

## 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>	A qualitative meta-synthesis of barriers and facilitators that influence the implementation of community pharmacy services: perspectives of patients, nurses and general medical practitioners
<b>AUTHORS</b>	Hossain, Lutfun; Fernandez-Llimos, Fernando; Lockett, Tim; Moullin, Joanna; Durks, Desire; Franco-Trigo, Lucia; Benrimoj, Charlie; Sabater-Hernandez, Daniel

### VERSION 1 - REVIEW

<b>REVIEWER</b>	Sang-Eun Choi Korea University, South Korea
<b>REVIEW RETURNED</b>	31-Dec-2016

<b>GENERAL COMMENTS</b>	<p>This study investigated the various stakeholders' views about CPS implementation. Authors used qualitative synthesis to integrate and structure the influencing factors. This study seems to be very useful for the researches and policy-makers who have interest of CPS implementation. I, as a reviewer recommend this article is appropriate to be accepted for the BMC Open.</p> <p>I would like to add some minor revisions:</p> <ol style="list-style-type: none"> <li>1. Abstract: the results part needs to be revised to include some contents of influential factors rather than listing of the ecological levels and number of elements</li> <li>2. Page 8, Synthesis is described in the order of study procedure. I would like to have a few sentences for description of the overall methodology used. And please mention the specific statistical methods to explore the relationship in addition to the name of SW packages.</li> <li>3. Table 2 showed the descriptions of the articles included in this study. This included participants and expressed topic of each study, but it might be better to add a description of the factors that affect on CPS explored in the each study.</li> <li>4. The authors have repeatedly stated that this study was done in an Australian setting. What do the authors think is the difference between settings in Australia and other countries and how do they affect the interpretation of the research results?</li> </ol>
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<b>REVIEWER</b>	Sarah E Kelling, PharmD, MPH, BCACP Clinical Assistant Professor University of Michigan College of Pharmacy Ann Arbor, MI, USA
<b>REVIEW RETURNED</b>	31-Dec-2016

<b>GENERAL COMMENTS</b>	Thank you for the opportunity to review your manuscript, "A
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	<p>qualitative meta-synthesis of barriers and facilitators that influence the implementation of community pharmacy services: Perspectives of patients, nurses and general medical practitioners." The manuscript was easy to read and included comprehensive information. There are very few recommendations:</p> <ol style="list-style-type: none"> <li>1. Consider adding a sentence in the results section of the abstract that clarifies that most elements were classified as both barriers and facilitators.</li> <li>2. Consider adding sub-headers such as disease or condition management, medication management, and inter-professional collaboration in table 2.</li> <li>3. Consider dividing the "barrier" and "facilitator" columns in table 3 into three columns each and have a column for Pt, GP, and N. It would then only be necessary to list the references in each cell (or consider shading it as well). It would make it easier for the reader to see which groups of people reported barriers and facilitators at each level.</li> <li>4. As there was no time limit on the study, it is possible that attitudes and beliefs have shifted over time (e.g., patient, GP, or nurse perceptions of immunizations by community pharmacists). Recommend addressing this limitation.</li> </ol>
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<b>REVIEWER</b>	Meagen Rosenthal University of Mississippi, USA
<b>REVIEW RETURNED</b>	26-Jan-2017

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunity to review this excellent work. I have two very small comments for the discussion section.</p> <p>Pg 28, (authors' lines 285-289) - I would suggest removing the last two sentences from this paragraph.</p> <p>Pg 29, (authors' line 321) - This paragraph is very long I would suggest breaking it apart starting at the sentence beginning "The analysis conducted in this review..."</p> <p>Pg 31, (Limitations section) - Again this paragraph is very long I would suggest breaking it apart at the authors line 355, with the sentence starting "Following the particular method..."</p>
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<b>REVIEWER</b>	McVin Hua Heng Cheen Singapore General Hospital, Singapore
<b>REVIEW RETURNED</b>	06-Feb-2017

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunity to review this piece of work. In this study, the authors performed a meta-synthesis of qualitative studies to identify barriers and facilitators of community pharmacy services (CPSs) in Australia from the patients', general practitioners' and nurses' perspectives. This is a well written article and complements the current literature that largely focused on the perspectives of the pharmacists. In addition, the authors understood the limitations of their study and have provided appropriate suggestions for future research.</p> <p>I have a few minor comments for the authors' consideration:</p> <ol style="list-style-type: none"> <li>1. In Table 2, suggest creating 3 additional columns to indicate</li> </ol>
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	<p>which perspectives are studied in each article.</p> <p>2. Does the method of interview (i.e. semi-structured interview, in-depth interview, focused group) affect the kinds of barriers/ facilitators identified? This should be discussed.</p> <p>3. In light of the study findings, perhaps the authors can provide some recommendations as to how this information should be used when implementing a new CPS. Should some barriers/ facilitators be given priority?</p>
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<b>REVIEWER</b>	Dr Michelle Myall Faculty of Health Sciences University of Southampton United Kingdom
<b>REVIEW RETURNED</b>	19-Apr-2017

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunity to review this interesting paper which addresses an important agenda in the implementation of community pharmacy services in Australia. I have a few comments and suggestions for the authors consideration:</p> <p><b>Introduction</b> It would be useful to provide background information on community pharmacy services and the healthcare system in Australia to provide some context for the reader. This doesn't need to be extensive but would help to situate this study.</p> <p><b>Line 109/110 – reference is made to “findings from previous pharmacy informed research” – please reference some relevant examples.</b></p> <p><b>Results</b> Page 11 line 181/182 – Semi-structured interviews and focus groups are described as the methods of data collection of the included papers. However, in Table 2 you also refer to in-depth interviews – please ensure consistency between the main body of the manuscript and table.</p> <p><b>Table 2 – Detail given in the description of participants in the papers included in the review are variable. For example Clark et al (line 35/26) provides little information. Where possible please ensure there is parity in the descriptions.</b></p> <p><b>Discussion</b> While McElroy's ecological model has been used to classify the barriers and facilitators to implementing community pharmacy services, and offers a useful way to understand the different levels at which they operate, this is not explored further at any great length in the discussion. To do this would enable the authors to move beyond a more descriptive level to one of explanation which would greatly enhance the paper.</p> <p>It is a pity that a lack of information prevented a full network analysis as this would have contributed to the reader's understanding of the interaction between the elements and their influence on successful implementation. In my view, the analysis provided by the pictorial representation in Appendix 2 is limited and the authors may want to consider whether this adds anything to the paper and merits</p>
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	inclusion in the final version.
<b>REVIEWER</b>	Prudence Ditlopo, Researcher Centre for Health Policy, School of Public Health, University of the Witwatersrand, South Africa
<b>REVIEW RETURNED</b>	23-Apr-2017
<b>GENERAL COMMENTS</b>	<p><b>GENERAL COMMENTS:</b></p> <p>In this paper, the authors used a qualitative meta-synthesis to identify the barriers and facilitators influencing the implementation of community pharmacy services in Australia. In particular, they sought the perspectives of patients, nurses and general medical practitioners as these cadres directly or indirectly interact with and influence the ultimate implementation of the community pharmacy services. The paper is well-written and the authors provided a comprehensive explanation of how the review was conducted and how rigour was ensured. But, there are weaknesses which need to be addressed prior to the publication of the article and these will be noted in the different sections below:</p> <p><b>COMMENTS ON THE ABSTRACT:</b></p> <ul style="list-style-type: none"> <li>The abstract could be strengthened by including a sentence on the implication of the study for practitioners and or policymakers.</li> </ul> <p><b>COMMENTS ON THE STRENGTHS AND LIMITATIONS:</b></p> <ul style="list-style-type: none"> <li>What were the strengths and weaknesses of the search strategy?</li> </ul> <p><b>COMMENTS ON THE INTRODUCTION:</b></p> <ul style="list-style-type: none"> <li>The introduction could be strengthened by clearly stipulating a convincing argument to contextualise the study and its contribution to the field. Why is this study important to the global community? What is the problem statement? Why is it important to investigate the barriers and facilitators of implementing community pharmacy services? Except for the argument that only pharmacist-studies are conducted which appears like the main reason for conducting the study, what are other challenges regarding the implementation of community pharmacy implementation that led to this meta-</li> </ul>

	<p>synthesis being conducted?</p> <p><b>COMMENTS ON THE METHODS:</b></p> <ul style="list-style-type: none"> <li>• The authors should be careful with their use of the words “systematic review” because they conducted a meta-synthesis of articles and not necessarily did a conventional systematic review.</li> <li>• In their eligibility criteria, the authors excluded dispensing as one of the routine activities performed by community pharmacists but they did not justify why this was the case (line 126-128 in page 7). It may have been useful if the authors had specified what action or set of actions of community pharmacists were considered for this review. The authors assume that the global community is familiar with the community pharmacy services and how it works.</li> <li>• The authors need to justify why they considered using ecological model rather than other available models. It appears like the authors assume that the readers are familiar with this model. For instance, the model in Table 1 is very superficially discussed; hence it is unclear what the specific elements in each of the levels are.</li> </ul> <p><b>COMMENTS ON THE RESULTS:</b></p> <ul style="list-style-type: none"> <li>• It may have been useful if the authors used sub-headings to explain the results section to improve readability. In their current format, it is left to the reader to make the connections between the different sections of the results.</li> <li>• The authors need to be careful about their interpretation of the results in some sections so that it doesn't seem misleading. For example, in lines 233-235 in page 26, the authors have mentioned that “<i>With respect to the pharmacy setting, many articles identified the accessibility of the pharmacy facilitated inter-professional relationships between GPs and pharmacists, 50, 51 and influenced patient 16, 36, 39 and nurse 49 participation in CPS</i>”. Although the authors mentioned “many articles”, out of 29 articles included in this paper, they only mentioned two for the relationships between GPs, three for influenced patient and one for participation in CPS. I suppose this can thus not be interpreted as “many” articles.</li> <li>• The main weakness of this paper is that the description of the elements in Table 1 (page 10) was done superficially and the bulk of the results rely on understanding what these elements are. The authors leave it too much to the reader to make sense of their results. For example in page 27, lines 250-251, the authors have mentioned under the community and healthcare system level that “<i>nine influential elements were identified at this level</i>”. Without being upfront about</li> </ul>
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	<p>what are those nine elements, it is left to the reader to guess from the text written and being unsure of whether my interpretation is the same as that of the authors. For example, reading the subsequent paragraph after this line (lines 251-268), I picked up several issues discussed which are <i>the need for adequate remuneration, the availability of competing government funded health programs, complex bureaucratic procedures, presence of clear protocol guiding service delivery, better and more responsible organisation of the healthcare system, some form of relationship between certain elements, and limited unsystematic information</i>. Are these the “nine influential elements” that the authors are referring to? If so, I identified seven not nine.</p> <p><b>COMMENTS ON THE DISCUSSION:</b></p> <ul style="list-style-type: none"> <li>• It appears like there is a disjuncture between the results and some sections of the discussion. Some of the issues that are mentioned in the discussion were not included in the results. For example, in lines 293-294, the authors noted that “...<i>some of the influential elements reported in previous pharmacists-informed studies such as the pharmacist’s education and training...</i>” Similarly, in the follow up sentence in line 298, the authors mentioned <i>GP’s workload</i>. I may have missed this in the results but I did not see any reporting related to the education and training of the pharmacists and GP workload.</li> <li>• The authors did not reflect on the weaknesses of using the ecological levels, were there any?</li> </ul>
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## VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Sang-Eun Choi

Institution and Country: Korea University, South Korea

Please state any competing interests: None declared

This study investigated the various stakeholders’ views about CPS implementation. Authors used qualitative synthesis to integrate and structure the influencing factors. This study seems to be very useful for the researches and policy-makers who have interest of CPS implementation. I, as a reviewer recommend this article is appropriate to be accepted for the BMC Open.

I would like to add some minor revisions:

1. Abstract: the results part needs to be revised to include some contents of influential factors rather than listing of the ecological levels and number of elements.

See the new abstract including some contents of influential factors as requested.

2. Page 8, Synthesis is described in the order of study procedure. I would like to have a few sentences for description of the overall methodology used. And please mention the specific statistical methods to explore the relationship in addition to the name of S/W packages.

We believe we have provided a comprehensive description of the coding in the methods section in three stages: 1. Line-by-line coding of the original data and study author's interpretation of the data 2. Classification of codes into barrier/facilitator followed by grouping of similar codes and 3. Organisation of the codes as per the ecological model.

3. Table 2 showed the descriptions of the articles included in this study. This included participants and expressed topic of each study, but it might be better to add a description of the factors that affect on CPS explored in the each study.

We believe that this change would add to much information to table 2 which would make the table too complicated and too difficult to read. In fact, we have already added some extra information to the table as per the request of another author. Furthermore, as several elements could be identified in the one paper, and an element can appear several times in different studies, we believe that adding this information to Table 2 would create too much clutter and not be very useful. For this reason we decided to create table 3 where all the factors are mentioned once (and this table is still quite long) and references to the different studies in which they were identified are included.

4. The authors have repeatedly stated that this study was done in an Australian setting. What do the authors think is the difference between settings in Australia and other countries and how do they affect the interpretation of the research results?

A couple of sentences in this regard are written in the discussion of the paper.

End of the first paragraph in the discussion section: "(...) However, it should be noted that Australia is a country with a large experience in CPS implementation and where significant research has been conducted in this regard compared to other countries worldwide. Therefore, it is expected that the comprehensive list of influential elements identified in this context may be relevant to start investigating barriers and facilitators to CPS implementation in countries with less experience.

Furthermore, the elements identified in this review can provide insight to pharmacy service planners in other countries to guess and avoid some problems in the implementation of CPSs beforehand."

Reviewer: 2

Reviewer Name: Sarah E Kelling, PharmD, MPH, BCACP Clinical Assistant Professor

Institution and Country: University of Michigan College of Pharmacy, Ann Arbor, MI, USA

Please state any competing interests: None declared

Thank you for the opportunity to review your manuscript, "A qualitative meta-synthesis of barriers and facilitators that influence the implementation of community pharmacy services: Perspectives of patients, nurses and general medical practitioners." The manuscript was easy to read and included comprehensive information.

There are very few recommendations:

1. Consider adding a sentence in the results section of the abstract that clarifies that most elements were classified as both barriers and facilitators.

Thanks for the comment. This has been added to the abstract. We have also added a sentence to the results to clarify this.

Abstract: "(...) Elements were identified as a barrier, facilitator or both, and were related to different ecological levels: (...)"

Results section (page 19): "(...) These elements were found to exist as a barrier, facilitator or both. (...)"

2. Consider adding sub-headers such as disease or condition management, medication management, and inter-professional collaboration in table 2.

We added the proposed sub-headings to table 2. Thanks for this comment.

3. Consider dividing the "barrier" and "facilitator" columns in table 3 into three columns each and have a column for Pt, GP, and N. It would then only be necessary to list the references in each cell (or consider shading it as well). It would make it easier for the reader to see which groups of people reported barriers and facilitators at each level.

We appreciate this suggestion but we do not see a significant benefit of changing the structure of the



table in the proposed way. In fact, we had a previous version of the table structured in the way that you have proposed, however, Pt, GP and N are headings that only appear in the upper part of the table (same for Barriers and Facilitators), and when a reader is reading the information in the middle of the table without a headings we believe that it is easy to forget which stakeholder is represented in each of the columns, which can results in misinterpretation of the results. While by keeping (repeating) the letters Pt, GP, N readers are constantly made aware about who mentioned the different elements.

4. As there was no time limit on the study, it is possible that attitudes and beliefs have shifted over time (e.g., patient, GP, or nurse perceptions of immunizations by community pharmacists).

Recommend addressing this limitation.

Some sentences have been added into the discussion in this regard.

Page 36, first paragraph,: "(...) Lastly, the papers included in this review were not restricted by the time at which they were published, since the aim of the study was to include all relevant papers that can inform about any influential element that has been noted in practice. It is important to acknowledge that as contexts can change over time, the effect of influential elements can also change, cease to exist or new elements can emerge. It is therefore important to regularly monitor elements and prioritise those that must be addressed."

Reviewer: 3

Reviewer Name: Meagen Rosenthal

Institution and Country: University of Mississippi, USA

Please state any competing interests: None declared

Thank you for the opportunity to review this excellent work. I have two very small comments for the discussion section.

1. Pg 28, (authors' lines 285-289) - I would suggest removing the last two sentences from this paragraph.

Since the explanations provided in these two sentences are relevant to reviewer number 1, we decided to keep them in the text.

2. Pg 29, (authors' line 321) - This paragraph is very long I would suggest breaking it apart starting at the sentence beginning "The analysis conducted in this review..."

We agree with this comment. Thanks. Please, see page 33, last paragraph.

3. Pg 31, (Limitations section) - Again this paragraph is very long I would suggest breaking it apart at the authors line 355, with the sentence starting "Following the particular method..."

Again, we agree. Please, see page 35, second paragraph.

Reviewer: 4

Reviewer Name: McVin Hua Heng Cheen

Institution and Country: Singapore General Hospital, Singapore

Please state any competing interests: None declared

Thank you for the opportunity to review this piece of work. In this study, the authors performed a meta-synthesis of qualitative studies to identify barriers and facilitators of community pharmacy services (CPSs) in Australia from the patients', general practitioners' and nurses' perspectives. This is a well written article and complements the current literature that largely focused on the perspectives of the pharmacists. In addition, the authors understood the limitations of their study and have provided appropriate suggestions for future research.

I have a few minor comments for the authors' consideration:

1. In Table 2, suggest creating 3 additional columns to indicate which perspectives are studied in each article.

As requested, we created the 3 additional columns in table 2.

2. Does the method of interview (i.e. semi-structured interview, in-depth interview, focused group) affect the kinds of barriers/ facilitators identified? This should be discussed.

We have written a few sentences in the discussion with respect to this issue.



Discussion section, third paragraph: "Semi-structured interviews, and/or focus group with healthcare professionals and patients appear to be appropriate methods to identify a large number of unique influential elements.<sup>67</sup> Thus pharmacy service planners can continue to utilise these methods to identify determinants of pharmacy practice in their own context. Although, the type of qualitative method used may affect the type of barriers/facilitators identified, it is more likely that the aims of the studies included in this review, their target population and/or the specific service/topic addressed by the study may have had a stronger influence in the type of barriers or facilitator identified."

3. In light of the study findings, perhaps the authors can provide some recommendations as to how this information should be used when implementing a new CPS. Should some barriers/ facilitators be given priority?

Please see the discussion paragraph 4 for comments about how our list of barriers and facilitators can be used to develop new CPSs or implementation programs, and the next steps for identifying priorities once elements have been assessed for a particular context.

Page 33, end of the second paragraph: "(...) Identifying elements prior to designing a new CPS may guide both the early adaptation of the service to the context, as well as the early development of tailored implementation programs to better fit (or change) the implementation context. As an analysis of influential elements is likely to yield a large number of items, it would not be feasible to address each and every one of those elements. Thus once elements have been identified for a specific context, further efforts are required to prioritise those elements that are most relevant and can be practically addressed.<sup>8, 69</sup> In this regard, McMillan et al<sup>70</sup> provide a summary of methods used to determine priorities and how they have been used in pharmacy practice research, which can guide pharmacy service planners in this regard."

Reviewer: 5

Reviewer Name: Dr Michelle Myall

Institution and Country: Faculty of Health Sciences, University of Southampton, United Kingdom

Please state any competing interests: None declared

Thank you for the opportunity to review this interesting paper which addresses an important agenda in the implementation of community pharmacy services in Australia. I have a few comments and suggestions for the authors consideration:

Introduction

1. It would be useful to provide background information on community pharmacy services and the healthcare system in Australia to provide some context for the reader. This doesn't need to be extensive but would help to situate this study.

We have added some sentences in the introduction to provide some relevant background information in this regard.

Third paragraph in the introduction section: "Amid increasing awareness of the uniqueness of the community pharmacy setting and the positive contribution pharmacists can make to healthcare,<sup>11</sup> there has been a shift towards pharmacists providing more professional, patient-centred services. However the implementation and sustainability of community pharmacy services (CPSs) and the integration of community pharmacists into primary healthcare teams remains a challenge worldwide.<sup>12, 13</sup> In consistence with this international trend, Australian community pharmacies are eager to provide CPSs, receive remuneration from the government for its provision, but are experiencing challenges in the implementation, uptake and sustainability of CPSs.<sup>14</sup> (...)"

2. Line 109/110 – reference is made to "findings from previous pharmacy informed research" – please reference some relevant examples.

Two references (i.e., 14 and 15) have been added to support this statement.

Results

3. Page 11 line 181/182 – Semi-structured interviews and focus groups are described as the methods of data collection of the included papers. However, in Table 2 you also refer to in-depth interviews – please ensure consistency between the main body of the manuscript and table.

We have carefully reviewed the included papers, received the advice from a qualitative expert, and amended table 2 to avoid confusion in this regard. Thanks for this comment.

4. Table 2 – Detail given in the description of participants in the papers included in the review are variable. For example Clark et al (line 35/26) provides little information. Where possible please ensure there is parity in the descriptions.

We have carefully reviewed the included papers to obtain extra detail about the description of the participants. In table 2 we have used the legend (\*\*) to highlight those studies in which no further description of the participants was provided.

Discussion

5. While McElroy's ecological model has been used to classify the barriers and facilitators to implementing community pharmacy services, and offers a useful way to understand the different levels at which they operate, this is not explored further at any great length in the discussion. To do this would enable the authors to move beyond a more descriptive level to one of explanation which would greatly enhance the paper.

Thank you for this comment. It was our intention to move beyond a descriptive level to a more explanatory level, and also obtain information about how elements at different levels interact with each other. In doing so we aimed to understand how levels are related to each other and the boundaries between levels. However, as we mentioned in our discussion the information provided by the papers was limited and unsystematically reported, and as such we could not reach this point. Thus we made a decision to remain at a descriptive level and not speculate about relationships between elements as we could not be assured of the validity of these comments.

6. It is a pity that a lack of information prevented a full network analysis as this would have contributed to the reader's understanding of the interaction between the elements and their influence on successful implementation. In my view, the analysis provided by the pictorial representation in Appendix 2 is limited and the authors may want to consider whether this adds anything to the paper and merits inclusion in the final version.

As mentioned in the discussion, we acknowledged that the network analysis intended in this study was strongly constrained by the limited and unsystematically reported information about the relationships between influential elements. Due to this limitation we decided to report the figure of the network analysis as an appendix. We prefer to keep the pictorial representation as a supplementary file since it can provide insight to other researcher about how to present this type of data.

Reviewer: 6

Reviewer Name: Prudence Ditlopo

Researcher Institution and Country: Centre for Health Policy, School of Public Health, University of the Witwatersrand, South Africa

Please state any competing interests: None declared

In this paper, the authors used a qualitative meta-synthesis to identify the barriers and facilitators influencing the implementation of community pharmacy services in Australia. In particular, they sought the perspectives of patients, nurses and general medical practitioners as these cadres directly or indirectly interact with and influence the ultimate implementation of the community pharmacy services. The paper is well-written and the authors provided a comprehensive explanation of how the review was conducted and how rigour was ensured. But, there are weaknesses which need to be addressed prior to the publication of the article and these will be noted in the different sections below:

COMMENTS ON THE ABSTRACT:

1. The abstract could be strengthened by including a sentence on the implication of the study for practitioners and or policymakers.

Please see the final sentences in the conclusion of the abstract.

Abstract: "Conclusion: (...)The list of influential elements generated in this review can be combined with previous findings in pharmacists-informed studies to produce a comprehensive framework to assess barriers and facilitators to CPS implementation. This framework can be used by pharmacy service planners and policy makers to improve the analysis of the context in which CPSs are implemented."

COMMENTS ON THE STRENGTHS AND LIMITATIONS:

## 2. What were the strengths and weaknesses of the search strategy?

The search strategy was performed in three databases: Pubmed and Scopus, international databases, which are complementary due to their different geographical focus; Informit, a set of databases, is completely focused on the Australian context. Search queries were maintained as much sensitive as possible, to avoid missing relevant articles.

### COMMENTS ON THE INTRODUCTION:

3. The introduction could be strengthened by clearly stipulating a convincing argument to contextualise the study and its contribution to the field. Why is this study important to the global community? What is the problem statement? Why is it important to investigate the barriers and facilitators of implementing community pharmacy services? Except for the argument that only pharmacist-studies are conducted which appears like the main reason for conducting the study, what are other challenges regarding the implementation of community pharmacy implementation that led to this meta-synthesis being conducted?

We have added some sentences in the introduction to provide some relevant background information in this regard.

Third paragraph in the introduction section: "Amid increasing awareness of the uniqueness of the community pharmacy setting and the positive contribution pharmacists can make to healthcare,<sup>11</sup> there has been a shift towards pharmacists providing more professional, patient-centred services. However the implementation and sustainability of community pharmacy services (CPSs) and the integration of community pharmacists into primary healthcare teams remains a challenge worldwide.<sup>12, 13</sup> In consistence with this international trend, Australian community pharmacies are eager to provide CPSs, receive remuneration from the government for its provision, but are experiencing challenges in the implementation, uptake and sustainability of CPSs.<sup>14</sup> (...)"

### COMMENTS ON THE METHODS:

4. The authors should be careful with their use of the words "systematic review" because they conducted a meta-synthesis of articles and not necessarily did a conventional systematic review. In order to avoid confusion we have avoided the use of the words "systematic review" to refer to our work.

5. In their eligibility criteria, the authors excluded dispensing as one of the routine activities performed by community pharmacists but they did not justify why this was the case (line 126-128 in page 7). It may have been useful if the authors had specified what action or set of actions of community pharmacists were considered for this review. The authors assume that the global community is familiar with the community pharmacy services and how it works.

We have added some sentences in the methodology to clarify this issue.

Please see, last paragraph in page 7: "(...) For the purpose of this review, CPSs are specific health programs that are implemented in addition to routine professional activities performed by community pharmacists, which do not require any specific or extra implementation effort (i.e., they are part of normal community pharmacy practice). Since medicines dispensing is the main routine activity in the community pharmacy, it was not considered as a CPS and so excluded. (...)"

6. The authors need to justify why they considered using ecological model rather than other available models. It appears like the authors assume that the readers are familiar with this model. For instance, the model in Table 1 is very superficially discussed; hence it is unclear what the specific elements in each of the levels are.

We have added some comments in the methods section to justify why we have selected the ecological model. See paragraph under synthesis in the methods: "(...) At the third stage, barriers and facilitators were organised using an adapted version of the Ecological Model (Table 1),<sup>28</sup> which classified them into four different levels: patient, interpersonal, organisational, and community/system. The four levels defined in Table 1 were used as an overarching structure, with further sub-headings created during analysis, for appropriate allocation and organisation of elements into the levels. The ecological model has been widely and successfully used for planning services in a variety of settings, targeting different populations and problems.<sup>29, 30</sup>"

We also amended table 1 for the definitions of the levels to be more clear.

#### COMMENTS ON THE RESULTS:

7. It may have been useful if the authors used sub-headings to explain the results section to improve readability. In their current format, it is left to the reader to make the connections between the different sections of the results.

We have added sub-headings to the results section where a level was further divided into two sub-levels

8. The authors need to be careful about their interpretation of the results in some sections so that it doesn't seem misleading. For example, in lines 233-235 in page 26, the authors have mentioned that "With respect to the pharmacy setting, many articles identified the accessibility of the pharmacy facilitated inter-professional relationships between GPs and pharmacists,<sup>50, 51</sup> and influenced patient<sup>16, 36, 39</sup> and nurse<sup>49</sup> participation in CPS". Although the authors mentioned "many articles", out of 29 articles included in this paper, they only mentioned two for the relationships between GPs, three for influenced patient and one for participation in CPS. I suppose this can thus not be interpreted as "many" articles.

That is right; we have changed "many" by "some".

9. The main weakness of this paper is that the description of the elements in Table 1 (page 10) was done superficially and the bulk of the results rely on understanding what these elements are. The authors leave it too much to the reader to make sense of their results. For example in page 27, lines 250-251, the authors have mentioned under the community and healthcare system level that "nine influential elements were identified at this level". Without being upfront about what are those nine elements, it is left to the reader to guess from the text written and being unsure of whether my interpretation is the same as that of the authors. For example, reading the subsequent paragraph after this line (lines 251-268), I picked up several issues discussed which are the need for adequate remuneration, the availability of competing government funded health programs, complex bureaucratic procedures, presence of clear protocol guiding service delivery, better and more responsible organisation of the healthcare system, some form of relationship between certain elements, and limited unsystematic information. Are these the "nine influential elements" that the authors are referring to? If so, I identified seven not nine.

Thank you for this comment. We have amended this paragraph to include all nine influential elements as per your recommendation.

#### COMMENTS ON THE DISCUSSION:

10. It appears like there is a disjuncture between the results and some sections of the discussion. Some of the issues that are mentioned in the discussion were not included in the results. For example, in lines 293-294, the authors noted that "some of the influential elements reported in previous pharmacists-informed studies such as the pharmacist's education and training". Similarly, in the follow up sentence in line 298, the authors mentioned GP's workload. I may have missed this in the results but I did not see any reporting related to the education and training of the pharmacists and GP workload.

We have specifically addressed this comment by including those elements that were discussed in the paragraph that you are referring to, which were not mentioned in the results. The results section is now modified to include those elements which are later incorporated in the discussion. We believe that readers will feel more comfortable now, so this is an improvement to the paper. Thank you for your comment.

11. The authors did not reflect on the weaknesses of using the ecological levels, were there any? Please see an amended paragraph under synthesis in the methods which mentions amendments required to the ecological model for improved allocation and organization of the elements.

## VERSION 2 – REVIEW

REVIEWER	Sang-Eun Choi Korea University, South Korea
REVIEW RETURNED	14-Jun-2017

GENERAL COMMENTS	I recommend this article is appropriate to be published in BMJ open.
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REVIEWER	Sarah Kelling University of Michigan, United States
REVIEW RETURNED	05-Jun-2017

GENERAL COMMENTS	<p>Thank you for the opportunity to review your manuscript. In this study, the authors identified barriers and facilitators of community pharmacy services (CPS) in Australia by analyzing studies that surveyed stakeholders such as patients, general practitioners and nurses. They performed a meta-synthesis of qualitative studies and organized their findings using a modified version of the Ecological Model. We have a few small comments for you to consider:</p> <p>Pg 29, (author line 236) When listing a specific number of elements make sure to include them all in the description or else do not specify a number.</p> <p>Pg 50, (Appendix 2) Consider removing Appendix 2 as it is not the focus of study in the paper and does not add any significant pertinent information.</p> <p>Pg 29 (author line 239), there is a typo for “multidisciplinary education an training...” Change ‘an’ to ‘and’.</p> <p>Pg 34 (author line 366), there is a missing word where it states, “Presumably, the list determinants of practice...” Recommend changing ‘list’ to ‘listed’.</p>
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REVIEWER	Meagen Rosenthal University of Mississippi, United States
REVIEW RETURNED	30-May-2017

GENERAL COMMENTS	Thank you for your careful consideration of all of the reviewer comments. Your work is better for your effort.
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REVIEWER	McVin Hua Heng Cheen Singapore General Hospital, Singapore
REVIEW RETURNED	02-Jun-2017

GENERAL COMMENTS	Thank you very much for addressing the comments. I have no further comments and would like to recommend this well-written piece of work for publication.
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REVIEWER	Dr Michelle Myall University of Southampton United Kingdom
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<b>REVIEW RETURNED</b>	23-Jun-2017
<b>GENERAL COMMENTS</b>	Thank you for the opportunity to review your paper again I consider the changes made have strengthened the paper further and addressed the issues raised by myself and the other reviewers. This work will make an important contribution to the literature in this area.

## VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Sang-Eun Choi

Institution and Country: Korea University, South Korea

Please state any competing interests: None declared

Please leave your comments for the authors below:

- I recommend this article is appropriate to be published in BMJ open.

Thanks for your supportive comment.

Reviewer: 2

Reviewer Name: Sarah Kelling

Institution and Country: University of Michigan, United States

Please state any competing interests: None declared

Please leave your comments for the authors below:

Thank you for the opportunity to review your manuscript. In this study, the authors identified barriers and facilitators of community pharmacy services (CPS) in Australia by analyzing studies that surveyed stakeholders such as patients, general practitioners and nurses. They performed a meta-synthesis of qualitative studies and organized their findings using a modified version of the Ecological Model. We have a few small comments for you to consider:

- Pg 29, (author line 236) When listing a specific number of elements make sure to include them all in the description or else do not specify a number.

We have deleted the first sentence in this paragraph (we do not specify a number now) and so addressed this comment.

- Pg 50, (Appendix 2) Consider removing Appendix 2 as it is not the focus of study in the paper and does not add any significant pertinent information.

We would rather to keep appendix 2 since it shows an innovative approach to understand the relationships between determinants of practice that can inspire other researchers.

- Pg 29 (author line 239), there is a typo for “multidisciplinary education an training...” Change ‘an’ to ‘and’.

The typo has been corrected.

- Pg 34 (author line 366), there is a missing word where it states, “Presumably, the list determinants of practice...” Recommend changing ‘list’ to ‘listed.’

We have corrected this mistake.

Reviewer: 3

Reviewer Name: Meagen Rosenthal

Institution and Country: University of Mississippi, United States

Please state any competing interests: None to declare

Please leave your comments for the authors below:

- Thank you for your careful consideration of all of the reviewer comments. Your work is better for your effort.

Thanks for your supportive comment.

Reviewer: 4

Reviewer Name: McVin Hua Heng Cheen



Institution and Country: Singapore General Hospital, Singapore

Please state any competing interests: None declared

Please leave your comments for the authors below:

- Thank you very much for addressing the comments. I have no further comments and would like to recommend this well-written piece of work for publication.

Thanks for your supportive comment.

Reviewer: 5

Reviewer Name: Dr Michelle Myall

Institution and Country: University of Southampton, United Kingdom

Please state any competing interests: None declared

Please leave your comments for the authors below:

- Thank you for the opportunity to review your paper again I consider the changes made have strengthened the paper further and addressed the issues raised by myself and the other reviewers.

This work will make an important contribution to the literature in this area.

Thanks for your supportive comment.

### VERSION 3 - REVIEW

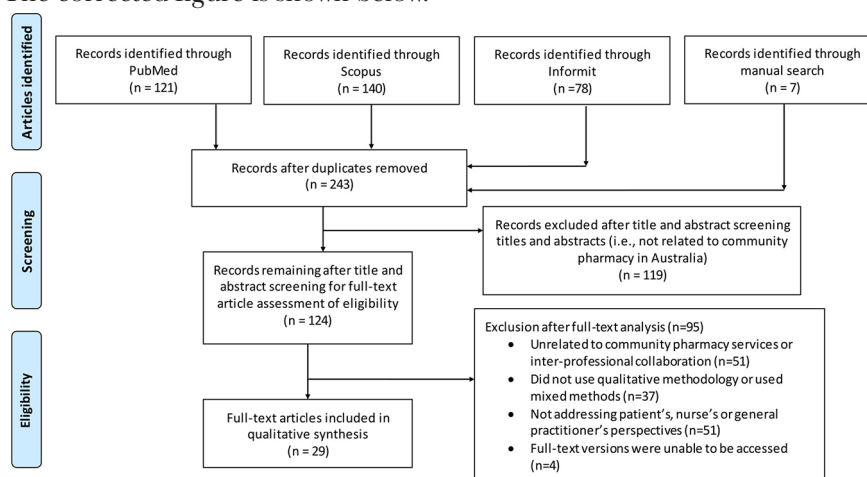
<b>REVIEWER</b>	Sarah Kelling University of Michigan, USA
<b>REVIEW RETURNED</b>	13-Jul-2017

<b>GENERAL COMMENTS</b>	Thank you for the opportunity to review this paper. The authors have addressed all comments appropriately. I have no further suggestions.
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## Correction: *Qualitative meta-synthesis of barriers and facilitators that influence the implementation of community pharmacy services: perspectives of patients, nurses and general medical practitioners*

Hossain LN, Fernandez-Llimos F, Lockett T, *et al.* Qualitative meta-synthesis of barriers and facilitators that influence the implementation of community pharmacy services: perspectives of patients, nurses and general medical practitioners. *BMJ Open* 2017;7:e015471. doi: 10.1136/bmjopen-2016-015471

In figure 1, the number below 'Records after duplicates removed' should be 243 not 278. The corrected figure is shown below.



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*BMJ Open* 2018;8:e015471corr1. doi:10.1136/bmjopen-2016-015471corr1

