

# A Paradox: Overscreening of Older Women for Chlamydia While Too Few Younger Women Are Being Tested

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In this issue, Bernstein et al report on a structural intervention aimed at reducing chlamydia screening among women aged  $\geq 26$  years.<sup>1</sup> This article, though brief, provides an opportunity to highlight several issues related to chlamydia screening and sexually transmitted disease (STD)/human immunodeficiency virus (HIV) prevention in general.

The importance of screening young women for chlamydia should be reemphasized. The United States Preventive Services Task Force (USPSTF) recommends annual chlamydia screening for all sexually active young women aged  $< 25$  years.<sup>2</sup> This is an "A" recommendation, meaning there is good evidence that the benefits of screening outweigh the harms.<sup>3</sup> Conversely, USPSTF recommends against routinely screening women aged  $\geq 25$  years, unless the individuals are at increased risk of infection (e.g., history of sexually transmitted infections, new or multiple sex partners, inconsistent condom use, exchanging sex for money or drugs).

In particular, chlamydia screening among young women has been recognized by the National Commission on Prevention Priorities as one of the most beneficial and cost-effective preventive services among all evidence-based clinical preventive services recommended by USPSTF.<sup>4</sup> Unfortunately, the National Commission on Prevention Priorities also identified chlamydia screening as one of the most underutilized among the high-ranking preventive services. Data from the Healthcare Effectiveness Data and Information Set show that, although chlamydia screening coverage among sexually active young women seeking health care has increased steadily over time, coverage is still low.<sup>5</sup> In 2008, 40.1% of sexually active women aged 16 to 20 years who were enrolled in commercial plans were screened for chlamydia; 52.7% of sexually active women aged 16 to 20 years in Medicaid managed care were screened.<sup>6</sup> Among women aged  $< 25$  years who attended federally funded Title X family planning clinics, 55% were tested for chlamydia in 2008.<sup>7</sup> The proportion of women aged  $\geq 25$  years who were tested was 42% in this population; it is highly unlikely that all of these women were tested due to a risk factor.

The recently passed Affordable Care Act may help increase chlamydia screening coverage; the law requires that group health and individual insurance plans cover recommended preventive services such as chlamydia screening (i.e., USPSTF A or B recommendations) without cost sharing.<sup>8</sup>

Although too few young women are being tested for chlamydia, paradoxically, it appears that too many older women are receiving such testing. In Bernstein et al, the authors have highlighted an issue that has not received much attention: many providers are inappropriately screening older women ( $\geq 26$  years) for chlamydia. As Bernstein et al report, and as others have discovered, it can be challenging to get providers to refrain from performing chlamydia tests among low-prevalence populations, particularly older women. While the guidance in San Francisco is consistent with national recommendations and focuses primarily on screening among younger females, 64% of tests submitted to the San Francisco Public Health Laboratory in 2008 were among women aged  $\geq 26$  years. Nationally, of the nearly 2.7 million chlamydia tests reported through the Infertility Prevention Project (IPP) in 2008, 36% ( $> 948,000$  tests) were among women aged  $\geq 25$  years (unpublished data). As expected, the disease burden differs substantially by age. Consistent with differences reported by Bernstein et al, the national median state-specific chlamydia positivity in 2009 among women aged 15 to 24 years who attended family planning clinics participating in IPP was 7.4%; among women aged  $\geq 25$  years, positivity was 3.5% (unpublished data, LaZetta Grier BS, September, 2010).<sup>9</sup>

Like the San Francisco Department of Public Health, other public health entities are also trying to reduce overscreening of women aged  $\geq 25$  years. Rabins et al in the Illinois Department of Health also used a laboratory-based intervention that resulted in a 22% decrease in tests among older women.<sup>10</sup> By implementing a test allotment system based on age and positivity, testing sites were encouraged to better target screening. Bornmueller et al described creation of a policy whereby IPP funds would not be used

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to perform tests at the state laboratory (Iowa) on any women aged  $\geq 35$  years, resulting in a 14% decrease in the overall number of specimens submitted.<sup>11</sup> Using another laboratory-based intervention, the Washington State Department of Health began to bill clinics for tests that were ordered among (lower-risk) women for whom screening was not recommended; this resulted in a test reduction of 10% (K. Gudgel and D. Fine, written personal communication, September 2010).

There is another issue raised by the authors' results, namely the performance of existing recommendations concerning screening for chlamydia among women aged  $\geq 26$  years. The rationale for recommending screening among young women (i.e., aged  $\leq 25$  years) is well supported by a substantial volume of evidence.<sup>2,3</sup> The recommendations for screening among older women are considerably less specific and open to interpretation (USPSTF: "risk factors for chlamydial infection include a history of chlamydial or other sexually transmitted infections, new or multiple sexual partners, inconsistent condom use, and exchanging sex for money or drugs"); in general, few evaluations have been done on the performance of these criteria among older women in general populations.<sup>12</sup>

Since positivity was lower among older women and most of the tests were performed among this group, Bernstein et al sought to reduce the number of tests that were performed among those women aged  $\geq 26$  years of age—particularly among those older women at lower risk for chlamydia. Testing among those women aged  $\geq 26$  years with risk factors was supported (i.e., symptoms, contact to partner with chlamydia, and 3-month screening after treatment for chlamydia). Such a policy is predicated upon the assumption that older women with any of those factors were at greater risk of infection than women lacking them. But the results were not consistent with that assumption: the positivity among women aged  $\geq 26$  years was essentially the same before and after the intervention (2.3% vs. 2.4%) even though testing volume among older women decreased by almost 25% (testing among younger women increased by over 3%). Therefore, the population of women aged  $\geq 26$  years that was tested in 2009 was not at higher risk than that tested in 2008. Unless the clinic population changed substantially over 1 year, such a finding suggests that the authors should revisit the criteria being used. In fact, given the ambiguity of existing recommendations for screening older women, this issue is broadly relevant, and criteria for screening older women for chlamydia should be reevaluated.

The authors indicate that provision of "technical assistance" did not change screening behavior of providers; in 2008, 64% of tests were still performed among women  $\geq 26$  years of age. Previous efforts, including site visits, trainings, and shared data, did not impact the proportion of tests submitted among older women. However, change was achieved, resulting in a 24% decrease in tests among older women, by changing the "rules"; tests were not paid for unless criteria were met. Using policy to address public health problems—a type of structural intervention—is of increasing attractiveness to public health officials. Such structural interventions tend to be more effective than behavioral interventions.

In fact, the director of the Centers for Disease Control and Prevention, Dr. Thomas Frieden, has been encouraging the use of such approaches, particularly with regard to fighting chronic conditions such as childhood obesity.<sup>13,14</sup> Structural interventions clearly have relevance for STD/HIV prevention. For example, raising taxes on alcohol can reduce alcohol consumption—associated with rates of gonorrhea among young people, and requiring immunization (including for hepatitis B vaccine) for school enrollment increases vaccine cov-

erage.<sup>15–17</sup> Such approaches are relatively inexpensive and likely to be sustainable and effective. This contrasts with individual level interventions, which can require substantial resources, and, whether focused on providers, partners, or at-risk populations, are unlikely to reach all those for whom the intervention is intended.<sup>18</sup> Although a wide variety of structural interventions have been implemented to address alcohol, smoking, and injury, such interventions have been less widely implemented for STD/HIV prevention in the United States.<sup>19</sup> However, the recent changes regarding syringe exchange and removal of regulatory barriers to expedited partner treatment are examples of structural interventions that address STD/HIV prevention.<sup>20,21</sup>

While large-scale, national structural changes offer the best opportunity for maximal impact, local programmatic research and innovation are critical for identifying, establishing, and evaluating effective interventions that may be broadly relevant. Efforts like those undertaken by Bernstein et al are an important component to the advancement of STD/HIV prevention.

## REFERENCES

- Bernstein KT, Marcus JL, Snell A, et al. Reduction in unnecessary chlamydia screening among older women at Title X funded family planning sites following a structural intervention—San Francisco, 2009. *Sex Transm Dis* In press.
- United States Preventive Services Task Force. Screening for chlamydial infection: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med* 2007; 147:128–134.
- Gottlieb SL, Berman SM, Low N. Screening and treatment to prevent sequelae in women with Chlamydia trachomatis genital infection: How much do we know? *J Infect Dis* 2010; 201(suppl 2): S156–S167.
- Maciosek M, Coffield AB, Edwards NM, et al. Priorities among effective clinical preventive services: Results of a systematic review and analysis. *Am J Prev Med* 2006; 31:52–61.
- Centers for Disease Control and Prevention. Chlamydia screening among sexually active young female enrollees of health plans—United States, 2000–2007. *Morb Mortal Wkly Rep* 2009; 58: 362–365.
- National Center for Quality Assurance. The state of healthcare quality 2009. Washington, DC: National Committee for Quality Assurance, 2009.
- Office of Population Affairs. Family planning annual report: 2008 national summary. Rockville, MD: U.S. Department of Health and Human Services, 2009.
- Department of Health and Human Services. Interim final rules for group health plans and health insurance issuers relating to coverage of preventive services under the Patient Protection and Affordable Care Act. *Fed Regist* 2010; 75:41726–41756.
- Centers for Disease Control and Prevention. Sexually transmitted disease surveillance, 2008. Atlanta, GA: U.S. Department of Health and Human Services, 2009.
- Rabins C, Holmes S, Renier E, et al. Using test kit allotments to reduce chlamydia screening in low risk females for re-allocation to higher risk populations and higher yield venues. Presented at: 2006 National STD Prevention Conference [O341]; May 8–11, 2006; Jacksonville, FL.
- Bornmueller C, Thompson K, Jirsa S. Collaborating to modify state infertility prevention project screening criteria in times of lesser resources. Presented at: 2010 National STD Prevention Conference [P138]; March 8–11, 2010; Atlanta, GA.
- Kohl KS, Markowitz LE, Koumans EH. Developments in the screening for *Chlamydia trachomatis*: A review. *Obstet Gynecol North Am* 2003; 30:637–658.
- Frieden TR. A framework for public health action: The health impact pyramid. *Am J Public Health* 2010; 100:590–595.
- Frieden TR, Dietz W, Collins J. Reducing childhood obesity through policy change: Acting now to prevent obesity. *Health Aff (Millwood)* 2010; 29:357–363.
- Task Force on Community Preventive Services. Increasing alcoholic beverage taxes is recommended to reduce excessive alcohol

- consumption and related harms. *Am J Prev Med* 2010; 38:230–232.
16. Chesson HW, Harrison P, Stall R. Changes in alcohol consumption and in sexually transmitted disease incidence rates in the United States: 1983–1998. *J Stud Alcohol* 2003; 64:623–630.
  17. Task Force on Community Preventive Services. Recommendations regarding interventions to improve vaccination coverage in children, adolescents, and adults. *Am J Prev Med* 2000; 18(suppl 1):92–96.
  18. Blankenship KM, Friedman SR, Dworkin S, et al. Structural interventions: Concepts, challenges and opportunities for research. *J Urban Health* 2006; 83:59–72.
  19. Task Force on Community Preventive Services. Community Guide Task Force Findings. July 12, 2010. Available at: [http://www.thecommunityguide.org/about/Conclusion\\_Report\\_071210.pdf](http://www.thecommunityguide.org/about/Conclusion_Report_071210.pdf). Accessed September 9, 2010.
  20. Sharon S. Ban lifted on federal funding for syringe exchange [National Public Radio web site]. December 18, 2009. Available at: <http://www.npr.org/templates/story/story.php?storyId=121511681>. Accessed September 9, 2010.
  21. Hodge JG Jr, Pulver A, Hogben M, et al. Expedited partner therapy for sexually transmitted diseases: Assessing the legal environment. *Am J Public Health* 2008; 98:238–243.