Supplementary References

31s. Fingerhuth SM, Bonhoeffer S, Low N, Althaus CL**.** Antibiotic-resistant Neisseria gonorrhoeae spread faster with more treatment, not more sexual partners. PLoS Pathog. 2016;12(5):e1005611.

32s. Tuite AR, Gift TL, Chesson HW, Hsu K, Salomon JA, Grad YH**.** Impact of rapid susceptibility testing and antibiotic selection strategy on the emergence and spread of antibiotic resistance in gonorrhea. J Infect Dis. 2017.

33s. Purcell DW, Johnson CH, Lansky A, et al.Estimating the population size of men who have sex with men in the United States to obtain HIV and syphilis rates. Open AIDS journal. 2012;6:98-107.

34s. Grov C, Cain D, Rendina HJ, Ventuneac A, Parsons JT**.** Characteristics associated with urethral and rectal gonorrhea and chlamydia diagnoses in a US national sample of gay and bisexual men: results from the One Thousand Strong panel. Sex Transm Dis. 2016;43(3):165-71.

35s. Hooper RR, Reynolds GH, Jones OG, et al.Cohort study of venereal disease. I: the risk of gonorrhea transmission from infected women to men. Am J Epidemiol. 1978;108(2):136-44.

36s. Wiesner PJ, Thompson SE, 3rd**.** Gonococcal diseases. Dis Mon. 1980;26(5):1-44.

37s. Holmes KK, Johnson DW, Trostle HJ**.** An estimate of the risk of men acquiring gonorrhea by sexual contact with infected females. Am J Epidemiol. 1970;91(2):170-4.

38s. Platt R, Rice PA, McCormack WM**.** Risk of acquiring gonorrhea and prevalence of abnormal adnexal findings among women recently exposed to gonorrhea. JAMA. 1983;250(23):3205-9.

39s. Sexually transmitted diseases. 4th ed. ed. New York: McGraw-Hill, Medical; 2008.

40s. Kretzschmar M, van Duynhoven YT, Severijnen AJ**.** Modeling prevention strategies for gonorrhea and chlamydia using stochastic network simulations. Am J Epidemiol. 1996;144(3):306-17.

41s. Korenromp EL, Sudaryo MK, de Vlas SJ, et al.What proportion of episodes of gonorrhoea and chlamydia becomes symptomatic? Int J STD AIDS. 2002;13(2):91-101.

42s. Johnson LF, Alkema L, Dorrington RE**.** A Bayesian approach to uncertainty analysis of sexually transmitted infection models. Sex Transm Infect. 2010;86(3):169-74.

43s. McCormack WM, Stumacher RJ, Johnson K, Donner A**.** Clinical spectrum of gonococcal infection in women. Lancet. 1977;1(8023):1182-5.