

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Job morale of physicians in low- and middle-income countries: a systematic literature review of qualitative studies
AUTHORS	Sabitova, Alina; Sajun, Sana; Nicholson, Sandra; Mosler, Franziska; Priebe, Stefan

VERSION 1 – REVIEW

REVIEWER	AMY HAGOPIAN University of Washington, USA
REVIEW RETURNED	09-Feb-2019

GENERAL COMMENTS	<p>TITLE: Job morale of physicians in low- and middle-income countries: a systematic literature review of qualitative studies</p> <p>Submitted to: BMJ Open (January 2019)</p> <p>Reviewed by: Amy Hagopian</p> <p>Date: 6 February 2019</p> <p>This paper provides a comprehensive literature of the factors influencing physician and dentist job morale in LMICs. The methods appear sound, although it's a little disappointing they found only 10 qualifying papers to include using their criteria, and none of these included evidence for dentist job morale.</p> <hr/> <p>ABSTRACT</p> <p>Undefined acronyms.</p> <hr/> <p>BACKGROUND</p> <hr/>
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	<p>This section covers the basics, but isn't particularly well written. Passive voice, some odd word choices. For example, instead of "sickness absence," say absenteeism.</p> <p>Another example of repairing passive voice and better word choices:</p> <p>It was also found, that studies were mainly concentrated either on <u>either</u> nurses (10, 11, 16-19) or healthcare staff in general (5, 13, 20-23), although <u>job morale varies by professional group cadre</u> (20) and training status (24-26). are likely to be a significant predictor of JM</p> <p>I wonder if the examples of "general" or "nursing" morale papers is sufficiently complete. For example, our paper¹ from Uganda may be of interest.</p> <p>Reference 8 may not be the best example of the point, "Furthermore, improving staff well-being could save healthcare spending, by decreasing financial investments in medical education (8)," I would direct you to Ed Mills' paper.²</p> <p>METHODS</p> <hr/> <p>It's remarkable authors found 11,347 articles, but rejected so many (9297) for not meeting inclusion criteria. Authors should consider whether inclusion criteria for the study were too narrow, hence yielding only 10 papers from 7 countries, only one of them in a low-income country. How many quantitative papers (without qualitative methods) were rejected, if any?</p>
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¹ Hagopian A, Zuyderduin A, Kyobutungi N, and Yumkella F. Job Satisfaction and Morale of the Uganda Health Workforce. *Health Affairs*, Web Exclusive 06-Aug-2009.

Abstract: Ugandan health workers are dissatisfied with their jobs, especially their compensation and working conditions. About one in four would like to leave the country to improve their outlook, including more than half of all physicians. In this paper we report differences by type of health worker, sex, age, sector (public or nonprofit), and location. Policy strategies to strengthen human resources for health in Uganda should focus on salary and benefits (especially health coverage), working conditions and workload, facility infrastructure (including water and electricity), management, and workforce camaraderie.

² Mills EJ, Kanters S, Hagopian A, Bansback N, Nachega J, Alberton M, Au-Yeung CG, Mtambo A, Bourgeault IL, Luboga S, Hogg RS, Ford N. The financial cost of doctors emigrating from sub-Saharan Africa: a human capital analysis. *BMJ*. 2011 Nov 23;343.

What was the rationale for rejecting papers if fewer than 50% of the participants in a study were physicians—even if that number was large?

Authors say, “There was no limitation regarding study design or type,” (line 44 on page 5), but on line 27 (same page), authors say, “Studies were eligible if they assessed any one of the job morale constructs such as job motivation, satisfaction, well-being, burnout and depression symptoms by using qualitative methods.” If papers were required to use qualitative methods to be included, that is a limitation on study design or type, no?

The vote counting method is described too opaquely and in passive voice—“vote counting was used.” How, and with what effect? Describe this method in more detail and how it affected the analysis.

It’s definitely a strength that non-English papers were included.

RESULTS

This part of the manuscript was well written, quite strong. I liked the use of quotations from the texts of the papers.

The text (page 7, lines 17-24) should name the seven countries included in the review, and note that of the seven, 4 are upper middle income, two are lower middle income, and only one is lower income. The rural/urban distinction doesn’t seem that important since little is said of it in the findings.

I wonder if the paper wouldn’t benefit from a **conceptual model**, drawing the inter-relationships between the concepts and their components. On page 15 authors mention an “analytic framework” emerging from the analysis, but they haven’t drawn us a picture of it.

DISCUSSION

There is good evidence that, across professions, people tend to be more satisfied with job content than with job structure,

compensation, and other workplace organizational factors. It might be worth noting this—doctors aren't different from other professionals in that manner.

Much of the discussion section in the third subhead (comparison with literature) compares job morale in high income countries with LMICs. This should be clear in the subhead: "comparison with higher-income countries." A table of the comparisons would be helpful.

Authors obliquely refer to "contextual features," without naming them. I suggest they SHOULD name some features. For example, Lower income countries face a wage bill constraint in improving the working conditions and job structures for medical personnel. These constraints have been imposed by international lenders and bankers, and this should not go unnoticed. At the end, I list some papers to consider and cite. Once this material is incorporated, it will give authors more material to include in the "implications for research and practice" section.

It's really remarkable that only 10 papers on physician & dentist job morale have been published for LIMCs, and only one for a lower income country. The authors might note how little investment is made in this kind of research, and notice who financed the research that WAS conducted.

The discussion section needs a good edit. Lines 34-39 on page 11 are not a sentence: "Negative experiences related to excessive workload, low salaries, poor working and living conditions, less opportunities for career and professional development, staff shortage, tense physician-nurse and physician-manager/supervisor relationships, inconsistent professional guidelines and political interference."

The passive-voice sentence on lines 22 to 27 on page 11 is confusing and unclear: "Experiences, regarding staffing levels, career and professional development, relationships with nurses/auxiliary staff and managers/supervisors were not as commonly reported but were still mentioned as important in majority of studies."

Another confusing and poorly-written sentence at the bottom of page 11 (going to top of 12): "Firstly, although it was possible to

extract general concepts in physicians' experiences from the diverse samples found generalizations to all types of physicians and countries should be made cautiously, because there was not enough evidence to assess whether there are significant differences based on region or clinical specialty."

In the conclusion section, the second sentence is broken, mostly because of passive voice: "A number of experiences have been identified that strategies aiming to improve physicians' JM in LMICs could target."

TABLES

Table 2 with illustrative quotations is very nice.

Page 29 needs a title. I assume this is a record of search terms, but that's unclear.

Page 30 starts a big unwieldy table, but there's no title or explanation of what is being portrayed. It looks like the information could be useful, but it's hard to take it in given how it's laid out and organized.

In the final table, authors indicate whether "ethical issues been taken into consideration." For two of the papers the indication is NO. This is a rather important matter, so I found the papers and note they included the below language, which I believe indicates the papers followed ethical standards. In which case, I wonder what the authors mean by "ethical issues been taken into consideration?"

Luboga: The Ministry of Health and the Uganda Health Workforce Advisory Board approved

the project proposal. The Uganda Council for Science and Technology (HS 156) and

the University of Washington (06-1098-G 01) approved the protocols for use of

human subjects, after extensive review and revisions of procedures and consent

material.

Li: *All of the participants received detailed information regarding the purpose and nature of the study. Verbal explanations and clarifications were also provided and participants were assured of their rights and their ability to withdraw freely. Informed written consent was obtained from study participants' prior data collection. This study received ethics approval from Peking University Health Science Center in China, reference number IRB00001052-14017.*

LANGUAGE

1. Passive voice throughout weakens the paper.
2. The use of the acronym JM for "job morale" seems unnecessary.
3. The use of the word "impact" is vague and imprecise. Either the effect has a direction (undermine, or enhance) or we can just say "effect." Impact is a car hitting a tree.
4. Unnecessary words: "in order"
5. "Fewer" not "less" opportunities, line 36 on page 11.

1. Many, many improperly placed commas. For example, line 51 on page 7 after *noted*: "Additionally, physicians noted, that poor physical environment in the hospitals "annoyed patients...."
Additional examples: "noted," on page 8 at line 59; "concern," on line 34 page 10, "stated," on line 43 page 10, "felt," on line 53 page 10, "framework," line 16 page 11, "Experiences," line 22 page 11, "variables," line 48 page 12, "identified," line 36 page 13.

STRUCTURAL ADJUSTMENT AND AUSTERITY PAPERS

[Structural adjustment and health: A conceptual framework and evidence on pathways.](#) Kentikelenis AE et al. Soc Sci Med. (2017)

[Structural adjustment and public spending on health: evidence from IMF programs in low-income countries.](#) Kentikelenis AE et al. Soc Sci Med. (2015)

[Structural adjustment programmes adversely affect vulnerable populations: a systematic-narrative review of their effect on child and maternal health.](#) Thomson M et al. Public Health Rev. (2017)

[Ten years after the financial crisis: The long reach of austerity and its global impacts on health.](#)

Basu S, Carney MA, Kenworthy NJ. Soc Sci Med. 2017 Aug;187:203-207. doi: 10.1016/j.socscimed.2017.06.026. Epub 2017 Jun 22. No abstract available.

[Austerity and the "sector-wide approach" to health: The Mozambique experience.](#)

Pfeiffer J, Gimbel S, Chilundo B, Gloyd S, Chapman R, Sherr K. Soc Sci Med. 2017 Aug;187:208-216. doi: 10.1016/j.socscimed.2017.05.008.

[Narrating health and scarcity: Guyanese healthcare workers, development reformers, and sacrifice as solution from socialist to neoliberal governance.](#)

Walker A. Soc Sci Med. 2017 Aug;187:225-232. doi: 10.1016/j.socscimed.2017.01.062.

[Mozambique's Debt and the International Monetary Fund's Influence on Poverty, Education, and Health.](#) Beste J, Pfeiffer J. Int J Health Serv. 2016;46(2):366-81.

[Three decades of neoliberalism in Mexico: the destruction of society.](#)

Laurell AC. Int J Health Serv. 2015;45(2):246-64.

[The African Development Bank and women's health: a cross-national analysis of **structural adjustment** and maternal mortality.](#)

Coburn C, Restivo M, Shandra JM. Soc Sci Res. 2015 May;51:307-21.

[The African Development Bank, **structural adjustment**, and child mortality: a cross-national analysis of Sub-Saharan Africa.](#)

Pandolfelli LE. Int J Health Serv. 2013;43(2):337-61.

[First-class health: amenity wards, health insurance, and normalizing health care inequalities in Tanzania.](#) Ellison J. Med

Anthropol Q. 2014 Jun;28(2):162-81.

[Interrogating scarcity: how to think about 'resource-scarce settings'.](#)

Schrecker T. Health Policy Plan. 2013 Jul;28(4):400-9. doi: 10.1093/heapol/czs071.

[The medicine that might kill the patient: **Structural Adjustment** and its impacts on health care in Bangladesh.](#)

Hossen MA, Westhues A. Soc Work Public Health. 2012;27(3):213-28.

[The impact of global health initiatives on trust in health care provision under extreme resource scarcity: presenting an agenda for debate from a case study of emergency obstetric care in Northern Tanzania.](#) Olsen OE. Health Res Policy Syst. 2010 May 25;8:14.

[Healthy public policy in poor countries: tackling macro-economic policies.](#)

Mohindra KS. Health Promot Int. 2007 Jun;22(2):163-9. Epub 2007 Mar 13.

[Challenging the neoliberal trend: the Venezuelan health care reform alternative.](#)

Muntaner C, Salazar RM, Rueda S, Armada F. Can J Public Health. 2006 Nov-Dec;97(6):119-24.

[Int J Health Policy Manag.](#) 2017 Jan 3;6(9):539-541. doi: 10.15171/ijhpm.2016.157. McCoy D. Critical Global Health: Responding to Poverty, Inequality and Climate Change Comment on "Politics, Power, Poverty and Global Health: Systems and Frames".

Consider this paper in lieu of reference 8:

1. Mills EJ, Kanters S, **Hagopian** A, Bansback N, Nachega J, Alberton M, Au-Yeung CG, Mtambo A, Bourgeault IL, Luboga S, Hogg RS, Ford N. The financial cost of doctors emigrating from sub-Saharan Africa: a human capital analysis. *BMJ*. 2011 Nov 23;343.

RESULTS: In the nine source countries the estimated government subsidised cost of a doctor's education ranged from \$21,000 (£13,000; €15,000) in Uganda to \$58,700 in South Africa. The overall estimated loss of returns from investment for all doctors

	<p>currently working in the destination countries was \$2.17bn (95% confidence interval 2.13bn to 2.21bn), with costs for each country ranging from \$2.16m (1.55m to 2.78m) for Malawi to \$1.41bn (1.38bn to 1.44bn) for South Africa. The ratio of the estimated compounded lost investment over gross domestic product showed that Zimbabwe and South Africa had the largest losses. The benefit to destination countries of recruiting trained doctors was largest for the United Kingdom (\$2.7bn) and United States (\$846m).</p> <p>CONCLUSIONS: Among sub-Saharan African countries most affected by HIV/AIDS, lost investment from the emigration of doctors is considerable. Destination countries should consider investing in measurable training for source countries and strengthening of their health systems.</p>
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REVIEWER	Medhin Selamu Addis Ababa University Ethiopia
REVIEW RETURNED	29-Apr-2019

GENERAL COMMENTS	<p>The study is very interesting and unexplored area but very essential for the healthcare system. Authors need to be thanked for picking this area but this manuscript needs major revision.</p> <ol style="list-style-type: none"> 1. The research objective requires to be specific in order to be addressed using the methods they selected. 2. In the background section the authors used different terms such as human resources for health, healthcare staff, medical personnel, and staff it would be good if there is consistency 3. The method section needs to be described in a clear detail. For example the selection criteria has significant inconsistencies. It says there is no limitation in the study design and type but says the review is only made on qualitative studies. Another similar point regarding time of publication it says articles were considered without restriction on date of inception but in other section studies from 2010 -2017 were included. 4. Authors need to justify on what basis they bring the five different job related wellbeing construct as one (job motivation, job satisfaction, wellbeing, burnout and depression symptoms 5. If the eligible studies were studies with at least 50% physician participants do you think the result will be generalize able as a physician's experience? 6. In this review three mixed methods studies were included and how their results are extracted is not clear? 7. Physicians working in different working environment were also presented as similar for example specialists vs family physicians , village doctors versus emergency doctors. How do you manage to describe the work environment , rewards etc across all these different levels of physicians ? 8. There are multiple long sentences (3-4 lines) that needs revision 9. There are many typos and formatting errors in the documents authors need to proof read The detailed comment will be attached in a word document. <p>- The reviewer provided a marked copy with additional comments. Please contact the publisher for full details.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1

- a) ABSTRACT
 - Undefined acronyms.

Authors: Thank you for this comment. We defined all the acronyms in the abstract (Page 2).

- b) BACKGROUND
 - This section covers the basics but isn't particularly well written. Passive voice, some odd word choices. For example, instead of "sickness absence," say absenteeism.

Authors: As per this suggestion, we changed the structure of the sentence (Page 4, lines 19-21). The word absenteeism appeared only in the results section and referred to an absence from work without an appropriate reason. We believe that it reflects the author's point across included studies and supported by a quote in Table 2.

- I wonder if the examples of "general" or "nursing" morale papers is sufficiently complete. For example, our paper from Uganda may be of interest.
- Reference 8 may not be the best example of the point, "Furthermore, improving staff wellbeing could save healthcare spending, by decreasing financial investments in medical education (8)," I would direct you to Ed Mills' paper.

Authors: Thank you very much for suggesting these papers. We added these references to the background (Page 4, lines 11-21).

- c) METHODS
 - It's remarkable authors found 11,347 articles, but rejected so many (9297) for not meeting inclusion criteria. Authors should consider whether inclusion criteria for the study were too narrow, hence yielding only 10 papers from 7 countries, only one of them in a low-income country. How many quantitative papers (without qualitative methods) were rejected, if any?

Authors: We apologise that the screening process was not clear. We followed established procedures for screening recommended in the CRD's guidance for undertaking reviews in health care (Centre for Reviews and Dissemination, 2008). This involved having clear inclusion and exclusion criteria, that were further refined by a piloting phase that AS undertook. The resulting, more specifically operationalised inclusion criteria were used to screen all titles (AS). Search terms and strategy was developed by AS with an information scientist at the Queen Mary University of London. Two main reasons can explain a large number of initial hints. First, details of the healthcare setting (country, city, hospital type), where a study has been conducted, were frequently not reported in the title, abstract or keywords. Second, sample details were also have not been specified in those domains. As a consequence, studies from high-income countries, private healthcare setting, and focusing on different types of healthcare staff appeared in the search results. Overall, out of all studies focusing on low- and middle-income countries, we marked 532 studies as quantitative.

- What was the rationale for rejecting papers if fewer than 50% of the participants in a study were physicians—even if that number was large?
- And reviewer 2: If the eligible studies were studies with at least 50% physician participants do you think the result will be generalize able as a physician's experience?

Authors: Thank you for these comments. We decided to use 50% as a threshold for the majority because it would be difficult to assume that the study results reflect physicians' experiences if their proportion was less. At the same time, it gives us the rationale to generalise results, because we can infer that the majority of the sample had had certain experiences.

- Authors say, “There was no limitation regarding study design or type,” (line 44 on page 5), but on line 27 (same page), authors say, “Studies were eligible if they assessed any one of the job morale constructs such as job motivation, satisfaction, well-being, burnout and depression symptoms by using qualitative methods;” If papers were required to use qualitative methods to be included, that is a limitation on study design or type, no?
- And reviewer 2: The method section needs to be described in a clear detail. For example the selection criteria has significant inconsistencies. It says there is no limitation in the study design and type but says the review is only made on qualitative studies. Another similar point regarding time of publication it says articles were considered without restriction on date of inception but in other section studies from 2010 -2017 were included.

Authors: Apologies for these inconsistencies and thanks for spotting them. To be eligible studies needed to examine job morale constructs by using qualitative methods. We made the necessary changes (Page 5, line13-14). We searched for papers without placing limits on date of inception, but eligible studies have been published between 2010 and 2017 and reported under the ‘overview of included studies section’ (Page 6, line 24).

- The vote counting method is described too opaquely and in passive voice—“vote counting was used.” How, and with what effect? Describe this method in more detail and how it affected the analysis.

Authors: We agree with the reviewer, and we have now added the details that vote counting was used as a descriptive tool to indicate patterns across the included studies (Page 6, lines 4-6). We calculated the frequency of defined categories across included studies and determined the most prevalent of them — the results of the vote counting presented in Table 2 (column 2).

d) RESULTS

- The text (page 7, lines 17-24) should name the seven countries included in the review, and note that of the seven, 4 are upper middle income, two are lower middle income, and only one is lower income. The rural/urban distinction doesn’t seem that important since little is said of it in the findings.

Authors: Thank you for this comment. As per this suggestion, we included this point to the overview of the included studies section (Page 6, lines 25-27). Also, we reported characteristics of included studies in Table 1.

- I wonder if the paper wouldn’t benefit from a conceptual model, drawing the interrelationships between the concepts and their components. On page 15 authors mention an “analytic framework” emerging from the analysis, but they haven’t drawn us a picture of it.

Authors: Developing a conceptual framework was out of the scope of the current review. The analytical framework with its categories and sub-categories are reported within the results section (Pages 6-9) and visualised in Table 2.

e) DISCUSSION

- There is good evidence that, across professions, people tend to be more satisfied with job content than with job structure, compensation, and other workplace organizational factors. It might be worth noting this—doctors aren’t different from other professionals in that manner.

Authors: As per this suggestion, we included this point to the comparison with the literature section (Page 10, lines 27-29).

- Much of the discussion section in the third subhead (comparison with literature) compares job morale in high income countries with LMICs. This should be clear in the subhead: “comparison with higher-income countries.” A table of the comparisons would be helpful.

Authors: Thank you for this comment. We have changed the subheading (Page 10, line 20). Although we tried to develop a table of comparisons, it repeated the information stated in that paragraph. Therefore, we decided to exclude it.

- Authors obliquely refer to “contextual features,” without naming them. I suggest they SHOULD name some features. For example, Lower income countries face a wage bill constraint in improving the working conditions and job structures for medical personnel. These constraints have been imposed by international lenders and bankers, and this should not go unnoticed. At the end, I list some papers to consider and cite. Once this material is incorporated, it will give authors more material to include in the “implications for research and practice” section.

Authors: Thank you very much for suggesting these papers. We added these references to the discussion when describing the contextual features (Pages 10, lines 34-39) and implication for research and practice (Page 11, lines 15-18).

- It’s really remarkable that only 10 papers on physician & dentist job morale have been published for LIMCs, and only one for a lower income country. The authors might note how little investment is made in this kind of research, and notice who financed the research that WAS conducted.

Authors: Thank you very much for this comment. We included this point to the implications for research and practice section (Page 11, 25-27).

- The discussion section needs a good edit. Lines 34-39 on page 11 are not a sentence: “Negative experiences related to excessive workload, low salaries, poor working and living conditions, less opportunities for career and professional development, staff shortage, tense physician-nurse and physician-manager/supervisor relationships, inconsistent professional guidelines and political interference.”
- The passive-voice sentence on lines 22 to 27 on page 11 is confusing and unclear: “Experiences, regarding staffing levels, career and professional development, relationships with nurses/ auxiliary staff and managers/supervisors were not as commonly reported but were still mentioned as important in the majority of studies.”
- Another confusing and poorly-written sentence at the bottom of page 11 (going to top of 12): “Firstly, although it was possible to extract general concepts in physicians’ experiences from the diverse samples found generalizations to all types of physicians and countries should be made cautiously, because there was not enough evidence to assess whether there are significant differences based on region or clinical specialty.”
- In the conclusion section, the second sentence is broken, mostly because of passive voice: “A number of experiences have been identified that strategies aiming to improve physicians’ JM in LMICs could target.”
- And reviewer 2: There are multiple long sentences (3-4 lines) that needs revision

Authors: Thank you for these comments. We amended the indicated sentences (Pages 9, lines 37-40); Page 9, lines 32-34; Page 10, lines 9-11; Page 11, lines 34-35).

f) TABLES

- Page 29 needs a title. I assume this is a record of search terms, but that’s unclear.
- Page 30 starts a big unwieldy table, but there’s no title or explanation of what is being portrayed. It looks like the information could be useful, but it’s hard to take it in laid out and organized.

Authors: Thank you for pointing these out. We made the necessary changes (See supplementary files 1 and 2).

- In the final table, authors indicate whether “ethical issues been taken into consideration.” For two of the papers the indication is NO. This is a rather important matter, so I found the papers and note they included the below language, which I believe indicates the papers followed ethical standards. In which case, I wonder what the authors mean by “ethical issues been taken into consideration?”

Authors: The omission of some details on the quality assessment is an oversight for which we apologise. We amended the table (See supplementary file 3).

g) LANGUAGE

- Passive voice throughout weakens the paper.
- The use of the acronym JM for “job morale” seems unnecessary.
- The use of the word “impact” is vague and imprecise. Either the effect has a direction (undermine, or enhance) or we can just say “effect.” Impact is a car hitting a tree.
- Unnecessary words: “in order”
- “Fewer” not “less” opportunities, line 36 on page 11.
- Many, many improperly placed commas. For example, line 51 on page 7 after *noted*: “Additionally, physicians noted, that poor physical environment in the hospitals “annoyed patients...” Additional examples: “noted,” on page 8 at line 59; “concern,” on line 34 page 10, “stated,” on line 43 page 10, “felt,” on line 53 page 10, “framework,” line 16 page 11, “Experiences,” line 22 page 11, “variables,” line 48 page 12, “identified,” line 36 page 13.
- And reviewer 2: There are many typos and formatting errors in the documents authors need to proof read. The detailed comment will be attached in a word document.

Authors: Thank you for these comments. We tried to address language imperfections.

Reviewer 2:

- The research objective requires to be specific in order to be addressed using the methods they selected.

Authors: We tried to clarify the aim of this study both in the abstract (Page 2, lines 3-5) and in the background (Page 4, lines 27-28).

- In the background section, the authors used different terms such as human resources for health, healthcare staff, medical personnel, and staff it would be good if there is consistency

Authors: Apologies for these inconsistencies. We made amendments (Page 4, lines 5-10).

- Authors need to justify on what basis they bring the five different job related wellbeing construct as one (job motivation, job satisfaction, wellbeing, burnout and depression symptoms)

Authors: We have tried to clarify this point in the background (Page 4, lines 15-19).

- In this review three mixed methods studies were included and how their results are extracted is not clear?

Authors: We apologise that the extraction process was not clear. In the case of mixed methods studies, qualitative findings were reported in separate paragraphs. That, therefore, made it possible to extract only data of interest. We added more details on the data extraction process (Page 5, lines 31-32).

- Physicians working in different working environment were also presented as similar for example specialists vs family physicians , village doctors versus emergency doctors. How do you manage to describe the work environment , rewards etc across all these different levels of physicians ?

Authors: This was discussed as a limitation on (Page 10, lines 10-12).

- Is it chrombach alpha or what?

Authors: We have modified our statement about inter-rater reliability (Page 5, lines 25-27).

- All studies referred here are from high income studies do you think we can directly use them to reflect the reality in LMIS?

Authors: Unfortunately, due to the lack of studies exploring this field in low- and middle-income countries, we decided to use available evidence from high-income countries to build the rationale of the current review.

- This is not included in the previously mentioned four main sub-categories.

Authors: Apologies for this omission. It was corrected (Page 7, line 17).