

STI Screening Guidelines: A Focus on Trichomonas, Chlamydia, and Gonorrhea

Jane R. Schwebke, MD
Professor of Medicine/Infectious Diseases
University of Alabama at Birmingham
Birmingham, AL



Identified or perceived conflict of interest has been resolved
in accordance with ACCME guidelines.

1

Faculty Disclosure

Consulting Fees: Hologic, Talis

Contracted Research: BD Diagnostics, Hologic, Lupin, Mycovia
Pharmaceuticals, Synexis

Ownership Interest: Talis



2

STI Screening Guidelines: A Focus on Trichomonas, Chlamydia, and Gonorrhea

Objectives

- Describe the recent surge in incidence rates for common, largely preventable STIs and the major population health challenge they represent
- Formulate clinical strategies to overcome current low screening rates for STIs in at-risk and general populations, using the most sensitive available laboratory molecular technology
- Apply counseling techniques in their medical practice that encourages physician/patient engagement in STI prevention discussions

Women's Health



Annual Visit®



3

Women's Health
Annual Visit®



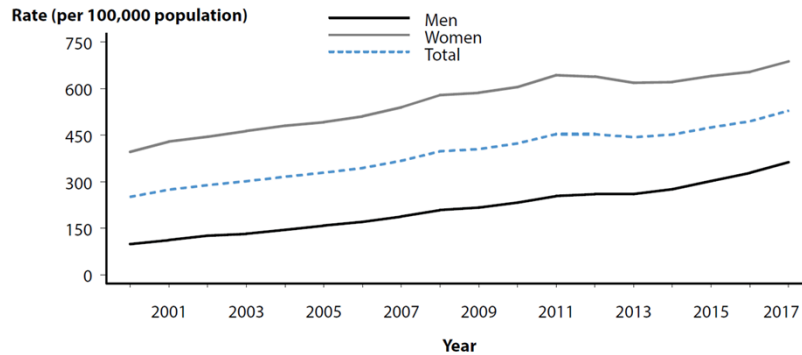
Chlamydia Trachomatis



4

STI Screening Guidelines:
A Focus on Trichomonas, Chlamydia, and Gonorrhea

Chlamydia — Rates of Reported Cases by Sex, United States, 2000–2017



NOTE: Data collection for chlamydia began in 1984 and chlamydia was made nationally notifiable in 1995; however, chlamydia was not reportable in all 50 states and the District of Columbia until 2000. Refer to the National Notifiable Disease Surveillance System (NNSS) website for more information: <https://www.cdc.gov/ndss/conditions/chlamydia-trachomatis-infection/>.

Women's Health

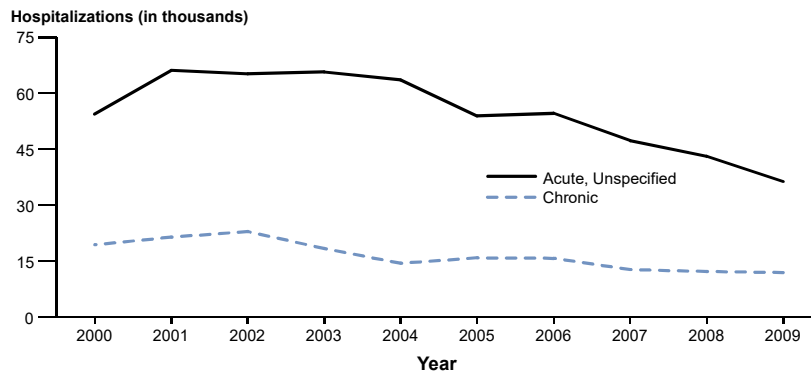


Annual Visit®



5

Pelvic Inflammatory Disease—Hospitalizations of Women Aged 15–44 Years, United States, 2000–2009



NOTE: The relative standard errors for acute and unspecified pelvic inflammatory disease (PID) cases ranges from 8%–18%. The relative standard error for chronic PID cases ranges from 12%–28%. Data only available through 2009. SOURCE: 2009 National Hospital Discharge Survey [Internet]. Atlanta: Centers for Disease Control and Prevention. Available from: <http://www.cdc.gov/nchs/nhds/about/nhds.htm>.

Women's Health



Annual Visit®

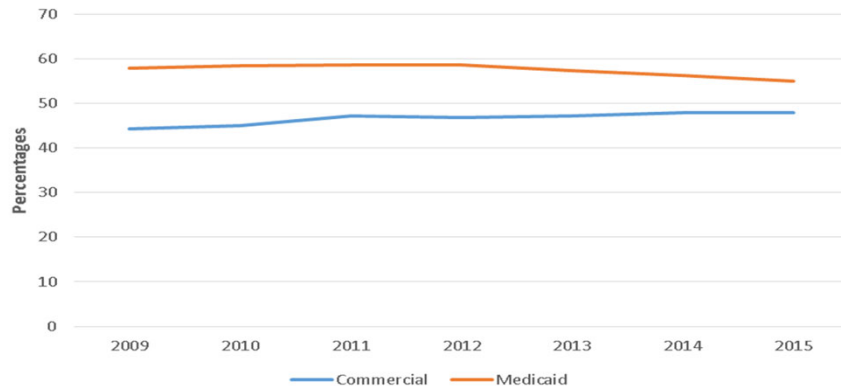


6

STI Screening Guidelines: A Focus on Trichomonas, Chlamydia, and Gonorrhea

Provider Screening Compliance is Low

Percentage of sexually active females aged 16–24 years who were screened for *Chlamydia trachomatis* infection, by health plan type and year--- Healthcare Effectiveness and Data Information Set, United States--2009-2015



Division of STD Prevention, CDC

Women's Health



Annual Visit®



7

Women's Health
Annual Visit®



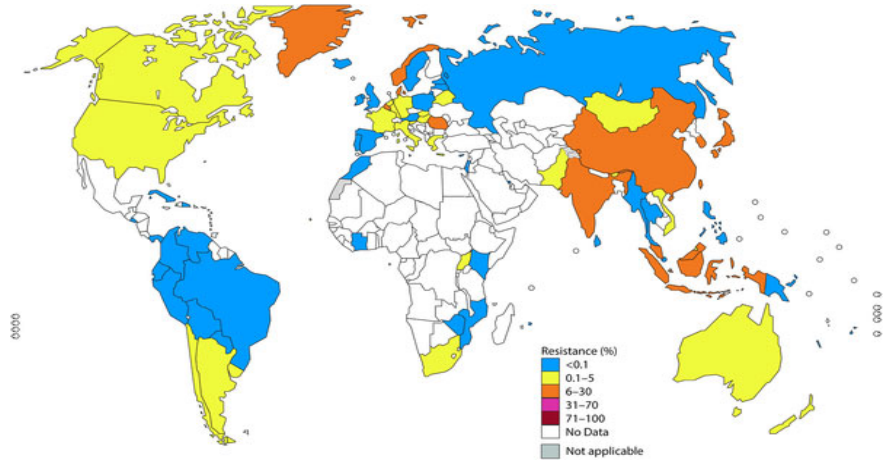
Neisseria Gonorrhoeae



8

STI Screening Guidelines:
A Focus on Trichomonas, Chlamydia, and Gonorrhea

Neisseria gonorrhoeae - Percentage of isolates with decreased susceptibility or resistance to extended-spectrum cephalosporins (cefixime and/or ceftriaxone) according to the most recent World Health Organization Gonococcal Antimicrobial Surveillance Programme



Wi T, Lahra MM, Ndowa F, Bala M, Dillon JAR, et al. (2017) Antimicrobial resistance in *Neisseria gonorrhoeae*: Global surveillance and a call for international collaborative action. PLOS Medicine 14(7): e1002344. <https://doi.org/10.1371/journal.pmed.1002344> <https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002344>

*2014 data for most countries, but for a few countries, only 2011–2013 data were available).

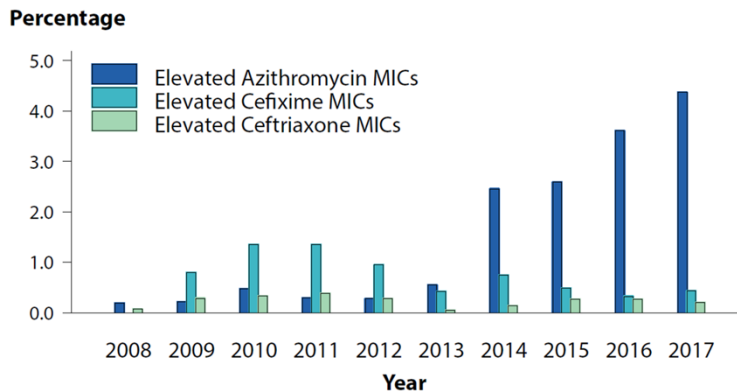
Women's Health



Annual Visit[®]



Neisseria gonorrhoeae — Percentage of Isolates with Elevated Azithromycin Minimum Inhibitory Concentrations (MICs) ($\geq 2.0 \mu\text{g/ml}$), Elevated Ceftriaxone MICs ($\geq 0.125 \mu\text{g/ml}$), and Elevated Cefixime MICs ($\geq 0.25 \mu\text{g/ml}$), Gonococcal Isolate Surveillance Project (GISP), 2008–2017



NOTE: Isolates not tested for cefixime susceptibility in 2008.

Women's Health



Annual Visit[®]



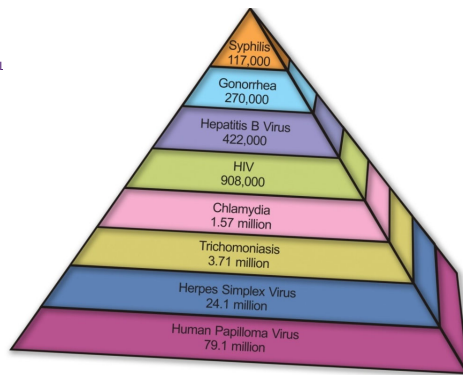
Vaginitis/Vaginosis *Trichomonas*



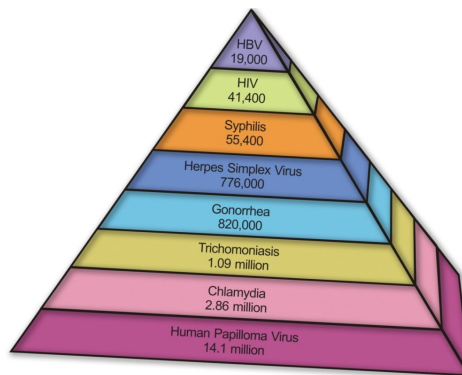
11

U.S. Estimates of Trichomoniasis Prevalence and Incidence

• Satterwhite, C.L



Estimated **prevalence** of sexually transmitted infections in the US (total 110,197,000)



Estimated **new** sexually transmitted infections in the US each year (total 19,738,800)



12

STI Screening Guidelines:
A Focus on Trichomonas, Chlamydia, and Gonorrhea

Vaginitis/Vaginosis Vaginal Candidiasis



13

Vaginitis/Vaginosis Bacterial Vaginosis



14

STI Screening Guidelines:
A Focus on Trichomonas, Chlamydia, and Gonorrhea

Mycoplasma Genitalium



15

M. genitalium Disease Associations

Syndrome	Summary risk estimate	Studies accounting for CT (<i>subset</i>)
NGU	5.5 (4.3 – 7.0)	-
Female Urethritis	2.2 (1.6 – 2.9)	2.1 (1.5 – 2.9)
Cervicitis	1.6 (1.4 – 2.0)	1.9 (1.4 – 2.8)
PID / Endometritis	1.9 (1.3 – 3.5)	2.0 (0.95 – 4.0)
Preterm Delivery	1.9 (1.2 – 2.9)	2.3 (1.1 – 5.0)
Spontaneous Abortion	1.8 (1.1 – 3.0)	2.3 (1.0 – 4.9)
Infertility	3.0 (1.3 – 6.7)	3.7 (1.7 – 8.1)
HIV	2.0 (1.4 – 2.8)	-

Taylor-Robinson & Jensen, Clin Microbiol Rev 2011; Lis et al., CID 2015 – updated; Mavedzenge, AIDS 2009

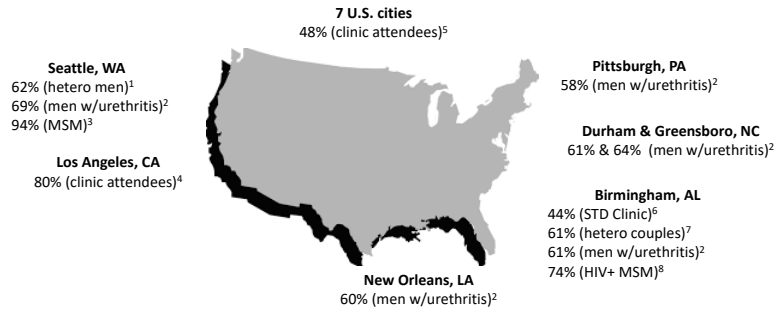
16

STI Screening Guidelines:
A Focus on Trichomonas, Chlamydia, and Gonorrhea

M. genitalium - Macrolide Resistance Mutations (MRMs)*

Worldwide, reported MG MRM prevalence ranges from 4%-100%, mostly in the 15%-60% range

MG MRM prevalence ranges from 44%-90% across U.S. sites



*MRMs in the 23S rRNA gene, typically A2071 and A2072 (*E.coli* numbering 2058 and 2059)

1. Romano 2018, 2. Bachmann (unpublished), 3. Chambers 2019, 4. Allan-Blitz 2018, 5. Getman 2016, 6. Xiao 2018, 7. Xiao 2019, 8. Dionne-Odom 2018

Some Slide Material Courtesy of Lisa Manhart

17

18