COMMENTARY

COVID-19 vaccine acceptability among people in Australia who inject drugs: Update from the 2021 Illicit Drug Reporting System interviews

OLIVIA PRICE1, PAUL M. DIETZE1,2,3,4, LISA MAHER5, SIONE CRAWFORD6 & AMY PEACOCK1,7

1National Drug and Alcohol Research Centre, UNSW Sydney, Sydney, Australia, 2Behaviours and Health Risks, Burnet Institute, Melbourne, Australia, 3National Drug Research Institute, Curtin University, Melbourne, Australia, 4School of Public Health and Preventive Medicine, Monash University, Melbourne, Australia, 5Kirby Institute, UNSW Sydney, Sydney, Australia, 6Harm Reduction Victoria, Melbourne, Australia, and 7School of Psychological Sciences, University of Tasmania, Hobart, Australia

Abstract
People who inject drugs may be at higher risk of COVID-19 transmission and more severe negative health outcomes following COVID-19 infection. Early research on hypothetical COVID-19 vaccines suggests this population may be less likely to accept vaccination. This commentary extends this research by presenting vaccine intention data from Illicit Drug Reporting System interviews conducted in June–July 2021, in the early stages of vaccine rollout, with people in Australia who inject drugs (N = 888). Half the sample (48%, n = 419) reported that they were hesitant to receive the COVID-19 vaccine, with key barriers relating to vaccine safety and side effect concerns. This level of hesitancy is substantially higher than that of the general population at a similar time. While we note that the subsequent Delta variant-driven third wave of cases in Australia and efforts to increase population vaccination coverage may have altered intent in this group, this level of hesitancy warrants a targeted strategy to mitigate vaccine-related concerns and maximise uptake. Ideally, this should comprise an inclusive health response that is peer-led, with peer-based organisations ideally positioned to direct immunisation service delivery and provide vaccine-related messaging. [Price O, Dietze PM, Maher L, Crawford S, Peacock A. COVID-19 vaccine acceptability among people in Australia who inject drugs: Update from the 2021 Illicit Drug Reporting System interviews. Drug Alcohol Rev 2022;41:1025–1028]

Key words: COVID-19, vaccine hesitancy, vaccination barriers, people who inject drugs.

Background
People who inject drugs may be more susceptible to adverse health outcomes following COVID-19 infection due to high prevalence of comorbid health conditions, including human immunodeficiency viruses (HIV), chronic liver disease and chronic respiratory conditions [1,2]. They may also face structural barriers to health care after contracting COVID-19, such as economic disadvantage and stigma [3]. Moreover, people who inject drugs may be at increased risk of COVID-19 transmission; the inherently social nature of drug acquisition and use may create barriers to adherence to non-pharmaceutical public health interventions, such as physical distancing and self-isolation [4]. There are also high rates of incarceration and unstable housing among this population, settings in which the attack rate of SARS-CoV-2 and risk of COVID-19 outbreak is higher [5,6].

Vaccination is the most effective method to prevent morbidity and mortality during the COVID-19 pandemic. While it has been argued that people who inject drugs should be prioritised for COVID-19 vaccination [1], they were not considered a target population in

© 2022 The Authors. Drug and Alcohol Review published by John Wiley & Sons Australia, Ltd on behalf of Australasian Professional Society on Alcohol and other Drugs. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes.
An Update on Vaccine Intentions Since Vaccine Rollout Commenced in Australia

Here, we present preliminary findings of COVID-19 vaccination intentions from IDRS interviews that occurred in June–July 2021 across all Australian capital cities. Recruitment methods and eligibility criteria were similar to those described previously [9]. In brief, eligible participants were at least 18 years of age, currently residing in a capital city and had injected drugs at least monthly in the past 6 months. The target sample size was 900 (n = 150 in Melbourne and Sydney and n = 100 in the remaining six capital cities). Participants (N = 888) were recruited through needle-syringe programs, treatment services and word-of-mouth, and completed a structured interview (78% face to face, 22% on the telephone or online). Interviews took place prior to and during the early stages of the third wave of cases in Australia, when cases were largely concentrated in Sydney (peak daily cases during interview period 261). At the start of the third wave, COVID-19 vaccines were only available to priority groups (the elderly, Aboriginal and Torres Strait Islander people, health and other critical workers, and people with an underlying medical condition) and the Australian Technical Advisory Group on Immunisation had recently recommended the AstraZeneca vaccine be restricted to those aged over 60 due to safety concerns. During the survey period, first dose COVID-19 vaccine coverage among Australian adults increased from 18% to 33% [12].

The median age of participants was 45 years (range 18–71), most were male (65%, n = 579), unemployed (88%, n = 782) and residing in stable housing (84%, n = 731), with approximately two-fifths currently in drug treatment (37%, n = 330). Questions regarding COVID-19 vaccination were prefaced with a statement that summarised the vaccine situation at the time: ‘the Australian Government has announced that the COVID vaccine will be free of charge but not mandatory’. Of 884 participants who responded, 10% (n = 88) had received at least one dose of the vaccine. Vaccine uptake was highest in Sydney (17%) and Melbourne (16%), followed by Darwin (9%), Perth (9%), Brisbane/Gold Coast (7%), Canberra (6%), Hobart (6%) and Adelaide (4%). Unvaccinated participants were asked ‘do you intend to get vaccinated for COVID-19?’. Approximately half of this group (48%, n = 419) reported hesitancy to receive the vaccine, comprising 22% who said ‘definitely not’, 13% who said ‘probably not’ and 13% who indicated they were ‘not sure yet’. Hesitancy varied by jurisdiction and was highest in Adelaide (60%), followed by Darwin (59%), Brisbane/Gold Coast (57%), Melbourne (49%), Perth (44%), Sydney (43%), Canberra (37%) and Hobart (33%).

We asked vaccine-hesitant participants (n = 419) the reason(s) for their hesitancy. The predominant barriers were concerns relating to vaccine safety (i.e. the vaccine has not been tested enough; 41%) and vaccine side effects (35%). Less frequently cited barriers were perceived low risk of disease acquisition (17%) and...
disease severity (11%). Fewer than 10% of participants who were vaccine hesitant reported that they would ‘not accept any vaccines for themselves’ (9%).

Vaccine hesitancy in this study (48%) was comparable to that observed in our aforementioned study of 100 people who inject drugs in Melbourne prior to the publication of studies on vaccine efficacy and the start of the vaccine rollout. However, it is higher than a study of people who inject drugs in San Diego, USA, which reported that one-third of participants were vaccine hesitant [13]. This difference may be a result of the different pandemic experiences in the two countries; the USA has seen far greater COVID-19-related morbidity and mortality than Australia, and vaccine hesitancy is linked to perceived low risk of disease acquisition [14].

The level of vaccine hesitancy in our study was also higher than in the Australian general population (range 22–32% during the IDRS survey period) [15], a pattern observed in other studies of COVID-19 vaccine acceptability among marginalised populations, including people living with HIV [16] and culturally diverse communities [17]. However, key barriers cited in our study are similar to those cited by the Australian general public [18], with concerns relating to side effects and an intention to ‘wait and see if it’s safe’ both highly cited.

Importantly, the timing of our surveys relative to the third wave of cases in Australia means it is possible that vaccine intentions subsequently changed. The increased transmissibility of the Delta variant caused most Australian jurisdictions to move away from an elimination approach and focus on maximising vaccination coverage. Indeed, as of November 2021, vaccine hesitancy among the general public is at an all-time low and 90% of Australian adults have received at least one dose of the vaccine [12,15]. Nevertheless, as free vaccination does not necessarily ensure equitable uptake and coverage, we need targeted strategies to maximise vaccine uptake among vulnerable sub-populations, including people who inject drugs. Peer-based organisations are already well-engaged with this population but require dedicated funding to facilitate uptake and address concerns and misinformation about vaccination. The recent emergence of the Omicron variant and Australian Technical Advisory Group on Immunisation recommendation for a third ‘booster’ vaccine dose are timely reminders that prevention of COVID-19-related morbidity and mortality requires an ongoing effort. It remains important to monitor COVID-19 vaccination uptake among people who inject drugs, who may be more susceptible to severe infection and less likely to be reached by traditional health campaigns.

Summary and Recommendations

The high level of vaccine hesitancy among our sample suggests a need for targeted interventions to increase vaccine uptake among people who inject drugs. Provision of vaccination in settings familiar to this population, including needle-syringe programs, prisons, emergency departments and homeless shelters, could increase uptake opportunistically [19]. However, given the highly cited safety and side effect concerns, vaccine provision should be accompanied by information on the safety and utility of the COVID-19 vaccine available to build trust in COVID-19 vaccination.

Peer-based organisations are ideally positioned to enable an inclusive health response and ensure meaningful engagement with this population. As an example, we note the success of the Australian Capital Territory alcohol and drug sector which has maximised COVID-19 vaccine uptake among people who inject drugs by leveraging government funding and an existing peer-based organisation with strong community relationships [20]. Here, vaccination was offered and encouraged by peers at a drug health service and via an outreach program to community housing and private dwellings. Crucially, the peer-based organisation was involved in vaccination service delivery, in addition to vaccination messaging.

Acknowledgements

We would like to thank participants for sharing their time and expertise. We would also like to thank Prof Simon Lenton, A/Prof Raimondo Bruno, Dr Caroline Salom and all other members of the IDRS research team. Drug Trends (including the Illicit Drug Reporting System) and the National Drug and Alcohol Research Centre are funded by the Australian Government Department of Health under the Drug and Alcohol Program. AP, LM and PMD are supported by National Health and Medical Research Council. Research Fellowships (#1174630, #1154839 and #1136908). The Burnet Institute gratefully acknowledges the funding provided under the Victorian Research Operating Infrastructure Fund.

Open access publishing facilitated by University of New South Wales, as part of the Wiley - University of New South Wales agreement via the Council of Australian University Librarians.

Conflicts of Interest

AP has received untied educational grants from Seqirus and Mundipharma for study of opioid medications.
PMD has received untied educational grants from Gilead Sciences for work related to hepatitis C and an untied educational grant from Indivior. PMD has served as an unpaid member of an Advisory Board for Mundipharma. All other authors have no conflicts of interest to declare.

References

[1] Iversen J, Peacock A, Price O, Byrne J, Dunlop A, Maher L. COVID-19 vaccination among people who inject drugs: leaving no one behind. Drug Alcohol Rev 2021;40:517–20.

[2] Wang QQ, Kaelber DC, Xu R, Volkow ND. COVID-19 risk and outcomes in patients with substance use disorders: analyses from electronic health records in the United States. J Molecular Psychiatry 2021;26:30–9.

[3] Paquette CE, Syvertsen JL, Pollini RA. Stigma at every turn: health services experiences among people who inject drugs. Int J Drug Policy 2018;57:104–10.

[4] Vasylyeva TI, Smyrnov P, Strathdee S, Friedman SR. Challenges posed by COVID-19 to people who inject drugs and lessons from other outbreaks. J Int AIDS Soc 2020;23:e25583.

[5] Lower D, Braithwaite I, Bullock M et al. COVID-19 among people experiencing homelessness in England: a modelling study. Lancet Respir Med 2020;8:1181–91.

[6] Saloner B, Parish K, Ward JA, DiLaura G, Dolovich S. COVID-19 cases and deaths in federal and state prisons. JAMA 2020;324:802–3.

[7] Department of Health, Australia’s COVID-19 vaccine national roll-out strategy Canberra, Australia; 2021. Available at: https://www.health.gov.au/sites/default/files/documents/2021/01/covid-19-vaccination-australia-s-covid-19-vaccine-national-roll-out-strategy.pdf.

[8] Kumar N, Jannmohamed K, Nyhan K et al. Substance, use in relation to COVID-19: a scoping review. Addict Behav 2022;127:107213.

[9] Dietze PM, Hall C, Price O et al. COVID-19 vaccine acceptability among people in Australia who inject drugs: implications for vaccine roll-out. Drug Alcohol Rev 2021;41:484–7.

[10] Roy Morgan Research; 2020. Available at: https://www.roymorgan.com/findings/8604-gallup-international-survey-covid-19-opinion-questions-november-2020-202012211153.

[11] Australian Technical Advisory Group on Immunisation (ATAGI), Clinical guidance on use of COVID-19 vaccine in Australia in 2021 (v2.0) 2021. Available at: https://www.nitag-resource.org/sites/default/files/2021-03/covid-19-vaccination-atagi-clinical-guidance-on-covid-19-vaccine-in-australia-in-2021_0.pdf.

[12] Ritchie H, Mathieu E, Rodés-Guirao L, Appel C, Giattino C, Ortiz-Ospina E, et al. Coronavirus pandemic (COVID-19): our world in data. Oxford, UK: University of Oxford; 2020. Available at: https://ourworldindata.org/coronavirus.

[13] Strathdee SA, Abramovitz D, Harvey-Vera AY et al. Correlates of COVID-19 vaccine hesitancy among people who inject drugs in the San Diego-Tijuana border region. Clin Infect Dis 2021;ciaa975 [Epub ahead of print].

[14] Fridman A, Gershon R, Gneezy A. COVID-19 and vaccine hesitancy: a longitudinal study. PLoS One 2021;16:e0250123.

[15] Vaccine Hesitancy Report Card [Internet]. Melbourne Institute: Applied Economic & Social Research 2021.

[16] Huang X, Yu M, Fu G et al. Willingness to receive COVID-19 vaccination among people living with HIV and AIDS in China: Nationwide cross-sectional online survey. JMIR Public Health Surveill 2021;7:e31125.

[17] Ayre J, Muscat DM, Mac O et al. COVID-19 testing and vaccine willingness: cross-sectional survey in a culturally diverse community in Sydney, Australia. medRxiv 2021:2021.10.25.21265503.

[18] Biddle N, Edwards B, Gray M, Sollis K. Vaccine willingness and concerns in Australia: August 2020 to April 2021. Canberra, Australia: ANU Centre for Social Research and Methods; 2021. Available at: https://csrm.cass.anu.edu.au/research/publications/vaccine-willingness-and-concerns-australia-august-2020-april-2021-1.

[19] Brewer NT, Chapman GB, Rothman AJ, Leask J, Kempe A. Increasing vaccination: putting psychological science into action. Psychol Sci Public Interest 2017;18:149–207.

[20] Alcohol Tobacco & Other Drug Association ACT. Inquiry into the COVID-19 2021 pandemic response. Canberra, Australia: ACT Legislative Assembly; 2021. Available at: https://www.parliament.act.gov.au/__data/assets/pdf_file/0003/1904376/Submission-22-Alcohol-Tobacco-and-Other-Drug-Association-ACT.pdf.