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**

<table>
<thead>
<tr>
<th>TITLE (PROVISIONAL)</th>
<th>Experiences with remote interpreting tools in primary care settings: a qualitative evaluation of the implementation and usage of remote interpreting tools during a feasibility trial in Germany</th>
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<tr>
<td>AUTHORS</td>
<td>Pruskil, Susanne; Fiedler, Jonas; Pohontsch, Nadine; Scherer, Martin</td>
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**VERSION 1 – REVIEW**

<table>
<thead>
<tr>
<th>REVIEWER</th>
<th>Gretchen Roman</th>
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<tr>
<td>UNIVERSITY</td>
<td>University of Rochester, Department of Family Medicine Research</td>
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<td>REVIEW RETURNED</td>
<td>20-Jun-2023</td>
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**GENERAL COMMENTS**

<table>
<thead>
<tr>
<th>BMJ Open review for:</th>
<th>Experiences with remote interpreting tools in primary care settings: Qualitative evaluation of a feasibility trial in Germany</th>
</tr>
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<tr>
<td>General summary</td>
<td>Thank you for the opportunity to read this manuscript. This reviewer appreciates these authors work on this important topic, as well as their previous work on the implementation of both video (VR) and telephone remote (TR) interpretation in refugee accommodations (Pruskil 2018). This manuscript builds on a previously published manuscript (Fiedler et al. 2022) from the same study in BMC Health Services Research, which used a three-pronged exploratory pilot trial comparing VR and TR interpretation with a control group. These previous results involved 13 different medical practices across general practice, obstetrics and gynecology, and pediatrics (10 intervention and 3 control practices) and 127 language discordant patients (87 intervention and 40 control patients) and assessed the quality of communication and the enablement of patient-centered medicine of all three study groups. Patients completed translated versions of the Patient Enablement Index (PEI), Participative Decision-Making Questionnaire (PEF-FB-9), and Perceived Quality of Communication (PQC) and providers at the respective practices completed the PQC. As well, both patients and providers completed a questionnaire on the Acceptance of the Interpreting Tools. This current paper presents the results of the focus groups that were additionally conducted at the end of the six-month data collection on implementation feasibility.</td>
</tr>
<tr>
<td>Abstract</td>
<td>The structured abstract is clear. This reviewer doesn’t recommend citations in the Abstract, so the authors don’t have to state, “according to Mayring.” Simply state, “…using the structured qualitative content analysis.”</td>
</tr>
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This reviewer is not sure that the results of this research are in...
Support of the last statement of the Conclusion, “Policy makers should consider providing adequate interpreting services for those who need it.” Not sure what is meant by adequate. If this reviewer were a policy maker, she would feel confirmed from this work that VR and TR interpretation are better than no interpretation tool but is still left wondering why professional remote interpretation is better than professional in-person interpretation.

Strengths and limitations
The authors identify the open exploration of new technological solutions (the authors interchangeably use solution and tool) for accessible provider-patient communication in primary care settings as a strength. The small sample of providers (n=9), selection bias for study participation, and limited generalizability of the results were shared as limitations.

This reviewer agrees with the authors recognition that the participants were only exposed to one remote interpretation modality as a major limitation. Unfortunately, this approach did not allow the providers to compare available remote modalities. The Abstract Conclusion indicates that differences between the interpretation modalities were identified and suggestions for improvement were shared, however, differences between VR and TR were minor. Some more expansion on this limitation is warranted. This study only reported on the results of whether providers have access or do not have access to VR or TR interpretation and not about the best form of interpretation, as participants were not exposed to professional in-person interpretation. Obviously, the authors could qualify this by noting the likely shortage of professional in-person interpreters and that VR and TR are a nice alternative when in-person services are not available or safe.

Another limitation that should be added is that this report only conveys the perspectives of the language concordant individuals (physicians and physician assistants or nurses?) involved in the focus groups and not the perspective of the language discordant patients who were also accessing the interpreting services. From the other publication that resulted from this work (Fiedler et al. 2022), this reviewer is aware that two interviews with language discordant patients were conducted early in the conceptual design of the study and that questionnaires were gathered from patients to ascertain their acceptance of the interpreting tools, perceived quality of communication, and whether the tested interpretation tools enabled patient-centered medicine. Should the qualitative component of this study also have addressed the feasibility of implementation from the patients’ perspectives? Because it did not, do the authors see this as an additional limitation?

Introduction
The Introduction points out the juxtaposition for German physicians and the growing number of patients with migratory backgrounds. With Germany being the second most frequented destination in the increased present-day global migration and the German healthcare system’s paradigm shift toward patient-centered medicine, accessibility has become even more critical for ensuring patient understanding of medical procedures.

Line 58 needs punctuation (no period).

While the incorporation of professional interpreting for language...
discordant patients was deemed to improve patient satisfaction and safety, as well as provide more legal protection for physicians, the Introduction explains why the evidence demonstrates that informal interpreters are more frequently used than professional but doesn’t delve into whether the systematic review explored the difference between professional remote interpretation versus professional in person interpretation. The authors just wrote about differences between informal and professional but not the different modalities available for professional interpretation. Please consider expanding on the different modalities available for professional interpretation.

Because this reviewer is not familiar with the legislation in Germany, she appreciated that it was explained that while physicians are liable to arrange interpreting, the patient is liable for the cost unless the patient is a refugee or a welfare participant.

Can references in series be listed as (16-19) instead of individually (same comment in the Discussion)?

The summary paragraph of the Introduction is nicely laid out and the study’s goal is clearly stated.

Method
It wasn’t until this point in the paper that this reviewer was made aware of the other publication (Fiedler et al. 2022) from this larger study. Reference to this previous work earlier in the manuscript would be helpful for the reader, perhaps in the summary paragraph of the Introduction (connected to the study’s goal), as well as in the Abstract? …about how this paper builds on previous work that shared acceptability of interpreting tools among providers and patients by reporting qualitative results on the feasibility from the provider perspective? This reviewer appreciates the Authors’ note at the end of the manuscript and believes it should remain, in addition to addressing the above comments.

Figure 1 is lovely.

In the description of Phase 1, this reviewer suggests using interpretation tool (like in Line 188) for consistency versus translation tool.

Although the paper is focusing on Sequence 3: Qualitative Evaluation, this reviewer is looking for a little bit more information in Phase 2: Intervention. The authors refer to Fiedler et al. (2022), however more specifics (three-arm exploratory pilot trial, specific measures, who filled out what; specifically, the involvement of the language discordant patients), like how this reviewer explained in the General Summary section of this review, would be extremely helpful.

Minor edits: In the description of Phase 2, “…during which data was gathered” should be “…during which data were gathered.” This reviewer believes the authors meant to write Phase 3 and not Sequence 3 in line 117. Lines 124-125, numbers less than 10 should be written out; particularly, when beginning a sentence. “Nine healthcare professionals were included from eight of the 10…” Line 141: data are plural. “Data was analysed” should be “Data were analysed…”

Because the authors mention that no participants from the obstetrics
and gynecological practices could participate in the focus groups, then it should be specified for those who did participate. For example, “Three physicians from pediatrics and two physician assistants from general practice took part in the TR focus group.” This comment also substantiates the need for more expansion in Phase 2: Intervention phase of the Methods.

In Lines 125-126, it states that TR and VR focus groups were conducted. In Lines 130 and 139-140, the authors seem to use focus groups and interviews interchangeably. However, it seems that only focus groups were conducted. Please address to minimize confusion for the reader. In Line 139, how did JF conduct interviews when only focus groups were conducted and moderated by SP and JF?

In describing Researcher Characteristics and referencing the researcher’s gender, “SP, (♀) GP register…” should read “SP (♀), GP register…” The same applies for NJP in Line 145. “NJP (♀), post-doctorate researcher and trained…” What is GP? This acronym was not established. Also, go with either postdoctoral or post-doctorate when referencing the researcher, instead of both. It will make reading more streamlined. This reviewer is not sure why NJP’s comprehensive experience in conducting semi-structured qualitative interviews and focus groups is relevant when she did not conduct either. If she assisted with the data analysis (which this reviewer confirmed in the Authors’ contributions section), then say that, as well as include her comprehensive experience in qualitative data analysis in the field of primary care research. Otherwise, keep the explanation of NJP as simple as MS. Only state what is pertinent to the present study.

Ahh… now this reviewer sees in the Focus group guides section why interviews are continually being referenced throughout the methodology. The authors are talking about the preliminary exploratory interviews in Phase 1, however this reviewer thought this paper was only presenting on Phase 3? Is this paper presenting on all of the qualitative data gathered throughout the entire study or just the qualitative data gathered from the focus groups in Phase 3? Please better streamline the entire Methods section so this is less confusing. If this is a paper about Phase 3, then remove all information about the preliminary interviews. If this is a paper about all of the qualitative data gathered throughout the entire study, then the emphasis on how the interviews in Phase 1 shaped Phase 2 and the implementation feasibility in Phase 3 needs to be MUCH clearer. Because the preliminary interviews in Phase 1 seemed to help the authors to adapt the focus group guides to the needs of the respective clinical settings, it seems the authors should present qualitative data from both Phases 1 and 3 in this paper.

Line 152: Latter means nearer to the end of something. This reviewer thinks the authors mean previous or prior, if they are referring to the preliminary exploratory interviews, yes?

Lines 156-160 are redundant, stating the two parts of the focus group guides twice. Please consolidate. In trying to understand the authors description of the two parts, when asking about the status quo, do the authors mean the current practice when presented with a language discordant patient? Otherwise, instead of stating status quo, this might simply be better stated as providers communication experiences with language discordant patients. Also, it is not clear if...
this was in general, previous to implementation of the interpretation tool, or after.

The authors reference that “The detailed interview guide can be found in the appendix.” In referencing the appendix, there is no interview guide from the preliminary interviews in Phase 1, so this reviewer presumes what is presented is actually the focus group guide. Having referenced the other publication that resulted from this work (Fiedler et al. 2022), this reviewer is aware of a VR, TR, and control group. If only intervention group data is presented in this paper, then do not include the parts of the guide referencing the control group. If all three arms are presented here, then it’s okay to leave as is. Please just map the text more clearly to the focus group guide in the appendix. Also, if the authors decide to include the preliminary interviews from Phase 1 into this paper, then incorporate the actual interview guide into the appendix, as well.

Depending on what the authors decide to do regarding presentation of the qualitative results, the Data analysis section needs to convey appropriately. As of now, the Data analysis section does not describe the approach for analyzing the preliminary interviews. It only describes the analysis of the focus group data and mentions how “the interview guide” was used. When referencing the transcripts, be specific about which ones, the interview or focus group transcripts?

Line 171 needs punctuation (no period).

Results
Participants
Lines 183-185, numbers less than 10 should be written out. “Four of the nine participants were female (44.4%), seven were physicians…”; particularly, when beginning a sentence.

Please make “…two thirds were aged…” into a separate sentence.

If the authors decide to include data from the preliminary interviews, then information on those participants will need to be included here, as well.

Also, in the methodology, the authors mention that “the interviews with the participants in the control group focused on the status quo” (better stated as current practice). If presenting on these data, then control group participants need to be mentioned here, as well.

Here the authors state the physicians and nurses participated, whereas in the Abstract it is stated that physicians and physician assistants participated. Please remedy.

Main and subcategories
Main what? Main categories and subcategories identified in the focus group data? The authors may want to tie the introduction of this section by explicitly reminding the reader about part one and two of the focus group guide. “Table 3 gives an overview of these main categories and associated subcategories” might better read “Table 3 gives an overview of the main categories and associated subcategories found when coding the focus group data.”

What does the “/” mean in Part 1, under subcategories for “importance of communication for diagnostic and therapeutic
processes” in Table 3? Add a note?

This reviewer suggests incorporating the exemplary quotes, currently presented in the body of the text, by adding another column into Table 3. Then, the Results can be shortened and paraphrased. It’s okay to repeat a few case-in-point quotes in the text from the table, but just for emphasis.

Discussion
Can the Discussion begin with a brief summary paragraph restating the goal of the study and a succinct synopsis of the study’s findings (likely blending into the present first paragraph of the Discussion)?

This reviewer now appreciates that questions from the focus group guide about the current practice of communication were intended to discuss prior to the implementation of the interpretation tool, not in general or afterward. Please make this clearer in the methodology.

No need to restate the methodology in the Discussion (e.g., “Throughout the second part of the focus groups the evaluation of the usage and implementation of the interpreter tools was discussed”).

The authors again reference the control group in paragraph 2 of the Discussion, so those participants and qualitative data need to be included in this paper. From this reviewer’s understanding, those data are not previously published anywhere for the authors to cite.

Line 355: “…gained broad inside…” Do you mean “…gained broad insight…”?

Instead of always stating, “These results are published elsewhere (28),” it’s okay to expand a little to save the reader from having to cross-reference; particularly, if you are going to touch on the relevance of something in particular from the previously published manuscript to this paper (like you do here in the Discussion).

This reviewer suggests moving the limitations to the end of the Discussion.

In Line 369, please also address the limitation that the participants did not have the opportunity to compare VR, TR or no interpretation tool with professional in person interpreting, as mentioned in the comments about the Strengths and limitations of this study section.

Can references in series be listed as (37-40) instead of individually (same comment in the Introduction)? Please do so throughout the paper.

Line 379: “Bilingual medical staff was…” should be “Bilingual medical staff were…”

Thank you for raising awareness to the evidence as to why the use of self-declared bilingual medical staff and patient relatives are not the best options for providing professional medical interpretation. Also, thank you for raising awareness to the adverse effects of using an informal interpreter or no interpreter as an incentive to why medical providers need to make the time to become familiar with the available interpretation tools.
Line 392: what is meant by “benefit of absence”? Needs a little more explanation. To help protect the patient’s anonymity? Because of actual space constraints?

Line 400: Presentation of previous literature should all be past tense. “Bischoff and Hudelson (54) (p. 18) state…” should be “Bischoff and Hudelson (54) (p. 18) stated…”

Lines 402-403: “This argumentation is in line with…” should be “This argument is in line with…”

The comparison of the two interpretation tools (paragraph 4 in the Discussion) should somehow be blended in with the limitations.

Conclusion
Possibly, consider moving the first sentence of the Conclusion to the first sentence of a brief summary paragraph at the beginning of the Discussion.

Please also see this reviewer’s comment about the Conclusions in the Abstract and address here, as well.

Funding
This reviewer is appreciating that the study was funded by an industry provider of interpreting services. Based on such, do the authors feel they need to assure the readers that the results are presented without bias? If so, how can this be addressed in the limitations? Please assure the reader that this potential bias was not the rationale for delivering a three-arm exploratory pilot trial instead of a four-arm trial (including a professional in person interpretation arm).

REVIEWER
Belinda Hengel
UNSW Medicine Kirby Institute

REVIEW RETURNED 10-Jul-2023

GENERAL COMMENTS
Thank you for your time preparing this manuscript.
Overall comments:
I think the current manuscript could be improved and add more to the literature than is currently presented. The current manuscript focuses a lot on why interpreting services are important, which I feel is already proven in the literature. I feel it would be more beneficial to focus more on the aspects of each service within primary care. Given each service did not experience both technologies, I would prefer the comparisons between each are not included.
There is also repetition throughout.

Methods:
A control group is mentioned throughout the manuscript, but this is not described in the methods.
There is mention of both focus groups and interviews, which is unclear.
A query about the Project leader conducting the focus groups and if this would create a bias in the responses from participants, if so please include as a limitation.

REVIEWER
Antje Lindenmeyer
University of Birmingham

REVIEW RETURNED 17-Jul-2023
This is an interesting article with clear practical value and application as remote professional translation will increasingly be used in primary care. I would however recommend some changes and clarifications to improve the article (below):

**Abstract:** is clear and clearly reports the main points set out in the article

**Introduction:** It would be nice to have more focus on the situation in Germany – the authors introduce the international literature where the situation is quite different from Germany e.g. in the United Kingdom phone translation has been routinely used in primary care for a while. Interesting to see that there is a tension in the legal situation where the practice needs to arrange translation which should be paid by the patient – how is this managed? What happens if the patient can’t or won’t pay? Does this add an incentive for the patient to say that their German is adequate? How does the GP decide that the patient is ‘language discordant’? This term also needs explaining as there are different definitions being used.

Also, as remote interpretation was used in Hamburg for asylum seekers living in initial accommodation, who was this funded by? Is the model used for this study the same or different?

**Methods:** At this point (where you describe the trial) it would also be nice to have a description of the interpretation system as this comes out piecemeal in the findings section. E.G. for the telephone solution, does the GP ring a ‘language line’ and can this be done immediately or do they need to make a special appointment? For the video solution, how is the interpretation initiated? Is specific hardware needed and how is the image shared between doctor and patient?

It would also be good to mention how the company funding this research was involved – did they provide services for free? Did they have any input in the conduct of the study?

**PPI:** It looks as if there was some involvement of patients in participating practices as they were probably not the same patients that completed the questionnaires – I would describe this involvement in the PPI section

**Findings:** The categories look like deductive, not inductive categories as described in the section on data analysis, with the exception of the ‘status quo’ workarounds which clearly come from the participants. So what did the inductive categories look like? The section on ‘previous solutions’ should probably have more materials especially as it is a main categories – there is a mix of points related to situations when they are inappropriate (obtaining consent, discussing complex issues) and descriptions of what types of solutions are inappropriate and why e.g. using a member of staff to translate who may know the patient socially). These two lines of argument could be further developed e.g. when is using e.g. English as a lingua franca appropriate or not?

Particular advantages or disadvantages could be signposted more clearly e.g. by subheadings – ‘advantages’ is too broad a category and this is where more inductive subcategories could come in. The section on disadvantages is also missing a section heading.

**Discussion:** This is overall clear but could be tightened up a little.
Also, as patient centred care is very prominent in the introduction, it could be picked up here as well. More detail on the potential for large-scale provision of the interpretation tools would also be welcome (who would organise this? Who would pay?)

Presentation: There are some minor errors and sometimes awkward phrasing – it would be good to have an English native speaker, or someone who works in English speaking academia, to give feedback (and I say this as a German native speaker myself)!

VERSIO N 1 – AUTHOR RESPONSE

Reviewer 1
This reviewer’s main concern with the manuscript in its current form is that the previously published manuscript (Fiedler et al. 2022) from the same study was not mentioned until the Methods. Somewhere in the Abstract, as well as in the summary paragraph of the Introduction when conveying the study’s goal, reference to this previous publication would be extremely helpful for the reader. Also, more expansion on this initial publication’s methodology and discussion of its findings in the current paper, rather than just indicating that the reader should cross-reference the citation, would be helpful.

Response: We have added a short section on the first publication in the abstract as well as at the end of the introduction. We hope that this will suffice as we believe that any further elaboration on this paper would take up too much space. Yet, if the reviewer considers this information crucial to this publication, we can add expand on it further.

This reviewer’s other main concern is confusion with how the Methods convey that interviews and focus groups were conducted, whereas the information in the Abstract and Introduction states that the goal of this paper was to present the implementation feasibility findings from the focus groups conducted after the 6-month intervention period. Mention of the preliminary interviews from Phase 1 and qualitative data from control group participants in the Methods is confusing. The authors need to decide if they are only presenting on the qualitative findings from the focus groups in phase 3 or if they are presenting on all of the qualitative data gathered throughout the entire study.

Response: See respective paragraph in the beginning of this letter.

BMJ Open review for:
Experiences with remote interpreting tools in primary care settings: Qualitative evaluation of a feasibility trial in Germany
General summary
Thank you for the opportunity to read this manuscript. This reviewer appreciates these authors work on this important topic, as well as their previous work on the implementation of both video (VR) and telephone remote (TR) interpretation in refugee accommodations (Pruskil 2018). This manuscript builds on a previously published manuscript (Fiedler et al. 2022) from the same study in BMC Health Services Research, which used a three-pronged exploratory pilot trial comparing VR and TR interpretation with a control group. These previous results involved 13 different medical practices across general practice, obstetrics and gynecology, and pediatrics (10 intervention and 3 control practices) and 127 language discordant patients (87 intervention and 40 control patients) and assessed the quality of communication and the enablement of patient-centered medicine of all three study groups. Patients completed translated versions of the Patient Enablement Index (PEI), Participative Decision-Making Questionnaire (PEF-FB-9), and Perceived Quality of Communication (PQC) and providers at the respective practices completed the PQC. As well, both patients and providers completed a questionnaire on the Acceptance of the Interpreting Tools. This current paper presents the results of the focus groups that were additionally conducted at the end of the six-month data collection on implementation feasibility.
Abstract
The structured abstract is clear. This reviewer doesn’t recommend citations in the Abstract, so the authors don’t have to state, “according to Mayring.” Simply state, “…using the structured qualitative content analysis.”

Response: We deleted the citation from the abstract.

This reviewer is not sure that the results of this research are in support of the last statement of the Conclusion, “Policy makers should consider providing adequate interpreting services for those who need it.” Not sure what is meant by adequate. If this reviewer were a policy maker, she would feel confirmed from this work that VR and TR interpretation are better than no interpretation tool but is still left wondering why professional remote interpretation is better than professional in person interpretation.

Response: We rephrased the sentence to pick up and clarify what the authors intended by adequate interpreting services. Further we have also rephrased the respective section of the conclusion in this publication.

Strengths and limitations
The authors identify the open exploration of new technological solutions (the authors interchangeably use solution and tool) for accessible provider-patient communication in primary care settings as a strength. The small sample of providers (n=9), selection bias for study participation, and limited generalizability of the results were shared as limitations.

This reviewer agrees with the authors recognition that the participants were only exposed to one remote interpretation modality as a major limitation. Unfortunately, this approach did not allow the providers to compare available remote modalities. The Abstract Conclusion indicates that differences between the interpretation modalities were identified and suggestions for improvement were shared, however, differences between VR and TR were minor. Some more expansion on this limitation is warranted. This study only reported on the results of whether providers have access or do not have access to VR or TR interpretation and not about the best form of interpretation, as participants were not exposed to professional in person interpretation. Obviously, the authors could qualify this by noting the likely shortage of professional in person interpreters and that VR and TR are a nice alternative when in person services are not available or safe.

Response: We rephrased this section. We have addressed the issue of a comparison to onsite interpreting in the beginning of this letter. Another limitation that should be added is that this report only conveys the perspectives of the language concordant individuals (physicians and physician assistants or nurses?) involved in the focus groups and not the perspective of the language discordant patients who were also accessing the interpreting services. From the other publication that resulted from this work (Fiedler et al. 2022), this reviewer is aware that two interviews with language discordant patients were conducted early in the conceptual design of the study and that questionnaires were gathered from patients to ascertain their acceptance of the interpreting tools, perceived quality of communication, and weather the tested interpretation tools enabled patient-centered medicine.

Should the qualitative component of this study also have addressed the feasibility of implementation from the patients’ perspectives? Because it did not, do the authors see this as an additional limitation?

Response: We really appreciate this comment and agree that the reviewer has raised an important point here. Unfortunately, our budget restrictions did not allow us to include these important perspectives. However, we have added this limitation to the strengths and limitations section.
Introduction

The Introduction points out the juxtaposition for German physicians and the growing number of patients with migratory backgrounds. With Germany being the second most frequented destination in the increased present-day global migration and the German healthcare system's paradigm shift toward patient-centered medicine, accessibility has become even more critical for ensuring patient understanding of medical procedures.

Line 58 needs punctuation (no period).

Response: Thank you. We corrected this.

While the incorporation of professional interpreting for language discordant patients was deemed to improve patient satisfaction and safety, as well as provide more legal protection for physicians, the Introduction explains why the evidence demonstrates that informal interpreters are more frequently used than professional but doesn’t delve into whether the systematic review explored the difference between professional remote interpretation versus professional in person interpretation. The authors just wrote about differences between informal and professional but not the different modalities available for professional interpretation. Please consider expanding on the different modalities available for professional interpretation.

Response: We have added a reference addressing this issue (lines 93-94).

Because this reviewer is not familiar with the legislation in Germany, she appreciated that it was explained that while physicians are liable to arrange interpreting, the patient is liable for the cost unless the patient is a refugee or a welfare participant.

Can references in series be listed as (16-19) instead of individually (same comment in the Discussion)?

Response: We changed the referencing accordingly.

The summary paragraph of the Introduction is nicely laid out and the study’s goal is clearly stated.

Method

It wasn’t until this point in the paper that this reviewer was made aware of the other publication (Fiedler et al. 2022) from this larger study. Reference to this previous work earlier in the manuscript would be helpful for the reader, perhaps in the summary paragraph of the Introduction (connected to the study’s goal), as well as in the Abstract? … about how this paper builds on previous work that shared acceptability of interpreting tools among providers and patients by reporting qualitative results on the feasibility from the provider perspective? This reviewer appreciates the Authors’ note at the end of the manuscript and believes it should remain, in addition to addressing the above comments.

Response: See earlier remark on this topic. We have added this information to the abstract as well as at the end of the introduction.

Figure 1 is lovely.

In the description of Phase 1, this reviewer suggests using interpretation tool (like in Line 188) for consistency versus translation tool.

Response: We checked the whole manuscript and modified to interpreting tool.
Although the paper is focusing on Sequence 3: Qualitative Evaluation, this reviewer is looking for a little bit more information in Phase 2: Intervention. The authors refer to Fiedler et al. (2022), however more specifics (three-arm exploratory pilot trial, specific measures, who filled out what; specifically, the involvement of the language discordant patients), like how this reviewer explained in the General Summary section of this review, would be extremely helpful.

Response: See earlier remark on this topic.

Minor edits: In the description of Phase 2, “…during which data was gathered” should be “…during which data were gathered.” This reviewer believes the authors meant to write Phase 3 and not Sequence 3 in line 117. Lines 124-125, numbers less than 10 should be written out; particularly, when beginning a sentence. “Nine healthcare professionals were included from eight of the 10…” Line 141: data are plural. “Data was analysed” should be “Data were analysed…”

Response: Thank you. We corrected the section mentioned above.

Because the authors mention that no participants from the obstetrics and gynecological practices could participate in the focus groups, then it should be specified for those who did participate. For example, “Three physicians from pediatrics and two physician assistants from general practice took part in the TR focus group.” This comment also substantiates the need for more expansion in Phase 2: Intervention phase of the Methods.

Response: Thank you. We have adapted the part accordingly.

In Lines 125-126, it states that TR and VR focus groups were conducted. In Lines 130 and 139-140, the authors seem to use focus groups and interviews interchangeably. However, it seems that only focus groups were conducted. Please address to minimize confusion for the reader. In Line 139, how did JF conduct interviews when only focus groups were conducted and moderated by SP and JF?

Response: See respective paragraph in the beginning of this letter.

In describing Researcher Characteristics and referencing the researcher's gender, “SP, (♀) GP register…” should read “SP (♀), GP register…” The same applies for NJP in Line 145. “NJP (♀), post-doctorate researcher and trained…” What is GP? This acronym was not established. Also, go with either postdoctoral or post-doctorate when referencing the researcher, instead of both. It will make reading more streamlined. This reviewer is not sure why NJP’s comprehensive experience in conducting semi-structured qualitative interviews and focus groups is relevant when she did not conduct either. If she assisted with the data analysis (which this reviewer confirmed in the Authors' contributions section), then say that, as well as include her comprehensive experience in qualitative data analysis in the field of primary care research. Otherwise, keep the explanation of NJP as simple as MS. Only state what is pertinent to the present study.

Response: Thank you. We corrected this section accordingly

Ahh... now this reviewer sees in the Focus group guides section why interviews are continually being referenced throughout the methodology. The authors are talking about the preliminary exploratory interviews in Phase 1, however this reviewer thought this paper was only presenting on Phase 3? Is this paper presenting on all of the qualitative data gathered throughout the entire study or just the qualitative data gathered from the focus groups in Phase 3? Please better streamline the entire Methods section so this is less confusing. If this is a paper about Phase 3, then remove all information about the preliminary interviews. If this is a paper about all of the qualitative data gathered throughout the entire study, then the emphasis on how the interviews in Phase 1 shaped Phase 2 and the implementation feasibility in Phase 3 needs to be MUCH clearer. Because the preliminary interviews
in Phase 1 seemed to help the authors to adapt the focus group guides to the needs of the respective clinical settings, it seems the authors should present qualitative data from both Phases 1 and 3 in this paper.

Response: See respective paragraph in the beginning of this letter.

Line 152: Latter means nearer to the end of something. This reviewer thinks the authors mean previous or prior, if they are referring to the preliminary exploratory interviews, yes? Response: We have updated this sentence to make it clearer.

Lines 156-160 are redundant, stating the two parts of the focus group guides twice. Please consolidate. In trying to understand the authors description of the two parts, when asking about the status quo, do the authors mean the current practice when presented with a language discordant patient? Otherwise, instead of stating status quo, this might simply be better stated as providers communication experiences with language discordant patients. Also, it is not clear if this was in general, previous to implementation of the interpretation tool, or after.

Response: We have cleared the redundance and changed “status quo” to “current practice”.

The authors reference that “The detailed interview guide can be found in the appendix.” In referencing the appendix, there is no interview guide from the preliminary interviews in Phase 1, so this reviewer presumes what is presented is actually the focus group guide. Having referenced the other publication that resulted from this work (Fiedler et al. 2022), this reviewer is aware of a VR, TR, and control group. If only intervention group data is presented in this paper, then do not include the parts of the guide referencing the control group. If all three arms are presented here, then it’s okay to leave as is. Please just map the text more clearly to the focus group guide in the appendix. Also, if the authors decide to include the preliminary interviews from Phase 1 into this paper, then incorporate the actual interview guide into the appendix, as well.

Response: See respective paragraph in the beginning of this letter. We have deleted all confusing references to “interviews”.

Depending on what the authors decide to do regarding presentation of the qualitative results, the Data analysis section needs to convey appropriately. As of now, the Data analysis section does not describe the approach for analyzing the preliminary interviews. It only describes the analysis of the focus group data and mentions how “the interview guide” was used. When referencing the transcripts, be specific about which ones, the interview or focus group transcripts? Line 171 needs punctuation (no period).

Response: See respective paragraph in the beginning of this letter. We have deleted all confusing references to “interviews”.

Results
Participants
Lines 183-185, numbers less than 10 should be written out. “Four of the nine participants were female (44.4%), seven were physicians…”; particularly, when beginning a sentence.

Response: Thank you. We wrote the numbers out.

Please make “…two thirds were aged…” into a separate sentence.

Response: Thank you. We changed this accordingly.
If the authors decide to include data from the preliminary interviews, then information on those participants will need to be included here, as well.

Response: See respective paragraph in the beginning of this letter. We have deleted all confusing references to “interviews”.

Also, in the methodology, the authors mention that “the interviews with the participants in the control group focused on the status quo” (better stated as current practice). If presenting on these data, then control group participants need to be mentioned here, as well.

Response: See respective paragraph in the beginning of this letter. We have deleted all confusing references to “interviews”.

Here the authors state the physicians and nurses participated, whereas in the Abstract it is stated that physicians and physician assistants participated. Please remedy.

Response: This inconsistency stems from an uncertainty regarding the translation of the German term. We have now used physician assistant consistently throughout the paper as this is the better fit regarding their training and competencies.

Main and subcategories
Main what? Main categories and subcategories identified in the focus group data? The authors may want to tie the introduction of this section by explicitly reminding the reader about part one and two of the focus group guide. “Table 3 gives an overview of these main categories and associated subcategories” might better read “Table 3 gives an overview of the main categories and associated subcategories found when coding the focus group data.”

Response: We have revised the section accordingly.

What does the “/” mean in Part 1, under subcategories for “importance of communication for diagnostic and therapeutic processes” in Table 3? Add a note?

Response: It means that for this main category no subcategories have been identified. We have stated so accordingly in table 3.

This reviewer suggests incorporating the exemplary quotes, currently presented in the body of the text, by adding another column into Table 3. Then, the Results can be shortened and paraphrased. It’s okay to repeat a few case-in-point quotes in the text from the table, but just for emphasis.

Response: We have decided to include the quotes directly into the text rather than including them in table 3. We feel that including are too many quotes in the table would come at the cost of readability. Furthermore, we thought the text would be more accessible if the relevant quote can be found within the text. One of our co-authors is an experienced qualitative researcher and has repeatedly suggested to keep it this way.

Discussion
Can the Discussion begin with a brief summary paragraph restating the goal of the study and a succinct synopsis of the study’s findings (likely blending into the present first paragraph of the Discussion)?
Response: We used the first sentence of the conclusion as was suggested later. The succinct summary then follows in the next paragraph. To avoid confusion, we blended both paragraphs into one.

This reviewer now appreciates that questions from the focus group guide about the current practice of communication were intended to discuss prior to the implementation of the interpretation tool, not in general or afterward. Please make this clearer in the methodology.

Response: Thank you. We updated the methodology accordingly.

No need to restate the methodology in the Discussion (e.g., “Throughout the second part of the focus groups the evaluation of the usage and implementation of the interpreter tools was discussed”).

Response: We have deleted the respective sentence.

The authors again reference the control group in paragraph 2 of the Discussion, so those participants and qualitative data need to be included in this paper. From this reviewer’s understanding, those data are not previously published anywhere for the authors to cite.

Response: This sentence refers to the larger study in which both interpreting modalities were compared to each other, as well as to a control group quantitatively. In order to make this clearer, we deleted the control group from this sentence as it was not part of this qualitative evaluation.

Line 355: “…gained broad inside…” Do you mean “…gained broad insight…”?

Response: Thank you. We corrected it.

Instead of always stating, “These results are published elsewhere (28)”, it’s okay to expand a little to save the reader from having to cross-reference; particularly, if you are going to touch on the relevance of something in particular from the previously published manuscript to this paper (like you do here in the Discussion).

Response: We have provided a short part on the first publication in the abstract as well as at the end of the introduction. We hope that this will suffices as we believe that any further elaboration on this paper would take up too much space. However, if the reviewer considers this information crucial for this publication, we can expand on this further.

This reviewer suggests moving the limitations to the end of the Discussion.

Response: Thank you. We did so accordingly.

In Line 369, please also address the limitation that the participants did not have the opportunity to compare VR, TR or no interpretation tool with professional in person interpreting, as mentioned in the comments about the Strengths and limitations of this study section.

Response: To our experience, the high costs and general unavailability of in-person interpreters constitute the main reasons why this interpreting modality is not already widely used in primary care settings. This is why, we intended to investigate new solutions to the language barrier many healthcare providers face, which is why we focused on the feasibility of implementing and using remote interpreting modalities.
Can references in series be listed as (37-40) instead of individually (same comment in the Introduction)? Please do so throughout the paper.

Response: We have updated the references accordingly.

Line 379: “Bilingual medical staff was…” should be “Bilingual medical staff were…”

Response: We corrected this accordingly.

Thank you for raising awareness to the evidence as to why the use of self-declared bilingual medical staff and patient relatives are not the best options for providing professional medical interpretation. Also, thank you for raising awareness to the adverse effects of using an informal interpreter or no interpreter as an incentive to why medical providers need to make the time to become familiar with the available interpretation tools.

Line 392: what is meant by “benefit of absence”? Needs a little more explanation. To help protect the patient’s anonymity? Because of actual space constraints?

Response: We hope that the updated explanation is sufficient.

Line 400: Presentation of previous literature should all be past tense. “Bischoff and Hudelson (54) (p. 18) state…” should be “Bischoff and Hudelson (54) (p. 18) stated…”

Response: Thank you. We corrected it.

Lines 402-403: “This argumentation is in line with…” should be “This argument is in line with…”

Response: Thank you. We corrected it.

The comparison of the two interpretation tools (paragraph 4 in the Discussion) should somehow be blended in with the limitations.

Response: Thank you for this comment. We merged the comparison with the limitations sections, which could previously be found at the end of the discussion section.

Conclusion
Possibly, consider moving the first sentence of the Conclusion to the first sentence of a brief summary paragraph at the beginning of the Discussion.

Response: We did as you suggested.

Please also see this reviewer’s comment about the Conclusions in the Abstract and address here, as well.

Response: Thank you. We did accordingly.

Funding
This reviewer is appreciating that the study was funded by an industry provider of interpreting services. Based on such, do the authors feel they need to assure the readers that the results are presented without bias? If so, how can this be addressed in the limitations? Please assure the reader that this potential bias was not the rationale for delivering a three-arm exploratory pilot trial instead of a four-arm trial (including a professional in person interpretation arm).
Response: The interpreting service was provided by the company SAVD. The financing of the interpreting costs was part of a contract with the city of Hamburg for the offer of refugee care. We added this information within the funding section. Therefore, we do not feel that this is a risk for bias.

Reviewer 2:
Dr. Belinda Hengel, UNSW Medicine Kirby Institute

Comments to the Author:
Thank you for your time preparing this manuscript.
Overall comments:
I think the current manuscript could be improved and add more to the literature than is currently presented. The current manuscript focuses a lot on why interpreting services are important, which I feel is already proven in the literature. I feel it would be more beneficial to focus more on the aspects of each service within primary care.

Response: Thank you for this comment. We stated the importance of readily available interpreting solutions, especially in primary health care settings, in the introduction. We have now updated the focus group guides section accordingly and made this clear in the discussion before we elaborate on the insight that remote interpreting can provide an adequate solution to this.

Given each service did not experience both technologies, I would prefer the comparisons between each are not included.

Response: Thank you for this comment. Throughout the focus groups we received a lot of feedback for both interpreting modalities. This included positive feedback as well as criticism. We gathered this feedback and compared it to existing evaluations of both interpreting modalities in literature, to provide the reader with a good overview of the advantages and disadvantages of both tools. So, this section should be read as an evaluation of the tools’ advantages and disadvantages rather than a direct comparison of both tools. We have updated the manuscript at several points to make this clearer. We hope this addresses your concern.

There is also repetition throughout.

Response: Thank you for this advice. We have cut some repetitions.

Methods:
A control group is mentioned throughout the manuscript, but this is not described in the methods.

Response: In the larger study which was also cited there was a control group for the quantitative part. We hope to have clarified any misunderstanding throughout the text. There is mention of both focus groups and interviews, which is unclear.
Response: See respective paragraph in the beginning of this letter. We have deleted all confusing references to “interviews”.

A query about the Project leader conducting the focus groups and if this would create a bias in the responses from participants, if so please include as a limitation.

Response: As stated in the beginning of the researcher characteristic section the moderators and the focus group members had only met once before during the kick-off meeting. As the focus groups were held after the intervention periods the focus groups members would have had no benefit of biased answers. For these two reasons we see no problem in the project leader co-leading the focus groups.
Reviewer: 3
Dr. Antje Lindenmeyer, University of Birmingham
Comments to the Author:
This is an interesting article with clear practical value and application as remote professional translation will increasingly be used in primary care. I would however recommend some changes and clarifications to improve the article (below):

Abstract: is clear and clearly reports the main points set out in the article

Introduction: It would be nice to have more focus on the situation in Germany – the authors introduce the international literature where the situation is quite different from Germany e.g. in the United Kingdom phone translation has been routinely used in primary care for a while. Interesting to see that there is a tension in the legal situation where the practice needs to arrange translation which should be paid by the patient – how is this managed? What happens if the patient can't or won't pay? Does this add an incentive for the patient to say that their German is adequate? How does the GP decide that the patient is ‘language discordant’? This term also needs explaining as there are different definitions being used.

Response: The legal situation is quite clear in Germany. However, the concrete practice is lagging. Patients and healthcare providers often do not know the legal situation or do not have the financial means to pay for professional interpreting and as a consequence rely instead on informal interpreters. We have added a sentence at the beginning of the paragraph in which we lay out the legal situation in Germany to make this clearer.

Regarding the language discordance we are not sure which part of the introduction you are referring to. According to German law “physicians must […] ensure that this information is correctly understood”. This was also the criterion for our project for language concordance or discordance. If the GPs felt that they could not guarantee the information they provided was received and understood correctly, patients were deemed to be language discordant.

Also, as remote interpretation was used in Hamburg for asylum seekers living in initial accommodation, who was this funded by? Is the model used for this study the same or different?

Response: The interpreting service was provided by the company SAVD. The financing of the interpreter costs for this study was part of the contract with the city of Hamburg for the offer of refugee care.

Methods: At this point (where you describe the trial) it would also be nice to have a description of the interpretation system as this comes out piecemeal in the findings section. E.G. for the telephone solution, does the GP ring a ‘language line’ and can this be done immediately or do they need to make a special appointment? For the video solution, how is the interpretation initiated? Is specific hardware needed and how is the image shared between doctor and patient?

Response: Thank you for this comment. We have added a sentence to the description of phase 2 in the methods section.

It would also be good to mention how the company funding this research was involved – did they provide services for free? Did they have any input in the conduct of the study?

Response: The interpreting service was provided by the company SAVD. The financing of the interpreter costs was part of the contract with the city of Hamburg for the offer of refugee care. We
added this information within the funding section. The company had no input in the conduct of the study.

I would assume that the analysis was done in German and the quotations then translated into English but confirm this?

Response: Thank you. We added this information at the end of the participant recruitment and focus groups section.

PPI: It looks as if there was some involvement of patients in participating practices as they were probably not the same patients that completed the questionnaires – I would describe this involvement in the PPI section.

Response: We provided this information in the PPI section.

Findings: The categories look like deductive, not inductive categories as described in the section on data analysis, with the exception of the ‘status quo’ workarounds which clearly come from the participants. So what did the inductive categories look like?

Response: Thank you for this valuable remark. Deductive codes resulted in the main categories of the material, while these were filled with the answers of the participants which therefore became inductively generated subcategories. We have updated table 3, the results section and its headings and the data analysis section accordingly, in an effort to make it clearer and more understandable.

The section on ‘previous solutions’ should probably have more materials especially as it is a main category – there is a mix of points related to situations when they are inappropriate (obtaining consent, discussing complex issues) and descriptions of what types of solutions are inappropriate and why e.g. using a member of staff to translate who may know the patient socially). These two lines of argument could be further developed e.g. when is using e.g. English as a lingua franca appropriate or not?

Response: Thank you very much for this valuable advice. We introduced some more material and divided this section in two parts – the actual modalities relied on before the introduction of the interpreting tools and the different situations in which they were considered inappropriate. Particular advantages or disadvantages could be signposted more clearly e.g. by subheadings – ‘advantages’ is too broad a category and this is where more inductive subcategories could come in. The section on disadvantages is also missing a section heading.

Response: Thank you for this valuable remark. Deductive codes resulted in the main categories of the material, while these were filled with the answers of the participants which therefore became inductively generated subcategories. We have updated table 3, the results section and its headings and the data analysis section accordingly, in an effort to make it clearer and more understandable.

Discussion: This is overall clear but could be tightened up a little. Also, as patient centred care is very prominent in the introduction, it could be picked up here as well. More detail on the potential for large-scale provision of the interpretation tools would also be welcome (who would organise this? Who would pay?)

Response: Thank you for this comment. We have added a respective sentence in the “implications” section of the discussion.
Presentation: There are some minor errors and sometimes awkward phrasing – it would be good to have an English native speaker, or someone who works in English speaking academia, to give feedback (and I say this as a German native speaker myself!)

Response: We did a complete language revision on this manuscript. Thank you for the advice.

VERSION 2 – REVIEW

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<thead>
<tr>
<th>REVIEWER</th>
<th>Gretchen Roman</th>
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<td>University of Rochester, Department of Family Medicine Research</td>
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<td>REVIEW RETURNED</td>
<td>15-Sep-2023</td>
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<tr>
<td>GENERAL COMMENTS</td>
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<tr>
<td>GENERAL COMMENTS</td>
<td>Thank you for providing the revision, the manuscript is greatly improved. A couple of further queries: a. Can you provide a response rate for the focus groups please? b. Line 98 - please rephrase “patients will be calling” do you mean attending the service? this could be clarified to ‘interpreter requirements for patients attending the clinic’. c. In the discussion it states from line 487 “However, we succeeded in including medical practices belonging to the three primary care specialties (general medicine, obstetrics and gynecology, pediatrics) and confidently state that our study sample represents a variety of perspectives.” whereas you have previously stated there were no participants from the gynecological practices in the focus groups (line 151), please clarify and include as a limitation if this group was not represented.</td>
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VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

Dr. Gretchen Roman, University of Rochester

Comments to the Author:

Thank you for the opportunity to re-review this revised manuscript on the important topic of remote interpreting with language discordant patients in primary care settings. The authors have done an
excellent job thoughtfully responding to the Editors’ and Reviewers’ comments. As a result, the clarity and overall quality have been strengthened.

Reviewer: 3
Dr. Antje Lindenmeyer, University of Birmingham
Comments to the Author:
This submission is now much clearer and my concerns have all been addressed. I am happy to recommend accepting this version for publication.

Reviewer: 2
Dr. Belinda Hengel, UNSW Medicine Kirby Institute
Comments to the Author:
Thank you for providing the revision, the manuscript is greatly improved.
A couple of further queries:

a. Can you provide a response rate for the focus groups please?

Response: „Thank you for this remark. Our response rate was 80% as representatives of eight of the ten eligible practices attended the focus groups. We added this information in line 205 as the first sentence of the section ‘Participants’ as follows: Nine participants of eight of the ten eligible practices attended the focus groups resulting in a response rate of 80%’.

b. Line 98 - please rephrase “patients will be calling” do you mean attending the service? this could be clarified to ‘interpreter requirements for patients attending the clinic’.

Response: Thank you for the remark. We rephrased the sentence as follows {…} and health care providers rarely know which patients will be attending the service.“

c. In the discussion it states from line 487 "However, we succeeded in including medical practices belonging to the three primary care specialties (general medicine, obstetrics and gynecology, pediatrics) and confidently state that our study sample represents a variety of perspectives." whereas you have previously stated there were no participants from the gynecological practices in the focus groups (line 151), please clarify and include as a limitation if this group was not represented.

Response: Thank you for this comment. We clarified the respective part in line 470 as follows:
"However, we succeeded in including medical practices belonging to the three primary care specialties (general medicine, obstetrics and gynecology, pediatrics) into the intervention phase. Unfortunately, the gynaecological perspective could not be mapped in the focus groups, as there was no participation of the two practices due to time constraints. Despite this limitation, the results of this qualitative evaluation represent a variety of meaningful perspectives."