Male Chlamydia Screening Consultation
Atlanta, Georgia
March 28 – 29, 2006

Meeting Report
May 22, 2007

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

Male Chlamydia Screening Consultation, March 28-29, 2006

Meeting Report

This report summarizes a Centers for Disease Control and Prevention (CDC) meeting held March 28-29, 2006 on male chlamydia screening. CDC convened this meeting to review evidence and make recommendations to programs that were currently screening, or planning to screen men for *Chlamydia trachomatis* infection (Ct). Consultants reviewed surveillance data on Ct in men; the literature on effectiveness, acceptability, behavioral and demographic characteristics that could be used to target screening; cost-effectiveness; partner management; and the relative performance of nucleic acid amplification tests (NAATs) and the leukocyte esterase test (LET). Working groups examined published evidence in these specific subject areas and compiled summary reports, rating the quality and strength of the evidence for various recommendations. The assembled consultants provided strength of support for these recommendations, which are included in this summary. A list of participants is provided in Appendix A.

This report provides background and purpose of the meeting, the meeting process, and a summary of key recommendations based on available scientific data.

I. Background, Purpose, and Process

The purpose of the meeting was to use available scientific literature to develop guidance on male screening for Ct for programs currently screening, or planning to implement screening. The intent of the meeting was not to provide evidence for or against screening men for Ct, and the consultants also did not address the question of whether programs should expand existing screening or not. Future evaluations, including modeling data, will help address the relative value of screening men for Ct.

Seven topics wee selected for presentation: 1) a review of venues and Ct prevalence; 2) a review of prevalence of Ct among men in the U.S.; 3) a review of behavioral and demographic features associated with Ct among men; 4) cost-effectiveness issues; 5) laboratory issues; 6) partner management; and 7) re-infection. After the presentations, workgroups met to discuss guidance generated from the review of data, and quality and strength of the evidence. A summary presentation from each workgroup generated the recommendations. The expert consultants developed a level of support for each recommendation, using a five-point scale.

II. Introduction to Recommendations

The consultants were in agreement that programs that screen males for Ct should include education on Ct, and that a primary focus of programs should remain on screening women, as the most significant health burdens caused by Ct, such as pelvic inflammatory disease and its sequelae of chronic pelvic pain, ectopic pregnancy, and infertility, occur in women. The following recommendations were considered the most important focus for screening men for Ct. The average score is the simple average of the scores given by each consultant to each recommendation that emerged from the workgroups. Quality of evidence and strength of recommendation were rated by the workgroups according to the scales used by the U.S. Preventive Services Task Force (USPSTF)(1). However, the USPSTF has not assessed these recommendations. Below is a table listing all recommendations which had an average score of 4.0 or higher.

Recommendations for programs that are currently screening men, or planning to screening men for Ct infection in order to select appropriate populations to screen

Recommendation	Average Score (Median) 1-5 (5 is strongest)	Quality of the Evidence*	Strength of the Recommendation†	References
Urine is the specimen of choice and NAATs are the test of choice for screening men for Ct	5.00 (5)	I	A	(2-4)
LET is not recommended for screening males for Ct	5.00 (5)	I	A	(5;6)
Males attending STD clinics should be screened for Ct (including screening asymptomatic men and testing men with symptoms)‡,§	4.87 (5)	II	A	(7)‡‡(8)
Screen men attending National Job Training Program	4.84 (5)	I/II	A	(9;10)‡‡
Pooling of urine specimens does not diminish NAAT performance and may be considered a cost saving methodology at certain prevalence levels‖	4.76 (5)	I	A	(11-13)

Recommendation	Average Score (Median) 1-5 (5 is strongest)	Quality of the Evidence*	Strength of the Recommendation†	References
Screen all males in military <30 years of age with any lifetime sexual experience	4.66 (5)	I	A	(14;15)
Males <30 years of age entering jails should be screened for Ct§,¶	4.59 (5)	I/II	A	(9;16)‡‡
Partners of men with Ct should be referred for treatment and management of Ct**	4.46 (5)	I	A	(17)
There is increasing evidence that expedited partner therapy works well for partners of men with Ct**	4.46 (5)	II	A	(17)
Males with Ct infection should be re-screened at 3 months for repeat Ct	4.42 (5)	II	A	(18;19)
Males entering juvenile facilities should be screened for Ct§,††	4.39 (5)	II	B	(9)‡‡
In communities with high Ct prevalences (either sex), programs should consider screening men in EDs (<25), attending HS clinics, and attending adolescent clinics§§	4.18 (4)	II / III	B / C	(20)‡‡ (16;21-23)

Notes:

Abbreviations: Ct = chlamydia, ED = emergency department, EPT = expedited partner therapy, HS = high school, LET = leukocyte esterase test, NAAT = nucleic acid amplification test, STD = sexually transmitted disease

* I = Good, II = Fair, III = poor; see Appendix B. (1)

†A = strongly recommended, B = recommended, C = no recommendation for or against, D = recommended against, I = insufficient evidence; see Appendix B. (1)

‡ Consultants also considered a more restrictive recommendation to screen in STD clinics all males < 30 years of age with any lifetime sexual experience. Average (median) score was 4.78 (5).

§ Consultants did not consider regional variation in prevalence and noted that in some areas local prevalence may impact the strength of this recommendation.

‖ Consultants noted that nomograms have been developed that indicate what number of specimens are appropriate to pool at a given prevalence. (11)

¶ Consultants also considered a recommendation to screen in jails all males with any lifetime sexual experience. Average (median) score was 4.48 (5).

** Consultants considered these recommendations together.

†† Consultants considered prevalence cutoffs of 2% - 4%, and considered a blanket recommendation to screen regardless of prevalence, but were not able to reach a consensus on a particular cutoff.

‡‡ Consultants reviewed the unpublished data from this source.

§§There was less agreement and weak support for screening in these venues in communities without high prevalence.

Other recommendations for which there was limited support included screening men <30 in a variety of other venues, such as primary care, family court, street outreach, schools, and some community based organization (CBO) settings. There was no consensus on the state of the cost-effectiveness literature because of differences among studies regarding methodology and a lack of empiric evidence of the impact of screening men on the prevalence in women.

III. Conclusions/Caveats

The consultants agreed that screening men for Ct infection presents challenges to programs including limited resources, lack of knowledge of high prevalence settings, and lack of information on the impact of screening men for Ct on rates and outcomes in women. A premise of the consultation was that STD programs should screen women less than 26 years of age for chlamydia infection as a primary focus (24;25) and that screening men for Ct should be considered as a secondary focus to prevent Ct infection and sequelae among women**.**

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Appendix A: List of Consultants and Organizations

Consultants and Organizations List for Male Chlamydia Screening Consultation (Alphabetical by Name)	
Name	**Affiliation**
Bauer, Heidi, MD,MPH	California Department of Health Services, STD Control
Blackburn, Pat, MPH	Center for Health Training
Blake, Diane, MD	University of Massachusetts
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Geisler, William, MD, MPH	University of Alabama-Birmingham
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Hook III, Ned, MD, MPH	University of Alabama-Birmingham
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Kissinger, Patty, PhD	Tulane University
Lincoln, Tom, MD	Hampden County (MA) Correctional Center
Marrazzo, Jeanne, MD, MPH	University of Washington
Martin, David, MD	Louisiana State University Health Sciences Center-New
Miller, William, MD, PhD, MPH	University of North Carolina-Chapel Hill
Orr, Donald, MD	Indiana University-Purdue University Indianapolis
Potterat, John, BA	Colorado Springs Health Department (retired)
Rietmeijer, Kees, MD, PhD	Denver Public Health
Schachter, Julius, PhD	University of California-San Francisco
Schillinger, Julie, MD MSc	New York City Department of Health and Mental Hygiene
Shafer, Mary Ann, MD	University of California-San Francisco
Steece, Richard, PhD	National Infertility Prevention Project
Organizational Representatives	**Organization**
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Dimitrakov, Jordan, MD, PhD	American Urological Association and Harvard Medical
Hallerdin, Jule, MN, MPH, CNM	Office of Population Affairs
Meyers, David, MD	US Preventive Services Task Force
Moskosky, Susan, MS, RNC	Office of Population Affairs
Tan, Leitjan, MS, PhD	American Medical Association
Watson, Kathleen O'Connor, RN MS	National Coalition of STD Directors

CDC Participants List for Male Chlamydia Screening Consultation (Alphabetical by Name)	
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Appendix B: US Preventive Services Task Force Standards (1)

How the U.S. Preventive Services Task Force Grades Its Recommendations

The U.S. Preventive Services Task Force (USPSTF) grades its recommendations based on the strength of evidence and magnitude of net benefit (benefits minus harms).

A. The USPSTF strongly recommends that clinicians provide [the service] to eligible patients. *The USPSTF found good evidence that [the service] improves important health outcomes and concludes that benefits substantially outweigh harms.*
B. The USPSTF recommends that clinicians provide [the service] to eligible patients. *The USPSTF found at least fair evidence that [the service] improves important health outcomes and concludes that benefits outweigh harms.*
C. The USPSTF makes no recommendation for or against routine provision of [the service]. *The USPSTF found at least fair evidence that [the service] can improve health outcomes but concludes that the balance of benefits and harms is too close to justify a general recommendation.*
D. The USPSTF recommends against routinely providing [the service] to asymptomatic patients. *The USPSTF found at least fair evidence that [the service] is ineffective or that harms outweigh benefits.*
I. The USPSTF concludes that the evidence is insufficient to recommend for or against routinely providing [the service]. *Evidence that [the service] is effective is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.*

The USPSTF grades the quality of the overall evidence for a service on a 3-point scale (good, fair, poor).

Good: Evidence includes consistent results from well-designed, well-conducted studies in representative populations that directly assess effects on health outcomes.
Fair: Evidence is sufficient to determine effects on health outcomes, but the strength of the evidence is limited by the number, quality, or consistency of the individual studies, generalizability to routine practice, or indirect nature of the evidence on health outcomes.
Poor: Evidence is insufficient to assess the effects on health outcomes because of limited number or power of studies, important flaws in their design or conduct, gaps in the chain of evidence, or lack of information on important health outcomes.

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