Could it be HIV? Using clinical indicator-guided HIV testing in general practice

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THE JOINT UNITED NATIONS PROGRAMME on HIV/AIDS (UNAIDS) vision of Getting to Zero is a strategic plan to achieve zero HIV infections, zero AIDS deaths and zero HIV/AIDS stigma.[1] To achieve this goal, the identification of all (or as close as possible to all) HIV infections in the community is required. This includes infections that are present but yet to be identified – the 'final 10%'.[1] This is consistent with Australian public health goals articulated in the *Eighth national HIV strategy 2018–2022*, soon to be replaced by the ninth national HIV strategy, to virtually eliminate HIV transmission in Australia within the life of these documents.[2] General practitioners (GPs) have an important role in identifying these patients to enable them to access treatment and to reduce onwards transmission. In addition to ensuring that HIV testing is part of routine sexually transmissible infection (STI) testing and the recognition of AIDS-defining illnesses, offering HIV testing in situations of clinical indicator conditions, medical conditions where testing for HIV is recommended, will increase the detection of cases.

In Australia in 2023, there were 722 new HIV diagnoses, representing a decline in notifications of 33% since 2014.[3] Three per cent of these notifications were among Aboriginal and Torres Strait Islander peoples. Most new diagnoses are attributed to male-to-male sex (63%). It is estimated that of the approximately 30,010 people living with HIV at the end of 2023, around 92% had received a diagnosis.[3] Of the estimated 8% who were yet to be diagnosed, some will be late diagnoses, representing missed opportunities for treatment and further prevention. Early diagnosis of HIV (at normal CD4+ count) is associated with reduced morbidity, mortality and hospitalisation.[4,5] Patients with a reduced CD4+ count (<350 cells/μL) are susceptible to developing clinical conditions associated with their impaired immune function. Late diagnosis (associated with reduced a CD4+ count) as a proportion of all HIV diagnoses is increasing in Australia.[3] A high proportion of late diagnoses were reported among people with heterosexual sex as an exposure risk (54%).[3]

Clinical indicator conditions

Clinical indicator conditions are medical conditions associated with a background prevalence of HIV of 0.1% or higher.[6] It has been established that it is cost-effective to test for HIV in these circumstances.[7] HIV testing in Australia is covered on the Medicare Benefits Schedule and, in 2024, the cost was around $15 per test.[8] Clinical indicator-driven testing is accepted best practice internationally.[6] Many patients with clinical indicators who are HIV positive will have had HIV for several years and might have previously presented to primary or tertiary care. Routine inclusion of HIV in a differential diagnosis for clinical indicator conditions in a systematised way will help normalise HIV testing and potentially find cases of HIV.

Practitioners might be familiar with AIDS-defining illnesses such as Kaposi sarcoma, oesophageal candidiasis and *Pneumocystis* pneumonia. Practitioners might be less conversant with clinical indicator conditions, which include a diverse range of conditions that might present to general practice. These include unexplained weight loss, chronic diarrhoea of unknown cause, unexplained thrombocytopenia, neutropenia or lymphopenia, dementia and multidermatomal or recurrent herpes zoster infection. The full list of clinical indicator conditions is presented in Table 1.[9]

HIV prevention: Getting to zero

In Australia, HIV prevention strategies have been very successful. In addition to public health messages around safer sex and injecting drug use, as well as increased HIV testing, pre-exposure prophylaxis (PrEP), postexposure prophylaxis (PEP) and HIV treatment as prevention have contributed to the declining HIV transmission rates.[10]

The scale-up of PrEP over the past five years has contributed significantly to the reductions in new HIV diagnoses.[11] PrEP was listed on the Pharmaceutical Benefits Scheme (PBS) on 1 April 2018, allowing any GP to

Table 1. Indicator conditions for HIV testing

	AIDS-defining conditions	Other conditions where HIV testing should be offered
Sexually transmissible infections		Gonorrhoea, chlamydia, hepatitis B, hepatitis C, syphilis or any other sexually transmissible infection
Respiratory infections	• Tuberculosis • Pneumocystis • Recurrent bacterial pneumonia	Aspergillosis
Neurological diseases	• Cerebral toxoplasmosis • Primary cerebral lymphoma • Cryptococcal meningitis • Progressive multifocal leukoencephalopathy	• Aseptic meningitis/encephalitis • Cerebral abscess • Space occupying lesion of unknown cause • Guillain–Barré syndrome • Transverse myelitis • Peripheral neuropathy • Dementia • Leukoencephalopathy
Dermatological diseases	Kaposi sarcoma	• Severe or recalcitrant seborrhoeic dermatitis • Severe or recalcitrant psoriasis • Multidermatomal or recurrent herpes zoster (shingles)
Gastroenterological diseases	• Persistent cryptosporidiosis • Oesophageal candidiasis	• Chronic oral candidiasis • Oral hairy leukoplakia • Chronic diarrhoea of unknown cause • Weight loss of unknown cause • Non-typhoidal salmonella (bacteraemia, osteomyelitis and septic arthritis), recurrent enteric salmonellosis, shigellosis or campylobacter • Hepatitis B infection • Hepatitis C infection
Oncology	Non-Hodgkin lymphoma	• Anal cancer or high-grade anal squamous intraepithelial lesion • Penile cancer • Seminoma • Human papillomavirus-related head and neck cancer • Hodgkin lymphoma • Castleman disease
Gynaecology	Cervical cancer	Vaginal, vulval or cervical or high-grade intraepithelial lesion
Haematology		Any unexplained blood dyscrasia including: • thrombocytopenia • neutropenia • lymphopenia
Ophthalmology	Cytomegalovirus retinitis	Infective retinal diseases including herpesviruses and toxoplasma
Ear, nose and throat		• Lymphadenopathy of unknown cause • Chronic parotitis • Lymphoepithelial parotid cysts
Other		• Mononucleosis-like syndrome (primary HIV infection) • Pyrexia of unknown origin • Any lymphadenopathy of unknown cause • Any sexually transmissible infection

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prescribe PrEP. As of 30 June 2023, 68,251 people had received PBS-subsidised PrEP at least once.[11] PEP can also be prescribed by GPs (but is not listed on the PBS).

HIV treatment with antiretroviral drugs is not only very effective in improving individual health and reducing mortality, but also reduces onward transmission. People using effective treatment with undetectable viral load, often one tablet a day, do not transmit infection to others: 'undetectable = untransmissible'. This is also referred to as TASP ('treatment as prevention').[10] All people living with HIV in Australia, regardless of Medicare status, have access to free antiretroviral medications (a dispensing fee might apply in some jurisdictions). Many GPs have undertaken specialist training (S100 HIV Prescriber training) to prescribe antiretroviral medications, which are S100 restricted medications.

HIV testing

HIV testing is routinely recommended whenever STI testing is indicated, as described in the Australian STI guidelines (a Royal Australian College of General Practitioners [RACGP] accepted clinical resource),[12] and as part of routine antenatal care. A full list of behavioural and epidemiological indicators for testing is available on the Australasian Society of HIV, Viral Hepatitis and Sexual Health Medicine (ASHM) HIV testing portal.[13] GPs are a crucial part of this initiative to increase testing outside of sexual health centres.

GPs face many pressures on their time, and this could potentially create barriers to HIV testing. Informed consent is required prior to taking the test, but not extensive pre-test counselling. ASHM advice is that verbal consent includes that the person understands the type of test, the reasons for testing and the potential implications of not being tested.

HIV testing in laboratories across Australia routinely uses a fourth-generation HIV antigen/antibody test and, if reactive, a confirmatory test will be automatically done by the laboratory. The test might be able to detect antigen/antibodies as early as 3–4 weeks from infection, but statistical confidence limits set to 99% for when a test would become positive would be 12 weeks.[13] In the case of a positive HIV result, it is usual practice for the laboratory to contact the ordering practitioner and to discuss the supports available for the clinician in their area.

The presence of clinical indicator condition(s) should prompt HIV testing in order to rule out HIV and encourage testing of patients based on clinical conditions rather than assumptions about risk. This helps overcome barriers that might prevent HIV testing, including:

- assumptions about an individual's risk ('I know my patient, I don't think they are at risk')
- embarrassment about discussing sexual history or recommending testing
- perceived time-consuming and complex consent requirements ('counselling').

Box 1 provides guidance on normalising HIV testing in general practice.

Conclusion

Clinical indicator-guided HIV testing is feasible and cost-effective. Awareness of clinical indicators should prompt GPs to consider HIV testing in a wider range of scenarios without the burden of enquiring about sexual or other exposure risks. This is in accordance with the Australian STI guidelines, a RACGP-accepted clinical resource. Most, if not all, of the tests GPs perform will be negative. In the case of a positive HIV test, diagnosis will enable linkage to care, timely treatment and the prevention of further transmission.

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Competing interests: LO is President-elect of the Australasian Chapter of Sexual Health Physicians, (RACP), previous past co-Vice President of the ASHM board, and is a member of a number of Australasian Society of HIV, Viral Hepatitis and Sexual Health Medicine (ASHM) working groups including nPEP guidelines, HIV training, and the congenital Syphilis working group. LO is currently working as a staff specialist (Sexual Health Physician) at the Sydney Sexual Health Centre. KM is the Immediate Past President of the Australasian Menopause Society.

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Box 1. HIV testing in general practice: Practical advice to normalise HIV testing

- A detailed sexual history is often not required initially and might deter the clinician from HIV testing (eg heterosexual women)
- Informed consent is required but need not be a lengthy process
- Suggested wording for clinicians could include:
  - 'You have been recently diagnosed with this condition (eg thrombocytopenia) and as part of the work-up we routinely should do HIV testing. Have you had HIV testing done before? Do you think you're at risk?'
  - 'It is routine practice to offer HIV testing to all patients with this condition'
  - 'I would advise that we do the test to rule out HIV'
  - 'If positive, it's treatable and I will be able to assist you'

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