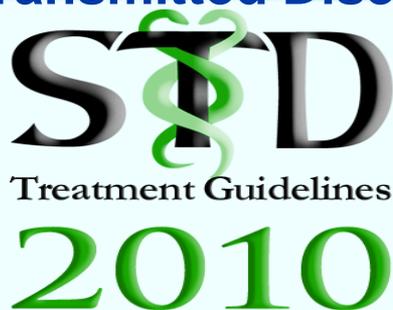




Emerging Issues in Sexually Transmitted Diseases



Update on Sexual Health in Men Who Have Sex with Men (MSM) Webinar will begin shortly

It is recommended that you listen to the Webinar via your computer using the Broadcast Audio feature.

If you are unable to use this feature, you may listen via phone by dialing 800.728.2056

Questions can be submitted during the Webinar via the chat function.

Due to the volume of Webinar participants and the time we have allotted, we may not be able to provide live answers to all of the submitted questions.

We will compile and answer frequently asked questions and will post them online at www.nnptc.org and www.cdc.gov/std/treatment/2010 as soon as we can.



Disclosures

- **CDC, our planners, and our presenters wish to disclose that they have no financial interests or other relationships with the manufacturers of commercial products, suppliers of commercial services, or commercial supporters with the exception of:**
 - Joel Gallant, Johns Hopkins University School of Medicine, wishes to disclose receipt of research support as a clinical trials investigator for Gilead Sciences; consulting fees as a scientific advisory board member for Bristol-Myers Squibb, Gilead Sciences, Janssen Therapeutics, Merck & Co., and RAPID Pharmaceuticals; and consulting fees as a consultant for GlaxoSmithKline and as a DSMB member for Sangamo Biosciences.
 - Jeanne Marrazzo, University of Washington, wishes to disclose receipt of research funding from Cepheid and Roche for being a principal investigator.

Disclosures

- **Presentations will not include any discussion of the unlabeled use of a product or a product under investigational use with the exception of:**
 - Gail Bolan, Joel Gallant, Jeanne Marrazzo, and Kim Workowski will discuss the use of nucleic acid amplification tests (NAATs) from alternate body sites.
- **CDC does not accept any commercial support.**

Continuing Education Accreditation

CME:

- The Centers for Disease Control and Prevention is accredited by the Accreditation Council for Continuing Medical Education (ACCME®) to provide continuing medical education for physicians.
- The Centers for Disease Control and Prevention designates this **live activity** for a maximum of **1.5 AMA PRA Category 1 Credits™**. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Continuing Education designated for Non-Physicians:

- Non-physicians will receive a certificate of participation.

Continuing Nursing Education for Nurses (CNE):

- The Centers for Disease Control and Prevention is accredited as a provider of Continuing Nursing Education by the American Nurses Credentialing Center's Commission on Accreditation.
- This activity provides **1.5** contact hours.

Continuing Education Accreditation

IACET Continuing Education Units (CEU):

- The CDC has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET), 1760 Old Meadow Road, Suite 500, McLean, VA 22102. The CDC is authorized by IACET to offer **0.2** ANSI/IACET CEUs for this program.

Continuing Education Contact Hours in Health Education (CECH):

- Sponsored by the *Centers for Disease Control and Prevention*, a designated provider of continuing education contact hours (CECH) in health education by the National Commission for Health Education Credentialing, Inc. This program is designed for Certified Health Education Specialists (CHES) to receive up to **1.5** Category I CECH in health education. CDC provider number **GA0082**.

Continuing Education Accreditation

Continuing Pharmacy Education (CPE):



- The Centers for Disease Control and Prevention is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.
- This program is a designated event for pharmacists to receive **1.5** Contact Hours in pharmacy education. The Universal Activity Number 0387-9999-12-113-L04-P/0387-9999-12-113-H04-P.
- Course Category: This activity has been designated as Knowledge-Based.



Instructions on how to receive Continuing Education credits are available at www.cdc.gov/std/treatment/2010/MSM-CE-Instructions.pdf, will be available at the end of the webinar, and will be e-mailed to all registered live participants.

A link to the archived version of the Webinar will be available at www.cdc.gov/std/treatment/2010 within a few days.

If you have questions about screening and treating MSM for STDs following the Webinar you may submit them to stdtraining@cdc.gov.

Emerging Issues in Sexually Transmitted Diseases



Update on Sexual Health in Men Who Have Sex with Men (MSM)

June 7, 2012



Gail Bolan, MD

Director

Division of STD Prevention

**National Center for HIV/AIDS, Viral
Hepatitis, STD, and TB Prevention**

**Centers for Disease Control and
Prevention**





Learning Objectives

- **Discuss clinical significance of the sexual health/clinical issue.**
- **Describe epidemiological trends related to the sexual health/clinical issue.**
- **Identify key screening and treatment recommendations for management of the sexual health/clinical issue, in accordance with CDC 2010 STD Treatment Guidelines.**
- **Promote health improvement, wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an interprofessional team of health care providers.**

Presenters



John T. Brooks, MD

Leader, HIV Epidemiology
Research Team,
Division of HIV/AIDS Prevention,
Centers for Disease Control and
Prevention



**Joel E. Gallant,
MD, MPH**

Professor of Medicine and
Epidemiology;
Associate Director,
Johns Hopkins AIDS Service,
Johns Hopkins University



**Jeanne M. Mrazz,
MD, MPH**

Professor of Medicine,
University of Washington
School of Medicine;
Medical Director,
Seattle STD/HIV Prevention
Training Center



Webinar Overview

- **Recommendations specific to helping MSM establish and maintain sexual health**
- **Epidemiology of STDs in among men who have sex with men (MSM) in the U.S.**
- **Diagnostic and management challenges for specific STDs among MSM**
- **2010 STD Treatment Guidelines relevant to MSM**
- **Additional resources relevant to clinicians working with MSM**
- **Question and answer session**

Recommendations Specific to Helping MSM Establish and Maintain Sexual Health

Sexual Health

Sexual health is a broad perspective that spans the entire lifespan encompassing topics which include:

Sex Education

STD/HIV Management

**Interpersonal
Relationships**

Family Planning

Reproductive Tract Care

Erectile Dysfunction



CDC/HRSA Advisory Committee on STD/HIV Prevention: Definition of Sexual Health

- A state of wellbeing in relation to sexuality across lifespan that involves physical, emotional, mental, social, and spiritual dimensions.
- An inextricable element of human health and is based on a positive, equitable, and respectful approach to sexuality, relationships, and reproduction, that is free of coercion, fear, discrimination, stigma, shame, and violence.
- Includes ability to understand benefits, risks, and responsibilities of sexual behavior; prevention of disease and other adverse outcomes; and possibility of fulfilling sexual relationships.
- Impacted by socioeconomic and cultural contexts—including policies, practices, and services—that support healthy outcomes for individuals and their communities.

Sexual Health Framework: Using Health Promotion to Complement Disease Control and Prevention



John T. Brooks, MD

Leader

HIV Epidemiology Research Team

Division of HIV/AIDS Prevention

Centers for Disease Control and Prevention



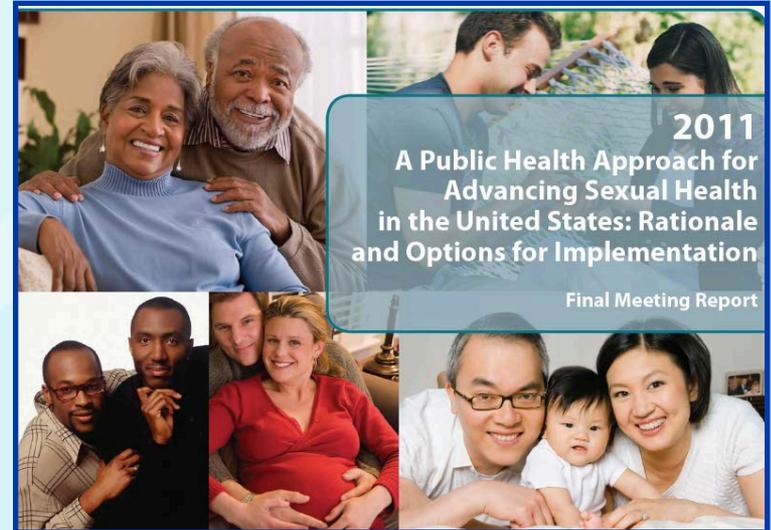
Why discuss this now?

Emphasis on sexual health

- Meeting Report, CDC 2011
- Pathogens are important, but sexual health is more than avoiding STDs

Focus on LGBT health

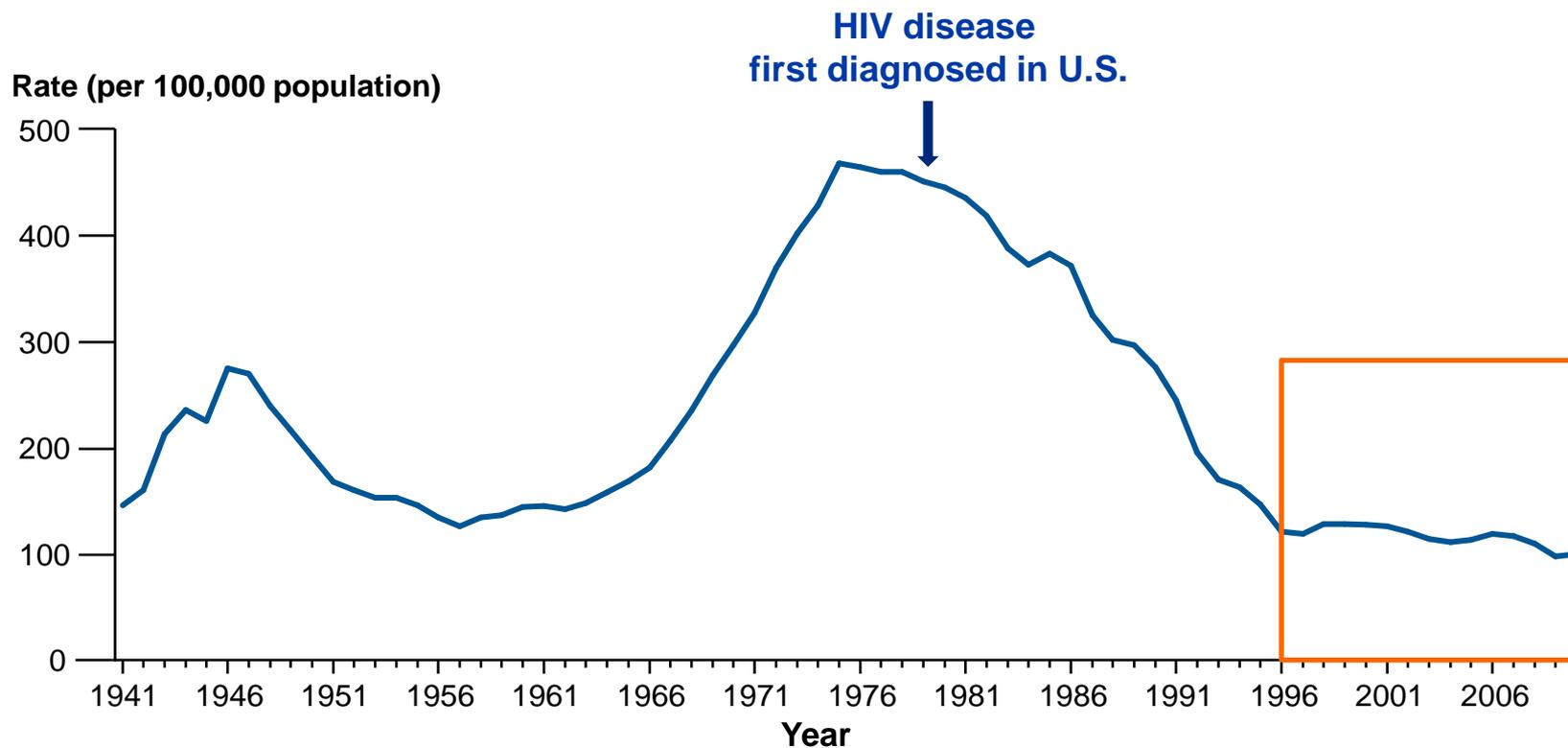
- IOM Report, 2011: "One of the barriers to accessing quality health care for LGBT adults is a lack of providers who are knowledgeable about LGBT health needs as well as a fear of discrimination in health care settings."



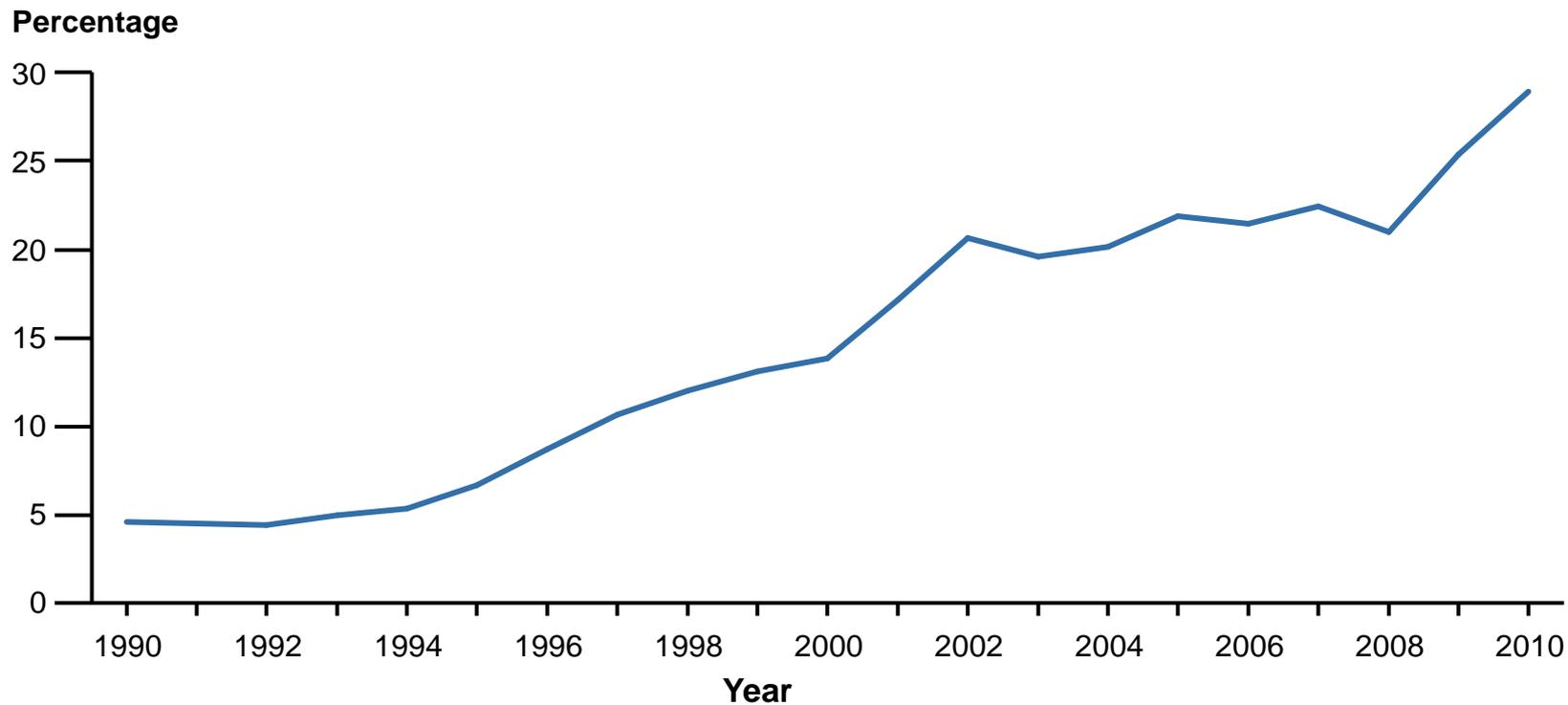
2011
A Public Health Approach for
Advancing Sexual Health
in the United States: Rationale
and Options for Implementation
Final Meeting Report



Gonorrhea—Rates, United States, 1941–2010



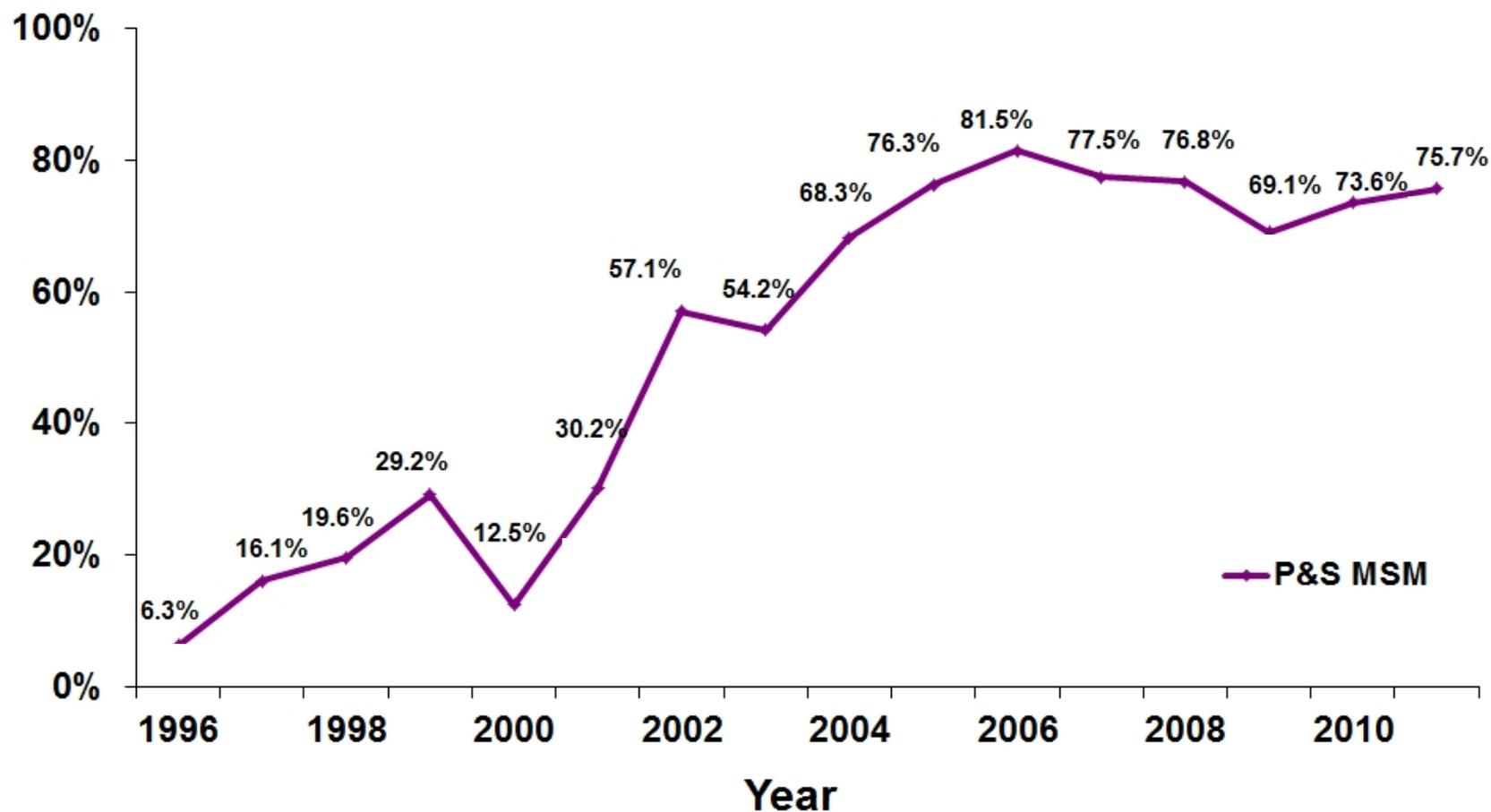
Gonococcal Isolate Surveillance Project (GISP)—Percentage of Urethral *Neisseria gonorrhoeae* Isolates Obtained from MSM* Attending STD Clinics, 1990–2010



* MSM = men who have sex with men.



Percent of Male Primary and Secondary (P&S) Cases Self-Identified as Men who have Sex with Men (MSM): Philadelphia 1996-2011

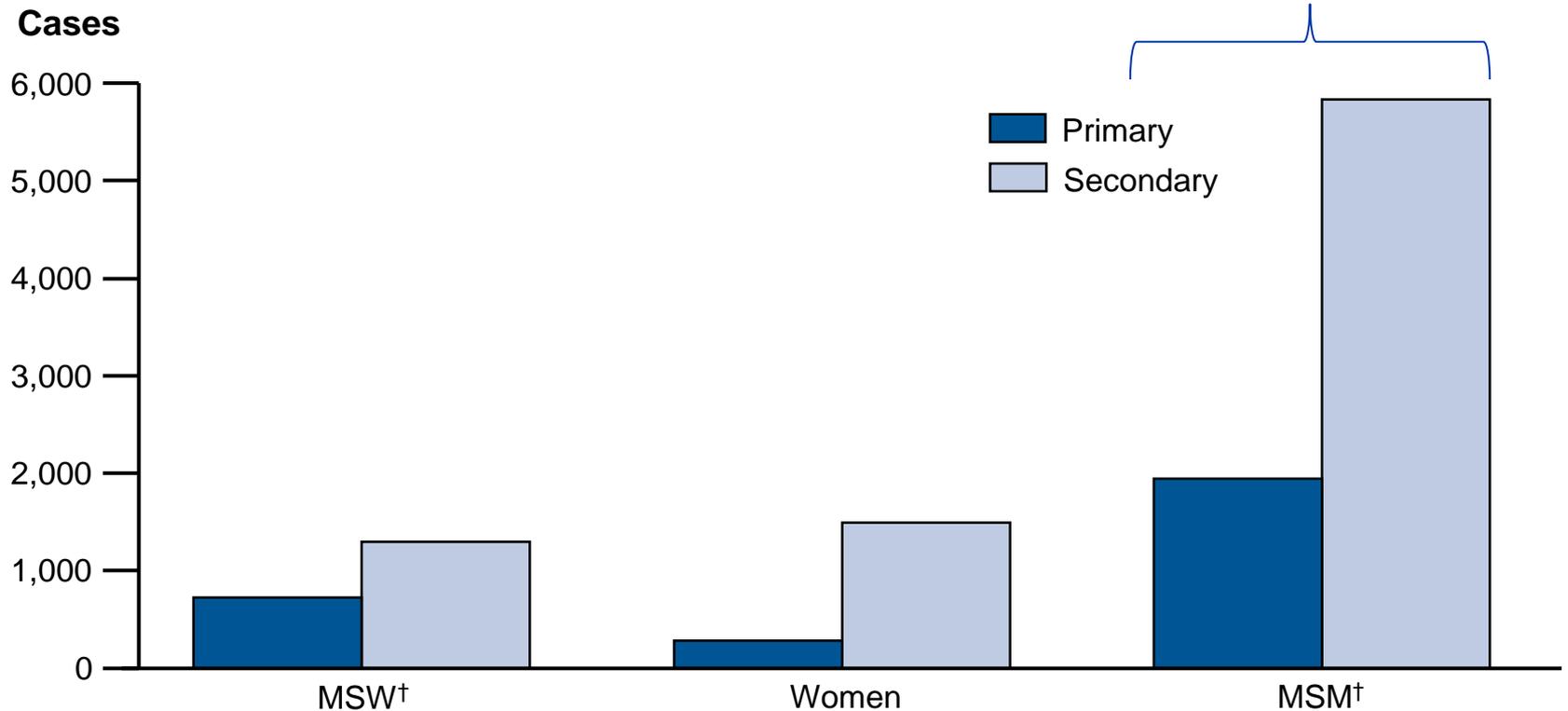


Philadelphia Department of Public Health:

<https://hip.phila.gov/xv/Surveillance/STDSurveillance/SyphilisSurveillance/tabid/158/Default.aspx>



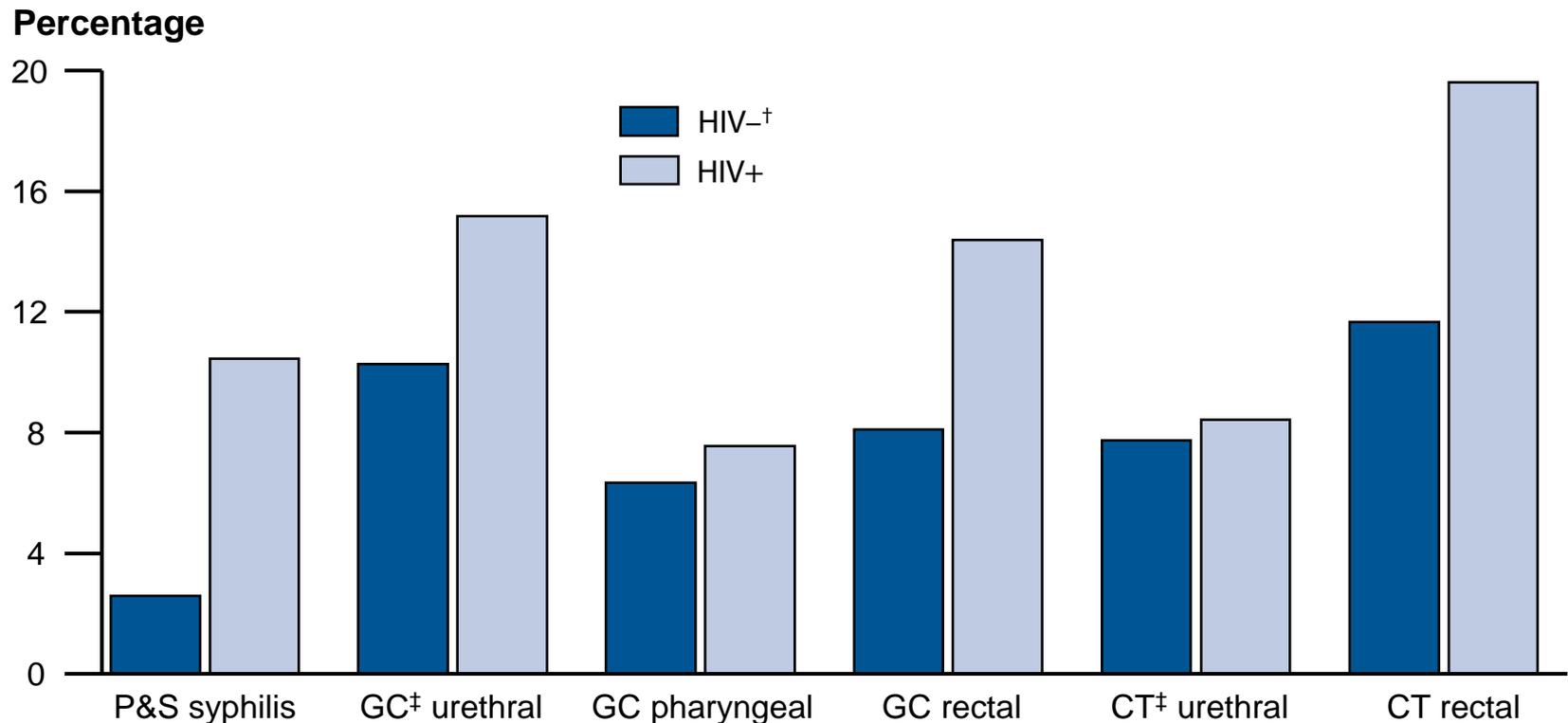
Primary and Secondary Syphilis—Reported Cases* by Stage, Sex, and Sexual Behavior, United States, 2010



* Of the reported male cases of primary and secondary syphilis, 18.3% were missing sex of sex partner information.

† MSW = men who have sex with women only; MSM = men who have sex with men.

STD Surveillance Network (SSuN)—Proportion of MSM* Attending STD Clinics with Primary and Secondary Syphilis, Gonorrhea or Chlamydia by HIV Status, 2010



* MSM = men who have sex with men.

† HIV negative status includes persons of unknown status for this analysis.

‡ GC urethral and CT urethral include results from both urethral and urine specimens.

STDs are Associated with Increased HIV Acquisition and Transmission

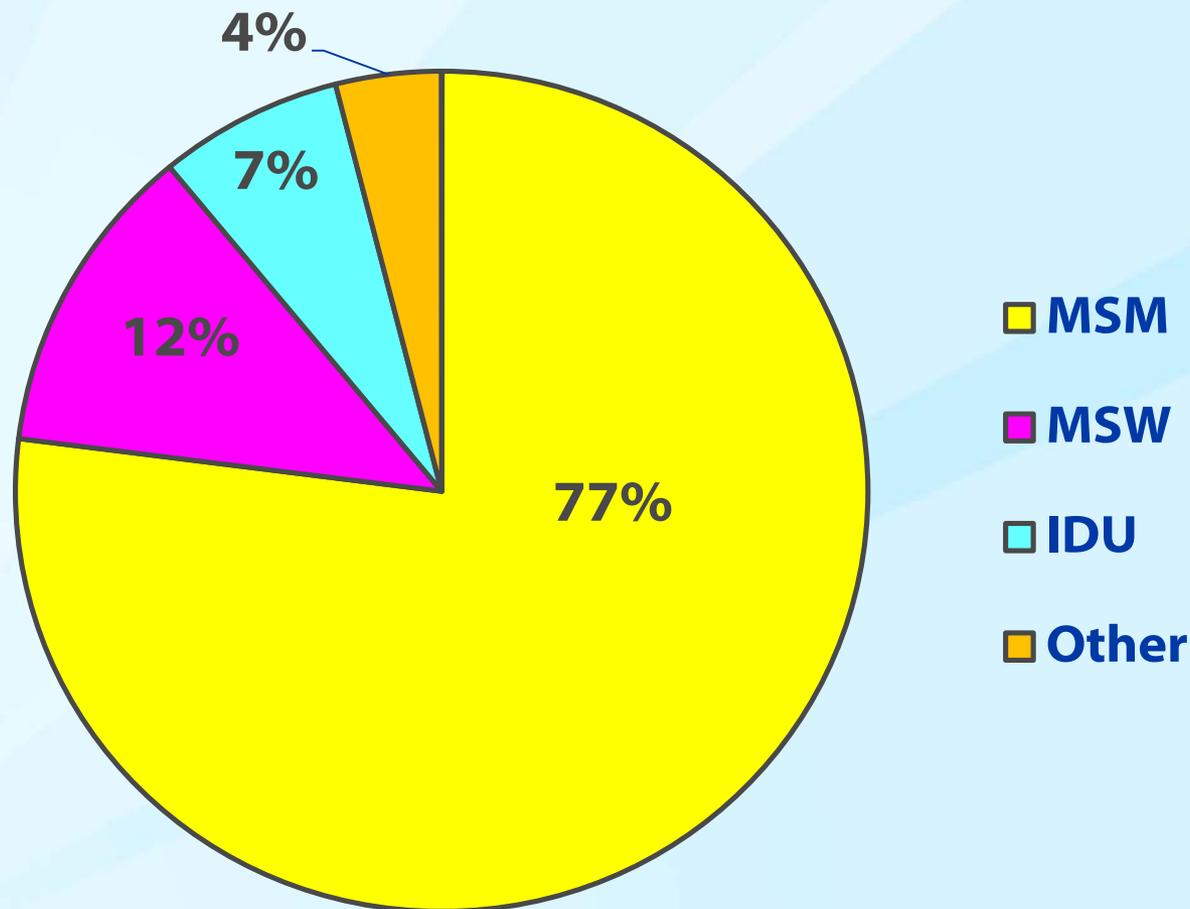
- STDs can produce mucosa breaks & inflammation that attracts immune cells (HIV target)
 - Genital ulcers: herpes, syphilis
 - Inflammation: gonorrhea, non-gonococcal urethritis
- STDs increase amount of HIV shed at genital mucosa
 - Cervix, urethra, rectum
- Some STDs increase plasma HIV viral load
- STD treatment (gonorrhea, syphilis, and trichomoniasis) can reduce plasma & genital HIV

Ongoing Sexually Transmitted Disease Acquisition and Risk-Taking Behavior Among US HIV-Infected Patients in Primary Care: Implications for Prevention Interventions

Kenneth H. Mayer, MD, Timothy Bush, BA,† Keith Henry, MD,‡ Edgar T. Overton, MD,§ John Hammer, MD,¶ Jean Richardson, PhD,|| Kathy Wood, RN, BSN,** Lois Conley, MPH,† John Papp, MSc, PhD,†† Angela M. Caliendo, MD, PhD,‡‡ Pragna Patel, MD, MPH,† and John T. Brooks, MD†; the SUN Investigators*

- Data from 557 adults in a prospective cohort of contemporary HIV-infected adults in primary care in 4 cities
- Screened/treated for STD at enrollment and at 6 months
- 13% with STD at enrollment; 7% incident STD at 6 months
 - Excluding trichomoniasis, 94% of incident STDs were in MSM
 - Most common in men: rectal chlamydia, oropharyngeal gonorrhea
 - Risks: polysubstance use, > 4 partners in 6 months
- 20% of MSM diagnosed with an STD by 6 months, most were asymptomatic

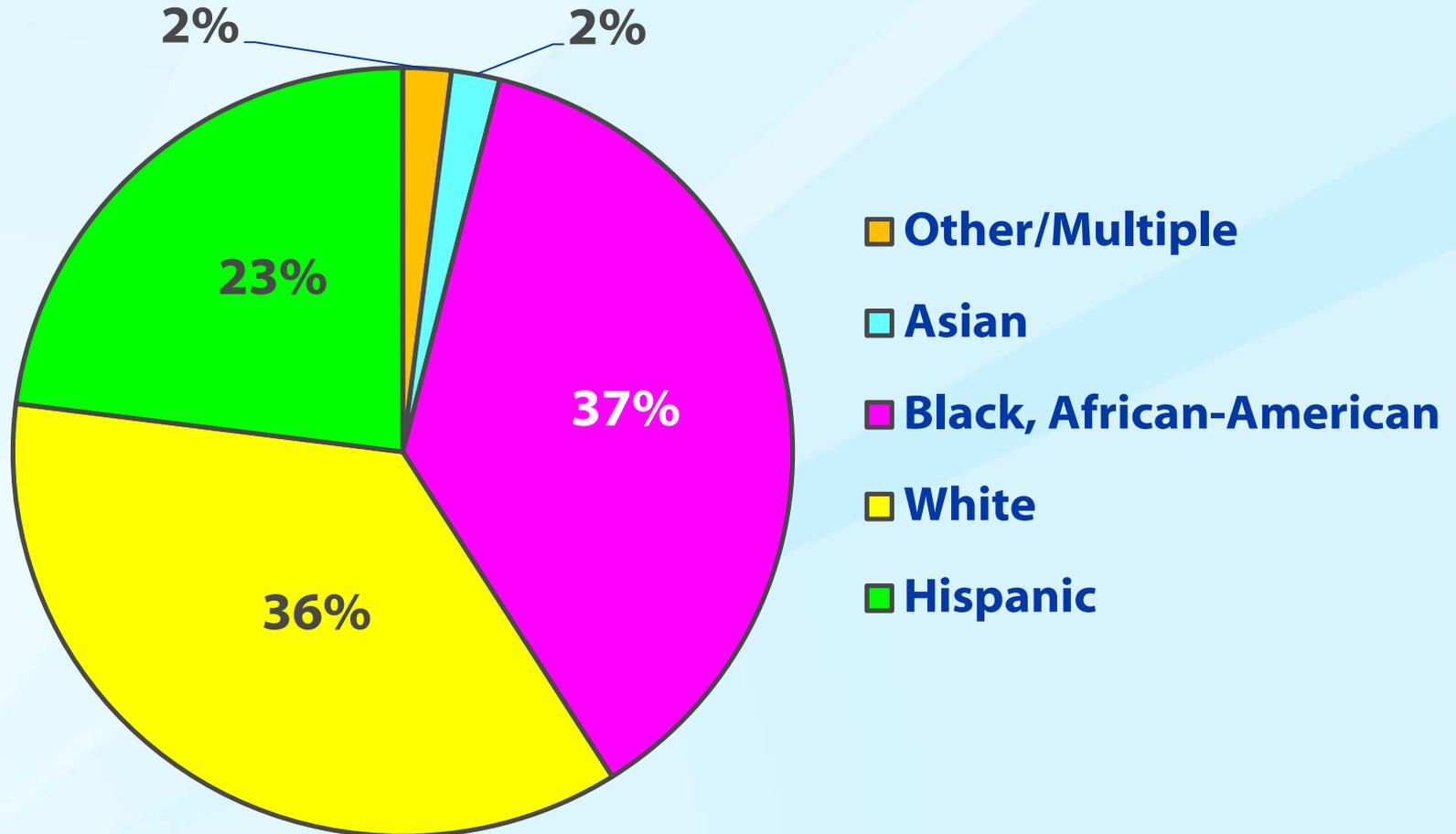
MSM: Largest Proportion of New HIV Infections U.S. 2010 - 46 states and 5 dependencies



www.cdc.gov/hiv/topics/surveillance/resources/slides/index.htm

www.cdc.gov/hiv/surveillance/resources/reports/2010report/index.htm

MSM: Racial/Ethnic Minorities Disproportionately Affected by HIV Infection, 2010



www.cdc.gov/hiv/topics/surveillance/resources/slides/index.htm

www.cdc.gov/hiv/surveillance/resources/reports/2010report/index.htm

High and Persistent HIV Seroincidence in Men Who Have Sex with Men across 47 U.S. Cities

Marta-Louise Ackers^{1,2a}, Alan E. Greenberg^{1,2b}, Carol Y. Lin^{1,2,2c}, Bradford N. Bartholow^{1,2d}, Adrian Hirsch Goodman^{3,2e}, Michael Longhi^{3,2f}, Marc Gurwith^{3,2g}

¹ Epidemiology Branch, Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention, Atlanta, Georgia, United States of America, ² Quantitative Science and Data Management Branch, Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention, Atlanta, Georgia, United States of America, ³ VaxGen, Inc, Brisbane, California, United States of America

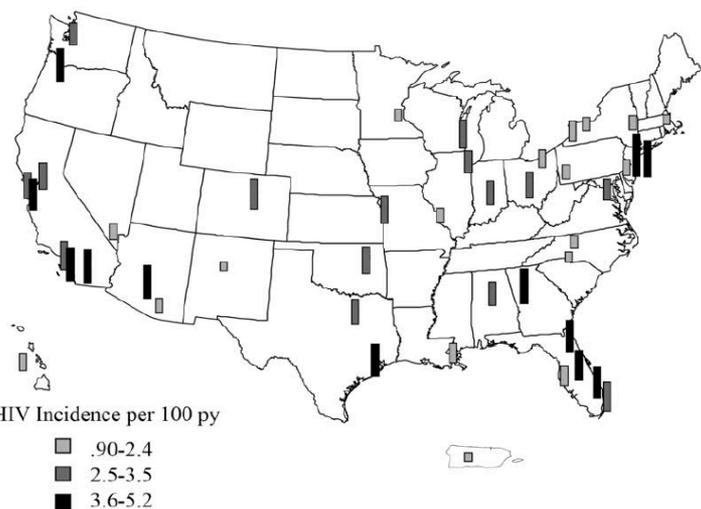
Abstract

Objective: To provide HIV seroincidence data among men who have sex with men (MSM) in the United States and to identify predictive factors for seroconversion.

Methods: From 1998–2002, 4684 high-risk MSM, age 18–60 years, participated in a randomized, placebo-controlled HIV vaccine efficacy trial at 56 U.S. clinical trial sites. Demographics, behavioral data, and HIV status were assessed at baseline and 6 month intervals. Since no overall vaccine efficacy was detected, data were combined from both trial arms to calculate HIV incidence based on person-years (py) of follow-up. Predictors of seroconversion, adjusted hazards ratio (aHR), were evaluated using a Cox proportional hazard model with time-varying covariates.

Results: Overall, HIV incidence was 2.7/100 py and was relatively uniform across study sites and study years. HIV incidence was highest among young men and men reporting unprotected sex, recreational drug use, and a history of a sexually transmitted infection. Independent predictors of HIV seroconversion included: age 18–30 years (aHR = 2.4; 95% CI 1.4, 4.0), having >10 partners (aHR = 2.4; 95% CI 1.7, 3.3), having a known HIV-positive male sex partner (aHR = 1.6; 95% CI 1.2, 2.0), unprotected anal intercourse with HIV positive/unknown male partners (aHR = 1.7; 95% CI 1.3, 2.3), and amphetamine (aHR = 1.6; 95% CI 1.1, 2.1) and popper (aHR = 1.7; 95% CI 1.3, 2.2) use.

Conclusions: HIV seroincidence was high among MSM despite repeated HIV counseling and reported declines in sexual risk behaviors. Continuing development of new HIV prevention strategies and intensification of existing efforts will be necessary to reduce the rate of new HIV infections, especially among young men.



*HIV incidence 2.7/100 py, range 0–5.2; sites in two cities, Providence, RI and Poughkeepsie, NY had no infections

Figure 1. HIV incidence among MSM study participants in the United States, by city, 1998–2002*.
doi:10.1371/journal.pone.0034972.g001

HIV Incidence (per 100 p-y) by Selected Sexual Behaviors & Drug Use in Prior 6 Months

Behavior	HIV incidence
Any UAI*	3.6 (3.2, 4.1)
Any receptive UAI	4.4 (3.8, 5.0)
Any insertive UAI	3.9 (3.3, 4.5)
UAI, partner known HIV+ or unknown HIV status	3.9 (3.4, 4.6)
History of STI	3.8 (2.6, 4.4)
Amphetamine use	5.0 (3.8, 6.4)
Sexual performance enhancing drugs	3.7 (2.8, 4.8)

*Unprotected anal intercourse

Routine Brief Risk-Reduction Counseling With Biannual STD Testing Reduces STD Incidence Among HIV-Infected Men Who Have Sex With Men in Care

Pragna Patel, MD, MPH,* Tim Bush, BA,* Kenneth Mayer, MD,† Joel Milam, PhD,‡
 Jean Richardson, DrPH,‡ John Hammer, MD,§ Keith Henry, MD,¶
 Turner Overton, MD,||** Lois Conley, MPH,* Gary Marks, PhD,*
 and John T. Brooks, MD,* for the SUN Study Investigators

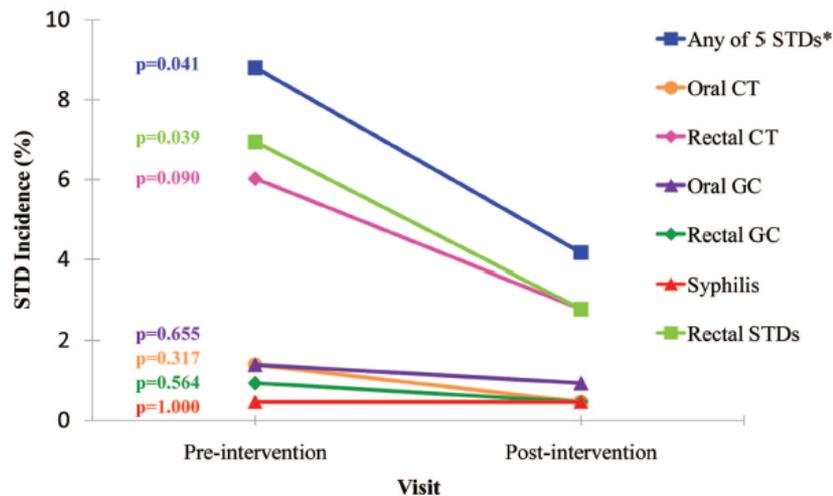


Figure 1. A, Change in STD incidence from pre- to postintervention among men who have sex with men in the SUN study, 2005–2007. *Any 5 STDs refers to any of the 5 STDs examined in this analysis: rectal CT, oral CT, oral GC, rectal GC, and syphilis. STD indicates sexually transmitted diseases; CT, chlamydia; GC, gonorrhea.

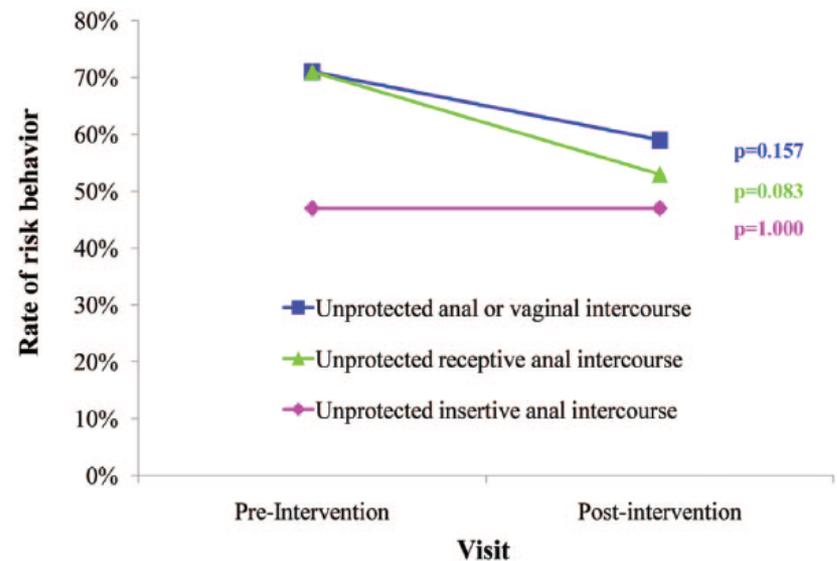


Figure 2. Change in rates of sexual risk behaviors among men who have sex with men who had an STD at the preintervention visit but not at the postintervention visit (n = 17), SUN study, 2005–2007.

Joel E. Gallant, MD, MPH

Professor of Medicine and Epidemiology

Division of Infectious Diseases;

Associate Director

Johns Hopkins AIDS Service

Johns Hopkins University School of Medicine



Changing HIV and STD Epidemiology among MSM

- **Incidence of incident HIV and STDs declined among MSM from 1980s through mid-1990s**
- **Since mid-90s, increased rates of STDs and higher rates of unsafe sexual behavior**
- **Increasing HIV incidence among MSM in some urban centers, especially racial/ethnic minority groups**
- **Reasons:**
 - **Changing attitudes about HIV infection**
 - **Changing patterns of substance abuse**
 - **Demographic shifts in MSM population**
 - **New sexual networks and venues for partner acquisition**

Prevalence and Awareness of HIV Infection among MSM

- Data from CDC's National HIV Behavioral Surveillance System
- 8,153 MSM interviewed and tested in 21 Metropolitan Statistical Areas (MSAs)
- 19% overall HIV prevalence
- HIV prevalence by race/ethnicity:
 - Black, non Hisp. 28%
 - Hispanic 18%
 - White, non Hisp. 16%
 - Multi/Other race 17%
- 44% unaware of their HIV infection

HIV Screening of MSM by Health Care Providers

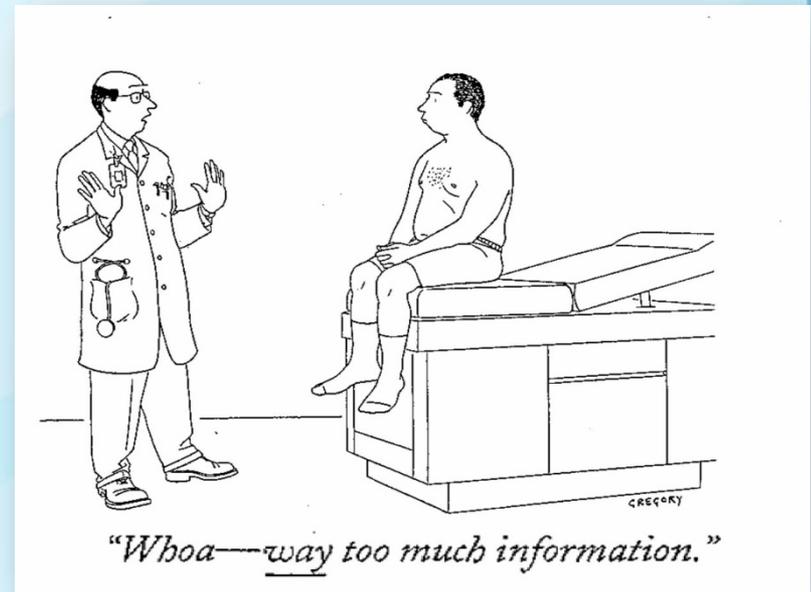
- **Online survey of MSM, 2009, recruited from social networking site**
- **Subjects ≥ 18 years old, HIV status negative or unknown, ≥ 1 male partner in past year**
- **4620/5010 (90%) MSM who had visited medical provider in past year completed survey**
- **76% previously tested for HIV**
- **Only 30% reported being offered HIV testing by provider in previous year**
- **44% disclosed MSM to provider—those who disclosed more likely to be offered HIV testing**

Potential for discordance between HIV and STD incidence

- **Increased HIV incidence does not always accompany increased STD incidence:**
 - Type of sexual activity: Oral sex transmits STDs more readily than HIV
- **Seroadaptive behavior decreases HIV transmission without altering STD transmission:**
 - Serosorting: Selection of partners with same HIV status
 - Seropositioning: During anal sex, HIV+ partner is always receptive

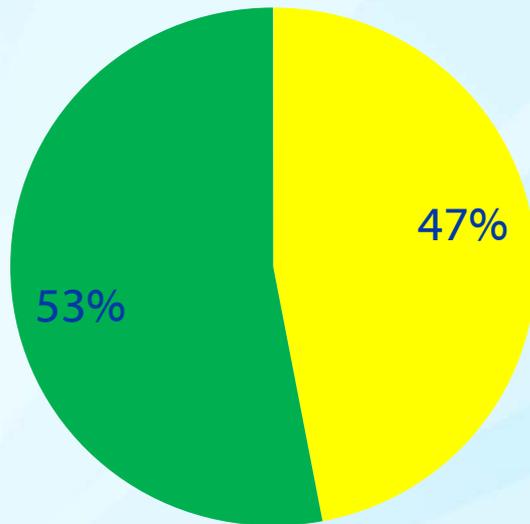
STD Screening in MSM: the Medical History

- **Assess STD risks, including routine inquiry about sex partners/activities**
- **Ask about symptoms of STDs:**
 - Urethral discharge
 - Dysuria
 - Genital/perianal ulcers
 - Regional lymphadenopathy
 - Skin rash
 - Anorectal symptoms consistent with proctitis: discharge, pain on defecation or intercourse
- **Many STDs are asymptomatic**

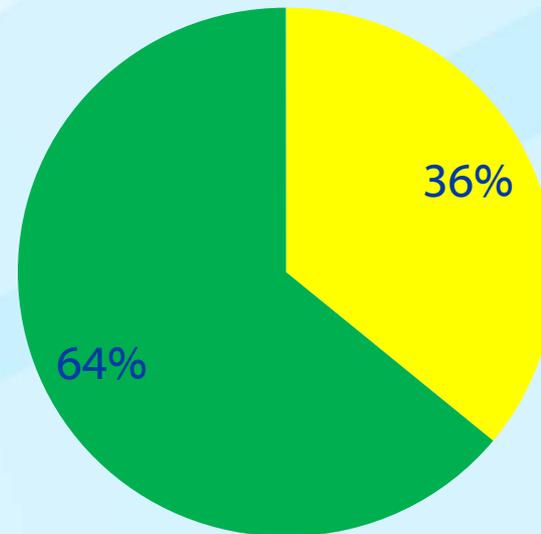


Chlamydia and Gonorrhea Infections: Proportion not identified if screening MSM only at urine/urethral sites

Chlamydia



Gonorrhea



■ Identified ■ Not identified

STD Screening in MSM:

2010 CDC STD Treatment Guidelines

- **HIV**: HIV serology, if negative or not tested in past year
- **Syphilis**: Syphilis serology
- **Gonorrhea and Chlamydia**:
 - Urethral GC/CT if insertive intercourse in past year (urine NAAT preferred)*
 - Rectal GC/CT if receptive intercourse in past year (NAAT on rectal swab preferred)*
 - Pharyngeal GC if receptive oral sex in past year (NAAT on pharyngeal swab preferred)
- **Hepatitis B**: HBsAg to detect current infection
- **Hepatitis C**: HCV testing if HIV+ or IDU

consider [HSV-2](#) type-specific serologic testing and anal Pap for [HPV](#)

*regardless of reported condom use

STD Screening Frequency for MSM: 2010 CDC STD Treatment Guidelines

- **At least annually for all sexually active MSM**
- **More frequent STD screening (i.e., at 3-6 month) for MSM**
 - **Who have multiple or anonymous partners**
 - **Who have sex in conjunction with illicit drug use (particularly methamphetamine use)**
 - **Whose sex partners participate in these activities**



STD Screening:

2009 HIVMA Primary Care Guidelines

- **Syphilis**: At entry to care and periodically thereafter, depending on risk
- **Gonorrhea**: At entry to care and periodically thereafter, depending on risk
 - Rectal testing if receptive anal sex
 - Oral testing if receptive oral sex
- **Chlamydia**: At entry to care and periodically thereafter, depending on risk
 - Rectal testing if receptive anal sex

Hepatitis Vaccination: 2010 CDC STD Guidelines

- **HAV, HBV vaccination recommended for all MSM without prior infection or vaccination**
 - HAV: Consider pre-vaccine testing with anti-HAV antibody (total or IgG) to assess immunity
 - HBV: Consider pre-vaccine testing with HBsAb (to assess immunity) and HBsAg (to rule out chronic infection)
- **Pre-vaccine testing should not delay vaccination**



HCV Infection in MSM

- Increasing incidence of acute HCV among MSM
- Risks:
 - Unprotected receptive anal intercourse
 - Rougher or poorly lubricated unprotected anal penetration, including fisting
- CDC guidelines: screen if HIV+ or IDU
- Consider routine annual screening based on risk
- Acute infection may be HCV antibody negative
 - Consider HCV RNA in patients with new, unexplained transaminase elevation

GAY MEN AND HEPATITIS C

Information on the risks of sexual transmission of Hep C for gay men is available in an information pamphlet.

Please ask here for the pamphlet here.

Hepatitis Queensland
Phone: 07 3846 0020
Toll Free: 1800 648 491 [within QLD]
Email: info@hepqld.asn.au
Web: www.hepqld.asn.au

Queensland Positive People (QPP)
Phone: 07 3013 5555
Toll Free: 1800 636 241 [within QLD]
Email: info@qpp.org.au
Web: www.qpp.net.au

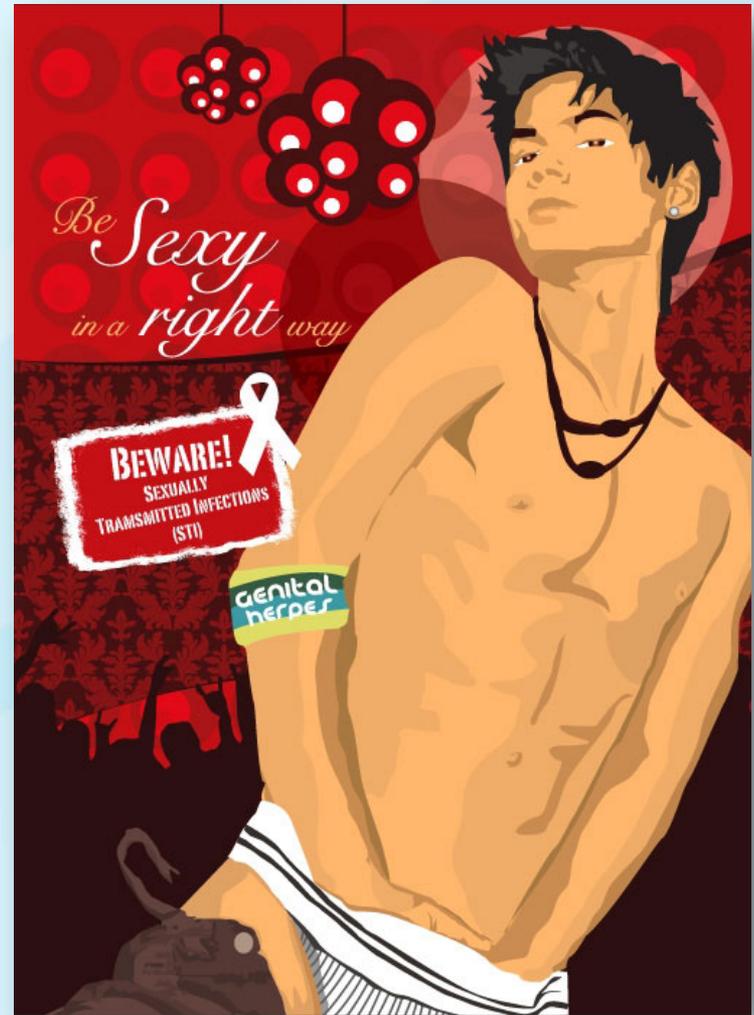
Healthy Communities (QAHC)
Men's Health Line 1800 155 141
Phone: 07 3017 1777
Toll Free: 1800 177 434 [within QLD]
Email: info@qahc.org.au
Web: www.qahc.org.au

GAY MEN AND HEPATITIS C

queensland positive people
HEALTHY COMMUNITIES
QUEENSLAND
COUNCIL OF SOCIAL SERVICES

HSV-2 Type-specific Serologic Testing

- CDC STD and HIV OI guidelines: consider type-specific serologic testing for HSV-2
- **Discordant couples:** counseling re transmission risk and value of suppressive therapy to reduce transmission (heterosexual data)
- **Diagnostic testing:** When lesions are atypical or cannot be cultured



ACIP HPV Recommendations for Male Vaccination

- Routine vaccination of males aged 11 or 12 years with quadrivalent HPV vaccine (HPV4) administered as a 3-dose series
- Vaccination series can be started beginning at age 9 years (*recommendation category: A, evidence type: 2*)
- Vaccines for Children Program covers HPV4
 - www.cdc.gov/vaccines/programs/vfc/providers
- Vaccination with HPV4 is recommended for males aged 13 through 21 years who have not been vaccinated previously or who have not completed the 3-dose series
- Males aged 22 through 26 years may be vaccinated

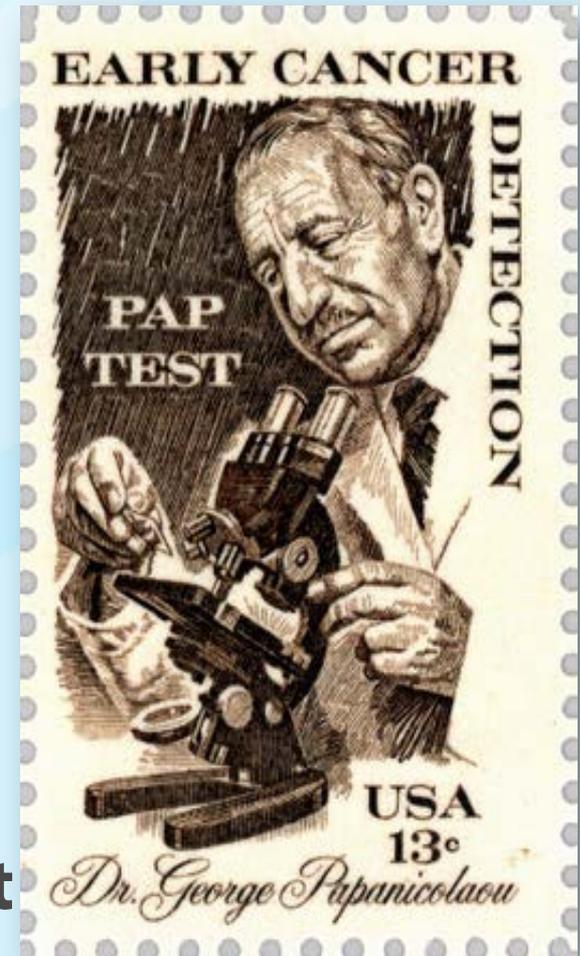


ACIP HPV Vaccine Recommendations for MSM

- **MSM may especially benefit from vaccination to prevent condyloma and anal cancer**
- **For MSM, ACIP recommends routine vaccination**
 - **With HPV4 as for all males**
 - **Through age 26 years for those who have not**
 - **Been vaccinated previously**
 - **Completed the 3-dose series**

Screening for Anal Dysplasia and Cancer in MSM

- **CDC, HIVMA OI guidelines:**
consider anal Pap tests in MSM
 - Evidence is limited
 - Natural history
 - Reliability of screening methods
 - Safety and response to treatments
 - Programmatic support needed
 - Patients with abnormal results should be evaluated with high-resolution anoscopy (HRA)
- **HPV DNA screening of rectum not recommended**



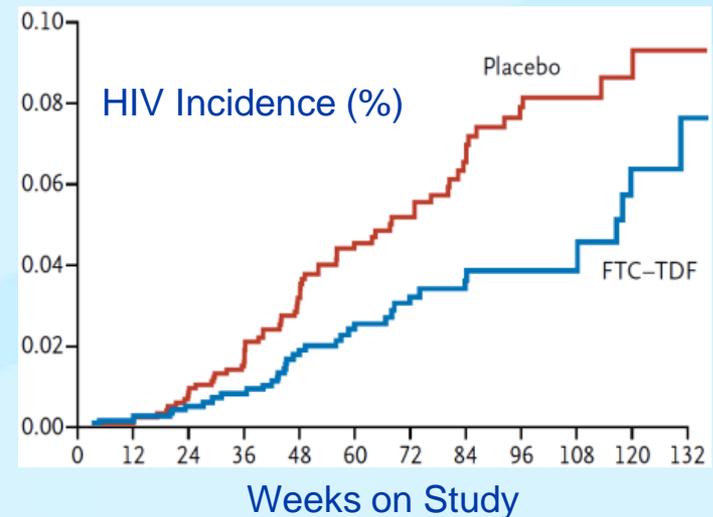
Male Circumcision in MSM

- **Studies document prevention of HIV transmission only among heterosexual men in sub-Saharan Africa**
- **No benefit expected for receptive anal intercourse in MSM**
- **Reduced acquisition of HPV, genital HSV**
- **Heterosexual data *may* apply to MSM engaging in insertive anal intercourse**

Bailey RC, et al. *Lancet* 2007;369:643–6; Gray RH, et al. *Lancet* 2007;369:657–66; Auvert B, et al. *PLoS Med* 2005;2:e298; Auvert B, et al. *J Infect Dis* 2009;199:14–9; Sobngwi-Tambekou J, et al. *J Infect Dis* 2009;199:958–64; Tobian AA, et al. *N Engl J Med* 2009;360:1298–309; Millett GA, et al. *JAMA* 2008;300:1674–84; Sánchez J, et al. *AIDS* 2011; 25: 519–523

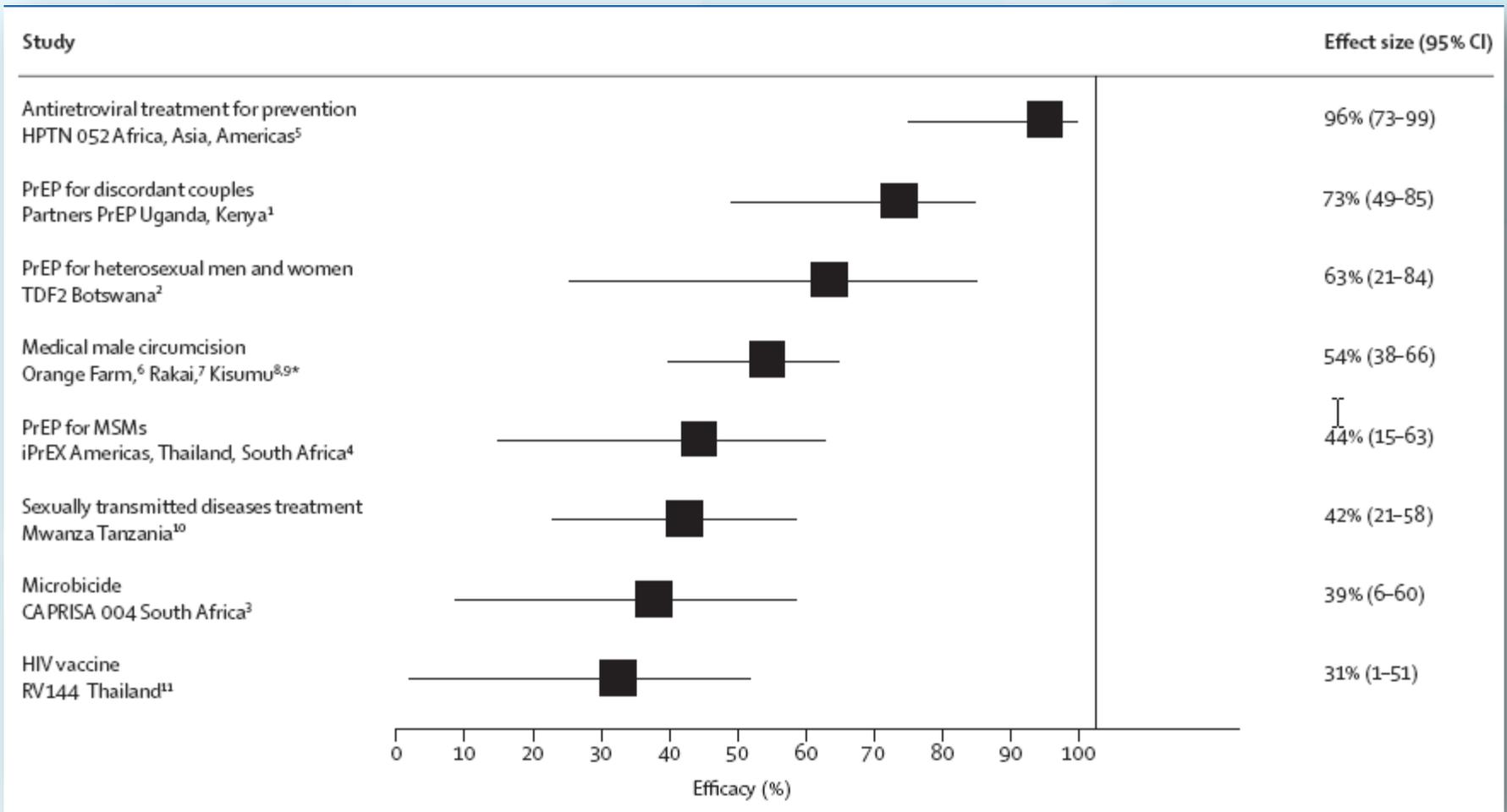
Pre-Exposure Prophylaxis (PrEP) for HIV in MSM

- **Definition: Provision of chemopreventive agent at vulnerable site(s) prior to infection**
- **iPrEx Study demonstrated efficacy of daily Truvada (TDF-FTC) in MSM**
- **Efficacy strongly tied to adherence to product**
- **FDA Advisory Panel recommended daily TDF-FTC for FDA approval May 10, 2012**



**Efficacy estimate (mITT):
44% reduction in HIV acquisition
(95% CI 15%-63%)**

Efficacy of HIV Prevention Strategies From Randomized Clinical Trials



Jeanne M. MARRAZZO, MD, MPH

Professor of Medicine

**University of Washington School of
Medicine;**

Medical Director

**Seattle STD/HIV Prevention Training
Center**



Diagnostic and Management Challenges for Specific STDs among MSM



AS OLD AS
CREATION



SYPHILIS
IS NOW CURABLE

CONSULT YOUR PHYSICIAN

TOWN OF HEMPSTEAD
W.H. BUNCIE M.D. HEALTH OFFICER

FEDERAL PROJECT

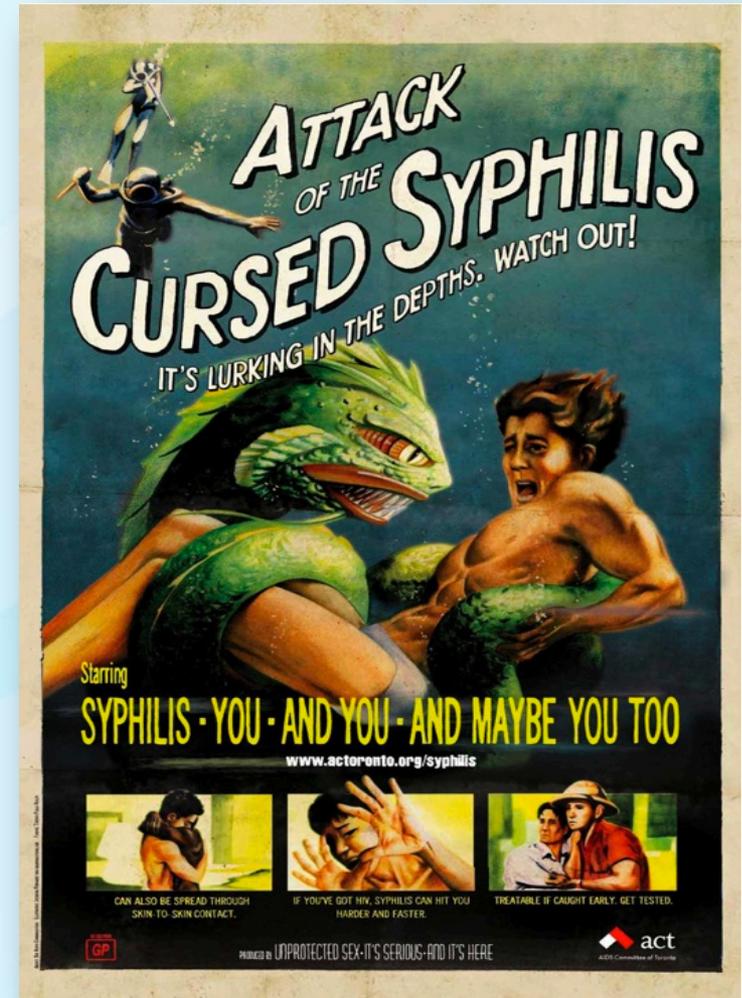
Syphilis Serology

Nontreponemal: VDRL & RPR

- Antibody to cardiolipin-lecithin-cholesterol antigen; not specific to *T. pallidum*
- Quantitative: titer measured
- Used to follow treatment response (always use same test)

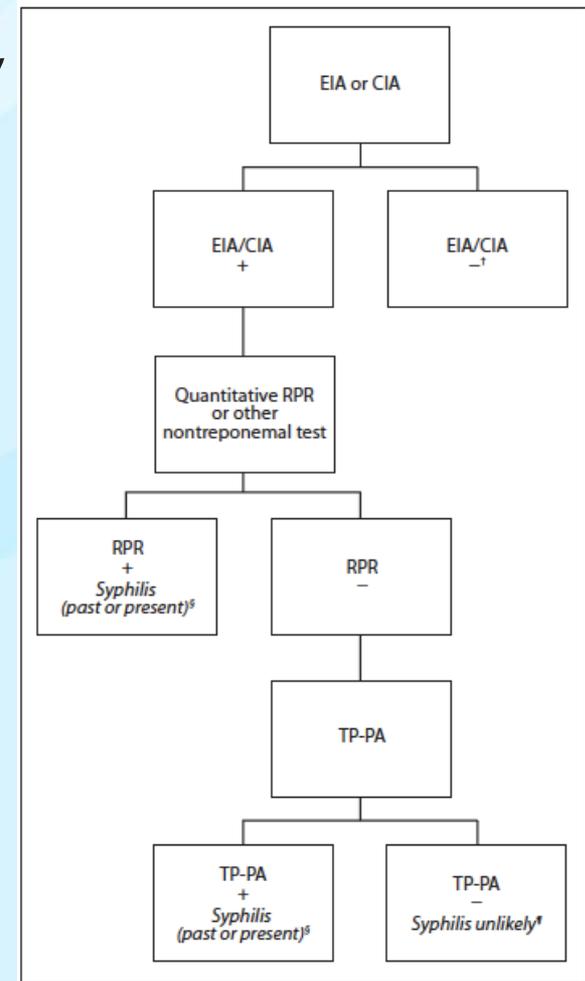
Treponemal: TP-PA, FTA-ABS, EIA/CIA

- Qualitative
- Confirmatory

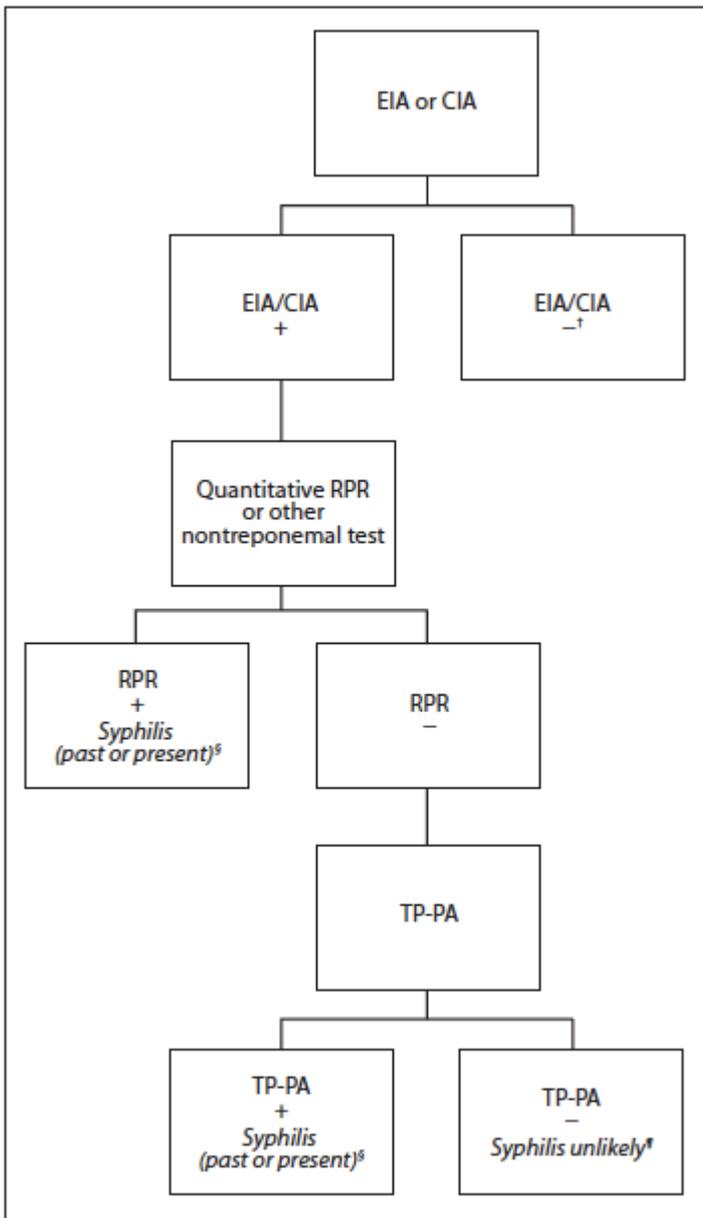


New Syphilis Testing Protocols: Advantages and Limitations

- **“Reverse sequence syphilis screening:”
treponemal test used first**
- **Advantages:**
 - More automated
 - Cheaper
 - Lower risk to lab personnel
- **Limitations:**
 - Cannot distinguish between active disease and old disease (treated/untreated)
 - Cannot use to monitor therapy (no titers)
 - False positive results can occur in low prevalence populations



Discordant Results from Reverse Sequence Syphilis Screening —
Five Laboratories, United States, 2006–2010



- **Confirm positives with standard nontreponemal test titer (RPR/VDRL) to guide management**
- **If this is negative, perform a different treponemal test (TPPA)**
- **Patients with discrepant serology (e.g., positive EIA/CIA and negative RPR)**
- **Early untreated, false-positive EIA, OR previously treated syphilis**

Early Syphilis Treatment

- Penicillin preferred for all stages
- Early syphilis (primary, secondary, early latent)
 - BZN PCN (L-A) single dose IM 2.4 million units
 - Do not use other injectable PCN formulations
 - Do not use azithromycin (resistance; treatment failure)
- Late latent
 - BZN PCN (L-A) IM 2.4 million units weekly x 3 doses (7.2 million u total)
- Alternatives: doxycycline, ceftriaxone



Syphilis: Evaluation of CNS in the HIV-Infected Patient

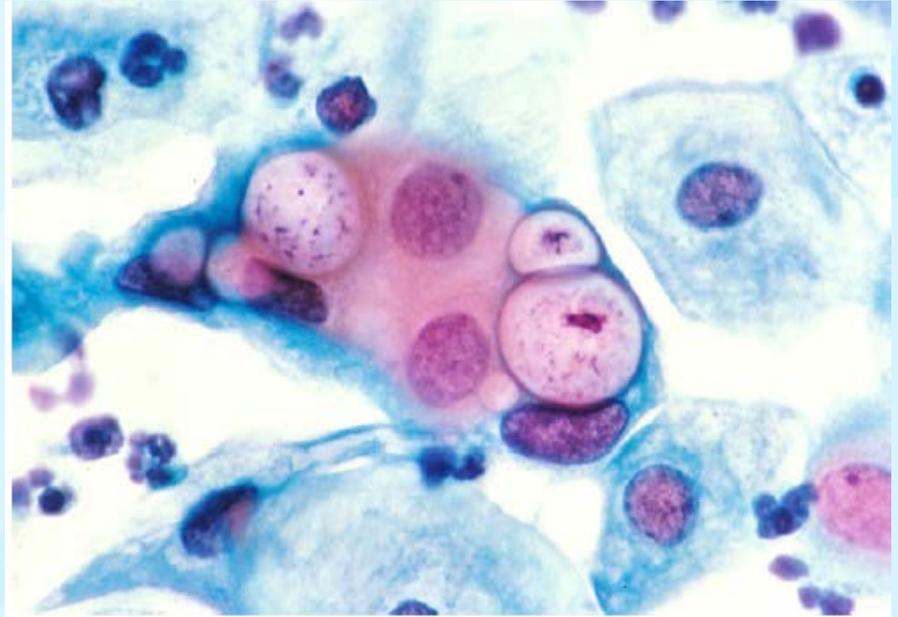
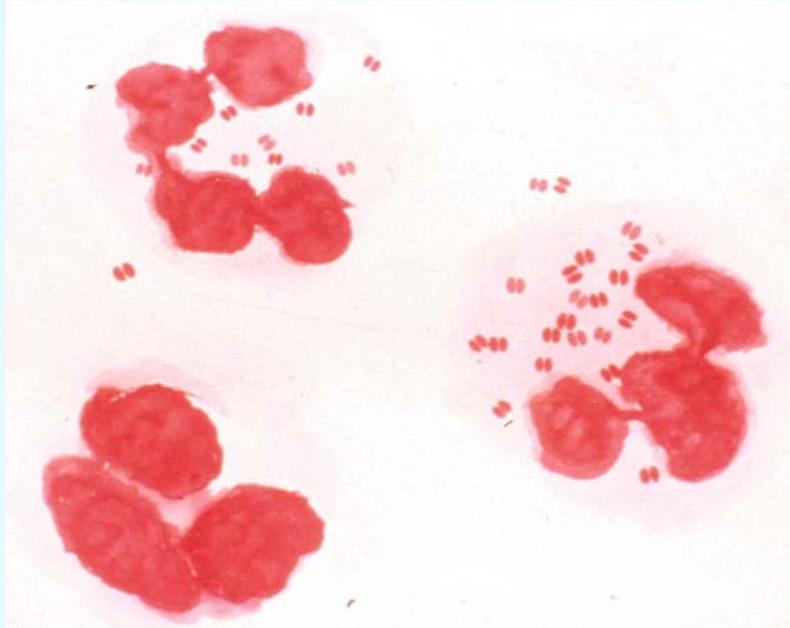
- **CNS invasion occurs in early syphilis regardless of HIV or neurologic symptoms (protein, pleocytosis)**
 - **Clinical significance unknown (HIV+/-)**
 - **Clinical and CSF consistent with neurosyphilis associated with RPR \geq 1:32 and/or CD4 \leq 350**
 - Criteria likely sensitive, but non-specific (many negative LPs)
 - Unless neurologic symptoms present, CSF exam has not been associated with improved clinical outcomes

CDC 2010 STD Treatment Guidelines www.cdc.gov/std; Marra CM, *Neurology* 2004;63:85-88; Libois A, *Sex Transm Dis* 2007;34:141-144; Ghanem KG, *Clin Infect Dis* 2009;816-821; Marra CM *Clin Infect Dis* 2008;47:893-899.

Syphilis: When to Perform a Lumbar Puncture

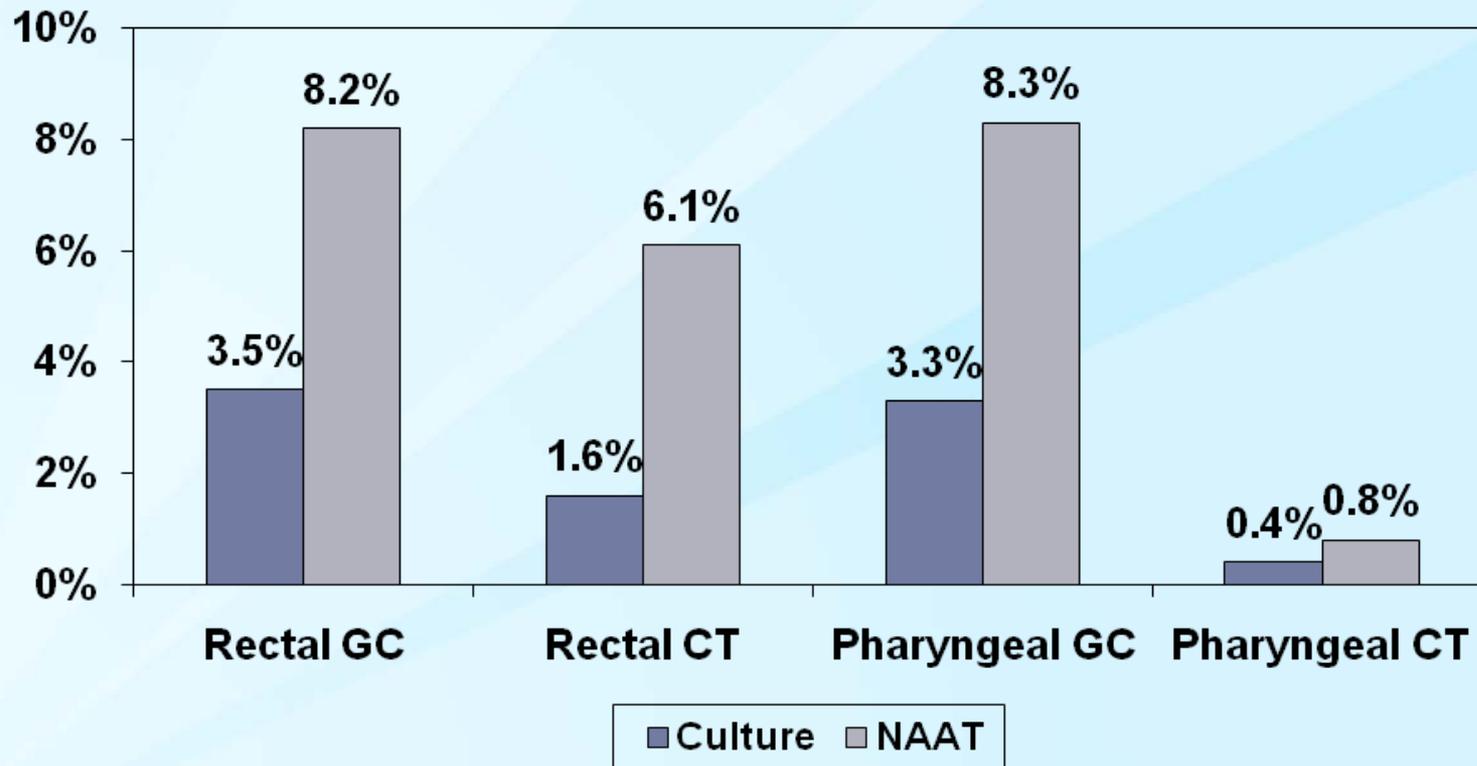
- **All** patients who have serological evidence of syphilis and:
 - Neurological symptoms (including ocular or auditory)
 - Evidence of tertiary syphilis
 - Lack of appropriate serological response to therapy

Gonorrhea & Chlamydia



NAAT Testing, Extragenital Sites

- Not FDA-cleared for rectal or pharyngeal specimens, but preferred over culture



NAAT Testing, Extragenital Sites

- Validation procedures can be done by labs to allow use of a non-FDA-cleared test or application
- Multiple commercial labs currently provide gonorrhea/chlamydia NAAT for rectal/pharyngeal specimens

NAAT Laboratory Ordering and Billing Codes

	Company-Specific Ordering Codes for Combined GC/CT Nucleic Acid Amplified Tests (NAATs)		Company-Specific Ordering Codes for CT test only
	LabCorp*	Quest*	LabCorp
Rectal	188672	16506	188706
Pharyngeal	188698	70051	188714

NAATs are offered at (or from) any location in the country with these two codes.

For information on specimen collection and transportation, clinicians should contact the local reference laboratory representative.

CPT Billing Codes	
CT detection by NAAT	87491
GC detection by NAAT	87591

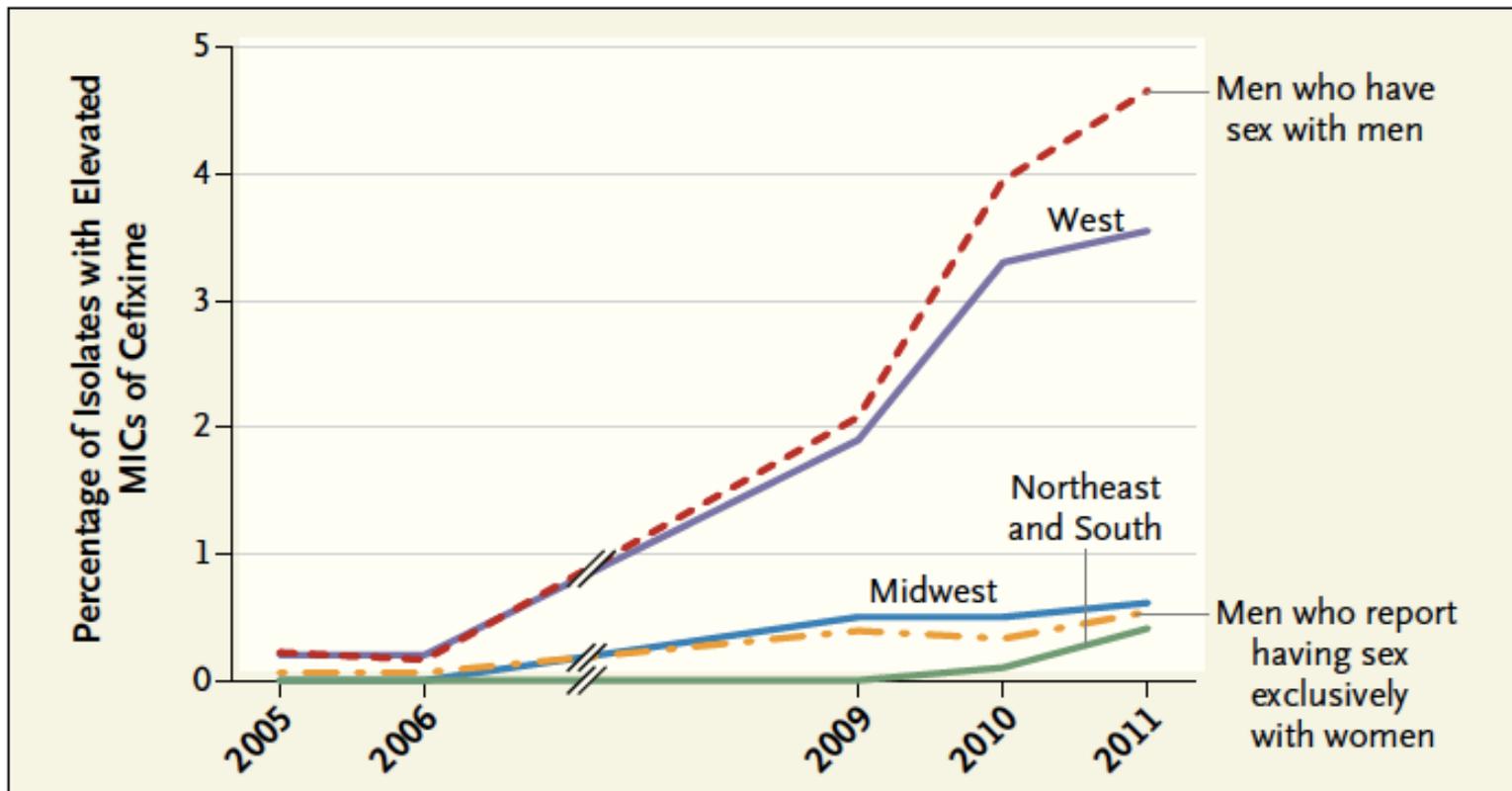
CLIA verified labs* for non-genital NAATs: www.nnptc.org/PHLabs.html

*CDC does not endorse these laboratories, however, they represent the largest laboratories nationally. There may be other private laboratories that have verified rectal and pharyngeal testing with NAATs. Many PHLs have also verified rectal and pharyngeal testing.

Self-Collection of Rectal Swabs for STD Screening

- Among ~900 MSM asked to self-collect samples for performance of BD ProbeTec (SDA) assays and APTIMA COMBO-2 (AC2)
 - Prevalence of CT = 7.3%
 - Prevalence of GC = 9.4%
- Sensitivities comparable to clinician-collected swabs
 - CT: 41% vs. 44% by SDA; 71% vs. 82% by AC2
 - GC: 77% vs. 68% by SDA; 84% vs. 78% by AC2
- Both assays far superior to culture for both organisms
- Acceptable to most MSM studied (82%)

Percentage of Isolates with Elevated MICs to Cefixime ($\geq 0.25 \mu\text{g/ml}$), 2005–2011*



Percentage of Isolates in Which Minimal Inhibitory Concentrations (MICs) of Cefixime Were $0.25 \mu\text{g}$ per Milliliter or Higher, 2005–2011.

Susceptibility to cefixime was not tested in 2007 or 2008. From the Gonococcal Isolate Surveillance Project.

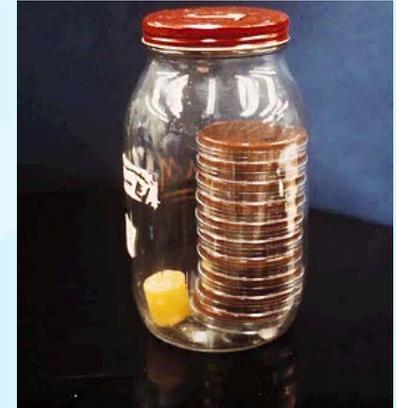
Possible Changes in Treatment Recommendations for Uncomplicated Gonorrhea of Cervix, Urethra, Rectum

- Recommended:
 - **Ceftriaxone** 250 mg IM x 1
 - *PLUS*
 - **Azithromycin** 1 g PO x 1
 - *OR*
 - **Doxycycline** 100 mg PO BID x 7 days
- Alternative (“second line”):
 - Cefixime + azithro or doxy (under consideration at CDC)

Treatment Recommendations for Pharyngeal Infections

- Recommended:
 - **Ceftriaxone** 250 mg IM x 1
 - *PLUS*
 - **Azithromycin** 1 g PO x 1
 - OR
 - **Doxycycline** 100 mg PO BID x 7 days

Gonorrhea: Cephalosporin Allergy



- Limited options
- Spectinomycin is no longer available in the U.S.
- Azithromycin reasonable, but
 - Requires 2 grams; GI tolerance issues
 - Resistance to azithromycin increasing; treatment failures have occurred
- Fluoroquinolones: If only option, obtain culture before treatment to document sensitivity; if not possible, obtain test-of-cure at 7 days)

Expedited Partner Treatment for CT/GC

- **CDC: “PDPT can prevent reinfection of index case and has been associated with a higher likelihood of partner notification...” www.cdc.gov/std/ept for CDC EPT guidelines**
- **EPT for CT and GC safe and effective option for partner management for heterosexuals**
 - **Not recommended in MSM because of concern regarding co-morbidities (e.g., HIV and other STDs)**

Additional Resources for Clinicians

- **CDC 2010 STD Treatment Guidelines**

- www.cdc.gov/std/treatment/2010
- www.cdc.gov/std/2010-ebook.htm



- **The Growing Threat of Multidrug-Resistant Gonorrhea**

- www.youtube.com/watch?v=rE2th3A0Oxs
- www.cdc.gov/about/grand-rounds/archives/2012/download/15-May/GR_05-15-2012.wmv

- **Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) for HPV Vaccine for Males**

- www.cdc.gov/vaccines/recs/acip/GRADE/hpv-vac-males.htm

Additional Resources for Clinicians

- **A Spotlight on LGBT Health: Transgender Health Issues – a Healthy People 2020 webinar**
 - www.healthypeople.gov/2020/connect/webinarsArchive.aspx
- **National Network of STD/HIV Prevention Training Centers**
 - www.nnptc.org
- **CDC Division of STD Prevention**
 - www.cdc.gov/std/training



Follow the National Network of
STD/HIV Prevention
Training Centers
on Twitter!

@NNPTC

Questions and Answers



**Gail Bolan,
MD**

Director,
Division of STD
Prevention,
National Center
for HIV/AIDS,
Viral Hepatitis,
STD, and TB
Prevention,
Centers for
Disease Control
and Prevention



**John T. Brooks,
MD**

Leader,
HIV Epidemiology
Research Team,
Division of
HIV/AIDS
Prevention,
Centers for Disease
Control and
Prevention



**Joel E. Gallant,
MD, MPH**

Professor of
Medicine and
Epidemiology;
Associate
Director,
Johns Hopkins
AIDS Service,
Johns Hopkins
University



**Jeanne Mrazzozzo,
MD, MPH**

Professor of
Medicine,
University of
Washington
School of
Medicine;
Medical Director,
Seattle STD/HIV
Prevention
Training Center



**Kimberly
Workowski, MD**

Infectious
Diseases
Specialist,
Division of STD
Prevention,
Centers for
Disease Control
and Prevention;
Professor of
Medicine, Emory
University

Continuing Education Information

- To receive CE credit, an evaluation must be completed at CDC's Training and Continuing Education Online site: www2a.cdc.gov/TCEOnline.
- If you have not previously registered as a participant on the CDC Training and Continuing Education Online site, click on *New Participant* to create a user ID and password; otherwise click on *Participant Login*.

Continuing Education Information

- Once logged on to the CDC Training and Continuing Education Online site, you will be on the *Participant Services* page. Click on *Search and Register*.
- For those viewing the webinar between June 7, 2012 and July 6, 2012, enter **EC1956** into the *Keyword Search* box and then click on *View*.
- For those viewing the webinar on or after July 6, 2012, enter **WD1956** into the *Keyword Search* box and then click on *View*.

Continuing Education Information

- Select the title of the webinar that you viewed. The course information page will come up. Scroll down to the *Register Here* section of the page.
- Click on the type of continuing education credit that you would like to receive and then *Submit*.
- Complete and *Submit* the demographic questions. A message will come up thanking you for registering for the course.
- Complete and *Submit* the evaluation and posttest.

Continuing Education Information

- A record of your course completion and your CE certificate will be located in the *Transcript and Certificate* section of the *Participant Services* page.
- Print out a copy of your certificate and send it to the appropriate accrediting agency (ACCME, ACPE, ANCC, NCHEC, etc.) so that they will have a record of your certificate.

Acknowledgements

Rheta Barnes

Blanche Collins

Suzanne Haecker

Patrick Harris

Nina Martinez

Rachel Powell

Amy Radford

Raul Romaguera

Kim Workowski



For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

Telephone, 1-800-CDC-INFO (232-4636) / TTY: 1-888-232-6348

E-mail: cdcinfo@cdc.gov Web: www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

