CHIEF SCIENTIST OFFICE

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RESEARCH PROJECT BRIEFING

A systems approach to exploring drug-related deaths in Scotland

AIMS

To provide an understanding of drug-related deaths (DRDs) in Scotland, which takes account of the complex system of multiple interacting health and social factors at play, and to use that understanding to identify intervention points that are most likely to effect positive change; ultimately to support the reduction in DRDs.

KEY FINDINGS

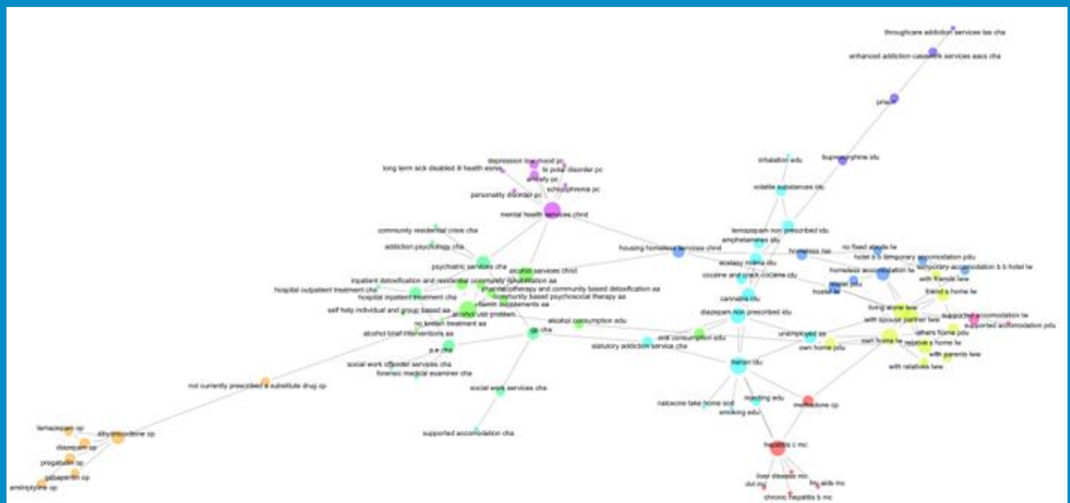
- By drawing upon two data sources: 1) data collected in workshops with a diverse group of stakeholders, to explore different perspectives on the relationships between health and social factors leading to DRD, and 2) National Drug Related Death Database, which collects data on many aspects of a person's life prior to DRD, including health and service use; helped to gain insight, develop consensus on key issues, and enhance communication between our co-production partners on the complex situation.
- Analysis of the different data sources highlighted various experiences that occur prior to DRD, allowing co-production partners to view and discuss the complex situation and prioritise actions. There is no one action that can be taken to reduce DRD as they are the result of a complex interaction between various circumstances and experiences. The strategy to reduce DRD must take account of this complexity.
- Three priority areas for action were identified: 1) development of the workforce who support people who use drugs, particularly related to providing trauma-informed care and to joint working and data sharing between sectors; 2) supporting community and social connection for people who use drugs; 3) improving the service journeys that people who use drugs have to navigate in order to access support. The cross-cutting theme of tackling stigma was also highlighted.

WHAT DID THE STUDY INVOLVE?

The study took a **systems approach** to the problem of DRDs in Scotland. The system of interest is the various proximal and distal circumstances and events surrounding a DRD (factors, for example, related to housing, health, and drug taking behaviour). Here, taking a systems approach recognises that the system is composed of related and inter-dependent factors (for example, housing conditions are associated with mental health), and responding to this complexity by bringing together multiple stakeholder perspectives and evidence to explore what action could make sustainable change to the system. The study involved two packages of work, and each informed the other throughout the study:

- **A database of all drug-related deaths in Scotland from 2009 to 2018 (National Drug Related Deaths Database (NDRDD):** The NDRDD collects detailed information on the nature and social circumstances of individuals who have died. We conducted network analysis of the 6,608 DRDs detailed in the NDRDD. This provides a visual map (see figure 1, for illustrative purposes only) and analysis of how different health and social factors are connected to each other, i.e., their co-occurrence among people who experience DRD, enabling us to identify patterns and trends in the relationships and to understand how these relationships influence the network of health and social circumstances as a whole.
- **A series of three participatory workshops:** we facilitated workshops, each with 18-23 participants with personal and professional experience of substance use, including representatives from, e.g., Scottish Government, 3rd sector, Scottish Prison Service, Department for Work and Pensions, Alcohol and Drug Partnerships. As this was an exploratory project aiming to identify priorities for action, it was essential that the workshop participants included people with lived and living experience of substance use. Workshops focused on: (1) understanding the issue, the contextual and causal factors that shape it, and the relationship between these factors; (2) obtaining insight on the NDRDD network and analysis and exploring scope for change; and (3) identifying priority areas for action.

Figure 1: Visualisation of the NDRDD co-occurrence network



WHAT WERE THE RESULTS AND WHAT DO THEY MEAN?

The combined data provide an overall picture of factors leading to DRDs in Scotland:

- Themes were identified in participatory workshops as leading to DRDs, including: the stigmatising attitudes of the public and of those who work in services to support people who use drugs; the service experience for people who use drugs; drug-related policy and criminality; social relationships and social support in the community for people who use drugs; individual factors; the context in which drugs are taken; housing; and the effects of taking drug (related to drug toxicity and tolerance).
- NDRDD analysis separately identified themes of co-occurring health and social factors, some of which draw parallels with the workshop themes, or were strong topics of discussion in workshops: mental health; evidence of substance/s used at time of death; living arrangements; prison-related factors; community health and social care.
- The inter-relations between health and social factors show a complex picture of DRDs in Scotland. The resulting visual map of factors can be used to identify where action can best be directed.

It is important not to rely on one type of data in order to obtain a picture of the issues relating to complex public health problems like DRD:

- For example, one theme identified as of central importance in the NDRDD analysis, ‘alcohol and detoxification’, was much less featured in workshop findings. The NDRDD analysis found that alcohol treatment was commonly associated with a range of other conditions among people who died, but the mechanisms through which alcohol may relate to death due to other substances was not a salient topic among the stakeholders. Some factors of central importance in the participatory workshop data were not captured by the NDRDD, e.g., the existence of stigma and how it plays out.

The study identified factors that may have the greatest influence, i.e. changes here may lead to reduction in DRDs:

- Influential factors are those that lead to many other causal factors for DRD. There were ‘poverty’ and ‘criminalisation of drugs’. Changes here are likely to have a large impact, but participants did not identify factors that cause change to these ‘influencers’, highlighting that beyond advocacy work, they did not have power to create change here.
- ‘Stigmatising attitudes’ and ‘mental health and wellbeing’ were factors with the most identified causes, meaning that they were thought to be implicated by multiple other factors, and at the same time were identified as causing various other factors that lead to DRD. These were the starting points for discussion on priority areas for action ideas, with potential to create change elsewhere, i.e., to affect the other identified themes.

The study identified priority areas for action:

- Drawing upon NDRDD network analysis, and a series of workshop activities, stakeholders identified key areas for plausible action: targeting stigma; developing the workforce who support people who use drugs; reducing the burden of navigating services for people who use drugs; and providing environments for social support within communities.

WHAT IMPACT COULD THE FINDINGS HAVE?

- **Insight on the use of evidence:** The need to include various forms of evidence when considering intervention and policy development. The NDRDD and the participatory systems workshops complimented each other and provided added value. Relying on routinely collected data, e.g., administrative data, or experiential qualitative data, alone does not provide a comprehensive picture of a complex problem like DRD.
- **Supporting decision making in intervention and policy development:** We have shown that the factors that influence DRD are widespread and inter-related; as such, a small change to one aspect is unlikely to make a sustainable difference because wider effects from other parts of the system will emerge, diluting or removing any initial effects. Those working on national and local substance use strategies could use this exploratory work as evidencing the need to move away from single intervention points, even where this may seem more manageable.
- **Informing intervention priority areas:** as part of a broader strategy to address DRDs, plausible areas for intervention were identified and work done to begin to develop interventions in these areas. The action ideas created in this project could be further developed and evaluated.

HOW WILL THE OUTCOMES BE DISSEMINATED?

We worked with a group of stakeholders throughout the project, with their participation in the workshop series, and their role in co-designing the system map, as well as feeding into the analysis of the NDRDD. Dissemination is ongoing:

- publication in scientific journals and at academic and professional conferences;
- via the Drugs Research Network Scotland we have presented findings to Scottish Government and other academic research groups.

CONCLUSION

Harms associated with drugs are part of a complex system with multiple potential causes acting at many levels. Summarising the structure of the network provided useful information on the function of identified factors and the potential cluster points for intervention.

RESEARCH TEAM & CONTACT

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Additional Information

Project funding ended 07/2023