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HIV in NSW in 2010

HIV in NSW in 2010: sustaining success in an evolving epidemic

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Abstract: NSW has been recognised internationally for achieving a sustained, stable rate of HIV infection since 2000. An early mobilisation by communities initially at risk of HIV – gay men, sex workers and injecting drug users – resulted in rapid behaviour change and provided the basis for a continuing cooperative partnership with government, health service providers and researchers.

This special issue of the *NSW Public Health Bulletin* describes the current response to HIV in NSW. Experts from diverse disciplinary and professional fields offer perspectives on the epidemiology, morbidity and impacts of HIV, current prevention challenges including with Aboriginal communities and people from culturally and linguistically diverse backgrounds, models for the diagnosis, care and treatment of HIV, and the legislative protection of public health and those who are living with HIV. The NSW experience demonstrates that the sustained cooperation of those affected, together with the efforts of government, health service providers and researchers, can achieve HIV control.

In October 1986, Ross Duffin, a community activist who would later become Australia's foremost human immunodeficiency virus (HIV) educator, declared acquired immune deficiency syndrome (AIDS) the medical news story of the 1980s.[1] From 1982, media reporting of what would ubiquitously become known as the AIDS crisis had both reflected and engendered hysteria and panic across the Australian community. Duffin's declaration was prescient, coming six months before the 1987 Grim Reaper AIDS Campaign. Within its first decade AIDS had emerged as a public health emergency.[2]

While AIDS burst into the public consciousness, the easing of anxiety has taken a slower, steadier path. In what ways has the response to HIV remained constant, and in what ways has it been transformed? What might people with newly-acquired infection expect today of their illness? Does HIV remain a personal crisis? Where is HIV treatment and prevention headed?

Enduring principles

There remain some notable points of continuity between the AIDS crisis of the 1980s and today's response to HIV.

Working in partnership

The principle of partnership has underpinned both the rhetoric and practice of Australia's response to HIV.

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Commonwealth-state cooperation to secure the blood supply lead then Commonwealth Minister for Health, Dr Neal Blewett, to comment in 1986 on the 'goodwill and excellent cooperation of state and territory governments'.[3] 'Partnership' would later become an aspirational principle of each successive *National HIV/AIDS Strategy*, denoting the desirability for 'an effective, cooperative effort between all levels of government, community organisations, the medical, health care and scientific communities and people living with or affected by HIV/AIDS'.[4] The application of this principle is formalised in New South Wales (NSW) through the composition of the NSW Ministerial Advisory Committee on HIV and Sexually Transmissible Infections. It is also evident in the composition of the guest editorial group for this special issue of the *Bulletin*, in the supporting commentary to this editorial offered by Rob Lake of Positive Life NSW, and in the paper by James Ward and colleagues on HIV and Aboriginal communities.

While now a familiar concept in many health domains, the principle of partnership in relation to HIV reflects the nature of the disease, stemming from an early recognition by government that it had limited understanding of or access to the marginalised communities most affected by HIV, and that changes in intimate and private risk behaviours would best occur through the voluntary decisions and cooperation of those at risk. In effect, the HIV partnership acknowledges a mutual interdependence between governments and those at risk if the goal of minimising HIV transmission is to be realised. With this recognition, principles of personal action, shared responsibility, community centrality and cooperation were also enshrined within national HIV/AIDS policy alongside that of partnership. Coercive approaches were considered likely to result in those at risk placing themselves 'beyond the reach of policies designed to assist them and to stem the spread of infection'.[5] NSW has also benefitted from an early and continuing political non-partisanship, wherein successive governments and oppositions, have supported the sensitive, pragmatic measures necessary to maintain effective control of HIV.

Evolution of an epidemic

In the almost 30 years since it was first described, the morbidity and expected epidemic spread of HIV in Australia have been radically altered by advances in scientific enquiry, clinical research and practice (both preventive and treatment), and through the sustained behaviour change of affected communities.

Initial expectations of a generalised epidemic that extended from early-affected populations to heterosexuals have not been realised in Australia, although it has certainly occurred in many other locations with poorer HIV control. McPherson and Ward report in this issue on the epidemiology of HIV in NSW in 2010. Three features make the current epidemiology of HIV in NSW unique in industrialised settings and have attracted national and international public health attention: the effective containment of HIV among gay men, sustained low HIV incidence among gay men, and low HIV incidence and prevalence in all other populations including injecting drug users and sex workers.

Hales presents in this issue the findings of an epidemiological and economic analysis of public health measures for HIV in NSW.[6] He reports that, in the period to 2005, 45 000 cases of HIV had been avoided through NSW public health efforts, representing an estimated 80% reduction in new cases that would otherwise have occurred. The Needle and Syringe Program, providing injecting drug users access to the means to directly prevent HIV infection, represents 75% of total cases avoided. HIV prevalence rates in countries such as Spain and the United States of America that are more than five-fold higher than in Australia also point to cases avoided.[7] The economic effectiveness of such immediately effective public health intervention is notable: for every $1 invested in HIV prevention, the NSW Government alone saved $13 in clinical care costs.[6] This benefit excludes indirect costs and costs accruing to the Australian Government through the Pharmaceutical Benefits Scheme and Medicare.

Despite these achievements HIV is endemic among Sydney gay men with prevalence estimated at 9%.[8] With greatly improved prognosis, even low sustained rates of incident infection will increase the number of people with HIV in this population. The Darlinghurst 2010 postcode remains Australia's HIV epicentre, although there is a steady drift of new diagnoses to Sydney's inner western suburbs, reflecting the changing demographic of Sydney's gay community and the increasing age of those receiving a diagnosis of HIV (37 years in men in Australia in 2008).[7] Inner Sydney's concentrated HIV prevalence should not however be allowed to obscure the needs of those living with HIV in greater Sydney and regional and rural NSW and the challenges presented by dispersal and distance.

HIV prevention with gay communities remains the highest priority for NSW efforts to control HIV.[9] De Wit, Prestage and Duffin in this issue describe the 'continuous adaptation' of gay men to HIV. The early adoption of protective sexual and testing behaviours continues to be sustained. Indeed the continuing responsiveness of gay men to HIV is evident in the significant upward trend in testing for HIV since at least 1998 and in testing for other sexually transmissible infections since at least 2003.[10,11] While rates of condom use with casual sexual partners continue to be high, the authors suggest that gay men's HIV risk-reduction practices may now also be characterised by seroadaptive behaviours in which knowledge of HIV status is used to inform sexual practice with partners based on seroconcordance and the likelihood of transmission in a

given risk event. Grulich, O'Donnell and de Wit describe in this issue the work of a partnership-based committee that functions as a reflexive broker of HIV research, policy and practice in directing gay men's and other HIV health promotion efforts in NSW.

Wodak and Maher report on transformation in the Needle and Syringe Program; there is now overwhelming evidence of the effectiveness of the program in preventing HIV infection among injecting drug users. The authors also note that gains can be fragile to sustain, and even seemingly small changes in the availability of injecting equipment can lead to rapid and dramatic rises in acquisition of HIV infection and consequent onward sexual transmission within heterosexual populations.

Ward, Akre and Kaldor in this issue note that injecting drug use and heterosexual transmission contribute disproportionately to HIV infection within NSW Aboriginal communities. Currently, HIV rates in NSW Aboriginal communities are stable at levels similar to that reported among non-Aboriginal people – a significant outcome achieved in difficult circumstances. Disadvantage, poorer access to primary health care, higher rates of sexually transmissible infections, and increased injecting drug use indicate a need for strengthened action by health services, Aboriginal communities and their partners to prevent HIV.

Donovan and colleagues report low rates of HIV and sexually transmissible infections among brothel-based sex workers but note the diversity of the sex industry in NSW and the high annual turnover within this workforce. McMahon, Moreton and Luisi observe the variability of HIV prevalence within the communities that constitute NSW's culturally diverse society, and the inevitability of steady increases in HIV infection associated with high international population mobility.

Together, these articles capture the distinctive ways in which HIV has affected populations prioritised for prevention activities. While the principles of health promotion remain the same across these populations, the implementation of HIV prevention programs offered by area health services and community organisations is closely targeted to each community. Targeting recognises the different patterns and effects of HIV infection within each community, as well as their different strengths. It also reflects the pragmatic imperative for sensitive programs that necessarily address sexual and drug-using behaviours to reach the intended audience.

The death of AIDS – HIV morbidity in 2010

In the evolution of the HIV epidemic, it is arguably in the treatment and care of those living with HIV that rapid and transformative change is most evident. Dwyer in this issue reports that, while reliable laboratory assays to detect HIV have been available since 1985, new generation combination assays now allow detection of HIV approximately two weeks after infection. For people with HIV and their clinicians, nucleic acid testing for quantifying HIV viral load and detecting antiretroviral drug resistance, together with CD4+ T lymphocyte cell counts, provide essential prognostic and antiretroviral management guidance.

Cowdery and Cooper report on the early availability in NSW of combination antiretroviral therapy (cART) which from the mid-1990s has made the control of viral replication and disease progression the goal of HIV management. Since that time, simpler, more effective and better tolerated cART regimens have become available. For most people with HIV in industrialised countries, cART has rendered HIV a chronic, manageable condition with many people achieving sustained viral suppression and, in those with immune suppression, partial reconstitution of immune function.

Improvements in mortality and morbidity for people with HIV have been profound. A large multinational cohort study showed that a 20-year-old person starting successful HIV treatment could now expect to live to 63 years on average.[12] Those with a CD4+ cell count above 200 cells/mm^3 could expect to live to 70 years on average, pointing to the importance of early detection of HIV infection while also highlighting that life expectancy remains shortened even in optimal circumstances.[13]

Gains have also been achieved for those living long-term with HIV through the use of drug-resistance testing, addressing co-morbidities, managing side-effects of cART, and persistence where necessary with multiple changes of cART regimens.

Improvements in treatment have not come without cost. Clinical trials have shown conclusively that treatment interruptions are significantly detrimental to people with HIV. In 2010, people with HIV face lifelong treatment and close clinical monitoring to ensure sustained treatment efficacy and to manage complications related to long-term HIV infection and treatment. The optimism that followed the introduction of cART is today softened by concern for the effects of long-term cART use, with accelerated ageing, metabolic disorders, neurological complications, malignancies, cardiovascular disease and kidney dysfunction all presenting as novel sources of morbidity.[14] Patients with co-morbidities such as hepatitis B and C, drug and alcohol misuse, mental illness or social disadvantage that interferes with the effective and routine management of their HIV infection, also experience poorer outcomes.[15]

Garsia in this issue charts the changing clinical profile of HIV infection in the service arrangements of primary, allied and tertiary health services. Clinical care arrangements have

proved responsive to the changing needs of people with HIV with substantial service re-development evident since the mid-1990s. Declining inpatient activity and concomitantly increasing demand for outpatient services has been seen at all major tertiary sites. A workforce of primary-care providers authorised to prescribe highly specialised HIV treatment continues to allow many people with HIV to receive their routine treatment and care in community settings. Demand has increased significantly for flexible care arrangements and case support that allow people with complex clinical and behaviour needs to remain in the community.

Where service change has been insufficient, the NSW Department of Health has triggered reviews and funding reforms to align HIV resources with need. Recent reforms to HIV supported accommodation arrangements, pathology charging and statewide services have contemporised service delivery and unlocked resources required to meet the demands of increased HIV prevalence and life expectancy. The reform of HIV program funding has also enabled expansion of the dedicated investment in hepatitis C prevention, treatment and care.

Something old, something new

In NSW in 2010, the early fears of AIDS have eased. The aetiology of HIV is known. New HIV infections continue, but at a low rate. Members of the gay community are generally well informed of their personal risk. Importantly, they understand that infection is preventable. Improved diagnostic tests are available. The prognosis for those diagnosed early is excellent.

Yet HIV continues to be a serious, preventable and potentially fatal infection with the capacity for rapid spread within already-affected populations and more broadly. The promise of near normal life expectancy can only be realised with early detection, daily treatment and good clinical management. Stigma associated with the infection remains high, and people with HIV report too frequent experiences of discrimination including within health-care settings.[16] An HIV diagnosis remains in 2010 an experience of personal crisis, with those diagnosed being required to reconcile deeply ingrained perceptions of HIV with a more contemporary reality.

For public health professionals, relative success in containing HIV infection at low rates within the gay community can obscure a more unsettling, underlying picture. In 2007 an expert think tank concluded that the stability of HIV notifications in NSW when examined against growth in the numbers elsewhere could be attributed to very small differences across a range of HIV transmission variables.[17] Since that time, NSW behaviour surveillance points to a rapid increase in the most significant of these contributing transmission variables – unprotected anal intercourse by gay men with casual partners. The imperative to maintain control of HIV in NSW is all the greater because, unlike infections such as chlamydia, proven models for population-level HIV control exist. HIV is a disease shown to be amenable to programmatic intervention and, as described in this issue, the economic effectiveness of prevention is well established.

In 2010, concern about HIV in the public consciousness remains exceptional. This is evident in circumstances which give rise to the spectre of uncontrolled HIV transmission such as media reporting of community needle-stick injury (a situation that presents negligible HIV risk) or the investigation of infection control incidents. HIV transmission offences – with implied recklessness or intent in the behaviour of people with HIV and a suspicion of public health failure – stimulate similar fears. Clayton, in this issue, points to the legislative context for HIV transmission in NSW, with public health and crimes provisions variously regulating HIV disclosure, behaviour, exposure and infection. HIV continues to be subject to legislative sanction in excess of comparable communicable diseases, and the increased use of criminal laws in Australia and elsewhere make it unlikely that HIV will be legislatively normalised in the near future.

Conclusion

HIV control in Australia is a hard-won success story. While increases in HIV notifications in some Australian jurisdictions in recent years have re-ignited commentary about the sufficiency and adequacy of existing arrangements, the appropriateness of community-driven prevention programs, and whether more coercive approaches may be required, the extreme early fears associated with HIV are now tempered. Hopes for the early identification of a vaccine have faded confirming the need for control measures based on the Needle and Syringe Program, education about safe sex, and partnership and cooperation with affected communities. As described in this issue of the *Bulletin*, these measures have been demonstrated to be both effective and cost-effective however they require sustained effort.

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