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LETTER TO THE EDITOR

ADDICTION SSA

Response to Crockford *et al.*: Healthcare utilization and mortality after overdose prevention site closure: A linked cohort analysis using segmented difference-in-differences time series

We thank Crockford *et al.* [1] for their engagement with our study. Evaluating overdose prevention services (OPS) in real-world health systems is inherently complex, particularly when relying on observational data. However, several points raised in their critique reflect misinterpretations of our study's findings and apply evidentiary standards inconsistently across the broader supervised consumption services (SCS) literature, which is itself almost entirely observational [2–4].

First, we clarify the interpretation of our findings. Our study did not conclude that OPS closure 'does not cause harm'. Rather, within a 26-week follow-up period among identified service users, we did not observe a statistically significant increase in emergency department or emergency medical service utilization, while hospitalizations increased modestly. The study was not designed to determine the causes of hospitalization events, and such inferences cannot be made from the available data. Notably, the assertion that emergency department utilization increased is incorrect and unsupported by the study findings. Mortality analyses were underpowered and did not detect a statistically significant increase. As explicitly stated, these findings are inconclusive and should not be interpreted as evidence of safety [5]. Characterizing them otherwise reflects a reinterpretation of results rather than a critique of the analytic approach. Interpreting an explicitly inconclusive result as a definitive claim introduces a categorical mismatch between what was analysed and what is being attributed.

Second, the concern that concurrent system-level changes confound interpretation is valid, but not unique to this study. The OPS closure occurred within a health system that simultaneously expanded low-barrier addiction services, including rapid access addiction medicine (RAAM), outreach models, and opioid agonist therapy (OAT) pathways [5, 6]. These co-interventions limit causal attribution and introduce uncertainty; however, this is a defining feature of real-world policy evaluation rather than a methodological flaw. Observational studies of SCS similarly operate within dynamic service environments and often attribute observed changes to SCS exposure despite concurrent interventions, secular trends and evolving drug-supply toxicity [2–4]. From a causal inference perspective, unmeasured or incompletely measured time-varying confounding is, therefore, a shared limitation. Applying these concerns asymmetrically constitutes directional scepticism rather than a neutral application of methodological principles. The presence of concurrent services should not be interpreted as evidence of substitutability, but rather as reflecting the complexity of multi-component service environments.

Third, regarding site comparability, both Red Deer and Lethbridge OPS operated under publicly delivered Alberta Health Services models during the study period, with similar governance structures, staffing configurations and clinical mandates [5]. Although contextual differences between communities cannot be eliminated, the degree of heterogeneity is modest relative to that present across studies frequently cited in support of SCS effectiveness, which aggregate data across substantially different jurisdictions and service models [2–4]. In quasi-experimental designs, the expectation is not perfect equivalence, but sufficient comparability to support inference.

Crockford *et al.* [1] highlight differences in site characteristics such as location, inhalation services and service comprehensiveness; however, these comparisons conflate historical service models with those operating during the study period. The Lethbridge site referenced reflects a prior SCS model that ceased operation several years before the observation window. During the study period, both sites operated under comparable provincial models, were located outside shelter settings and functioned in similar temporary, non-central commercial or industrial environments. The comparator was, therefore, not intended to represent an idealized model, but the closest real-world comparator within the same health system context. Assertions regarding location or service differences do not reflect study-period conditions and do not plausibly account for the observed outcome trends.

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Fourth, concerns regarding provincial health number (PHN) linkage must be interpreted in light of data quality and methodological context. Linkage completeness exceeded 94.6% in Lethbridge and 97% in Red Deer [5], indicating high-quality administrative capture. Although residual misclassification remains possible, similar linkage rates across sites reduce the likelihood of differential bias. Importantly, no plausible mechanism is identified by which such bias would mask harm. Administrative data linkage enables objective longitudinal follow-up that is not achievable in studies relying on self-report or cross-sectional designs, which comprise a substantial portion of the SCS literature [2–4]. Assertions that PHN requirements substantially deter service use are not supported by available evidence, for instance, in an Edmonton inner-city cohort, only 1.2% of respondents reported reluctance for this reason [7].

Fifth, the concern regarding differential follow-up time reflects a mischaracterization of the analytic framework. Our study used a difference-in-differences design to estimate changes in outcome trends, not cumulative exposure. This approach is well-established for evaluating policy interventions and accounts for pre-existing trends and temporal structure [8]. Critiques based on unequal follow-up durations do not apply to the estimand used.

Finally, the absence of individual-level behavioural data is acknowledged as a limitation. Administrative datasets trade granularity for coverage, enabling population-level inference. However, this limitation is not unique to our study. Much of the SCS literature relies on self-reported or cross-sectional data, introducing different sources of bias. Limitations should be interpreted in context rather than selectively emphasized.

Taken together, our study represents an early evaluation of OPS closure using linked administrative data, providing population-level follow-up and temporal resolution that are uncommon in this literature. The limitations identified are inherent to observational designs and do not uniquely compromise validity. The critique does not identify a methodological flaw specific to this study, rather, it applies a more stringent standard of inference than is typically applied across the broader SCS evidence base [2–4]. Consistent application of evidentiary standards is essential, particularly where policy decisions must often be made using imperfect data.

We agree that further research, including longer follow-up and integration of additional data sources, is necessary. Our study should be understood as one contribution within an evolving evidence base, rather than a definitive statement on causality.

DECLARATION OF INTERESTS

Several co-authors are affiliated with the Canadian Centre of Recovery Excellence (CoRE), which receives public funding from the Government of Alberta. The Government of Alberta did not have any role in the study design, data analysis, interpretation of results, manuscript preparation or the decision to submit this work for publication. The funder did not exercise editorial oversight, did not review manuscript drafts for approval and did not have any right of refusal regarding publication. All analyses, interpretations and conclusions are those of the authors alone.

KEYWORDS

harm reduction, health care utilization, opioid agonist therapy, overdose mortality, service closure, supervised consumption services (SCS)

AUTHOR CONTRIBUTIONS

Nathaniel Day: Conceptualization; writing—original draft; writing—review and editing. **Shelly Vik:** Conceptualization; formal analysis; writing—review and editing; project administration. **Robert Tanguay:** Conceptualization; validation; writing—review and editing. **Nickie Mathew:** Conceptualization; validation; writing—review and editing. **Anees Bahji:** Conceptualization; formal analysis; writing—original draft; validation.

DATA AVAILABILITY STATEMENT

Alberta Health and Recovery Alberta hold the data supporting this study and are not publicly available because of privacy and regulatory restrictions. These data were accessed under license for this study. Requests for data access may be submitted to Alberta Health Services through the Health System Access for Research process (Health System Access for Research | Alberta Health Services).

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REFERENCES

1. Crockford D, Colizza K, Grover M, Leary T, Knight E, Martell D. Overdose prevention site closure: a reply to Day et al. Addiction. 2026. https://doi.org/10.1111/add.70458
2. Kennedy MC, Karamouzian M, Kerr T. Public health and public order outcomes associated with supervised drug consumption facilities: a systematic review. Curr HIV/AIDS Rep. 2017 Oct 1;14(5):161–83. https://doi.org/10.1007/s11904-017-0363-y
3. Levengood TW, Yoon GH, Davoust MJ, Ogden SN, Marshall BDL, Cahill SR, et al. Supervised injection facilities as harm reduction: a

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systematic review. Am J Prev Med. 2021 Nov 1;61(5):738–49. https://doi.org/10.1016/j.amepre.2021.04.017
4. Potier C, Laprévote V, Dubois-Arber F, Cottencin O, Rolland B. Supervised injection services: What has been demonstrated? A systematic literature review. Drug Alcohol Depend. 2014;145:48–68. https://doi.org/10.1016/j.drugalcdep.2014.10.012
5. Day N, Kaufmann K, Devoe DJA, Grubac V, DiMarzo A, Osmanli H, et al. Healthcare utilization and mortality after overdose prevention site closure: a linked cohort analysis using segmented difference-in-differences time series. Addiction. 2026. https://doi.org/10.1111/add.70380
6. Alberta Health Services. Alberta Health Services [health] [Internet]. Edmonton: Government of Alberta; 2026 [cited 2026 Apr 13]. Mobile Rapid Access Addiction Medicine. Available from: https://www.albertahealthservices.ca/findhealth/Service.aspx?serviceAtFacilityID=1138184
7. Morris H, Cottrell-McDermott C, Hyshka E, Campion C, Marliss T, Bulut O, et al. Understanding the Short and Long- Term impacts of the COVID-19 pandemic on people who use substances in Edmonton's Inner City [internet]. Edmonton: University of Alberta; 2024 [cited 2026 Apr 13]. Available from: https://static1.squarespace.com/static/5ac64e81c258b41fde3a5ba3/t/67572eb28eaaf307fec043ae/1733766846618/PWUD-Covid-Final-Report.pdf
8. Bernal JL, Cummins S, Gasparrini A. Interrupted time series regression for the evaluation of public health interventions: A tutorial. Int J Epidemiol. 2017;46(1):348–55. https://doi.org/10.1093/ije/dyw098

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