



<b>Body System:</b> Infectious Disease		
<b>Session Topic:</b> Sexually Transmitted Infections Update		
<b>Educational Format</b>		<b>Faculty Expertise Required</b>
<b>REQUIRED</b>	Interactive Lecture	Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience with audience response systems (ARS). Utilizing polling questions and engaging the learners in Q&A during the final 15 minutes of the session are required.
<b>OPTIONAL</b>	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. <u>Please describe your interest and plan for teaching a PBL on your proposal form.</u>
<b>Professional Practice Gap</b>	<b>Learning Objective(s) that will close the gap and meet the need</b>	<b>Outcome Being Measured</b>
<ul style="list-style-type: none"> <li>Physicians have knowledge gaps related to immunization management, which is key to STD/STI infection prevention.</li> <li>HPV vaccination rates continue to be sub-optimal for the prevention of cervical cancer.</li> <li>Poor physician-patient communication contributes to poor guideline adherence.</li> <li>Several guidelines and clinical practice recommendations (e.g. USPSTF, AAFP, AAP, CDC) regarding STIs have been released in the last 2-3 years.</li> </ul>	<ol style="list-style-type: none"> <li>Use evidence-based recommendations and guidelines to screen asymptotically infected persons and of symptomatic persons unlikely to seek diagnostic and treatment services.</li> <li>Follow evidence-based recommendations and guidelines in providing preventive STD/STI vaccination for persons at risk for vaccine preventable STDs/STIs.</li> <li>Provide education and counseling to persons at risk on ways to avoid STIs/STDs through changes in sexual behaviors and use of recommended prevention services.</li> <li>Establish patient-centered protocols for the evaluation, treatment, and counseling of sex partners of persons who are infected with an STI/STD.</li> </ol>	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.
<b>ACGME Core Competencies Addressed (select all that apply)</b>		
X	Medical Knowledge	Patient Care
X	Interpersonal and Communication Skills	Practice-Based Learning and Improvement
	Professionalism	X Systems-Based Practice
<b>Faculty Instructional Goals</b>		



Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
  - Visit <http://www.aafp.org/journals> for additional resources
  - Visit <http://familydoctor.org> for patient education and resources
- Provide an overview of current STI/STD guidelines and recommendations, & provide learners with recommendations and best practices for integrating them into practice.
- Provide recommendations to help learners follow evidence-based recommendations and guidelines in providing preventive STD/STI vaccination for persons at risk for vaccine preventable STDs/STIs.
- Provide strategies and resources for providing education and counseling to persons at risk on ways to avoid STIs/STDs through changes in sexual behaviors and use of recommended prevention services.
- Provide strategies and resources for establishing patient-centered protocols for the evaluation, treatment, and counseling of sex partners of persons who are infected with an STI/STD.

### Needs Assessment

According to the most recent reports from the Centers for Disease Control and Prevention (CDC), the total combined cases of chlamydia, gonorrhea, and syphilis reported in 2015 reached the highest number ever, according to the annual Sexually Transmitted Disease Surveillance Report released today by the Centers for Disease Control and Prevention (CDC).<sup>1</sup>

There were more than 1.5 million chlamydia cases reported (1,526,658), nearly 400,000 cases of gonorrhea (395,216), and nearly 24,000 cases of primary and secondary (P&S) syphilis (23,872) – the most infectious stages of the disease. The largest increase in cases reported from 2014 to 2015 occurred in P&S syphilis (19 percent), followed by gonorrhea (12.8 percent) and chlamydia (5.9 percent). Chlamydia, gonorrhea and syphilis are the three most commonly reported conditions in the nation and have reached a record high level.

Highlights from the 2015 data show:<sup>1</sup>

- Americans ages 15 to 24 years old accounted for nearly two-thirds of chlamydia diagnoses and half of gonorrhea diagnoses.



- Men who have sex with men (MSM) accounted for the majority of new gonorrhea and P&S syphilis cases (82 percent of male cases with known gender of sex partner). Antibiotic-resistant gonorrhea may be higher among MSM.
- Women's rate of syphilis diagnosis increased by more than 27 percent from 2014 to 2015. Reported congenital syphilis (which occurs when the infection is transmitted from a pregnant woman to her baby) increased by 6 percent. Women still account for less than 10 percent of new P&S syphilis infections.

### Practice Gaps

The American Academy of Family Physicians (AAFP) CME Needs Assessment Survey indicates that family physicians have knowledge and practice gaps regarding the management of emerging infections and infectious diseases; sexual health counseling, particularly with regard to cultural competencies in counseling parents about HPV vaccinations for the prevention of cervical cancer; and STI-preventable immunization management.<sup>2</sup> More specifically, CME outcomes data from 2012-2016 AAFP FMX (formerly Assembly) STI/STD-related sessions, suggest that physicians have knowledge and practice gaps regarding having an awareness of reemerging STIs; compliance with STI screening guidelines; providing sexual health education counseling; being comfortable asking patients about their sexual history and lifestyle; familiarity with HIV PrEP; counseling patients about vaccine safety and efficacy; and recognizing symptoms of reemerging STIs.<sup>3,4</sup>

A review of the literature identifies the following research findings, and practice gaps:

- Poor compliance with STD/STI clinical practice guidelines and recommendations<sup>5-7</sup>
- Gender differences in CDC guideline compliance for STIs in emergency departments<sup>6</sup>
- Preexposure prophylaxis (PrEP) is not routinely offered to patients at-risk for HIV<sup>8,9</sup>
- STI testing and treatment after adolescent sexual assault varies widely in pediatric emergency departments<sup>10</sup>
- Health care providers are often inconsistent, infrequent, or delayed in reporting report-specific diseases and events to public health officials<sup>11</sup>
- Primary care practices often lack partnerships with local community health centers to improve STI screening<sup>12</sup>
- Primary care practices are frequently non-adherent to CDC STD treatment guidelines for *Neisseria gonorrhoeae*<sup>13</sup>
- There is often poor compliance with CDC guidelines for emergency department patients with STDs<sup>14</sup>
- IUD use does not impact HPV infection<sup>15</sup>

Despite the IOM recommendations and official American Public Health Association policies recommendations that opportunities be expanded to increase public health practitioners' knowledge of minority health issues, there remains substantial variation in the quality of planned curricula, offered in medical schools, that address comprehensive lesbian, gay, bisexual, and transgender health.<sup>16-18</sup>

While some diseases, such as gonorrhea, are at record-low levels, data indicate there is a resurgence of others, such as syphilis – a disease that was close to eradication in the U.S. 10



years ago. Rates appear to be highest among blacks and men who have sex with men, although it has increased among women in the past few years as well.<sup>19</sup>

While HPV vaccination plays a significant role in the prevention of cervical cancer, data from a 2013 CDC Morbidity and Mortality Weekly Report, finds that coverage with at least one dose of human papillomavirus, or HPV, vaccine in 2012 was 53.8% and increased by 0.8% percent compared with 2011.<sup>20,21</sup> Only 32 percent of adolescent girls had completed the entire three-dose HPV series. The CDC is urging physicians to make a strong recommendation for the HPV vaccine, which protects against precancerous cervical lesions and genital warts.<sup>22</sup> Family physicians should be aware of recent vaccines approved by the FDA that can prevent against the most common strains of the virus. For example, in 2014 the FDA approved Gardasil 9 for the prevention of certain diseases caused by nine types of Human Papillomavirus (HPV).<sup>23</sup>

There are numerous barriers to achieving optimal vaccination rates, including low patient health literacy and understanding of vaccine safety and efficacy; organizational barriers such as cost, insurance coverage; and operational barriers such as not stocking all recommended vaccinations and lack of standing orders.<sup>24-29</sup> The 2012 AAFP Immunization Survey indicates that the most commonly-cited patient barriers to immunization were safety concerns (58%), personal or religious beliefs (53%) and cost (51%); the most commonly-cited practice-level barriers to immunization were cost (51%), patient acceptance (33%), and supply of vaccine (30%); sixty-five percent of respondents indicated that at least one parent refused vaccinations for their child; fifty-seven percent of respondents indicated participation in the Vaccines for Children program, and among those who did not indicate participation, respondents indicated that it was too burdensome (36%), difficulties associated with keeping vaccines separated (34%), difficulty of record-keeping (32%), and they don't care for children (28%).<sup>30</sup>

Physicians may improve their STI/STD screening, diagnosis, treatment/management care by engaging in continuing medical education that provides practical integration of current evidence-based guidelines and recommendations into their standards of care, including, but not limited to the following:

#### Guidelines/Clinical Preventive Services Recommendations

- AAFP preventive services recommendations on screening for chlamydia<sup>31</sup>
- AAFP preventive services recommendations on screening for genital herpes simplex infection<sup>32</sup>
- AAFP preventive services recommendations on screening for gonorrhea<sup>33</sup>
- AAFP preventive services recommendations on screening for hepatitis<sup>34</sup>
- AAFP preventive services recommendations on screening for HIV<sup>35</sup>
- AAFP preventive service recommendations on screening for syphilis<sup>36</sup>
- AAFP preventive service recommendation on ocular topical medication for gonococcal infection in neonates<sup>37</sup>
- AAFP preventive service recommendations on the use of behavioral counseling to prevent sexually transmitted infections (STIs)<sup>38</sup>
- AAFP immunization schedules<sup>39</sup>
- 2015 CDC Guidelines on the Treatment of Sexually Transmitted Diseases<sup>40</sup>



- AAP Policy Statement on Screening for Nonviral Sexually Transmitted Infections in Adolescents and Young Adults<sup>41</sup>

Disease-specific practice recommendations

- Chlamydia Trachomatis Infections: Screening, Diagnosis, and Management<sup>42</sup>
  - Nucleic acid amplification tests are the most sensitive tests for detecting chlamydia infection, and may be performed on endocervical, urethral, vaginal, pharyngeal, rectal, or urine samples.
  - Azithromycin (Zithromax) or doxycycline should be used for the treatment of uncomplicated genitourinary chlamydia infection in men and women.
  - Azithromycin or amoxicillin should be used as first-line treatment of genitourinary chlamydia infection in pregnant women.
  - The USPSTF recommends screening for chlamydia infection in all sexually active nonpregnant women 24 years and younger, and all nonpregnant women 25 years and older who are at increased risk.
  - The USPSTF concludes there is insufficient evidence to recommend for or against the screening of men for chlamydia infection.
  - Although the CDC recommends screening for chlamydia infection in all pregnant women, the USPSTF recommends routine screening only in all pregnant women 24 years and younger, and in pregnant women 25 years and older who are at increased risk.
  - Some experts recommend screening certain groups of high-risk men (e.g., men who have sex with men) for rectal chlamydia infection.
- Syphilis: A Reemerging Infection<sup>36,43</sup>
  - Patients with a negative Venereal Disease Research Laboratory or rapid plasma reagin test and strong clinical indicators of primary syphilis should have repeat nontreponemal serology in two weeks.
  - All patients with confirmed syphilis should be tested for human immunodeficiency virus.
  - All sexually active men who have sex with men should have syphilis serology at least annually.
  - Penicillin G benzathine is the first-line treatment for all stages of syphilis, except neurosyphilis.
  - Intravenous aqueous crystalline penicillin G is the first-line treatment for neurosyphilis.
  - The USPSTF recommends screening for syphilis infection in persons who are at increased risk for infection. A recommendation.
- Diagnosis and Management of Gonococcal Infections<sup>44</sup>
  - The USPSTF recommends that all newborns receive ocular topical medication for prophylaxis against gonococcal ophthalmia neonatorum.
  - Fluoroquinolones should not be used to treat gonorrhea in the United States because of the emergence of quinolone-resistant *Neisseria gonorrhoeae*.
  - [corrected] Uncomplicated gonococcal infections of the cervix, urethra, rectum, or pharynx should be treated with a single dose of ceftriaxone (Rocephin), 250 mg intramuscularly, and either azithromycin (Zithromax), 1 g orally, or doxycycline, 100 mg orally twice daily for seven days.



- Retesting for gonococcal infection is recommended three to six months after treatment in men and women to detect reinfection, regardless of partner treatment.
- The USPSTF recommends routine screening for gonorrhea in all sexually active women if they are at increased risk of infection, including those who are pregnant.
- The USPSTF recommends against routine screening for gonorrhea in men and women who are at low risk of infection.
- The CDC recommends that all men who have sex with men and practice insertive anal intercourse be screened at least annually for urethral gonococcal infection with a urine nucleic acid amplification test.
- The CDC recommends that all men who have sex with men and practice receptive anal or oral intercourse be screened at least annually for rectal or pharyngeal gonococcal infection with a rectal or pharyngeal nucleic acid amplification swab test.
- The USPSTF recommends high-intensity behavioral counseling to prevent sexually transmitted infections in all sexually active adolescents and in adults at increased risk.
- Genital Herpes Infection<sup>32</sup>
  - The USPSTF recommends against routine serologic screening for genital herpes simplex virus (HSV) infection in asymptomatic adolescents and adults, including those who are pregnant (Table 1). D recommendation.
- Sexually Transmitted Infections: Recommendations from the U.S. Preventive Services Task Force<sup>45</sup>
  - Provide or refer for intensive behavioral counseling in all sexually active adolescents (regardless of risk) and in adults who are at increased risk of sexually transmitted infection.
  - Screen for chlamydia and gonorrhea in sexually active nonpregnant female adolescents and adults 24 years and younger, and in older women who are at increased risk.
  - Screen for HIV infection in adolescents and adults 15 to 65 years of age. Younger adolescents and older adults who are at increased risk should also be screened.
  - Screen all pregnant women for syphilis, hepatitis B virus, and HIV infections.
  - Screen for chlamydia and gonorrhea in all pregnant women 24 years and younger, and in older women who are at increased risk.
  - Screen for syphilis, HIV infection, and hepatitis B in men and women at increased risk.

These recommendations are provided only as assistance for physicians making clinical decisions regarding the care of their patients. As such, they cannot substitute for the individual judgment brought to each clinical situation by the patient's family physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations. These recommendations are only one element in the complex process of improving the health of America. To be effective, the recommendations must be implemented. As such, physicians require continuing medical education to assist them with making decisions about specific clinical considerations.



Patient Education Resources

- Familydoctor.org - Sexually Transmitted Infections (STIs) | Overview<sup>46</sup>
- Familydoctor.org - Chlamydia<sup>47</sup>
- Familydoctor.org – Syphilis<sup>48</sup>
- Familydoctor.org – Genital Herpes<sup>49</sup>

References

1. Barton J, Braxton J, Davis DW, et al. Sexually transmitted disease surveillance 2015. 2016.
2. AAFP. 2012 CME Needs Assessment: Clinical Topics. American Academy of Family Physicians; 2012.
3. American Academy of Family Physicians (AAFP). AAFP FMX CME Outcomes Report. Leawood KS: AAFP; 2016.
4. American Academy of Family Physicians (AAFP). AAFP Assembly CME Outcomes Report. Leawood KS: AAFP; 2014.
5. Kamb ML, Fishbein M, Douglas Jr JM, et al. Efficacy of risk-reduction counseling to prevent human immunodeficiency virus and sexually transmitted diseases: a randomized controlled trial. *JAMA : the journal of the American Medical Association*. 1998;280(13):1161-1167.
6. Kane BG, Guillaume AWD, Evans EM, et al. Gender Differences in CDC Guideline Compliance for STIs in Emergency Departments. *The western journal of emergency medicine*. 2017;18(3):390-397.
7. Kane BG, Degutis LC, Sayward HK, D'Onofrio G. Compliance with the Centers for Disease Control and Prevention recommendations for the diagnosis and treatment of sexually transmitted diseases. *Academic emergency medicine*. 2004;11(4):371-377.
8. Gunthard HF, Saag MS, Benson CA, et al. Antiretroviral Drugs for Treatment and Prevention of HIV Infection in Adults: 2016 Recommendations of the International Antiviral Society-USA Panel. *JAMA : the journal of the American Medical Association*. 2016;316(2):191-210.
9. Weiser J, Brooks JT, Skarbinski J, et al. Barriers to Universal Prescribing of Antiretroviral Therapy by HIV Care Providers in the United States, 2013-2014. *Journal of acquired immune deficiency syndromes (1999)*. 2017;74(5):479-487.
10. Schilling S, Samuels-Kalow M, Gerber JS, Scribano PV, French B, Wood JN. Testing and Treatment After Adolescent Sexual Assault in Pediatric Emergency Departments. *Pediatrics*. 2015;136(6):e1495-1503.
11. Fill MA, Murphree R, Pettit AC. Health Care Provider Knowledge and Attitudes Regarding Reporting Diseases and Events to Public Health Authorities in Tennessee. *Journal of public health management and practice : JPHMP*. 2016.
12. Terranova E, Tsoi B, Laraque F, Washburn K, Fuld J. Strengthening Screening for HIV, Hepatitis C, and STIs: An Innovative Partnership Between the Health Department and Community Health Centers in New York City. *Public Health Reports*. 2016;131(Suppl 1):5-10.



13. Boyajian AJ, Murray M, Tucker M, Neu N. Identifying variations in adherence to the CDC sexually transmitted disease treatment guidelines of *Neisseria gonorrhoeae*. *Public health*. 2016;136:161-165.
14. Evans EM, Goyke TE, Cohrac SA, et al. Compliance with centers for disease control guidelines for ED patients with sexually transmitted diseases. *The American journal of emergency medicine*. 2016;34(8):1727-1729.
15. Averbach SH, Ma Y, Smith-McCune K, Shiboski S, Moscicki AB. The effect of intrauterine devices on acquisition and clearance of human papillomavirus. *American journal of obstetrics and gynecology*. 2017;216(4):386.e381-386.e385.
16. Obedin-Maliver J, Goldsmith ES, Stewart L, et al. Lesbian, gay, bisexual, and transgender-related content in undergraduate medical education. *JAMA : the journal of the American Medical Association*. 2011;306(9):971-977.
17. Corliss HL, Shankle MD, Moyer MB. Research, curricula, and resources related to lesbian, gay, bisexual, and transgender health in US schools of public health. *American journal of public health*. 2007;97(6):1023-1027.
18. Institute of Medicine (IOM), Committee on Lesbian - Gay - Bisexual & Transgender Health Issues and Research Gaps and Opportunities. *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*. Washington DC: National Academy of Sciences.; 2011.
19. Centers for Disease Control and Prevention. Sexually Transmitted Diseases (STDs): Data & Statistics. 2013;
20. Centers for Disease Control and Prevention. MMWR: Human Papillomavirus Vaccination Coverage Among Adolescent Girls, 2007–2012, and Postlicensure Vaccine Safety Monitoring, 2006–2013 — United States. In: CDC, ed. Vol 62(29)2013:591-595.
21. Jain N, Euler GL, Shefer A, Lu P, Yankey D, Markowitz L. Human papillomavirus (HPV) awareness and vaccination initiation among women in the United States, National Immunization Survey-Adult 2007. *Preventive medicine*. 2009;48(5):426-431.
22. Karnes JB, Usatine RP. Management of external genital warts. *American family physician*. 2014;90(5):312-318.
23. U.S. Food and Drug Administration. FDA approves Gardasil 9 for prevention of certain cancers caused by five additional types of HPV. *FDA News Release* 2014;
24. Zimmerman RK, Silverman M, Janosky JE, et al. A comprehensive investigation of barriers to adult immunization: a methods paper. *The Journal of family practice*. 2001;50(8):703.
25. Zimmerman RK, Nowalk MP, Tabbarah M, Hart JA, Fox DE, Raymund M. Understanding adult vaccination in urban, lower-socioeconomic settings: influence of physician and prevention systems. *Annals of family medicine*. 2009;7(6):534-541.
26. Zimmerman RK, Santibanez TA, Fine MJ, et al. Barriers and facilitators of pneumococcal vaccination among the elderly. *Vaccine*. 2003;21(13-14):1510-1517.
27. Santibanez TA, Nowalk MP, Zimmerman RK, et al. Knowledge and beliefs about influenza, pneumococcal disease, and immunizations among older people. *J Am Geriatr Soc*. 2002;50(10):1711-1716.
28. Santibanez TA, Zimmerman RK, Nowalk MP, Jewell IK, Bardella IJ. Physician attitudes and beliefs associated with patient pneumococcal polysaccharide vaccination status. *Annals of family medicine*. 2004;2(1):41-48.



29. Campos-Outcalt D, Jeffcott-Pera M, Carter-Smith P, Schoof BK, Young HF. Vaccines provided by family physicians. *Annals of family medicine*. 2010;8(6):507-510.
30. American Academy of Family Physicians (AAFP). 2011 AAFP Immunization Survey Summary of Findings. Leawood KS: AAFP; 2012.
31. American Academy of Family Physicians (AAFP). Chlamydia. *Clinical Preventive Service Recommendation 2014*;
32. Serologic Screening for Genital Herpes Infection: Recommendation Statement. *American family physician*. 2017;95(12):Online.
33. American Academy of Family Physicians (AAFP). Gonorrhea. *Clinical Preventive Service Recommendation 2014*;
34. American Academy of Family Physicians (AAFP). Hepatitis. *Clinical Preventive Service Recommendation 2014*;
35. American Academy of Family Physicians (AAFP). Human Immunodeficiency Virus (HIV) *Clinical Preventive Service Recommendation 2013*;
36. Screening for Syphilis Infection in Nonpregnant Adults and Adolescents: Recommendation Statement. *American family physician*. 2016;94(10):Online.
37. American Academy of Family Physicians (AAFP). Newborn Gonococcal Infection. *Clinical Preventive Service Recommendation 2011*;
38. American Academy of Family Physicians (AAFP). Sexually Transmitted Infections (STIs). *Clinical Preventive Service Recommendation 2008*;
39. American Academy of Family Physicians (AAFP). AAFP Immunization Schedules. 2017;
40. Hauk L. CDC Releases 2015 Guidelines on the Treatment of Sexually Transmitted Disease. *American family physician*. 2016;93(2):144-154.
41. Screening for Nonviral Sexually Transmitted Infections in Adolescents and Young Adults. *Pediatrics*. 2014;134(1):e302-e311.
42. Mishori R, McClaskey EL, WinklerPrins VJ. Chlamydia trachomatis infections: screening, diagnosis, and management. *American family physician*. 2012;86(12):1127-1132.
43. Mattei PL, Beachkofsky TM, Gilson RT, Wisco OJ. Syphilis: a reemerging infection. *American family physician*. 2012;86(5):433-440.
44. Mayor MT, Roett MA, Uduhiri KA. Diagnosis and management of gonococcal infections. *American family physician*. 2012;86(10):931-938.
45. Lee KC, Ngo-Metzger Q, Wolff T, Chowdhury J, LeFevre ML, Meyers DS. Sexually Transmitted Infections: Recommendations from the U.S. Preventive Services Task Force. *American family physician*. 2016;94(11):907-915.
46. FamilyDoctor.org. Sexually Transmitted Infections (STIs) | Overview. 2000;
47. FamilyDoctor.org. Chlamydia. 2017;
48. FamilyDoctor.org. Syphilis. 2014;
49. FamilyDoctor.org. Herpes. 2014;