PEER REVIEW HISTORY

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

ARTICLE DETAILS

TITLE (PROVISIONAL)	Country uptake of WHO recommendations on differentiated HIV
	testing services approaches: a global policy review
AUTHORS	Kadye, Tafadzwa; Jamil, Muhammad; Johnson, Cheryl; Baggaley,
	R; Barr-DiChiara, Magdalena; Cambiano, Valentina

VERSION 1 – REVIEW

REVIEWER	Zimmermann, Hanne Public Health Service Amsterdam
REVIEW RETURNED	26-Nov-2021

GENERAL COMMENTS	Reviewer's report bmjopen-2021-058098
	This is a review paper addressing the important topic of HIV
	testing services across the all WHO regions. It provides important
	insights into the adoption of HTS guidelines between regions. It
	has many elements that are well described and of added value, a
	major contribution to the field of HTS. However, I feel that the
	authors could work harder on specific recommendations and
	interpretations, which will substantially improve the paper. In addition, the manuscript will benefit from substantial improvements
	in English writing. Sometimes it is very unclear what is being
	referred to, this is a major flaw of the manuscript, but this is
	something that can be improved easily. For language/write
	comments, see specifically the minor comment section of the
	review comments I provide below – which I stopped after a while
	because it was too much. I would advise having a native English
	editor edit the manuscript. I hoep you find these comments
	constructive and useful.
	Major comments per section of the manuscript:
	1. Introduction lines 109-110 – The introduction very much focuses
	on the guidelines, this objective therefore is very short and too
	concise - I would make clearer why the monitoring of this guideline
	is so important. I would advise to argue at bit more the need for
	this evaluation and thus this paper.2. Introduction/Method – the authors should state more clearly
	which guideline they are evaluating. Is the 2019 guideline
	included? If not, why not? Also, in "data extraction" it is still unclear
	which guideline was used – where does for example rapid testing
	come from (not included in sup. File 1)
	3. Method – The authors should improve their explanation of their
	search strategy. Was this systematic, did they check the repository
	that was there already? What key words did they use? Etc.
	4. Method Figure 1 – the authors should make sure that they state the reasons why they excluded 82 policies, the reasons of the 1
	excluded because of language is only one reason (and why is only
	this one explicitly stated?)
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 Figure 2 is missing – quite some times there are references to Figure 2 so I cannot review whether that's correct. Discussion – In the beginning of the discussion, the authors talk about fast adoption of the guidelines. However, the fact the guideline was implemented in 2015 does not mean that the countries included did not have any guidelines before this – I would advise the authors include this notion in their paper and reflect on it. This is also a methodological question – causality is not the case here – it is only describing whether people implemented HTS in their policy documents and whether these are in line with the guidelines of the WHO (which is a good thing! But it shouldn't be implied that causality is the case here) Discussion – I would advise restructuring the discussion. I would suggest starting with the second paragraph as the first where the authors introduce the differentiated HTS after which it is logical to summarize your finding on this – that way they have more meaning related to your rationale. Discussion – I would like to see more specific interpretation or recommendation that deals with the variation across the regions by linking it to the HIV burden/situation there. It seems that for example the African regions and EMR seem most in line with recommendations and adoption of the guidelines, how come? How come it is not the case in others? How can the WHO work towards better adoption?
 Minor comments: Abstract line 4: Should it be "This policy review" instead of "The Policy review"? Abstract line 4: HIV testing services was already abbreviated in the previous sentence (line 3) Abstract lines 8-10: Consider rewriting the sentence so that it is correct and clear. Break into two since there are two components the authors are describing. Abstract line 13: Sentence is incorrect, too brief: Of 194 countries worldwide, we identified 65 published policies in the review worldwide. Abstract lines 14-17: unclear where the denominators refer to. Up to that point the authors have only mentioned n=64 as the number of published policies. Are the numbers perhaps referring to the number of countries? This is unclear. Abstract line 18: at least one what? HTS? Unclear. Abstract line 25: It is unclear what the percentage 25-85% is. Number of countries? Number of HTS? Strengths/limitation line 33: Should be: Clear inclusion and exclusion criteria were (criteria is plural not singular) Introduction line 100: I would recommend the authors to add the 2019 update to additional file 1 so that this file is complete and provides a complete overview of the current guideline. Method line 131 – so you include until june 2019. Does that mean you also include the 2019 guideline in your monitoring? That is unclear up to now. Method - How was concentrated or generalized epidemic defined? Is this the same as the HIV burden distinction described in line 167. It looks like these 2 different definitions are also used interchangeable – I would advise the authors to be consistent throughout the paper.

needs to be better developed.

REVIEWER	Renju, Jenny LSHTM
REVIEW RETURNED	14-Jan-2022

GENERAL COMMENTS	REVIEWER COMMENTS: Country uptake of WHO
	recommendations on differentiated HIV testing services
	approaches: a global policy review
	Överview
	The paper provides important contextual information for the uptake
	of HTS policies globally. The paper makes an important
	contribution by not only showing where in the world the WHO
	recommendations are taken up, but also which parts of which
	recommendations are included in the different country policies.
	The methods used are appropriate and thorough and the
	conclusions fair. The discussion and recommendations could be
	strengthened with an increased focus on the gaps in uptake and the possible implications of these gaps. A main recommendation is
	that more support is needed to facilitate uptake, however it also
	could be that we do not know why certain recommendations are
	not being taken up and that perhaps more research is needed to
	better understand this. A personal preference would be to not use
	the term "compliant" when referring to the uptake of
	recommendations, as by definition a recommendation is a
	guideline and not a decree therefore countries policies do not have
	to follow them. The paper is well put together, however further
	attention is needed overall flow and grammar and I would strongly
	recommend a thorough review of the English prior to publication. Abstract
	Consider revision of the use of the "compliant" suggest use of
	uptake (as stated in the title and throughout other parts of the
	abstract).
	 In the results section – should the authors consider specifying
	that "only 5 countries were compliant in ALL recommendations and
	at least 63 included at least one"
	Would it be possible to order the findings from the highest
	proportion to the lowest, to assist the reader in getting a sense of
	which recommendation had the highest uptake?
	 The current conclusions repeat the findings, would it be possible to give a sense of the variability by the region and to provide any
	recommendations either for further study or for implementation
	Please check the spelling error of "limitations"
	• The limitation which relates to coverage – could this be further
	detailed to describe that some reasons were more
	comprehensively represented than others.
	 Is the translation of the policies into English a strength or
	limitation, perhaps if it is a statement suggesting increasing
	coverage the actual number of documents that were translated
	could be stipulated?
	Introduction
	There are some sentences that could benefit from adjustment
	י חופוים מוכ סטוווב סבוונבווטבס נוומג נטעוע שבוובווג ווטווו מעןעטנווופווג

 o Line 79 page 5 – suggest to state "identified barriers to testing include" Rather than barriers to testing identified o Line 90 page 5 – the sentence that starts "this referred to a form of" this sentence is long and could be written more clearly o Line 91 page 5, suggest the sentence starting "the guidelines outlined recommendations for several" is revised to end saying"taking in to account the population, epidemic" o Also do the guidelines outline or detail? o Line 94 page 6 this is a long sentence and could be broken down. The meaning of the last paragraph in the introduction (line 109 page 6) is not clear. Clearly this is the problem statement and justification for the study. The first problem is there is no clear understanding in the overall uptake of the HTS recommendations, identifying which countries are taking up the recommendations also enables us to understand the gaps. It is by understanding these gaps that we would be able to reflect on the needs for
support, is this what is meant by the first sentence? It would be
good if this could be reviewed.
• Line 111 page 6 – This is a limitation of the study and a recommendation and should not be in this section of the paper as
breaks up the problem statement and the justification for the study.
Methods
Page 6 line 117 – this sentence is not clear and the "No" should
not be capitalized, it is also not clear why this statement is needed in this policy review.
Page 6 line 123 – suggest to remove "the" from in front of the
Ministry of HealthPage 6 line 124 – suggest to revise the tense to be "includes" not
included
• Page 7 line 132 – it is not clear what you mean by "the most recent policy document containing information on HTS was used for extraction"
• Data extraction – suggest revision of the first sentence – perhaps to say "and for HTS approaches include"
 Line 144 page 7: add "included" after components. Data analysis: why did you just estimate the number and
proportion and not calculate from the search?
• Please check the tense in the methods it currently switches e.g. "secondly we determine(d)"
• Suggest defining the categorization of the epidemic type when that stratification was first mentioned (page 7 line 157) rather than repeat again on page 8 line 166.
 I would also suggest the terminology of "include" or "uptake of"
than compliance. These are recommendations and it is therefore okay for countries to take up what they want from the
recommendations, compliance is a more value laden term. Results
 Page 8 line 174 – you do not need to repeat the inclusion criteria. Suggest you state that 65 policies from X countries were included
in the review.
• Include all the details of those excluded in one place and then move on to describe those that were included. E.g. the description of the Policy from Morocco Include on line 174, info from Cote
D'Ivoire is not needed as this was included. • Page 9 line 190 "have" should be removed
• The description of what the figure shows in the text is distracting from the findings and I would recommend that this is included in
the figure legend.

 Page 9 line 211 – check the spelling of "approach" As recommended in the review of the abstract, I would recommend that the proportions be listed in order of magnitude to ease the interpretation for the reader Page 12 line 265 – the sentence is incomplete "while no countries in the WPR (assume should say included this recommendation)" Page 13 line 278 – the word "respectively" is missing to compliment the list given.
 Discussion Remove "however" from line 315, assuming that you mean that the fact that 5 countries have managed to include all the recommendations by XXXX year means that it is possible in this timespan? Although I am not clear if this is the main finding that you want to start with, given that the feasibility of adopting was not what was being assessed and the timeframe by which they adopt was not part of the analysis and the timeframe is also affected by each countries individual timetable for policy review as well as political will and resources. Would it be possible to identify the gaps in uptake as one of the main findings in your discussion and then you can go on to describe the implications of these gaps (as you already do in the second paragraph in the discussion). Please check the English in the 3rd paragraph of the discussion, it currently does not read well, for example: on Page 14 line 38 – seems "did" is missing before the "not always directly lead" and page 15 line 343 – please include some grammar and line 344: Despite "a" steady increase, "few countries overall had national policies supporting them" what does this mean? The reference to the Global AIDS monitoring is not clear, what is the point that the authors are trying to make? Page 15 line 351 – please check the English, suggest including "recommends a brief" Please include references to the evidence cited on line 351 Please include references to the evidence cited on line 351 Please also modify the wording to describe that the countries are still including pre-test counselling in policy, this does not mean they are implementing it. Line 362 should read "adopt" not "adapt" There are also various other typos and words missing in this (starting on line 375) and the next paragraph – please review Do the countries need more support to adopt or do we need more research to better understand the variations in the adoption of these r
Figure 1: Can the reasons for the 82 policy exclusions be stated Figure 2: did not show up – please check the upload

VERSION 1 – AUTHOR RESPONSE

Reviewer's comments 1

Major comments per section of the manuscript:

1. Introduction lines 109-110 – The introduction very much focuses on the guidelines; this objective therefore is very short and too concise - I would make clearer why the monitoring of this guideline is so important. I would advise to argue at bit more the need for this evaluation and thus this paper.

Thank you for your comment, we have edited the introduction to better reflect this suggestion.

2. Introduction/Method – the authors should state more clearly which guideline they are evaluating. Is the 2019 guideline included? If not, why not? Also, in "data extraction" it is still unclear which guideline was used – where does for example rapid testing come from (not included in sup. File 1)

Thank you for your comments. The 2019 guidelines were not use with text edited to more accurately reflect this 'The national policies included were reviewed against WHO recommendations published in 2015/2016. Given the review end date of June 2019 the WHO 2019 guidelines were not included as they were published in December 2019'. The guidelines use have now been added to the data extraction section.

3. Method – The authors should improve their explanation of their search strategy. Was this systematic, did they check the repository that was there already? What key words did they use? Etc.

The repository was already in existence with each available national policy used for data extraction were appropriate. The text has now been edited to better reflect this.

4. Method Figure 1 – the authors should make sure that they state the reasons why they excluded 82 policies, the reasons of the 1 excluded because of language is only one reason (and why is only this one explicitly stated?)

The 82 policies were excluded because they were not published between the period of January 2015 and June 2019. This is because the guidelines would not have been available before January 2015 and the data extraction period ended in June 2019.

5. Figure 2 is missing – quite some times there are references to Figure 2 so I cannot review whether that's correct.

Figures have been added and edited as suggested.

6. Discussion – In the beginning of the discussion, the authors talk about fast adoption of the guidelines. However, the fact the guideline was implemented in 2015 does not mean that the countries included did not have any guidelines before this – I would advise the authors include this notion in their paper and reflect on it. This is also a methodological question – causality is not the case here – it is only describing whether people implemented HTS in their policy documents and whether these are in line with the guidelines of the WHO (which is a good thing! But it shouldn't be implied that causality is the case here).

Thank you for this suggestion, the last paragraph notes that inclusion does to necessarily mean implementation. We have now edited the last paragraph to highlight the already existing policies.

7. Discussion – I would advise restructuring the discussion. I would suggest starting with the second paragraph as the first where the authors introduce the differentiated HTS after which it is logical to summarize your finding on this – that way they have more meaning related to your rationale.

8. Discussion – I would like to see more specific interpretation or recommendation that deals with the variation across the regions by linking it to the HIV burden/situation there. It seems that for example the African regions and EMR seem most in line with recommendations and adoption of the guidelines, how come? How come it is not the case in others? How can the WHO work towards better adoption?

I think these two have been address in addressing reviewer 2's comments

Minor comments:

1. Abstract line 4: Should it be "This policy review" instead of "The Policy review"?

We have amended the document to address this grammatical error.

2. Abstract line 4: HIV testing services was already abbreviated in the previous sentence (line 3)

This has now been edited and only one abbreviation remains in the text.

3. Abstract lines 8-10: Consider rewriting the sentence so that it is correct and clear. Break into two since there are two components the authors are describing.

We have amended the document to address this grammatical error.

4. Abstract line 13: Sentence is incorrect, too brief: Of 194 countries worldwide, we identified 65 published policies in the review worldwide.

We have amended the document to address this grammatical error.

5. Abstract lines 14-17: unclear where the denominators refer to. Up to that point the authors have only mentioned n=64 as the number of published policies. Are the numbers perhaps referring to the number of countries? This is unclear.

We have amended this line to provide further clarity on denominators.

6. Abstract line 18: at least one what? HTS? Unclear.

This line has been edited to provide further clarity

7. Abstract line 25: It is unclear what the percentage 25-85% is. Number of countries? Number of HTS?

This line has been edited to provide further clarity

8. Strengths/limitation line 33: Should be: Clear inclusion and exclusion criteria were (criteria is plural not singular)

We have amended the document to address this grammatical error.

9. Introduction line 100: I would recommend the authors to add the 2019 update to additional file 1 so that this file is complete and provides a complete overview of the current guideline.

This file has now been added to the submission

10. Method line 117 – very empty and strange placed sentence. I would advise the authors to just start with what they did in this study.

This line has now been revised taking reviewers comments into account

11. Method line 131 – so you include until june 2019. Does that mean you also include the 2019 guideline in your monitoring? That is unclear up to now.

This line has been edited to provide further clarity

12. Method - How was concentrated or generalized epidemic defined? Is this the same as the HIV burden distinction described in line 167. It looks like these 2 different definitions are also used interchangeable – I would advise the authors to be consistent throughout the paper.

Definitions for concentrated and generalised epidemics are provided in supplementary material

13. Figure 3a-b – Since the authors differentiate between HTS that are valid in all settings compared to those in specific settings – this differentiation could have been become clearer earlier in the paper for clarity.

This has been edited to provide further clarity

14. Discussion line 326-327 stigma – this is a rather empty explanation that is not backed up or elaborated on at all. I think it needs to be better developed.

Thank you for the comments, all comments have been addressed with relevant edits made to the paragraphs and files added.

[NOTE] The comments below have already been submitted to the journal

Response for Reviewer (2)

<u>Abstract</u>

- Consider revision of the use of the "compliant" suggest use of uptake (as stated in the title and throughout other parts of the abstract).
 We appreciate the reviewers comments and acknowledge the use of 'complaint' suggests countries must take up recommendations. An alternative phrase has been used.
- In the results section should the authors consider specifying that "only 5 countries were compliant in ALL recommendations and at least 63 included at least one"
 We agree with this recommendation and this has been applied

- Would it be possible to order the findings from the highest proportion to the lowest, to assist the reader in getting a sense of which recommendation had the highest uptake?
 Findings have been grouped by type of recommendation to make clear to the reader about the groups of recommendation. We however acknowledge that this may not be completely clear and have ordered the results for each group by highest to lowest.
- The current conclusions repeat the findings, would it be possible to give a sense of the variability by the region and to provide any recommendations either for further study or for implementation Thank you for your comments, the conclusion has been edited to include further recommendations
- Please check the spelling error of "limitations" The limitation which relates to coverage could this be further detailed to describe that some reasons were more comprehensively represented than others.
 Spelling error has been addressed - and limitations expanded on to highlight that some regions'

Spelling error has been addressed - and limitations expanded on to highlight that some regions' country policies were more widely available.

• Is the translation of the policies into English a strength or limitation, perhaps if it is a statement suggesting increasing coverage the actual number of documents that were translated could be stipulated?

Number of documents translated added to the limitations

Introduction

There are some sentences that could benefit from adjustment

 Line 79 page 5 – suggest to state "identified barriers to testing include...." Rather than
 barriers to testing identified...

o Line 90 page 5 – the sentence that starts "this referred to a form of...." this sentence is long and could be written more clearly o Line 91 page 5, suggest the sentence starting "the guidelines outlined recommendations for several..." is revised to end saying...." taking in to account the population, epidemic..."

o Also do the guidelines outline or detail?

o Line 94 page 6 this is a long sentence and could be broken down.

Thank you for your comments. These adjustments have been made to the paper.

• The meaning of the last paragraph in the introduction (line 109 page 6) is not clear. Clearly this is the problem statement and justification for the study. The first problem is there is no clear understanding in the overall uptake of the HTS recommendations, identifying which countries are taking up the recommendations also enables us to understand the gaps. It is by understanding these gaps that we would be able to reflect on the needs for support, is this what is meant by the first sentence? It would be good if this could be reviewed.

Introduction reviewed to ensure clarity for the reader with the relevant changes made.

• Line 111 page 6 – This is a limitation of the study and a recommendation and should not be in this section of the paper as breaks up the problem statement and the justification for the study This limitation has now been removed from this section

<u>Methods</u>

- Page 6 line 117 this sentence is not clear and the "No" should not be capitalized, it is also not clear why this statement is needed in this policy review.
 We have amended the document to address this grammatical error.
- Page 6 line 123 suggest to remove "the" from in front of the Ministry of Health We have amended the document to address this grammatical error.
- Page 6 line 124 suggest to revise the tense to be "includes" not included We have amended the document to address this grammatical error.
- Page 7 line 132 it is not clear what you mean by "the most recent policy document containing information on HTS was used for extraction"
 This has been edited to provide further clarity
- Data extraction suggest revision of the first sentence perhaps to say "and for HTS approaches include...."
 We have amonded the document to address this group setion lemon

We have amended the document to address this grammatical error.

- Line 144 page 7: add "included" after components. We have amended the document to address this grammatical error.
- Data analysis: why did you just estimate the number and proportion and not calculate from the search?
- The decision to report the proportion who take up a recommendation among the countries with a policy in the relevant time period, rather than among all countries, was due to the fact that for countries for which we could not find a policy within the relevant time period we could not exclude that they were not working on it or that the reason for not having a policy was simply due to the countries individual timetable. However we have clearly stated that "Of 194 countries worldwide, 65 published policies identified in the review period."

- Please check the tense in the methods it currently switches e.g. "secondly we determine(d)" Suggest defining the categorization of the epidemic type when that stratification was first mentioned (page 7 line 157) rather than repeat again on page 8 line 166.
 We have amended the document to address this grammatical error.
- I would also suggest the terminology of "include" or "uptake of" rather than compliance. These are recommendations and it is therefore okay for countries to take up what they want from the recommendations, compliance is a more value laden term.
 This terminology has now been further revised following reviewers comments with a change to inclusion/uptake.

Results

- Page 8 line 174 you do not need to repeat the inclusion criteria. Suggest you state that 65 policies from X countries were included in the review.
 This comment has been addressed to improve readability.
- Include all the details of those excluded in one place and then move on to describe those that were included. E.g. the description of the Policy from Morocco Include on line 174, info from Cote D'Ivoire is not needed as this was included.
 This comment has been addressed to improve readability.
- Page 9 line 190 "have" should be removed This comment has been addressed to improve readability.
- The description of what the figure shows in the text is distracting from the findings and I would recommend that this is included in the figure legend.
 A description has been added in the figure legend
- Page 9 line 211 check the spelling of "approach" This comment has been addressed to improve readability.

- As recommended in the review of the abstract, I would recommend that the proportions be listed in order of magnitude to ease the interpretation for the reader The order in which results are presented has been changed to allow for readability.
- Page 12 line 265 the sentence is incomplete ..."while no countries in the WPR... (assume should say included this recommendation)"
 This comment has been addressed to improve readability.
- Page 13 line 278 the word "respectively" is missing to compliment the list given. This comment has been addressed to improve readability.

Discussion

- Remove "however" from line 315, assuming that you mean that the fact that 5 countries have managed to include all the recommendations by XXXX year means that it is possible in this timespan? Although I am not clear if this is the main finding that you want to start with, given that the feasibility of adopting was not what was being assessed and the timeframe by which they adopt was not part of the analysis and the timeframe is also affected by each countries individual timetable for policy review as well as political will and resources.
- Would it be possible to identify the gaps in uptake as one of the main findings in your discussion and then you can go on to describe the implications of these gaps (as you already do in the second paragraph in the discussion).

The main finding has now been changed as suggested and edits made to the text to improve readability. At the end of the first paragraph we have now added "mobile testing, outreach testing, self-testing and providerassisted referral were the approaches with the lowest uptake. As mentioned, the first two were more recently recommended so this might partly explain the lower uptake; for the latter two (mobile testing and outreach testing) the lower uptake might reflect the fact that they require more resources to introduce them and they are more difficult to integrate.

- Please check the English in the 3rd paragraph of the discussion, it currently does not read well, for example: on Page 14 line 38 seems "did" is missing before the "not always directly lead..." and page 15 line 343 please include some grammar and line 344: Despite "a" steady increase..., "few countries overall had national policies supporting them".. what does this mean? This comment has been addressed to improve readability.
- The reference to the Global AIDS monitoring is not clear, what is the point that the authors are trying to make?

This comment has been addressed to improve readability.

- Page 15 line 351 please check the English, suggest including "recommends a brief..." This comment has been addressed to improve readability.
- Please include references to the evidence cited on line 351 References have been added to this line.
- Please also modify the wording to describe that the countries are still including pre-test counselling in policy, this does not mean they are implementing it.
 Thank you for your comment we have now edited this line to ensure clarity on inclusion vs uptake.
- Line 357 should be "had not adapted" This comment has been addressed to improve readability.
- Line 362 should read "adopt" not "adapt" This comment has been addressed to improve readability.
- Line 365 should start with "The majority" This comment has been addressed to improve readability.
- There are also various other typos and words missing in this (starting on line 375) and the next paragraph – please review
 Thank you for the comments, all comments have been addressed with relevant edits made to the paragraph and references added.
- Do the countries need more support to adopt or do we need more research to better understand the variations in the adoption of these recommendations? Or are the reasons clear?
 Thank you for this suggestions. The final recommendations have been re-written to reflect the need for better research to allow for a better understanding of gaps, and better understanding of the support countries require.
- Figure 1: Can the reasons for the 82 policy exclusions be stated
- Figure 2: did not show up please check the upload Figures have been added and edited as suggested.