

Article details: 2020-0024	
Title	Health care utilization in medically complex people living with HIV before and after admission to an HIV-specific community facility: a pre–post-comparison study
Authors	Ann Stewart MD, Tony Antoniou PhD, Erin Graves MSc, Lesley Plumptre PhD, Soo Chan Carusone PhD
Reviewer 1	Mona Loutfy
Institution	Women's College Hospital, Department of Medicine
General comments and author response	<p>Comment #1: "This is a very important paper that is very well written. It reviews a unique care model of a difficult and complex HIV-positive patient population before and after admission to a community facility and compares outcomes to the general HIV-positive population in Ontario also. They showed decreased ED and hospital visits and decreased costs."</p> <p>Response: We thank the reviewer for this comment.</p> <p>Comment #2: "Abstract - In the methods and result, the comparison to the general HIV-positive population is not made – so remove reference to that in conclusion."</p> <p>Response: We agree, and have made the suggested change.</p> <p>Comment #3: "Intro & methods - There were actually two objectives and analyses and they are not presented as such: 1) comparison of outcomes between study population to general HIV-positive population and 2) comparison of study population before and after admission to Casey House. Add these two objectives at end of Introduction and summarize as such in Methods. I believe it is fine as presented in results and discussion."</p> <p>Response: We have made the suggested changes to the Introduction (page 3) and Methods (page 5), with the caveat that the comparisons to the general population of people with HIV are for context only.</p>
Reviewer 2	Bohdan Nosyk
Institution	BC Centre for Excellence in HIV/AIDS
General comments and author response	<p>Comment #1: " This is a pre-post comparison following acute care admission in one specialty hospital in downtown Toronto. The article is not sufficiently motivated and given the design of the analysis it's difficult to see this article's contribution to the literature."</p> <p>Response: We respectfully disagree with the Reviewer. As noted by Reviewer #1, Casey House is unique in that it cares for the most marginalized and medically complex people with HIV in Toronto. Yet, formal evaluations of this model with respect to impacts on health service use and costs of care have not been conducted. These data may provide insights for other jurisdictions seeking to develop similar models of care. However, we agree with the Reviewer that the motivation for our study could be better articulated, and we have done so on page 3. This work was primarily designed to support expansion planning, including evaluation plans and projected impact, of a new provincially funded day health program.</p> <p>Comment #2: "The motivation for doing this work is the biggest issue I have – an absence of data on a specific topic is not sufficient motivation for pursuing a line of work (and won't be of interest to readers)."</p> <p>Response: As mentioned in response to the previous comment, we have added details in the introduction clarifying the motivation for this work.</p> <p>Comment #3: "The results are difficult to interpret. This stems in part from the apparent lack of specific motivation, but is further hampered by the design. It's not surprising costs and resource use increase in the post-period, but support for a care model like Casey</p>

	<p>house would have demonstrated, eg. lower acute care use in the post-period compared to a matched control group in a regression-based analysis. It's unclear if this was the true intention of this article but this aim was not achieved, as conducted.”</p> <p>Response: We have made changes to the background to clarify the motivation and scope of this work (page 3). We have also, as mentioned in our response to Comment #4 from the Editor, we chose a pre-/post- comparison because of our concerns with identifying a matched control group. We have further highlighted the limitations of this approach in the discussion section (page 9-11). We have also, in response to comments and questions raised in this review process, conducted a sensitivity analysis (discussed in our response to Comment #4 from the Editor and included in the supplementary file/appendix) to support interpretation of the findings.</p> <p>Comment #4: “The choice of the “control” was flawed on two counts – first via selection (the ‘general population’ of PLHIV – possibly including those in the intervention group?), and second via the timing of selection (randomly chosen, rather than anchored to an acute care admission, thus matching the intervention group).”</p> <p>Response: Because Casey House clients differ from the general population of people living with HIV in ways that cannot be accounted for using administrative data (e.g. housing instability, food insecurity etc.), we did not feel comfortable conducting a matched analysis or any other form of regression, given the number of unmeasured confounders would be likely be large. This is further supported by our sensitivity analysis (attached and discussed above). However, this was not the intent of our analysis, which was to compare pre- and post-Casey House admission health service use and costs among Casey House clients. We felt it would be illustrative to include these measures among the general population of people with HIV for context only, and not as a point of formal comparison. We have updated the limitations section of our manuscript accordingly (page 11).</p> <p>Comment #5: “Greater precision in language required when describing the primary outcome(s) and discussing results (..’social determinants of health...).</p> <p>Response: As mentioned in response to earlier comments, we have provided greater detail in the definition and source of our outcomes (page 5). We have also reviewed our use of social determinants of health and provided some additional examples of relevant determinants to the discussion to provide greater clarity (page 3).</p> <p>Comment #6: “I was taken aback at the exceptionally high resource use levels among those admitted to Casey house. This is clearly an interesting population to focus on, but again there was little interpretation available to consider these points in greater depth.”</p> <p>Response: We have provided details regarding the medical and social complexity of Casey House clients throughout our Introduction and Discussion sections to aid interpretation of our findings. If the Editors feel that additional clarity is required, we would happily do so.</p>
Reviewer 3	Michael Green
Institution	Queen's University, Family Medicine
General comments and author response	<p>Comment #1: “This paper examines the health care utilization and costs associated with this for complex patients who HIV who received inpatient care a specialized community hospital with a mandate to care for this population. An uncontrolled before - after study design was used with comparison to HIV patients in general in Ontario used for comparison of some key descriptive variables including baseline health care utilization and co-morbidities. The paper is generally well written and addresses a focused but important question about the value of a specialized service like this from a health systems perspective.”</p> <p>Response: We thank the reviewer for this comment.</p>

Comment #2: "In the methods section please describe and explain ICES better for readers who are not from Ontario and who may not be familiar with it. This should be done early on where it currently just says "administrative databases". The fact that they are linked, the status allowing access to the data etc... should be described here."

Response: We added information about ICES, and the administrative databases in the Methods and outcomes sections (pages 4-5), as well as more detail in an appendix for those interested in further detail, this could be made available online (see appendix).

Comment #3: "The major issue I think to be addressed, perhaps in the limitations section or perhaps if they are able to do additional analysis or a sensitivity analysis on this will the potential impact of the criteria for admission to the service. Many uncontrolled before after studies show improvements like this that later proved to be spurious in controlled studies. This may be because there is increased utilization in the "pre" period that triggers the access to the service. Did you consider also comparing to use say 2 years prior (not including the immediate year prior) as a sensitivity analysis? at the very least this important issue needs addressing in the discussion and limitations section."

Response: To address the concerns and limitations of the pre-/post- analysis used identified here and in other comments above, we conducted a sensitivity analysis looking at only the individuals in the Casey House cohort who were in the highest Resource Utilization Band (RUB=5) and the individuals in the Ontario HIV cohort in this same RUB. We have described this analysis in greater detail in response to Comment #4 of the Editors' comments.

Comment #4: "Limitation: Acknowledge not controlled study – which could show different changes. Reiterate reasons for not doing, and contribution of current approach."

Response: We have added that our study did not include a matched design and the accompanying reasons on page 11.

Comment #5: "The tables seem appropriate and the comparison to key literature is good other than the issue outlined above."

Response: We thank the Reviewer for this comment.