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From testing to screening for sexually transmitted infections

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Venereology is a pioneer medical specialty in both diagnostic testing and screening. Wassermann developed a non-treponemal serological test to diagnose syphilis in 1906 and Ehrlich discovered Salvarsan in 1907. Syphilis thus became the first disease for which screening to detect asymptomatic infection was beneficial because both a reliable test and treatment were available.[1] 'Routine' testing for syphilis in all pregnant women was recommended in the British Journal of Venereal Disease in 1926,[2] and became widespread for prenatal and premarital tests in the 1930s.[3] In the US, efforts to test large sections of the general population were called 'Wasserman dragnets'.[3] The term 'screening' became common when the US Commission on Chronic Diseases defined it as 'the presumptive identification of unrecognised disease or defect by the application of tests…" in 1951.[1]

Diagnostic test development advanced with bacterial culture (*Neisseria gonorrhoeae*, *Chlamydia trachomatis*), serology (hepatitis B, HIV), enzyme immunoassays and direct fluorescence (*C. trachomatis*) and PCR (several sexually transmitted infections, STI). All these tests were used first in people with symptoms and subsequently for screening in lower prevalence asymptomatic populations. Distinctions between diagnostic testing and screening for asymptomatic STI are blurred for two main reasons, however. First, a positive STI screening test result leads to the same action as the result of a diagnostic test; in contrast, screening tests for chronic diseases are a first step to identify people who need additional, diagnostic, tests. Second, whilst screening is a population level prevention activity, involving a programme of events to test, treat, follow up and assure quality, many people say 'screening' when they offer a test to any individual. Debate about definitions of diagnostic testing, opportunistic testing and screening for asymptomatic chlamydia infection illustrates these distinctions well.

Antimicrobial resistance is a global threat for the 21st century, so overdiagnosis and overtreatment of STI should be taken seriously. As multiplex nucleic acid amplification tests for curable STI are introduced, diagnostic testing and screening are going to overlap even more. We will need to make sure that we use them wisely so that the benefits outweigh the harms.

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