

Increasing the reach and effectiveness of HIV testing: outcomes of online registration for the NSW DBS pilot study - a client-centred alternative to traditional health care

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Background: Barriers to HIV testing for some populations continue to exist including stigma and discrimination, remote location, and service delivery impacts (eg COVID-19 pandemic). Dried blood spot (DBS) sampling can mitigate these issues by offering testing outside of traditional healthcare settings, but more research is needed to evaluate the feasibility of large scale implementation of DBS. This study aims to evaluate the implementation of a state-wide DBS HIV and HCV testing pilot.

Methods: The New South Wales (NSW) DBS Pilot is an interventional cohort study of people testing for HIV antibody and/or HCV RNA in NSW, Australia. Participants at risk of HIV/HCV participated in testing via: 1) online self-registration with a DBS collection kit delivered and returned by conventional postal service; or 2) assisted DBS sample collection at 36 community health sites and 21 prisons. Participants received results by text (negative) or by phone from the Sexual Health Infolink service (positive). The RE-AIM framework was used to evaluate reach, effectiveness, and implementation of HIV testing in the pilot.

Results: Reach: Between November 2016 and December 2020, 6,922 individuals were tested for HIV (78% men, 28% Aboriginal, 19% men who have sex with men, 21% born outside Australia): 22% self-registration, 35% assisted in community, and 43% assisted in prison. Effectiveness: Overall, 51% (3521/6922) had no HIV test in the past two years. Proportion newly diagnosed with HIV was 0.001% (9/6922) overall, but varied by setting: online self-registration 0.5% (8/1551), assisted in community 0% (0/2401), assisted in prison 0.0003% (1/2970). Among men who have sex with men tested in the pilot, 0.6% (8/1323) were newly diagnosed with HIV. Of 9 people newly diagnosed, 8 initiated HIV treatment within six months. Implementation: By the end of 2020, DBS testing was available in 36 community sites and 21 prisons.

Conclusions: This study demonstrates the feasibility of DBS as a testing option for HIV in key populations including men who have sex men, people in rural locations, infrequent or naïve testers, and Aboriginal people.

Disclosure of Interest Statement: JG is a consultant/advisor and has received research grants from AbbVie, Camurus, Cepheid, Gilead, Hologic, Indivior, and Merck outside the submitted work. PK has received a financial award and speakers fees from Gilead.

Table 1 – Characteristics of people newly diagnosed with HIV and treatment initiation within six months

Variables	Total people tested for HIV		New diagnosis		Initiated treatment within 6 months	
	N	%	n	% of people tested	n	% of new diagnoses
Total	6922		9	0.001%	8	89%
Registration type						
Online	1551	22%	8	0.5%	7	88%
Assisted (community)	2401	35%	0	0.0%	0	-
Assisted (prison)	2970	43%	1	0.0003%	1	100%
Test performed						
HIV + hepatitis C	5481	79%	3	0.1%	3	100%
Hepatitis C only	1441	21%	6	0.4%	5	83%
Gender, n (%)						
Men	5365	78%	9	0.2%	8	89%
Women	1491	22%	0	0.0%	0	-
Non-binary/ other	66	1%	0	0.0%	0	-
Age						
=<25	1138	16%	1	0.1%	1	100%
25-34	2158	31%	6	0.3%	5	83%
35-44	1851	27%	2	0.1%	2	100%
45-54	1195	17%	0	0.0%	0	-
>55	580	8%	0	0.0%	0	-
Aboriginal and/or Torres Strait Islander						
No	4953	72%	7	0.1%	6	86%
Yes	1969	28%	2	0.1%	2	100%
Major city postcode						
No	876	13%	3	0.3%	2	67%
Yes	6046	87%	6	0.1%	6	100%
Men who have sex with men						
No	5599	81%	1	0.0001%	1	100%
Yes	1323	19%	8	0.6%	7	88%
Born outside of Australia						
No	5482	79%	5	0.1%	5	100%
Yes, Asia or Africa	741	11%	2	0.3%	1	50%
Yes, other	699	10%	2	0.3%	2	100%
Speaks English at home						
No	788	11%	2	0.3%	1	50%
Yes	6134	89%	7	0.1%	7	100%
Recently injected drugs						
No	3477	50%	8	0.2%	7	88%
Yes	3203	46%	1	0.0003%	1	100%
Prefer not to say	240	3%	0	0.0%	0	-