Chlamydia and gonorrhea infections are common in non-genital sites in some populations such as men who have sex with men (MSM). Because extra-genital infections are common in MSM and most infections are asymptomatic (1), routine annual screening of extra-genital sites in MSM is recommended. No recommendations exist regarding routine extra-genital screening in women as studies have focused on genitourinary screening, but rectal and oropharyngeal infections are not uncommon.

In 2003, Kent and colleagues (1) performed the first large study looking at NAATs for diagnosing chlamydia and gonorrhea infections in multiple anatomic sites in MSMs. They used Becton Dickinson’s ProbeTec NAAT which they had previously validated for such use. Among 6,434 MSM attending an STD clinic or a gay men’s clinic, they found the prevalence by site for chlamydia was 7.9% for the rectum, 5.2% urethral, and 1.4% pharyngeal, and prevalence by site for gonorrhea was 6.9% for the rectum, 6% urethral, and 9.2% pharyngeal. Most (84%) of the rectal gonorrhea and chlamydia infections were asymptomatic. A point of particular importance was that 53% of chlamydia and 64% of gonorrhea infections were at non-urethral sites and would have been missed if the traditional approach to screening of men by testing only urethral specimens had been used.

The scope of the problem of extra-genital infection in MSM is not known at the national level. The Centers for Disease Control and Prevention recommends that men who have sex with men (MSM) be screened for gonorrhea and chlamydia infections in the rectum, urethra, and pharynx annually.
for Disease Control and Prevention (CDC) coordinated an evaluation of MSM attending several community based organizations and public or STD clinics in 2007 and found that of approximately 30,000 tests performed, 5.4% were positive for rectal gonorrhea and 8.9% for rectal chlamydia (2). Pharyngeal gonorrhea tests were positive at 5.3%, and 1.6% were positive for chlamydia. Schachter et al (4) compared culture to two NAATs (Gen-Probe’s Aptima Combo2 and Becton Dickson’s ProbeTec) for the detection of chlamydia and gonorrhea in pharyngeal and rectal specimens collected from 1,110 MSM being seen in an STD clinic. All NAAT positive results were confirmed when the original test and a test using alternate primers were positive. In this particular study, Roche’s Amplicor test was excluded because of specificity for gonorrhea with oropharyngeal swabs being only 78.9%. For oropharyngeal gonorrhea sensitivities were 41% for culture, 72% for SDA and 84% for AC2, and for rectal gonorrhea, sensitivities were 43% for culture, 78% for SDA and 93% for AC2. For oropharyngeal infections with chlamydia (only 9 infections detected), sensitivities were 44% for culture, 67% for SDA and 100% for AC2, and for rectal chlamydia, sensitivities were 27% for culture, 63% for SDA and 93% for AC2. Specificities were greater than 99.4% for all specimens, tests and anatomic sites. It is clear from this study that the number of infections detected was more than double when a more sensitive NAAT was used.
used, as compared to the use of standard culture. Other researchers have also demonstrated the superiority of NAATs as compared to culture for diagnosing chlamydia and gonorrhea in rectal and oropharyngeal sites (5,6,7). Culture is less sensitive for detecting chlamydia and gonorrhea at extra-genital sites. While NAATs are clearly the better choice for testing extra-genital site specimens, they have not been cleared by the FDA for the detection of chlamydia or gonorrhea infections. Some NAATs that have been shown to detect commensal Neisseria species in urogenital specimens may have comparable low specificity when testing oropharyngeal specimens for gonorrhea. Thus a NAAT that does not react with non-gonococcal commensal Neisseria species is recommended when testing oropharyngeal specimens for gonorrhea.

Results from these tests may be used for patient management if the laboratory has satisfied CMS regulations for CLIA compliance for test modification (CFR493.1253 (b)(2)). Many laboratories across the nation have met CMS regulations for off-label testing with commercial NAATs and can offer expanded testing services to clinicians assessing patients for extra-genital chlamydia and gonorrhea infections. A list of these laboratories can be viewed at http://www.nnptc.org/PHLabs.html.
References


