

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Medical overuse in the Iranian health care system: a systematic review protocol
<b>AUTHORS</b>	Arab-Zozani, Morteza; Pezeshki, Mohammad Zakaria; Khodayari-Zarnagh, Rahim; Janati, Ali

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Dr Katie MacLure Robert Gordon University Aberdeen Scotland United Kingdom
<b>REVIEW RETURNED</b>	04-Dec-2017

<b>GENERAL COMMENTS</b>	<p>Dear authors, thank you for the opportunity to review your systematic review protocol. I only have a few minor suggestions and comments plus a few typos which would have been picked up in copy editing anyway.</p> <p>I think this is an important area of research and you justify it well supported by recent, relevant references. If I can step through the submission, please, noting areas for consideration:</p> <p><b>Abstract</b> Although you justify the statement 'leads to a decrease in the quality of care and increase of harms' in the main text, it looks unsupported and open to challenge in the Abstract. Perhaps add more detail or tone down the assertion. I am accustomed to seeing Web of Science capitalised. I am unfamiliar with SID so other readers may also be - suggest expand on first use.</p> <p><b>Article summary</b> Bullet point two - suggest delete 'much more' as it appears to unnecessarily overstate the case.</p> <p><b>Introduction</b> Paragraph 2 - after references 6-8, suggest not using the word 'certainly' perhaps it raises questions over the quality of the health service. Two lines down - plural for delivers Two lines down - remove the spaces before the full stop</p> <p>Paragraph 3 - comma between references 13,14</p> <p>Paragraph 4 - opening sentence, comma after countries, lower case</p>
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	<p>for the 't' of there then overuse in 'the' health care system. Next sentence suggest replacing 'As well as,' with 'Also,;'; later same paragraph plural administrators</p> <p>Paragraph 5 - delete teh words 'much more' as overstatement</p> <p>Methods</p> <p>Study method Reference 16 is to the PRISMA-P for protocols, suggest reference both PRISMA and PRISMA-P detailing what each adds to your SR development.</p> <p>Eligibility criteria Rewrite sentence 2, perhaps 'teh included studies will not be limited based on study type'. Next sentence, 'in the recent' then commas between references.</p> <p>Search strategy As above WoS and SID. Should it be medical care as up to now and further through is medical services. Feasibility - I wondered if you meant sensitivity as usually paired with specificity. Also delete 'during the initial search' as not adding anything. Search term 13, how does this sit with appropriate polypharmacy (see SIMPATHY EU project).</p> <p>Study selection process Last sentence - by consensus with a third researcher</p> <p>Quality appraisal Delete the hyphen between poor and quality. Reference 19 should be to the JBI tools not a random study.</p> <p>Data synthesis You mention meta-analysis but how will you report if not homoeogeneous? Suggest include narrative reporting of other study types and where meta-analysis not appropriate.</p> <p>Discussion First sentence, suggest add 'the' before Iranian health care system Second last sentence, delete 'evidence' and 'process' so valuable evidence for informed policy making.</p> <p>References 20 - check correctly listed as should be Underuse (with an 'n')</p> <p>Appendix I am confused at the inclusion of an application of PRISMA-P for a postnatal discharge study. Why not an accurate replication of PRISMA-P? There are typos in items 5, 14 and 17.</p> <p>I wish you all the best with your SR which has great potential to add to the evidence base for health care in Iran.</p> <p>Kind Regards</p> <p>Dr Katie MacLure, RGU, Scotland</p>
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<b>REVIEWER</b>	Eric Coon
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	University of Utah
<b>REVIEW RETURNED</b>	16-Feb-2018

<b>GENERAL COMMENTS</b>	The authors should be commended for addressing an important topic and undertaking an ambitious project. Unfortunately, the protocol is missing many critical details. From my perspective, the following PRISMA components are not adequately addressed: Data items, Outcomes and prioritization, Risk of bias in individual studies, Data synthesis, Met-bias, and Confidence in cumulative evidence. For example, there are no details provided surrounding the proposed meta-analysis. Greater explanation about how coding differences will be resolved is needed. A description of the 'JBI' checklists (with which authors propose measuring evidence quality) is needed. Similarly, the authors reference another article's definition of overuse- that definition should be stated directly in the present protocol.
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### VERSION 1 – AUTHOR RESPONSE

First of all, thanks for the excellent comments of the respectable editor and reviewers.

Editor Comments to Author:

Reviewer Comments	Response to reviewer	Section
Please do not format your manuscript into columns.	Done as requested	---
Please state the search dates in the abstract.	The search will be conducted on February 1, 2018.	Abstract
Please change the abstract 'Dissemination' section to 'Ethics and Dissemination', as per guidelines for protocols.	Done as requested	Abstract
Please remove the article focus and key messages sections in the article summary - we only require the Strengths and Limitations section.	Removed	Article summary
Please make sure that you include at least one limitation of the study or study design in the Strengths and Limitations section.	Added as requested	Strengths and Limitations section
Please include the study search dates in the methods section. Was this from inception of the databases? What will be the end search date?	The search will be done without time limit until the end of 2017	Method
Are you going to perform any risk of bias assessment?	Yes, The risk of bias assessment will be performed based on the Cochrane Risk of Bias Tool. For this purpose items such as the selection bias, performance bias, detection	Method

	bias, attrition bias and reporting bias will be checked	
Please end your manuscript with an Ethics and Dissemination section, as per guidelines for protocol papers.	Done as requested	Ethics and Dissemination
Please ensure that your manuscript is thoroughly proofread by a native English speaker prior to resubmission, to check for any errors in language or grammar.	Done as requested	---

Reviewer(s)' Comments to Author:  
Reviewer 1: Dr Katie MacLure

Reviewer Comments	Response to reviewer
<p>Abstract</p> <p>Although you justify the statement 'leads to a decrease in the quality of care and increase of harms' in the main text, it looks unsupported and open to challenge in the Abstract. Perhaps add more detail or tone down the assertion.</p>	Revised as requested
I am accustomed to seeing Web of Science capitalised.	Corrected as requested
I am unfamiliar with SID so other readers may also be - suggest expand on first use.	<p>This database has been expanded in the method section</p> <p>SID is a database that categorized Iranian research- scientific journals in scientific groups and initiated its mission in August 2004 (<a href="http://www.sid.ir/En/Journal/">http://www.sid.ir/En/Journal/</a>).</p>
<p>Article summary</p> <p>Bullet point two - suggest delete 'much more' as it appears to unnecessarily overstate the case</p>	Based on editor comments article focus and key message removed from this section.
<p>Introduction</p> <p>Paragraph 2 - after references 6-8, suggest not using the word 'certainly' perhaps it raises questions over the quality of the health service.</p>	Certainly changed to probably

Two lines down - plural for delivers	Corrected as requested
Two lines down - remove the spaces before the full stop	Corrected as requested
Paragraph 3 - comma between references 13,14	Based on author guideline there is no need to set the comma between references. It is based on journal style.
Paragraph 4 - opening sentence, comma after countries, lower case for the 't' of there then overuse in 'the' health care system. Next sentence suggest replacing 'As well as,' with 'Also,,'; later same paragraph plural administrators	Corrected as requested
Paragraph 5 - delete the words 'much more' as overstatement	Corrected as requested
<p>Methods Study method</p> <p>Reference 16 is to the PRISMA-P for protocols, suggest reference both PRISMA and PRISMA-P detailing what each adds to your SR development.</p>	<p>Reference for PRISMA added (reference 18, Liberati et al, 2009).</p> <p>We used the PRISMA protocol because its use would reduce the risk of flawed reporting and increase the transparency and clarity of the systematic review reports.</p>
<p>Eligibility criteria</p> <p>Rewrite sentence 2, perhaps 'the included studies will not be limited based on study type'. Next sentence, 'in the recent' then commas between references.</p>	<p>Corrected as requested.</p> <p>It is based on journal style.</p>
<p>Search strategy</p> <p>As above WoS and SID.</p> <p>Should it be medical care as up to now and further through is medical services.</p> <p>Feasibility - I wondered if you meant sensitivity as usually paired with specificity. Also delete 'during the initial search' as not adding anything. Search term 13, how does this sit with appropriate polypharmacy (see SIMPATHY EU project).</p>	<p>Corrected as requested.</p> <p>Inappropriate medication is almost equivalent to polypharmacy</p>
<p>Study selection process</p> <p>Last sentence - by consensus with a third researcher</p>	Corrected as requested.
<p>Quality appraisal</p> <p>Delete the hyphen between poor and quality.</p> <p>Reference 19 should be to the JBI tools not a random study.</p>	<p>Corrected as requested.</p> <p>The previous references removed and new reference replaced</p>
<p>Data synthesis</p> <p>You mention meta-analysis but how will you report</p>	Corrected as requested.

if not homogeneous? Suggest include narrative reporting of other study types and where meta-analysis not appropriate.	If the studies are homogeneous, meta-analysis will be done using quantitative data from individual studies. Otherwise, we use narrative method for reporting the results.
Discussion First sentence, suggest add 'the' before Iranian health care system Second last sentence, delete 'evidence' and 'process' so valuable evidence for informed policy making.	Corrected as requested.
References 20 - check correctly listed as should be Underuse (with an 'n')	Corrected as requested.
Appendix I am confused at the inclusion of an application of PRISMA-P for a postnatal discharge study. Why not an accurate replication of PRISMA-P? There are typos in items 5, 14 and 17	Corrected as requested.

Reviewer(s)' Comments to Author:  
Reviewer 2: Eric Coon

Reviewer Comments	Response to reviewer
The authors should be commended for addressing an important topic and undertaking an ambitious project. Unfortunately, the protocol is missing many critical details. From my perspective, the following PRISMA components are not adequately addressed: Data items, Outcomes and prioritization, Risk of bias in individual studies, Data synthesis, Met-bias, and Confidence in cumulative evidence. For example, there are no details provided surrounding the proposed meta-analysis. Greater explanation about how coding differences will be resolved is needed.	Data item include; publication year, type of study, study population, type of service, clinical area, and overuse rate or range.  Outcomes and prioritization; overuse in all services.  Data synthesis; If the studies are homogeneous, meta-analysis will be done using quantitative data from individual studies. Otherwise, we use narrative method for reporting the results based on type of services and clinical areas such overuse of medication, therapeutic procedure and screening test.  Meta biases; The risk of bias assessment will be performed based on the Cochrane Risk of Bias Tool. For this purpose items such as the selection bias, performance bias, detection bias, attrition bias and reporting bias will be checked.  For meta-analysis we will pooled the data of overuse rate of services based on type of services.
A description of the 'JBI' checklists (with which authors propose measuring evidence quality) is	JBI checklist; The Joanna Briggs Institute (JBI) is an international institution aimed at enhancing

<p>needed. Similarly, the authors reference another article's definition of overuse- that definition should be stated directly in the present protocol.</p>	<p>evidence-based healthcare by providing access to health related resources. The JBI critical appraisal checklists developed and approved by JBI scientific committee. These tools are designed for various types of studies and available from <a href="http://joannabriggs.org/research/critical-appraisal-tools.html">http://joannabriggs.org/research/critical-appraisal-tools.html</a>.</p> <p>The mentioned definition of overuse added to the text: 'Provision of a service that is unlikely to increase the quality or quantity of life, that poses more harm than benefit, or that patients who were fully informed of its potential benefits and harms would not have wanted'</p>

#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Dr Katie MacLure Robert Gordon University, Aberdeen, United Kingdom
<b>REVIEW RETURNED</b>	01-Mar-2018

<b>GENERAL COMMENTS</b>	There is still some confusion in the description of the use of PRISMA-P (which is a guide to writing a protocol) and the PRISMA reporting guidelines for reviews. There are occasional letters ('s' where should be plural, as is 'decision makers') and words ('be' as in 'not be limited'; 'will' as in 'we will use') missing in places.
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<b>REVIEWER</b>	Eric Coon University of Utah, United States
<b>REVIEW RETURNED</b>	06-Mar-2018

<b>GENERAL COMMENTS</b>	Thank you for your efforts to address my previous comments.
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#### VERSION 2 – AUTHOR RESPONSE

First of all, thanks for the excellent comments of the respectable editor and reviewers.

Reviewer(s)' Comments to Author:  
Reviewer 1: Dr Katie MacLure

Reviewer Comments	Response to reviewer
There is still some confusion in the description of the use of PRISMA-P (which is a guide to writing a protocol) and the PRISMA reporting guidelines for reviews	Done as requested  We removed the incorrect references.

<p>There are occasional letters ('s' where should be plural, as is 'decision makers') and words ('be' as in 'not be limited'; 'will' as in 'we will use') missing in places.</p>	<p>Done as requested</p>
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Reviewer(s)' Comments to Author:  
 Reviewer 2: Eric Coon

Reviewer Comments	Response to reviewer
<p>Thank you for your efforts to address my previous comments.</p>	<p>Thanks for your good comments that will definitely help improve our work.</p>