2010 STD Treatment Guidelines
Webinar Series

Focus on Adolescent Sexual Health

An Overview by CDC, SAHM, AAP & the NNPTC

June 1, 2011
Learning Objectives

- Describe the impact of STDs on adolescents in the United States
- Identify two tools for engaging adolescent patients in a sexual health dialog
- Describe CDC and AAP STD screening recommendations for adolescents
- Discuss changes to the 2010 STD Treatment Guidelines relevant to the care of adolescents
- Identify AAP, SAHM, NNPTC and CDC sexual health resources for adolescent care providers
Target Audience

- Physicians, advance practice nurses, and other health care providers who see adolescents in the U.S. in primary care practice settings such as private practices/HMOs, community health centers, adolescent clinics and school based health centers
Presenters

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Co-Chair, NNPTC
Assistant Professor of Pediatrics, Boston University Medical Center
Medical Director, Division of STD Prevention, Massachusetts Dept. of Public Health

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Assistant Professor of Pediatrics, Boston University Medical Center
Medical Director, Division of STD Prevention, Massachusetts Dept. of Public Health
Medical Director, Sylvie Ratelle STD/HIV Prevention Training Center of New England
Impact of STDs on adolescents in the United States
Clinical Care: Young Adolescents

Graph showing the percentage of visits for children aged 11-17 years by type of provider (Pediatric Generalists, Non-Pediatric Generalists, Pediatric Specialists, Non-Pediatric Specialists) from 1980 to 2006.

Source: National Ambulatory Medical Care Survey

Freed et al., J Peds, 2010
Clinical Care: Female Adolescents

Source: National Ambulatory Medical Care Survey

Hoover et al., J Adol Health, 2010
Adolescent Sexual Health Trends

**National Youth Risk Behavior Surveillance System**
- ↓ in high school students who have ever had sex
  - 1991-2009: ↓ 54% to → 46%
- ↓ in high school students reporting sex with ≥4 persons
  - 1991-2009: ↓ 19% → 14%
- Used condom during last sexual intercourse
  - 1991-2003: ↑ 46% → 63%
  - 2003-09: no significant change, still ~61%

**National Survey of Family Growth**
- 2002 to 2006-08: no change in sexual activity and contraceptive use
- Contrast to 1988 to 2002 trends that were more consistent towards *reductions* in sexual risk behaviors
- Lack of change in risk behaviors between 2002 and 2006–2008 is consistent with recent trends in teenage pregnancy and birth rates
  - birth rates ≅ in 2002 and 2007

[www.cdc.gov/HealthyYouth/yrbs](http://www.cdc.gov/HealthyYouth/yrbs)
[www.cdc.gov/nchs/nsfg.htm](http://www.cdc.gov/nchs/nsfg.htm)
Table A. Births per 1,000 women 15–19 years of age: United States, 2007, and selected countries, most recent year available

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<tr>
<th>Country</th>
<th>Number of births per thousand</th>
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<td>United Kingdom</td>
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<td>Portugal</td>
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<td>Italy</td>
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<td>Sweden</td>
<td>6</td>
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<tr>
<td>Japan</td>
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<tr>
<td>Netherlands</td>
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Estimated Youth STI Incidence, 2000

~25% 15-24 Years

~75% 25-44 Years

Sexually Experienced Population

Weinstock et al., Persp Sex Reprod Health, 2004
Estimated Youth STI Incidence, 2000

- ~25% 15-24 Years
- ~75% 25-44 Years

Sexually Experienced Population

Incident STIs* Account for:

- ~48% New Infections
- ~52% New Infections

Weinstock et al., Persp Sex Reprod Health, 2004
Estimated Youth STI Incidence, 2000

- ~25% 15-24 Years
- ~75% 25-44 Years

Sexually Experienced Population

Account for:
- ~48% New Infections
- ~52% New Infections

Incident STIs*

- 5% Gonorrhea
- 7% Genital herpes
- 16% Chlamydia
- 21% Trichomoniasis
- 51% HPV

*Also included <1% each HIV, Syphilis, Hepatitis B

Weinstock et al., Persp Sex Reprod Health, 2004
Chlamydia—Percentage of Reported Cases by Sex and Selected Reporting Sources, United States, 2009

*HMO = health maintenance organization; STD = sexually transmitted disease; HD = health department.

NOTE: These categories represent 75.2% of cases with a known reporting source. Of all cases, 9.5% had a missing or unknown reporting source.
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 ¼ of ever-sexually active population aged 15-44 years, but
  – Acquire nearly ½ of all new STIs
  – 88% of new STI cases are from 3 infections: HPV, trichomonas, and chlamydia

Weinstock et al., Persp Sex Reprod Health, 2004
Elizabeth Alderman, MD, FAAP, FSAHM

Chair, Section of Adolescent Health, Executive Committee, AAP

Professor, Clinical Pediatrics, Albert Einstein College of Medicine, Children’s Hospital at Montefiore
Adolescent STI Screening and Prevention
Approach to the Adolescent
Key Strategies

- Assess developmental level
- Discuss confidentiality with adolescent/parent
- Appropriately ensure confidentiality, time alone
- Brief risk assessment at most visits
- STI screening annually if sexually active
- Systems for follow-up of confidential results
Development of Adolescent as Health Consumer

- Respect adolescent’s evolving autonomy
- Facilitate collaborative decision-making
Involving Parents/Guardians

- Lay groundwork for confidential relationship when child is pre-teen
- Introduce concept of time alone at 11 year old visit
- Encourage parental participation in care & support of confidentiality
- Have materials such as posters/brochures available
Confidentiality

- Information about teen’s treatment not disclosed without his/her permission
- Determined by age/developmental level
- Supported by national organizations
  - Expert consensus- (ACOG ’88, AAFP ’89, AAP ’89 SAHM ’92, AMA’92)
Confidentiality and STI*

- All 50 states and the District of Columbia allow minors to consent to STI services.
- 11 states require that a minor be a certain age (12 or 14) to consent.
- 31 states include HIV in package of STI services to which minors may consent.
- 18 states allow physicians to inform parents that a minor is seeking or receiving STI services.

*www.guttmacher.org/statecenter/adolescents.html
Exceptions to the Provision of Confidential Health Services

- Suspected physical, sexual or emotional abuse
- At risk for harm to self or others
- May confidentially report STIs to health department
How can I perform chlamydia screening confidentially?
Confidentiality and Follow-up

- Always get alternative phone numbers
- May wish alternative address
- Email
  - Must consider lack of confidentiality over Internet
- Caveats when establishing confidentiality
Confidentiality and Billing

- Cannot guarantee confidentiality in many cases
- Health plan may send billing statements home that reveal confidential services performed
- Need to know the “paper trail issues” in your health system
- Need to figure out a way to work within these limitations
Adolescent STI Risk Assessment

Available tools
Comprehensive HEADSSSS

H: Home
E: Education/Employment/Eating
A: Activities
D: Drugs
S: Suicidality/Depression
S: Sexuality/Sexual Behavior
S: Safety
S: Spirituality (Optional)
SSHADESS*
Strength Assessment Tool for Psychosocial Screening

- Strength or interests
- School
- Home
- Activities
- Drugs/substance use
- Emotions/depression
- Sexuality
- Safety

*Ginsburg, 2007
Identifying Strengths

- Identify risks by using HEADSSS
- Identify strengths and resiliency
- Search for competency, connectedness, independent decision making
  - Enhances patient/parent interactions
## Sexual Behavior Questions

<table>
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<tr>
<th>Do</th>
<th>Don’t</th>
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<tr>
<td>Assure confidentiality</td>
<td>Use judgmental language</td>
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<tr>
<td>Explain why you are asking sensitive questions</td>
<td>Ask “Are you sexually active?”</td>
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<tr>
<td>Ask patient to describe specific sexual behaviors and contraceptive practices</td>
<td>Use gender-biased pronouns when referring to sexual partners</td>
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<td>Add “second tier” questions to assess comfort with behaviors</td>
<td>Use slang</td>
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Assessing Sexual Behavior

Include questions that direct testing
CDC Recommendations
Assessment: The 5 “P”s

- PARTNERS
- Sexual PRACTICES
- PAST history of STIs
- PREGNANCY
- PROTECTION from STI
Why Screen for STIs?

- Standard of care
- Cost effective
- Reduces transmission/prevents complications (PID, infertility)
- HEDIS Measure-Chlamydia screening females <25 years
Guidelines for Adolescent STI Testing

Bright Futures-American Academy of Pediatrics
Centers for Disease Control and Prevention/U.S. Preventive Services Task Force
Bright Futures
brightfutures.aap.org

- American Academy of Pediatrics/Maternal and Child Health Bureau
- Guidelines Infants thru Late Adolescence
- Annual Preventive Service Visit
- Adolescent in context of family/community
- Addresses risk taking behaviors and screening/immunizations
- Tools/Resource kit available
Bright Futures
STI Screening for Adolescents

- Chlamydia and gonorrhea screen
  - Tests appropriate to the patient population and clinical setting
    - No gender preference

- Offer HIV and syphilis testing based on:
  - **Clinical setting** - STI Clinic, correctional facility, homeless shelter, TB clinic, clinic for MSM, clinic prevalence >1% of population served
  - **STI risk factors:**
    - Unprotected sex with > 1 partner
    - Ever been treated for STI
    - Use or ever use intravenous drugs
    - MSM
    - Trades sex for money/ partner has ever
    - Past/current partner bisexual, HIV positive, IVDU
Bright Futures
STI Prevention via Immunization

- Human Papillomavirus Vaccines
  - ACIP/AAP recommended for females, 9-26 years
  - More effective if initiated prior to sexual activity
  - Bivalent (HPV2)* – cervical cancer and intraepithelial lesions
  - Quadrivalent (HPV 4)** – genital warts; cervical cancer and intraepithelial lesions; anal cancer and intraepithelial lesions; approved by FDA for boys

- Hepatitis B Vaccine

- Hepatitis A Vaccine

*HPV 16, 18
**HPV 6, 11, 16, 18
Update the 2006 Guidelines using a scientific, evidence-based process

Advise health-care providers on most effective STI treatment, screening, prevention and vaccination

Recommendations developed in consultation with public and private sector professionals knowledgeable in STI management
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
Do you routinely screen 16 year old males for chlamydia who report being sexually active?

Yes
No
Need more information
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
CDC Recommendations
Adolescent Prevention

- Encourage immunizations, including HPV, HBV and HAV
- Provide information on HIV infection, testing, transmission, and implications of infection to all adolescents as part of health care
- Integrate sexuality education into clinical practice
Resources for Practitioners
The GYT campaign is a youthful, empowering social movement to reduce the spread of STDs among young people.

Visit the web sites for provider resources, tools, and GYT materials to help support your local STD prevention efforts:

- provider.gytnow.org
- www.cdcnpin.org/stdawareness
- www.findstdtest.org
Chlamydia Coalition
ncc.prevent.org

- Coalition includes AAP, CDC, SAHM, ACOG, non-profits, health plans, advocacy groups
- Aim to increase chlamydia screening
- Provides tools and resources for practitioners and patients
Gale Burstein, MD, MPH, FAAP, FSAHM

NCC Representative, SAHM
Associate Professor of Clinical Pediatrics
Woman and Children's Hospital of Buffalo
State University of New York at Buffalo
Important changes for clinicians who care for adolescents

www.cdc.gov/std/treatment/2010/

www.cdc.gov/std/2010-ebook.htm
STD Treatment Guidelines

- More than just STD treatment
  - cutting edge diagnostics, screening, and prevention

- Living document
  - Continuously updated online at: www.cdc.gov/std/treatment

eBook for iPhone, iPad, & iPod Touch at:
www.cdc.gov/std/2010-ebook.htm
What specimens do you routinely test for GC/CT?

- Urine
- Cervical
- Urethral
- Vaginal
- Rectal
- Oral
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

How to order screen

Non-genital GC/CT NAATs can be done by clinical laboratory with CLIA approval

<table>
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<th>Gen-Probe APTIMA testing</th>
<th>QUEST diagnostics test codes</th>
<th>LabCorp diagnostics test codes</th>
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<tr>
<td>Pharyngeal</td>
<td>70051X</td>
<td>188698</td>
</tr>
<tr>
<td>Rectal</td>
<td>16506X</td>
<td>188672</td>
</tr>
<tr>
<td>Urine/Urethral</td>
<td>13363X</td>
<td>183194</td>
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Relevant CPT Billing Codes:
- CT detection by NAAT: 87491
- GC detection by NAAT: 87591
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.
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
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
Gonococcal Isolate Surveillance Project (GISP)—Percentage of *Neisseria gonorrhoeae* Isolates with Resistance or Intermediate Resistance to Ciprofloxacin, 1990–2009

NOTE: Resistant isolates have ciprofloxacin minimum inhibitory concentrations (MICs) >1 µg/ml. Isolates with intermediate resistance have ciprofloxacin MICs of 0.125–0.5 µg/ml. Susceptibility to ciprofloxacin was first measured in GISP in 1990.
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Vaginal Infection

- Diagnosis:
  - vulvovaginal candidiasis (VVC)
  - vs
  - bacterial vaginosis (BV)
  - vs
  - trichomoniasis

- Management: new Rx options
What test do you use to diagnose vaginitis?

Check all that apply

- Microscopy performed by self
- Microscopy performed by lab
- CLIA-waived, rapid test
- Culture
- DNA probe (hybridization) test
- Nucleic acid amplification test (NAAT)
- No laboratory test used, i.e., clinical impression
Vaginal Infection: Diagnostic Opportunities
- APTIMA *Trichomonas vaginalis* Assay (Gen-Probe Inc, San Diego, CA)
  - Can perform GC/CT/TV on 1 specimen

- Affirm™ VP III (Becton Dickinson, San Jose, CA)
  - *T. vaginalis, G. vaginalis, and C. albicans* nucleic acid probe test
CLIA - Waived, Point of Care, Vaginal tests

Results available in 10 minutes!!
OSOM Trichomonas Rapid Test (Genzyme Diagnostics, Cambridge, Massachusetts)

- immunochromatographic capillary flow dipstick technology
OSOM BVBLUE Test (Genzyme Diagnostics, Cambridge, Massachusetts)

- Detects elevated vaginal fluid sialidase activity
  - enzyme produced by BV-associated bacterial pathogens

**Image Description**

- The generation of a blue or green color in the testing vessel or on the head of the swab: **POSITIVE**
- The generation of a yellow color in the testing vessel: **NEGATIVE**
Who uses tinidazole for trichomonas or BV treatment?

- Trichomonas
- BV
Vaginal Infection Treatment Option: Tinidazole

- Trichomonas: Tinidazole 2 g orally once

- Alternative BV treatment regimens
  - Tinidazole 2 g orally once daily for 2 days
  - Tinidazole 1 g orally once daily for 5 days
More Vaginitis Treatment Options

- Recommendations for
  - recurrent yeast infection
  - recurrent BV
  - Next steps if suspect resistant *T. vaginalis*
    - call CDC!

- Go to: www.cdc.gov/std/treatment
Viral STIs

• No major changes affecting adolescents

• HSV: new regimen for recurrent episode
  – Famciclovir 500 mg x 1, followed by 250 mg BID x 2 days
    • The efficacy and safety not established in patients <18 yrs

• Genital warts: new patient-applied Tx
  – Sinecatechins 15% ointment
    • Safety and effectiveness have not been established in pediatric patients
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How do you typically treat scabies?

- Permethrin cream (5%)
- Lindane (1%) lotion or cream
- Ivermectin tablets
Scabies

**Recommended Regimens**

Permethrin cream (5%) applied to all areas of the body from the neck down and washed off after 8–14 hours

OR

Ivermectin 200 μg/kg orally, repeated in 2 weeks
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Follow up

Test of Reinfection Partner Services
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
Expedited Partner Therapy

Treatment of sex partners without a prior health care provider exam or assessment
EPT Method: Patient-Delivered Partner Therapy

- Give index case medication intended for the partners
  OR
- Write partner(s) prescription(s) for medication
  OR
- Prescribe extra doses of medication in the index patients’ names
EPT Effectiveness
EPT for GC and CT: infection rates at follow-up

- RCT of EPT vs standard partner referral
- 929 pts in EPT arm vs 931 pts in standard referral arm
- ♂ & ♀ index cases
- Rate of reinfection lower in EPT groups
  - Not robust effect for CT

Golden, NEJM, 2005
EPT: CDC GUIDANCE

- Ideally partner should have complete STI evaluation and counseling PLUS treatment to exposed STI
- Some partners may not seek evaluation and treatment
  - providers should offer EPT to heterosexual patients diagnosed with CT or GC
    - unless prohibited by state or local law
    - unless patients decline or indicate they are unlikely to deliver EPT
EPT Implementation

- EPT Meds and Rx should be accompanied by instructions
  - appropriate warnings about taking medications if pregnant
  - general health counseling
  - advise that partners should seek medical evaluations, particularly ♀ with STD or PID symptoms
EPT Legal Landscape

EPT is permissible in 27 states:

EPT is potentially allowable in 15 states:

EPT is prohibited in 8 states:

Expedited Partner Therapy Legal/Policy Toolkit

- Assist states interested in adopting EPT supportive laws
- Assist states that have adopted EPT laws with addressing implementation barriers

www.cdc.gov/std/ept/legal/LegalToolkit.htm
CDC & AAP Clinical Resources

- CDC 2010 STD Treatment Guidelines:
  www.cdc.gov/std/treatment/2010/
  www.cdc.gov/std/2010-ebook.htm

- CDC Guide to Taking a Sexual History:
  www.cdc.gov/std/see/HealthCareProviders/SexualHistory.pdf

- AAP Immunization Schedule Ages 7-18 Years:
  aapredbook.aappublications.org/resources/IZSchedule7-18yrs.pdf

- AAP Section of Adolescent Health:
  www.aap.org/sections/adolescenthealth/default.cfm

- AAP STD Resources Section:
  www.aap.org/sections/adolescenthealth/STDAware.cfm
SAHM & NASPAG Clinical Resources

- Society for Adolescent Health & Medicine: www.adolescenthealth.org
  www.adolescenthealth.org/Clinical_Care_Resources/2721.htm

- North American Society for Pediatric & Adolescent Gynecology:
  www.naspag.org/Professionals/clinicalResources.cfm
Clinical Educational and Training Resources

National Network of STD/HIV Prevention Training Centers

www.nnptc.org

CDC Division of STD Prevention

www.cdc.gov/std/training
stdtraining@cdc.gov or 404.639.8360
References


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Hello, I'm Dr. Gail Bolan, Director of the Division of Sexually Transmitted Disease (STD) Prevention at the Centers for Disease Control and Prevention (CDC). I am speaking to you as part of the CDC Expert Commentary Series on Medscape.

Each year in the United States, there are about 19 million new STDs, almost half of which are in younger people, ages 15-24. Research suggests that as many as 1 in 4 teens may have an STD. Many of these infections are asymptomatic, yet some can cause serious illness.
Save the Date
March 12-15, 2012
Minneapolis, Minnesota

www.cdc.gov/stdconference/
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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.