Background HIV surveillance data are routinely reported by local health district or area of residence, and rates 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, combining data from the 2016 Australian Census with self-reported population surveys to estimate, per postcode, numbers and proportions of adult males who are gay. We grouped postcodes into three categories: >20%, 5–19.9%, and <5% 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 increase focus on low gay concentration suburbs to achieve the NSW HIV Strategy goal of virtual elimination of transmissions.

012.3 THE NETHERLANDS ON TRACK TO ACHIEVE UNAIDS' '95–95–95' HIV TARGETS FOR 2025 IN ALL STI SURVEILLANCE REGIONS

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Background On a national level, the Netherlands is closing in on the ambitious 95–95–95 HIV targets set by UNAIDS for 2025. Here, we investigated to what extent this is also the case on a regional level.

Methods From the ATHENA national HIV cohort, we retrieved data about all individuals with an HIV-1 infection living in each of the eight sexually transmitted infection (STI) public health surveillance regions in the Netherlands.

Based on those newly-diagnosed during 2002–2019 data, we estimated the number of people remaining undiagnosed by the end of 2019, using ECDC's HIV Modelling Tool, a CD4 count-based back-calculation method. We subsequently estimated a four-stage HIV care continuum: (i) living with HIV, including those undiagnosed, (ii) diagnosed, (iii) in care and on antiretroviral treatment (ART), and (iv) with viral suppression (HIV RNA <200 copies/ml). The total number of people with HIV was estimated by adding the estimated number remaining undiagnosed to the observed number of diagnosed HIV-positive individuals living in each region.

Results The estimated number living with HIV nationwide by the end of 2019 was 23,560 (95% confidence interval [CI] 23,370–23,820), or 135 (134–137) per 100,000 population; approximately 1,770 (1,570–2,030) were still undiagnosed. Numbers living with HIV per 100,000 population were highest in Noord-Holland/Flevoland (273, 95%CI 270–276), Zuid-Holland Noord (164, 159–171), and Zuid-Holland Zuid (144, 142–149), which include the three largest cities Amsterdam, The Hague, and Rotterdam. Across the eight regions, 90%–95% had been diagnosed, 92%–96% of those diagnosed were on ART, and 95%–98% of those on ART had a suppressed viral load.

Conclusion All STI surveillance regions are on track of achieving UNAIDS' 95–95–95 2025 targets. Increased efforts are necessary to reduce the undiagnosed population and the number of individuals not retained in care and on treatment.

012.4 DIAGNOSIS OF LEARNING DISABILITY IS ASSOCIATED WITH APPROXIMATELY 2-FOLD INCREASE IN NEUROCOGNITIVE IMPAIRMENT IN PEOPLE LIVING WITH HIV

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Background Milder forms of HIV-associated neurocognitive disorders (HAND) remain prevalent and can often be difficult to diagnose. Assessment of pre-morbid ability and consideration of morbidity factors remain important to diagnosis of HAND. Among relevant pre-morbid conditions, presence of learning and academic problems in school and diagnosis of learning disabilities (LD) have not been systematically studied in relation to neurocognitive impairment and self-reported cognitive symptoms in HIV.

Methods We examined an urban city cohort of 903 people living with HIV infection referred for assessment of HAND. Patients were classified as having no learning disabilities (n=474), learning or academic difficulties in school (n=352) or having a diagnosis of learning disability or ADHD (n=77). Participants' level of depressive symptoms (Beck Depression Inventory), cognitive symptoms (Patient's Assessment of Own Functioning), and neuropsychological status (based on comprehensive neurocognitive testing of complex attention, learning and memory, psychomotor efficiency and executive functioning) were compared across the three groups classified

according to presence and absence of learning difficulties and LD.

Results Logistic regression models were used to assess the odds of global neurocognitive impairment (based on global deficit score). When depression, cognitive symptoms and LD were modeled together, both cognitive symptoms (OR: 1.08, 95% CI: [1.05, 1.10]) and diagnosis of a learning disability (OR: 1.77, 95% CI [1.06, 2.95]) were significant ($p < 0.01$).

Conclusions Diagnosis of learning disability, but not academic difficulties, is associated with increased odds of neurocognitive impairment among people living with HIV, independently of depression and cognitive symptoms (both correlated; $r = 0.58$, $p < 0.001$) with cognitive symptoms also associated with the presence of neurocognitive impairment. Our results emphasize the importance of taking into consideration the diagnosis of learning disabilities when conducting assessment and diagnosis of HAND.

012.5 RESPECTING DONORS PROTECTING RECIPIENTS: INTRODUCING THE FAIR APPROACH TO MSM BLOOD DONOR SELECTION POLICY

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Background People may not be eligible to donate for many reasons including groups at higher risk of acquiring transfusion transmissible infections through sex. Men who have sex with men (MSM) are one such group. In the UK, various lobbyists challenged this, citing discrimination and asking for an individualised approach. Here we describe the latest review of donor selection criteria, For the Assessment of Individualised Risk (FAIR), that the blood services engaged with stakeholders to complete, and discuss progress towards implementation.

Methods We triangulated evidence from epidemiology of HIV and STIs, behavioural science and practice using surveillance data, literature reviews, focus groups and surveys to report to the Advisory Committee on the Safety of Blood, Tissues and Organs.

Results Current risk of releasing an HIV infectious donation is less than 1 in a million. The literature showed that a previous bacterial STI within 12 months, chemsex, multiple or new sexual partners and anal sex carried increased risk of acquiring bloodborne infections through sex. Questions about these behaviours have high reliability but are open to impression management bias which needs to be managed. Questions about condom use did not give such reliable responses and more detailed questioning is currently difficult in our donation environment due to limited privacy.

Conclusions It was proposed that donors who have had one sexual partner, who was not new, in the last 3 months are eligible to donate irrespective of gender, gender of partner or type of sex. Therefore, MSM in long-term partnerships would be eligible to donate. Ministers accepted the recommendations in December 2020 and the UK blood services are working towards implementation in Summer 2021.

Reframing the message from donor risk to recipient safety and communicating the rationale for our selection criteria will be crucial to success. Timely monitoring will check blood safety is maintained.

012.6 MINORITY HIV/AIDS RESEARCH INITIATIVE: ADVANCING HIV PREVENTION AND TREATMENT THROUGH DATA-INFORMED RESEARCH, COMMUNITY-INFORMED PRACTICES AND INNOVATIVE INTERVENTION STRATEGIES

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Black/African American (Black thereafter) and Hispanic/Latino (Latinx thereafter) communities bear disproportionate burden of HIV infections in the U.S. These communities also tend to be disproportionately affected by social and structural determinants of health that hamper access to and engagement in HIV prevention and care services. Public health research efforts must advance HIV prevention and care through biomedical and structural interventions tailored to the needs of and culturally acceptable for the affected communities.

The CDC Minority HIV Research Initiative (MARI) was established in 2003 to build capacity for HIV epidemiologic and prevention research in mostly Black and Latinx communities and among historically underrepresented early-career scientists working in highly affected communities. The MARI program supports the goal of promoting health equity and reducing HIV-related health disparities.

From 2007–2020, 11 MARI investigators have developed HIV prevention interventions in highly affected communities. The interventions developed by seven MARI investigators will be discussed. Best practices about the recruitment and engagement of communities of color using evidence-based online recruitment campaigns, establishing community and scientific advisory boards, engaging community members in all stages of HIV research, and integration of mobile technologies to sustain HIV prevention and care interventions during the COVID-19 pandemic will be illustrated. We will also highlight the accomplishments of MARI investigators building successful partnerships with local health departments and community-based organizations to promote dissemination of findings and sustainability of interventions tailored to their communities. Lastly, we describe why initiatives like MARI that support the development of innovative and effective interventions to reduce HIV disparities in communities of color are essential to ending the HIV epidemic in the U.S.

Ensuring the communities' engagement in HIV policy changes and intervention development are crucial to intervention uptake and sustainability. As such, MARI research initiative is filling gaps in how we address HIV in racial/ethnic and sexual minority communities.