Scottish drug checking event

Bringing together key parties to discuss implementation and inform the delivery of drug checking services

May 2023

Background and context

The purpose of this document is to outline key points from group work and discussion at the Scottish drug checking event on 21st March 2023. Before outlining the key points discussed, it is necessary to provide some background information in relation to drug checking services, the Scottish drug checking project, and the nature and purpose of the event.

What are drug checking services and how can they reduce the risk of harm from drug use?

Drug checking services (DCS) enable individuals to hand in a small amount of a substance for analysis and provide information about the analysed substance, along with harm reduction support and advice. People who use drugs have limited access to reliable information about the contents of drugs, placing them at risk of experiencing a range of drug-related harms, including overdose. Drugs may vary in strength and content and are sometimes mis-sold (meaning that the contents of a drug do not correspond with what someone bought it as). Such risks are increasingly prominent as drug markets become more complex, due to the number and type of synthetic/novel psychoactive substances available. These dynamics can be seen in Scotland, where 'novel' benzodiazepines are increasingly common. Such so-called 'street benzos' can be more potent than traditionally prescribed benzodiazepines, and individuals buying them have limited means of knowing their strength or content. The emergence of 'nitazenes' (powerful synthetic opioids) on the Scottish drug market, typically mis-sold as oxycodone tablets, provides a further example of the risks produced by the unregulated drug market.

DCS can address such risks by providing people with information about the contents of drugs, enabling people to adopt harm reduction practices. DCS can also help us track trends in the drug market, with potential to inform timely public health responses and communication. Whilst DCS have been in operation in Europe since the early 1990's, and are increasingly common globally, no such services currently operate in Scotland (at the time of writing, May 2023).

What is the Scottish drug checking project?

The Scottish drug checking project is a research project (January 2021-May 2023) aiming to explore the barriers and facilitators to setting up community-based DCS in Scotland. DCS are being planned in three cities (Aberdeen, Dundee and Glasgow) and the project works closely with these local areas (and a range of other key national and international parties) to inform the implementation and delivery of DCS. The project is led by the University of Stirling in collaboration with a range of partners from academia, international DCS, and the third sector. Throughout its course, the project has facilitated dialogue between a range of relevant parties including people with lived experience and family members; drug checking experts; Scottish Government; local implementation groups; toxicology; Police Scotland; and third sector organisations. You can find out more by visiting the Scottish drug checking project online hub.

What is the Scottish drug checking event?

On 21st March 2023, an implementation event was held at the Dundee Contemporary Arts Centre. The event hosted 43 attendees across a range of groups including: researchers; people with lived experience and family members; Scottish Government; Public Health Scotland; local councils; third sector services; local and national police; international drug checking experts; and local implementation groups. The aim of the event was to facilitate dialogue on key issues relating to the implementation of DCS in Scotland, based on learning from the project. Attendees from The Loop (an English DCS) and 'Substance' DCS in Victoria, Canada, presented learning from their services, highlighting areas of consideration for drug checking in Scotland. During the event, attendees were

involved in group work activities to discuss key implementation issues[1]. High-level notes were taken from each group discussion and are presented below. As DCS are complex interventions to set up and deliver, owing to a number of factors, the hope is that the event (and this subsequent output) can help inform discussion and decision making on key implementation considerations.

What is the progress of drug checking implementation in Scotland?

As noted, the delivery of DCS is being planned in Aberdeen, Dundee, and Glasgow. There is strong national support across a range of parties, including Scottish Government, for the implementation of DCS as part of a national response to current levels of drug-related harms and deaths. A national implementation group has been set up to discuss key delivery considerations and support local delivery. Whilst there is a high level of support and multi-agency collaboration around the delivery of DCS in Scotland, there are still challenging implementation issues to be considered and resolved.

Although there are several decisions to be made around service delivery, it is likely that DCS will be implemented as small-scale pilots at a single site in each city. DCS will likely be integrated into existing services offering a range of harm reduction interventions. At each site, individuals will be able to hand in a small amount of a substance for testing.

Equipment used on site may have limitations. For example, it may not always be possible to provide information on the strength of a substance, and analysis may be limited to providing information about substance contents. Additionally, it may not always be possible to provide comprehensive information about a tested substance, particularly if it is a new or emerging substance on the illicit drug market. Due to these limitations, it is likely that there will be a national lab-based testing service in addition to the three city-based testing sites. This service will enable a selection of substances submitted at each site to be transported to the lab for comprehensive testing (as the lab will have advanced and highly accurate equipment). This will enable the accuracy and effectiveness of equipment used at each city site to be evaluated against the results produced by the lab. Additionally, the national lab-based component will improve Scotland's capacity for drug market monitoring, by providing comprehensive analysis of new or unexpected substances found to be in circulation.

[1] Please note that not all topics relating to implementation were discussed at the event. For example, issues regarding DCS equipment and methods were not included as a topic for group work discussion. This is because such factors had been discussed extensively in project meetings. The topics for discussion were formulated based on feedback from local implementation groups on the key issues which they felt required further consideration and input.

Key points from group discussions

This section will outline key points from the group discussions at the event, with the aim of highlighting challenges and potential solutions relating to ongoing delivery considerations. In addition to points discussed by attendees, there are a few points where additional information is added which relates to areas of discussion and which may be useful for informing implementation. Where this is the case, it will be made clear that this is an addition by the research team and not a point made directly by the attendees. Please note that there is a glossary of terms at the end of the document outlining any technical terminology used throughout.

Topic one: Implementation challenges, key parties, and logistics

Key topics: Challenges and opportunities for postal drug checking for those living outside of Aberdeen, Dundee, and Glasgow; key parties involved in drug checking at the national and local level; operational and logistical challenges for DCS.

1.1. Postal drug checking provision

As noted, DCS delivery is being planned in Aberdeen, Dundee, and Glasgow, allowing residents of each city to engage with the service. However, this would mean that those living outside of these cities (or far away from the DCS within these cities) would not have access to drug checking. Postal provision, where individuals, or services on behalf of individuals, can submit substances to the service by post, may be a means of expanding access to DCS. If postal provision were established, it is likely that substances would be sent directly to the national-lab service for analysis. Attendees noted a range of opportunities and challenges in relation to postal provision, outlined below.

- It was noted that there may be legal issues in relation to this approach, and that such practices would likely exist in a legal grey area.
- Attendees were unclear who would be able to post substances of concern – would it be staff working in services (on behalf of individuals) or would it be open to the wider public?
- There was discussion around whether there would need to be specific packaging, forms, and letters of exemption for such practices, and it was noted that there was potential for such packages to be intercepted by Royal Mail (if sent through normal post)[2].
- Attendees described the need for awareness raising and training amongst staff about this issue, as well as clarity in relation to staff's role in relation to posting substances of concern.
- It was noted that envelopes and forms for postal drug checking could be distributed through local injecting equipment provision (IEP) sites.
- There was some doubt in relation to whether people would be aware of the presence of postal drug checking and a perception that local services may be better placed to meet local need, especially for individuals at highest risk. However, it was noted that providing postal drug checking would be a positive for those living in other cities, towns and rural communities, and may also enhance the drug market monitoring capacity in Scotland (by increasing the geographic spread of analysed substances).
- The time taken for individuals to receive results through postal provision (likely up to a week) was described as a challenge. There were some doubts around whether people would use this service and whether this would be able to reach those at higher risk of experiencing drug-related harm. Further, it was noted that the Welsh Emerging Drugs and Novel Psychoactive Substances

[2] The Drug Information and Monitoring System (DIMS) in the Netherlands have developed an exemption/disclaimer form which they use when substances are sent by post from local DCS sites to the national 'hub' (Trimbos Institute). See Fig 1 (below).

project (WEDINOS) already offer a postal testing service, so there was some perception that this may be duplicating work instead of relying on existing resources.

- Considerations in relation to how to communicate results were highlighted, given the challenges around the remote model which would be in operation. Relating to the time required to get results back, there was some perception that results may not matter to individuals after a week as they may have consumed the drug already. However, it was noted that this may still be useful from a market monitoring perspective. It was also noted that it might be useful for those who: don't want to attend a fixed-site service; are selling drugs; and groups at lower risk of experiencing drug-related harm.
- Attendees discussed that some DCS currently operate a postal provision. For example, 'Substance' DCS in Victoria, Canada has a postal option.
- Some attendees felt that there should be a focus on engaging higher risk individuals within the pilot sites first, then the pilot could expand its focus to postal provision.
- It was felt that if people were required to provide an address to use a postal model this would present a barrier to engagement. However, it was noted that it is unlikely that an individual would be asked to provide a full postcode. They may be asked for a postcode area (first four letters and digits of postcode), but this wouldn't likely render anyone identifiable.
- Alternatives to postal models were provided. For example, some noted that drop-boxes in services could be provided where people submit substances of concern which are later transported to the national lab-based service for analysis. Substances could be transported by courier.

Box 1: Key issues relating to postal provision

Key points in relation to postal provision

Whilst it was acknowledged that postal provision may be valuable for allowing those living outside of cities to access drug checking, attendees described key challenges related to:

- Whether people would use a postal service (particularly those at highest risk of experiencing drug-related harm).
- The waiting times involved in postal provision (up to a week).
- Whether it would be using resources to duplicate existing services (i.e., WEDINOS).
- That postal DCS exists in a legal grey area.
- Various further logistical challenges.
- The resource cost related to postal provision and whether it would be better directed elsewhere (i.e., other local harm reduction services).

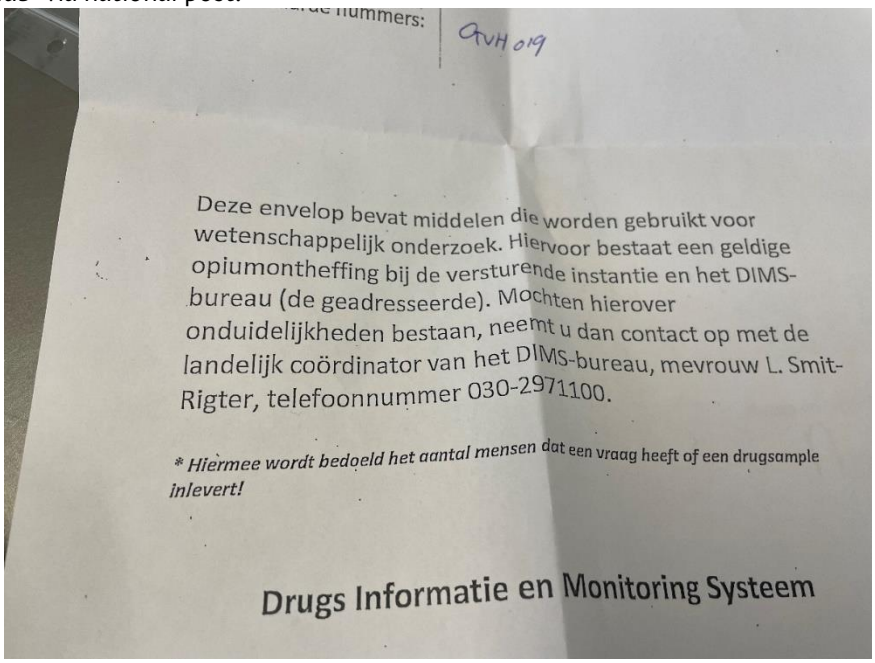
There was also some uncertainty around what postal provision would look like:

- Attendees were unclear whether individuals would be able to submit substances by post or whether services would do so on their behalf.
- Some alternative models were also discussed such as having drop-boxes in various services throughout Scotland, where substances could then be transported to the national lab-based testing service.

If postal provision were to be implemented, attendees noted important elements, such as:

- Building awareness and engagement. Local services could hand out envelopes and forms to service users.
- Ensuring confidentiality of service users (for example, not collecting full postcodes).
- It was noted that there are examples of successful postal provision internationally.

Fig 1: DIMS disclaimer/exemption on form used where substances from local testing sites are transported to the national 'hub' via national post.



The writing on the form roughly translates as: '*This envelope contains resources used for scientific research. There is a valid drug exemption for this with both the sending agency and the DIMS office (to whom this letter is addressed). If you are unsure about this, please contact the national co-ordinator of the DIMS office*'. While this form was not discussed directly by event attendees in relation to postal provision, it relates to an above point about the potential for substances to be intercepted by Royal Mail. Such a form/disclaimer may provide a form of protection for substances travelling through post.

1.2. Key parties for implementing and operating DCS

DCS are complex interventions to implement and deliver, requiring a wide range of input and expertise at the local and national level. Attendees were asked to discuss the organisations and groups who should be involved in implementation and delivery, both locally and nationally[3].

Local input, organisations, and groups

- People who use drugs were described as central in relation to engaging with DCS, informing the evaluation of services, sharing information through their communities and social networks, and in advocating for such services. It was also noted that peer networks could have a key role in relation to these functions, with attendees describing the importance of building and supporting peer networks in Scotland.
- Those who sell drugs were also described as a group who may wish to use DCS, with the potential for such individuals to distribute information about analysed substances to their clients. However, it was noted that there may be legal, political and moral challenges, as well as risks, in relation to those who sell drugs using DCS.
- Local drug trend monitoring groups were described as important in relation to DCS. The role of drug trend monitoring groups was said to be in relation to developing local alerts and drug trend information and reports. It was noted that people who use drugs should have input into such groups.
- Local public health departments were also said to have a role in monitoring drug trends and distributing information.

[3] Please note that the list of parties involved at the national and local level, and their respective roles, presented here is based on the discussion of attendees. It does not represent a formally agreed upon list of roles and responsibilities for various parties.

- Attendees also discussed the role of pharmacies and IEP services in distributing alerts, with the potential for drug alerts to be shared to pharmacies through NEO360, the community pharmacy data collection and recording system in Scotland.
- Local police divisions were noted as having a role in relation to the strategy and approach to policing of DCS, as well as in relation to sharing of drug alerts and trend information.
- The general public and local communities were described as key actors in relation to the extent to which they supported DCS. Additionally, they were described as having a role in relation to accessing drug trend information. Family members of those who use drugs were described as an important part of this wider group, who could be involved in relation to accessing DCS, building support and awareness, and accessing drug trend information and alerts.
- A range of parties were said to have a role in relation to signposting to DCS, including third sector services, pharmacies, NHS staff and paramedics. Third sector and peer outreach were described as key means of building engagement in drug checking. Further, it was noted that harm reduction staff may wish to use the service to submit substances on a service user's behalf.

National input, organisations, and groups

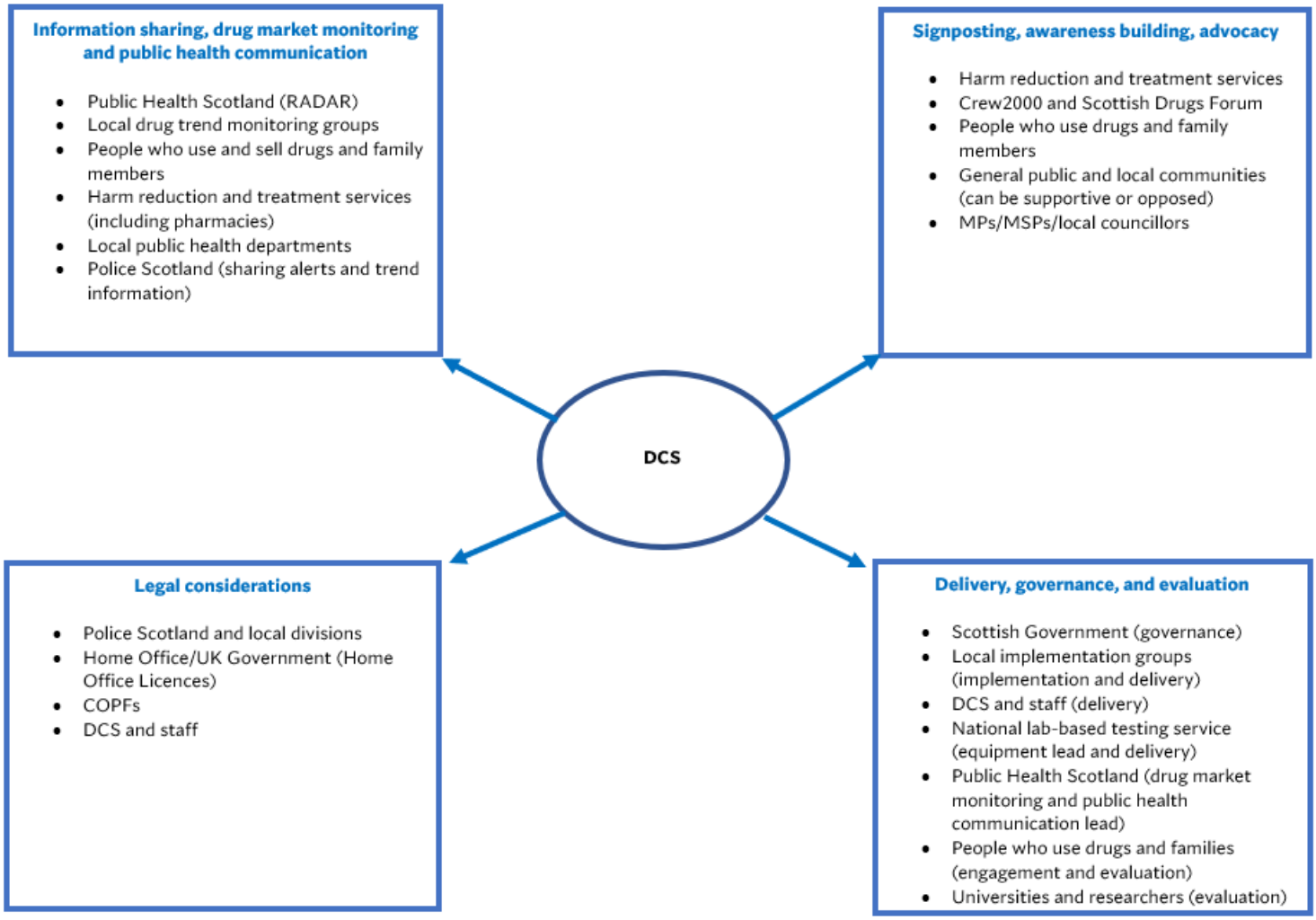
- At the national level, Scottish Government were described as leading the governance of drug checking as a national pilot. Public Health Scotland were noted as leading the drug market monitoring aspect of the work. Attendees felt that drug trend information from DCS could feed into the Rapid Action Drug Alerts and Response (RADAR) early warning system, which would be responsible for co-ordinating the communication of this information to a range of parties at the national and local level.
- The national lab-based testing services was described as having several important functions including evaluating the effectiveness of point-of-care (POC) drug checking equipment; performing confirmatory testing on substances; updating reference libraries; and working with RADAR in relation to sharing of trend information and alerts. The instrument vendors were also described as having a role in relation to updating reference libraries, maintaining equipment, and sharing updates in relation to the equipment at POC.
- Police Scotland were described as important in relation to the policing approach to DCS, and in providing strategic guidance to local policing divisions. Similar to local police, they were described as having a role in information sharing around drug trends and alerts.
- It was noted Crew2000 and the Scottish Drugs Forum could provide information sharing capacity, build awareness and knowledge around DCS, and perform an advocacy function.
- The UK Government/Home Office were described as having a role in relation to the granting of Home Office Licences. The Crown Office and Procurator Fiscal Service (COPFS) was noted as having a potential role to play around legal issues surrounding drug checking such as considerations relating to the transporting of substances from POC to the national lab-based service.
- Universities were described as having a central role in the evaluation of the national pilot.
- MSP/MPs and local councillors were described as potential sources of support for DCS and its sustained implementation.

Table 1: List of national and local stakeholders and their respective roles discussed by attendees.

Group/organisation	Level of influence	Role and input
People who use drugs (including peer networks) and family members	National and local	Using and engaging with DCS; sharing information through communities; advocacy; informing service evaluation and design.

Police Scotland and local divisions	National and local	Developing strategy and guidance in relation to policing of DCS (national); implementing national strategy at a local level (local); information sharing (national and local).
General public and local communities	National and local	Support (or otherwise) for DCS; accessing drug trend information.
MPs/MSPs/local councillors	National and local	Support for DCS.
Scottish Government	National	Governance of national DCS pilot; funding of pilot.
National lab-based testing service	National	Providing lab-based testing component for pilot; evaluating effectiveness of POC equipment; updating reference libraries; inputting into drug market monitoring and information sharing; knowledge building around equipment and methods.
Crew2000 and Scottish Drugs Forum	National	Information sharing; building knowledge and awareness; advocacy.
UK Government/Home Office	National	Home Office Licensing process.
Crown Office and Procurator Fiscal Service	National	Consideration of/input into legal issues such as the transportation of substances from the local sites to the national lab-based service.
Universities/researchers	National	Evaluation of national pilot.
Public Health Scotland/RADAR	National	Drug market trend monitoring, assessment and communication including alerts, reports and resources.
People who sell drugs	Local	Using DCS and informing clients of results. Noted as controversial and challenging for a number of reasons.
Local trend monitoring groups	Local	Developing local alerts and drug trend information/reports; working with RADAR.
Local public health departments	Local	Monitoring trends and sharing information.
Pharmacies and IEP services	Local	Distributing alerts and drug trend information.
Harm reduction and treatment services and staff	Local	Signposting and awareness building; submitting substances on behalf of service users.
Alcohol and Drug Partnerships	Local	Information sharing; support; service delivery decisions; potential role in longer term funding.

Fig 2: Key areas of implementation and delivery and relevant parties for each.



1.3. Key implementation and delivery considerations

DCS implementation requires consideration of complex issues around legality; equipment; staffing; transport of substances; funding; and evaluation.

- Transport of substances between the POC sites and the national hub was described as a key logistical challenge, with decisions to be made in relation to: the frequency in which substances are sent; which substances should be sent; and how to ensure a chain of custody during the transportation.
- The financial affordability of DCS was described as an important consideration, in relation to their longer-term sustainability after the pilot phase and who would be responsible for covering this cost (ADPs or Scottish Government).
- Several key issues in relation to service delivery were described including: how results should be delivered to service users; what data should be collected POC; the need to build trust with service users to increase engagement; and challenges around providing information on substance strength through POC analysis.
- It was noted that DCS would need to be able to meet the expectations of those using the service, which may be challenging at times, for example, with respect to the limitations of equipment. However, it was noted that methods and equipment used by DCS will be developed

over time to meet such challenges. Given the current lack of drug checking provision in Scotland, it was felt that such concerns should not present a barrier to implementation.
- A further service delivery challenge related to the fact that each city would only have one site initially, and that this site could become very busy. Additionally, it was noted that there may be challenges in relation to one site 'catering for all' in terms of meeting the needs of different groups of people who use drugs.

Box 2: Key implementation and delivery challenges

Key points in relation to implementation and delivery challenges

A range of implementation and delivery challenges were discussed including:
- Transportation of substances between local sites and national lab-based testing service.
- Financial affordability and sustainability of DCS delivery long term.
- Whether, given the limitations of POC equipment, DCS will be able to meet the needs and expectations of service users.
- Engaging a wide group of people who use drugs (multiple substance types and service user demographics).
- Managing demand and providing quick turnaround times (if demand is high).

Topic two: Communication

There are a range of implementation considerations for DCS relating to communication. DCS communicate results and tailored harm reduction information directly to individual service users. This requires careful consideration, including in relation to issues such as the potential limitations of results, and the provision of harm reduction information to inform safer drug use practices. Beyond the communication of results to individuals, there are a range of considerations relating to the communication of drug checking trend information more generally. For example, it is important to consider the channels through which drug checking trend information is communicated (online, to various services, to wider relevant organisations). We asked attendees to discuss some of the key considerations and challenges around communication.

Key issues: Communication of results to individuals using the service; sharing of drug trend information and alerts with wider partners; DCS role in drug market monitoring and communication.

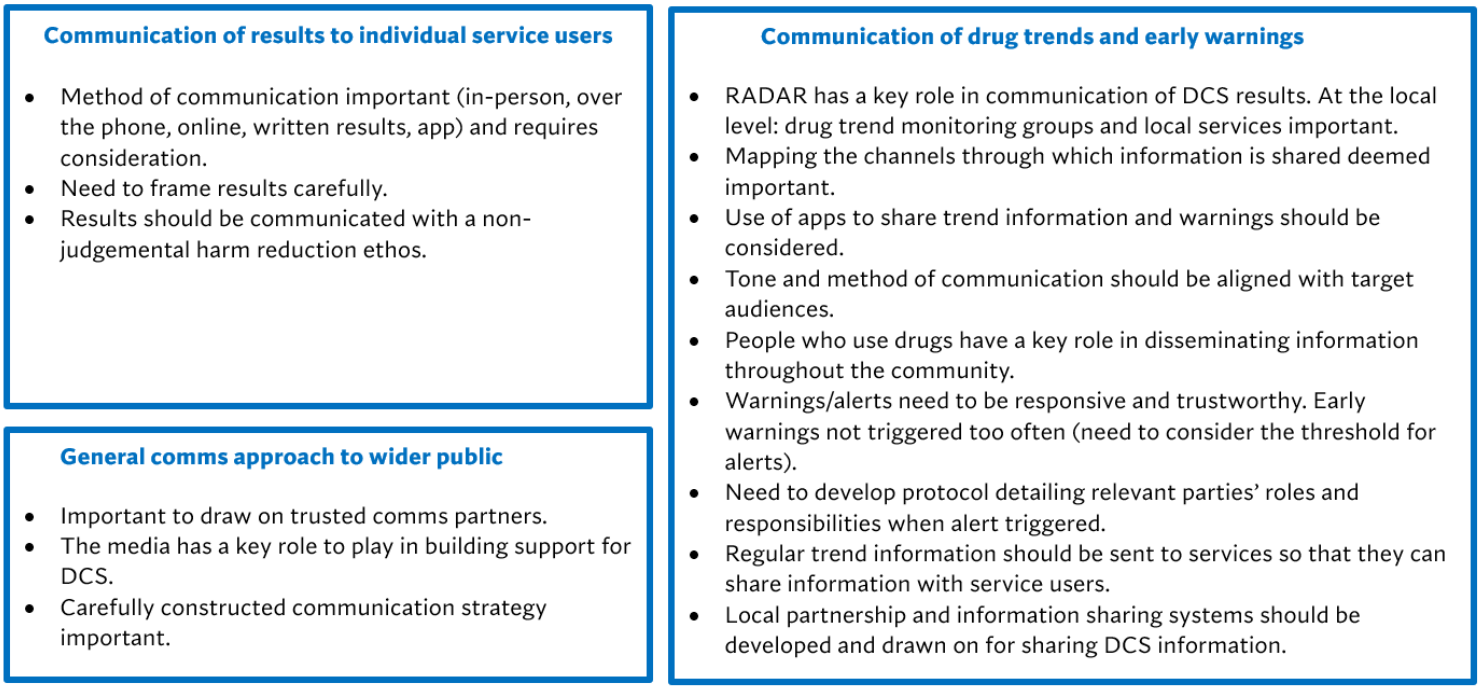
- Attendees noted that there were different forms in which drug checking results and information could be communicated. At the 'individual' level, results could be communicated to the individual accessing the service (through a range of potential means such as in-person, over the phone, online, through the provision of written results, or through an app). At the 'aggregated' level, drug trend information and alerts could be communicated to wider groups of people who use drugs and a range of other parties.
- As an overarching theme, attendees noted that communication and information sharing concerning drug trends and alerts should be 'rapid, responsive and relevant' for individuals using drugs, harm reduction staff, and the wider community. Three broad groups were identified as being the recipients of drug trend information: people who use drugs; services and a range of wider organisations; and the general public.
- RADAR was noted as a key component of this communication strategy, along with local channels such as trend monitoring groups.

- Drawing on apps to communicate aggregated trend data to wider groups of people who use drugs (who may not be in contact with DCS or other drug services) was seen as a means of increasing the reach of this information.
- It was noted that there should be a range of different means of distributing trend information through communication networks at the local and national level, and that each of these channels comprised part of the 'jigsaw' which would increase the ham reduction benefits of drug checking provision.
- It was noted that there may be a need to map the various channels through which this data was being shared, potentially through a data flowchart. Attendees described it as crucial that all communication of drug checking results (at the individual and aggregated level) had a harm reduction ethos.
- Attendees described the need for careful consideration of how information from DCS was communicated, to guard against potentially unintended consequences (such as people seeking high strength drugs on the basis of alerts).
- There is a need for local partnership and information sharing systems to be developed and drawn on for the sharing of DCS trend information and alerts. It was noted that there may be a wide range of parties at the local and national level who should be involved in the communication of information.
- Some attendees noted that there may be concerns about sharing information with the police. It was noted that this should only ever be high level aggregated information and should not provide any personal details. This information could be useful for the police in terms of planning responses, for example in reacting to changes in drug markets.
- In relation to information sharing and communication facilitated by DCS, it was noted that this had both immediate harm reduction potential (sharing information with people who use drugs) and strategic benefits in relation to drug market monitoring.
- A need to be clear about the processes of information sharing and its objectives from the outset was described as essential for ensuring a high-quality intervention.
- In relation to broader communication strategies to the wider public (concerning the purpose and aims of drug checking) a carefully constructed communication plan was described as important, with some attendees noting that it may be easy to lose control of messaging in the public domain. For example, drawing on trusted comms partners was described as essential for retaining control of the message and its framing. Others noted media engagement more generally as very important.
- Attendees noted the need to understand the target audience when designing a communication strategy around drug trend information, which could inform appropriate tone, form, and method of delivery.
- It was noted that, as well as alerts and formal communications amongst organisations, 'low-tech' communication and dissemination of trends and results in the community would also be important. For example, it was noted that outreach workers, harm reduction staff, and hostel staff all had a key role in distributing information to people who use drugs.
- In relation to an early warning system (EWS), attendees discussed the importance of the visibility of messaging (in that it reaches the right parties) and the frequency (that it is responsive when substances of concern are in circulation but not too frequent so that the warning loses legitimacy). It was noted that warnings would need to be tailored and targeted to local drug markets. Some attendees discussed the need for consideration of when communication about drug trends should constitute a formal alert and what the threshold should be for this process. It was noted that prior to the establishment of RADAR there had been issues around unverified and repetitive alerts being issued with minimal impact.

- There was a perceived need for an alert protocol to be developed, detailing the roles and responsibilities of various groups. Attendees described the need for 'real time' and responsive alerts, which it was felt drug checking could help facilitate. Dissemination of alerts through peer networks and communities was described as an important form of 'amplification' (extending the reach and impact of disseminated information). Finally, it was noted that there was a need for EWS (and communication more generally) to draw on available national and local channels of communication.
- Attendees also described the importance of regular trend updates circulating at the local level with relevant pharmacological detail and harm reduction advice.
- It was noted that an app may be a good means of providing individuals with relevant updates around drug market trends and for distributing alerts if substances of concern were found to be in circulation. Anonymity in relation to the app was described as important. Basic text reports for service users were described as another potential means of distributing information.
- In terms of distributing alerts in the event of substances of concern being detected, RADAR's protocols and processes around the cascading of information and deciding the severity of the alert were deemed important. It was noted that staff in the drug service landscape may require training in relation to alerts, drug markets and how to communicate this information effectively.

As an overarching theme, attendees noted that communication and information sharing concerning drug trends and alerts should be 'rapid, responsive and relevant' for individuals using drugs, harm reduction staff, and the wider community.

Fig 3: Forms of communication related to DCS and key considerations.



Topic three: Data collection and its role in evaluation

DCS typically collect information from service users, including demographic and information about the submitted substance. This information can be used to evaluate the service.

Key issues: Important data/outcomes which should be collected at POC; the role of this data collection in evaluation.

- Essential areas of data collection at POC[4] were described as: harm reduction engagement; expected substance type; whether the substance was used prior to analysis and if so, its effects; gender; age; context of drug use (in a group/alone, and location); drug use patterns (type, frequency, administration method, poly drug use); and behavioural intentions following a result. Useful, but not essential areas of data collection were described as: housing status; interest in accessing other services; location (postcode area)[5]; education status; and service user satisfaction. Areas of data collection which were not deemed to be required included: price; an individual's name; and where the individual bought the substance from (online, friend, dealer).
- It was noted that ethical consent would need to be gained from service users to use the data collected for evaluation purposes.
- One area of data collection deemed important was whether an individual had accessed the service before. This measure was noted as being able to capture repeat engagement, seen as a valuable outcome in itself.
- Demographic data were described as important for understanding who was accessing the service. Some attendees noted that IEP services generally collect a range of information from individuals including postcode and housing status, and that this doesn't seem to pose a barrier to engagement. However, some participants noted that there may be gendered issues around data collection: women may have concerns around confidentiality if they are caring for children, for example.
- It was noted that service users/submitted substances would need to be given a unique ID to be able to easily log and retrieve information within the system. NEO360, the data collection system utilised in community pharmacies already captures this through a 'NEO number'.
- It was noted that DCS should ask who the individual is accessing the service on behalf of. Evidence from other services shows that people often access services on behalf of others. Motivations for accessing the services was also described as important.
- Attendees described the importance of recording information in relation to expected substance type and substance characteristics.
- Service user drug use patterns (type, frequency, method) were noted as potentially important for understanding the individual's risk profile. However, some attendees had reservations in relation to asking too many questions about individual's drug use history as asking people to recount their history may be stigmatising.
- Engagement with harm reduction services and drug treatment was also described as a potentially useful area of data collection. However, some felt that asking about treatment history/current treatment may present barriers to engagement as individuals may have concerns over confidentiality.
- Capturing service user intention to access other interventions on site, or willingness to do so, was described as a potentially important aspect of data collection. Further, it was noted that there may be opportunity to ask individuals what supports and interventions they would like to receive/what areas they require further support with.
- It was noted that some services provide a short set of questions to all service users, then provide an option to 'opt-in' to a longer survey asking more detailed questions. This was seen as a means

[4] Please note that the areas of data collection at POC listed here as 'essential' 'useful' and 'non-essential' reflect only the notes taken from the group discussion. Some potentially important areas of data collection were not discussed or recorded in the notes. Therefore, discussion here should not be taken as a comprehensive list of areas which are important for data collection at POC.

[5] Although postcode area is listed here as 'useful but not essential', as per group discussions, it could be argued that this is an important area of data collection as it woul d allow targeted public health communication and responses in relation to substances of concern detected in particular localities/areas of a city.

of ensuring the service remained low-threshold whilst still retaining the opportunity to collect more in-depth data. However, it was noted that this data (from those who answer the extended questions) may not be representative of the wider group of service users.

- It was noted that one of the limitations of outcomes captured at POC in relation to individual drug use behaviour is that they often rely on 'intended behaviour change' (asking about people's drug use intentions follow results). Some studies have conducted follow ups after a period of time to assess how intentions after a result align with people's later reported actions. Attendees noted challenges around adopting this method (follow up surveys) in a community-based setting where people may have insecure housing, limited access to digital technology, and where there may be concerns around privacy. However, it was felt that this type of evaluation approach could potentially be achieved by sending an optional survey to people's mobiles a few days after they had accessed a DCS (although this would rely on people providing mobile numbers). It was also noted that evaluation should focus on broader outcomes in terms of harm reduction and risk/drug literacy, and not only on narrow behavioural metrics.

Table 2: Data collection deemed: essential; useful but not essential; and non-essential or detrimental.

Essential data collection
Harm reduction engagement
Expected substance type
Gender
Age range
Whether substance used prior to analysis
Intended drug use/harm reduction behaviour following result
Context of drug use (alone/group; location)
Previous use of DCS
Motivations for using service (including use for self or others)
Useful, but not essential, data collection
Housing status
Interest in engaging other harm reduction services
Location (postcode area)
Education/employment status
Service user satisfaction with service
Data collection which is unnecessary or should not be collected
Price of substance
Name (should not be collected to protect anonymity/confidentiality)
Where substance was bought from (dealer, friend, online)

Topic four: Evaluating DCS

Evaluating both the processes involved, and how they are working, and the harm reduction impacts of DCS is crucial to building the evidence base for such services and assessing whether sustained delivery is feasible after the pilot phase. We asked attendees to discuss the important factors relating to evaluation, including what kinds of topics, issues, and outcomes should be focused on.

Key issues: Key impacts of DCS for evaluation; methods of evaluation and related challenges; designing an evaluation for DCS in Scotland.

- Health behaviour change/changes to individuals' drug use patterns and the adoption of harm reduction practices, were described as important. Benchmarking outcomes against existing DCS

was described as important for ensuring robust evaluation and enabling cross-national comparisons.

- It was noted that evaluations should aim to capture how DCS provide tailored harm reduction support and information, and how they facilitate engagement in wider harm reduction supports.
- Monitoring both the number of people engaging with DCS and the number of individuals engaging with wider harm reduction supports offered on site, was described as an important aspect of evaluation.
- Additionally, increased drug literacy was noted as an important potential outcome of DCS engagement which should be captured. As well as using standardised health behaviour outcomes, some attendees noted a need for capturing 'softer' outcomes, potentially outcomes defined and described by the individual using the service.
- In relation to drug market monitoring, it was noted that DCS could increase capacity for monitoring drug market trends and could share this information with a range of individuals and organisations. It was noted that evaluation should aim to explore engagement with alerts and trend information and how this was impacting on the practices of people who use drugs and service staff.
- The impact on staff within the service and their perceptions of drug checking was described as an important issue to be explored through evaluation.
- Expected content of substances (at point of submission) vs. the actual content of substances (after analysis) was noted as an important aspect of evaluation.
- It was noted that a cohort approach could be used to assess engagement in DCS relative to wider groups of people who use drugs.
- Macro level/population level indicators of drug-related harm such as engagement in treatment; drug-related hospital admissions; and overdoses were noted as important for evaluation, but several issues were noted around data linkage and the complexity of evaluating the impact of DCS on these outcomes (outcomes which are driven by a number of factors).
- In addition to evaluating the impact of DCS, evaluation of 'technical' aspects of service provision such as the effectiveness of equipment, and data collection and sharing, will also be important.
- It was noted that peers should have a central role in evaluation. The potential for peer-led 'auditing' of DCS was discussed.
- A national evaluation approach across the three sites was described as potentially desirable. To do so, it was noted that standardisation/overlap in POC data collection methods, as well as overlap in how services were delivered across the three sites, would be required.
- Evaluation exploring the economic benefits/cost effectiveness of DCS was described as important. More generally, given the complexity of DCS and the different parties it could impact, as well as the wide range of potential outcomes, attendees described a need for novel and potentially complex research designs drawing on multiple sources of data and methods.

Table 3: Evaluation considerations for DCS in Scotland

Topic of evaluation	**Key considerations**
Drug use patterns and adoption of harm reduction behaviours	• Should be embedded in POC data collection. • Drawing on existing DCS in terms of how they evaluate this outcome. • Need to capture 'softer' outcomes such as health and drug literacy, engagement, empowerment, self-reported outcomes (e.g., improved well-being).

Impacts on services	• Perceptions of staff and impact on knowledge and practices. • Engagement in wider harm reduction interventions and supports.
Drug market monitoring	• Capturing expected vs actual substance (prior to and after testing). • Exploring engagement with alerts and trend information across a range of groups.
Macro/population level outcomes	• Important but may be challenging to capture/evidence due to issues around data linkage, complexity of methods required, and relatively small scale of DCS pilot. • A cohort approach may be useful for tracking engagement and impacts. • Health economics approach could help build the case for longer term sustainability of DCS.
Technical/process-based considerations	• In addition to evaluating impacts of DCS, evaluation of technical and process-based aspects required. Issues such as: effectiveness of equipment; and data collection and sharing processes.
Further considerations	• Peers should be centrally involved. Potential for peer-led 'auditing' of services discussed. • A national approach to evaluation preferable – would require some level of standardisation in POC data collection. • Multi-method approach required. Potential for novel research methods owing to complexity of drug checking.

Glossary of terms

Administration method (relating to drugs): People may use drugs in different ways such as injecting, smoking, snorting or taking a drug orally.

Advocacy: Social action in support of a policy or cause.

Alcohol and Drug Partnerships (ADPs): Local partnerships, between a range of parties, responsible for commissioning drug and alcohol services locally.

Cohort studies: A research approach that 'follows participants over a period of time (often many years). Specifically, cohort studies recruit and follow participants that share a common characteristic' (Barrett and Noble, 2019).

Cost benefit/cost effectiveness: 'Cost-benefit analysis asks whether the economic benefits outweigh the economic costs of a given policy [and] cost-effectiveness analysis is focused on the question of how much it costs to get a certain amount of output from a policy' (Sciotio Analysis). Health economics is a related field of research which seeks to explore the effectiveness and economic and social value of health services.

Crown Office and Procurator Fiscal Service (COPFS): Scotland's prosecution service.

Data collection at point of care (POC): When people access a DCS they will be asked questions relating to their demographics, drug use and the substance they are submitting for analysis. This information is used for evaluation and service improvement/adaptation.

DCS equipment: Refers to analytical equipment used to 'test' or 'check' substances. This equipment ranges widely in relation to what it can tell us about a substance.

Drop-boxes: Refers to a box located in a service which is not offering direct drug checking provision, where substances could be securely submitted. These substances would then be collected and transported to a lab for testing. This is not a common form of drug checking provision internationally.

Drug contents: The contents of an analysed substance. Can include both psychoactive drugs and 'cutting agents' (things which are put in a drug which are not psychoactive).

Drug literacy: Refers to an individual's understanding and knowledge relating to drugs concerning issues such as: dosage (how much to take relative to the strength of a substance); the potential harms and risks; potential drug contents and their effects; and how to reduce harm associated with drug use.

Drug market monitoring: Relates to the public health practice of tracking trends in the drug market. This information can then be used to inform harm reduction responses, such as communicating results to people who use drugs through various channels, including online platforms and through harm reduction staff.

Drug strength: Used to describe how much of a particular drug is present in a substance as well as, potentially, how potent this substance is.

Drug/DCS trend information: Relates to information about drug contents and the drug market which comes from DCS. Services test substances and information is then collated and analysed to provide information about issues such as: common substances on the market; emerging substances; common adulterants and cutting agents; and drug strengths.

Early warning system (EWS): A structured approach/framework for communicating harm reduction information when substances of concern are found to be in circulation. Warnings/alerts can be sent to a range of organisations and parties including: people who use drugs through social media; local services; emergency services; media outlets; nightlife venues; and a range of wider organisations. 'Substances of concern' relates to substances deemed to pose a serious and immediate threat to people's health.

Evaluation: The process of researching and assessing a particular aspect of something to see how it is working, and if it is working as intended.

Expected substance type: This refers to what people thought a substance was when they purchased it, which may not always correspond with the actual contents of a substance after it has been analysed.

Health behaviour change: Refers here to how people change their drug use behaviour in light of engagement with DCS.

Injection equipment provision (IEP) services: Any harm reduction service which distributes sterile syringes/needles and safely collects and disposes of used ones.

Intervention (relating to drug use): A programme or service to support people who use drugs.

Local drug trend monitoring groups: Group responsible for the monitoring of local drug trends and developments, and for sharing information with relevant parties.

Local implementation groups: The local groups responsible for implementing DCS in their areas. Includes a range of individuals from varied organisations including NHS and harm reduction services.

Low-threshold services: Harm reduction services designed to minimise barriers to access for people. Individuals can face challenges to access services relating to stigma, the criminalisation of drugs, police, and mental and physical health. Low-threshold services are those which adapt to these challenges to try and engage with individuals. Typically, such services would try to adapt their services in certain ways such as: not having conditions around who can access the service; trying to minimise data collected from people; trying to provide services quickly without long waiting times; having staff with lived experience; and making changes to the design of a service to make it appropriate for the target demographic.

National implementation group: The group responsible for overseeing the national implementation of DCS. Includes a range of parties such as: Public Health Scotland, Crew2000, Scottish

Government, Police Scotland, Leverhume Research Centre, and local implementation group representatives.

National lab-based testing service: Refers to a component of the national DCS pilot. Whilst DCS will be delivered at local sites, and most substances will be tested at these local sites (see POC below), some substances will be transported to a lab for further analysis. This lab is referred to as the 'national lab-based testing service'. It will evaluate the effectiveness and accuracy of equipment being used at the local sites by testing substances using top-of-the-range equipment and comparing results with local equipment.

NEO360: The data collection system used by community pharmacies.

Outcomes/impacts: Things which happen due to the delivery of drug checking. An example would be people changing the way people use drugs (for example, adopting harm reduction practices). Outcomes/impacts can be hard to assess, and evaluations use a range of techniques to assess the impact of services.

Outreach workers/staff: Harm reduction staff who go into local communities to engage with people who use drugs and provide support.

Parties: Refers here to organisations, individuals or groups who are involved in the delivery or operation of DCS (including using it to analyse substances).

Peer-led auditing: Auditing is a process of evaluation which aims to improve the care provided by a service. 'Peer-led' implies that people who use drugs centrally shape the kinds of approaches used and questions being asked.

Peer networks: A broad term, used here to describe formal or informally organised communities of people who use drugs. Informally, people may share information with their social group. Formally, 'peer networks' describe platforms like city centre engagement groups, where people who use drugs meet to discuss important issues, share information, and feed into policy and practice.

Pilot: A short term delivery of a service to test how and if it works before decisions are made around longer-term funding and delivery. DCS will be established in Scotland as a pilot initially due to the complexity of operation.

Point-of-care (POC): Refers to the local sites where drug checking is being delivered. When POC equipment is discussed, it refers to the equipment being used at local sites, in distinction from the equipment used at the national lab-based testing service.

Police Scotland/local police divisions: Policing in Scotland is centralised, and Police Scotland are the organisation with overarching responsibility for policing strategy. Local policing divisions are responsible for frontline policing in their local areas, in accordance with national stratetgy.

Public Health Scotland: The national public health body for Scotland. It is a special NHS Health Board. PHS works across a range of areas related to public health (including drug use and drug markets), aiming to improve population health.

Postal provision: Refers to a facet of drug checking where individuals can send in substances by post rather than attend local services in person.

Rapid Action Drug Alerts and Response (RADAR): Scotland's drug early warning system. RADAR works collaboratively to collect and assess information on drug treatment, harms, and toxicology - providing routine trend data, as well as ad-hoc alerts and resources. The implementation of DCS could feed into RADAR, providing valuable real-time information to inform public health interventions, ensuring responses are accurate and targeted.

'Substance' DCS: A DCS in Victoria, Canada.

Third sector/harm reduction services: Third sector services are not-for-profit services which are not 'statutory' (i.e., they are not part of the NHS or government-delivered services, although they may receive funding from local or national government). Harm reduction services (which are often, though not always, run by the third sector in Scotland) are services which provide interventions to reduce the risk of harm to people who use drugs. This includes a range of services such as provision of sterile injecting equipment, drug education, psychosocial support and medication-assisted-treatment.

Toxicology: 'A field of science that helps us understand the harmful effects that chemicals, substances, or situations, can have on people, animals, and the environment' (NIEHS). Toxicology experts have been involved in the Scottish drug checking project due to their knowledge of drug analysis equipment and methods.

WEDINOS (Welsh Emerging Drugs And Identification Of Novel Substances): A Welsh postal drug testing service where individuals can submit substances by post. Results are then posted online for the individuals to access. WEDINOS is funded by Public Health Wales accepts substances submitted from Scotland, although it is under no obligation to do so.

Acknowledgements:

We would like to thank all those who attended the event for their invaluable input into the discussion, highlighting important considerations and challenges which can guide DCS implementation and delivery. Thank you to all those who helped at the event and to Dundee Contemporary Arts for hosting.