Author’s response to reviews

Title: Challenges and opportunities in the continuity of care for hypertension: a mixed-methods study embedded in a primary health care intervention in Tajikistan

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Author’s response to reviews:

Thank you for the positive review of our manuscript. We have provided a point-by-point response to the reviewer comments below.

Fekadu Aga, MSc (Reviewer 1):

Overall:

1. The paper was written in good English and nice to read. But there are some important points that need clarification.
   a. Author response: Thank you for the positive and constructive feedback.

Abstract:

2. Was the objective of the study "to undertake a systematic review" or 'to identify bottleneck in service delivery for …'?
   a. Author response: Thank you for this comment. We clarified in the abstract and introduction that our objective was to systematically assess hypertension continuity of care in Tajikistan, identify challenges in diagnosis and retention, and suggest appropriate interventions.
   b. Revised text:
      i. Lines 29-32: The objective of this study was to undertake a systematic assessment of hypertension case detection and retention in care within Tajikistan’s primary health care system, and to identify challenges and appropriate solutions.
      ii. Lines 122-132: In this paper, we review the process of describing the cascade of care for hypertension and identifying potential solutions to address drop offs in care. […] Our paper builds on these analyses by drawing on the cascade of care framework and using a mixed methods approach embedded in real-world programs to understand gaps in continuity of care and propose contextually appropriate solutions. Our paper may provide useful lessons for
practitioners in similar contexts who aim to use the cascade of care to develop actionable insights for improving service delivery.

Research Design:
3. Under the 'Methods' section, the researchers should clearly describe the research design used. Did they use mixed method? What was the data source? I guess secondary data and focus group (FGD) data. How the FGD (qualitative) was analyzed? What method was used to weave together these different data sources?

a. Author response: Thank you for this comment, we agree that the methods can be better described. We use a mixed method approach by collecting and analyzing three data sources: quantitative HSIP evaluation and demographic survey data, FGD interviews with patients, providers, and health administrators (analyzed with thematic analysis to identify barriers and facilitators to hypertension care), and a scoping review to assess current evidence-based interventions for hypertension service delivery. We integrate findings from our data in the Results section where we highlight intervention types from our scoping review that are best fit for the Tajikistan context, based on our quantitative and qualitative results.

b. Revised text:

i. Lines 135-144: We use mixed methods to identify drop offs in the hypertension cascade of care and to explore potential reasons and solutions for these gaps in care. Our quantitative approach includes analyzing existing HSIP evaluation and demographic survey data to estimate retention across the care cascade. Our qualitative approach includes conducting focus group discussions with patients, providers, and health administrators and using thematic analysis to describe barriers and facilitators to hypertension care. We also conduct a scoping literature review of evidence-based approaches for improving health service delivery for hypertension and other chronic diseases. We integrate findings from this mixed methods approach to recommend potential policy solutions to improve hypertension continuity of care in Tajikistan.

Ethical consideration:
4. The researchers should inform the reader about the ethical considerations. Was the research project approved by an IRB? Were the study participants consented?

a. Author response: Thank you for highlighting the need to clarify ethical considerations. The official approval for the study protocol was provided by Ministerial Order No. 367 from the Ministry of Health and Social Protection, Republic of Tajikistan, dated February 11, 2018. All participants provided written informed consent to participate in the study. A copy of the consent form and the approval letter is available for review by the Editor of this journal. For the quantitative portion, we conducted a secondary analysis of de-identified data and thus did not require consent.

b. Revised text:

i. Lines 597-600: The official approval for the study protocol was provided by Ministerial Order No. 367 from the Ministry of Health and Social Protection, Republic of Tajikistan, dated February 11, 2018. All participants provided written informed consent to participate in the study. A copy of the consent form and the approval letter is available for review by the Editor of this journal.

ii. Lines 254-256 The purpose of the FGD was discussed, and participants provided written consent to be involved in the audio-recorded exchange.
Result section:
5. Page 19, second paragraph: What do the researchers mean by May Measurement Month? The needs description.
a. Author response: Thank you for this comment. We added information on the origin and purpose of May Measurement as a global hypertension screening campaign in which Tajikistan participates.
b. Revised text:
i. Lines 412-414: May Measurement Month is a global campaign initiated by the International Society of Hypertension that encourages blood pressure screening on and around World Hypertension Day (May 17).

Gertrude Nyaaba (Reviewer 2):

1. Dear Authors, Thank you for an insightful read on evidenced potential solutions to barriers in hypertension service delivery. It is a key relevant topic needed for improving health systems and subsequently improving health outcomes and quality of life of persons living with hypertension. My comments are very minor.
a. Author response: Thank you for your positive and constructive feedback.

2. In general, the manuscript uses a framework to addresses continuity of care yet, from the title and introduction, it suggest it addresses barriers in health service delivery. it might be more helpful to clarify this in the title and introduction.
a. Author response: Thank you for this comment. We have re-worded the title to use continuity of care and clarified our introduction’s focus on continuity of care and the cascade of care.
b. Revised text:
i. Lines 1-2 (Title): Challenges and opportunities in the continuity of care for hypertension: a mixed-methods study embedded in the Tajikistan Health Services Improvement Project
ii. Lines 122-130: In this paper, we review the process of describing the cascade of care for hypertension and identifying potential solutions to address drop offs in care. […] These studies provide useful descriptions of discontinuities in care use and correlations with patient characteristics. Our paper builds on these analyses by drawing on the cascade of care framework and using a mixed methods approach embedded in real-world programs to understand gaps in continuity of care and propose contextually appropriate solutions.

3. kindly clarify what "either" is in the introduction
a. Author response: We have clarified in the introduction that “either” refers to Khatlon or Sogd Oblasts.
b. Revised text:
i. Lines 44-46: Of the half a million people with hypertension in Khatlon and Sogd Oblasts (administrative regions), about 10 percent have been diagnosed in Khatlon and only 5 percent in Sogd.

4. on page 4, line 69, kindly provide the age range of "male and female adults."
   a. Author response: We have clarified that the age range is 18 years and above.
   b. Revised text: Lines 71-75: In a 2013 survey of male and female adults, above 18 years, in Tajikistan by the World Bank, only 10 percent of hypertension cases had been diagnosed, and 42 percent of respondents had ever had their BP measured. Furthermore, only 1.0 percent of diagnosed cases had attained BP control, indicating that their management could be improved

5. line 350, check the use of capital letters
   a. Author response: Thank you, the capitalization has been corrected.
   b. Revised text:
   i. Lines 368-371: Furthermore, current protocols have an unclear scope of work for each health care level…

6. In lines 418-424, you make the case for using lower skilled workers yet, you also indicate (and indeed literature supports) that the issues of low detection of cases could be attributed to the lack of health personnel capacity and skills to identify and manage the skills. kindly reconcile
   a. Author response: Thank you for highlighting the need to reconcile these positions. In addition to using other skill levels (such as nurses or medical students), we also recommend using easy-to-use job aids such as checklists. We clarify that if other skill levels are to be mobilized, it may be necessary to also employ job aids to ensure high quality care in hypertension diagnosis and management at various levels of training.
   b. Revised text:
   i. Lines 434-439: In combination with mobilizing lower skilled health workers for hypertension screening and care management, using simplified job aids may be necessary to promote high-quality care across all skill levels. In a multi-component hypertension intervention in Bangladesh, Pakistan, and Sri Lanka, checklists were used by community health workers, nurses, and general practitioners in screening and managing care for hypertensive individuals and resulted in substantial BP reductions.

7. A more general comment is related to sustainability. what happens when PBF is over? literature suggests programs fail after PBF ends, what are the chances of these bottlenecks not reoccurring or persisting after the program ends? would be helpful to touch on this in the discussion.
   a. Author response: Sustainability of PBF is an excellent point to consider. Our research is embedded in the HSIP program that implements and evaluates PBF at the health facility level, including hypertension-related indicators. However, our study examines the level of undiagnosed hypertension in the population, and why so many rarely go to a health facility or remain engaged. Whether PBF is adopted by the health system or not, our research illuminates the need for screening and linking patients to the health system for initial contact.
   b. Revised text:
Lines 455-465: Our study is an example of implementation research that is motivated by and embedded in larger health system programs and policies. In this case, implementing the HSIP, which targeted health facility performance at the PHC level, revealed the need to better understand the current state of hypertension care in the population. We leveraged HSIP evaluation data to illustrate the magnitude of undiagnosed hypertension and the extent to which diagnosed individuals engage in care. We add to and complement HSIP efforts, highlighting opportunities and tailored solutions (e.g. screening, task shifting, and job aids) that aim to capture and retain more hypertensive individuals in care. Independent of the health system’s long-term adoption of HSIP initiatives, our research emphasizes the need to address persistent challenges in identifying hypertensive individuals and connecting them to health services at every stage in the cascade of care.

8. lines 486 - 489, kindly provide further some details on behavioral modifications like smoking and alcohol consumption status which known self-management challenges
   a. Author response: Thank you for this comment, the authors agree with the need to discuss non-pharmacological interventions more. In our FGDs, patients discussed being advised to reduce salt intake and increase physical activity and their struggles with adhering to these recommendations. We mention these findings and discuss how future research could examine lifestyle modification as hypertension treatment.
   b. Revised text:
   i. Lines 523-530: For example, while we were able to document if any medication was prescribed, there was no data on whether lifestyle changes were recommended. Such changes to physical activity and diet, or smoking and alcohol consumption, are essential to hypertension management and are known challenges to blood pressure control. While our focus group discussions revealed that some patients were advised to reduce salt intake and increase physical activity, future research might examine the extent of (and adherence to) non-pharmacological treatment at the PHC level and explore the possibility of lifestyle modification education delivered by lower skilled workers.

9. Kindly provide the ethic approval number of the study protocol in line 555
   a. Author response: The protocol was approved by Ministerial Order as described below.
   b. Revised text: Lines 597-600: The official approval for the study protocol was provided by Ministerial Order No. 367 from the Ministry of Health and Social Protection, Republic of Tajikistan, dated February 11, 2018. All participants provided written informed consent to participate in the study. A copy of the consent form and the approval letter is available for review by the Editor of this journal.

10. kindly specify what is "reasonable" request for data in line 564
    a. Author response: We have included the specific steps required for a reader to request quantitative and qualitative data.
    b. Revised text:
    i. Lines 607-611: The datasets used and/or analyzed during the current study are available from the Ministry of Health and Social Protection on reasonable request, which includes submission of contact information, a description of the proposed analysis, and specification of data type requested to study authors. Qualitative data is not be available in full due to personally identifiable information.
11. Table 2, the solution for the 4th point excludes any proposed solution for equipment for hypertension monitoring. Any reasons why?
   a. Author response: Thank you for pointing out this omission. The solution we propose is an increase in the supply of trained and equipped health workers.
   b. Revised text:
   i. Table 2, Line 750: Ensure the supply of trained and equipped health workers.