Beyond the test: employee perspectives on the characteristics of drug checking services

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Abstract

Purpose – *This study aims to examine the perspectives of employees involved in drug checking services (DCS) in Slovenia, focusing on sample collection points for illicit drugs and new psychoactive substances (NPS). As part of the national harm reduction strategy, DCS enables early detection of dangerous substances, informs public health responses and promotes safer drug-use practices.*

Design/methodology/approach – *A qualitative evaluation was conducted, including a focus group with seven professionals from various Slovenian NGOs within the wider DCS network.*

Findings – *Qualitative analysis showed that DCS facilitates contact with previously unreached populations, particularly young people who use drugs (PWUD) recreationally, and supports informed decision-making regarding substance use. Employees highlighted the service's role in reducing health risks, promoting peer education and building community trust. However, challenges such as concerns about anonymity of PWUD, inadequate facilities and limited engagement in counselling were identified. Despite these issues, staff reported gaining valuable knowledge about NPS and improving their counselling skills. The integration of DCS into Slovenia's Early Warning System has strengthened inter-organisational collaboration and improved local drug market monitoring.*

Originality/value – *This study contributes to a broader understanding of DCS as a public health intervention and underscores the importance of staff perspectives in shaping effective harm reduction policies. Identifying barriers and negative aspects of DCS can inform future service improvements. The effective integration of DCS within the community context provides multiple benefits, enhancing both public health outcomes and community-level harm reduction efforts.*

Keywords *Harm reduction, Public health, Drug checking, Community-based services, New psychoactive substances (NPS), People who use drugs (PWUD)*

Paper type *Research paper*

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Introduction

Due to the numerous risks associated with drug use, particularly new psychoactive substances (NPS) (Fornero *et al.*, 2017; Laing *et al.*, 2021) and fentanyl (Karamouzian *et al.*, 2018; Gonzalez-Nieto *et al.*, 2025), drug checking services (DCS) have been introduced in recent years, both abroad and in Slovenia, as an important public health intervention (Maghsoudi *et al.*, 2022). This service enables early detection of particularly dangerous substances and provides insight into the unregulated drug market, supplementing harm reduction strategies and public health approaches with reliable information (Laing *et al.*, 2021).

Within the framework of the Early Warning System (EWS), DCS is a key mechanism for monitoring the emergence and prevalence of NPS and for responding rapidly to changes in the drug markets (EMCDDA, 2023). At the people who use drugs (PWUD) level, they allow verification of substance content, reduce the risk of poisoning and promote informed

decision-making regarding use, directly contributing to the reduction of harmful consequences (EMCDDA, 2024; Verdenik *et al.*, 2024). At the community level, DCS play a significant preventive and educational role, strengthen trust between PWUD and professional services, reduce stigma and enable open communication about drug use (Moran *et al.*, 2024; Rose *et al.*, 2023). At the national level, they are an important source of data for the EWS, enabling timely detection of new substances, risk assessment and the formulation of appropriate public health responses and policies (EMCDDA, 2023). DCS thus contributes to the protection of individuals, the strengthening of public health, the reduction of inequalities and the development of evidence-based drug policies.

The service is typically implemented by anonymously collecting and checking substances on site, such as at parties, or at fixed locations at drug checking points. These samples are later analysed in a laboratory using various analytical techniques (Gozdzialski *et al.*, 2023), such as gas chromatography-mass spectrometry (GC-MS) (Fregonese *et al.*, 2021) or liquid chromatography-high-resolution mass spectrometry (LC-HRMS). The results are returned to PWUD through the checking points as quickly as possible, entered into a database and those considered to have informational value for harm reduction are published online, as in the Slovenian system. This can inform wider groups of PWUD or forward information to the EWS on the emergence of NPS. DCS can also be performed on site (Koning *et al.*, 2021), usually at electronic music festivals, using portable analytical techniques such as a Fourier transform infrared (FTIR) spectrometer, which allows for faster results (Alonzo *et al.*, 2021).

DCS involves more than laboratory analysis and returning results; it should be integrated with information services or brief counselling interventions at the point of sample collection or when communicating results. Employees at checking points conduct sample collection, provide information or deliver brief counselling interventions, offering guidance on risk reduction and the prevention of serious health complications, as well as warnings about particularly dangerous substances (Benschop *et al.*, 2002; Valente *et al.*, 2019). Warnings are often reported by the media, which can increase the service's reach but also carries the risk of disseminating information about drugs to the wider public, as, for example, a warning about a higher strength substance can be interpreted as "quality" rather than "risk" (Volpe *et al.*, 2023).

Critics of DCS are concerned that the service might encourage drug use by creating an illusion of safety, potentially contributing to the normalisation of drug use, for example, at electronic music festivals (Scott and Scott, 2020). In this context, studies showing that DCS can be an important part of public drug policy and an effective harm reduction measure (Brunt and Niesink, 2011) are significant, as they demonstrate positive impacts on the behaviour of PWUD (Measham, 2019; Valente *et al.*, 2019). DCS can influence whether PWUD, after receiving unexpected results, will actually use the drug (Verdenik *et al.*, 2024).

In Slovenia, the implementation of DCS began relatively early, when the NGO DrogArt in Ljubljana started qualitative sample drug checking (using reagents) and communicating results to PWUD. Later, collaboration developed with the Ministry of Health, the Ministry of Foreign Affairs and the EWS, where only the highest-risk samples were tested at the National Forensic Laboratory and warnings were communicated to PWUD. A significant milestone occurred in 2007, when two drug checking points (Stigma and DrogArt) became part of the EWS through the expansion of the inter-ministerial working group. Subsequently, within the framework of international projects, the system was expanded to nine checking points and, in cooperation with the NIJZ (National Institute of Public Health), the Ministry of Health and the NLZOH (National Laboratory of Health, Environment and Food), the stable, integrated DCS system was established in 2018. Slovenia is one of the few countries to integrate DCS into a national EWS for NPS and public health policy [1]; notably, only a few others, such as The Netherlands (Brunt and Niesink, 2011), have a significantly longer history of such integration.

At nine drug checking points across the country, the service is provided by various professionals who receive samples, return results and conduct r brief counselling interventions.

Although the DCS is relatively established and was implemented in the EU as a public health intervention in the 1990s (Benschop *et al.*, 2002; Valente *et al.*, 2019), few evaluations have been conducted. These have focused on specific groups of PWUD, such as fentanyl users (Park *et al.*, 2021), electronic music festivals or nightlife settings (Valente *et al.*, 2019) or the aforementioned changes in PWUD behaviour (Measham, 2019; Valente *et al.*, 2019).

With the transition to the updated DCS system in Slovenia, we also began an in-depth evaluation, as this is the only way to determine the service's effectiveness and reach. From 2018 to 2024, we conducted long-term evaluation of DCS, focusing on reviewing the drug market, reaching hidden populations of PWUD, establishing positive behaviours and exploring the perspectives of programme employees. As the evaluation was extensive, the sections on behavioural changes (Verdenik *et al.*, 2024) and other evaluation elements are published separately (Verdenik *et al.*, 2026). The central aim of this paper is to present and analyse the perspectives of employees in DCS and to explore the advantages and potential risks they perceive in practice.

The perspective of employees or service providers has been examined in a few studies to date (Pocuca *et al.*, 2025; Moran *et al.*, 2024; Rose *et al.*, 2023; Davis *et al.*, 2022). The main findings relate to legal concerns, stigma and community trust and organisational and policy-level challenges.

While the aforementioned studies focused on the provider perspective of DCS elements in the USA and Australia Moran *et al.*, 2024; Pocuca *et al.*, 2025; Rose *et al.*, 2023) – where systems are not integrated in the same manner as in the EU – the significance of the present evaluation lies in exploring the perspectives of employees within the Slovenian DCS system. This system has long been integrated into Slovenian drug policy (National Institute of Public Health, 2019), and this study represents the first evaluation of its kind in the country. Based on the findings from these service providers, we can monitor system performance and plan necessary adjustments and improvements.

Methods

Study design and setting

The long-term evaluation of DCS in Slovenia was carried out from 2018 to 2024 at the DrogArt Association, which coordinates the DCS in Slovenia, with participation from an external collaborator at the National Institute of Public Health (NIJZ). This study presents only qualitative data from a focus group with service providers, as part of a broader service evaluation. To gain a more comprehensive understanding of service implementation, the perspective of employees at the checking points from seven NGOs, who are responsible for receiving psychoactive substance samples and providing harm reduction information and counselling, was also included in the long-term quantitative evaluation, published in a separate article (Verdenik *et al.*, 2026).

Participants and sampling

A purposive sampling strategy was used to ensure maximum variation and to obtain a comprehensive overview of service implementation across the Slovenian DCS network. A designated representative from each of the seven organisations involved in the checking point network was invited to participate.

All participants were frontline workers directly involved in service delivery, including receiving psychoactive substance samples and providing harm reduction information and

counselling. None held exclusively managerial or administrative roles, and all were professionals rather than service users.

The organisations differed in their primary orientation, including harm reduction and social rehabilitation services, and served diverse populations ranging from people who inject drugs (PWID) to people who use drugs (PWUD) recreationally, with variation in age groups. This ensured a broad range of organisational perspectives on service implementation. Due to the organisational sampling design, data saturation was not the primary criterion.

Data collection

A semi-structured focus group was used to capture interaction and shared experiences among service providers that may not emerge in individual interviews. The discussion was guided by three predefined thematic areas:

1. advantages and disadvantages of the DCS;
2. responsiveness to the needs of PWUD and the emergence of NPS, including quality assurance; and
3. cooperation between checking points, the community and PWUD.

The focus group was conducted online via Zoom on 18 January 2022 and lasted approximately 90 min. The session was audio-recorded with participants' consent and transcribed for analysis. The transcript was lightly edited for clarity and readability while preserving meaning, as the analysis focused on thematic content rather than linguistic or discourse analysis.

Data analysis

An inductive qualitative content analysis approach was used, with categories and themes derived directly from the data rather than from a predefined theoretical framework. The qualitative analysis followed a structured six-step procedure (Mesec, 1998):

1. organisation of material;
2. identification of meaning units;
3. open coding;
4. development of categories;
5. relational analysis; and
6. synthesis of the analytical framework.

This structured analytical procedure enhances transparency and enables replication of the analytical process.

Coding procedure

Coding was conducted by a single external collaborator from the NIJZ who was involved in analytical conceptualisation or interpretation of qualitative findings. As only one coder was involved, no inter-coder reliability checking was performed. To ensure analytical rigour, coding outputs and interpretations were discussed within the evaluation team, and any discrepancies were resolved through consensus to ensure analytical credibility and rigour.

Ethics

This study was conducted as part of a long-term evaluation of the national DCS, coordinated by the DrogArt Association. As the project was initiated as a service evaluation for quality improvement, formal ethics committee approval was not sought. However, all procedures were designed to ensure objectivity and protect participants, strictly adhering to the Code of Ethics for Researchers at the University of Ljubljana.

Participants were informed about the purpose of the study, voluntary participation and their right to withdraw at any time. Verbal informed consent was obtained prior to participation. Anonymity was ensured through de-identification of transcripts, and confidentiality was maintained through secure, protected data storage accessible only to the research team.

Results

Drug checking services as an effective harm reduction measure

All organisations implementing the DCS reported that the intervention facilitates contact with PWUD who would not otherwise engage with harm reduction or treatment services, suggesting this is a shared experience across different service settings. In particular, the service appears to reach previously unknown or hidden populations, especially younger individuals who are still experimenting with drugs. One participant representing Provider 4 stated:

"I see checking as discovering certain groups, when an adolescent brings something to test, and then you realise you are in contact with a group you did not even know about before [. . .] especially those who are still experimenting". This indicates that drug checking can serve as an important low-threshold entry point, enabling initial contact with hard-to-reach populations.

Participants further emphasised that most service users are individuals with no prior contact with support systems, often younger PWUD at an early stage of drug use. As another participant representing Provider 4 noted, "most are those who have no direct contact with us [. . .] among them, 60–70% are younger than 25". This suggests that DCS are particularly effective in reaching younger, non-engaged users, thereby extending the reach of harm reduction interventions to populations typically outside formal service networks and functioning as an initial point of contact with services. The PWUD engaging with the DCS are mostly younger and are not enrolled in any support programme.

This group is followed by regular programme users. A participant representing Provider 3 explained, "they come regularly to our day centre, meaning those with whom we have daily contact and who have been using for several years. Also, our classic service users, who otherwise find it difficult to decide on this service, because it is hard for them to give up a substance for checking, even if they know it might not be good". This suggests that, despite established engagement with services, some long-term users may experience ambivalence towards drug checking, particularly due to reluctance to relinquish substances for analysis, even when aware of potential risks.

Because the number of minors engaging with the DCS increased during the COVID-19 pandemic, the DrogArt Association developed protocols for working with underage users, including systematic risk assessments procedures to support more effective counselling and referral to appropriate support programmes. A participant representing Provider 4 stated that "since last year, the number of underage PWUD has drastically decreased. We also started using very specific protocols for this". This implicates that the development of structured procedures may have contributed to improved management of underage cases, as well as to more targeted and standardised responses when such users engage with the service.

Among the positive aspects of the DCS is establishing contact with young people who experiment with drugs or use them occasionally and do not recognise problems related to their use. Primarily, they are interested in the quality of substances bought on the black market, and to a lesser extent, in associated health risks. A participant representing Provider 3 emphasised that "the most positive things are when you see people starting from bringing samples, then engaging in some counselling". This suggests that drug checking can serve as an initial entry point into harm reduction services, potentially facilitating gradual engagement in counselling among otherwise low-threshold or lower-risk PWUD.

Another positive aspect is the mutual sharing of information among PWUD, both about checking possibilities and the appearance of dangerous adulterants or NPS. A participant representing Provider 2 explained, "they also encourage others to bring drug samples for checking". This indicates that DCS may generate secondary outreach effects, where engaged users contribute to wider dissemination of harm reduction information within peer networks.

A further positive aspect is the change in PWUD attitudes towards the use of illicit drugs and NPS. A participant representing Provider 1 stressed that "checking can, in this way, change the attitude towards drugs and their use". The same participant further explained that users who had been using drugs for many years often initially perceived their substances as safe due to consistent sourcing from the same dealer; however, repeated exposure to harm reduction messaging within the drug checking context challenged this perception. This led to a more critical understanding that substance composition can vary and that no illicit drug can be considered inherently safe without checking.

By implementing the checking service, programmes also gain valuable insights into the local drug scene, including patterns of use in the community, developments in the illicit drug market and the emergence of NPS. This information is regularly reported to the national EWS network. A participant representing Provider 1 stated: "I get some information, which I report onwards". This suggests that DCS not only function at the level of individual harm reduction, but also contribute to broader monitoring and surveillance systems by feeding real-time information into national early warning structures.

The reasons for using the DCS vary among PWUD. From a harm reduction perspective, an important motivation is the reduction of health-related risks through more informed and responsible decision-making regarding drug use. It is very important that PWUD check the composition of substances prior to consumption and make informed decisions about whether to use them based on this information. A participant representing Provider 3 described this as follows: "[…] that they then actually know what they are putting into their bodies and can somehow prepare for the consequences. […] it is about more responsible use of substances that they would have used anyway […] we talk about safer drug use". This shows that DCS may support more informed consumption practices by enabling users to anticipate risks and adopt safer use strategies, rather than necessarily reducing use itself.

Participants also highlighted the inclusion of PWUD in counselling programmes and the strengthening of peer counselling and self-help within this group. A participant representing Provider 2 noted, "they also report results to each other. For example, it happened that three people needed emergency medical help due to synthetic cannabinoids, and then a group of PWUD organised themselves to get that substance and brought it to us for checking". This suggests that DCS may facilitate peer-led responses to drug-related harms, supporting collective action and rapid identification of particularly dangerous substances within user networks. The focus group participants also highlighted some negative aspects of implementing DCS. One concern relates to checking motivated by curiosity or occurring after drug consumption, where users may request analysis without a clear intention to adjust their behaviour. A participant representing Provider 2 explained, "[…] they do not care at all what the analysis will show. […] but there are some people who try the sample and then,

when they see it is not what they expected, they bring it for checking out of curiosity". This indicates that in some cases drug checking may be used in a non-preventive or exploratory manner, which limits its direct harm reduction effect.

Another reported issue involves the use of services by third parties, such as relatives attempting to monitor the drug use of family members or partners. In addition, participants noted instances where PWUD use the service to assess dealers or question the quality of substances, sometimes leading to conflict. A participant representing Provider 6 stated, "[...] checking the dealer and checking the quality".

Similarly, another participant representing Provider 1 noted that users may bring substances because they are uncertain what is being sold, but also acknowledged, "[...] we do not know if the sample they brought is intended for dilution or if it is the final product. [...] then they argue with the dealers, claiming they sold them a very bad substance". This shows that drug checking may, in some cases, generate tensions within supply relationships and be used for purposes beyond individual harm reduction.

Lastly, participants raised concerns about potential unintended consequences related to drug market dynamics. A participant representing Provider 5 described that when results indicate high purity substances, this may stimulate demand, as users may actively seek them out: "[...] when the result or warning came that, for example, very pure heroin was detected in the Ljubljana area, the reaction was 'we have to go find this'". This suggests that while drug checking provides risk information, it may also unintentionally influence demand for specific substances within drug-using networks.

Barriers to implementing drug checking services

Participants identified several barriers to implementing DCS, particularly concerning anonymity, trust and accessibility. A key challenge was mistrust among PWUD regarding data confidentiality and fears that information might be shared with law enforcement. A participant from Provider 2 noted that users expressed concerns such as: "You will definitely take it to the police, and the police will know who brought it". This suggests that worries about surveillance and confidentiality may undermine trust in the service and limit engagement.

Structural and environmental barriers were also reported. The physical location of services was described as problematic, especially when situated near police premises. A participant from Provider 5 stated, "the location of our day centre. You have to walk past the police. We do not even have a suitable space to perform this qualitatively". This indicates that spatial arrangements may inadvertently reinforce perceptions of surveillance and reduce accessibility for PWUD.

Additionally, participants highlighted limitations related to operating hours, which are often aligned with day centre schedules and therefore unsuitable for employed or younger PWUD, as well as those seeking anonymity from visible service settings. Another barrier concerns the episodic nature of contact, as services are often limited to single interactions. A participant from Provider 3 explained, "after we tell them the results, we have no more contact", suggesting difficulties in sustaining engagement and continuity of care.

Lastly, participants reported low motivation among some active PWUD to engage in additional counselling or questionnaires. A participant from Provider 7 noted that users were "very reluctant to fill out" follow-up tools related to harm reduction counselling. This highlights that, beyond structural barriers, engagement is also shaped by users' readiness and willingness to participate in extended interventions.

Gaining new insights into new psychoactive substances and acquiring new knowledge through the checking service

Focus group participants noted that implementing the DCS function is an ongoing learning process, particularly regarding emerging NPS and changes in drug trends. Exposure to new substances requires continuous updating of knowledge and adaptation of professional practice.

A participant representing Provider 4 stated, "We always learn something new or receive information we did not have before. We are better informed and can respond more easily and effectively when new PWUD appear. This sample collection is a process of continuous learning – you constantly have to educate yourself, update your knowledge, and monitor trends". This suggests that DCS strengthen professionals' capacity to respond to rapidly evolving drug markets through continuous knowledge development.

Participants also reported improved counselling competencies, particularly regarding NPS use and harm reduction communication. A participant representing Provider 7 explained, "We provide counselling on safer drug use and whether using that drug is even necessary. I recall one case where I spoke with a user who, during our conversation, realised that alternative methods for relaxation, such as psychotherapy, could also be used". This indicates that drug checking interactions may extend beyond substance-related advice and support broader behavioural reflection among users.

Furthermore, DCS was described as facilitating information exchange and cooperation with external stakeholders. A participant representing Provider 6 stated, "We have established and continue to strengthen cooperation with the NIJZ, as well as with the police and other organisations. This seems very positive to me – you can pick up the phone, call, and ask". This highlights that drug checking can enhance inter-organisational communication and strengthen coordination within the wider drug response system.

Recognition of the checking service within the local community

Participants reported that DCS are better recognised and more strongly supported in contexts where organisations maintain close cooperation with local stakeholders. In these settings, awareness of the service often extends beyond professional actors to include broader community support. For example, a participant representing Provider 3 noted, "[...] the methadone [clinic] is definitely aware of it because they might also direct PWUD to us. Even the neighbours, who are in the same building, strongly support the initiative. The local community knows about this service". This suggests that strong embeddedness within local service networks and community environments can enhance both visibility and acceptance of DCS.

However, participants also highlighted that stakeholder responsiveness is not consistent across all contexts. In some cases, local actors did not respond to information or urgent notifications regarding the presence of dangerous adulterants and NPS. This indicates that the effectiveness of early warning communication may depend on the strength of local collaboration and the reliability of established communication channels.

Furthermore, participants emphasised the importance of sustaining and further promoting DCS. A participant representing Provider 1 stated, "the importance of this service lies in reducing health risks and, above all, preventing overdoses and deaths".

This highlights that drug checking is perceived not only as an informational intervention but also as a key harm reduction strategy with direct implications for overdose prevention and broader public health outcomes.

Discussion

The findings from the research on DCS employees' perspectives largely align with existing research based on the client perspective and, in some areas, provide new insights or meaning. The qualitative part of the evaluation was part of a long-term quantitative evaluation of DCS in Slovenia, which complemented the client perspective. The main findings from the quantitative part of the DCS evaluation between 2018 and 2024 were that the service, or the national system, provides valuable insight into the illicit drug market and the identification of new NPS or particularly dangerous drugs, with an average of 24 warnings issued per year (Verdenik *et al.*, 2026). This is consistent with the findings of a meta-analysis (Maghsoudi *et al.*, 2022), in which 70% of studies reported DCS as a tool for monitoring the drug market and new substances. The employees' perspective indicated that DCS provides essential information about the emergence of illicit drugs and NPS in the community, and that it can be a harm reduction strategy with direct benefits for overdose prevention and broader public health outcomes, which is consistent with the findings of research on providers' perspectives in the USA (Moran *et al.*, 2024).

According to our findings from the quantitative and qualitative parts of the evaluation, DCS enables a relatively large reach. In the quantitative part, we estimated that around 11,000 PWUD were reached, as the 2,759 service users could, according to the findings, share the information further within their circles (Verdenik *et al.*, 2026). Third-party drug checking and multipliers are also reported in other studies (Larnder *et al.*, 2021; Valente *et al.*, 2024), and our findings from the employees' perspective support this.

Of particular importance is the effective engagement of hidden populations of PWUD; a large proportion (82.9%) of service users in Slovenia had not previously participated in any support programme, which aligns with findings from other research (Hungerbuehler *et al.*, 2011). Our qualitative data from employees supports and explains this effect. Employees report reaching a hidden population of younger, experimental users who are primarily interested in the quality of a substance. All organisations involved in the DCS system in Slovenia assess that implementing this service enabled them to establish contact with new PWUD. Through the service, they reached younger PWUD and hidden populations of PWUD. As minors who use drugs also began to engage with the service, special protocols had to be developed for this group due to their increased vulnerability, to enable more effective counselling and referral to support programmes. By implementing DCS, organisations in our sample gained better insight into the "scene", and mutual information sharing among PWUD about dangerous adulterants was confirmed, which increases the service's reach (Larnder *et al.*, 2021; Valente *et al.*, 2024).

Furthermore, the importance of DCS in promoting positive changes in PWUD behaviour by reducing health risks was demonstrated (Verdenik *et al.*, 2024). Our findings confirm previous research (Measham and Turnbull, 2021; Maghsoudi *et al.*, 2022; Valente *et al.*, 2022), showing that DCS can be a tool to influence behavioural changes in PWUD.

The employees in DCS also highlighted possible negative aspects of DCS operation, such as checking drugs out of curiosity or after use, which can reduce the service's preventive value, and the use of the service by relatives, such as parents or partners, to monitor others. Moreover, DCS employees caution that some PWUD may use the service to assess substance quality for resale or to verify the reliability of drug dealers. Certain behavioural patterns may also result in an undesirable outcome – the promotion of "pure" substances as safer or even preferable among PWUD, as seen, for example, with high-purity heroin. This places considerable responsibility on service coordinators and staff to be skilled risk communicators, able to tailor complex messages – beyond simply stating "it is pure" – to individual users. It also means that services must have protocols not only for checking, but also for presenting results and managing the risk that their service could be appropriated

as a quality-control tool for dealers or as a "shopping list" for users seeking purity. Sharing results can be as important as the analysis itself, serving as a harm reduction measure.

One of the findings is the persistent paradox of mistrust, identified by employees as a primary barrier. Although the service is logistically anonymous, participants confirmed that PWUD still fear their data will be shared with the police. This finding is important and consistent with our 2017 evaluation and other international research (Sande and Šabić, 2018; Rose *et al.*, 2023; Pocuca *et al.*, 2025). It demonstrates that procedural anonymity is insufficient to overcome the deep-seated, systemic mistrust rooted in the stigmatisation and criminalisation of drug use. Additional issues include the location of the drug checking point, the service's operating hours and a lack of motivation for counselling among some PWUD. Within the I-SEE project (Sande and Šabić, 2018), we evaluated the then-existing, more limited form of the Slovenian DCS in 2017, which informed the development of the modern, integrated version of the service. Even then, similar concerns about anonymity emerged, discouraging PWUD from using the service. Other studies focusing on the perspective of DCS employees also report similar findings, highlighting trust and anonymity as significant barriers to implementation (Rose *et al.*, 2023; Pocuca *et al.*, 2025).

Beyond its client-facing benefits, our findings position DCS as a "development and learning" tool for employees. Employees reported that the service functions as a "process of continuous learning", requiring them to continually update their knowledge and counselling strategies for NPS, which can benefit organisational development and learning. The importance of DCS in community cooperation was also emphasised. Employees obtained new information about drug use in the community, enabling them to establish contact and cooperate more easily with other community stakeholders. Interestingly, employees at most checking points reported that the service was well received in the community, while in rare cases, there was no response from the local community.

These findings are consistent with other studies examining the provider perspective, which find that DCS can have significant effects at the individual, community, public health and healthcare system levels (Moran *et al.*, 2024). At the same time, it enables better information flow between PWUD, providers and local institutions, contributing to the early identification of new risks in the drug market, including the detection of NPS (Kurcevič and Lines, 2020).

It is important to acknowledge the limitations of this qualitative study, which include a small sample size ($n = 7$) drawn from a single focus group. Furthermore, the findings are context-specific to Slovenia's national DCS system.

The implications for future research based on the results of this study include the topic of monitoring others through DCS, for example, when relatives attempt to monitor drug use by their children or parents, or when individuals try to check a dealer or manipulate results. Another implication would be to further investigate the possible benefits for different types of service providers and communities that are cooperating in DCS systems, so similar systems can find support to successfully integrate into drug policy in countries outside the EU. Based on employee interview findings, DCS is essential for expanding harm reduction initiatives. DCS can effectively reach "hidden" populations previously outside traditional support networks, providing vital health information and targeted counselling. Strengthening DCS networks and integrating them into broader social policy are crucial for optimising public health systems and improving engagement with high-risk groups. However, perceived mistrust in DCS must be addressed by building community trust and emphasising that anonymity is a core pillar of DCS, assuring clients that no personal information is disclosed to any third party. In response to challenges regarding minors entering the checking system and sample number limitations in cases of suspected resale intent, we have developed and implemented specific protocols for minors in DCS and for sample restrictions as soon as these issues arose. From employees' perspective, it is advisable to encourage voluntary user engagement in follow-up counselling and support

services, especially when high-risk consumption patterns are identified. Participation in the system also provides significant practical benefits for organisations, facilitating knowledge acquisition about emerging substances, engagement with novel PWUD populations and enhanced inter-organisational collaboration within the DCS framework.

Conclusions

Qualitative analysis enables a deeper exploration of issues and complements quantitative findings. In our analysis of DCS employees' perspectives, findings related to improved monitoring of the drug market, increased reach and the inclusion of new groups of PWUD were consistent with the quantitative evaluation results. Insights into barriers and negative aspects are valuable for planning future improvements and for further research on drug checking. DCS allows employees to gain in-depth knowledge about NPS and develop new competencies for working with PWUD. Effective integration of the system into the community is important, as it can bring various benefits of the DCS to both the community and public health, and can be a focus for future research.

Note

[1.] The DCS service was included in the Resolution on the National Programme on Illicit Drugs 2014–2020 (National Institute of Public Health, 2019).

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