People living with blood-borne viruses (BBVs)

Contents

Overview

A blood-borne virus (BBV) is a virus that is transmitted by blood or body fluids that contain blood. BBVs may be transmitted through blood, unsterile injecting practices, exposure to contaminated blood products, any form of sexual activity (if there is blood present at the time of the sexual activity), failures in infection control in healthcare, mother to child transmission and unsterile tattooing or body piercing practices (Australian Medical Association, 2017). Those infected with BBVs may show little or no symptoms, whilst others may present with significant symptoms, in both cases they may be seriously unwell. It is possible for an infected person to transmit blood-borne viruses repeatedly by various routes and over a prolonged time period.

The most prevalent BBVs are:

- Hepatitis B (HBV) and hepatitis C (HCV) – BBVs causing hepatitis, a disease affecting the liver which can progress to fibrosis (scarring), cirrhosis or liver cancer.
- Human immunodeficiency virus (HIV) – a virus which can lead to acquired immunodeficiency disease (AIDS) if left untreated, a disease that severely compromises the body's immune system, leaving it vulnerable to infection.

Priority populations for preventing, managing and treating BBVs in Australia include (Australian Medical Association, 2017):

- People living with chronic BBVs
- People who inject drugs (PWID)
- Sex workers
- People from refugee and culturally and linguistically diverse backgrounds (CALD)
- Aboriginal and Torres Strait Islander people
- Prisoners and those in custodial settings
- Gay men and other men who have sex with men (MSM)

HIV and hepatitis B are BBVs that are more likely to be transmitted during sexual activity because they are also found in other bodily fluids, as well as in blood, for example:

- Vaginal secretions
- Semen
- Breast milk (not hepatitis B or C)

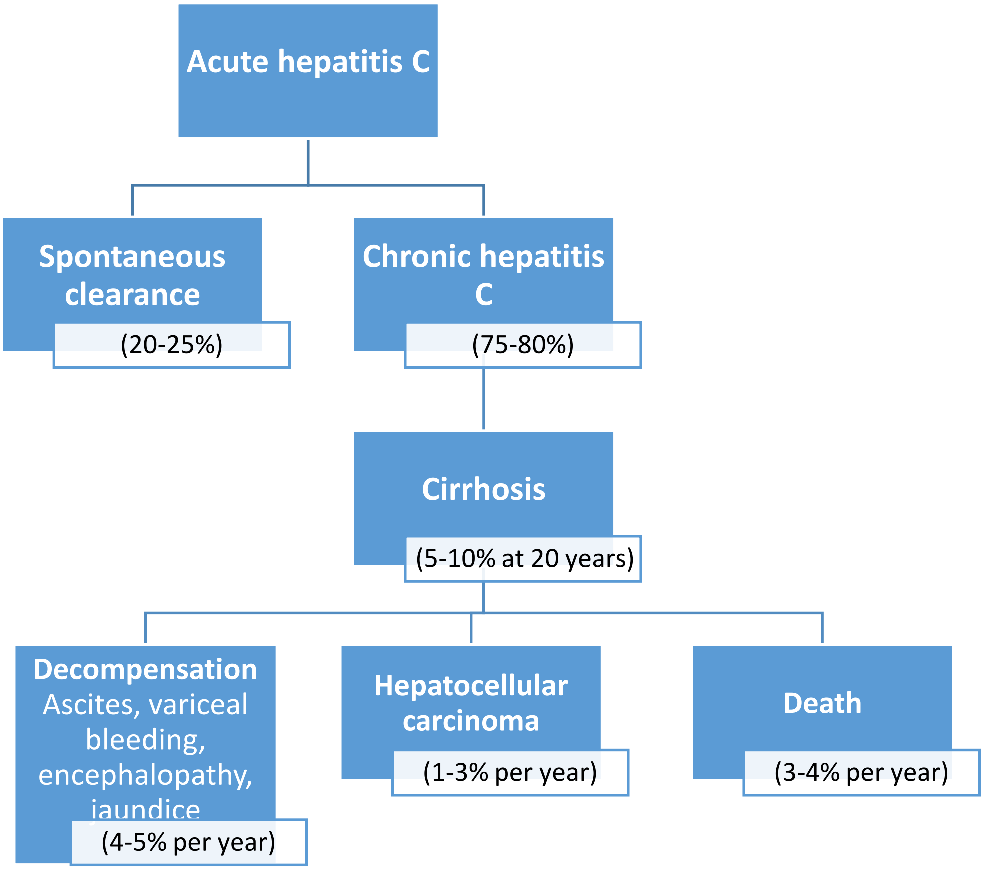
Hepatitis

Blood-borne viruses that cause hepatitis include the hepatitis B virus (HBV) and hepatitis C virus (HCV). HCV and HBV are strongly linked with liver cancer. Between 1982 and 2017, age-standardised incidence rates for liver cancer increased from 1.8 to 7.5 per 100,000. Liver cancer was the only common cancer where mortality rates had increased (Australian Institute of Health and Welfare, 2017). In 2013-14, 1732 people died from liver cancer in Australia. This is estimated to rise to 2088 in 2017 (Australian Institute of Health and Welfare, 2017).

Hepatitis C

Hepatitis C is a significant public health problem and one of the most common notifiable diseases in Australia (ACT Health, 2016). In 2012 in Australia, it was estimated that more than 230,000 people were living with hepatitis C (ACT Health, 2016). The number of people living with chronic hepatitis C in the ACT in 2016 has been estimated at approximately 3,600 (The Kirby Institute, 2016a, ACT Health, 2016). There is no vaccine for hepatitis C and previous infection does not provide immunity to reinfection.

Figure 1: Natural history of hepatitis C virus



Source: (Holmes et al., 2013)

The primary mode of acquisition of hepatitis C is via unsterile injecting drug use. Within the population of people who inject drugs (PWID), those at significantly elevated risk of hepatitis C are females, those with a history of incarceration and Aboriginal and Torres Strait Islander people (ACT Health, 2016). As the population living with chronic hepatitis C infection ages, the burden of liver disease, liver failure and liver carcinoma is expected to increase. Hepatitis C virus (HCV) related liver disease is already the most common indication for liver transplant in Australia (Holmes et al., 2013). HCV is curable, and viral eradication has been shown to reduce complications and improve quality of life (Holmes et al., 2013).

Hepatitis B

Hepatitis B is both a blood borne and a sexually transmitted virus. Hepatitis B is a vaccine-preventable disease, however, chronic hepatitis B-associated mortality and morbidity contributes to a high public health burden in Australia (ACT Health, 2016). In 2015 in Australia, it was estimated that 239,167 people were living with hepatitis B, representing approximately 1% of the population (MacLachlan and Cowie, 2016). The proportion of the population living with chronic hepatitis B in 2015 varied considerably across states and territories, with the ACT being similar to the national average (MacLachlan and Cowie, 2016). Hepatitis B disproportionately affects often already marginalised populations such as migrant communities, Aboriginal and Torres Strait Islander people, people with a history of injecting drug use and men who have sex with men.

Routes of transmission of hepatitis B include from mother to baby at or around time of birth, sexual activity, in health care settings and through unsterile injecting practices. Hepatitis B is under-diagnosed and under-treated. The Australasian Society of HIV Medicine estimates that approximately 38% of people chronically infected with hepatitis B are undiagnosed (ASHM, 2016d) and only 6% in the ACT are receiving treatment for their condition (MacLachlan and Cowie, 2016).

The prison population

The potential for transmission of hepatitis C virus (HCV) in custodial settings is very high and directly associated with sharing of injecting and tattooing equipment, as well as physical violence and sexual contact.

There are many unmet health needs in custodial settings, despite a dedicated health service. These include health literacy work, mental health, Blood Borne Virus (BVB)/Sexually Transmitted Infection (STI) education and alcohol and other drug issues. Whilst people who inject drugs in the community can access sterile injecting equipment from organisations and clinics that offer Needle and Syringe programs (NSP), people who inject drugs in prison have no access to sterile injecting equipment.

Instead, they circulate a limited supply of contaminated injecting equipment, the result of which being a high risk of BBV transmission.

Custodial settings provide a unique opportunity to protect the health of those in custody and the general community. Providing evidence-based prevention, testing, treatment and management and harm reduction strategies are effective in the prevention of transmission of hepatitis C in prisons and establishing a safer environment for both prisoners and prison officers, who are both in elevated risk categories (Hepatitis Australia, 2011).

The wellbeing and health of people in prison has wider community health implications, as any detainee infected with hepatitis may transmit that infection within the prison population or to the wider community if they are released with an untreated condition.

Aboriginal and Torres Strait Islander population

Nationally there is an estimated 300 Aboriginal and Torres Strait Islander people diagnosed with HIV, approximately 28,000 with chronic Hepatitis B and approximately 11,000 with chronic Hepatitis C (Department of Health, 2014). The over-incarceration of Aboriginal and Torres Strait Islander people means that more of them are in an environment where there are very high rates of hepatitis C. Given that 90% of new hepatitis C infections come from shared injecting equipment (Hepatitis NSW, 2015), and with information widely available, there should be an understanding of why needle sharing should be avoided. However, hepatitis C is highly infectious and can be passed on by traces of blood on anything related to injecting, such as tourniquets and swabs.

Testing for hepatitis C

Hepatitis B and hepatitis C are under-tested and under-diagnosed. General practice requires the information and education in order to realise the need.

- Hepatitis C testing is recommended for those who:
    - Currently inject drugs
    - Ever injected drugs, including those who injected once or a few times many years ago
    - Have certain medical conditions, including persons:
        - who received clotting factor concentrates produced before 1987
        - who were ever on long-term haemodialysis
        - with persistently abnormal alanine aminotransferase levels (ALT)
        - who have HIV infection
    - Were prior recipients of transfusions or organ transplants, including persons who:

    - were notified that they received blood from a donor who later tested positive for HCV infection
    - received a transfusion of blood, blood components, or an organ transplant before July 1992
- Hepatitis C testing based on a **recognised exposure** is recommended for:
  - Healthcare, emergency medical, and public safety workers after needle sticks, sharps, or mucosal exposures to HCV-positive blood
  - Children born to hepatitis C-positive women

Testing for hepatitis C has three parts. The first test is the HCV antibody test. This test looks for specific antibodies, not for the virus itself. The second test is the Polymerase Chain Reaction test (PCR) that determines if the virus is present in the blood. If that test is positive, then a HCV PCR genotype test is performed to determine what strain of hepatitis C is present.

Testing for hepatitis B

Hepatitis B infection is complex and a number of tests may need to be carried out. GPs can play a crucial role in the testing, diagnosis and management of people with hepatitis B. Many people with hepatitis B have no signs of illness and are not aware that they have the virus. Hepatitis B is diagnosed through various blood tests, which look for markers of the hepatitis B virus in the blood. Timely diagnosis and clinical management, including antiviral therapy, can prevent chronic hepatitis B related deaths from cirrhosis and liver cancer.

The results of these tests can indicate an acute (recent) infection, resolved infection (immunity) or chronic (long term) infection. Further tests in chronic hepatitis B infection can indicate whether the virus is actively replicating (active infection) or ‘inactive’ (replicating at a much lower rate) (Hepatitis ACT, 2017). Once a person is diagnosed with hepatitis B, other tests may be undertaken to help identify changes in liver function and support decisions regarding the timing of treatment.

GPs can:

- Opportunistically test people from priority populations for hepatitis B
- Correctly monitor people with chronic hepatitis B to assess for phase of disease, and manage or refer accordingly
- Identify when a patient should be referred for consideration of treatment
- Test and vaccinate family members, household contacts and sexual contacts of people with hepatitis B.

In the ACT, GPs can prescribe highly specialised drugs for the treatment of chronic hepatitis B if they undertake the Hepatitis B S100 Community Prescriber Program (ASHM, 2016a).

Treatment for hepatitis C

Although there is a high diagnosis rate of hepatitis C in Australia (over 80%), it has a comparatively very low treatment rate. This is in part due to the significant side-effects of previous treatment regimes. Other reasons for poor treatment uptake include relatively low overall treatment efficacy of previous treatments; long treatment duration with previous treatments; poor patient understanding of disease progression; long waiting times to be assessed at tertiary hospital liver clinics (Gidding et al., 2011, Grebely et al., 2011, Treloar et al., 2012).

In March 2016, new direct-acting antiviral (DAA) treatments for hepatitis C became available on the Pharmaceutical Benefits Scheme (PBS) and became more accessible to people living with hepatitis C in Australia. All people living in Australia who have a Medicare Card can access DAA treatment. There are no restrictions based on injecting drugs or a person's level of liver damage.

The new DAA treatments are different to previous hepatitis C treatment in several ways. The new treatments:

- cure around 95%, or more, of people who take them (even if someone has cirrhosis)
- have minimal side-effects
- last for just 8 - 12 weeks (in most cases)
- use pills taken orally instead of injections, requiring just one or a few pills each day

Clearing hepatitis C reduces liver inflammation and can help reverse fibrosis and even cirrhosis, in some cases, improving the quality of life for the patient. Most commonly, people visit a GP and are assessed for treatment. This involves full blood testing and assessment of liver damage (Fibroscan®, shearwave elastography or AST to Platelet Ratio Index (APRI)). Those people who have advanced liver damage, such as cirrhosis, will be referred to liver specialist for treatment. People who have cirrhosis also need long term monitoring for liver cancer even if their hepatitis C is cured.

ACT data in currently available estimates of HCV direct acting antiviral (DAA) treatment uptake in Australia are unreliable due to a methodology assuming that all DAA prescriptions dispensed in the ACT are for ACT residents, ignoring patients from regional NSW (Queanbeyan, South Coast etc) access to treatment in the ACT.

The Kirby Institute (2016b) report on the uptake of HCV DAA treatments in Australia shows the proportion of S85 GP prescriptions compared with S100 specialist prescriptions issued in the ACT compared with national figures. This provides a useful proxy of the amount of hepatitis C treatment being delivered by specialists and the amount being delivered by GPs and other primary care physicians in the ACT:

- S85 treatment (ACT 36%; National 77%)
- S100 treatment (ACT 64%; National 23%)

This highlights the importance of easing the burden on a specialist-centric treatment model in the ACT by increasing access to hepatitis C treatment through GPs. This will help maximise the benefits of the new DAA treatments for hepatitis C.

Involving more primary care providers in the prescription of DAAs is a major step towards facilitating HCV treatment uptake. All GPs are now able to routinely treat most people for hepatitis C. The Pharmaceutical Benefits Scheme (PBS) Treatment Criteria states that hepatitis C "must be treated by a medical practitioner experienced in the treatment of chronic hepatitis C infection; or in consultation with a gastroenterologist, hepatologist or infectious diseases physician experienced in the treatment of chronic hepatitis C infection" (Department of Health, 2017).

Key Issues

Under-testing and under-diagnosis of hepatitis B and hepatitis C

Hepatitis B and hepatitis C are under-tested and under-diagnosed and an estimated 25% of people living with hepatitis C (and 38% of people living with hepatitis B) are undiagnosed. On current estimates, some 143,000 people in Australia are unaware of their chronic viral hepatitis, which amounts to an estimated 2,400 people living with undiagnosed chronic hepatitis B or hepatitis C in the ACT (Didlick, 2017).

Discrimination and stigma

Many people living with hepatitis B and hepatitis C experience discrimination and stigma associated with having a blood borne virus, including the freedom to participate and contribute to the community without experiencing prejudice or isolation.

Behaviours that stigmatise a patient can also reduce the standard of health care received and lower the quality of life for people living with HCV and HBV. Such behaviours include breaches of confidentially and disclosure related to hepatitis by health care providers; assumptions about how the virus was acquired and assumptions about people's past or present drug use.

Health care workers should respect the rights of people with HCV and HBV. Everyone living with hepatitis should have access to health care and services regardless of transmission route, gender, race, culture, sexual orientation or lifestyle issues (such as injecting drug use) (ASHM, 2016d).

Priority Issues

Prevention, detection and treatment services

Regular training, education and continuing professional development are needed to support GPs and other health care providers to deliver quality prevention, detection and treatment services. Ongoing education, training and professional development is essential, given growing service demand and constantly evolving treatment modalities.

Strategy

- CHN to provide ongoing training and education to support GPs and Practice Nurses to deliver prevention, detection and treatment services for hepatitis B and C.
- To maintain up-to-date information and knowledge of treatments and medications

Human Immunodeficiency Virus (HIV)

Human Immunodeficiency Virus (HIV) damages your immune system by attacking blood cells that help fight infection. The number of new HIV diagnoses in the ACT in 2015 was 20 (Australian acquired 14, overseas acquired 6). Despite the concerted efforts of AIDS organisations across the country including widespread awareness, prevention and treatment campaigns and educational packages, there are still new cases of HIV transmission every year. In the ACT, the number of new HIV transmissions each year is fewer than larger cities but by no means less significant. In the past ten years, notification rates in the ACT have increased and reached a similar level to NSW in 2014 (4.6 per 100 000 in 2014), declining again in 2015 to 3.5 per 100 000 (The Kirby Institute, 2016a).

This steady increase highlights the need to maintain and strengthen established strategies of health promotion, testing and treatment and to expand access to HIV pre-exposure prophylaxis (PrEP) to people who could benefit from this new technology, particularly for people in remote areas or those with limited access to networks and information (The Kirby Institute, 2016a).

The main route of HIV transmission in Australia continues to be sexual contact between gay men and other men who have sex with men (MSM), which accounted for 68% of notifications in 2015; a further 20% of cases were attributed to heterosexual sex, 5% to sexual contact between men and injecting drug use and 3% to injecting drug use only (The Kirby Institute, 2016a). This is in contrast to HIV in developing countries, which is predominantly acquired through heterosexual contact (ASHM, 2015). The reduction in the number of late diagnoses of HIV has been due to initiatives that promote and improve access to testing, prevention treatments and strategies such as an undetectable viral load, which can significantly reduce the risk of HIV transmission.

In Australia, there has been a steady increase in HIV notifications among Aboriginal and Torres Strait Islander males over the past five years as compared to a stable rate in Australian-born non-Indigenous males. The age standardised rate of HIV notification in 2015 among Aboriginal and Torres Strait Islander peoples was more than double the rate in the Australian-born non-Indigenous population (6.8 versus 3.1 per 100,000) (The Kirby Institute, 2016a).

Key Issues

HIV testing

HIV testing targeting the high-risk populations (MSM, PWID) has been accessible in clinical settings for some time. However, there are at-risk individuals who do not engage with the health system and are therefore not tested, or who do engage but are not tested at all or frequently. This is significant for MSM, for whom testing up to four times a year may be recommended (Templeton et al., 2014). There is a need to achieve substantial increases in testing rates and change the pattern of testing among high-risk populations such as MSM. However, encouraging high-risk populations to test frequently can be difficult. The willingness and ability of at-risk people to test for HIV on a regular basis is influenced by a range of factors including time constraints, geographical location and perception of risk (Gale et al., 2014). For this reason, a variety of testing options is essential. For example, a gay man may visit his GP once a year for a complete sexual health check including HIV testing, and then visit a community-based site every three months for screening with a rapid HIV test (Gale et al., 2014).

Community based rapid testing

The use of rapid HIV testing in community settings, in conjunction with testing in clinical settings has the potential to significantly increase HIV testing in the ACT and other states and territories. There is a range of rapid tests on the market which allow results to be given to a person within 20 minutes. As with any new product flooding the market, there are many self-test kits available online. The reliability of some of these tests is already under scrutiny. The Australian Federation of AIDS Organisations (AFAO) recommends and would welcome the approval of reliable HIV self-tests for purchase online through the sponsor or manufacturer’s website and through online or in-store pharmacies. Since October 2011, rapid HIV testing has become increasingly available. The ACT does not provide community, peer based rapid testing (AIDS Action Council, 2017). A small scale research project conducted on behalf of the AFAO found that peer-based community testing options can help encourage more gay men to test regularly by making them feel respected and that they won’t be judged or berated for their behaviour (Ending HIV, 2013). Community-based testing also enables services to be more accessible and connected to the community. Evaluation of rapid testing and ‘pop-up’ clinics in NSW has demonstrated high rates of consumer satisfaction and success in engaging with gay men who had never had an HIV test or were testing infrequently.

Access to new prevention and testing technologies in community based settings

The evidence shows that community based organisations are the safest and most inclusive places for marginalised people and for a diverse community (Nous Group, 2016). Whilst primary care is important for many people, there is a large cohort of individuals and groups who will not attend primary care.

Community controlled, peer based organisations make a critical contribution to the success of Australia's HIV response. Community organisations are not only an important part of the historical response, but are also essential in managing the ongoing epidemic and other health needs within their communities (Nous Group, 2016).

Community controlled organisations are vital to HIV impacted communities (this is same/similar with LGBTIQ communities) and are well placed to provide more services to those communities and have a particular capacity and ability to respond. The comparative advantage is in mobilising community-led responses to health issues, as community controlled organisations.

Experiences in NSW and Victoria reveal that the community, peer based approach offer the best services for communities where engagement can be challenging. Melbourne HIV clinic PRONTO! provides a range of services and is a LGBTIQ-friendly clinic known in the community as a safe and welcoming space for sexual health testing, information and support. It has provided free rapid HIV testing since 2013, when it was established by the Victorian AIDS Council as part of the Victorian Government's HIV prevention strategy. a[TEST] is a fast, free and confidential rapid HIV and STI testing site for gay men, currently available in four locations across Sydney (Ending HIV, 2015b).

In terms of chemical prevention, HIV pre-exposure prophylaxis (PrEP) is a tablet that can be taken once a day by HIV-negative people to prevent infection of HIV. The drug is designed for high-risk populations such as gay men who are highly sexually active. The consensus in Australia and overseas is that PrEP has the potential to significantly reduce HIV transmission, particularly among gay men and there is also growing interest in PrEP among at risk populations (Nous Group, 2016). However, such HIV risk minimisation strategies among gay men may increase the risk of contracting an STI or other BBV. Gay men, particularly those who have HIV or inject drugs, are at a greater risk of hepatitis C.

There is a need to expand access to HIV pre-exposure prophylaxis to people who could benefit from this technology, continue to educate about the importance of barrier protection (condoms), and to strengthen prevention strategies for Aboriginal and Torres Strait Islander people.

Subsidised medication for people living with HIV in line with other states

Without treatment, human immunodeficiency virus (HIV) infection will usually result in acquired immune deficiency syndrome (AIDS). However, in Australia the HIV therapies introduced in the mid-1990s, which are available to all Australians living with HIV, have resulted in fewer AIDS related illnesses and deaths. Therefore, whilst a cure is yet to be found for HIV, it remains a lifelong infection. HIV in Australia is now considered a chronic manageable condition.

Promoting HIV treatment uptake, making access to treatment easier and supporting treatment adherence are key factors in achieving improved health outcomes for people living with HIV in Australia. Antiretroviral treatment (ART) inhibits immune destruction and inflammation associated with the development of cardiovascular disease, renal, hepatic, and neurological disease, malignancies and other serious non-AIDS diseases (DHHS Panel on Antiretroviral Guidelines for Adults and Adolescents, 2016). It also reduces the onward transmission of HIV.

If ART uptake and adherence levels are to be significantly improved, financial barriers to starting and staying on treatment need to be addressed. There is a compelling case in relation to public health, for the ACT Government to consider waiving ARV co-payments in the ACT for those with diagnosed HIV. This measure would reduce financial stress and improve treatment uptake and adherence as well as individual health outcomes. It would also reduce HIV transmission and long-term public health expenditure associated with further HIV-infected individuals.

There is a need for subsidised medication in the ACT for people living with HIV in line with other states in Australia. Currently in the ACT people living with HIV are required to pay a patient co-payment for their S100 Highly Specialised Drugs. From 2015, NSW residents who are patients of NSW public hospitals or authorized community prescribers in NSW, are not required to pay the patient co-payments for S100 Highly Specialised Drugs. If someone is living in NSW and being treated by a doctor in the ACT, they can still get prescriptions filled in NSW without paying the co-payment. The NSW Government made the commitment to pay co-payments for S100 Highly Specialised Drugs to help ease the financial burden for people with chronic conditions.

It is important to note that some people living with HIV are on several medications (not all have the one pill a day scenario) and in addition with the onset of other chronic conditions associated with HIV, they may have several medications which can be costly. The PBS Safety Net provides limited assistance to people with HIV, particularly those on low incomes (National Association of People with HIV Australia, 2014). Some individuals struggling with low incomes may decide not to start treatment, or to cease treatment because financially they are unable to sustain the co-payments.

Stigma and discrimination

HIV stigma refers to fear, prejudice, exclusion and discrimination towards people living with HIV, as well as their partners, friends, families and communities.

Stigma and discrimination are barriers to HIV testing and delay treatment uptake. There is continuing stigma and discrimination in relation to HIV which must be challenged (Ending HIV, 2015a).

HIV stigma is pervasive and still felt by many people living with HIV decades after the initial HIV epidemic. People living with HIV are still discriminated against on a daily basis. This adds to the stress, anxiety and despair experienced by many people living with HIV, and can also lead to challenges in the prevention of HIV transmission.

In terms of the effect of stigma on a person's health, people living with HIV may not seek treatment or delay going to a doctor due to real or perceived discrimination. Those who experience stigma are more likely to miss HIV check-ups and not adhere to their medication, which can increase viral load and lead to poorer health. In addition to this, fear of negative social reactions to a positive HIV test result can discourage people from getting tested and knowing their status. However, it is very important that every gay man or MSM knows his status by testing regularly, at least twice a year. This is important for an individual's own health, as well as helping to reduce onward transmission of the virus. People living with HIV may fear that disclosing their HIV status may bring partner rejection, limit sexual opportunities or increased risk of physical and sexual violence (Ending HIV, 2015a).

Priority Issues

Testing and treatment by GPs

About half of all people living with HIV in Australia are managed predominantly by GPs (Grierson et al., 2013). GPs play a vital role in HIV care, particularly in early diagnosis and support of patients to remain in long-term care. Early diagnosis of HIV infection is important so that patients can be offered timely monitoring and treatment to prevent immune suppression and resulting complications. As well as the individual benefits of early treatment, the reduced risk of transmission of HIV to sexual partners is an additional consideration. People living with HIV will require regular and consistent monitoring throughout their lives. Patient education, support and adherence to treatments should be encouraged and provided at every monitoring visit (ASHM, 2016b).

Many GPs have little or no contact with people living with HIV so the traditional model of referral to a specialist for HIV care is appropriate. There is evidence that many GPs have a poor knowledge of HIV testing and treatment (Barber et al., 2011).

In terms of treatment for HIV, antiretroviral treatment (ART) is classed as a 'section 100 Highly Specialised Drug' under the National Health Act, meaning there are restrictions on prescribing these medicines. ART can only be prescribed by tertiary consultants and GPs who are accredited and maintain their continuing professional development (CPD) in HIV. There is an HIV S100 Prescribers Course for GPs which runs over two days (ASHM, 2016c). For people with HIV who wish to maintain contact with their regular GP who is not a prescriber, there is often a shared care arrangement with doctors at the Canberra Sexual Health Centre (CSHC). If the person has a fully suppressed virus and healthy immune function, this may mean just having two visits with the Sexual Health Centre per year, with the GP possibly taking over pathology ordering and all other care. These GPs often have only one or two positive patients at any one time; they would be well supported by CSHC staff and ASHM. The CSHC actively encourages shared care as it stops the clinic from acting like a primary care service (Habel, 2017).

GPs also have a role in preventing HIV infection by encouraging condom use and advising new interventions such as pre-exposure prophylaxis (PrEP).

Strategy

- CHN to provide education and training to support GPs in HIV prevention, treatment and testing.
- Increase the options for testing across a wide variety of environments, including primary, tertiary, allied, community and peer led health care.

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