MODELLING THE HEALTH IMPACTS OF INTRODUCING AN OVERDOSE PREVENTION CENTRE IN TWO ILLUSTRATIVE UK SETTINGS

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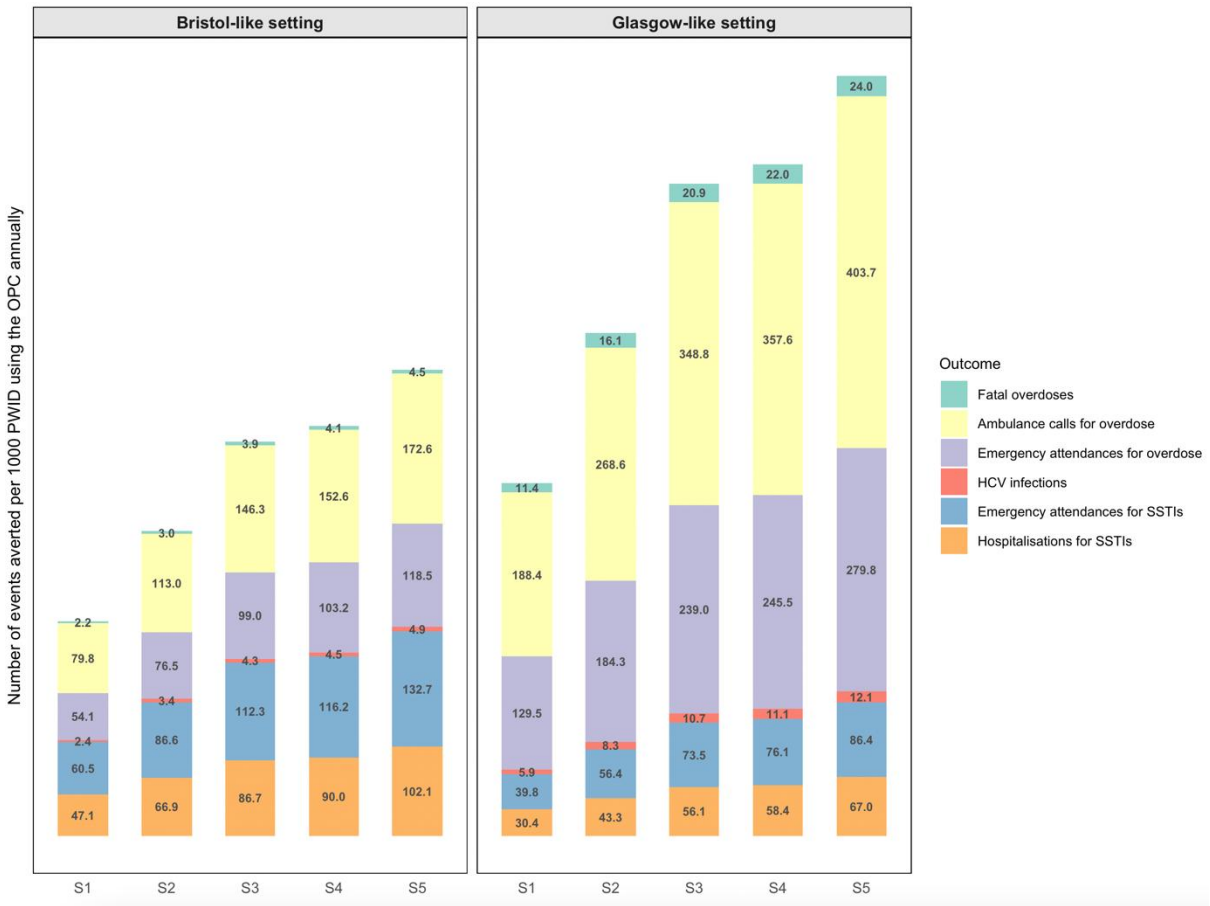
Background: Little is known about the potential impacts of overdose prevention centres (OPCs) in the UK. We simulated the impact of introducing an OPC among people who inject drugs (PWID) on overdose, hepatitis C virus (HCV) and skin and soft tissue infections (SSTIs) under varying assumptions of OPC use and intervention effects.

Methods: We developed a dynamic mathematical model of HCV transmission, overdose and SSTIs calibrated to two UK settings (Bristol-like and Glasgow-like). PWID were stratified by OPC use (none/infrequent/frequent), homelessness (yes/no), opioid agonist treatment (OAT; on/off) and HCV status (susceptible/chronically infected). Among OPC users, we modelled five progressively expansive scenarios: in some, risk reductions were proportional to the fraction of supervised injections (varied as 10–40% among infrequent users; 60–90% among frequent users); in others, we additionally assumed indirect effects (increased OAT uptake and reduced risks during unsupervised injections). These assumptions were combined with varying OPC coverage (10%/20%/30%) to estimate population-level impact across all PWID. Impact was quantified among OPC users and all PWID as the five-year proportion of events averted and the number of events averted per 1,000 PWID/annually.

Results: Among OPC users, projected five-year reductions ranged from 25–38% under the most conservative scenario to 55–76% under the most expansive, depending on outcome, with similar effects in both settings. Among all PWID, impact was smaller but followed the same pattern, reaching 13–20% for overdose deaths and HCV infections and 12–16% for SSTI-related events. Absolute reductions (events averted/1,000 PWID/annually) were larger in the Glasgow-like setting for overdose-related outcomes and HCV infections, whereas reductions in SSTI-related events were greater in the Bristol-like setting; Figure shows results for OPC users (Scenario1–Scenario5).

Conclusion: OPCs are projected to substantially reduce drug-related harms among OPC users in the UK. Population-level impact depends on attaining sufficient OPC coverage.

Disclosure of Interest Statement: The authors declare no competing interests.


Bristol-like setting
Glasgow-like setting
Number of events averted per 1000 PWID using the OPC annually
Outcome
Fatal overdoses
Ambulance calls for overdose
Emergency attendances for overdose
HCV infections
Emergency attendances for SSTIs
Hospitalisations for SSTIs
S1
S2
S3
S4
S5
2.2
79.8
54.1
2.4
60.5
47.1
3.0
113.0
76.5
3.4
86.6
66.9
3.9
146.3
99.0
4.3
112.3
86.7
4.1
152.6
103.2
4.5
116.2
90.0
4.5
172.6
118.5
4.9
132.7
102.1
11.4
188.4
129.5
5.9
39.8
30.4
16.1
268.6
184.3
8.3
56.4
43.3
20.9
348.8
239.0
10.7
73.5
56.1
22.0
357.6
245.5
11.1
76.1
58.4
24.0
403.7
279.8
12.1
86.4
67.0