PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	The impact of conditional cash transfer programmes on antenatal care service uptake in low- and middle-income countries: a systematic review
AUTHORS	Jacobs, Ward; Downey, Laura

VERSION 1 – REVIEW

REVIEWER	Khanal , Geha Nath The University of Melbourne
REVIEW RETURNED	18-Jun-2022

GENERAL COMMENTS	Thank you for the opportunity to review this manuscript. The authors have conducted a systematic review of the impacts of conditional cash transfer (CCT) programmes in antenatal care service utilization in low- and middle-income countries (LMIC). The main finding reported from 18 included studies concluded the inconclusiveness of evidence base regarding whether or not CCT programs are effective in increasing the ANC coverage in LMICs. Thus, this systematic review suggests for further high-quality studies to assess the impact of CCT programs in ANC coverage. The systematic review addresses most PRISMA 2020 transparent reporting of systematic reviews and meta-analyses guidelines as explained and elaborated by the article written by Page and colleagues(https://www.bmj.com/content/bmj/372/bmj.n160.full.pdf) with a few minor exceptions noted below. Abstract • The objective is not clear here. The authors should provide an explicit statement for main objective of this study. In the method section, the authors have mentioned that “A systematic review was carried out to determine whether CCT ……” This should be on the objective section rather than in the method section. • Specify the duration of information sources (database search)- between what period the database search was conducted should be clear. Say database inception and 21st January 2022. • How the risk of bias was done should be mentioned here. • Results Section: Paraphrasing of first sentence might be better. Out of identified 1534 articles, 18 were included for detail analysis or something like this. Introduction

	Line 38: “government and multilateral agencies to invest in cost-effective interventions to increase ANC uptake …..” why multilateral only ? why not bilateral ? Line 43, “ .. investigate the impact of poverty in relation to program success” is much vague since the authors have stated the ANC visit as the outcome of study. Method The method of this systematic review is clearly mentioned. Some minor comments in this section are • Reference might be required in line 54-56, page 7 (ROB-2 tool) • The authors could have mentioned the domains of the tools that they are using here • Punctuation error (line -57, page 7) Result • The study selection flow chart is incomplete (some text might be missing), and is not clear. The authors could have stated that 16 studies were identified via database and register and 2 were identified via other methods in the flowchart clearly. The text and the figure are not matching in some places. • The authors have presented the study characteristics in two tables (Table 2 and Table 3) They have done a wonderful job by explaining the details of each study in the tables. However, it would be better to merge these two tables into a single one. The authors can prepare the supplementary table to explain the details of each study if relevant rather than keeping all information in the main table. o The detailed name of the article might not be required in Table 2 o The national income in Table -3 might not be necessary to state in each row. Instead of this, the authors could have inserted some symbols to denote such information • Please reconfirm the program and benefits after adjusting for inflation (Table 3). The non-adjusted benefits and the monetary value of 2021 can be shown in supplementary files somewhere to make readers understand more clearly. • 95% CI (Line 41-43 of page 12) should be kept along with the value of the treatment effect. Discussion First paragraph: Reference might be required here Para 2: Please cite the studies which were those 8, 7, and 3 studies that the authors are referring to here. References: #18 – Accessed date might be 21st January 2022 instead

REVIEWER	de Brauw , Alan International Food Policy Research Institute
REVIEW RETURNED	26-Jun-2022

GENERAL COMMENTS	Comments on ``The Impact of Conditional Cash Transfer Programmes on Antenatal Case Service Uptake in Low- and Middle-Income Countries: A Systematic Review''  The paper, ``The Impact of Conditional Cash Transfer Programmes on Antenatal Case Service Uptake in Low- and Middle-Income Countries: A Systematic Review'' conducts a

	systematic review of the effects of conditional cash transfer programmes on antenatal care. I don't really have any comments on the methodology here, but I have some thoughts that I think can be used to improve the paper: 1. The authors are really comparing (at least) two different types of programmes-- those that are exclusively for antenatal care, and those that are more general conditional cash transfer programs. It might be useful to differentiate these two types of programmes, as antenatal care ``only'' programs are, quite frankly, ineffective if cash is given but antenatal care use does not seem to increase (specifically, one must think the conditions were not applied effectively). But programs with multiple targeted outcomes might be effective on another set of outcomes, and it might not be as important (to the program managers) if antenatal outcomes were not attained. 2. I was struck by the long time period studied here- if I have it correct, it is 1997 to 2017, and there has been a lot of global learning about conditional cash programmes over that period. There has also been quite a bit of improvement in record keeping-- particularly towards the very end of that period, when cheap smart phones became available and record keeping by all sorts of entities became easier (if not accurate). A thought here is that while for some of the older programs survey data collection might have been essential since records were not even computerized, but more recently they likely should have been, especially with conditional cash programmes ongoing. One might think that would improve the efficacy of programs. 3. I was also struck by the heterogeneity in outcomes for these 18 studies, even if there are only eighteen studies. I wondered if 1) WHO recommendations for the minimum amount of antenatal care needed might have changed over the long time period studied, and 2) whether it might be possible to at least for a subset of studies make a statement about whether it seems these programs are improving antenatal care towards that standard. For example, where the ``number of visits'' is the dependent variable, can you say anything about how the distribution might have changed based on the treatment effect? It seems to me that the paper would be stronger if it could make a statement either about how the minimum recommended visits gets closer to being attained, or makes a plea for tracking that outcome, which seems to me to be the important one here. 4. I think the absolute size of the transfer doesn't matter, but the size of the transfer relative to, say, median wages does matter (or GDP per capita as a proxy). In richer countries \$70 is not going to move people, but in poorer ones it has a much better chance of doing so. Minor comment: In the introduction the paper stated unconditional programs are ``far less commonly employed''- and then cites a paper studying Pakistan (which, ironically, has a large unconditional cash transfer program). Given the number of programs that cropped up- even if only pilots- in Africa in the recent decade- are you sure that is true?

VERSION 1 – AUTHOR RESPONSE

Reviewer 1			
3	Abstract	The objective is not clear here. The authors should provide an explicit statement for main objective of this study. In the method section, the authors have mentioned that "A systematic review was carried out to determine whether CCT ……." This should be on the objective section rather than in the method section.	Thank you. The first sentence of the Methods section (under the abstract) has been shifted to the Objective section (last sentence).
4	Abstract	Specify the duration of information sources (database search)- between what period the database search was conducted should be clear. Say database inception and 21st January 2022.	Thank you. We have revised the first sentence of the Methods section (under the abstract) to: 'Electronic databases CENTRAL, MEDLINE, Embase, Maternity and Infant Care and Global Health were searched from database inception to 21 January 2022.'
5	Abstract	How the risk of bias was done should be mentioned here.	Thank you. We have now added one sentence to the end of the Methods section: 'Risk of bias assessments were undertaken for each study by applying the ROB-2 and ROBINS-I tools.'
6	Abstract	Results Section: Paraphrasing of first sentence might be better. Out of identified 1534 articles, 18 were included for detail analysis or something like this.	Thank you for this comment. We have revised the sentence to be more concise.
7	Intro	Line 38: "government and multilateral agencies to invest in cost-effective interventions to increase ANC uptake ….." why multilateral only ? why not bilateral ?	Thank you. We have revised this sentence to: '…there is an urgent need for **bilateral** and multilateral agencies and government to invest…'

8	Intro	Line 43, " .. investigate the impact of poverty in relation to program success" is much vague since the authors have stated the ANC visit as the outcome of study.	Thank you for this observation. We can indeed be more precise here and have replaced 'programme success' by 'ANC attendance'.
9	Methods	Reference might be required in line 54-56, page 7 (ROB-2 tool)	Good observation. Although, the reference (no 15) applies to the entire paragraph, so covering both the ROB-2 as ROBINS-I tool.
10	Methods	The authors could have mentioned the domains of the tools that they are using here	Thank you. We have added the domains accordingly.
11	Methods	Punctuation error (line -57, page 7)	Thank you. We have removed one of the dots in the end of '…clarifying the risk of bias by trial.'
12	Result	The study selection flow chart is incomplete (some text might be missing), and is not clear. The authors could have stated that 16 studies were identified via database and register and 2 were identified via other methods in the flowchart clearly. The text and the figure are not matching in some places.	Thanks for this observation. We have added a breakdown to the final box 'included' in between brackets: '(16 via databases and registers and 2 via other methods)' We have included final excluded top-line figures above each list of exclusion for clarity. We have also checked all numbers within the figure and can confirm that the text within the figure is accurate.
13	Result	The authors have presented the study characteristics in two tables (Table 2 and Table 3) They have done a wonderful job by explaining the details of each study in the tables. However, it would be better to merge these two tables into a single one. The authors can prepare the supplementary table to explain the details of each study if relevant rather than keeping all	We thank the reviewer for this kind comment and observation. We chose to separate the two tables as table 2 describes each study and table 3 describes each CCT programme. We note that in some cases, a number of studies were produced that reported on a single program. In this way, we believe that it is important to present information in both tables separately so as not to inadvertently confuse readers by implying that each paper corresponds to a separate program, and to ensure clarity and transparency on how outcomes from the same CCT programmes were presented in different publications. We hope that the reviewer understands our reasoning for maintaining the separable tables for the sake of transparency.

		information in the main table.	
14	Result	The detailed name of the article might not be required in Table 2	Thank you. We have removed this column in the table.
15	Result	The national income in Table -3 might not be necessary to state in each row. Instead of this, the authors could have inserted some symbols to denote such information	Thank you. We have replaced national income information with a symbol system as the reviewer suggested.
16	Result	Please reconfirm the program and benefits after adjusting for inflation (Table 3). The non-adjusted benefits and the monetary value of 2021 can be shown in supplementary files somewhere to make readers understand more clearly.	Thank you. We can confirm we have checked the accuracy of each program and associated benefits after adjusting for inflation. The non-adjusted values have been placed in a supplementary file for transparency.
17	Result	95% CI (Line 41-43 of page 12) should be kept along with the value of the treatment effect	Thank you. Unfortunately, not all studies reported against the 95% confidence interval. This has been amended by adding NA (not available).
18	Discussion	First paragraph: Reference might be required here	Thank you. We have added references.
19	Discussion	Para 2: Please cite the studies which were those 8, 7, and 3 studies that the authors are referring to here.	Thanks for the observation. These studies are now properly referenced.
20	Discussion	References: #18 – Accessed date might be 21st January 2022 instead	Thanks for the observation as well. This has been corrected and now reads ’21 January 2022’.
Reviewer 2			
21	Results Discussion	The authors are really comparing (at least) two different types of programmes-- those that are exclusively for antenatal care, and those that are more general conditional	Thanks for this valid comment. It is correct that the conditionalities (as presented in table 3) vary across CCT programmes and this is taken into consideration both in terms of how the studies are reported in the results, and in the discussion section. We agree that it does seem that cash for ANC care only appears to be of limited success, however cash as a consequence of engagement in a range of services appears to enhance

		cash transfer programs. It might be useful to differentiate these two types of programmes, as antenatal care ``only'' programs are, quite frankly, ineffective if cash is given but antenatal care use does not seem to increase (specifically, one must think the conditions were not applied effectively). But programs with multiple targeted outcomes might be effective on another set of outcomes, and it might not be as important (to the program managers) if antenatal outcomes were not attained.	uptake and associated outcomes. We do postulate this in the discussion section of the paper, where conditionality is covered as one of the possible factors for success (or failure).
22	Methods	I was struck by the long time period studied here- if I have it correct, it is 1997 to 2017, and there has been a lot of global learning about conditional cash programmes over that period. There has also been quite a bit of improvement in record keeping-- particularly towards the very end of that period, when cheap smart phones became available and record keeping by all sorts of entities became easier (if not accurate). A thought here is that while for some of the older programs survey data collection might have been essential since records were not even	Many thanks for this astute observation. It is one that we the authors share. However, we caution the assumption of 'better data equals better program efficacy' – as the reviewer will most likely agree, better data can sometimes also shine a light on previously missed 'red flags' for program inefficacy or inefficiency. E.g. better diagnostics and record keeping for diabetes as a consequence of an enhanced primary care program may in fact show that diabetes has sharply increased, not by virtue of a gross failure of the program, but instead by uncovering for the first time the true 'baseline' or set of problems experienced on the ground. In any case, the reviewer makes a valid point that we have included in the second last paragraph of the discussion so as to spark further thought and debate on this issue.

		computerized, but more recently they likely should have been, especially with conditional cash programmes ongoing. One might think that would improve the efficacy of programs.	
23	Results	I was also struck by the heterogeneity in outcomes for these 18 studies, even if there are only eighteen studies. I wondered if 1) WHO recommendations for the minimum amount of antenatal care needed might have changed over the long time period studied, and 2) whether it might be possible to at least for a subset of studies make a statement about whether it seems these programs are improving antenatal care towards that standard. For example, where the ``number of visits'' is the dependent variable, can you say anything about how the distribution might have changed based on the treatment effect? It seems to me that the paper would be stronger if it could make a statement either about how the minimum recommended visits gets closer to being attained, or makes a plea for tracking that outcome, which seems to me to be the important one here.	Thank you for this comment. There were no changes in WHO- recommended ANC visits during our study period. However, it is true that minimum recommended ANC visits have changed over time from a recommendation made in 2002 by the WHO for women to engage in 4 ANC visits, to an updated recommendation made by the WHO in 2015/16 for women to attend 8 ANC visits. Prior to the official change in recommendation, there had been over a decade of advocacy efforts for WHO to increase their recommendation of 4 visits, with broad global consensus that this was far too low. See WHO recommendation on antenatal care contact schedules (srhr.org). This is an important observation and one that we recognise is missing from the manuscript. We have referenced the 8 WHO-recommended visits from 2016 onwards in the introduction of the paper and again in the discussion. However, our ability to correlate the number of ANC visits attended with the recommended number of visits by the WHO is compromised by the lack of availability of this information in the reported studies. Less than half (7 out of 18) of studies mention the number of ANC visits. We recognise this is a major flaw in result reporting, and in our ability to track ANC uptake against recommended uptake. We have added information on this to the second last paragraph of the discussion section. Many thanks for this observation and for allowing us the opportunity to strengthen the paper accordingly.

24	Results	I think the absolute size of the transfer doesn't matter, but the size of the transfer relative to, say, median wages does matter (or GDP per capita as a proxy). In richer countries \$70 is not going to move people, but in poorer ones it has a much better chance of doing so.	Thanks for this comment, which we fully agree with. We have provided the income level of the country in table 3 which lists all the CCT programmes. We have also discussed this in the discussion section where we have one paragraph dedicated to money transfers including a comparison between contexts.
25	Intro	In the introduction the paper stated unconditional programs are "far less commonly employed"- and then cites a paper studying Pakistan (which, ironically, has a large unconditional cash transfer program). Given the number of programs that cropped up- even if only pilots- in Africa in the recent decade- are you sure that is true?	Thank you for this valid comment as well. We removed this statement from the sentence. It might be difficult to understand which programmes are implemented more often due to the lack of good information (inventory).

VERSION 2 – REVIEW

REVIEWER	Khanal , Geha Nath The University of Melbourne
REVIEW RETURNED	25-Sep-2022

GENERAL COMMENTS	There are some minor comments before accepting for publication. 1. Some text (may be screening) is missing in the figure-1. Please make sure that it is addressed. 2. Table-3: The content 2022 adjusted can be kept at table heading instead of writing it in each row.

REVIEWER	de Brauw , Alan International Food Policy Research Institute
REVIEW RETURNED	17-Sep-2022

GENERAL COMMENTS	No further comments.

VERSION 2 – AUTHOR RESPONSE

Reviewer 1			
2	Figure 1	Some text (may be screening) is missing in the figure-1. Please make sure that it is addressed.	Thank you for noticing this important omission. We have added the word ‘screening’ to the middle descriptive blue box.
3	Table 3	The content 2022 adjusted can be kept at table heading instead of writing it in each row.	Thank you for this comment, we agree that the table does not need this repetitive information and have removed it accordingly and incorporated the 2022 price adjustment into the table title.
Reviewer 2			
4	N/A	No further comments	Thank you. We are pleased that the reviewer is satisfied by addressing the previous comments.
End of comments			