National survey of HIV and hepatitis testing and vaccination services provided by drug and alcohol agencies in Australia

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ABSTRACT

Objectives: To identify the prevalence of blood-borne viruses (BBVs) testing, counselling and vaccination services by drug and alcohol services for injecting drug users in Australia.

Design, setting and participants: Cross-sectional survey of drug and alcohol agencies throughout Australia.

Outcome measures: Current availability of testing, counselling and vaccination services for hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV; availability of medical coverage; and barriers to greater provision of services.

Results: Survey responses were provided by 222 agencies nationally (61% response rate). About three-quarters of agencies provided some access to HIV, HBV, and HCV testing and HBV vaccinations, but only a third offered these services routinely on site. HBV vaccination availability differed depending on the primary function of the agency, with drug dependence units and needle and syringe programs more likely to provide vaccination on site. The major barriers preventing agencies from providing routine on-site BBV services are lack of access to medical staff and trained personnel; the cost of providing these services; and a lack of facilities.

Conclusions: The restricted provision of BBV services represents missed opportunities to reduce individual and community morbidity and to maximise the potential savings from preventable disease in relation to HBV infection. To address key barriers and patient retention issues, it is necessary to expand the role of non-medical staff, increase the use of shorter HBV vaccination schedules, and identify and maintain local clinical partnerships between public and private service providers.

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Transmission of blood-borne viruses (BBVs) among injecting drug users (IDUs) in Australia remains a significant public health challenge. Surveys of IDUs in Australia suggest seroprevalence rates of 50%–60% for hepatitis C virus (HCV),[1-4] 23%–52% for hepatitis B virus (HBV),[2,3,5] and 1%–3% for HIV.[1-4,6] The low HIV prevalence has been maintained since the 1980s, in part due to the early introduction of harm reduction programs (sterile needle and syringe and methadone maintenance programs).[6,7] However, because of higher virulence, both HBV and HCV continue to spread rapidly even among IDUs accessing these programs.[8]

In response to this continuing high prevalence of transmission, national health organisations have repeatedly issued BBV testing policies recommending that health professionals routinely offer BBV testing and HBV vaccination (with informed consent and pre- and post-test counselling to maximise the benefits) for risk groups such as IDUs.[9-13] Drug and alcohol agencies are the most effective settings for opportunistic BBV testing and vaccination for IDUs, but not all agencies offer such interventions.[14] Systemic barriers to services identified in the United Kingdom include lack of trained staff to screen and vaccinate and difficulties in attempting to monitor and coordinate vaccination to completion.[15]

We sought to determine the extent of BBV testing and vaccination for Australian IDUs, and the local barriers, by surveying drug and alcohol service providers.

METHODS

In November 2004, a self-complete, two-page questionnaire[14] was mailed to 444 drug and alcohol agencies in Australia, using addresses from a pharmaceutical company service provider database (courtesy of Reckitt Benckiser, Sydney). An initial telephone call to each service provided advance notice of the study and allowed confirmation of the names and addresses of potential responders. A second wave of questionnaires was posted to initial non-responders in January 2005.

The questionnaire asked about the type of agency; availability of medical coverage; availability of BBV testing, counselling, and vaccination; and barriers to providing services.

Ethics approval was granted by the Human Research Ethics Committee of the South Western Sydney Area Health Service.

Statistical analysis

Data were analysed using SPSS version 12.0 for Windows (SPSS Inc, Chicago, Ill, USA). To understand the availability of testing, counselling and vaccination services for HBV, HCV and HIV, exploratory analysis was conducted using frequency and proportional information from cross-tabulations. Univariate analyses with χ^2 tests were used to examine associations between provision of BBV services and availability of medical services. After grouping agencies by treatment type, χ^2 tests were used to examine relationships between the primary function of the agency and availability of HBV vaccination.

For analysing the barriers to service provision, agencies currently providing each service routinely on site were excluded, and cross-tabulations were conducted to establish the frequency and proportion of barriers identified for each service type.

RESULTS

Of the 444 agencies initially contacted, 82 were excluded as not applicable (for example, they conducted drug and alcohol research or provided sexual health services without specific drug and alcohol services). Of the 362 valid drug and alcohol agencies contacted, 222 responded with usable data (response rate, 61%). Not all respondents answered every question; specific results are presented with the denominator being the number who answered that question.

The agencies were grouped by the primary treatment service provided: drug dependency (pharmacotherapy) units (27%, 60/219); needle and syringe programs (25%, 55/219); inpatient residential or rehabilitation units (15%, 34/219); non-residential/ambulatory/community-based units (12%, 28/219); and other (19%, 42/

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	Hepatitis B virus	Hepatitis C virus	HIV
Type and frequency of testing	(*n* = 219)	(*n* = 219)	(*n* = 218)
Offered routinely: on site	80 (36.5%)	80 (36.5%)	74 (33.9%)
Offered routinely: referred	29 (13.2%)	29 (13.2%)	27 (12.4%)
Offered on request: on site	24 (11.0%)	25 (11.4%)	31 (14.2%)
Offered on request: referred	26 (11.9%)	25 (11.4%)	28 (12.8%)
Not offered	60 (27.4%)	60 (27.4%)	58 (26.6%)
Type and frequency of vaccination	(*n* = 215)		
Offered routinely: on site	73 (32.9%)	na	na
Offered routinely: referred	28 (12.6%)	na	na
Offered on request: on site	24 (10.8%)	na	na
Offered on request: referred	33 (14.9%)	na	na
Not offered	57 (25.7%)	na	na

na = not applicable. ◆

219). Respondents' professions included nurses (56%, 122/218), doctors (15%, 28/218), drug and alcohol workers (13% 28/218), social workers (5% 10/218) and psychologists (5%, 11/218); three respondents identified themselves as "other".

Most respondents provided some access to testing either on site or by referral (Box 1). A much smaller proportion of agencies, about a third, offered these services routinely on site. Most agencies that reported providing BBV testing and vaccinations also provided routine pre- and post-test counselling.

Agencies that conducted medical sessions were significantly more likely to provide BBV services to their patients than those without medical sessions (HBV testing: $\chi^2 = 94.26$, df = 2, $P < 0.001$; HCV testing: $\chi^2 = 95.41$, df = 2, $P < 0.001$; HIV testing: $\chi^2 = 93.45$, df = 2, $P < 0.001$; HBV vaccinations: $\chi^2 = 52.79$, df = 2, $P < 0.001$). The proportions of agencies offering HBV vaccination services differed significantly depending on the primary function of the agency, with drug dependency units and needle and syringe programs being more likely to provide vaccination on site (Box 2). The standard vaccination schedule of 0, 1, 6 months was most commonly provided (61% of agencies).

Respondents were asked to identify any barriers to providing BBV services at their agency. The quantitative results from agencies not providing routine on-site services are shown in Box 3. Lack of trained personnel and medical staff availability were the main barriers for all three types of services, followed closely by cost and lack of facilities.

Respondents were also given space to provide free text responses for additional comments. Local issues included:

- staff time constraints ("Staffing shortages are an issue and we have trouble achieving our core business");
- service limitations ("This service is provided in full by local sexual health service so we refer clients"); and
- cost issues ("[We are] not specifically allocated funds for these services or to enhance training of staff in an area that is not core business").

Barriers relating to the IDU client population, such as difficulties with follow-up, were also highlighted: "Clients are routinely referred on to sexual health service or hospital pathology, but often do not attend for the appointments."

DISCUSSION

Our results indicate that, although three-quarters of the agencies surveyed provide some access to HBV, HCV and HIV testing and HBV vaccinations either on site or by referral, less than half offer testing and vaccination routinely and only a third offer these services routinely on site. It is now more than 20 years since the National Health and Medical Research Council called for all IDUs to be vaccinated against HBV,[9] and our results indicate practice is still inconsistent with these and other Australian guidelines.[9-13] For patients, lack of such services means likely delays in detection of seropositivity, referral to a hepatologist and timely adoption of lifestyle changes to slow disease progression.[16,17] IDUs are also less likely to adopt harm reduction behaviour, and many IDUs have an incorrect or incomplete understanding of their serostatus.[5,18-20]

The most significant rate-limiting factor to providing routine on-site services appears to be access to medical officers. Agencies without medical sessions were significantly less likely to provide access or referrals to testing and vaccination (although a quarter of those agencies with medical officers still referred off site, perhaps reflecting preferred service delivery models or funding sources). The role adopted by doctors in the testing and vaccination process is primarily (but by no means only) to request the blood test and, in some instances, take the blood. Both these roles could be filled by senior trained nursing staff, which suggests that, by expanding nurses' roles, increasing education and revising clinical policy, access to BBV services could be improved at about 40% of agencies surveyed.

Enhancing funding for on-site service provision may also be necessary to increase the efficacy of targeted testing and vaccination strategies, so that testing becomes part of the core business for more drug treatment agencies. Certainly, where free vaccinations are available through drug dependency (pharmacotherapy) and needle and syringe programs attached to sexual health clinics, there are higher rates of on-site vaccination.

Where resources did not permit on-site provision of BBV testing, it was clear that many services had adopted coordinated use of ancillary services such as sexual health

2 Types of hepatitis B virus vaccination services provided according to the primary service function of the agency

	Drug dependency unit (*n* = 56)	NSP (*n* = 54)	Inpatient residential/ rehabilitation (*n* = 34)	Non-residential/ community (*n* = 27)	Other (*n* = 40)
On-site	36 (64%)	32 (59%)	8 (23%)	6 (22%)	15 (37%)
Referred	17 (30%)	7 (13%)	20 (59%)	5 (19%)	10 (24%)
Not offered	3 (5%)	15 (28%)	6 (18%)	16 (59%)	15 (37%)

NSP = needle and syringe program. $\chi^2 = 56.271$, df = 8, $P < 0.001$. ◆

3 Barriers that prevent blood-borne virus services from being provided at those agencies that do not provide routine on-site services

	Hepatitis B virus testing ($n = 131$)	Hepatitis B virus vaccination ($n = 134$)	Hepatitis C virus testing ($n = 134$)	HIV testing ($n = 134$)
Medical staff availability	57 (44%)	57 (43%)	58 (44%)	60 (44%)
Lack of trained staff	55 (42%)	53 (40%)	54 (41%)	55 (40%)
Cost	49 (37%)	55 (41%)	48 (37%)	53 (39%)
Lack of facilities	47 (36%)	51 (38%)	46 (35%)	47 (35%)
Space	39 (30%)	38 (28%)	37 (28%)	39 (29%)
Vaccine acquisition	na	7 (5%)	na	na

na = not applicable. ◆

clinics. However, many respondents noted that the transient and often chaotic lifestyle of IDUs combined with relatively poor retention in treatment was a barrier to such clinical pathways being effective. Adopting more rapid vaccination schedules for this group may address some of these concerns, as well as retention in treatment. Better coordination between health services could also improve schedule adherence.

Our findings are limited by the unknown reliability of the Reckitt Benckiser database (a national directory of agencies involved in drug treatment, particularly opioid treatment) from which the sample was sourced. The Australian National Council on Drugs listing of service providers was not available at the time of the study.[21] In light of the numbers and comparative breadth of agencies responding nationally, the findings could be considered representative of the wider treatment community in Australia.

Although the patchy nature of such services may be less important in future generations because of universal vaccination for HBV in Australia from 2000, many current users are still at risk. That a sizeable proportion of drug and alcohol agencies do not provide cost-effective, evidence-based BBV interventions to this marginalised and high-risk group is inconsistent with Australian policy and the expectation of reasonable public health care and harm reduction.[12]

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COMPETING INTERESTS

Adam Winstock has received funding from Reckitt Benckiser to provide training in the field of drug and alcohol problems. Reckitt Benckiser provided the database used to obtain the survey sample, but had no input into the study design or analysis.

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REFERENCES

1 Dore GJ, Law M, MacDonald M, Kaldor JM. Epidemiology of hepatitis C virus infection in Australia. *J Clin Virol* 2003; 26: 171-184.
2 National Centre in HIV Epidemiology and Clinical Research. HIV/AIDS, viral hepatitis and sexually transmissible infections in Australia: annual surveillance report, 2005. Sydney: NCHECR, 2005. Available at: http://web.med.unsw.edu.au/nchecr/ (accessed Apr 2006).
3 Loxley W, Phillips M, Carruthers SJ, Bevan J. The Australian Study of HIV and Injecting Drug Use. Part I: Prevalence for HIV, hepatitis B and hepatitis C among injecting drug users in four Australian cities. *Drug Alcohol Rev* 1997; 16: 207-214.
4 Crofts N, Aitken CK. Incidence of bloodborne virus infection and risk behaviours in a cohort of injecting drug users in Victoria, 1990–1995. *Med J Aust* 1997; 167: 17-20.
5 Maher L, Chant K, Jalaludin B, Sargent P. Risk behaviors and antibody hepatitis B and C prevalence among injecting drug users in south-western Sydney, Australia. *J Gastroenterol Hepatol* 2004; 19: 1114-1120.
6 Marsh A, Loxley W, Hawks DV, Quigley A. Changes in drug use and HIV/AIDS risk-taking 1989–90. *Drug Alcohol Rev* 1995; 14: 201-212.
7 Wodak A, Dolan K. Managing HIV. Part 8: Controlling an epidemic. 8.5 HIV prevention in the community: injecting drug users. *Med J Aust* 1996; 165: 266-267.
8 Crofts N, Aitken CK, Kaldor JM. The force of numbers: why hepatitis C is spreading among Australian injecting drug users while HIV is not. *Med J Aust* 1999; 170: 220-221.
9 National Health and Medical Research Council Hepatitis B Working Party. Recommendations on hepatitis B immunisation. Canberra: AGPS, 1996.
10 Australian National Council on AIDS, Hepatitis C and Related Diseases, Intergovernmental Committee on AIDS and Related Diseases. HIV testing policy. Canberra: Commonwealth of Australia, 1998. Available at: http://www.ancahrd.org/pubs/ (accessed Apr 2006).
11 Australian National Council on AIDS, Hepatitis C and Related Diseases. National hepatitis C testing policy. Canberra: Commonwealth of Australia, 2003. Available at: http://www.ancahrd.org/pubs/ (accessed Apr 2006).
12 Australian Government Department of Health and Ageing. National hepatitis C strategy 2005–2008. Canberra: Commonwealth of Australia, 2005. Available at: http://www.health.gov.au/internet/wcms/publishing.nsf/Content/phd-hepc-strategy-0508-cnt.htm (accessed Apr 2006).
13 National Health and Medical Research Council. The Australian immunisation handbook. 8th ed. Canberra: NHMRC, 2003. Available at: http://www1.health.gov.au/immhandbook/ (accessed Apr 2006).
14 Winstock AR, Sheridan J, Lovell S, et al. National survey of hepatitis testing and vaccination services provided by drug services in England and Wales. *Eur J Clin Microbiol Infect Dis* 2000; 19: 823-828.
15 McGregor J, Marks PJ, Hayward A, et al. Factors influencing hepatitis B vaccine uptake in injecting drug users. *J Public Health Med* 2003; 25: 165-170.
16 Kwiatkowski CF, Fortuin Corsi K, Booth RE. The association between knowledge of hepatitis C virus status and risk behaviors in injection drug users. *Addiction* 2002; 97: 1289-1294.
17 Hopwood M. New treatment for hepatitis C infection. *Social Research Briefs* [National Centre in HIV Social Research] 2003; (3): 1-2. Available at: http://nchsr.arts.unsw.edu.au/social_research_briefs.html (accessed Apr 2006).
18 Best D, Noble A, Finch E, et al. Accuracy of perceptions of hepatitis B and C status: cross sectional investigation of opiate addicts in treatment. *BMJ* 1999; 319: 290-291.
19 Aitken CK, Kerger M, Crofts N. Peer-delivered hepatitis C testing and counselling: a means of improving the health of injecting drug users. *Drug Alcohol Rev* 2002; 21: 33-37.
20 Hopwood M, Treloar C. Receiving a hepatitis C-positive diagnosis. *Intern Med J* 2004; 34: 526-531.
21 Siggins Miller Consultants. Mapping national drug treatment capacity. ANCD research paper 10. Canberra: Australian National Council on Drugs, 2005. Available at: http://www.ancd.org.au/publications/index.htm (accessed Apr 2006).

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