

## **A novel analysis of NSW HIV surveillance data to highlight HIV prevention program impact and gaps**

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### **Background:**

HIV surveillance data are routinely reported by local health district or area of residence, and rates are calculated using the entire population as the denominator (0.034 per 1,000 in Australia in 2018). Given most HIV prevention programs are targeted at gay men, we conducted a novel analysis of NSW HIV surveillance data that incorporates new estimates of gay men in each NSW suburb.

### **Methods:**

We used a recently reported method of determining suburb concentrations of gay men, which combines data from the 2016 Australian Census with self-reported population surveys to estimate, per postcode, the number and proportion of adult men who are gay. We grouped postcodes into three categories: >20%, 5-19.9%, and <5% adult males estimated to be gay. We then assigned each HIV notification in MSM within these categories, and analysed new HIV notifications reported among MSM between 2013 and 2019 per 1,000 gay males.

### **Results:**

Of the adult male population in NSW in 2016, 1.8% (52,893) were estimated to be gay. Among these, 12,218 (23.1%) lived in postcodes where >20% of adult males are estimated to be gay ('high concentration'), 12,434 (23.5%) in postcodes where 5-19.9% are gay ('moderate concentration'), and 28,241 (53.4%) in postcodes where <5% are gay ('low concentration'). Overall HIV notifications in MSM decreased 23.5% (from 281 in 2013 to 215 in 2019): by 57.1% in MSM living in high concentration postcodes (from 6.7 in 2013 to 2.7/1,000 in 2019), 36.4% in moderate concentration suburbs (5.5 to 3.5/1,000) and rose 6.5% in low concentration suburbs (from 4.6 to 4.9/1,000).

### **Conclusion:**

This new surveillance analysis method highlights where HIV prevention programs have had greater or lesser impact, and shows efforts in NSW have been well-targeted to 'gay neighbourhoods' but need to focus more on low gay concentration suburbs to achieve the NSW HIV Strategy goal of virtual elimination of transmissions.

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