

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form ([see an example](#)) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

ARTICLE DETAILS

TITLE (PROVISIONAL)	HIV among people who inject drugs in Central and Eastern Europe and Central Asia: A systematic review with implications for policy
AUTHORS	Jolley, Emma ; Rhodes, Tim; Platt, Lucy; Hope, Vivian; Latypov, Alisher; Donoghoe, Martin; Wilson, David

VERSION 1 - REVIEW

REVIEWER	Lucy Land Reader in Nursing Centre for Health and Social Care Research Faculty of Health Birmingham City University United Kingdom No competing interests
REVIEW RETURNED	20-Jun-2012

THE STUDY	It is not clear in the abstract or introduction how contact with law enforcement agencies increases risk of HIV. I can understand that imprisonment can be a risk factor, but the link between an encounter with the law and risk of HIV needs more explanation. Lines 9-16 How do police beatings or arrest without incarceration increase the risk of HIV? Is it relevant and if it is, why? Line 25 The methodological quality of the studies are not assessed, this is a major omission as it brings the veracity of the findings into question. It appears the studies are epidemiological and although methods of recruitment are identified there is no indication of how the data were gathered, what form did it take? Similarly there is no real discussion of the limitations of the studies and there how reliable and valid the data was.
RESULTS & CONCLUSIONS	Without more information on the methodological quality of the data it is impossible to determine whether the results are credible.
REPORTING & ETHICS	PRISMA has been used as the checklist for systematic review which is acceptable. Secondary analysis of data was used therefore approval was not required.
GENERAL COMMENTS	This is an interesting review which could support policy initiatives to reduce risk in HIV. There is little or no reference to the methodological quality of the studies reviewed and without this the credibility of the findings are diminished.

REVIEWER	Jamila K. Stockman, PhD, MPH Assistant Professor Division of Global Public Health Department of Medicine University of California, San Diego, USA
REVIEW RETURNED	27-Jun-2012

THE STUDY	None of the supplemental documents contain information that should be better reported in the manuscript or raise questions about the work.
REPORTING & ETHICS	Since this is a review article, no human subjects were involved.
GENERAL COMMENTS	<p>It was a pleasure reviewing manuscript #bmjopen-2012-001465 entitled, "HIV among people who inject drugs in Central and Eastern Europe and Central Asia". This review article is an extremely important contribution to the field of public health and more specifically, the field of HIV prevention and substance abuse research. In light of the shift towards the development of structural HIV prevention interventions, this paper is timely and provides further justification for the need of such interventions for people who inject drugs. This review is presented in a logical and informative manner. However, there are minor issues that should be addressed prior to acceptance of this manuscript for publication in BMJ Open.</p> <p>Abstract</p> <ol style="list-style-type: none"> 1) In the "background and objectives" section, there is initial mention of the public health concern of HIV among people who inject drugs in Eastern and Central Europe and Central Asia (line 4-6). But then the authors state that the objective of this review to "examine risk factors associated with HIV prevalence....in Central and Eastern Europe (line 7-9). What about Central Asia? If this geographic region is not included, why mention it at all in lines 4-6? 2) In the "design" section, the goal of describing policy environments (line 15-16) should be mentioned in the "objectives" section. 3) In the "results" section, the authors use the word, 'Centre' and 'East' without reference to what these regions mean. For the purposes of the abstract, this should be changed to 'Central Europe' and 'Eastern Europe'. This is also relevant to the "conclusions" section. <p>Introduction</p> <ol style="list-style-type: none"> 4) There are a few areas within the introduction section that should have included relevant citations. For example, the last sentence in the first paragraph (line 13-14) should have a citation. Also, citations should be provided for the first sentence in the second paragraph (line 16-19). 5) On pg. 4, line 10-11, for the sentence, "Over 27,000 new cases of HIV were attributed to injecting drug use...", it would have been more compelling to state the proportion of new infections attributable to injecting drug use. 6) The authors mention "Central and Eastern Europe and Central Asia" in the third paragraph but there is no mention of "Central Asia" in the first paragraph. This issue is prevalent throughout the manuscript. If the focus of the paper is on the burden of HIV among people who inject drugs in Central and Eastern Europe, then "Central Asia" should not be referenced.

	<p>Methods</p> <p>7) The use of “the East” and “the Centre” should not be used in the introduction since the first time it is referenced is in the first paragraph of the methods section.</p> <p>Results</p> <p>8) The text does not refer to Figure 1 and explain the process of why articles were excluded. This should be explained and reference should be made to Figure 1. Also, according to Figure 1, “100 documents were used to generate HIV incidence and prevalence estimates and demographic profile of people who inject drugs in the region” but the breakdown of this number is unclear. If 70 provided unique estimates of HIV prevalence or incidence and 14 provided estimates for multivariate risk factors for HIV prevalence, what information did the remaining 16 documents provide?</p> <p>9) On page 8, line 22-24, “Figures 4 and 5” should be changed to “Figures 3 and 4”.</p> <p>10) There is no reference to Table 1 in the text. Table 1 should be referenced and explained in the text although it was unclear what added value this table provided to the manuscript/readers since results are clearly summarized in Figures 3 and 4.</p> <p>11) In the text, when explaining Figures 3 and 4, it would be useful to mention whether or not there were consistent findings by sex worker status (i.e., female non-sex worker PWID, female SW PWID). Also ‘SW’ should be defined as a footnote on the figures.</p> <p>12) In Figure 5, labels for the x-axis need to be provided to designate which chart corresponds to Eastern Europe and which one corresponds to Central Europe (similar to what was done for Figure 2).</p> <p>13) On pg. 9, line 6-7, a space is needed prior to the parentheses.</p> <p>14) On pg. 9, lines 19-25, beginning with “An association between HIV among PWID and being of minority ethnicity that cannot otherwise be explained...” and ending with “...ability to gain employment or even to drive a car” is better suited for the discussion section.</p> <p>Discussion</p> <p>15) On pg. 12, lines 3-6, corrections to references/citations should be made.</p> <p>References</p> <p>16) The reference list should be reviewed and edited accordingly. There are extra lines between some of the references.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1:

1. This is a typical "impact assessment"-type paper for policy makers, the type used in the world of development studies. But it's weak methodologically by Cochrane-type standards as it doesn't filter the studies by quality or even by study design (big limitation).

Response: All papers included in the study met several basic quality standards as studies with samples smaller than 50 or with unclear sampling techniques were excluded. The Methods section describes how we assessed the quality of HIV prevalence estimates based on a number of indicators including sample size, recruitment setting, the population sampled and the recency of the estimate. Additionally, Table 1 summarises some of the key characteristics of the 14 studies that present multivariate results. Due to the nature of research among this population, nearly all studies are cross-sectional; using either a 'snowball' or convenience sampling strategy, hence filtering by such characteristics would not have been appropriate. The Methods and Results sections have been updated to reflect these points.

2. There's also - possibly - the all too common weakness that only one person did the bulk of the work. This needs to be acknowledged in the limitations of the study.

Response: The Authors' Contributions and Discussion sections have been updated to better reflect the share of the work and the impact on the quality of the study. This notes the role of multiple authors in the development of the methodology for the systematic review and in the reviewing of the literature as well as the extraction of data.

3. The methods section needs fleshing out to expand on the contributor statement, and explain what "reviewed the collected literature" means: did three people really go through all the retrieved studies and decide which to include or exclude - if they did, that's good. Only one person did the data extraction (this may be OK if they add more methodological detail and discuss the biases/limitations of their approach).

Response: The Methods section has been updated to better reflect the share of the work and the impact on the quality of the study.

4. Please include any grant number from the World Bank, if there is one. Funders often search for these to track the outputs of work they've funded.

Response: The grant number is World Bank 7153690 and the acknowledgements text has been changed to reflect this.

Reviewer 2:

1. It is not clear in the abstract or introduction how contact with law enforcement agencies increases risk of HIV. I can understand that imprisonment can be a risk factor, but the link between an encounter with the law and risk of HIV needs more explanation. Lines 9-16 How do police beatings or arrest without incarceration increase the risk of HIV? Is it relevant and if it is, why?

Response: Contact with law enforcement agencies has direct as well as potentially indirect effects in relation HIV risk. We do not explore this directly in the introduction or abstract as this is beyond the primary scope of this paper, but instead have provided appropriate references. We make clear in the introduction that HIV risk is an effect of multiple contributing factors which act potentially in 'non-linear' ways. Research showing linkage between police beatings and elevated HIV risk practices (Booth et al., 2010; Strathdee et al., 2010) suggests that one way such police contact may contribute, indirectly, to reduced risk reduction capacity is via reluctance to carry needles and syringes through fear of

arrest.

2. Line 25 The methodological quality of the studies are not assessed, this is a major omission as it brings the veracity of the findings into question. It appears the studies are epidemiological and although methods of recruitment are identified there is no indication of how the data were gathered, what form did it take? Similarly there is no real discussion of the limitations of the studies and there how reliable and valid the data was.

Without more information on the methodological quality of the data it is impossible to determine whether the results are credible.

Response: The methodological quality of the studies are assessed. See our response to Reviewer 1 above. Further discussion of the limitations of the studies as well as the potential effect of such weaknesses, has been added to the Discussion section of the text.

Reviewer 3:

1. In the “background and objectives” section, there is initial mention of the public health concern of HIV among people who inject drugs in Eastern and Central Europe and Central Asia (line 4-6). But then the authors state that the objective of this review to “examine risk factors associated with HIV prevalence....in Central and Eastern Europe (line 7-9). What about Central Asia? If this geographic region is not included, why mention it at all in lines 4-6?

Response: The study includes 30 countries in Central and Eastern Europe and Central Asia. Where Central Asia was omitted this was an error and has been rectified in the text.

2. In the “design” section, the goal of describing policy environments (line 15-16) should be mentioned in the “objectives” section.

Response: This had been omitted in the interests of staying within a 300 word limit for this section, but the text has now been amended to reflect the Reviewer’s concerns.

3. In the “results” section, the authors use the word, ‘Centre’ and ‘East’ without reference to what these regions mean. For the purposes of the abstract, this should be changed to ‘Central Europe’ and ‘Eastern Europe’. This is also relevant to the “conclusions” section.

Response: Since explanations of these terms do not appear until the Methods section, we have amended the text here.

4. There are a few areas within the introduction section that should have included relevant citations. For example, the last sentence in the first paragraph (line 13-14) should have a citation. Also, citations should be provided for the first sentence in the second paragraph (line 16-19).

Response: This has been rectified in the text.

5. On pg. 4, line 10-11, for the sentence, “Over 27,000 new cases of HIV were attributed to injecting drug use...”, it would have been more compelling to state the proportion of new infections attributable to injecting drug use.

Response: This has been rectified in the text.

6. The authors mention “Central and Eastern Europe and Central Asia” in the third paragraph but there is no mention of “Central Asia” in the first paragraph. This issue is prevalent throughout the manuscript. If the focus of the paper is on the burden of HIV among people who inject drugs in

Central and Eastern Europe, then “Central Asia” should not be referenced.

Response: Please see our response to Reviewer 3’s first concern, above. This issue has been rectified in the text.

7. The use of “the East” and “the Centre” should not be used in the introduction since the first time it is referenced is in the first paragraph of the methods section.

Response: This has been rectified in the text.

8. The text does not refer to Figure 1 and explain the process of why articles were excluded. This should be explained and reference should be made to Figure 1. Also, according to Figure 1, “100 documents were used to generate HIV incidence and prevalence estimates and demographic profile of people who inject drugs in the region” but the breakdown of this number is unclear. If 70 provided unique estimates of HIV prevalence or incidence and 14 provided estimates for multivariate risk factors for HIV prevalence, what information did the remaining 16 documents provide?

Response: 100 documents were used to generate HIV incidence and prevalence estimates and demographic profile of PWID in the region, of which 70 provided unique estimates of HIV prevalence or incidence, and 30 demographic data only. Of the 70 papers with prevalence or incidence estimates, only also 14 reported multivariate analyses, 56 reporting prevalence or incidence estimates only. We have updated Figure 1 to hopefully clarify this, along with the text in the Methods section where this is referred to.

9. On page 8, line 22-24, “Figures 4 and 5” should be changed to “Figures 3 and 4”.

Response: This has been rectified in the text.

10. There is no reference to Table 1 in the text. Table 1 should be referenced and explained in the text although it was unclear what added value this table provided to the manuscript/readers since results are clearly summarized in Figures 3 and 4.

Response: This has been rectified in the text. Figures 3 and 4 show graphically the factors which appeared in more than one multivariate analysis and therefore allow some comparison. Table 1 described all the factors examined by the multivariate analyses we identified, including many that may be locally specific or were not found to be associated with HIV. This information also allows the reader an idea of what the analyses were adjusted for without having to refer to the original papers.

11. In the text, when explaining Figures 3 and 4, it would be useful to mention whether or not there were consistent findings by sex worker status (i.e., female non-sex worker PWID, female SW PWID). Also ‘SW’ should be defined as a footnote on the figures.

Response: The acronym SW has been defined in the text. Unfortunately too few studies examined results by SW status to allow a meaningful comparison of risk this group.

12. In Figure 5, labels for the x-axis need to be provided to designate which chart corresponds to Eastern Europe and which one corresponds to Central Europe (similar to what was done for Figure 2).

Response: The graphs in Figure 5 are not separated by region, and instead show two different coverage figures which are described by the x-axis labels. Data for Central and Eastern European and Central Asian countries are not disaggregated in these graphs and labelling suggested by the

Reviewer would be misleading.

13. On pg. 9, line 6-7, a space is needed prior to the parentheses.

Response: This has been rectified in the text.

14. On pg. 9, lines 19-25, beginning with “An association between HIV among PWID and being of minority ethnicity that cannot otherwise be explained...” and ending with “...ability to gain employment or even to drive a car” is better suited for the discussion section.

Response: This has been moved to the Discussion section.

15. On pg. 12, lines 3-6, corrections to references/citations should be made.

Response: This has been rectified in the text.

16. The reference list should be reviewed and edited accordingly. There are extra lines between some of the references.

Response: This has been rectified in the text.

VERSION 2 – REVIEW

REVIEWER	Lucy Land Reader In Nursing Centre for Health and Social Care Faculty of Health
REVIEW RETURNED	06-Sep-2012
GENERAL COMMENTS	I am satisfied that the authors have made the changes requested and the manuscript is suitable for publication.