

The 2015 CDC STD Treatment Guidelines for Gonorrhea and Chlamydial Management and The Importance of Time to Treatment

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Disclosures

Grant/Research Support: CDC, NIAID, Cepheid, GSK, Becton Dickinson, Gen-Probe, Roche Mol., Cempira, Melinta

Consultant: GSK, Astra Zeneca

Speakers Bureau: None

CT/GC Infections: A Few Daunting Facts

Global Prevalence > 140 million infections (GC 36M, CT 104M)

In 2013, the two most common infections reported to the U.S. CDC- over 1.4 million and 333,000 cases of *C. trachomatis* and *N. gonorrhoeae*, respectively.

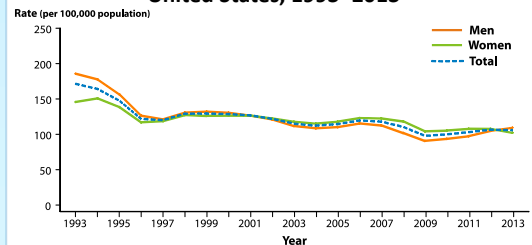
Reported cases comprise 1/2 to 1/3 of true infections.

CT/GC are leading preventable causes of infertility and ectopic pregnancy globally.

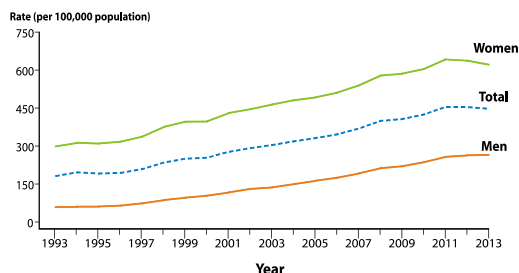
The majority of CT/GC cases in men and women are asymptomatic

Other than age, no historical or personal characteristics successfully identifies persons with *C. trachomatis* infection

Gonorrhea — Rates of Reported Cases by Sex, United States, 1993–2013



Chlamydia — Rates of Reported Cases by Sex, United States, 1993–2013



NOTE: As of January 2000, all 50 states and the District of Columbia have regulations that require the reporting of chlamydia cases.



CT/GC Morbidity

Men & Women: Discharge syndromes (M>F, genital only)
Increase HIV transmission/acquisition risk

Men: Complications: Epididymitis, Reactive Arthritis, DGI (Rare)
Sequelae: Few

Women: Complications: PID (10-15%)
Abscesses
Perinatal transmission

Sequelae: Infertility
Ectopic Pregnancy

A Bacterial STI Treatment Cascade

Entire Community

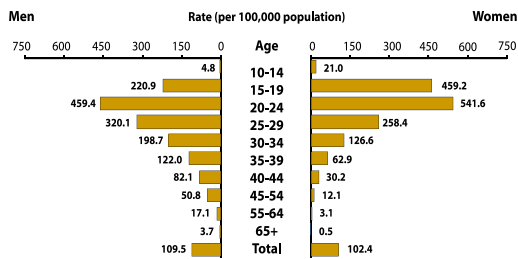
At Risk

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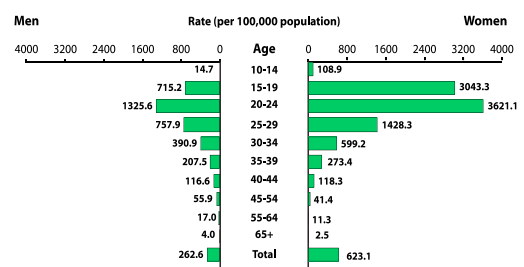
Infected

At Risk

Gonorrhea — Rates of Reported Cases by Age and Sex, United States, 2013



Chlamydia — Rates of Reported Cases by Age and Sex, United States, 2013



CT/GC Screening: U.S. Guidelines

Women:

Annual screening - sexually active women <25 yrs.

Older women- risk factor based screening

Men:

Screen high risk MSM (extragenital emphasis)

No other current guidelines

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Recommend for Testing / Perceived Risk

Infected

CT/GC Detection Strategies

- Men:** Syndromic Diagnosis
Following referral as contacts
Screening (underutilized)
- Women:** Screening
Following referral as contacts
Syndromic diagnosis (inaccurate)

Assessing The Effectiveness of CT/GC Screening

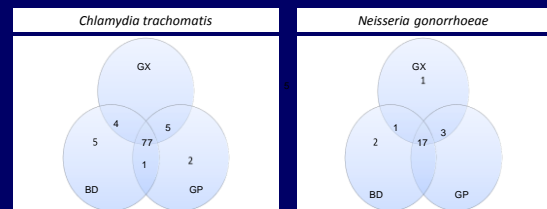
Screening is an essential part of management and control- most CT/GC infections are asymptomatic

Test performance – no longer an issue

Changing Paradigms For Urogenital Specimen Collection

- Pre-NAAT's:** Specimen Quality Critical
- Endocervical Or Urethral Swabs
- Swab Order Impacts Test Results
- : Culture > Non-Amplified Nucleic Acid Detection > Antigen Detection
- NAAT's:** More Forgiving Specimen Collection
- Vaginal Swab \geq Endocervical Swab \geq initial Void Urine

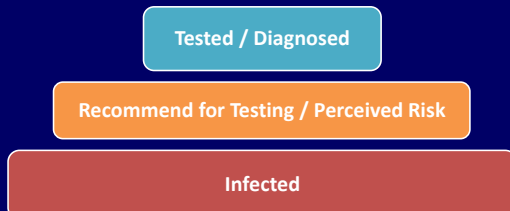
Venn Diagrams of Positive NAATs in Urine Specimens from 1386 at Risk Men



GX = GeneXpert; BD = Becton Dickinson Probe Tec ET; GP = Gen-Probe Aptima Combo 2

Gaydos et al., JCM 2012

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Chlamydia Screening, Sexually Active U.S. Women Enrolled in Health Plans, 2007

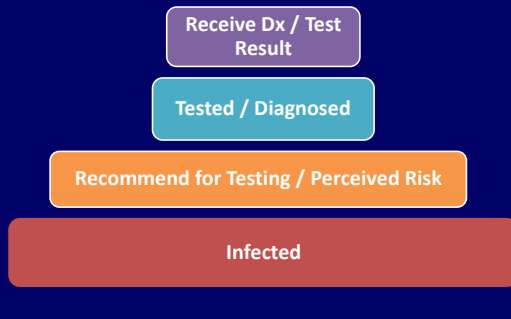
Goal: Screen all sexually active women < 25 years of age annually
(Healthcare Effectiveness Data & Information Set (HEDIS))

% 16-25 Sexually Active Screened

| | |
|----------------|-------|
| Northeast | 45.5% |
| Midwest | 38.5% |
| West | 45% |
| South | 37.3% |
| United States | 41.6% |
| Medicaid HMO | 50.5% |
| Commercial HMO | 39.6% |

MMWR 58 ; 362-365; 2009

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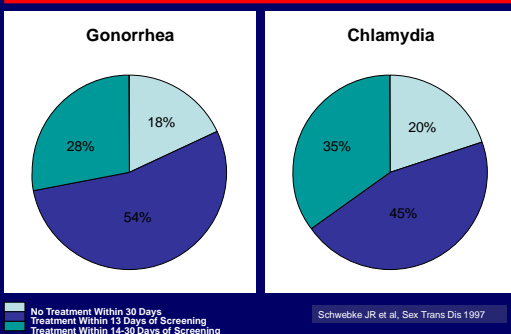


Chlamydial Culture Performance in Women Without Other Indications for Therapy

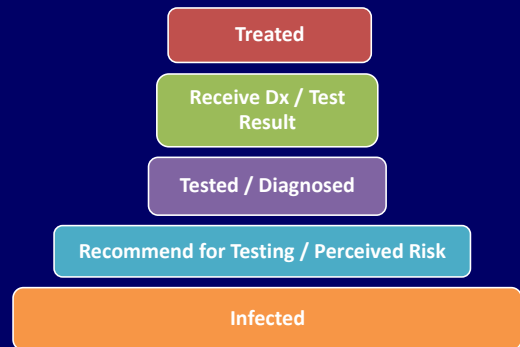
| | |
|--|-----------|
| Patients with positive screening cultures | 81 |
| Patients referred elsewhere for therapy | 3 |
| Patients without documented F/U or therapy (26%) | 20/78 |
| PID at F/U | 2/58 (4%) |
| Interval to treatment (N=58) | |
| 7 days | 24% |
| 14 days | 50% |
| 21 days | 60% |
| 28 days | 81% |

Hook et al. JAMA 1994; 272: 867-70

Time To Treatment Following STD Screening, JCHD STD Clinic



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Supplement to
Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Recommendations and Reports / Vol. 64 / No. 3
June 5, 2015

Sexually Transmitted Diseases Treatment Guidelines, 2015

C. Trachomatis Treatment: Not All Prescriptions Lead to Treatment

Of 795 *C. trachomatis* infected women seen in Family Planning Clinics:

2% had no documented treatment

514 (65%) received direct observed treatment

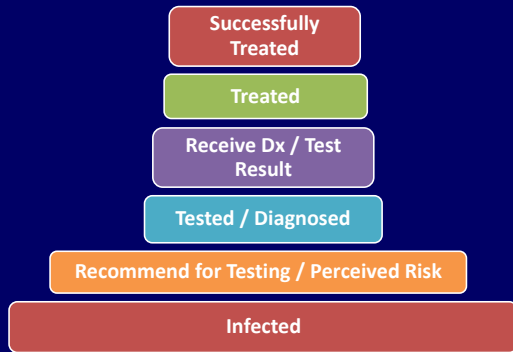
264 (33%) received prescriptions for treatment

Only 67% of prescriptions appear to have been filled

Thus the Verified Treatment Rate was 87%

Douglas L, Feldman C, Baker S, et al. Sex Trans Dis. 2014; 41 (S1), pp S37-8.

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Emerging Gonococcal Antimicrobial Resistance – Deja Vu

| | |
|----------|--|
| Pre-1937 | Antiseptic Irrigation With Potassium Permanganate, Silver Salts, Mercurochrome |
| 1937 | Sulfonamide Therapy |
| 1943 | Penicillin Therapy (Mahoney <i>et al</i>) |
| 1944 | 35% Treatment Failure With Sulfonamides |
| 1972 | Penicillin Regimen Increased to 4.8 Million Units Plus Probenecid |

GONORRHEA THERAPY – HISTORICAL PERSPECTIVE

Previously Recommended Medications For Gonorrhea Therapy

Sulfonamides
 Penicillins
 Macrolides
 Tetracyclines
 Aminoglycosides
 Spectinomycin
 Fluoroquinolones

PRELIMINARY
 COMMUNICATION

JAMA 2013;309(2):163-170

Neisseria gonorrhoeae Treatment Failure and Susceptibility to Cefixime in Toronto, Canada

Cephalosporin-Resistant Gonorrhea in North America

2015 CDC STD TREATMENT GUIDELINES Uncomplicated Gonorrhea

Ceftriaxone 250 mg IM

PLUS

Azithromycin 1.0 g Single Dose or
~~Doxycycline 100 BID x 7d~~
 Even if chlamydia negative

Gonorrhea Treatment- What's Next

Salvage Therapy:

Gentamicin 240 IM/ Azithromycin 2.0g PO
 (IM Administration/Toxicity)

Gemifloxacin 340 mg/Azithromycin 2.0g PO
 (GI Toxicity)

On The Horizon:

Solithromycin

~~Delafloxacin~~

AZ D0914

Others

2015 CDC STD TREATMENT GUIDELINES

Chlamydia trachomatis

Recommended

Azithromycin 1.0 g PO

or

Doxycycline, 100 mg PO, BID x 7d

Alternatives

Erythromycin base, 500 mg PO, QID x 7d

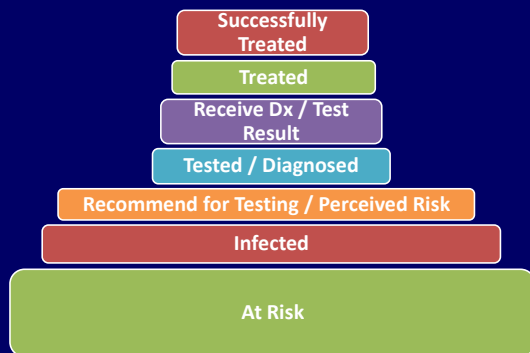
Ofloxacin 300 mg PO, BID x 7d, or

Levofloxacin, 500 mg PO, QD x 7

New U.S. Treatment Guidelines for Gonococcal and Chlamydial Infections and the Importance of the Importance of Time to Treatment

1. Despite recent declines in reported cases, chlamydial and gonorrhea (CT/GC) infections remain the 2 most common reportable infections in the U.S.
2. Progressive development of antimicrobial resistance threatens current approaches to gonorrhea treatment.
3. Current screening programs for CT/GC control can be improved through use of a gonorrhea screening "cascade" to identify opportunities for process improvement and more rapid treatment.

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