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

TITLE (PROVISIONAL)	Non-urgent visits to emergency departments: A qualitative study in Iran exploring causes, consequences, and solutions
AUTHORS	Bahadori, Mohammadkarim; Mousavi, Seyyed Meysam; Teymourzadeh, Ehsan; Ravangard, Ramin

VERSION 1 – REVIEW

REVIEWER	M.C. van der Linden HMC, the Netherlands
REVIEW RETURNED	28-Dec-2018

GENERAL COMMENTS	Review of the manuscript: NON-URGENT VISITS TO EMERGENCY DEPARTMENTS: A QUALITATIVE STUDY IN IRAN EXPLORING CAUSES, CONSEQUENCES, AND SOLUTIONS
	Thank you for the opportunity to review the manuscript "Non-urgent visits to emergency departments: a qualitative study in Iran exploring causes, consequences, and solutions", which describes the viewpoints of medical staff about causes, negative consequences and some solutions for non-urgent ED visits. Major: The idea of exploring the viewpoints of healthcare providers on non-urgent visits is not new in the scientific world and as such, it does not bring new knowledge to the reader. However, the setting is an original one, a low-middle income country as Iran brings specific issues in this regard. Some of the issues described are very different from some high-income countries, e.g. the financial issues. I would suggest to put more focus on the subject NU visits in LMIC and the challenges in LMIC. Given the rich data I think this is possible and might be interesting for an international audience. Major: More focus on an international audience is needed. Detailed information about the setting and healthcare system in Iran is needed to put the findings in a larger perspective. For example, it is stated that interviewees believe that NU visits cause overcrowding, and that medical errors may happen because of that. Yes, from scientific evidence we all know that medical errors may happen when the ED is overcrowded, but we also know from scientific evidence that NU visits in general do not cause overcrowding. It is the exit block which is the number one cause of overcrowding. Well, this is a qualitative study, so interviewees may state anything they want, and the authors should describe that. However, in the Discussion these opinions should be discussed. Are NU-visits the cause of overcrowding in this Iranian ED and are medical errors happening because of them? Is this new evidence in the world? Since in the available literature (mostly from high-income countries), experts all agree on the fact that strategies

aimed at diverting patients with minor conditions do not work: while patients with NU problems wait for care, they do so in the waiting room, thus not preventing access by seriously ill or injured patients to the ED (practically all crowding articles since a decade). If this is any different in this Iranian ED or in all EDs in LMIC, it should be discussed. If the respondents believe differently than the evidence, it also should be discussed.

Major: the manuscript should be revised thoroughly by a native English author or with translation help.

E.g. Line 384 "The interviewees believed that patients had to be justified" --> probably the authors mean "educated" instead of "justified". Line "EMSs should be justified, because some of them when sometimes see that the ED is empty, just for that reason they say that the department is empty and let the NU patients be admitted" --> is not a proper sentence 'some of them when sometimes see'.

Plural and singular mixed in one sentence ("there is no studies"), throughout the manuscript.

Also, apart from the quotes, many of the sentences can be reduced in word count to make it an easier read. Remove as many adverbs as possible, be more concise. Many multi-word phrases can easily be turned into one word. That will make a better reading.

The translation of the quotes should be checked.

Other, minor remarks are listed below.

Abstract

- Language issues such as [..]solutions due to [..]
- Introduce EDs
- 'emergency medicine resident' (strange read, but when checking it concerns only one emergency medicine resident), so please add 'one' --> and one emergency medicine resident.
- We highlights --> we highlight
- Introduce LMICs

Introduction & Methods

- Language issues such as "The emergency departments have responsible and designed to [...]" --> no "The", and you probably mean responsibilities (for what?) and "are designed to".
- L.71 introduce LMIC
- The authors state that the audio (?) was not recorded by the tape-recorder. And then all interviews were transcribed. How? Without recording?
- A description of the setting is missing in the Methods. How many patient visits a day? Is there any form of formal triage? A minor injury unit or general practitioner cooperative? Any healthcare in the neighborhood? Is it an academic trauma center? Adults and pediatric? What is a military hospital?
- Vague description in Data analysis. 'Numerous' occasions (how many? Why is 'once per interview not enough?) 'several meetings' (how many? Duration?) 'a range of key informants', (who?) Results
- Language issues, e.g.L.349, 350, 364, L.380 "Another interviewees believed" --> another interviewee believed. And: L.384 "the interviewees believed that patients had to be justified"--> do you mean "educated"? L.395. And L.411 "This is such that the physicians[..]", and . ??L.480 [...] as well as the EDs will be prevented[...]"--> do you mean as well as the NU-visits to the ED will be prevented?
- It would be informative which participant said what. Is P1 a nurse? Is P10 a physician?

- The reader does not understand the text L.121 to 137. After reading the extended text (the detailed descriptions) in the Causes and Consequences etc. it becomes a little bit more clear. I would suggest to provide a clear meaning in the text as an introduction to the quotes, instead of a repetition of short sentences that cannot be understood by an international audience without reading further. - L.277 rescued> do you mean resuscitated? L.292 reluctance> to what? - L.343 [] referring the patients of other military hospitals []> do you mean 'to other military hospitals? - L.349 delegation and power to refuse are different things. Meaning of this is unclear.
Discussion - Language issues throughout the Discussion Lines 483 to 496 is a lot of repetition of the results, basically exactly the same as the results. Not useful or informative More focus is needed in explaining the results. Be more concise. What is your message to the international audience? Figures - Nice! Regards, MC van der Linden

REVIEWER	Faith Alele
	James Cook University, Australia
REVIEW RETURNED	09-Jan-2019

GENERAL COMMENTS	Reviewer's comment
	Thanks for this paper. The paper presents some interesting
	evidence about the reasons for the utilisation of the ED for non-
	urgent presentation from the health professionals' perspective.
	However, I have some comments in the different sections of the
	manuscript, which the authors need to address.
	Abstract
	Objective: The authors need to re-phrase the word "causes for" to probably "causes of" or "reasons for".
	Design: It would be beneficial to specify the type of qualitative
	design, given that there are different methodologies such as
	ethnography, grounded theory, phenomenology and participatory action research.
	Line 49: You may want to delete the preceding words "And finally" in this sentence.
	Strengths and limitations of the study:
	Point 1, line 57: The topic is important and the authors have tried
	to address and answer their aims. However, they may want to
	consider re-phrasing the first statement in the strengths to include
	the study location (Iran) given that these issues have been
	previously addressed in the literature.
	Please see the following references:
	Durand A-C, Palazzolo S, Tanti-Hardouin N, et al. Nonurgent
	patients in emergency departments: rational or irresponsible
	consumers? Perceptions of professionals and patients. BMC Res
	Notes 2012; 5: 525-525. DOI: 10.1186/1756-0500-5-525.
	Salami O, Salvador J, Vega R. Reasons for nonurgent pediatric Salami O, Salvador J, Vega R. Reasons for nonurgent pediatric Salami O, Salvador J, Vega R. Reasons for nonurgent pediatric Salami O, Salvador J, Vega R. Reasons for nonurgent pediatric
	emergency department visits: perceptions of health care providers
	and caregivers. Pediatric emergency care. 2012 Jan 1;28(1):43-6.

• Fieldston ES, Alpern ER, Nadel FM, Shea JA, Alessandrini EA. A qualitative assessment of reasons for nonurgent visits to the emergency department: parent and health professional opinions. Pediatric emergency care. 2012 Mar 1;28(3):220-5.

It may be better to state that this is the first article to address the topic in Iran.

Introduction

The authors have introduced the topic. However, it will be beneficial to the readers to have a good understanding of the definition of a non-urgent presentation. The authors stated in the first paragraph that the use of EDs by NU patients have been reported globally. However, it will be of added benefit to state the prevalence (burden) of NU globally. In addition, what is already known in the literature about the reasons for NU visits or presentation, the consequences and what solutions have been proposed? The authors have stated a good justification for the study. They may want to explore that when discussing what is already known about the topic. For example, were the previous studies conducted in high-income countries? What were their findings? It will be better for the authors to re-phase this sentence. "The emergency departments (EDs) are designed to provide rapid......."

Methods

In the methods section, I think it will be helpful for the authors to indicate how they defined NU visits and what criterion was used? In addition, the authors have not stated the type of qualitative design that was used. More details on the study setting is needed such as description of the healthcare system in Iran. How do consumers utilize healthcare in Iran. Do consumers pay out of pocket? On the other hand, is healthcare cost covered by health insurance? This will give context to the possible reasons for NU visits. Furthermore, clarification is requested on how data was collected. Who conducted the interview and who recorded the interview?

Line 97: Please delete the word "with" in the sentence. Results

The authors tried to present the findings of the study as themes. However, the themes were many and some themes could have been grouped together. Please see my suggestion for the causes of NU visits below. In my opinion, the authors should consider having two or three main themes and other sub-themes. Line 121: The authors need to re-phrase the word "causes for" to probably "causes of" or "reasons for". This applies to any section of the manuscript where the phrase appears.

Causes

The authors have attempted to list the possible causes of NU visits. However, few things need to be addressed. Twelve (12) themes were identified. Some of these themes could have been grouped together. For example, convenience of access, receiving rapid care, the well-equipped ED and higher priority of the ED for hospitalization all refer to specialized ED services.

In addition, there was only one participant quote per theme. It would be beneficial to see more quotes per theme.

Consequences

Line 252: Could the authors define USU In addition, the reference does not address other patients' dissatisfaction with the healthcare system.

Line 290 (The ED employees' fatigue and burnout): The authors may want to consider re-phrasing this sentence. The conjunction "because" goes in between two clauses.

The authors have not included supporting references with the theme "conflict and violence". Please include the quotes. Solutions

Line 340: Are NU patients admitted? If any NU patient is admitted, then it is no longer a NU case, rather it becomes urgent or semi-urgent. Could the authors clarify this statement?

The theme delegation to the triage nurses and EMSs implies that there are no triage nurses in the hospital. Could the authors clarify this statement? How were NU patients identified? In addition, the reference quoted does not reflect the theme.

Setting rules to prevent NU visits: The authors have suggested that rules should be set, however, they have not stated what type of rule and if this was further explored with the participants.

The statement "the interviewees believed that patients had to be justified" could use a re-write for clarity. In addition, an appropriate supporting reference that reflects the above statement should be used.

The theme "organizational and management initiatives" is a bit confusing. Could the authors re-write this theme in a way that the positive and negative supporting references are well defined and grouped together?

Improving the quality of services in other military hospitals: The authors have stated that improving the quality of services in other military hospitals as one of the solutions. However, the authors do not state if these hospitals are primary, secondary, or tertiary healthcare centres. If the hospitals are secondary healthcare centres, they are also at risk if having NU visits too. The focus should be on strengthening the primary healthcare system to reduce the burden of NU visits.

Discussion

In the discussion section, the authors addressed only the causes of NU visits. The other aims were not discussed. Secondly, the ideas should be properly linked and discussed rather than listed. Furthermore, the references and findings of previous studies mentioned in the discussion should be integrated into the write-up rather than just stating "this has been confirmed by the results of other studies".

Lines 501 - 511: The authors should consider re-writing this paragraph for specificity and clarity. It could be stated that the challenges associated with implementation of the family physician plan in Iran is multifactorial. Discuss the challenges using of current literature and references.

Lines 541 - 547: Could the authors explain how the use of the EDs beds until beds are available in the in-patient department increase NU visits? If a patient has to be admitted, then it is no longer a NU presentation.

There are criteria in the literature that include no admission as a criterion for NU presentation. Please see the following references:

- Luo X, Liu G, Frush K, Hey LA. Children's health insurance status and emergency department utilization in the United States. Pediatrics 2003; 112: 314–9.
- Brousseau DC, Hoffmann RG, Nattinger AB, Flores G, Zhang Y, Gorelick M. Quality of primary care and subsequent pediatric emergency department utilization. Pediatrics 2007; 119: 1131–8.
- Brousseau DC, Gorelick MH, Hoffmann RG, Flores G, Nattinger AB. Primary care quality and subsequent emergency department utilization for children in Wisconsin Medicaid. Acad. Pediatr. 2009; 9: 33–9.
- Simon HK, Hirsh DA, Rogers AJ, Massey R, Deguzman MA. Pediatric emergency department overcrowding: Electronic medical

record for identification of frequent, lower acuity visitors. Can we effectively identify patients for enhanced resource utilization? J. Emerg. Med. 2009; 36: 311–6.

• Batu ED, Yeni S, Teksam O. The factors affecting neonatal presentations to the pediatric emergency department. J. Emerg. Med. 2015; 48: 542–7.

Lines 570 – 574: Please provide a reference or references Lines 591 – 527: Please provide a reference or references

If these major concerns are addressed, the manuscript would be significantly improved.

VERSION 1 – AUTHOR RESPONSE

Reviewer(s)' Comments to Author:

Reviewer: 1

Reviewer Name: M.C. van der Linden

Institution and Country: HMC, the Netherlands

Thank you for the opportunity to review the manuscript "Non-urgent visits to emergency departments: a qualitative study in Iran exploring causes, consequences, and solutions", which describes the viewpoints of medical staff about causes, negative consequences and some solutions for non-urgent ED visits.

Major: The idea of exploring the viewpoints of healthcare providers on non-urgent visits is not new in the scientific world and as such, it does not bring new knowledge to the reader. However, the setting is an original one, a low-middle income country as Iran brings specific issues in this regard. Some of the issues described are very different from some high-income countries, e.g. the financial issues. I would suggest to put more focus on the subject NU visits in LMIC and the challenges in LMIC. Given the rich data I think this is possible and might be interesting for an international audience.

R: Thanks for your comment. Yes, this study has been conducted in a LMIC and some of its issues and problems are in contrast to those in the high-income settings, e.g. the United States, where ED care and services are typically viewed as significantly more expensive for all patients, the insured and uninsured. As you can see, our findings can be very interesting for international audiences. According to your valuable comment, we added more details to focus more on the NU visits in a LMIC and also the related challenges.

Major: More focus on an international audience is needed. Detailed information about the setting and healthcare system in Iran is needed to put the findings in a larger perspective. For example, it is stated that interviewees believe that NU visits cause overcrowding, and that medical errors may happen because of that. Yes, from scientific evidence we all know that medical errors may happen when the ED is overcrowded, but we also know from scientific evidence that NU visits in general do not cause overcrowding. It is the exit block which is the number one cause of overcrowding. Well, this is a qualitative study, so interviewees may state anything they want, and the authors should describe that. However, in the Discussion these opinions should be discussed. Are NU-visits the cause of overcrowding in this Iranian ED and are medical errors happening because of them? Is this new evidence in the world? Since in the available literature (mostly from high-income countries), experts all agree on the fact that strategies aimed at diverting patients with minor conditions do not work: while patients with NU problems wait for care, they do so in the waiting room, thus not preventing access by seriously ill or injured patients to the ED (practically all crowding articles since a decade). If this is any different in this Iranian ED or in all EDs in LMIC, it should be discussed. If the respondents believe differently than the evidence, it also should be discussed.

R: Thanks for your comment. I would like to inform you that we added detailed information regarding the setting and healthcare system in Iran. It should be noted that, due to the word limitation, we decided to provide information concisely. Regarding to the crowding due to NU visits, there are scientific evidences which properly confirmed it, whereas we confirm that NU visits is one, not all, causes of crowding. Regarding to "cause of overcrowding", we added a suggestion in the Discussion section. Also we have not an annually formal reports regarding to the frequency and causes of medical errors in our country like what is available in the high income settings, so further studies should be conducted to address this problem. Regarding to the "do not diverting patients with minor conditions", we are also agree in general and our interviewees address it properly: "Setting up 24-hour and boarding clinics" under the "organizational arrangements". Thank you very much for reminding us about this. We added a related sentence in the discussion section.

Major: the manuscript should be revised thoroughly by a native English author or with translation help. E.g. Line 384 "The interviewees believed that patients had to be justified" --> probably the authors mean "educated" instead of "justified". Line "EMSs should be justified, because some of them when sometimes see that the ED is empty, just for that reason they say that the department is empty and let the NU patients be admitted" --> is not a proper sentence 'some of them when sometimes see'. R: Thanks for your comment. The sentence was slightly revised.

Plural and singular mixed in one sentence ("there is no studies"), throughout the manuscript. R: Thank you very much for your comment. The whole of the manuscript has been carefully checked and revised.

Also, apart from the quotes, many of the sentences can be reduced in word count to make it an easier read. Remove as many adverbs as possible, be more concise. Many multi-word phrases can easily be turned into one word. That will make a better reading.

R: Thank you very much for your comment. The whole of the manuscript has been carefully checked and revised

The translation of the quotes should be checked.

R: Thank you very much for your comment. The whole of the manuscript has been carefully checked and revised

Other, minor remarks are listed below.

Abstract

- Language issues such as [..]solutions due to [..]

R: Thanks for your comment. The sentence was slightly revised.

- Introduce EDs

R: This comment has been applied.

- 'emergency medicine resident' (strange read, but when checking it concerns only one emergency medicine resident), so please add 'one' --> and one emergency medicine resident.
- R: This comment has been applied.
- We highlights --> we highlight

R: This comment has been applied.

- Introduce LMICs

R: This comment has been applied.

Introduction & Methods

- Language issues such as "The emergency departments have responsible and designed to [...]" --> no "The", and you probably mean responsibilities (for what?) and "are designed to".

- R: This comment has been applied.
- L.71 introduce LMIC

R: This comment has been applied.

- The authors state that the audio (?) was not recorded by the tape-recorder. And then all interviews were transcribed. How? Without recording?
- R: This sentence has been slightly revised. It should be noted that we recorded the interviews by written notes, and after that they were rewritten and transcribed in order to prevent missing the possible quotes.
- A description of the setting is missing in the Methods. How many patient visits a day? Is there any form of formal triage? A minor injury unit or general practitioner cooperative? Any healthcare in the neighborhood? Is it an academic trauma center? Adults and pediatric? What is a military hospital? R: The description of the setting was added in the section of "Setting, recruitment, and sampling". Regarding to the academic trauma center, it should be noted that this hospital is a teaching hospital. Also, it is important to bear in mind that the military hospital is a healthcare center which is affiliated to a military organization.
- Vague description in Data analysis. 'Numerous' occasions (how many? Why is 'once per interview not enough?) 'several meetings' (how many? Duration?) 'a range of key informants', (who?) R: This comment has been applied. We clearly described the "data analysis" section.

Results

- Language issues, e.g.L.349, 350, 364, L.380 "Another interviewees believed" --> another interviewee believed. And: L.384 "the interviewees believed that patients had to be justified"--> do you mean "educated"? L.395. And L.411 "This is such that the physicians[..]", and . ??L.480 [...] as well as the EDs will be prevented[...]"--> do you mean as well as the NU-visits to the ED will be prevented? R: This comment has been applied.
- It would be informative which participant said what. Is P1 a nurse? Is P10 a physician? R: Thanks for the comment. We applied your comment in all quotes.
- The reader does not understand the text L.121 to 137. After reading the extended text (the detailed descriptions) in the Causes and Consequences etc. it becomes a little bit more clear. I would suggest to provide a clear meaning in the text as an introduction to the quotes, instead of a repetition of short sentences that cannot be understood by an international audience without reading further.

 R: Thank you for the comment. Lines 121-137 introduced all themes which we think are essential at the beginning of results section. However, according to your comment, we revised the wording of themes.
- L.277 rescued --> do you mean resuscitated? L.292 reluctance --> to what? R: This comment has been applied.
- L.343 [...] referring the patients of other military hospitals [...] --> do you mean 'to other military hospitals?

R: This comment has been applied.

- L.349 delegation and power to refuse are different things. Meaning of this is unclear.

R: This comment has been applied.

Discussion

- Language issues throughout the Discussion.

R: Thank you very much for your comment. The whole of the manuscript has been carefully checked and revised

- Lines 483 to 496 is a lot of repetition of the results, basically exactly the same as the results. Not useful or informative.

R: This comment has been applied.

- More focus is needed in explaining the results. Be more concise. What is your message to the international audience?

R: Thank you very much. We added a sentence focusing on "referral system and family physician plan" in the "discussion" section for international audience.

Figures

- Nice!

R: Thanks.

Regards,

MC van der Linden

R: Thank you very much for the thoughtful comments and constructive suggestions.

Reviewer 2: Faith Alele

Institution and Country: James Cook University, Australia

Thanks for this paper. The paper presents some interesting evidence about the reasons for the utilisation of the ED for non-urgent presentation from the health professionals' perspective. However, I have some comments in the different sections of the manuscript, which the authors need to address. Abstract

Objective: The authors need to re-phrase the word "causes for" to probably "causes of" or "reasons for".

R: This comment has been applied.

Design: It would be beneficial to specify the type of qualitative design, given that there are different methodologies such as ethnography, grounded theory, phenomenology and participatory action research.

R: A phenomenological design was employed. We added it to the methods section.

Line 49: You may want to delete the preceding words "And finally" in this sentence.

R: Thanks for the comment. It was deleted.

Strengths and limitations of the study:

Point 1, line 57: The topic is important and the authors have tried to address and answer their aims. However, they may want to consider re-phrasing the first statement in the strengths to include the study location (Iran) given that these issues have been previously addressed in the literature. Please see the following references:

- Durand A-C, Palazzolo S, Tanti-Hardouin N, et al. Nonurgent patients in emergency departments: rational or irresponsible consumers? Perceptions of professionals and patients. BMC Res Notes 2012; 5: 525-525. DOI: 10.1186/1756-0500-5-525.
- Salami O, Salvador J, Vega R. Reasons for nonurgent pediatric emergency department visits: perceptions of health care providers and caregivers. Pediatric emergency care. 2012 Jan 1;28(1):43-6.

• Fieldston ES, Alpern ER, Nadel FM, Shea JA, Alessandrini EA. A qualitative assessment of reasons for nonurgent visits to the emergency department: parent and health professional opinions. Pediatric emergency care. 2012 Mar 1;28(3):220-5.

It may be better to state that this is the first article to address the topic in Iran.

R: Thanks for the comment. It has been applied.

Introduction

Methods

In the methods section, I think it will be helpful for the authors to indicate how they defined NU visits and what criterion was used? In addition, the authors have not stated the type of qualitative design that was used. More details on the study setting is needed such as description of the healthcare system in Iran. How do consumers utilize healthcare in Iran. Do consumers pay out of pocket? On the other hand, is healthcare cost covered by health insurance? This will give context to the possible reasons for NU visits. Furthermore, clarification is requested on how data was collected. Who conducted the interview and who recorded the interview?

R: We added the definition and also the criterion to classify the NU visits. As I mentioned in comment 2, a phenomenological design has been employed in this study. Also more details on the setting has been added. If you have require more details please do not hesitate to inform us. Regarding to "how data was collected", we provided more details in the "data collection" section. Also we already mentioned that one of the research team (SMM) interviewed the key informants.

Line 97: Please delete the word "with" in the sentence.

R: Thanks for the comment. It was deleted.

Results

The authors tried to present the findings of the study as themes. However, the themes were many and some themes could have been grouped together. Please see my suggestion for the causes of NU visits below. In my opinion, the authors should consider having two or three main themes and other sub-themes

Line 121: The authors need to re-phrase the word "causes for" to probably "causes of" or "reasons for". This applies to any section of the manuscript where the phrase appears.

R: This comment has been applied.

Causes

The authors have attempted to list the possible causes of NU visits. However, few things need to be addressed. Twelve (12) themes were identified. Some of these themes could have been grouped together. For example, convenience of access, receiving rapid care, the well-equipped ED and higher priority of the ED for hospitalization all refer to specialized ED services.

R: Thanks for your comment. I would like to inform you that we already grouped possible solutions in four categories, but regarding to causes of NU visits, if possible, we think it is better to mention separately because of different nature of the themes in this category.

In addition, there was only one participant quote per theme. It would be beneficial to see more quotes per theme.

R: We applied your comment, and added several quotes in the results section.

Consequences

Line 252: Could the authors define USU.

R: it was introduced in the "introduction" section.

In addition, the reference does not address other patients' dissatisfaction with the healthcare system. R: Thanks for your comment. It means that they will be dissatisfied with the ED's processes, and also the health system in general. We have revised it.

Line 290 (The ED employees' fatigue and burnout): The authors may want to consider re-phrasing this sentence. The conjunction "because" goes in between two clauses.

R. It was corrected.

The authors have not included supporting references with the theme "conflict and violence". Please include the quotes.

R: We added a quotes under the theme "conflict and violence".

Solutions

Line 340: Are NU patients admitted? If any NU patient is admitted, then it is no longer a NU case, rather it becomes urgent or semi-urgent. Could the authors clarify this statement?

R: Thanks for the comment. It should be noted that the NU patients were admitted by the EMSs in the ED regardless of their categorization as the NU determined by the triage nurse, because of financial incentives for the EMSs. We already clarified it in lines 400-409.

The theme delegation to the triage nurses and EMSs implies that there are no triage nurses in the hospital. Could the authors clarify this statement? How were NU patients identified? In addition, the reference quoted does not reflect the theme.

R: It should be noted that this ED has a section of triage in which a nurse has a responsibility for categorizing all patients referred to the ED at any time. By now, the triage nurse has not the authority to directly transfer of the NU cases to the out-patients departments according to the legal documents. Therefore, key informants stated that the rules should be revised and give more authority to the triage nurse and EMSs. Also another quote has been added to enhance the clarity.

Setting rules to prevent NU visits: The authors have suggested that rules should be set, however, they have not stated what type of rule and if this was further explored with the participants. R: We added a quote which clearly stated that what kind of rules is required for preventing the NU cases.

The statement "the interviewees believed that patients had to be justified" could use a re-write for clarity. In addition, an appropriate supporting reference that reflects the above statement should be used.

R: Thanks for your comment. We revised the statement, and added another quote to enhance the clarity.

The theme "organizational and management initiatives" is a bit confusing. Could the authors re-write this theme in a way that the positive and negative supporting references are well defined and grouped together?

R: We revised the theme as "organizational arrangements".

Improving the quality of services in other military hospitals: The authors have stated that improving the quality of services in other military hospitals as one of the solutions. However, the authors do not state if these hospitals are primary, secondary, or tertiary healthcare centres. If the hospitals are secondary healthcare centres, they are also at risk if having NU visits too. The focus should be on strengthening the primary healthcare system to reduce the burden of NU visits.

R: At first, these hospitals are both secondary/territory ones. Moreover, it is important to bear in mind that we have a holistic approach in this study. We strongly believe that many efforts should be made in the PHC setting for better handling the NU cases, but we do not disregard other secondary/territory care setting. Since that large volume of NU patients prefer this hospital due to low quality of other secondary /territory centers. Therefore senior managers should focus on improving quality of care in other hospitals to decrease the volume of the NU visits in this hospital. It should be noted that designing and adopting a set of reforms and solutions in order to prevent the NU visits to EDs are essential. Also, strengthening the primary healthcare system has been clearly stated in theme 4.4.

Discussion

In the discussion section, the authors addressed only the causes of NU visits. The other aims were not discussed. Secondly, the ideas should be properly linked and discussed rather than listed. Furthermore, the references and findings of previous studies mentioned in the discussion should be integrated into the write-up rather than just stating "this has been confirmed by the results of other studies".

R: According to the comments of one of dear reviewers, we deleted the first paragraph of the Discussion section.

Lines 501 – 511: The authors should consider re-writing this paragraph for specificity and clarity. It could be stated that the challenges associated with implementation of the family physician plan in Iran is multifactorial. Discuss the challenges using of current literature and references.

R: Thanks for the comment. We revised the sentence by using the literature and references.

Lines 541 - 547: Could the authors explain how the use of the EDs beds until beds are available in the in-patient department increase NU visits? If a patient has to be admitted, then it is no longer a NU presentation.

R: Thanks for your comment. "Use of the EDs beds until beds are available in the in-patient department" refers to the patients used the ED as a temporary place. Since occupancy rate in this hospital is high and the available beds are usually not empty. Another point is that the ED has a priority to refer patients to the in-patients departments not to the clinics. Therefore, the NU patients use the ED as a transferring place to in-patient departments. In the manuscript we mentioned that due to several reasons, e.g. willingness to pull string, financial incentives, etc., the NU patients are admitted to the ED. However, it is important to note that all patients admitted to the ED are not the USU.

There are criteria in the literature that include no admission as a criterion for NU presentation. Please see the following references:

- Luo X, Liu G, Frush K, Hey LA. Children's health insurance status and emergency department utilization in the United States. Pediatrics 2003; 112: 314–9.
- Brousseau DC, Hoffmann RG, Nattinger AB, Flores G, Zhang Y, Gorelick M. Quality of primary care and subsequent pediatric emergency department utilization. Pediatrics 2007; 119: 1131–8.

- Brousseau DC, Gorelick MH, Hoffmann RG, Flores G, Nattinger AB. Primary care quality and subsequent emergency department utilization for children in Wisconsin Medicaid. Acad. Pediatr. 2009; 9: 33–9.
- Simon HK, Hirsh DA, Rogers AJ, Massey R, Deguzman MA. Pediatric emergency department overcrowding: Electronic medical record for identification of frequent, lower acuity visitors. Can we effectively identify patients for enhanced resource utilization? J. Emerg. Med. 2009; 36: 311–6.
- Batu ED, Yeni S, Teksam O. The factors affecting neonatal presentations to the pediatric emergency department. J. Emerg. Med. 2015; 48: 542–7.

R: Please see response to comment 2, reviewer 1.

Lines 570 – 574: Please provide a reference or references

R: thanks for the comment. The researchers believe that all of information provided in the Discussion section doesn't need the references. In the Discussion the researchers usually should discuss and interpret the findings, and these lines derived (comes from) from our results.

Lines 591 – 527: Please provide a reference or references

R: Thanks for the comment. All of information provided in the Conclusion section is purely the interpretation and conclusion of the study.

If these major concerns are addressed, the manuscript would be significantly improved.

R: Thank you very much for the thoughtful comments and constructive suggestions.

VERSION 2 – REVIEW

REVIEWER	Christien van der Linden
	Haaglanden Medical Center, the Netherlands
REVIEW RETURNED	03-Apr-2019

GENERAL COMMENTS	Review of the manuscript: R1. NON-URGENT VISITS TO EMERGENCY DEPARTMENTS: A QUALITATIVE STUDY IN IRAN EXPLORING CAUSES, CONSEQUENCES, AND SOLUTIONS
	Thank you for the opportunity to review the revised version of the manuscript "Non-urgent visits to emergency departments: a qualitative study in Iran exploring causes, consequences, and solutions", which describes the viewpoints of medical staff about causes, negative consequences and some solutions for non-urgent ED visits.
	The idea of exploring the viewpoints of healthcare providers on non-urgent visits is not new in the scientific world and as such, it does not bring new knowledge to the reader. However, the setting is an original one, a low-middle income country as Iran brings specific issues in this regard. Some of the issues described are very different from some high-income countries, e.g. the financial issues. I thank the authors for putting more focus on the subject NU visits in LMIC and the challenges in LMIC, and more focus on an international audience, in their revised version. It has improved considerably.
	One major issue still exists: the standard of written English is not acceptable for publication. The authors use the word 'the' in front of almost any word ("Because the EMSs receive the fee-for-service payment for admitting each patient to the ED, one of the causes the interviewees stated as a factor affecting the admission of NU patients was the EMSs' financial incentives." -> could be

changed into: Respondents mentioned EMSs' fee-for-service payment. (it's already listed below the causes, you don't have to repeat that part), vague terminology ("some negative consequences"), many sentences that could be deleted without any consequences ("This study showed that NU visits to the EDs had several causes [...]") or shortened (change "[..]all informants participated in this study [..]"-->into: "participants" or "respondents" or "interviewees", and use the same wording throughout the manuscript) and many sentences are just not an easy read or even completely incomprehensible. An example: L.210 "Referring the NU patients to the EDs by the clinic physicians, either verbally or in writing, for admission is commonplace, to which most of the participants referred." The manuscript would improve considerably when shortened from over 6000 words to 3500 words. There is a lot of repetition in the text, the text from the Figures is repeated literally. My advice: shorten the manuscript with 3000 words, be far more concise in wording.

REVIEWER	Faith Alele James Cook University, Australia
REVIEW RETURNED	14-Apr-2019

GENERAL COMMENTS

Reviewer's comment

I thank the authors for addressing most of my comments thoughtfully.

However, I was disappointed to see that my suggestions did not inspire a more concise presentation of the findings of the study. In addition, the authors have made a few changes to the discussion section but failed to comprehensively discuss all the findings of the study. Currently, the discussion section still addresses mainly the causes of non-urgent ED use. If the results were organised into fewer overarching themes, then, the discussion section will be more comprehensive, addressing the aims of the study.

I had earlier stated that twelve themes for causes of non-urgent ED use was a lot. The same applies to the themes identified for consequences of non-urgent ED use. In my opinion, these themes are subthemes that can be classified under fewer overarching themes. For example, convenience of access, receiving rapid care, the well-equipped ED and higher priority of the ED for hospitalization all refer to specialized ED services (which can be used as an overarching theme).

I am supportive of this study for this journal scope and audience and I believe that the rich information presented in the manuscript is interesting. However, I will suggest that the authors spend some time to have a re-think of the analysis and presentation of the results for consistency and comprehensiveness. The manuscript would be greatly improved with a re-think of how the findings of the study are presented to the reader.

VERSION 2 – AUTHOR RESPONSE

Reviewer 1: Christien van der Linden

Haaglanden Medical Center, the Netherlands

Thank you for the opportunity to review the revised version of the manuscript "Non-urgent visits to emergency departments: a qualitative study in Iran exploring causes, consequences, and solutions", which describes the viewpoints of medical staff about causes, negative consequences and some solutions for non-urgent ED visits.

The idea of exploring the viewpoints of healthcare providers on non-urgent visits is not new in the scientific world and as such, it does not bring new knowledge to the reader. However, the setting is an original one, a low-middle income country as Iran brings specific issues in this regard. Some of the issues described are very different from some high-income countries, e.g. the financial issues. I thank the authors for putting more focus on the subject NU visits in LMIC and the challenges in LMIC, and more focus on an international audience, in their revised version. It has improved considerably.

R: Thanks.

One major issue still exists: the standard of written English is not acceptable for publication. The authors use the word 'the' in front of almost any word ("Because the EMSs receive the fee-for-service payment for admitting each patient to the ED, one of the causes the interviewees stated as a factor affecting the admission of NU patients was the EMSs' financial incentives." -> could be changed into: Respondents mentioned EMSs' fee-for-service payment. (it's already listed below the causes, you don't have to repeat that part), vague terminology ("some negative consequences"), many sentences that could be deleted without any consequences ("This study showed that NU visits to the EDs had several causes [...]") or shortened (change "[..]all informants participated in this study [..]"-->into: "participants" or "respondents" or "interviewees", and use the same wording throughout the manuscript) and many sentences are just not an easy read or even completely incomprehensible.

An example: L.210 "Referring the NU patients to the EDs by the clinic physicians, either verbally or in writing, for admission is commonplace, to which most of the participants referred."

The manuscript would improve considerably when shortened from over 6000 words to 3500 words. There is a lot of repetition in the text, the text from the Figures is repeated literally.

My advice: shorten the manuscript with 3000 words, be far more concise in wording.

R: Thank you very much for your comment. We carefully read the text and revised again, also a native English has proofread the manuscript now. We hope it will be to your satisfaction, because I think this version has considerably improved. We tried to integrate/delete the repetitions in the text, and also the figures have been revised accordingly.

Regarding to the word counts, we reduced 738 words in this version, and we believed that shorten more, has negative effects on the quality of the whole manuscript. Also I would like to inform you that more descriptions words in this manuscript is normal in its kind due to addressing three separate variables (causes, consequences, and solutions), and also due to qualitative design which needs more focus and discuss the quotes of participants. Moreover, to the best of our knowledge, there is no study with such design and addressing the variables in one paper.

Reviewer 2: Faith Alele

James Cook University, Australia

1. I thank the authors for addressing most of my comments thoughtfully.

R: Thanks.

2. However, I was disappointed to see that my suggestions did not inspire a more concise presentation of the findings of the study. In addition, the authors have made a few changes to the discussion section but failed to comprehensively discuss all the findings of the study. Currently, the discussion section still addresses mainly the causes of non-urgent ED use. If the results were organised into fewer overarching themes, then, the discussion section will be more comprehensive, addressing the aims of the study.

I had earlier stated that twelve themes for causes of non-urgent ED use was a lot. The same applies to the themes identified for consequences of non-urgent ED use. In my opinion, these themes are subthemes that can be classified under fewer overarching themes. For example, convenience of access, receiving rapid care, the well-equipped ED and higher priority of the ED for hospitalization all refer to specialized ED services (which can be used as an overarching theme).

R: Thanks for your comment. We organized the results into three overarching themes for both causes and consequences. Also we revised figure 1 according to these revisions. We believed that this new categorization is more helpful to understand!

Also it should be noted that we focused more on the solutions as well as on causes, and by doing so we assessed their applicability and feasibility of the solutions through comparing our results with international studies.

3. I am supportive of this study for this journal scope and audience and I believe that the rich information presented in the manuscript is interesting. However, I will suggest that the authors spend some time to have a re-think of the analysis and presentation of the results for consistency and comprehensiveness. The manuscript would be greatly improved with a re-think of how the findings of the study are presented to the reader.

R: First, we should state that thank you very much for giving us an opportunity to re-think of the analysis. We strongly believe that presentation of revised version of results will be interested for the international readers of BMJ Open.

VERSION 3 – REVIEW

REVIEWER	C. van der Linden HMC. The Netherlands
REVIEW RETURNED	17-Jun-2019

GENERAL COMMENTS	Review of the manuscript: R2. NON-URGENT VISITS TO EMERGENCY DEPARTMENTS: A QUALITATIVE STUDY IN IRAN EXPLORING CAUSES, CONSEQUENCES, AND SOLUTIONS
	Thank you for the opportunity to review the revised version of the manuscript "Non-urgent visits to emergency departments: a qualitative study in Iran exploring causes, consequences, and solutions", which describes the viewpoints of medical staff about causes, negative consequences and some solutions for non-urgent ED visits.
	The language has been improved, although another round of corrections should be performed. Sometimes the words in the sentences are not in the correct order, and there are still some plural/singular mistakes.
	The authors write that a phenomenological approach was used. I think that the use of the face to face, in-depth, open-ended interviews was the appropriate methodology for the aim of this study. However, in a standard phenomenological analysis / especially when reporting the findings, I would expect to find words like "essences" and "life world" terms (e.g. spatiality, corporeality, temporality). I also cannot find any bracketing or reflexivity. Did the
	researchers critically examined their own role and influence during the data collection and sample recruitment? Is phenomenological approach the best term to describe their methodology? The authors discuss the credibility and trustworthiness of the study very briefly in the Methods, however, some of the main issues are left unspoken. An in-depth description of the analysis process is lacking. How were the themes derived from the data? When was translation done (immediately after transcription, or after theme
	selection, or after quote selection)? The article has many very interesting findings, and nicely chosen quotes. The translation of the quotes needs to be reviewed, the English is not correct / or the researchers need to add how (and when in the analysis process) the quotes were translated.
	In short, this research is valuable, the findings contribute to existing knowledge especially because of the qualitative design and the setting in a LMIC. However, I do not know how to judge the credibility of the findings because it is unclear whether the data analysis was sufficiently rigorous.

REVIEWER REVIEW RETURNED	Faith Alele James Cook University 11-Aug-2019
GENERAL COMMENTS	Thank you for the opportunity to review this paper. I thank the authors for addressing issues previously raised. However, here are some suggestions and comments to strengthen the paper. I have included comments in the different sections of the manuscript. Abstract

Objective: The authors may want to consider re-writing the objective of the study. An example is: to explore the causes and consequences of, and solutions

The authors should consider rewriting the design section in the abstract. It is a bit wordy and needs to be re-structured. Results

The total number of participants in the study was not reported in the abstract. Could the authors include a brief description of the study population (such as, a total of 40 participants were interviewed, of which 20 (50%) were females).

Please kindly revise the abstract based on the comments in the sections below.

Introduction

The introduction provides insight to the burden of non-urgent visits. However, given that the study location is Iran, it will be beneficial to provide a summary of the healthcare system in Iran as a backdrop to the problem. Does the Iranian healthcare system cover all costs of both inpatient and outpatient treatment as well as medications? This is important because insurance related healthcare barriers have been identified as one of the reasons for NU in some countries, In addition, the authors have not justified why they choose to explore the healthcare providers perspective. Methods

Lines 84 85: The authors stated that "Using a qualitative descriptive design (17), we conducted in-depth, open-ended, semi-structured, and face-to-face interviews, informed by the theoretical perspective of phenomenological approach."

Face-to-face interview is a method of data collection. In addition, could the authors rewrite the sentence in lines 84-85.

Line 115: Delete "and" and replace with / in the sentence" The recruitment of new key informants continued until thematic and data saturation."

Results

Line 140: the opening sentence for the result section contradicts what was written in the abstract. Providing a summary of the overarching themes would give context to the sub-themes reported in the results.

It will be good for the authors to explain what they mean by demand and supply side factors. They have listed them as overarching themes; however, the meaning of each theme is not clear. In addition, there should be a clear link between the subthemes and the main theme.

The same applies to the themes identified for the consequences. Please could the authors provide a summary explaining the main themes before delving into the sub themes? For example, in lines 286 and 327, "patients and Eds and the health system" were identified as themes. However, the authors have not provided a summary describing the broad categories.

The potential solutions provided was presented in a logical format. A similar approach should be used for the causes and consequences of NU as stated above.

Discussion

The discussion section should start with a summary of the findings of the study. These findings can be discussed with reference to previous research.

Lines 541 – 548 discussed the lack of access to family physicians which was not reported in the results section. I understand that the

authors are trying to highlight the importance of a family physician plan in Iran, however, this is not a finding of the study. Rather it should be used to buttress the findings related to the causes and consequences.

In addition, the discussion section was presented without a logical flow/link between the paragraphs. Please discuss the findings in a systematic and logical manner with a clear link between the points/findings. Presenting a detailed discussion of the causes should lead up to discussing the consequences and potential solutions to combat the issue.

Overall, it is a good and interesting study which will add to the body of knowledge. However, the issues highlighted above need to be addressed to strengthen the paper.

Thank you.

VERSION 3 – AUTHOR RESPONSE

Reviewer 1: C. van der Linden

Institution and Country: HMC, The Netherlands

1- Thank you for the opportunity to review the revised version of the manuscript "Non-urgent visits to emergency departments: a qualitative study in Iran exploring causes, consequences, and solutions", which describes the viewpoints of medical staff about causes, negative consequences and some solutions for non-urgent ED visits.

R: Thank you.

- 2- The language has been improved, although another round of corrections should be performed. Sometimes the words in the sentences are not in the correct order, and there are still some plural/singular mistakes.
- R: These have been addressed and a native English has proofread the manuscript now. I hope it will be to your satisfaction.
- 3- The authors write that a phenomenological approach was used. I think that the use of the face to face, in-depth, open-ended interviews was the appropriate methodology for the aim of this study. However, in a standard phenomenological analysis / especially when reporting the findings, I would expect to find words like "essences" and "life world" terms (e.g. spatiality, corporeality, temporality). I also cannot find any bracketing or reflexivity. Did the researchers critically examined their own role and influence during the data collection and sample recruitment? Is phenomenological approach the best term to describe their methodology?

R: According to your recommendation, we revised the description of study design.

4- The authors discuss the credibility and trustworthiness of the study very briefly in the Methods, however, some of the main issues are left unspoken. An in-depth description of the analysis process is lacking. How were the themes derived from the data? When was translation done (immediately after transcription, or after theme selection, or after quote selection)?

R: The detailed information has been provided to describe of the analysis process.

- 5- The article has many very interesting findings, and nicely chosen quotes. The translation of the quotes needs to be reviewed, the English is not correct / or the researchers need to add how (and when in the analysis process) the quotes were translated.
- R: We checked and reviewed the quotes towards more clarity and simplicity.
- 6- In short, this research is valuable, the findings contribute to existing knowledge especially because of the qualitative design and the setting in a LMIC. However, I do not know how to judge the credibility of the findings because it is unclear whether the data analysis was sufficiently rigorous.
- R: As we mentioned in comment 4, we provided more details regarding to credibility of the findings.

Reviewer 2: Faith Alele

1- Thank you for the opportunity to review this paper. I thank the authors for addressing issues previously raised. However, here are some suggestions and comments to strengthen the paper. I have included comments in the different sections of the manuscript.

R: Thank you.

Abstract

2- Objective: The authors may want to consider re-writing the objective of the study. An example is: to explore the causes and consequences of, and solutions

The authors should consider rewriting the design section in the abstract. It is a bit wordy and needs to be re-structured.

R: The sentence has been revised towards more simplicity and clarity.

Results

3- The total number of participants in the study was not reported in the abstract. Could the authors include a brief description of the study population (such as, a total of 40 participants were interviewed, of which 20 (50%) were females).

Please kindly revise the abstract based on the comments in the sections below.

R: The more details has been provided in the abstract section.

Introduction

- 4- The introduction provides insight to the burden of non-urgent visits. However, given that the study location is Iran, it will be beneficial to provide a summary of the healthcare system in Iran as a backdrop to the problem. Does the Iranian healthcare system cover all costs of both inpatient and outpatient treatment as well as medications? This is important because insurance related healthcare barriers have been identified as one of the reasons for NU in some countries, In addition, the authors have not justified why they choose to explore the healthcare providers perspective.
- R: Thanks for the comment. In the introduction section, a brief description has been provided to more clarity.

Methods

5- Lines 84 85: The authors stated that "Using a qualitative descriptive design (17), we conducted indepth, open-ended, semi-structured, and face-to-face interviews, informed by the theoretical perspective of phenomenological approach."

Face-to-face interview is a method of data collection. In addition, could the authors rewrite the sentence in lines 84-85.

R: The sentence have been now revised.

6- Line 115: Delete "and" and replace with / in the sentence" The recruitment of new key informants continued until thematic and data saturation."

R: Thank you, we applied your comment.

Results

7- Line 140: the opening sentence for the result section contradicts what was written in the abstract. Providing a summary of the overarching themes would give context to the sub-themes reported in the results.

R: Thank you, we applied your comment.

- 8- It will be good for the authors to explain what they mean by demand and supply side factors. They have listed them as overarching themes; however, the meaning of each theme is not clear. In addition, there should be a clear link between the sub-themes and the main theme.
- R: A summary description has been provided for overarching themes.
- 9- The same applies to the themes identified for the consequences. Please could the authors provide a summary explaining the main themes before delving into the sub themes? For example, in lines 286 and 327, "patients and Eds and the health system" were identified as themes. However, the authors have not provided a summary describing the broad categories.
- R: See comment 8. Moreover, the title of overarching themes in this section has been revised towards more clarity and simplicity.
- 10- The potential solutions provided was presented in a logical format. A similar approach should be used for the causes and consequences of NU as stated above.
- R: Thanks for the comment. By providing more explanations for the broad categories, it would presented in a logical format.

Discussion

- 11- The discussion section should start with a summary of the findings of the study. These findings can be discussed with reference to previous research.
- R: A summary description has been provided.
- 12- Lines 541 548 discussed the lack of access to family physicians which was not reported in the results section. I understand that the authors are trying to highlight the importance of a family physician plan in Iran, however, this is not a finding of the study. Rather it should be used to buttress the findings related to the causes and consequences.
- R: An extra information has been deleted according to discuss the most important findings of this study.
- 13- In addition, the discussion section was presented without a logical flow/link between the paragraphs. Please discuss the findings in a systematic and logical manner with a clear link between the points/findings. Presenting a detailed discussion of the causes should lead up to discussing the consequences and potential solutions to combat the issue.
- R: A summary description at the beginning of discussion section has been provided. Also we reordered the presentation of discussion of the findings.

14- Overall, it is a good and interesting study which will add to the body of knowledge. However, the issues highlighted above need to be addressed to strengthen the paper.

R: Thank you very much for giving us the opportunity for improving our work. I hope that you find our revision to your satisfaction and we can now proceed to publication.