Reviewer's report

Title: Emergency department utilization among recently released ex-prisoners: a retrospective cohort study

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Reviewer: Sheila Bird

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The utilization discussed is within the first year post-release, and this should be clear from Abstract.

Methods do not clearly explain how the authors distinguished & analysed the following:

i) 1st ED admission
ii) 1st mental-health-related ED admission
iii) 1st substance-misuse-related ED admission
iv) 1st ACSC-related ED admission
v) Repeated ED admissions per ex-prisoner
vi) Repeated cause-specific ED admissions per ex-prisoner.

The authors appear to have analysed repeated admissions but how they allowed for the induced within-prisoner correlation structure is not – especially as, in Discussion (p12), repeated events per individual were not available to the authors for the reference population.

However, I assume that the time-sequence of subsequent ED-admissions was available for ex-prisoners.

Methods & Results should clearly distinguish when population-rates are/are not being taken into account. It would seem that TABLE 2 does take reference individuals into account BUT for how long . . . for comparability, the reference population might have been followed up for 1 year from their 1st birthday in 2008 to ensure that only 1-year’s data were analysed per control-subject.

Unacceptably, Table 2 does not document all-covariates and their associated odds ratios that were adjusted for, nor does it explain how each covariate was coded . . . linear effect of age might have been better reported as effect per 10 years of age (rather than per single year).

The subject-matter is important but the authors could do better with the data they hold, and should be encouraged so to do. In particular, analyse each of i) to vi) without heed to controls; report admission rates in first year post-discharge per 1,000 pys for

a) Males [# males; #person-years; # relevant ED-admissions; # deaths]
b) Females
c) Males aged 18-34 years

d) Males aged 35-44 years

e) Males aged 45-54 years

f) Males aged 55+ years

g) White males

h) Black males

i) Latino males

j) Other-ethnicity-males

In short, basic descriptive data are poorly reported. It is not even clear that authors have linked to the state’s deaths register to establish the survival-status of each released-prisoners at 1 year after index-release and, if dead, date & cause of death.

Methods do not discuss how re-incarceration of previously-released prisoners was dealt with. The answer may be 'ignored' but say so & if possible indicate the prison-re-admission rate for subgroups a) to j) and 1-year death-rates OR explain why you can’t do so.

Paper is well-referenced and authors are correct that there is too little published on state or national basis about cause-specific hospitalisations of ex-prisoners. Merrall et al. (2012) have recently published on the cause-specific hospitalizations of Scotland’s (nearly 70,000) drug-treatment clients recruited & followed up in 1996-2006. Merrall gained surprisingly little from careful analysis of repeated episodes versus concentration on 1st.

Initial p-values in Abstract (relative to general population) owe more the sex. Ethnicity and age demographic eccentricity of prisoners than to anything else.

Authors could have focused more keenly on hospitalisations within 1st 4 or 12 weeks of release versus rest of first year: does hospitalisation pattern mimic DRD/suicide pattern?

TABLES need to quote basic data, not just % or OR (95% CIs).

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests