toluidine red unheated serum test.

Syphilis serologic screening algorithms

Traditional



Reverse sequence



POC Syphilis Test

Possible Use

- NTS where blood draws not done
- Rapid test where no rapid NTT
- Field use for associates in non-outbreak setting

Not in US

- Routine pregnancy screen
- STD clinic screen
- Contacts to early syphilis

Biologic False Positive RPR

Short Term

malaria
tuberculosis
pregnancy
viral hepatitis
viral pneumonia
viral encephalitis
measles
varicella zoster virus
other various infections

Persistent

cancer
lupus
rheumatoid arthritis
hemolytic anemia
thyroiditis
cirrhosis
vasculitis
leprosy
older age
IVDA

Therapy

- 2.4 mu benzathine penicillin
 - Once for early latent or earlier
 - Thrice for late latent or unknown duration
 - Same recommendations for HIV infected patients
- 14 days of IV PCN G for neurosyphilis (3-4 mu q4)
- True PCN Allergy:
 - Doxycycline or tetracycline

Follow Up Titers

- Every 6 months for most,
- Every 3 months for HIV patients
- Expect 2 fold decrease in RPR

- Reinfection (2 fold increase)
- Serofast phenomenon (RPR stable despite therapy)

Neurosypphilis

- CNS involvement can occur during any stage of syphilis.
- A patient who has clinical evidence of neurologic involvement with syphilis should have a CSF examination.
 - cognitive dysfunction, motor or sensory deficits, ophthalmic or auditory symptoms, cranial nerve palsies, and symptoms or signs of meningitis

Resources





A-Z Index [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) <#>

Sexually Transmitted Diseases (STDs)



Diseases & Related Conditions

- Bacterial Vaginosis (BV)
- Chlamydia
- Gonorrhea
- Hepatitis, Viral
- Herpes, Genital
- HIV/AIDS & STDs
- Human Papillomavirus (HPV)
- Pelvic Inflammatory Disease (PID)
- Syphilis
- Trichomoniasis
- Other STDs

Pregnancy & Infertility

- STDs and Pregnancy
- STDs and Infertility

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- [Get email updates](#)



Enfermedades de transmisión sexual
[Español \(Spanish\)](#)

Publications & Products
Brochures, Fact Sheets, STD*MIS, Videos, Widgets, & more...

Program Tools
Performance Measures, Program



STDs primarily affect young people, but the health consequences can last a lifetime.

[April is STD Awareness Month](#)



STD Treatment Guidelines

- ❑ More than just STD treatment
 - cutting edge diagnostics, screening, and prevention
- ❑ Living document
 - Continuously updated on line at:
www.cdc.gov/std/treatment

eBook for iPhone, iPad, & iPod Touch at:
www.cdc.gov/std/2010-ebook.htm





MMWR

Morbidity and Mortality Weekly Report

www.cdc.gov/mmwr

Recommendations and Reports

December 17, 2010 / Vol. 59 / No. RR-12

Sexually Transmitted Diseases Treatment Guidelines, 2010

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

CONTENTS

Introduction	1
Methods	1
Clinical Prevention Guidance	2
STD/HIV Prevention Counseling	2
Prevention Methods	4
Partner Management	7
Reporting and Confidentiality	8
Special Populations	8
Pregnant Women	8
Adolescents	10
Children	11
Persons in Correctional Facilities	11
Men Who Have Sex with Men	12
Women Who Have Sex with Women	13
HIV Infection: Detection, Counseling, and Referral	14
Diseases Characterized by Genital, Anal, or Perianal Ulcers	18
Chancroid	19
Genital HSV Infections	20
Granuloma Inguinale (Donovanosis)	25
Lymphogranuloma Venereum	26
Syphilis	26
Congenital Syphilis	36
Management of Persons Who Have a History of Penicillin Allergy	39
Diseases Characterized by Urethritis and Cervicitis	40
Urethritis	40
Nongonococcal Urethritis	41
Cervicitis	43
Chlamydial Infections	44
Gonococcal Infections	49
Diseases Characterized by Vaginal Discharge	56
Bacterial Vaginosis	56
Trichomoniasis	58
Vulvovaginal Candidiasis	61
Pelvic Inflammatory Disease	63
Epididymitis	67
Human Papillomavirus (HPV) Infection	69
Genital Warts	70
Cervical Cancer Screening for Women Who Attend STD Clinics or Have a History of STDs	74
Vaccine-Preventable STDs	78
Hepatitis A	78
Hepatitis B	80
Hepatitis C	85
Proctitis, Proctocolitis, and Enteritis	87
Ectoparasitic Infections	88
Pediculosis Pubis	88
Scabies	89
Sexual Assault and STDs	90
References	96
Terms and Abbreviations Used in This Report	109

Thank you

Questions?

