Review of HIV testing recommendations in Australian specialty guidelines for HIV indicator conditions: A missed opportunity for recommending testing?



ASHM HIV Conference, Sydney 2018 Yi dan Lin, Laura Eades, Ajit Nair, Tony Korman and Ian Woolley



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Disclosure of Interest

None

Background: increased diagnosis makes the biggest impact on treatment targets



https://sciencespeaksblog.org/2014/10/08/90-90-90-chris-collins-of-unaids-breaks-down-the-math-and-the-meaning/



- 1. Increase testing in those engaged in care (STIGMA)
- 2. Increase testing in high risk populations through greater access (self testing)
- 3. Increase testing in indicator conditions (EACS)
- 4. Universal testing (US)

HIV indicator-based testing

- Since 2008, European AIDS Clinical Society (EACS)¹ and British HIV association (BHIVA) have recommended for HIV indicator condition-based testing.² ASHM also recommends in guidelines.³
- Routine testing for conditions with a HIV prevalence > 0.1% reported to be cost-effective¹
- Does not require identification of high risk group by clinician or patient
- Normalises HIV testing and decreases stigma
- Partly based on symptoms partly on conditions associated with risk

HIV in Europe, accessed at <u>http://hiveurope.eu/Portals/0/Guidance.pdf.pdf</u>, 2012
 BHIVA, accessed at <u>http://biva.org/HIV-testing-guidelines.aspx</u>, 2008
 ASHM. National HIV Testing Policy 2017

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Penicilliosis, disseminated

2b. Other conditions considered likely to have an undiagnosed HIV prevalence of >0.1%

	Primary lung cancer
	 Lymphocytic meningitis
	 Oral hairy leukoplakia
	Severe or atypical psoriasis
	Guillain–Barré syndrome
	Mononeuritis
•	Subcortical dementia
Ĩ	Multiplesclerosis-like disease
1	Peripheral neuropathy
st	Unexplained weightloss
2	Unexplained lymphadenopathy
	Unexplained oral candidiasis
	Unexplained chronic diarrhoea
	Unexplained chronic renal impairment
	Henatitis A
	· Community acquired pnoumonia

HIV in Europe, accessed at http://hiveurope.eu/Portals/0/Guidance.pdf.pdf, 2012

Candidiasis

3. Conditions where not identifying the presence of HIV infection may have significant adverse implications for the individual's clinical management despite that the estimated prevalence of HIV is most likely lower than 0.1%

- Conditions requiring aggressive immuno-suppressive therapy:
- Cancer

Offer testing

- Cancer
 Transplantation
 Auto-immune disease treated with immunosuppressive therapy
 Primary space occupying lesion of the brain.
 Idiopatic/Thrombotic thrombocytopenic purpura





Background to this study

- High prevalence of HIV indicator conditions in late presenting patients with HIV at Monash Health between 2000 and 2014
- Of 80 patients with late presentation of HIV infection,
 - 54 (55%) had at least one,
 - 29 (36%) at least two,
 - 12 (15%) at least three and
 - 5 (6%) had four or more previous HIV indicator conditions which would have triggered HIV testing according to guidelines. (Lin YD ASHM 2017, QJM in press)
- 30/52 patients with gonococcus HIV testing not recorded (Loo LS unpublished)

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- Would this have been a useful strategy to increase HIV diagnoses?
- Unlikely the sole reason for missed testing

HIV MEDICINE BHIVA

Short communication 🛛 🖄 Open Access 🛛 😨 🚺

Evaluation of HIV testing recommendations in specialty guidelines for the management of HIV indicator conditions

E Lord 🗙. AJ Stockdale, R Malek, C Rae, I Sperle, D Raben, A Freedman, D Churchill, J Lundgren, AK Sullivan, on behalf of ... See all authors $\,\,{\sim}\,\,$

First published: 18 August 2016 | https://doi.org/10.1111/hiv.12430 | Cited by: 2

Results

We identified guidelines for 12 of 25 ADCs (48%) and 36 of 49 (73%) ICs. In total, 78 guidelines were reviewed (range 0–13 per condition). HIV testing was recommended in six of 17 ADC guidelines (35%) and 24 of 61 IC guidelines (39%). At least one guideline recommended HIV testing for six of 25 ADCs (24%) and 16 of 49 ICs (33%). There was no association between recommendation to test and publication year (P = 0.62).

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Method

- EACS guidelines reviewed to produce list of AIDS-defining conditions (ADCs) and indicator conditions (IC) where HIV prevalence > 0.1%, and ICs where HIV non-diagnosis would have adverse effect on patient's management (such as autoimmune conditions requiring immunosuppressive therapy)
- Australian guidelines for these conditions identified from searches of websites of specialty societies, electronic Therapeutic Guidelines (eTG), National Health and Medical Research Council (NHMRC), state governments, MEDLINE and Google searches
- 3. We identified 8 key ICs that were part of the HIDES I study which were sexually transmitted infections, malignancy or lymphoma, cervical or anal cancer or dysplasia, herpes zoster, chronic viral hepatitis (B or C), mononucleosis like illness, unexplained leucopenia or thrombocytopenia, and seborrheic dermatitis or exanthema



Method

- 4. Guidelines were reviewed and classified according to whether
 - a) HIV was mentioned
 - b) HIV was mentioned but not testing
 - c) HIV and testing for HIV was mentioned
- 5. In addition, because sometimes US and other North American guidelines are used as a default in Australia we reviewed these with respect to the indicator conditions. The US guidelines, written in a setting with a somewhat higher prevalence HIV, provide a contrast also to Australian guidelines

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Method



Hepatitis B and HIV co-infection

Patients with <u>HIV infection</u> have a higher prevalence of HBV infection than the general population. HBV–HIV coinfection results in faster progression of liver fibrosis, with a higher rate of liver-related complications (such as HCC and liver failure). Liver disease is a significant cause of morbidity and mortality even in patients whose HIV infection is well controlled on antiretroviral therapy. Management can be complicated by immune reconstitution inflammatory syndrome and hepatotoxicity from antiretroviral drugs.

Chronic hepatitis C

The patient's current personal and social circumstances and their wishes about HCV treatment should be established. Additionally, the following tests and investigations should be performed:

- full blood count, electrolytes/urea/creatinine (EUC) and international normalised ratio (INR)
- liver biochemistry
- blood glucose
- HCV RNA and genotype (testing is Medicare rebatable and can be requested by general practitioners), or provide documentation of previous results
- upper abdominal ultrasound
- serology for HIV, hepatitis A virus (HAV) and hepatitis B virus (HBV) [Note 5].



Method

Respiratory/pulmon	iology			
Tuberculosis	Therapeutic Guidelines - antibiotic	Yes	"Before starting therapy for TB, ascertain the HIV status	https://tgldcdp.tg.org.au.acs.hcn.com.au/viewTopic?topicfile=mycobacterial- infections&guidelineName=Antibiotic#toc_d1e150
			of all patients"	
	Queensland	Yes	Co-infection with HIV greatly	https://www.health.qld.gov.au/ data/assets/pdf_file/0029/444566/tb-guideline-
	Department of Health		influences the prognosis of	treatment.pdf
	guidelines		tuberculosis and has a	
			significant bearing on	
			treatment and monitoring. All	
			TB patients should be	
			screened for HIV.	
	Victorian Department	Yes	Therefore, all patients with	https://www.thermh.org.au/sites/default/files/media/documents/Management%2C
	of Health Guidelines		newly diagnosed TB should	%20control%20and%20prevention%20of%20tuberculosis%20-
			be asked about HIV risk	%20Guidelines%20for%20health%20care%20providers%20-%202015.pdf
			factors, and should be	
			advised to undergo HIV	
			testing after appropriate pre-	
			test discussion.	
	IDSA Guidelines	Yes	HIV screening listed in	https://academic.oup.com/cid/article/63/7/e147/2196792
			baseline work-up for all TB	
			patients	
nin	Thorppoutic	Ma	Montions DID prophyloxis in	https://teldedo.te.org.pu.pes.hep.com.pu/viowTonicRonicRonoumonia

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Results

Specialty	Number of HIV indicator conditions	Condition s with Aus guideline, n (%)	Aus guidelines which don't mention HIV, n (%)	Aus guidelines which mention HIV but don't advise testing, n (%)	Aus guidelines which advise HIV testing, n (%)	Conditions with US guideline, n (%)	US guidelines which don't mention HIV, n (%)	US guidelines which mention HIV but don't advise testing, n (%)	US guidelines which advise HIV testing, n (%)
Resp	8	5 (63%)	1 (20%)	3 (60%)	1 (20%)	5 (63%)	2 (40%)	2 (40%)	1 (20%)
Neuro	10	4 (40%)	3 (75%)	1 (25%)	0 (0%)	3 (30%)	2 (67%)	0 (0%)	1 (1%)
Derm/genitourinar y	10	7 (70%)	3 (43%)	3 (43%)	1 (14%)	7 (70%)	4 (57%)	1 (14%)	2 (29%)
Gastrointestinal	7	7 (100%)	1 (14%)	5 (71%)	1 (14%)	6 (86%)	0 (0%)	4 (57%)	2 (29%)
Oncology	5	2 (40%)	1 (50%)	0 (0%)	1 (50%)	4 (80%)	1 (25%)	0 (0%)	3 (75%)
0+G	6	4 (67%)	1 (25%)	1 (25%)	2 (50%)	3 (50%)	1 (33%)	0 (0%)	2 (67%)
Dental/ENT	5	2 (40%)	0	2 (40%)	0	2 (40%)	0	2 (100%)	0
Haem	5	2 (40%)	0	0	2 (100%)	2 (40%)	0	1 (50%)	1 (50%)
ID	25	15 (60%)	3 (12%)	8 (32%)	4 (16%)	13 (52%)	1 (4%)	6 (24%)	6 (24%)
Opthal	L _i	1 (100%)	0	1 (100%)	0	0	0	0	0
Renal	1	1 (100%)	0	0	1 (100%)	1 (100%)	1 (100%)	0	0
Rheum	1	1 (100%)	0	0	1 (100%)	1 (100%)	1 (100%)	0	0
Total	84	51 (60%)	13 (25%)	24 (47%)	14 (27%)	47 (56%)	13 (28%)	16 (34%)	18 (38%)
Table 1: Guide	elines by Spe	ecialty				•			

Results

	Number of Australian guidelines identified (% of total number of conditions)	Association with HIV mentioned n (% of conditions with guideline available)	HIV testing recommended n (% of conditions with guideline available)	Number of US guidelines identified (% of total number of conditions)	Association with HIV mentioned n (% of conditions with guideline available)	HIV testing recommended n (% of conditions with guideline available)
All conditions	51/84 (61%)	24/51 (47%)	14/51 (27%)	46/84 (55%)	15/46 (33%)	18/46 (39%)
AIDS-defining conditions	25/84 (30%)	18/25 (72%)	5/25 (20%)	26/84 (31%)	12/26 (46%)	10/26 (38%)
Indicator conditions with HIV prevalence (proven or	25/84 (30%)	6/25 (24%)	8/25 (32%)	18/84 (21%)	3/18 (17%)	7/18 (39%)
likely) of 0.1%		0 (4 (00))	4 (4 (4 000))	0 (0 ((00))	0 (0 (00))	4 (D. (500))
Other ^A	1/84 (1%)	0/1(0%)	1/1 (100%)	2/84 (2%)	0/2 (0%)	1/2 (50%)
Source of guideline						
- eTG*	38/51 (75%)	21/38 (55%)	6/38 (16%)			
 Specialty society 	5/51 (10%)	1/5 (20%)	2/5 (40%)			
 Other[#] 	8/51 (16%)	1/8 (13%)	6/8 (75%)			

Table 2: Guidelines by source

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Guidelines for key indicator conditions	Number of Australian guidelines identified (% of total number of	Association with HIV mentioned n (% of conditions with guideline available)	HIV testing recommended n (% of conditions with guideline available)	Number of US guidelines identified (% of total number of conditions)	Association with HIV mentioned n (% of conditions with guideline available)	HIV testing recommended n (% of conditions with guideline available)
Total	23/23 (100%)	21/23 (91%)	10 /23 (43%)	23 /23 (100%)	19 /23 (82%)	14/23 (61%)
Sexually transmitted infections	10 /23 (43%)	9 /10 (90%)	5 (50%)	8 /23 (35%)	7/8 (88%)	5 (63%)
Malignancy or lymphoma	5/23 (22%)	4 /5 (80%)	3 (60%)	7/23 (30%)	5/7 (71%)	5/7 (71%)
Cervical or anal cancer/dysplasia	1/23 (4%)	1/1 (100%)	0	3/23 (13%)	2/3 (67%)	2/3 (67%)
Herpes zoster	2 /23 (9%)	2/2 (100%)	0	1/23 (4%)	0	0
HBV or HCV (acute or chronic)	4/23 (17%)	4/4 (100%)	2 (50%)	4 /23 (17%)	4/4 (100%)	2/4 (50%)
Mononucleosis-like illness	0	0	0	0	0	0
Unexplained leucocytopenia, thrombocytopenia (>4wks)	0	0	0	0	0	0
Seborrheic dermatitis/exanthema	1/23 (4%)	0	0	0	0	0
T · · · · · · ·						

Table 3: Guidelines by key indicator condition

Results Summary

- 51 ADCs and ICs had Australian guidelines
- 24/51(47%) mention association with HIV and 14/51 (27%) recommend HIV testing
- 23/51(45%) Australian guidelines for ADCs:17/23(74%) mention association with HIV and 4/23(17%) recommend testing
- 27/52 (53%) were guidelines ICs with HIV prevalence (proven or likely) of 0.1%: 7/27 (26%) mention HIV association and 9/27 (33%) recommend HIV testing
- 2/8 (25%) key ICs had no Australian guidelines and 3/8 (38%) do not mention HIV association or recommend HIV testing

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Conclusion

Results limited by lack of clear methodology for finding and assessing national guidelines

Although almost half the guidelines for ADCs and ICs mention HIV association, only 27% specifically recommend HIV testing

Partnership with guideline development and specialist groups may be useful to ensure patients diagnosed with ADC/ICs are tested for HIV

Thanks! Questions?

- Yi dan Lin
- Laura Eades
- Ajit Nair
- Jillian Lau
- Leong Shooen Loo
- Sarah Garner
- Jackie Williams
- Kathy Cisera
- Chris Kiss
- Tony Korman
- Tina Ko
- Sheetal Despande



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Background

- 39 per cent of new HIV diagnoses had a CD4 count of less than 350
- Late diagnosis is associated with increased HIVrelated morbidity and mortality and health care costs e.g. hospitalisations
- Significant public health importance
 - 10–20 per cent of Australians living with HIV have not been diagnosed

Department of Health, National HIV Strategy, 2014

Sullivan et Al.

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HIV Indicator diseases across

		HIV test	<u>HIV +</u>	Prevale	ence (95%CI)
	Total	3588	66	1.84	(1.42-2.34)
	STI	764	31	4.06	(2.78-5.71)
	Malignant lymphoma	344	1	0.29	(0.01-1.61)
	Cervical or anal dysplasia	542	2	0.37	(0.04-1.32)
	Herpes Zoster <65yo	207	6	2.89	(1.07-6.21)
	Hepatitis B/C	1099	4	0.36	(0.10-0.93)
	On-going mononucleosis-like illness	441	17	3.85	(2.26-6.10)
	Leuko/thrombocytopaenia	94	3	3.19	(0.66-9.04)
	Seborrheic dermatitis/exanthema	97	2	2.06	(0.25-7.24)
P	LoS ONE, 2013, Volume 8, Issue 1, e52845				Monash Health

HIDES | Study

- Median CD4 (n=35/66): 400 cells/uL (11-675)
- 11% hospitalized 71% of those with AIDS or infection
- 20% had potentially HIV-related presentations in the prior years
 - 23% had more than one presentation

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Sullivan et Al. PLoS ONE, January 2013, Volume 8, Issue 1, e52845

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Demographics

Table 1. Demographics of Late Presenters compared with rest of HIV cohort							
	Late Presenters (n=82) Control (n=354) p-value						
Age (years)	45 (9-85)	39 (0-82)	0.05				
Sex			0.11				
Male	68 (83%)	264 (75)					
Female	14 (17%)	90 (25)					
Born overseas	50 (61%)	207 (58%)	p=0.68				
Heterosexual transmission	42 (51%)	109 (31%)	p<0.001				

Gamer et al, The International Union against Sexually Transmitted Infections (IUSTI) Conference poster, 2016 MonashHealth

Table 2: Prevalence of EACS HIV Indicator Conditions						
EACS HIV Indicator Conditions	Number (n=80)	%				
Opportunistic infections	5	6.3				
Prevalence in undiagnosed PLHIV > 0.1%	42	52.5				
Condition where non-diagnosis significantly impacts management •	2	2.5				
Number of Indicator Conditions						
at least 1	44	55.0				
at least 2	29	36.3				
at least 3	12	15.0				
4 or more	5	6.3				
Time between indicator condition to HIV diagnosis						
at least 3 months	33	41.3				
at least 12 months	20	25.0				
Presence of indicator condition by Year of HIV Diagnosis						
2000-2007	21	26.3				
2008-2014	23	28.8				

Conditions requiring aggressive immuno-suppressive therapy e.g. cancer, transplantation

• Primary space occupying lesion of the brain. • Idiopatic/Thrombotic thrombocytopenic purpura

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Table 3: Prevalence of specific HIV Indicator Conditions					
HIV indicator conditions	N	%			
Unxplained loss of weight	25	31.3			
Herpes zoster	8	10			
Thrombocytopenia/leukopenia	8	10			
Candidiasis (oral or oesophageal)	8	10			
Community acquired pneumonia	7	8.8			
Fevers/night sweats	6	7.5			
Viral hepatitis	6	7.5			
Diarrhoea	5	6.3			
Lymphadenopathy	4	5			
Mononucleosis like illness	3	3.8			
Sexually transmitted infection	3	3.8			
Psoriasis/seborrhoeic dermatitis	2	2.5			
Peripheral neuropathy	2	2.5			
Cervical dysplasia	1	1.3			

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