Author's response to reviews

Title: Factors associated with utilisation of GP services by a cohort of people who inject drugs

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Author's response to reviews: see over
 COVER LETTER FOR SUBMISSION OF MANUSCRIPT

May 2014
Christopher Morrey, Ph.D.
Executive Editor
BMC Health Services Research

Date: xxxxxx

Ref: MS: 9929037911513356
Factors associated with utilisation of GP services by a cohort of people who inject drugs

Dear Dr. Morrey,

Thank you for considering the above manuscript for publication in BMC Health Services Research. We have responded to the reviewers comments you have provided, as detailed below. You will see that the manuscript has been revised based on suggestions from Reviewer 1 and Reviewer 2. We have also adjusted the title and abstract to reflect the requested revisions.

Thank you for your consideration, and I look forward to hearing from you soon.

Yours sincerely,

Dhanya Nambiar, on behalf of all authors

Email: dhanya@burnet.edu.au
Reviewers’ comments:

Reviewer 1:
The article is well written and addresses an important issue concerning the factors associated with primary healthcare utilization among PWID population.

Reviewer 2:
Using data of a cohort of community-recruited injecting drug users (IDU) in Melbourne, this study described utilisation of GP services for health needs unrelated to opioid substitution therapy (OST), and examined associations between use of GP services in the past month and socio-demographic and drug use characteristics and self-reported health condition.
This is a well written manuscript on a much needed study about the utilisation of general health care (unrelated to OST) by a vulnerable group of people who often face substantial barriers to access to care. I strongly recommend this article to publish.

*We thank the reviewers for the assessment of the manuscript.*

**Title**

Reviewer 1:
The title should be changed to emphasize that this is a cross-sectional survey, even though it is drawn from a cohort study.

*The title has been changed to include the term “cross-sectional study”.*

**Abstract**

Reviewer 1:
Please add the ORs and CIs from the multivariate model to the results. The conclusion statement can be shortened.

*All adjusted ORs and 95%CIs were included in the results section. We removed the last sentence of the conclusion as it suggests that this study did not identify potential enablers and barriers to primary health care (by way of GP services), which Reviewer 1 addresses as well in the Background section.*

Reviewer 1:
Minor revision: Note that this is a secondary analysis conducted on data from the MIX study.

*The term ‘secondary analysis’ was included in the Methods section.*

Reviewer 2:
The importance of this study lies with its endeavour to look into the utilization of primary health care utilisation unrelated to OST, which should be better reflected in the Abstract. The authors mentioned it only in the conclusions. I think this point also needs to be mentioned in the Background and Results
section, so that readers while reading the conclusions do not feel that this non-OST related healthcare issue has suddenly been introduced.

*The distinction of GP services unrelated to OST was added to the methods section, as this is where it was described in the body of the manuscript.*

**Background**

Reviewer 1:
The background section is somewhat long and should be more focused. In particular, there is an extensive discussion on the need for more data on the enablers and barriers to health care utilization. However, this study does not provide any additional information on this. The study objective should be more clearly stated with particular reference to what is novel about this study.

*We endeavored to make the background section more concise without discounting key points important for the discussion. We removed a section in paragraph 1 which expanded on age as a risk factor for harm among PWID, and examples of barriers of service utilisation in paragraph 2, as we felt these were addressed.* The discussion regarding the need for barriers and enablers of health service utilization is important as these are key findings reported in the manuscript. The analysis identified daily or more frequent injecting and low income as two barriers of GP service utilisation, and living with children and contact with a social worker in the past month as two enablers of service use. It is possible that the last sentence of the abstract was misleading in this sense and it has been removed.

Reviewer 2:
There are disagreements about the definitional difference between the term ‘primary care’ and ‘primary health care’. But, I guess it is important to say that the state-funded five PWID-specific primary care facilities in Melbourne are in fact ‘primary health care facilities’. These centres cater the needs of IDUs genuinely as primary health care outlets. Thus, I wonder if authors would like to use ‘primary health care’ in the sentence at p4 that says ‘The objective of these services was to enable a coordinated and comprehensive primary care response to enhance the health and welfare of PWID ...”

*We noted the discrepancy in phrasing and used ‘primary health care’ throughout the text.*

Reviewer 2:
The next sentence says, in connection to the previous sentence, that despite having these services (meaning PWID-specific services) the majority of primary care accessed by PWID continues to be in a general GP setting rather than at targeted services. And the sentence ends with reference no. 12. This study (ref 12) described the overall health care utilisation of total sample of Australian Needle Syringe Program Survey participants, and did not mention anything about PWID of any particular area. But the way, and in the context, this sentence has been written and referenced gives readers a sense that these targeted facilities are available across the nation (as ended with the ref 12, which is based on a national dataset) or that the ref 12 was based on Melbourne based IDUs. None of these are correct. Thus I recommend authors to replace ref 12 by any Melbourne or Sydney based study, which is about IDU-targeted primary health care facilities.

*The error is acknowledged and the sentence was removed.*

Reviewer 1:
OST should be spelt out the first time it is used (on p 1 of background).

_The abbreviation OST was replaced with opioid substitution therapy (OST) at the first mention._

**Methods**

Reviewer 1:
Methods: The study design and data analysis sections are clear, but instead of listing all the exposure variables in the text, I think presenting those variables in a table would be more appropriate.

_All exposure variables were included in Table 1, and the phrase “described in Table 1” was added to the paragraph listing exposure variables in the text._

Reviewer 2:
The term ‘PWID-specific primary health care’, which has been used under the subhead ‘Measures’ should also be mentioned in the last paragraph at p4, where background of these facilities has been described.

_The term was included in the Measures section._

Reviewer 2:
The para under subhead ‘Measures’ used some closely related terminologies, for instance, ‘GP-related service”? GP services. This section would be benefited if authors consider editing appropriately. Authors may like to use ‘GP practice (or general GP setting, as was used elsewhere)” instead of ‘GP service’ to clearly distinguish between services offered by GPs of PWID-specific centres and other GPs.

_We acknowledge that there are some closely related terms, particularly between GP services and GP-related services. The term GP service refers to services provided by GPs in different settings (general and PWID-specific primary health care). The term GP-related services, the outcome of interest in the models, refers to services that are provided by a GP, including wound care and injuries, blood borne virus testing, pregnancy, general health issues and referrals. These services do not include drug dependence management such as opioid substitution therapy. We have included some clarification on this at the end of paragraph 1 of the Measures section._

Reviewer 2:
The word ‘care’ after the word ‘attendance’ (p6) is not required.

_The word was removed._

Reviewer 1:
Some information on individuals who only use OST services and not other GP services should be provided (see comments in discussion below).

*A response is provided in the discussion section._

Reviewer 2:
In Table 1, the authors may like to mention the reference group for variables more than two sub-categories, although unadjusted OR gives some indication, some values in AOR may potentially confuses
the readers. Is there any specific reason for making ‘Less than 3’ rather than ‘None’ as the reference group for variable “number of other health services used – past month”? Why some AOR are missing, a footnote explaining the reasons would be nice.

An identifier (ref) was included in Table 1 next to the reference group. The reference group for “number of other health services used – past month” was selected as ‘Less than 3” as we wanted to compare this group to both people who have used no other services and people who had used more than three services in terms of GP-related service use. Using “None” as the reference category does not change the outcome of the models. An explanation of the inclusion criteria for reporting the AOR was included in footnote b below Table 1.

Reviewer 1:
I am not familiar with the use of Pearson’s Chi-square tests for determining model fit (see results below). I would have more confidence in your final model if you used Aikake Information Criterion.

The Pearson chi-square goodness-of-fit test is a test of the observed against the expected number of responses. This test is similar to the Hosmer-Lemeshow goodness-of-fit test, used to test the fit of the model (if it is correctly specified). If the totals in some of the groups are small (for variables such as age at interview, identify as Aboriginal or Torres Islander, etc) the Pearson chi-square test is considered more appropriate. The number of covariates reported was 587, while the number of observations was 641, and as the numbers are not very close the applicability of this test is considered reasonable.


Results/tables

Reviewer 1:
Some description of what proportion of the sample was recruited by the different strategies is needed.

A description was included in the Results section. The variable was also added to the models to test for association to GP-related service use, but none was found. The variable did not change the outcome of the models.

Reviewer 1:
Please provide separate tables of the bivariate analyses and the logistic regression models.

Separating the tables may make the article more difficult to read, as understanding the significance of the variables at the bivariate translates to their inclusion in the multivariable model.

Reviewer 1:
The final model has over 12 variables in it, several of which have multiple responses. This may account for the fact that few of these variables are found to be independently associated with the outcome. Are you confident that this model is the best fit for your data?

Cox and Hinkley [6, Examples 9.17 and 9.21] show that the simplest Pearson statistic, the goodness of fit statistic for the multinomial distribution, can be derived as a score statistic. This article shows that Cox and Hinkley’s result for the multinomial extends to all generalized linear models. The Pearson goodness of fit statistic is itself a score test statistic, testing the current model against the saturated model. The relationship between the Pearson statistic and the residual deviance is therefore the relationship
between the score test and the likelihood ratio test statistics, and this clarifies the role of the Pearson statistic in generalized linear models. [Gordon K. Smyth, Pearson’s Goodness of Fit Statistic as a Score Test Statistic]. We reported a p-value of 0.271 on this test, indicating that the model is adequately specific.

Reviewer 1:
I found the service utilization section a bit confusing. It is not obvious from the text what variable was your main outcome. Was it the 62% (had accessed either general or PWID-specific health services in the past month) or the 29% (had at least one visit to a GP for a health-related reason in the past month)? It would be helpful to include numerators and denominators, in addition to percentages.

Reviewer 2:
I request authors to clearly mention the number (and %) of the service utilisation. The sentence currently starts at p8 as “Among participants reporting on GP utilisation, 62% had accessed ... ... ...” misses the very first question as to how many (and %) accessed GP services. To me this is the most important part of the findings; currently it is a bit confusing. Does it say that 62% (n=400) accessed either general or targeted services in the past month for any reasons including OST only access? Are 29% (n=187?) made at least one visit to GP (both in general or targeted facilities) for general health related reasons unrelated to OST? The next sentence says, “Two-thirds of these visits... ...” What the words ‘these visits’ refer to? I guess 29%, but readers may be confused in this way of presentation. I think authors may like to consider a separate table describing both number and percentage of utilisation in relation to major variables, or may include more column(s) in Table 1.

Both reviewers commented that these results were unclear. A more detailed breakdown of the use of all GP services (including OST) either in general or PWID-specific primary health care settings was provided, followed by an explicit description of the proportion of participants who had engaged in GP-related services, and the settings for these (general vs PWID-specific services) as this was the outcome of interest.

Reviewer 1:
Please add a definition for the low-income cut-off for Australia

The definition was included under Measures section

Discussion

Reviewer 1:
Discussion:
What does this study add to the existing literature? Low income seen as a barrier to health care access is not novel.

It is interesting in the context of an area with free health services (IDU-PHC) and healthcare card availability, with the majority of participants having access to them. Most literature describing income as a barrier to health care access occurs in country which are dependent on private health insurance and out-of-pocket payments.

Reviewer 2:
9. I request authors to rephrase this sentence at p13: “The complex vulnerabilities associated with low income, which affects a large proportion of PWID, influences the priority that health takes and consequently use of health services”. Let’s make it self-explanatory so that readers, only be reading this sentence, understand that the complex vulnerabilities associated with low income have a negative influence and may make health care a low priority.

We appreciate that Reviewer 2 clearly understands the topic area and issues regarding this population. However, we are unable to extend our discussion beyond what is available from our data, particularly as it is cross-sectional in nature and limits any causal interpretation. We hope that the longitudinal analysis we have planned will allow us to address these issues more extensively.

Reviewer 1:
One of the conclusions of this study, is that more frequent injectors are less likely to access non-OST GP services. However, if they are accessing OST, this would seem to be an opportunity to engage such individuals in other types of primary care. Can you provide some information (in the results) with respect to the characteristics of participants who only use OST services?

*We did not identify participants exclusively accessing OST services, but all dependence-related issues (including NSP services through IDU-PHC). Hence we are limited in describing participants in this regard.

Reviewer 1:
While the finding that PWID with children are more likely to access GP services is interesting, is there not a high likelihood that their IDU would not be disclosed for fear of parents losing custody of their children?

Yes it is possible. However disclosure of their injecting status was not the outcome of interest, only the utilization of services. We are unable to measure disclosure among parents and other participants from the available data, beyond that participants accessing PWID-specific primary health care have by default disclosed their injecting status.

Reviewer 2:
In the same page it is said that the purpose of the visit (if it was for the child or themselves) by the mothers were not recorded, and thus interpretation of the data can’t go beyond access to services. This sentence raises a question, what exactly the participants were asked in relation to GP access. May I request authors to clarify this issue in the Methods section? Also how the responses were recorded?

We have included the survey questions used to derive the outcome variable in the Measures section. Responses were recorded by trained field workers using Personal Digital Assistants (PDA), as described in reference [30].

Reviewer 1:
The limitation section is rather brief. A major limitation is the lack of description of enabling factors and barriers to health care. Also, the direction of these associations cannot be determined b/c of the cross-sectional nature of the analysis. In particular, it is not clear what the direction of the association between self-reported health status should be. Should more ill PWID seek GP visits, or would one expect that PWID who are more functional and more stable be more likely to visit GPs?
The four factors significant in the multivariable model were the enablers and barriers to GP service use. We agree that, like all cross-sectional studies, the direction of the association cannot be determined and have included this in the study limitations. We are unable to speculate on what the relationship between the self-reported health and health service utilisation would be. Literature suggests that people with chronic illness are more likely to utilise services, however it is possible that the stigma and other competing factors mean that this is not necessarily the case for marginalized populations such as PWID.

Reviewer 1:
As this is a cohort study, it would seem that some of the limitations of this analysis could be addressed by conducting a longitudinal analysis, rather than cross sectional.

We are awaiting data linkage with Medicare datasets, which we hope will provide a more comprehensive description of primary care service utilisation in this cohort. The cross-sectional study was conducted to provide a basis for the longitudinal analysis.

Discretionary Revisions

Reviewer 2:
Conclusions
The conclusions read excellent. My only observation is about one sentence that says “Comprehensive services and support can alleviate the pressures faced by this population and create an environment conducive to harm minimisation strategies”. It sounds a bit superficial. I think it’s about time we said clearly, what we really think should be done to reduce the pressure and create a conducive environment.

Again we appreciate the knowledge of Reviewer 2 in this area. We are unable to extend our discussion to policy as the cross-sectional analysis limits any causal interpretation. We will keep these comments in mind when conducting the longitudinal analysis we have planned where we hope to provide a more in-depth analysis.

Reviewer 2:
General
I wonder if data allows any comparison between the frequency of ‘GP-care unrelated to OST’ between the participants who solely accessed PWID-specific GP care and those who solely accessed other GP facilities. For instance, how many times these two groups accessed ‘GP-care unrelated to OST’ in the previous month? Or comparison between the primary users of PWID-specific GP care and other GP facilities? Or anything about the overlapping of service access from both type of facilities? I leave this to authors’ discretion.

We thank Reviewer 2 for their interest and the very relevant ideas for further analysis. We are awaiting data linkage with Medicare datasets, which we hope will provide a more comprehensive description of primary care service utilisation in this cohort. We will keep these in mind.