**WEB APPENDIX - REFERENCES**

w1. Jit M, Brisson M, Portnoy A, et al. Cost-effectiveness of female human papillomavirus vaccination in 179 countries: a PRIME modelling study. *The Lancet Global Health*;2(7):e406-e14. doi: 10.1016/S2214-109X(14)70237-2

w2. Cameron RL, Kavanagh K, Cameron Watt D, et al. The impact of bivalent HPV vaccine on cervical intraepithelial neoplasia by deprivation in Scotland: reducing the gap. *Journal of Epidemiology and Community Health* 2017 doi: 10.1136/jech-2017-209113

w3. Kohler G, Milstein C. Continuous cultures of fused cells secreting antibody of predefined specificity. *Nature* 1975;256(5517):495-97.

w4. Saiki R, Gelfand D, Stoffel S, et al. Primer-directed enzymatic amplification of DNA with a thermostable DNA polymerase. *Science* 1988;239(4839):487-91. doi: 10.1126/science.2448875

w5. Field N, Kennedy I, Folkard K, et al. Screening for gonorrhoea using samples collected through the English National Chlamydia Screening Programme and risk of false positives: a national survey of Local Authorities. *BMJ Open* 2014;4(10) doi: 10.1136/bmjopen-2014-006067

w6. Mohammed H, Mitchell H, Sile B, et al. Increase in Sexually Transmitted Infections among Men Who Have Sex with Men, England, 2014. *Emerging Infectious Disease journal* 2016;22(1):88. doi: 10.3201/eid2201.151331

w7. Jenness SM, Weiss KM, Goodreau SM, et al. Incidence of Gonorrhea and Chlamydia Following Human Immunodeficiency Virus Preexposure Prophylaxis Among Men Who Have Sex With Men: A Modeling Study. *Clinical Infectious Diseases* 2017;65(5):712-18. doi: 10.1093/cid/cix439

w8. Public Health England and NHS England. Update on PrEP Impact trial in England. Available at: https://www.gov.uk/government/news/update-on-prep-impact-trial-in-england. Accessed 24 May 2017.

w9. HIV Scotland. PrEP in Scotland. Available at: http://www.hivscotland.com/our-work/prep-in-scotland/. Accessed 3rd November 2017.

w10. Welsh Government. Health Secretary Vaughan Gething announces all-Wales PrEP trial. Available at: http://gov.wales/newsroom/health-and-social-services/2017/170428trial/?lang=en. Accessed 3rd November, 2017.

w11. Public Health England. Table 8: Attendances by gender, sexual risk and age group, 2012 to 2016. Available at: https://www.gov.uk/government/statistics/sexually-transmitted-infections-stis-annual-data-tables. Accessed 6th September 2017.

w12. Department of Health. Genitourinary Medicine 48-hour Access: Getting to target and staying there. Available at: https://www.bashh.org/documents/119/119.pdf. Accessed 3 July 2017.

w13. Department of Health. Statistical Press Notice, November 2011. Sexual Health (GUMAMM). Available at: http://webarchive.nationalarchives.gov.uk/20130107145724/http://www.dh.gov.uk/en/Publicationsandstatistics/Statistics/Performancedataandstatistics/SexualHealth/index.htm. Accessed 3 July 2017.

w14. Foley E, Furegato M, Hughes G, et al. Inequalities in access to genitourinary medicine clinics in the UK: results from a mystery shopper survey. *Sexually Transmitted Infections* 2017 doi: 10.1136/sextrans-2016-052882

w15. Department of Health. Health and Social Care Act 2012: fact sheets. Available at: https://www.gov.uk/government/publications/health-and-social-care-act-2012-fact-sheets. Accessed 3 July 2017.

w16. Department of Health. Public health grants to local authorities: 2016 to 2017. Available at: https://www.gov.uk/government/publications/public-health-grants-to-local-authorities-2016-to-2017. Accessed 3 July 2017.

w17. The King's Fund. Understanding NHS financial pressures: How are they affecting patient care? Available at: https://www.kingsfund.org.uk/publications/understanding-nhs-financial-pressures. Accessed 3 July 2017.

w18. London Councils. London Sexual Health Transformation Programme. Available at: http://www.londoncouncils.gov.uk/our-key-themes/health-and-adult-services/public-health/sexual-health-0/london-sexual-health. Accessed 3 July 2017.

w19. Wilson E, Free C, Morris TP, et al. Internet-accessed sexually transmitted infection (e-STI) testing and results service: A randomised, single-blind, controlled trial. *PLOS Medicine* 2017;14(12):e1002479. doi: 10.1371/journal.pmed.1002479

w20. Kontos E, Blake KD, Chou W-YS, et al. Predictors of eHealth Usage: Insights on The Digital Divide From the Health Information National Trends Survey 2012. *Journal of Medical Internet Research* 2014;16(7):e172. doi: 10.2196/jmir.3117

w21. Sarkar U, Karter AJ, Liu JY, et al. Social disparities in internet patient portal use in diabetes: evidence that the digital divide extends beyond access. *Journal of the American Medical Informatics Association* 2011;18(3):318-21. doi: 10.1136/jamia.2010.006015

w22. Estacio EV, Whittle R, Protheroe J. The digital divide: Examining socio-demographic factors associated with health literacy, access and use of internet to seek health information. *Journal of Health Psychology*;0(0):1359105317695429. doi: doi:10.1177/1359105317695429

w23. Harding-Esch EM, Nardone A, Gibbs J, et al. Can Remote STI/HIV Testing and eClinical Care be Compatible with Robust Public Health Surveillance? Proceedings of the 5th International Conference on Digital Health 2015. Florence, Italy: ACM, 2015:129-30.

w24. Petousis-Harris H, Paynter J, Morgan J, et al. Effectiveness of a group B outer membrane vesicle meningococcal vaccine against gonorrhoea in New Zealand: a retrospective case-control study. *The Lancet* 2017 doi: https://doi.org/10.1016/S0140-6736(17)31449-6

w25. Abbasi J. New hope for a gonorrhea vaccine. *JAMA* 2017;318(10):894-95. doi: 10.1001/jama.2017.11037

w26. Sun CJ, Stowers J, Miller C, et al. Acceptability and Feasibility of Using Established Geosocial and Sexual Networking Mobile Applications to Promote HIV and STD Testing Among Men Who Have Sex with Men. *AIDS Behav* 2015;19(3):543-52. doi: 10.1007/s10461-014-0942-5

w27. Public Health England. Press release - Campaign to protect young people from STIs by using condoms (15 December, 2017). Available at: https://www.gov.uk/government/news/campaign-to-protect-young-people-from-stis-by-using-condoms. Accessed 16th February 2018.