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SYNOPSIS

Review of "Drug checking services for people who use drugs: a systematic review"

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One-minute summary

- The authors conducted a systematic review to identify and synthesize evidence across three domains: influence of drug checking services (DCS) on the behaviour of people who use drugs (PWUD), monitoring of drug markets by DCS, and outcomes related to models of DCS (e.g., barriers and facilitators to using the service). A total of 90 studies were identified that evaluated the impact of DCS and were subsequently included in the analyses. Most studies (n=65) were from Europe, and the non-European countries represented include Australia, Canada, Colombia, Mexico, New Zealand and the United States. Most studies employed cross-sectional (n=49) or repeated cross-sectional (n=30) designs.

- The domain that was most common across the 90 included studies was the monitoring of drug markets using DCS (n=63 studies, 70% of studies), followed by the influence of DCS on behaviour (n=31, 34.4%), and outcomes related to models of DCS (n=17, 18.9%). The authors then examined the studies and identified a total of 55 outcome measures that were categorized according to these three domains.

- The domain that authors prioritized in the review's analyses was the influence that DCS had on the behaviours of PWUD. The most commonly identified outcome measures related to this domain were the intent to use the analyzed substance (n=13), the influence of the analysis results on drug use behaviour (n=10), and disposal of the analyzed substance (n=8). See the following section 'Additional information' for a summary of results.

- The most common outcomes measures for monitoring of drug markets by DCS were detection of the following: unexpected substances (n=50), expected substances (n=44), new psychoactive substances (n=40), drugs of concern (n=32), legal and/or non-legal drugs (n=26), and the source of submitted substance (n=17).

- Facilitators (n=11) and barriers (n=7) to use of DCS were the most common outcome measures related to models of DCS. Primary facilitators for the use of DCS by PWUD included motivations for use, concerns about drug contents and concern about negative health consequences from consumption. Barriers to using DCS included a lack of concern over drug contents, high trust in drug sellers, inaccessible location, and legal risks due to drug criminalization linked to anonymity concerns. Legal and privacy concerns were also perceived barriers for the use of DCS by people who sell drugs.

- This systematic review suggest that there is emerging evidence on the ability of DCS to influence behavioural intentions of PWUD. Authors also found that monitoring of drug markets through DCS is a well-established practice in Europe, and increasingly in North America.

Additional information

- The systematic review followed a registered protocol and reporting of findings was in accordance with Preferred Reporting Items for Systematic Reviews and MetaAnalyses (PRISMA).

- The outcome measures identified in this review were not pre-defined, but instead were inductively coded by the authors using an iterative process throughout data extraction to ensure that all relevant outcomes were captured.

- The peer-reviewed, expert-informed search strategy aimed to identify peer-reviewed journal articles and conference abstracts published in any language from January 1, 1990 (the date from which DCS became widespread) to July 26, 2018, with a full search update on October 16, 2019. Search terms include those related to DCS (including DCS service names from a global review of DCS), controlled drugs, and harm reduction services. The comprehensiveness of this systematic review is a key strength of this review, achieved through inclusion of peer-reviewed studies since 1990 in all languages, as well as grey literature and peer-reviewed conference abstracts.

- Authors prioritized analyzing the influence that DCS had on the behaviours of PWUD. Studies included in this review demonstrate that DCS influenced intended behaviour and enacted behaviours, though the latter is less researched. Among the studies that examined behaviours of PWUD in party settings (majority of the studies) and in other settings (i.e., PWUD in street settings), there was consistently greater intention to not use the analyzed substance when the drug checking analysis results were either unexpected or 'questionable'/'suspicious'. The proportion of participants who reported that analysis results from DCS influenced their drug use varied by population (i.e., people who inject drugs, young drug users) and setting (i.e., actual settings such as parties or supervised injection site, and results varied by jurisdiction); however, results indicated positive behavioural influence in all populations and settings examined.

- Authors identified 24 drug checking service delivery models described in the literature and summarized in Table 1 in the review. Among these, more than half (n=14) of the models were services that aim to check drugs for people intending to use drugs in party settings labeled as "partygoers". One model intended to reach "structurally vulnerable PWUD" and another intended to reach "street-based PWUD". It is possible that the populations assessed across the studies included in this review were not representative of the full spectrum of people who use drugs, specifically, the review may under-represent the evaluation of DCS delivery models in the most marginalized communities.

- Quality appraisal was only performed on 13 of the 90 included studies with the rest deemed as not applicable, according to the review's supplementary materials. However, authors concluded generally that the methodological quality of all studies was relatively poor. Among the 11 cross-sectional studies appraised scores ranged from 3 to 7 points (out of 14), one time-series study received 5 points (out of 12) and one longitudinal study received 4 points (out of 12).

- Limitations noted by the authors of the study include: the timing of the search could be another limitation (authors note that several notable peer-reviewed articles have been published since the search was conducted), and a possible publication bias may limit the representativeness of the included literature, as studies not showing positive impacts of DCS could be under-represented in the evidence base. The authors also note limitations related to cross-sectional designs as well as an absence of clear, valid, reliable and consistently implemented outcome measures.

PHO reviewer's comments

- Recent rapid increases in substance use-related morbidity and mortality have prompted a shift towards harm reduction interventions in Canada and globally.[1,2] Drug checking is a harm reduction intervention that has received attention in Canada for its potential to reduce opioid-related harms in the population, and has been widely used throughout Europe since the 1990s. These services typically allow individuals to anonymously submit samples of a drug they plan to consume for the purpose of drug analysis.[1,3] Harm reduction refers to policies, programmes, and practices to reduce the adverse health, social, and economic impacts of drug use without necessarily reducing drug consumption.[1]

- While the authors conducts an independent risk of bias assessment for the included studies w with quantitative data, an overall quality of evidence assessment at the outcome level (such as a GRADE assessment) was not formally conducted.

- The search to inform this systematic review was conducted up to October 2019; thus, the impact of the COVID-19 pandemic on the delivery harm reduction services, such as DCS, would not be captured in the review.

- The ability to generalize these findings may be limited due to low quality study design of a majority of included studies and heterogeneity of methods, populations and outcomes, making meta-analyses difficult to conduct. An over-representation of studies from Europe may also limit the generalizability to Canada and the United States, due to differences in the drug policy context.

- This systematic review focused on analyzing the influence of DCS on behavioural intentions of PWUD. While the authors examined barriers and facilitators, they did not consider the structural inequities contributing to the accessibility of these services for certain communities. Data from policing authorities in major Canadian cities confirms that Black, Indigenous and other racialized communities are disproportionately incarcerated for drug-related offences.[4] The authors of this systematic review found that a barrier to accessing DCS is a fear of legal repercussions. This barrier is likely to exist in jurisdictions, such as Canada, where the criminalization of drugs may contribute to a lack of trust in the anonymity of harm reduction services.

- Several Canadian jurisdictions have submitted applications for federal legal exemptions to the Controlled Drugs and Substance Act to decriminalize drugs for personal use and possession (i.e., City of Toronto, City of Vancouver, and the province of British Columbia) to minimize harms related to the criminalization of drugs and the toxic drug supply.[5,6,7] As efforts to minimize harms related to the toxic drug supply continue to gain momentum in Canada and other jurisdictions, more evidence may emerge on DCS and other harm reduction service models in anticipation of the need to implement evidence-based practices and approaches.

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