

## PEER REVIEW HISTORY

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

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Exploring contextual factors influencing the implementation of evidence-based care for hypertension in Rwanda: A cross-sectional study using the COACH questionnaire
<b>AUTHORS</b>	Baumann, Ana; Hooley, Cole; Goss, Charles W.; Mutabazi, Vincent; Brown, Angela L.; Schechtman, K; Twagirumukiza, Marc; de las Fuentes, Lisa; Reeds, Dominic; Williams, Makeda; Mutimura, Eugene; Bergström, Anna; Nishimwe, Aurore; Ingabire, Cecile; Davila-Roman, Víctor G.

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Nanyonga , R.C Clarke International University
<b>REVIEW RETURNED</b>	09-Mar-2021

<b>GENERAL COMMENTS</b>	<p>Reviewer: Dr. Rose Clarke Nanyonga Thank you for the opportunity to review this paper. The topic of this paper is relevant; however, the authors need to attend to some issues of concern before the paper can be cleared for publication:</p> <p>Abstract Line 19: Minor adjustments: Evidence-base case—to evidence-based care Line 38: sentence review: included 64% nurse (64%),? Line 47: While “most reported”: what is most? Can the authors quantify. Same for line 52.</p> <p>Strength and limitations: page 3. Line 27: authors seem to indicate two tools: COACH and a Survey examining...? Need to update the abstract to reflect two questionnaires</p> <p>Background: Page Five line 8: Include reference for PARIHS Methods: Page 5: Line 43: is it district or Provincial or District and Provincial—don't the authors know? Page 5 Line 54: Midwives instead of midwife (unless only one midwife participated in the study).</p> <p>Methods Page 6 line 10: was this a second structured questionnaire? Not identified in the abstract</p>
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	<p>Page 7 line 31: Can the authors cite a supporting reference for the translation and back translation? Was the instrument—post back translation pilot tested?</p> <p>Results</p> <p>Page 8 line 43: by “similar” do authors also mean equal number (n) in those categories for all three hospitals?</p> <p>Page 9: line 22: Authors state that: “The level of training in hypertension varied by hospital, showing statistically significant differences in having received didactic or school-based training on hypertension in the past year” How did it differ between the provincial or district? Or does mentioning these violate the confidentiality earlier mentioned?—also see my question in discussion, how does this impact the intervention development for the various contexts</p> <p>COACH: Were comparisons done between hospitals – provincial/district—is the context consistently similar between these hospital categories? Or are there significant differences?</p> <p>Discussion</p> <p>Page 12 line 17: Authors state that the results of the leadership and work culture are not surprising to them—but they are surprising to the reader—can the authors justify why these are not surprising results?</p> <p>Page 12 Line 24: authors mention that the respondents acknowledged challenges with resources? Please qualify this—as reflected in the low scores on these subscales? Since this is not a qualitative study—review the language used here</p> <p>Same line 29—“respondents stated” where? Are you reporting on some open-ended questions that are not reported in the study? Authors need to use language consistent with reporting quantitative work</p> <p>Page 12: Authors recommend that, “based on the data, the training program should focus on providing further knowledge and understanding of the hypertension guidelines, and on developing strategies to increase human capacity and monitoring of skills around hypertension care in these hospitals.” Why? Can the authors consider grounding their discussion in existing literature to support and strengthen these recommendations?</p> <p>Page 12 line 48: do same for the next statement: The results also indicate that we need to develop implementation strategies to support hypertension care in their hospitals and think</p>
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	<p>about how to increase skills on hypertension care and establish a monitoring system to support guideline adherence</p> <p>Page 13: line 27: authors report that “there were significant differences in the mean scores across hospitals between the Organizational Resources, Monitoring Services, Sources of Knowledge, Work Culture, Leadership, and Informal Payment subscales, indicating the tool’s ability to identify differences in these contextual factors.” But these differences are not reported in the results section for these subscales. If they exist in the tables—authors need to make it clear</p> <p>In addition, how do the differences impact the intervention development?</p> <p>Overall, the discussion section is lacking in terms of existing work to support the findings of this study.</p>
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<b>REVIEWER</b>	Spies, Lori Baylor University, Louise Herrington School of Nursing
<b>REVIEW RETURNED</b>	16-Mar-2021

<b>GENERAL COMMENTS</b>	<p>This is an interesting well-written exploration of an important topic. Although identified as a topic for future research, additional consideration of the need to omit questions from the COACHE subscales would be of interest.</p> <p>Of the references used 47% of the references are prior to 2017. Inclusion of more recently published information, specifically related to hypert would strengthen the paper.</p>
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### VERSION 1 – AUTHOR RESPONSE

#### Reviewer #1

General Comments from Reviewer. Thank you for the opportunity to review this paper. The topic of this paper is relevant; however, the authors need to attend to some issues of concern before the paper can be cleared for publication.

General Comments from the Authors.

The authors would like to thank both reviewers for their constructive critiques. Below you will find our responses to each critique.

#### Comment #1. Abstract

Line 19: Minor adjustments: Evidence-base case—to evidence-based care Line 38: sentence review: included 64% nurse (64%).

Line 47: While “most reported”: what is most? Can the authors quantify. Same for line 52.

Response #1. The abstract has been changed in response to the reviewer’s comments.

#### Comment #2. Abstract, Strength and limitations

Page 3. Line 27: authors seem to indicate two tools: COACH and a Survey examining...? Need to update the abstract to reflect two questionnaires.

Response #2. The abstract has been changed in response to the reviewer’s comments.

### Comment #3. Background

Page Five line 8: Include reference for PARIHS

Methods: Page 5: Line 43: is it district or Provincial or District and Provincial—don't the authors know?

Page 5 Line 54: Midwives instead of midwife (unless only one midwife participated in the study).

Response #3. The background has been changed in response to the reviewer's comments.

### Comment #4. Methods

Page 6 line 10: was this a second structured questionnaire? Not identified in the abstract

Page 7 line 31: Can the authors cite a supporting reference for the translation and back translation?

Was the instrument—post back translation pilot tested?

Response #4.

We have edited the abstract and methods accordingly to clarify that there was a second questionnaire about the hypertension training needs. We have added reference and information about the translation of COACH.

### Comment #5. Results

5A. Page 8 line 43: by "similar" do authors also mean equal number (n) in those categories for all three hospitals?

5B. Page 9: line 22: Authors stated: "The level of training in hypertension varied by hospital, showing statistically significant differences in having received didactic or school-based training on hypertension in the past year" How did it differ between the provincial or district? Or does mentioning these violate the confidentiality earlier mentioned? Also see my question in discussion, how does this impact the intervention development for the various contexts.

5C. COACH: Were comparisons done between hospitals—provincial/district; is the context consistently similar between these hospital categories? Or are there significant differences?

### Response #5. Results

5A. The numbers were not exactly equal but very similar (n=74, 70, 79 for hospitals A, B, C, respectively).

5B. The reviewer raises a very important question regarding differences in training at the different hospitals. Unfortunately, due to our team agreement not to reveal the confidentiality of the hospitals, we are unable to reveal differences in training between provincial and district hospitals. We added the following sentence in the discussion section (page 15) about this limitation, as follows: "Additionally, while between hospitals analyses of the scores were done, our team is unable to report these to avoid breach of confidentiality. This information has been shared with hospital leadership in a confidential manner so they can incorporate and support hypertension training in strategic planning."

5C. COACH. Comparisons were done, and some of that analysis is share on Table 5 with the descriptive data of the percentage of agreements. Our team has decided not to add further analysis to the paper because it would unblind the hospitals. As such, we have share the data with the leaders of each hospital but in a confidential manner.

### Comment #6. Discussion

6A. Page 12 line 17: Authors state that the results of the leadership and work culture are not surprising to them—but they are surprising to the reader—can the authors justify why these are not surprising results?

6B. Page 12 Line 24: authors mention that the respondents acknowledged challenges with resources? Please qualify this: as reflected in the low scores on these subscales? Since this is not a qualitative study, review the language used.

6C. Same line 29—"respondents stated" where? Are you reporting on some open-ended questions that are not reported in the study? Authors need to use language consistent with reporting quantitative work.

Page 12 line 48: do same for the next statement.

6D. Page 12: Authors recommend that, “based on the data, the training program should focus on providing further knowledge and understanding of the hypertension guidelines, and on developing strategies to increase human capacity and monitoring of skills around hypertension care in these hospitals.” Why? Can the authors consider grounding their discussion in existing literature to support and strengthen these recommendations?

6E. Page 13: line 27: authors report that “there were significant differences in the mean scores across hospitals between the Organizational Resources, Monitoring Services, Sources of Knowledge, Work Culture, Leadership, and Informal Payment subscales, indicating the tool’s ability to identify differences in these contextual factors.” But these differences are not reported in the results section for these subscales. If they exist in the tables—authors need to make it clear.

6F. In addition, how do the differences impact the intervention development?

6G. Overall, the discussion section is lacking in terms of existing work to support the findings of this study.

Response #6. Discussion. We appreciate these comments and have edited the paragraph to be more consistent.

6A. The high scores in the Work Culture and Leadership subscales results are not surprising to the authors because our research team has been collaborating with healthcare providers from the three hospitals for several years. While healthcare respondents in general stated a commitment to work and reported supportive leadership, the low scores in the resources and monitoring services scales indicate challenges and areas in need of improvement. In other words, even with such strong leadership in support of hypertension care, only about half the respondents agreed with items that stated that the hospital had enough workers with the right training and skills for HTN care. Additionally, the low scores on the Monitoring subscale indicate that respondents believe that the hospital could improve evaluations of personnel performance with the purpose of improving hypertension outcomes. We have edited the discussion to reflect this context.

6B. We have edited the discussion paragraph and now state that: “In other words, even with such strong leadership in support of hypertension care, only about half of the respondents agreed with items that stated that the hospital had enough workers with the proper training and skills for HTN care”

6C. We have edited the discussion section to reflect the results that we obtained.

6D. The discussion section was re-organized to place the results in the larger context of hypertension care in Rwanda.

6E. A sentence was added to the result section: “Table 4 shows the mean and standard deviations for the scales across hospitals. There were significant differences in the mean scores across hospitals between the Organizational Resources, Monitoring Services, Sources of Knowledge, Work Culture, Leadership, and Informal Payment subscales.”

6F and 6G. We have edited the discussion to reflect how the results affect our planning, in the larger context of Rwanda.

Reviewer #2

General Comments. This is an interesting well-written exploration of an important topic. Although identified as a topic for future research, additional consideration of the need to omit questions from the COACH subscales would be of interest.

Comment #1. References.

Of the references used 47% are prior to 2017. Inclusion of more recently published information, specifically related to hypertension would strengthen the paper.

Response #1. The references have been updated to include more recent/relevant hypertension references.

**VERSION 2 – REVIEW**

<b>REVIEWER</b>	Nanyonga , R.C Clarke International University
<b>REVIEW RETURNED</b>	22-May-2021
<b>GENERAL COMMENTS</b>	The authors addressed all concerns and comments successfully. I have no further comments at this time