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Do Nurse Practitioners Deliver? An Audit of Nurse Practitioner Care in Australia to People Living With HIV

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RESEARCH ARTICLE

Do Nurse Practitioners Deliver? A Retrospective Self-audit Comparing Nurse Practitioner Care for People With HIV in Australia to Screening and Monitoring Guidelines

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BUY SDC

Disclosure statement

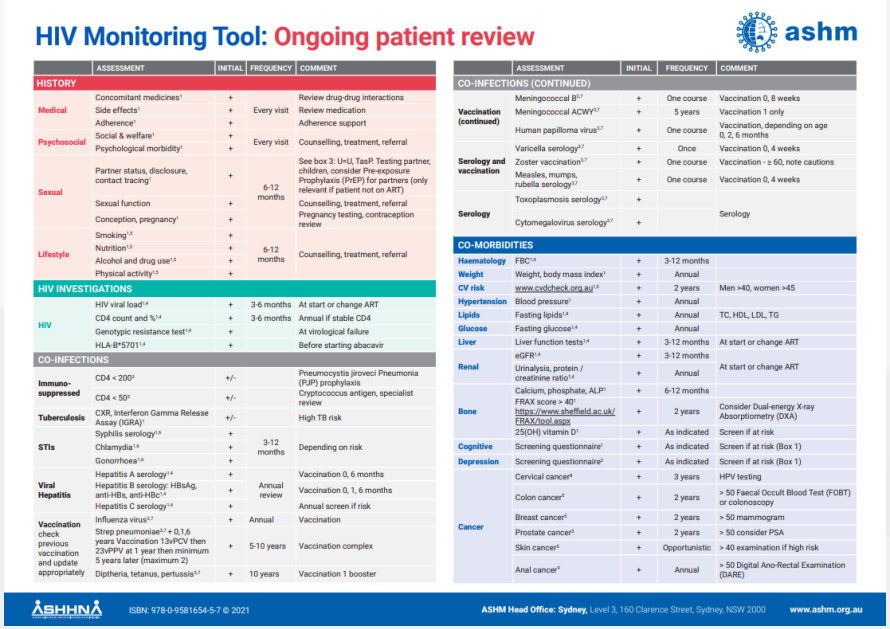
- I have no disclosures

Background

- Advances in HIV treatment and care have resulted in a shift towards a chronic disease model of HIV care
- Nurses have played a fundamental role in the HIV response in Australia since the 1980's, with nurse practitioners more recently
- Literature describing the role of nurse practitioners in HIV care is lacking in the Australian context
- Nurse practitioners have been able to prescribe s100 PBS subsidised antiretroviral therapy since 2020

Aim

To evaluate nurse practitioner HIV care in Australia by assessing adherence to national and international HIV monitoring guidelines



HIV Monitoring Tool: Ongoing patient review

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	ASSESSMENT	INITIAL	FREQUENCY	COMMENT
HISTORY				
Medical	Concomitant medicines[1]	+		Review drug-drug interactions
	Side effects[1]	+	Every visit	Review medication
	Adherence[1]	+		Adherence support
Psychosocial	Social & welfare[1]	+	Every visit	Counselling, treatment, referral
	Psychological morbidity[1]	+		
Sexual	Partner status, disclosure, contact tracing[1]	+	6-12 months	See box 3: U=U, TasP. Testing partner, children, consider Pre-exposure Prophylaxis (PrEP) for partners (only relevant if patient not on ART)
	Sexual function	+		Counselling, treatment, referral
	Conception, pregnancy[1]	+		Pregnancy testing, contraception review
Lifestyle	Smoking[1,5]	+	6-12 months	Counselling, treatment, referral
	Nutrition[1,5]	+		
	Alcohol and drug use[1,5]	+		
	Physical activity[1,5]	+		
HIV INVESTIGATIONS				
HIV	HIV viral load[1,4]	+	3-6 months	At start or change ART
	CD4 count and %[1,4]	+	3-6 months	Annual if stable CD4
	Genotypic resistance test[1,4]	+		At virological failure
	HLA-B*5701[1,4]	+		Before starting abacavir
CO-INFECTIONS				
Immuno-suppressed	CD4 < 200[1]	+/-		Pneumocystis jiroveci Pneumonia (PJP) prophylaxis
	CD4 < 50[1]	+/-		Cryptococcus antigen, specialist review
Tuberculosis	CXR, Interferon Gamma Release Assay (IGRA)[1]	+/-		High TB risk
STIs	Syphilis serology[1,6]	+	3-12 months	Depending on risk
	Chlamydia[1,6]	+		
	Gonorrhoea[1,6]	+		
Viral Hepatitis	Hepatitis A serology[1,4]	+	Annual review	Vaccination 0, 6 months
	Hepatitis B serology: HBsAg, anti-HBs, anti-HBc[1,4]	+		Vaccination 0, 1, 6 months
	Hepatitis C serology[1,4]	+		Annual screen if risk
Vaccination check previous vaccination and update appropriately	Influenza virus[1,7]	+	Annual	Vaccination
	Strep pneumoniae[5,7] + 0,1,6 years Vaccination 13vPCV then 23vPPV at 1 year then minimum 5 years later (maximum 2)	+	5-10 years	Vaccination complex
	Diptheria, tetanus, pertussis[5,7]	+	10 years	Vaccination 1 booster

	ASSESSMENT	INITIAL	FREQUENCY	COMMENT
CO-INFECTIONS (CONTINUED)				
Vaccination (continued)	Meningococcal B[5,7]	+	One course	Vaccination 0, 8 weeks
	Meningococcal ACWY[5,7]	+	5 years	Vaccination 1 only
	Human papilloma virus[5,7]	+	One course	Vaccination, depending on age 0, 2, 6 months
	Varicella serology[5,7]	+	Once	Vaccination 0, 4 weeks
Serology and vaccination	Zoster vaccination[5,7]	+	One course	Vaccination - ≥ 60, note cautions
	Measles, mumps, rubella serology[5,7]	+	One course	Vaccination 0, 4 weeks
Serology	Toxoplasmosis serology[5,7]	+		Serology
	Cytomegalovirus serology[5,7]	+		
CO-MORBIDITIES				
Haematology	FBC[1,4]	+	3-12 months	
Weight	Weight, body mass index[1]	+	Annual	
CV risk	www.cvdcheck.org.au[1,5]	+	2 years	Men >40, women >45
Hypertension	Blood pressure[1]	+	Annual	
Lipids	Fasting lipids[1,4]	+	Annual	TC, HDL, LDL, TG
Glucose	Fasting glucose[1,4]	+	Annual	
Liver	Liver function tests[1,4]	+	3-12 months	At start or change ART
Renal	eGFR[1,4]	+	3-12 months	At start or change ART
	Urinalysis, protein / creatinine ratio[1,4]	+	Annual	
Bone	Calcium, phosphate, ALP[1]	+	6-12 months	
	FRAX score > 40[1] https://www.sheffield.ac.uk/FRAX/tool.aspx	+	2 years	Consider Dual-energy X-ray Absorptiometry (DXA)
	25(OH) vitamin D[1]	+	As indicated	Screen if at risk
Cognitive	Screening questionnaire[2]	+	As indicated	Screen if at risk (Box 1)
Depression	Screening questionnaire[2]	+	As indicated	Screen if at risk (Box 1)
Cancer	Cervical cancer[4]	+	3 years	HPV testing
	Colon cancer[5]	+	2 years	> 50 Faecal Occult Blood Test (FOBT) or colonoscopy
	Breast cancer[5]	+	2 years	> 50 mammogram
	Prostate cancer[5]	+	2 years	> 50 consider PSA
	Skin cancer[6]	+	Opportunistic	> 40 examination if high risk
	Anal cancer[9]	+	Annual	> 50 Digital Ano-Rectal Examination (DARE)

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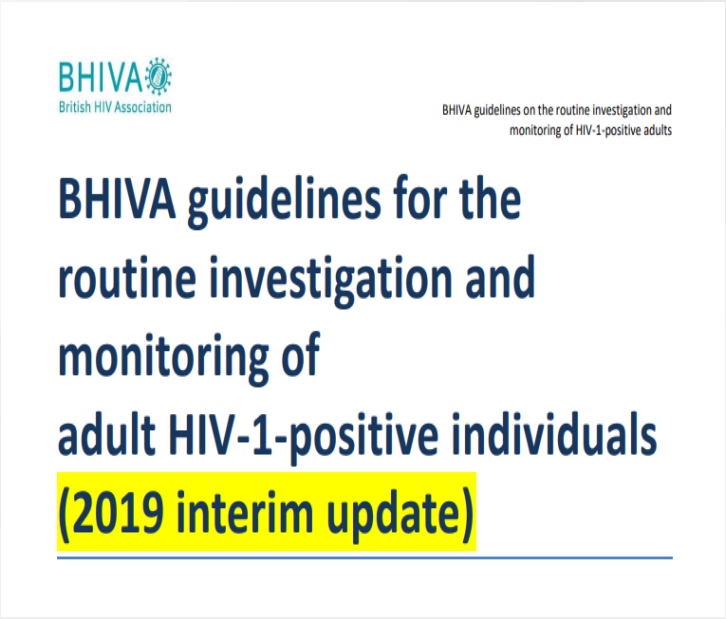

BHIVA British HIV Association

BHIVA guidelines on the routine investigation and monitoring of HIV-1-positive adults

BHIVA guidelines for the routine investigation and monitoring of adult HIV-1-positive individuals (2019 interim update)

Methods

- 5 nurse practitioners providing care to PLHIV at publicly funded hospitals or sexual health services were invited to participate in audit
- Audit tool developed including parameters that were routine at all or most sites
- Each nurse practitioner performed a retrospective self-audit on each episode of care for PLHIV over an 18-month period from 01/01/2021 – 30/06/2022
- Deidentified data were collected, pooled and then compared to recommendations for monitoring and screening using the ASHM HIV Monitoring Tool and BHIVA guideline
- Ethics approval granted from each study site

Results: Demographics

Demographics N=212		n (%)
Gender	Male Female Trans and Gender Diverse	183 (86%) 26 (12%) 3 (2%)
Sexual orientation	Gay Heterosexual Bisexual	138 (66%) 58 (27%) 16 (7%)
Age	20- 39 years 40- 49 years >50 years	73 (35%) 55 (26%) 84 (39%)
Aboriginal or Torres Strait Islander		6 (3%)
Region of Birth	Australia Southeast Asia Africa Western Pacific Other (Eu, E/Eu, Americas)	144 (68%) 24 (11%) 19 (9%) 13 (6%) 12 (6%)
Time since HIV diagnosis	< 5 years 5- 10 years >10 years	62 (29%) 60 (28%) 90 (43%)

Results: HIV treatment & surrogate markers

NP audit monitoring parameters	ASHM HIV Monitoring Tool recommendation	n (%) of NP audit met ASHM recommendation	BHIVA Auditable target
Prescribed appropriate ART	Start when patient ready, review adherence each visit	201 (95%)	-
HIV viral load	Initial, 3-6 monthly, switch	211 (99%)	80% within 6 weeks ART/ 90% established ART within 9-15 months
CD4 count	Initial, 3-6 monthly, annual if stable	206 (97%)	-
HIV genotype	Initial, virological failure	210 (99%)	97% new dx within 3 months

Results: Comorbidity screen

NP audit monitoring parameters	ASHM HIV Monitoring Tool recommendation	n (%) of NP audit met ASHM recommendation	BHIVA Auditable target
Lipid screening (TC, LDL, HDL, trig)	Initial, annual	199 (94%)	-
Blood pressure	Initial, annual	184 eligible 158 (86%)	90% within 15 months
Weight	Initial, annual	166 (78%)	-
10-year CVD risk assessment	Initial, 2 yearly Men>40, Women>45	138 eligible 84 (60%)	90% within 1 year initial or 3 years established
Renal screening (eGFR, urine protein screen)	Initial, 3-12 monthly, at start/ change of ART	211 (99%)	-
Bone FRAX score	Initial, 2 yearly all >40	139 eligible 82 (59%)	-
Cognitive screen	Initial, as indicated	111 eligible 52 (25%)	-

Results: Cancer screen, STI screen

NP audit monitoring parameters	ASHM HIV Monitoring Tool recommendation	n (%) of NP audit met ASHM recommendation	BHIVA Auditable target
Cervical cancer- Cervical Screening Test (CST)	Initial, then 3 yearly for people with a cervix 25- 74 years	26 eligible 19 (73%) CST attended to/ up to date screen	-
Anal cancer- Digital Anal Rectal Exam (DARE)	Initial, then annual > 50 years	84 eligible 44 (52%) DARE attended to/ up to date screen	-
Sexually transmissible infections (CT, NG, syphilis)	Initial, 3-12 monthly depending on risk	147 eligible 141 (97%)	-

Limitations

- Peer audit unfeasible due to small number, geographical distribution of nurse practitioners
- Audit not blinded, with potential information bias in self-collection and interpretation of data
- Documentation and methods of assessment were not standardised

- Different service models and individual scopes of practice resulted in disparity in clinical assessments and preventative cancer screening

- COVID-19 restrictions during audit period

Conclusion

- Clinical audit is a valuable tool to promote reflective practice, identify practice gaps and improve care
- Nurse practitioner adherence to monitoring guidelines met targets in most areas with areas for improvement clearly identified
- Nurse practitioner scope of practice in this area should be expanded to ensure all aspects of screening can be performed, including cervical and anal cancer screening
- These data demonstrates that nurse practitioners are safe and effective providers of HIV outpatient care and adds to literature supporting nurse practitioner practice within Australia

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- Donna Tilley, Nurse Practitioner, formerly Western Sydney Sexual Health Centre
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- El Thompson, Nurse Practitioner, Sexual Health Service Tasmania

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- ASHM

- I would like to acknowledge and thank all people living with HIV who have participated in clinical research and shared their lived experience of HIV over the past 40 years, without this enormous contribution we would not be where we are today

Results: Coinfections

NP audit monitoring parameters	ASHM HIV Monitoring Tool recommendation	n (%) of NP audit met ASHM recommendation	BHIVA Auditable target
Tuberculosis	+/- Initial, or if high TB risk	142 eligible 142 (100%)	-
Sexually transmissible infections (CT, NG, syphilis)	Initial, 3-12 monthly depending on risk	147 eligible 141 (97%)	-
Hepatitis B Hepatitis C	Initial, immunise, annual review Initial, annual screen if at risk	179 (84%) immune 167 (79%)	-

Results: Lifestyle & Psychosocial

NP audit monitoring parameters	ASHM HIV Monitoring Tool recommendation	n (%) of NP audit met ASHM recommendation	BHIVA Auditable target
Smoking status	Initial, 6-12 monthly	186 (88%)	90% within 2 years
Alcohol use	Initial, 6-12 monthly	180 (85%)	-
Injection drug use status	Initial, 6-12 monthly	196 (92%)	-
Nutrition assessment	Initial, 6-12 monthly	141 (67%)	-
Physical activity	Initial, 6-12 monthly	159 (75%)	-