group-specific STI prevalence with and without turnover, and compared the fitted partner change rates and transmission population attributable fraction (tPAF) of the core group to cumulative STI infections in the total population.

Results Across the range of turnover and treatment parameters explored, turnover consistently decreased STI prevalence in the core group. In the low-risk group, turnover increased prevalence under low treatment rate, but had the opposite effect under high treatment rate. When calibrating to the same STI prevalence, fitted core group partner change rates were higher with turnover than without. Using these fitted parameters, models with turnover then consistently projected a higher tPAF of the core group versus models without.

Conclusion Modeling of risk group turnover can influence the projected group-specific STI prevalence and fitted risk parameters. Models without turnover may underestimate the contribution of core groups in STI epidemics, and thus the impact of interventions prioritizing these populations.

Disclosure No significant relationships.

019.6 PROFESSIONAL INJECTORS, INJECTION NETWORKS, AND HIV: CASES STUDIES FROM FIVE CITIES IN PAKISTAN

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Background There are large numbers of people who inject drugs (PWID) in Pakistan, with a high and growing HIV prevalence in many cities. Cross-sectional bio-behavioural surveys conducted over fifteen years have shown heterogeneous HIV epidemic trajectories in different cities with inconsistent associations between aggregate and individual measures of behaviour and epidemic trajectories. This study triangulates behavioural, biological, and network data to gain new insights into drivers of local epidemics among PWID.

Methods A questionnaire was administered to 1,439 PWID in five cities in Pakistan in 2014 and dried blood spots were collected for HIV testing and sequencing. The questionnaire collected locations where participants injected recently and these were used to construct place-based injection networks. Demographic, behavioral, geographic, and network structure data were tested for associations with HIV and HIV phylogenetic analysis was conducted to identify transmission clusters.

Results HIV prevalence varied between the cities, from 8.6% to 45.3%. Although aggregate individual behaviours were not strongly associated with HIV, there were differences between cities in injecting practices and network configurations. Injection network configurations differed between cities, ranging from networks with dense sub-regions to widely dispersed networks. A city that experienced an explosive HIV outbreak showed particularly dense geospatial networks and a large phylogenetic cluster (n=52) suggesting a link between

geospatial concentration and rapid HIV transmission. In a city where the use of professional injectors was associated with HIV at the individual level, there were dense network sub-regions and HIV+ individuals were more likely to be more centrally located in networks ($p<0.01$) and in network components with a greater proportion who had used a professional injector ($p<0.05$).

Conclusion Contextual factors shape the injection practices and network configurations among PWID in Pakistan. Factors that influence HIV transmission dynamics are more complex than individual behaviours, and include professional injectors and geographic and network clustering.

Disclosure No significant relationships.

Poster Presentations

PS01 – POSTER VIEWING SESSION – MONDAY

Monday, July 15, 2019

5:45 PM – 7:00 PM

P004 THE NATIONWIDE ANTIMICROBIAL RESISTANCE SURVEILLANCE SYSTEM OF SEXUALLY TRANSMITTED INFECTIONS – SOUTH KOREA, 2017–2018

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Background The Korea Centers for Disease Control and Prevention established the new nationwide surveillance system and conducted the first nationwide surveillance of antimicrobial resistance for three major sexually transmitted pathogens; *Neisseria gonorrhoeae*, *Chlamydia trachomatis*, and *Mycoplasma genitalium*.

Methods The urethral discharge was collected from male patients with urethritis at 20 primary urologic clinics from January 2017 to December 2018. The cervical swab was collected from female patients with cervicitis at 8 primary gynecological clinics from January to December 2018. All specimens were sent to the 4 regional or the central laboratories.

Results A total of 224 *N. gonorrhoeae* isolates were collected. Of these, 90.6% were resistant to tetracycline, 95.3% to ciprofloxacin, and 58.0% to penicillin. None of the strains was resistant to ceftriaxone and spectinomycin. The minimum inhibitory concentration (MIC) range of ceftriaxone was ≤ 0.008 –0.25 $\mu\text{g/mL}$ and the MIC₅₀ and MIC₉₀ were 0.06 $\mu\text{g/mL}$ and 0.12 $\mu\text{g/mL}$. Twenty-two strains were resistant to cefixime (MIC 0.5 $\mu\text{g/mL}$). Most of the penA genotypes were type X. In particular, the proportion of mosaicism in DNA specimens has been steadily increasing, and the spread of penA-34.001 was confirmed in 2018. Reduced azithromycin susceptibility (defined MIC ≥ 1.0 $\mu\text{g/mL}$) increased from 0% in 2017 to 13% in 2018. The MIC range, MIC₅₀ and