PREVALENCE OF TRICHOMONAS VAGINALIS PREDICTED TO INCREASE SUBSTANTIALLY IN AUSTRALIA DUE TO REPLACEMENT OF PAP SMEARS WITH HPV TESTING FOR CERVICAL SCREENING: A MODELLING STUDY

1B Hu, 1C Redlin, 1V Guy, 1B Donovan, 1S Hocking, 1M Law, 1DG Regan. 1The Kirby Institute, UNSW Australia, Sydney, New South Wales, Australia; 2Sydney Sexual Health Centre, Sydney Hospital, Sydney, New South Wales, Australia; 3Melbourne School of Population and Global Health, University of Melbourne, Melbourne, Victoria, Australia

Introduction The prevalence of trichomoniasis is very low (~0.4%) in the general Australian population. This is attributed in part to the opportunistic detection of Trichomonas vaginalis (TV) in PAP smears of women participating in the cervical screening program. From 2017 the cervical screening program will transition from cytology to human papillomavirus (HPV) testing as the primary triage. We hypothesise that as a result of this transition, and with an increasing proportion of the population vaccinated against HPV, fewer cases of TV will be detected and the prevalence will consequently increase.

Methods A mathematical model was developed to describe the transmission of TV in the general population. We assume that following the transition from cytology to HPV testing; individuals with asymptomatic TV who test negative for high-risk (HR) HPV will remain undiagnosed and untreated. We investigate the change in TV prevalence over time as the proportion of the population vaccinated against HPV increases. We assume ongoing coverage of 80% in the HPV vaccination program.

Results Our modelling predicts that if the prevalence of HR HPV does not change then 10 years after the transition from PAP to HPV testing, TV prevalence will have increased from 0.4% to 1.65%, and after 20 years prevalence will have reached 3.83%. If we assume that HR HPV prevalence continues to decrease at the current rate, TV prevalence will reach 1.68% after 10 years and 4.06% after 20 years.

Conclusion Our results suggest that TV prevalence will increase in Australia over time due to changes in the cervical screening program. The extent of this increase will depend on the impact of HPV vaccination on the prevalence of HR HPV. Consideration should be given to enhancing TV surveillance to monitor for increasing incidence. Adding a TV test to the HPV test that will be used in cervical screening and or including TV in sexual health checks for asymptomatic individuals (contingent on an observed increase in incidence) should also be considered.