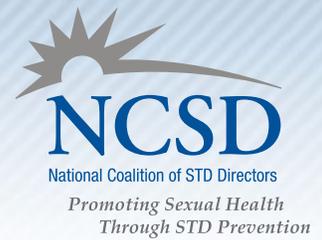




Drug Resistant Gonorrhea: A Challenge We Can Meet Through Public Health Investment



Overview of the Challenge

For several decades, the Centers for Disease Control and Prevention (CDC) has closely monitored gonorrhea and its potential to become resistant to available antibiotics.¹ Gonorrhea is one of the most commonly reported communicable diseases in the United States. In 2011, there were 321,849 reported cases and another 400,000 estimated unreported cases. If left untreated, the illness can cause infertility in both women and men, dangerous pregnancy complications and can be passed on to newborns, possibly causing blindness or pneumonia. Gonorrhea can also facilitate HIV transmission.²

The CDC now reports that gonorrhea has become resistant to all but one of the antibiotics recommended to treat it, and resistance to the remaining antibiotic is increasing.³ If no new antibiotics become available, gonorrhea has the potential to become a serious epidemic. However, by increasing public health infrastructure investment and encouraging pharmaceutical companies to create new antibiotics, we can prevent a public health emergency.

What is gonorrhea and how did it become resistant to antibiotics?

Gonorrhea is a bacterial infection transmitted during sexual intercourse. If left untreated, gonorrhea can cause a series of reproductive problems in women and men, including sterility, increased susceptibility to HIV and even death.² Most bacteria have the ability to develop resistance to antibiotics, but gonorrhea is a particularly “smart” bacterium and develops resistance fast. Over the last 50 years, gonorrhea has developed resistance to every drug used to treat it. The growing resistance was not considered a problem in the past because there was always another new antibiotic in the research pipeline. However, pharmaceutical companies have few, if any, new antibiotics in the pipeline. We are now on our last class of antibiotics, and gonorrhea is quickly adapting.⁴

Why should we care about antibiotic resistant gonorrhea?

We should care about antibiotic resistance for a number of reasons.

Epidemics Are Costly: Containing and eliminating an epidemic is far more expensive than preventing one. Allocating state and federal dollars to public health programs is a significant investment. However, limited access to affordable sexually transmitted disease testing at local health departments can hamper our ability to monitor and contain an antibiotic resistant gonorrhea outbreak, costing us more in the long run.

Higher Rates of Female Sterility and Complicated Pregnancies: Without effective antibiotics, gonorrhea may go untreated in many women. Untreated gonorrhea in women can cause sterility, as well as ectopic pregnancies, which can result in the death of both the fetus and mother. Untreated gonorrhea can also cause sterility in men.¹

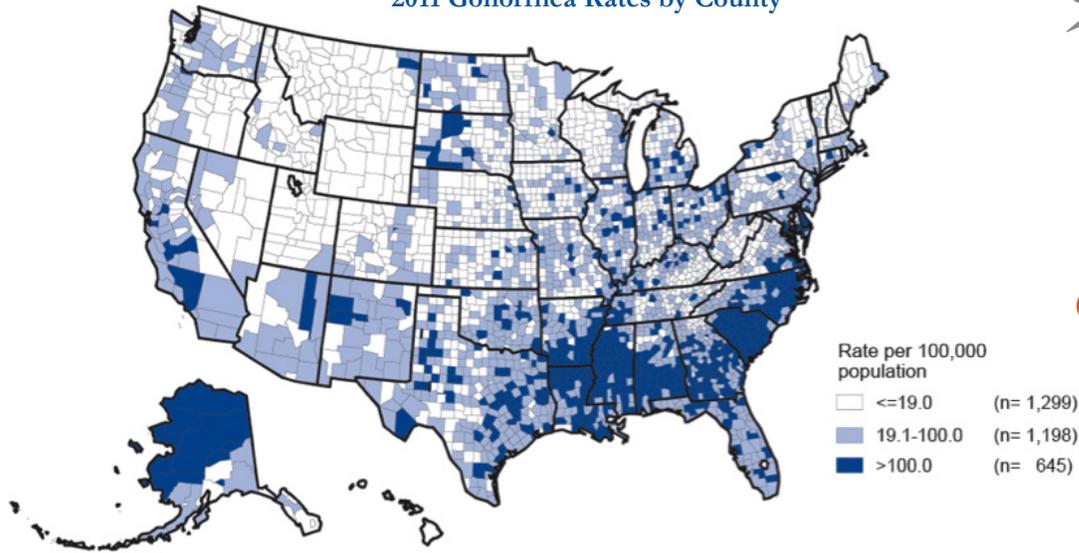
Increased HIV Transmission: An important relationship exists between HIV and gonorrhea. Gonorrhea can cause open wounds and inflammation that heighten the body's vulnerability to HIV. Both inflammation and open wounds serve as entry points for the HIV virus into an uninfected individual. Having a current STD, like gonorrhea, increases the likelihood of contracting HIV 3-5 fold.^{5,6}

What regions are experiencing the most antibiotic resistant gonorrhea?

Though not yet completely drug resistant, gonorrhea with increased resistance to currently recommended antibiotics was first documented in East Asia in 2003 and then in Hawaii and California in 2006. Gonorrhea with increased drug resistance was also documented in Norway and the United Kingdom in 2010.³

Drug-resistant gonorrhea will likely continue to spread across the United States. A map of current gonorrhea rates by county is on the next page. The areas with the highest rates of gonorrhea are likely to be hardest hit by drug resistant gonorrhea.

2011 Gonorrhea Rates by County



What can we do to prevent an epidemic?

Invest in Public Health Infrastructure: As a result of the economic downturn, many states cut funding to STD prevention and testing programs. The impact of these cuts cannot be understated because states are responsible for approximately one-third of their sexually transmitted disease program budget.⁷ Many cuts were to laboratory, clinical care, screening services and surveillance programs.⁸ As gonorrhea becomes increasingly resistant to antibiotics, we will need robust public health infrastructure in each state that can identify and respond to outbreaks.

Invest in Specialized Public Health Staff: Public health departments employ specialized staff who can track illnesses within communities and determine where to focus resources to prevent more disease. Moreover, public health departments also employ staff who can contact all the sexual partners of someone infected with drug resistant gonorrhea. By doing so, they can get those individuals to a health care facility and limit the size of an outbreak. Public health departments are the only institution, either public or private, that employ such staff. A local STD program is the only institution able to quickly identify and respond to a resistant gonorrhea outbreak.

Encourage and Incentivize Pharmaceutical Companies to Create New Antibiotics: Pharmaceutical companies are currently producing few, if any, new antibiotics. New antibiotics are needed to treat patients with resistant gonorrhea. Without these drugs, gonorrhea will spread unchecked and cause serious, potentially fatal, health problems for infected patients.

Contact Us

The National Coalition of STD Directors (NCS D) is a partnership of public health professionals dedicated to promoting sexual health through the prevention of STDs. NCS D provides dynamic leadership that strengthens STD Programs by advocating for effective policies, strategies, and sufficient resources and by increasing awareness of their medical and social impact. For more information, please contact NCS D's state policy team at statepolicy@ncsddc.org or 202-842-4660.

The Association of State and Territorial Health Officials (ASTHO) is the national nonprofit organization representing public health agencies in the United States, the U.S. Territories, and the District of Columbia, and over 100,000 public health professionals these agencies employ. ASTHO members, the chief health officials of these jurisdictions, formulate and influence sound public health policy and ensure excellence in state-based public health practice. ASTHO's primary function is to track, evaluate and advise members on the impact and formation of public or private health policy which may affect them and to provide them with guidance and technical assistance on improving the nation's health. For more information, please contact the Infectious Disease Team at 202-371-9090 or infocenter@astho.org.

1. Centers for Disease Control and Prevention. Cephalosporin susceptibility among *Neisseria gonorrhoeae* isolates—United States, 2000-2010. *Morbidity and Mortality Weekly Report*. 2011; 60(26): 873-877.

2. Centers for Disease Control and Prevention. "Gonorrhea." (October 31, 2012). The Centers for Disease Control and Prevention. Accessed via <http://www.cdc.gov/std/gonorrhea/> on 11/7/2012.

3. Bolan, G., Sparling, F. and Wasserheit, J. "The emerging threat of untreatable gonococcal infection." *The New England Journal of Medicine*. 2012; 366: 2136.

4. Bolan, G. "STD Prevention Going Forward." Division of STD Prevention, Centers for Disease Control and Prevention. Presentation delivered at the 2012 Annual STD Conference. Minneapolis, MN.

5. Wasserheit JN. Epidemiologic synergy: Interrelationships between human immunodeficiency virus infection and other sexually transmitted diseases. *Sexually Transmitted Diseases*. 1992; 9:61-77.

6. Fleming, DT & Wasserheit, JN. From epidemiological synergy to public health policy and practice: the contribution of other sexually transmitted diseases to sexual transmission of HIV infection. 1999; 75(1): 3-17.

7. Bolan, G. (2011, June) Discussion on the Future of STD Prevention. Webinar presentation to state and local STD program personnel.

8. No author. (Feb., 2011). 2010 State General Revenue Cuts in HIV/AIDS, STD and Viral Hepatitis Programs. A Special Report of The National Alliance of State and Territorial AIDS Directors and The National Coalition of STD Directors.