Controlling HIV in Indigenous Australians

We know what to do, but doing it is the challenge

In 1992, the late Fred Hollows warned of the catastrophic effects that HIV would have in remote Indigenous communities. His trademark candour caused considerable stir, and a number of important initiatives were implemented, such as the Tri-state HIV/STI Project in Central Australia and the National Indigenous Australians' Sexual Health Strategy. However, it would be hard to argue that HIV is widely believed to be a priority in Indigenous health 13 years later.

Until now, the prevalence of HIV in the Indigenous community has been considered similar to that in the non-Indigenous community.[1] In this issue of the Journal (*page 124*), Wright et al present evidence of a higher rate of HIV among Indigenous people in Western Australia than in the non-Indigenous population.[2] They report that, while the rate of HIV notifications in the non-Indigenous population declined between 1985 and 2002, it increased in the Indigenous population. The difference in risk for Indigenous women was striking — 39% of all female HIV notifications in WA since 1994 have been for Indigenous women, giving an Indigenous : non-Indigenous age-standardised rate ratio of 18. In contrast, the rate ratio for Indigenous males was 2. Wright et al also confirmed the marked differentials in risk of other sexually transmitted infections (STIs) in the Indigenous population — with Indigenous : non-Indigenous age-standardised rate ratios of 242 for syphilis, 77 for gonorrhoea and 16 for chlamydia. The data in this study are likely to predominantly reflect the situation in rural and remote regions of WA, and the authors acknowledge the difficulties of interpreting surveillance data. Nevertheless, the findings demand attention.

Health-seeking behaviour based on the presence of genital symptoms or awareness of risk is limited in many Indigenous communities: the concept of "sexual health" is a construct usually confined to well-resourced urban populations. Few Indigenous children in remote areas complete high school and, as a result, there are few reliable means of informing young people about health risks. Although many Aboriginal Health Services have instituted local programs of distribution, condom use appears to be uncommon,[3] and there is anecdotal evidence of an increase in injection drug use in remote areas. In settings of social disruption and dislocation, such as among individuals who congregate on the fringes of major urban areas, sex is often exchanged for favours, alcohol and other substances. Not surprisingly, reinforcement and maintenance of health messages and wide implementation of interventions are difficult to achieve in these settings.

It is not entirely clear why the prevalence of HIV has remained low in remote Aboriginal Australia; however, this might be explained by the structure of local sexual networks. In simple terms, the sexual network identifies who is having sex with whom, how often and where. Individuals in a sexual network operate in a social space, not necessarily a geographic space. Because of the sensitivity surrounding this issue, there has been very little published on the complex sociocultural factors that determine the structure of Indigenous sexual networks in remote Australia. It is known that Indigenous people living in remote areas may travel extensively across the country, but are likely to choose partners they already know and who share the same background. This has been termed "assortative" partnering, and has been observed in other populations.[4]

The absence of HIV from a network protects all its members — it is only when an HIV-infected individual enters the network that transmission occurs. Such individuals may have travelled to large urban areas and contracted HIV through injection drug use or homosexual contact. As a result, a substantial proportion of the members of the sexual network will become infected, although in small communities the absolute numbers will remain low. This implies that control of HIV in the Indigenous population will require multiple small interventions that target individual sexual networks, as well as reflecting the local sociocultural conditions.

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In the 1990s, the rates of curable STIs (chlamydia, gonorrhoea and trichomoniasis) were found to be many times higher in the Indigenous population in the Northern Territory, compared with the non-Indigenous population. However, the rate of a non-curable, viral STI (human papillomavirus) was higher in the non-Indigenous than in the Indigenous population. This suggested that a major reason for the disparity in rates is the limited access to and use of clinical services in remote areas, rather than differences in average rates of partner change.[5]

Health professionals who have worked in remote health settings know how hard it is to do more than simply react to the patients who walk through the clinic doors with an acute problem. Maintaining population health programs, such as immunisation, health promotion and risk factor modification, is always difficult in these settings, and these programs are first to suffer when a medical crisis occurs.

The opportunity costs of a local HIV epidemic are considerable: HIV does not just affect the individual who is infected — sexual partners are also at risk, and transmission can occur antenatally and during breastfeeding. Ongoing risk behaviour after a diagnosis of HIV is documented, driven by psychiatric and substance abuse-related factors. The medical system is compelled to react to the presence of HIV infection in a particular community. In one remote community, this required an increase in the staff of the local public health unit from three to eight, and other programs fell by the wayside (unpublished data). This migration of resources may be one of the major costs of an HIV epidemic in remote Indigenous Australia.

Evidence from Africa suggests that STI control early in an HIV epidemic may be effective in limiting the spread of HIV,[6] but this strategy is less useful once the HIV epidemic is established. Good STI control requires a coordinated program that addresses health promotion, diagnostic and screening services, rapid access to appropriate treatment and locally appropriate contact tracing. This is not easy, nor cheap, but it is possible — as seen with a successful program in Central Australia.[7] Others have also implemented relatively effective programs.[8] Primary care providers can use a

new Medicare rebate item (item 710) to screen for STIs in Indigenous people as part of a broader preventive health assessment. The new National Aboriginal and Torres Strait Islander Sexual Health and Blood Borne Virus Strategy, to be announced later in the year, will provide a useful review of existing programs, and recommendations for specific action.

HIV testing is central to HIV control: it determines the extent of the epidemic and helps plan local interventions. Antenatal screening and antiviral treatment of an HIV-infected mother can almost eliminate the risk of transmission of HIV to the neonate; appropriately timed therapy has obvious benefits for the individual in terms of morbidity and mortality, and successful treatment reduces the viral load and decreases the risk of transmitting HIV through sexual contact. There is no need to reinvent guidelines for testing in Indigenous settings — they already exist. Sustainable implementation is the challenge that faces primary care providers. The data from Wright et al provide a compelling reason for meeting this challenge now.

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Competing interests: FJB is Chair of the HIV/AIDS and Sexually Transmissible Infections Subcommittee of the Australian Government's Ministerial Advisory Committee on AIDS, Sexual Health and Hepatitis.

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Welcome to the era of CKD and the eGFR

Estimating glomerular filtration rate using a simplified formula will lead to a vast increase in detection of chronic kidney disease in Australia

In patients with chronic kidney disease (CKD), the degree of reduction in the glomerular filtration rate (GFR) is closely linked to the development of complications of CKD, and GFR is the best index for classifying the severity of the disease. In 2002, a US working party produced a five-stage classification of CKD, with guidelines for management according to stage, based largely upon GFR (Box).[1] The classification is logical and simple and has enjoyed worldwide endorsement. However, one problem has impeded widespread usage of the classification — most clinicians do not measure or calculate GFR.

Why estimate GFR?

The gold standard for measurement of GFR is kidney clearance of inulin, but this method is a research tool and not practical for clinical practice. GFR may be accurately measured by determining the clearance rate of exogenous radioisotopes, such as radiolabelled Cr^{51}-EDTA. Alternatively, the measurement of 24-hour creatinine clearance provides a reasonable, though less accurate, approximation. Both methods are inconvenient, time-consuming and costly. Serum creatinine concentration is widely used as a surrogate marker of GFR, but is crude and insensitive. For example, among the nationally representative AusDiab cohort of 11 247 Australian adults, 1.1% had elevated serum creatinine levels whereas 11.2% had a calculated GFR < 60mL/min.[2]

Because of these anomalies, much effort has been directed at deriving formulas that use serum creatinine level together with other clinical variables, such as age, sex and weight, to yield an accurate estimated GFR (eGFR). The abbreviated MDRD (Modification of Diet in Renal Disease) formula for deriving eGFR has been extensively validated in US populations and is endorsed for the classification of CKD.[1] The inputs required for the (predominantly white) Australian population are serum creatinine level, age and sex (the performance of the formula is less satisfactory among people of Chinese origin,[3] and thus possibly others of Asian ethnicity, and is untested among Indigenous Australians). Thus, all data required for calculating eGFR using the abbreviated MDRD formula are currently provided on the typical pathology request form, making automated reporting of eGFR potentially feasible.

The growing burden of CKD

The burden of CKD has long been underappreciated. Stage 5 CKD (end-stage kidney disease [ESKD]), which requires dialysis or transplantation to prevent death from kidney failure, provides the most obvious burden of CKD, as dialysis and transplantation are highly visible and enormously costly health problems.

Earlier stages of CKD are more prevalent and may be even more costly than ESKD. Projections based on data from the AusDiab survey suggest that 1.4 million Australian adults (11.4% of the non-institutionalised population) had CKD stages 3–5 in 2000.[2] Of these, 11 660 (< 1%) were living on dialysis or a functioning kidney transplant.[4] For the 99% with CKD who were not receiving dialysis or had not had a transplant, two major consequences have become apparent: increased risk of developing ESKD and increased cardiovascular risk compared with the normal popula-