

CO-MORBIDITY, SOCIAL EXPERIENCES, AND SERVICE ENGAGEMENT AMONG 4,451 DRUG-RELATED DEATHS IN SCOTLAND 2009-2016: A NETWORK ANALYSIS OF 230 COMPLEX HEALTH AND SOCIAL CONDITIONS

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Background:

Existing research exploring co-morbidity among drug-related deaths in Scotland has tended to apply the standard case-diagnosis approach to medical conditions only. This identifies and aggregates co-morbid conditions and measures prevalence patterns. Greater understanding of the interactions between health conditions, social experiences, and service engagement is needed to inform appropriate interventions for reducing drug-related deaths in Scotland.

Methods:

Our study population is identified from the National Drug Related Deaths Database in Scotland, which links all administrative data available for the period six months prior to death, including medical and psychiatric conditions, social experiences, and contact with a range of services. Taking a whole systems approach, we identified all possible co-occurring health and social conditions and applied network analysis methods to understand the complex structure of mutually occurring conditions. We estimated 4 measures of centrality (betweenness, closeness, strength, expected influence) for each of the 230 conditions. Central conditions could be predictors for the conditions leading to a drug-related death.

Results:

Individuals had between 3 and 51 of the conditions. Central conditions in the network were benzodiazepine class of drugs (nordiazepam, diazepam, temazepam), service use for drug use disorder (hospital inpatient, statutory addiction, GP), and service use not for drug use disorder (mental health, homeless). Hepatitis C had a high betweenness and closeness score meaning it is close to all other conditions. The highest strength score was for no known contact with services not for drug use disorder, potentially indicating that services accessed focus predominantly on treating drug use disorders rather than mitigating broader social experiences.

Conclusion:

This novel and timely network analysis supports a 'whole-person' policy response to the drug related deaths crisis in Scotland. The network analysis outputs are now being used during co-production stakeholder workshops to identify, develop, and appropriately targeted interventions for reducing drug-related deaths in Scotland.

Disclosure of Interest Statement:

No conflicts of interest to report.