Reviewer's report

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

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Reviewer: Jaimie P Meyer

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This is a retrospective evaluation of emergency department use by released prisoners in Rhode Island, as compared to the general population in Rhode Island. The paper represents a significant and unique contribution to the literature on the health of and healthcare utilization by released prisoners, with broad implications for intervention development. The major highlights of the work are the use of validated instruments, the use of a large merged dataset, and an analytic approach that allows for comparisons between groups. The manuscript could be strengthened further by the use of clearer language and greater detail, with particular attention to these deficiencies:

Major Revisions

• While the Background section gives a nice overview of the CJS, it does not make a clear enough argument for why one should specifically examine ED use in this population. Is it an issue of equitable distribution of limited resources? Cost? Cost-effectiveness? Or a marker of need in an otherwise vulnerable population? Or some combination?

Methods section

• Under Study Population, missing is an overview of the study population. It would be helpful to give a brief description of the criminal justice system in Rhode Island, how it is organized (jails, prisons, healthcare delivery), and some general overview of the demographics of the CJS population.

• The existing paragraph under “Study Population” should be retitled Study Protocol. It is a bit confusing how many separate datasets were used and which were merged with which. An accompanying figure or diagram may help clarify. The authors might also consider labeling each of the datasets (A, B, C, D) or (1, 2, 3, 4) for ease of reference.

• Some key information is missing from this section:

1) How was the chart review performed? What information was extracted and how? By whom?

2) Privacy protections. Was IRB approval obtained from the Department of Corrections? Informed consent from participants (I’m assuming not, but how was that rationalized)? What other measures were in place to protect prisoners given that the initial dataset contained unique identifiers? Was data deidentified prior to analysis? The sentence on IRB approval from the hospital system should be
moved from the Data Analysis to the Methods section.

Results section

• It is concerning that ED visits for ex-prisoners were examined over 2 years, while those for the general population were examined over 3 years. This difference in denominators makes it difficult to draw meaningful comparisons between the two groups.

• It seems there would be a great deal of collinearity among explanatory variables, given that ex-prisoners are likely to be younger, male, and Black, compared to the general population. Were interaction terms included in the model? Or, at a minimum, were explanatory variables checked for collinearity? It would be nice to know what proportion of the outcome variance and model fit was due to ex-prisoner status.

Discussion

• While the Discussion accurately summarizes the findings and places them in the context of existing literature, it remains somewhat superficial. It would be more provocative to address some of the following issues:
  o Some conditions resulting in ED visits are more common among people in the CJS and the authors accurately describe this. What is important, though, is that they are under-managed in the community, especially during the transition from the CJS. It is critical to point out that ED visits by ex-prisoners are not necessarily inappropriate- but likely reflect real need. This is particularly key for an emergency medicine journal readership.
  o To that end, the authors suggest the need for “ex-prisoner-specific management of chronic conditions.” What does this mean?

Minor Essential Revisions

• The term “recently released ex-prisoners” is used throughout (including the title) but is redundant. Consider instead: released prisoners, former prisoners, prisoners transitioning to the community, or (simply) ex-prisoners.

• Use consistent and appropriate terminology:
  o Substance use (or substance use disorders or substance abuse only when indicated), instead of substance use conditions, diseases of addiction, addiction
  o Mental disorders, instead of mental health, mental illness
  o Black or Latino, instead of minority (Results section, 1st paragraph)

• In the 3rd line of the Background section, the cited references relate to prisoners and releases, not “probationers and parolees”. Those 4 terms are distinct concepts.

• It is unclear from the Methods section which dataset provided the Zip code data.

• Would state up-front that aggregate (rather than individual-level) data was used on ED visits to allow for comparisons between ex-prisoners and the general population. Otherwise, the reader is left wondering until the limitations section.
• Table 1 should include the N for each cell, with % to the 10th of a decimal place. The text should not repeat the entire table, but rather summarize key points and report %s as rounded whole numbers. Reported are “adjusted” OR, not ORs, and columns should be relabeled.

• Greater attention should be paid to the use of “visits” vs. “visitors.” For example, Table 1 is titled “Characteristics of Emergency Department Visits” (but describes the visitors) “by Ex-prisoner and General Population Groups” (but the columns are titled visits.) Results section last sentence: “Visits…were also more likely to present for treatment” (but should be visitors). This is confusing throughout the text.

• The limitations section is very clearly written. Would also discuss issues of generalizability, limited ability to assess other individual-level factors (comorbidities, homelessness, whether or not people had a primary care provider), and overlap—since visits were analyzed in aggregate, did not describe whether multiple visits were contributed from a single individual.

Discretionary Revisions

• Consider including a list (Table or textbox) of major diagnoses associated with each of the three outcome categories of visits.

• Expand the Analysis section. Was the model checked for fit?

• Would try to flush out the “ex-prisoner visits” a little more, at least in the text, because individual-level and identified data was available for this group. This would be a great addition to existing literature on transition from the CJS. Were people mostly transitioning to communities from jail or prison? What was the mean duration of incarceration? What was the mean time to the first ED visit? How many visits did individuals have (and repeat ED visits)? How many people were reincarcerated? What proportion of their ED visits resulted in hospitalization?

• The authors provide a nice description of the implications of the Affordable Care Act for ED use. It would be interesting to expand that section to discuss other cost-cutting measures that attempt to divert people away from prisons/jails and into community-based settings, i.e. though drug court, mental health court, that may further impact EDs. One might also consider mentioning health reform targeted at reducing ED overcrowding. This would resonate with the emergency medicine journal audience.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Needs some language corrections before being published

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'