PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Progress in Voluntary Medical Male Circumcision for HIV Prevention Supported by the United States President's Emergency Plan for AIDS Relief through 2017: Longitudinal and Recent Cross-sectional Program Data
AUTHORS	Davis, Stephanie; Hines, Jonas; Habel, Melissa; Grund, Jonathan; Ridzon, Renee; Baack, Brittney; Davitte, Jonathan; Thomas, Anne; Kiggundu, Valerian; Bock, Naomi; Pordell, Paran; Cooney, Caroline; Zaidi, Irum; Toledo, Carlos

VERSION 1 – REVIEW

REVIEWER	Mwita Wambura National Institute for Medical Research, Mwanza Centre, Tanzania
REVIEW RETURNED	13-Feb-2018

GENERAL COMMENTS	The paper is well structured and written, the conclusions are supported by the analysis of the data presented and therefore the paper can be accepted for publications in BMJ Open after considering my comments below: Abstract In the abstract, under sub-heading objective, the last sentence reads ".....and client characteristics in 2016" while table 2, under column "VMMCs" - the totals presented are for year 2015. Why didn't the author use number of fiscal year 2016 (Oct. 1, 2015-Sept 30, 2016) rather year 2015. The statement "recruiting older, sexually active clients continues to be a challenge despite targeted efforts" is not supported by results presented in the abstract. Main paper In table 1 - the numbers of VMMC clients almost doubled annually between 2007 and 2013. However, the data shows that the number of clients receiving PEPFAR supported VMMCs fell by 22% between 2014 and 2016. Are there explanations for this decrease in uptake of PEPFAR supported VMMCs? The first sentence in the second paragraph in page 11 reads "In total, 46% of VMMC clients were within the 15-29 years age-range, to which PEPFAR shifted focus that year down from 48% in 2015...." From table 2, the proportion of clients receiving VMMC was much higher than 46%. In the results, the last sentence in the second paragraph on page 11, the authors wrote "of the 13 countries reporting age data for 2015 and 2016, 10 experienced an increase in the proportion of males circumcised in the 10-14 year age group between 2015 and 2016. Among the high-volume programs, the shift toward circumcision of 10-14 year olds was largest in Kenya (48% in 2015, then 56% in 2016 and Tanzania (45% in 2015 then 52% in 2016)" In

	the conclusion, para 1 in page 15, the second sentence, the authors wrote " Additionally, a PEPFAR policy issued in late 2014 discontinued the use of the forceps-guided surgical technique in young adolescents to avoid the associated risk for injury to the immature glans, causing some country programs to decrease VMMC provision to this age group until they could retrain their VMMC workforces in a more appropriate method. In 2016, Tanzania, South Africa and Zambia also experienced decline, possibly due to these same reasons, some exhaustion of their 'early adopter' populations, and strategic shifts in program geography". A caution issued by the World Health Organization in 2014 and the corresponding PEPFAR policy issued in late 2014 with respect to forceps guided targeted males aged 10-14 years. Authors have showed that proportion aged 10-14 years increased from 45% in 2015 to 52% in 2016 in Tanzania. Why does the author think that the decline in VMMC uptake in Tanzania was due to the reasons mentioned above? The title in table 2 reads ".... Fiscal year 2016 (Oct. 1, 2014-Sept 30, 2016) by country and 2015 totals". Did you mean Fiscal year 2016 (Oct. 1, 2015-Sept 30, 2016)? In table 2 - the age disaggregate values in percent for Botswana are bolded indicating that data completeness was less than 85%. However, the percentage presented add-up to 100. Please, explain why? Did you drop clients with incomplete data?

REVIEWER	Sehlulekile Gumede-Moyo London School of Tropical Medicine and Hygiene
REVIEW RETURNED	02-Mar-2018

GENERAL COMMENTS	VMMC is a very topical subject and this paper has a potential of capturing the readers if improved. The authors can improve the structure of the paper by summarising the existing parts and then add some interesting ideas such as targets Vs achievements, enlighten us more on the extent of adverse events and how they are being managed in different countries. Since authors have full access of the data set, I am sure its within their means be able to include the suggestions. Otherwise the current manuscript is just a narration. Page 5, line 8 give examples of devices (prepex, shangrin) Under the reference list the following reference should have access dates - 4,5,7.11.12.13.17, 20 , 28, 31 etc

REVIEWER	Kim H. Dam Johns Hopkins Bloomberg School of Public Health, USA
REVIEW RETURNED	08-Mar-2018

GENERAL COMMENTS	**Review for *BMJ Open*** **MS ID #: bmjopen-2018-021835** **Progress in Voluntary Medical Male Circumcision for HIV Prevention Supported by the United States President's Emergency Plan for AIDS Relief through 2016: 10 years of Program Data** The paper has the potential to provide useful descriptive insights into

	the progress of PEPFAR supported VMMC programs. However, I am not clear on the authors' intention in providing such an overarching overview of PEPFAR's performance and whether it is to highlight progress or recognize gaps in which to improve VMMC programming funded by PEPFAR. The authors include various aspects of VMMC from target achievements (number of circumcisions performed), to explanations of gaps in programming (age and HIV testing), to techniques, to program safety (follow up visit), but falls short in bringing together the results in the conclusion. The paper can be focused to tell a more cohesive interpretation of the data, within its limitations, and tie the attributes together for future programming. More specific comments are as follows: **Title** • The inclusion of "10 years of program data" is inclusive of number of circumcisions performed, however it does not fully reflect the analysis of Table 3 which is focused only on 2016 and includes 2015. I would suggest revising the title to reflect the data presented. **Strengths and limitations of this study** • The strength that "virtually complete program data" seems to contradict the statement that "data are not complete for all client characteristics." • While PEPFAR does support a large majority of all VMMC clients, I am not clear on how the client-characteristic data is "representative of the program as a whole" does this mean that we can conclude from the findings that the data can be generalizable to clients from the entire VMMC program? **Abstract** • Not all the conclusions listed in the abstract are discussed in the results or conclusion section of the paper. For instance, the abstract suggests older, sexually active clients to be a challenge however, this is not discussed in the results or represented in the tables. • The abstract conclusion regarding proportion of clients not testing for HIV may be reassuring that testing is not mandatory should also include the other potential reasons such as test kit shortage or documentation of recent outside testing. **Introduction** • The list of key innovations is interesting but the purpose of listing the innovations is not clear. • Line 28 on page 5 – order the disaggregation in the same order as Table 1 and Table 3. • In the introduction it states that the article presents "PEPFAR supported VMMC achievements since program inception in 2007" – is this referring only to the number of

	circumcisions performed, what other achievements were presented? **Methods** • The explanations for the disaggregation categories (rational and context) should include a brief description of the variable and how they will be presented. If % were calculated, a brief description of the denominator would be helpful if it is not clear. **Results** • Line 20-24 "In 2016, PEPFAR-suported VMMCs constituted 80%..." would be more appropriate in introductions. It also differs from the number reported in Line 42 on page 5 (80% vs 82%). • Line 5-12 on page 11 "Twelve countries provided >85% data completeness…" would be more appropriate in methods. • Be consistent in how age ranges are discussed – such as "15-29 years age range", "10-14 years range", "10-14 year age group," and "10-14 year olds." • Table 1: The disaggregation for age does not match what is presented in Table 3. The notes at the bottom can be single-spaced. In addition, if you are limited on number of figures or tables, I think this table can be removed to include Figure 1 which appears at the end of the paper. • Table 2: Might be easier to interpret as a visual such as the one included in WHO's VMMC progress brief from July 2017: http://www.who.int/hiv/pub/malecircumcision/vmmc-progress-brief-2017/en/ • Figure 1: It might be cut off, but there is no legend and it is not clear what the colors in the figure represent. • Table 3: VMMCs column should be align center or match the other columns. HIV status column is italicized but it is not clear why. **Conclusion** • When discussing the decline in PEPFAR VMMCs, line 7 on page 15 "This shift may have also impacted performance in several other countries" which countries are you referring to? • In the paragraph discussing age – you can likely include discussion on other age ranges. • "HIV positivity" can be referred to as HIV prevalence • There should be a stronger link of the data findings in the conclusion. For instance, in the paragraph focused on HIV prevalence (line 45 page, 15), does the data support the literature of low HIV prevalence among VMMC clients as well? This is not clearly stated. • Line 41, page 17 - What are the broader UNAID and PEPFAR objectives? • Updated 2016 WHO/UNAIDS framework for VMMC (line 10,

	page 18) needs a citation • Organization of recommendations: It is not clear what the authors are suggesting as the main recommendations moving forward: it ranges from new demand creation approaches, service delivery models, integrated platforms and increased resource commitments and it's not clear the target population: 10-29 year olds, 15-29 year olds, adolescents, or adult males. **Overall** Check for consistency with phrasing of outcome measures, **age** was referred to as "age band, "client age category," "client age in years," **HIV testing** was referred to as "HIV test uptake," "Result of HIV test offer at VMMC site," "Result from client HIV test offered at VMMC site," and "HIV status"; **circumcision technique** used was also referred to as "device method used" and **follow-up status** was referred to as "post-operative follow-up status" and "Follow-up visit." **Additional citations you may want to review:** Reed JB, Njeuhmeli E, Thomas AG, et al. Voluntary Medical Male Circumcision: An HIV Prevention Priority for PEPFAR. *Journal of acquired immune deficiency syndromes (1999)*. 2012;60(0 3):S88-S95. doi:10.1097/QAI.0b013e31825cac4e. Heaton LM, Bouey PD, Fu J*, et al* Estimating the impact of the US President's Emergency Plan for AIDS Relief on HIV treatment and prevention programmes in Africa *Sex Transm Infect* 2015;**91:**615-620. UNAIDS/WHO. A framework for voluntary medical male circumcision: Effective HIV prevention and a gateway to improved adolescent boys' & men's health in eastern and southern Africa by 2021 - policy brief**.** http://www.who.int/hiv/pub/malecircumcision/vmmc-policy-2016/en/

REVIEWER	Simon Peter Sebina Kibira Makerere University, School of Public Health, Uganda
REVIEW RETURNED	09-Mar-2018

GENERAL COMMENTS	Page 14, line number 41 and the following. Does this policy only affect Uganda? If it affects other program countries as well, then would there be another plausible explanation for Uganda's decline during that time? Were there any issues with the IPs reported? Any problems with management? Just thinking loudly. The reason given may not be the only reason.

VERSION 1 – AUTHOR RESPONSE

Reviewer #1

Reviewer Comment: Abstract
In the abstract, under sub-heading objective, the last sentence reads ".....and client characteristics in 2016" while table 2, under column "VMMCs" - the totals presented are for

year 2015. Why didn't the author use number of fiscal year 2016 (Oct. 1, 2015-Sept 30, 2016) rather year 2015.

Author response: We believe this refers to the current Table 3. This has now been updated and shows totals for 2017, 2016 and 2015.

Reviewer Comment: The statement "recruiting older, sexually active clients continues to be a challenge despite targeted efforts" is not supported by results presented in the abstract.

Author response: We have changed this to read “VMMC continues to attract primarily young clients”, since the abstract does not discuss ongoing efforts to attract older clients. More thorough discussion of attempts to do so is reserved for the main paper.

Reviewer Comment: Main paper
In table 1 - the numbers of VMMC clients almost doubled annually between 2007 and 2013. However, the data shows that the number of clients receiving PEPFAR supported VMMCs fell by 22% between 2014 and 2016. Are there explanations for this decrease in uptake of PEPFAR supported VMMCs?

Author response: This is addressed in the 4th paragraph of the discussion, which has now also been expanded to extend the trend through 2017.

Reviewer Comment: The first sentence in the second paragraph in page 11 reads "In total, 46% of VMMC clients
were within the 15-29 years age-range, to which PEPFAR shifted focus that year down from 48% in 2015...." From table 2, the proportion of clients receiving VMMC was much higher than 46%.

Author response: The table and text now refer to 2017 data, in which 48% of clients were aged 15-29. This number is obtained by adding the percentages in the 15-19, 20-24 and 25-29 bands (27% + 13% +8% = 48%).

Reviewer Comment: In the results, the last sentence in the second paragraph on page 11, the authors wrote "*of the 13 countries reporting age data for 2015 and 2016, 10 experienced an increase in the
proportion of males circumcised in the 10-14 year age group between 2015 and 2016. Among the high-volume programs, the shift toward circumcision of 10-14 year olds was largest in Kenya (48% in 2015, then 56% in 2016 and Tanzania (45% in 2015 then 52% in 2016)*" In the conclusion, para 1 in page 15, the second sentence, the authors wrote "*Additionally, a PEPFAR policy issued in late 2014 discontinued the use of the forceps-guided surgical technique in young adolescents to avoid the associated risk for injury to the immature glans, causing some country programs to decrease VMMC provision to this age group until they could retrain their VMMC workforces in a more appropriate method. In 2016, Tanzania, South Africa and Zambia also experienced decline, possibly due to these same reasons, some exhaustion of their ‘early adopter’ populations, and strategic shifts in program geography*".
A caution issued by the World Health Organization in 2014 and the corresponding PEPFAR policy issued in late 2014 with respect to forceps guided targeted males aged 10-14 years. Authors have showed that proportion aged 10-14 years increased from 45% in 2015 to 52% in 2016 in Tanzania. Why does the author think that the decline in VMMC uptake in Tanzania was due to the reasons mentioned above?

Author response: We understand the reviewer’s point to be that since in Tanzania, the proportion of VMMCs done in 10-14s increased in 2016, it is hard to attribute decreases in overall performance to challenges that would have disproportionately decreased performance in this age group. We appreciate their raising this issue. We have clarified in the results section that the three countries mentioned saw increases in their proportion 10-14 in 2016 even while their overall performance declined; and in te discussion section have clarified that the performance decline cannot therefore be attributed to the impact of surgical technique restrictions on the 10-14 age group.

Reviewer Comment: The title in table 2 reads ".... Fiscal year 2016 (Oct. 1, 2014-Sept 30, 2016) by country and 2015 totals". Did you mean Fiscal year 2016 (Oct. 1, 2015-Sept 30, 2016)?

Author response: This is table 3; it has been updated to include 2017 data and now reads:
Numbers and Characteristics of PEPFAR-funded Voluntary Medical Male Circumcisions, Fiscal Year 20167 (Oct. 1, 20146-Sept 30, 20167) by country and 2015-2016 totals

Reviewer Comment: In table 2 - the age disaggregate values in percent for Botswana are bolded indicating that data completeness was less than 85%. However, the percentage presented add-up to 100.
Please, explain why? Did you drop clients with incomplete data?

Author response: All reported disaggregates come with denominators; percentages are automatically calculated among only the VMMCs for which the disaggregate under consideration was reported. I.e., yes, clients whose data was not reported for a given disaggregate are intrinsically dropped. The following text has been added to the methods section to clarify this: "Not all sites are able to collect and report circumcision data by each disaggregate for all clients. Therefore, percentages presented here for each disaggregate are calculated only among clients for whom data on that disaggregate were reported."

Reviewer #2:

Review for BMJ Open
MS ID #: bmjopen-2018-021835
Progress in Voluntary Medical Male Circumcision for HIV Prevention Supported by the United States President's Emergency Plan for AIDS Relief through 2016: 10 years of Program Data
The paper has the potential to provide useful descriptive insights into the progress of PEPFAR supported
VMMC programs. However, I am not clear on the authors' intention in providing such an overarching overview of PEPFAR's performance and whether it is to highlight progress or recognize gaps in which to improve VMMC programming funded by PEPFAR. The authors include various aspects of VMMC from target achievements (number of circumcisions performed), to explanations of gaps in programming (age and HIV testing), to techniques, to program safety (follow up visit), but falls short in bringing together the results in the conclusion. The paper can be focused to tell a more cohesive interpretation of the data, within its limitations, and tie the attributes together for future programming.

Author response:

We have attempted to clarify our intentions as follows:

Sentence added to introduction: "The primary objective of this paper is to describe PEPFAR's VMMC program, and identify in which aspects the program is performing well and in which gaps and challenges remain and should be prioritized. Making key demographic data on VMMC clients available may also support refining projections around impact."

Sentence added to beginning of discussion: "This manuscript demonstrates that overall program volume is high and increasing, but there is progress to be made in in increasing volume further to pursue Fast Track targets, attracting older clients with higher HIV risk and, in some places, raising postoperative followup rates to ensure complications are managed promptly."

Reviewer Comment:
More specific comments are as follows:
Title
• The inclusion of "10 years of program data" is inclusive of number of circumcisions performed,

however it does not fully reflect the analysis of Table 3 which is focused only on 2016 and includes 2015. I would suggest revising the title to reflect the data presented.

Author response: The second part of the title has been revised to read: "Longitudinal and Recent Cross-sectional Program Data".

Reviewer Comment:
Strengths and limitations of this study
• The strength that "virtually complete program data" seems to contradict the statement that "data are not complete for all client characteristics."

Author response: The phrase "virtually complete" has been removed; more detail on completeness for each disaggregate has also been added in the results section.

Reviewer Comment:
• While PEPFAR does support a large majority of all VMMC clients, I am not clear on how the client-characteristic data is "representative of the program as a whole" does this mean that we can conclude from the findings that the data can be generalizable to clients from the entire VMMC program?

Author response: Yes, this was our intended meaning. We believe this is the case, primarily because the majority of the program's clients are PEPFAR clients, but also because PEPFAR and other donors operate under a common set of WHO recommendations that shape service delivery. We also would not expect clients to generally give much consideration to whether a VMMC service point they consider accessing is PEPFAR-funded or not. We have edited the introduction to clarify this.

We have also added the following caveat in the Discussion limitations section: "Finally, though we believe client characteristics are representative of those of all VMMC clients, PEPFAR's focus on the areas of each country with highest absolute HIV burden could mean that clients of other VMMC programs in other areas (which may have lower HIV incidence and prevalence, or simply be less densely populated) differ demographically, in unknown ways.."

Reviewer Comment:
Abstract
• Not all the conclusions listed in the abstract are discussed in the results or conclusion section of the paper. For instance, the abstract suggests older, sexually active clients to be a challenge however, this is not discussed in the results or represented in the tables.

Author response: This statement in the abstract has been replaced with "VMMC continues to attract primarily young clients." In the manuscript, the attempt to prioritize older sexually active populations is described in the methods section (item 1 after Table 1); trends in age distribution over time are described in paragraph 3 of the results; and the interpretation of this trend is in the discussion in the paragraph beginning "VMMC client populations in 2016 were young…". This has been expanded in the revision.

Reviewer Comment:
• The abstract conclusion regarding proportion of clients not testing for HIV may be reassuring that testing is not mandatory should also include the other potential reasons such as test kit shortage or documentation of recent outside testing.

Author response: The phrase “or in some cases reflect test kit stockouts or recent testing elsewhere” has been added. Further expansion on this has also been added in the Discussion section.

Reviewer Comment:
Introduction
• The list of key innovations is interesting but the purpose of listing the innovations is not clear.

Author response: The initial sentence of that section has been edited to clarify this. It now reads: Over the lifetime of the program, several additional key innovations **with potential to impact the volume and client demographics of the program** have also been incorporated

Reviewer Comment:
• Line 28 on page 5 – order the disaggregation in the same order as Table 1 and Table 3.

Author response: done.

Reviewer Comment:
• In the introduction it states that the article presents “PEPFAR supported VMMC achievements since program inception in 2007” – is this referring only to the number of circumcisions performed, what other achievements were presented?

Author response: This has been changed to “VMMCs performed”. No other types of achievements were being referenced.

Reviewer Comment:
Methods
• The explanations for the disaggregation categories (rational and context) should include a brief description of the variable and how they will be presented. If % were calculated, a brief description of the denominator would be helpful if it is not clear.

Author response: To address the denominator issue, the following text has been added (page 6): “Not all sites are able to collect and report circumcision data by each disaggregate for all clients. Therefore, percentages presented here for each disaggregate are calculated only among clients for whom data on that disaggregate were reported”. We have also added a note in table 1 for age categories. We believe that the description of the variable and how it will be presented is addressed by table 1; if the reviewer is looking for additional information, could we get more specifics on what is being requested?

Reviewer Comment:

Results
• Line 20-24 “In 2016, PEPFAR-suported VMMCs constituted 80%...” would be more appropriate in introductions. It also differs from the number reported in Line 42 on page 5 (80% vs 82%).

Author response: We felt that since the numerator for this percentage is not reported until the results section, it would not be appropriate to include the percentage in the introduction. Also, the 82% referred to in the introduction refers to all VMMCs conducted through 2016 (see language used) where the 80% in the results refers to VMMCs conducted in 2016 only.

Reviewer Comment:
• Line 5-12 on page 11 “Twelve countries provided >85% data completeness…” would be more

appropriate in methods.

Author response: Since the data on completeness is itself calculated from the data reported in results (cannot be determined without using results data), we felt it would be more appropriate in the results section.

Reviewer Comment:
• Be consistent in how age ranges are discussed – such as “15-29 years age range”, “10-14 years range”, “10-14 year age group,” and “10-14 year olds.”

Author response: This has been changed to “age range” throughout the document wherever it refers to the PEPFAR age bands (but not in the different usage where it refers to individual clients).

Reviewer Comment:
• Table 1: The disaggregation for age does not match what is presented in Table 3. The notes at the bottom can be single-spaced. In addition, if you are limited on number of figures or tables, I think this table can be removed to include Figure 1 which appears at the end of the paper.

Author response: The text notes that ages under 15 are collapsed together in presenting 2017 data, but this note has also been added in table 1 now. Numbers in the ‘fine’ age bands of 0-61 days are 61 days-9 years are trivially small and would further obscure the message of the already complex table 3. In contrast, the point of table 1 is to inform readers about what bands the data are actually collected in. Footnotes have now been single-spaced.

Reviewer Comment:
• Table 2: Might be easier to interpret as a visual such as the one included in WHO’s VMMC progress brief from July 2017: http://www.who.int/hiv/pub/malecircumcision/vmmc-progressbrief-2017/en/

Author response: This visual was provided as Figure 1 (now updated) and is referred to by the reviewer in later comments. If something different is requested, can clarification be provided?

Reviewer Comment:

• Figure 1: It might be cut off, but there is no legend and it is not clear what the colors in the figure represent.

Author response: The color legend by country is present in the submitted file; it must be cut off. The file has now been updated with 2017 data so hopefully the current version will make the legend visible to the reviewer.

Reviewer Comment:
• Table 3: VMMCs column should be align center or match the other columns. HIV status column is italicized but it is not clear why.

Author response: These issues have been fixed. Thank you.

Reviewer Comment:
Conclusion
• When discussing the decline in PEPFAR VMMCs, line 7 on page 15 “This shift may have also impacted performance in several other countries” which countries are you referring to?

Author response: This sentence has been revised: “Similar policies may have also impacted performance in several other countries with significant device contributions (not shown) like Botswana and Rwanda.” has been added.

Reviewer Comment:
• In the paragraph discussing age – you can likely include discussion on other age ranges.

Author response: This text has been added at the end of the paragraph: “…Additional potential barriers which may apply disproportionately to older males include reluctance to abstain from sex for the 6-week healing period, perception of low risk due to having established partners, and fear of creating perceptions in a stable partner that they intend to seek other sexual partners. Age ranges 30 years and above represented a small (8% in 2017) percentage of VMMC clientele, despite being a sexually active group at risk for HIV, possibly for similar reasons…”

Reviewer Comment:
• “HIV positivity” can be referred to as HIV prevalence

Author response: Though ‘positivity’ is a bit awkward, we have avoided using the term ‘prevalence’ because it refers to percentage of an actual population. We do not believe VMMC clients are representative of the general male population (or even the general male population of their age range) so would not present their results here as extrapolating to the population HIV prevalence (and in fact VMMC client positivity is lower).

Reviewer Comment:
• There should be a stronger link of the data findings in the conclusion. For instance, in the paragraph focused on HIV prevalence (line 45 page, 15), does the data support the literature of low HIV prevalence among VMMC clients as well? This is not clearly stated.

Author response: This sentence has been edited to make it more clear that the 1.2% (now 1%) referred to is from the PEPFAR VMMC data. It now reads: “VMMC clients also have low HIV positivity compared to the general population, 1% among all clients in 2015, 2016 and 2017, as compared to 5.5..”

Reviewer Comment:
• Line 41, page 17 - What are the broader UNAID and PEPFAR objectives?

Author response: This is discussed later in the paragraph; this was intended to serve as a topic/summary sentence. To make it clearer in this sentence, we have added “…of integrating services into existing health care systems.”

Reviewer Comment:
• Updated 2016 WHO/UNAIDS framework for VMMC (line 10, page 18) needs a citation

Author response: This citation has been added.

Reviewer Comment:
•Organization of recommendations: It is not clear what the authors are suggesting as the main recommendations moving forward: it ranges from new demand creation approaches, service delivery models, integrated platforms and increased resource commitments and it’s not clear the target population: 10-29 year olds, 15-29 year olds, adolescents, or adult males.

Author response: We have added a sentence in the first paragraph of the discussion to summarize these: “This manuscript demonstrates that overall program volume is high and increasing, but there is progress to be made in increasing volume further to pursue Fast Track targets, attracting older clients with higher HIV risk and, in some places, raising postoperative followup rates to ensure complications are managed promptly.” With respect to target populations, the final paragraph of the discussion noted that 10-29s are the UNAIDS Fast Track target population and earlier elements of the manuscript note that 15-29 is the PEPFAR target population. Wording in this paragraph has been revised to attempt to clarify the relationship between these two sets of targets.

Reviewer Comment:
Overall
Check for consistency with phrasing of outcome measures, age was referred to as “age band, “client age
category,” “client age in years,” HIV testing was referred to as “HIV test uptake,” “Result of HIV test offer at VMMC site,” “Result from client HIV test offered at VMMC site,” and “HIV status”; circumcision technique used was also referred to as “device method used” and follow-up status was referred to as “post-operative follow-up status” and “Follow-up visit.”

Author response: Thank you. Where appropriate, these references have been standardized to “age range”, “result of HIV test offer at VMMC site”, “technique”, and “follow-up visit attendance”.

Reviewer Comment:
Additional citations you may want to review:
Reed JB, Njeuhmeli E, Thomas AG, et al. Voluntary Medical Male Circumcision: An HIV Prevention Priority for PEPFAR. Journal of acquired immune deficiency syndromes (1999). 2012;60(0 3):S88-S95.
doi:10.1097/QAI.0b013e31825cac4e.

Heaton LM, Bouey PD, Fu J, et al Estimating the impact of the US President's Emergency Plan for AIDS
Relief on HIV treatment and prevention programmes in Africa Sex Transm Infect 2015;91:615-620.

UNAIDS/WHO. A framework for voluntary medical male circumcision: Effective HIV prevention and a gateway to improved adolescent boys’ & men’s health in eastern and southern Africa by

Author response: Thank you for these references. The Reed and UNAIDS/WHO citations have been added. The Heaton citation does not provide separate impact estimates for VMMC, so has not been added.

Editor Comments to Author:
- Please edit the title so that the second half describes the study design.

Author response: The second half of the title has been revised to read: “Longitudinal and Recent Cross-sectional Program Data”. This is an unusual dataset because it is program data, not generated by a study; we are happy to further revise the title if the editors have a preferred nomenclature for this.

Editor Comments to Author:

- Please complete and include a STROBE checklist, ensuring that all points are included and state the page numbers where each item can be found. The checklist can be downloaded from here: http://www.strobe-statement.org/?id=available-checklists

Author response: Our use of EquatorWizard as recommended by the BMJ Open website indicated that no standard checklist including STROBE is applicable, because the manuscript is based on routinely collected program data and does not examine associations between risk factors and outcomes. As per this comment, we have prepared a copy regardless, included with this resubmission. We selected the cross-sectional checklist as being closest to the key data, presented in Table 3. However, for these reasons we are unsure that this is really representative of the data presented.

Editor Comments to Author:
- Please rename your Conclusion section as 'Discussion'.

Author response: Done.

Reviewer(s)' Comments to Author:

Reviewer: 1
Reviewer Name: Mwita Wambura
Institution and Country: National Institute for Medical Research, Mwanza Centre, Tanzania Please state any competing interests or state 'None declared': None

Please leave your comments for the authors below The paper is well structured and written, the conclusions are supported by the analysis of the data presented and therefore the paper can be accepted for publications in BMJ Open after considering my comments below

Reviewer: 2
Reviewer Name: Sehlulekile Gumede-Moyo
Institution and Country: London School of Tropical Medicine and Hygiene Please state any competing interests or state 'None declared': None

Please leave your comments for the authors below VMMC is a very topical subject and this paper has a potential of capturing the readers if improved. The authors can improve the structure of the paper by summarising the existing parts and then add some interesting ideas such as targets Vs achievements, enlighten us more on the extent of adverse events and how they are being managed in different countries. Since authors have full access of the data set, I am sure its within their means be able to include the suggestions. Otherwise the current manuscript is just a narration.

Author response:

VMMC targets: PEPFAR country-level VMMC targets for 2017 are publically available at https://www.pepfar.gov/countries/cop/c71523.htm (FY16 Budget and Target reports; these refer to targets for the following year). As requested, we have now incorporated them into table 2 and added text in the results discussing them. These are also publically available for other years at https://www.pepfar.gov/countries/cop/index.htm; however, please be aware that years before 2016 (the FY2015 operational plan) did not capture all PEPFAR funding streams and their associated targets, so do not represent total VMMC targets for each country.

Adverse events: PEPFAR VMMC program adverse events are not captured as reporting indicators (they have not been captured since 2015). However, data on the small subset of most-severe adverse events which are considered 'notifiable' is reported to PEPFAR via a different pathway, and is provided in a separate manuscript with partially overlapping authorship which is currently under review. Service delivery safety and quality is a crucial consideration for PEPFAR programs and is

also supported through such activities as External Quality Assurance Visits, Continuous Quality Improvement, and the Site Monitoring System; however, we have not discussed these in the paper since there are not associated outcome indicators like AEs.

Reviewer Comment:
Page 5, line 8 give examples of devices (prepex, shangrin) Under the reference list the following reference should have access dates - 4,5,7.11.12.13.17, 20 , 28, 31 etc

Author response: We have followed WHO practice in not providing commercial names of devices to avoid the appearance of endorsement. We can provide the generic categories (collar clamp, elastic collar) if desired, but these are never referenced again, and we are not certain how this would benefit readers. All references with URLs have been updated with access dates.

Reviewer Comment:
Reviewer: 3
Reviewer Name: Kim H. Dam
Institution and Country: Johns Hopkins Bloomberg School of Public Health, USA Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below Please see attached file for additional detailed comments.
The abstract can be revised to reflect what is discussed in the conclusion section.
The methods can more clearly describe how the % were calculated. May want to provide a brief summary of major findings in the discussion/conclusion so that the discussion section is justified by the results.

Author response: Abstract text has been edited to avoid introducing the concept of older, sexually active clients. The method section has been edited to add: "Not all sites are able to collect and report circumcision data by each disaggregate for all clients. Therefore, percentages presented here for each disaggregate are calculated only among clients for whom data on that disaggregate were reported". The first paragraph of the discussion has been expanded to provide the requested summary; then paragraphs 2-7 cover results reported in the Results section in more detail.

Reviewer: 4
Reviewer Name: Simon Peter Sebina Kibira Institution and Country: Makerere University, School of Public Health. Uganda Please state any competing interests or state 'None declared': None declared

Reviewer Comment:
Please leave your comments for the authors below
Page 14, line number 41 and the following. Does this policy only affect Uganda? If it affects other program countries as well, then would there be another plausible explanation for Uganda's decline during that time? Were there any issues with the IPs reported? Any problems with management? Just thinking loudly. The reason given may not be the only reason.

Author response: Uganda adopted a particularly strict version of the tetanus immunization policy (applied to all VMMCs, not just those done via device methods) for a period of time, until this was liberalized. The following sentence has been added to that section to clarify this without going into excessive detail: "**Similar policies** may have also impacted performance in several other countries." We have also added the issue of IP performance in the new paragraph discussing performance against targets in the Discussion section.

VERSION 2 – REVIEW

REVIEWER	Sehlulekile Gumede-Moyo London School of Hygiene and Tropical Medicine
REVIEW RETURNED	10-May-2018

GENERAL COMMENTS	Is it possible to reduce the number of words for your conclusion, to something like this- The VMMC program has achieved rapid scale-up but continues to face challenges such, reluctance for HIV testing and stock outs. However new approaches may be needed to achieve the new UNAIDS goal of 27 million additional circumcisions through 2020.

REVIEWER	Simon Peter Sebina Kibira, PhD Makerere University, Uganda
REVIEW RETURNED	03-May-2018

GENERAL COMMENTS	Well done

VERSION 2 – AUTHOR RESPONSE

Reviewer comment: Is it possible to reduce the number of words for your conclusion, to something like this- The VMMC program has achieved rapid scale-up but continues to face challenges such, reluctance for HIV testing and stock outs. However new approaches may be needed to achieve the new UNAIDS goal of 27 million additional circumcisions through 2020.

Author response: Thank you for this recommendation for streamlining the manuscript. We have made numerous edits in this paragraph to shorten it by removing any extraneous language (last paragraph of manuscript), including removing references to target coverage for the Fast Track strategy and repetition of the importance of reaching the 15-29 age group. We do feel that the specific concepts of new strategies needed for achieving the 'age pivot' and the WHO/UNAIDS goal of integrated services are important to mention as the goals that future strategies will need to meet, so have retained these in a shortened form.