RESEARCH ARTICLE

Get Smart: Learning and partnership with Ethiopia's Health Extension Programme to re-envision contraceptive service delivery to young couples [version 1; peer review: 2 approved]

Gabrielle Appleford ¹, Claire Cole ², Metsehate Ayenekulu ³, Sue Newport¹, Emma Mulhern¹

¹Itad, Preece House, Davigdor Road, Hove, BN3 1RE, UK

²Population Services International, 1120 19th Street Northwest, Suite 600, Washington, DC, 20036, USA

³Population Services International, METI Office Park, Bole Sub City, Kebelle 03/07, Namibia Street, Addis Ababa, Ethiopia

v1 First published: 15 Oct 2019, 3:1570
<https://doi.org/10.12688/gatesopenres.12970.1>

Latest published: 15 Oct 2019, 3:1570
<https://doi.org/10.12688/gatesopenres.12970.1>

Abstract

Background: Adolescents 360 (A360) implements the Smart Start (SS) programme through Ethiopia's Health Extension Programme (HEP). SS is premised on financial planning as an entry point to discuss family planning (FP) with newly married couples and central to its delivery are the health extension workers (HEW). This article evaluates the A360 experience and learning from the process evaluation implemented by Itad to understand contextual barriers and enablers from the perspective of the HEW.

Methods: A purposive sampling strategy was employed whereby 27 key stakeholders were identified from Oromia, Addis Ababa and Amhara, based on exposure to the SS programme. Findings from the action research were shared with A360 through a one day sounding workshop.

Results: Findings revealed that many local government and communal respondents do not view adolescent pregnancy as a problem, unless out of wedlock, and adolescent pregnancy is closely linked to early marriage. As a result, some providers, including HEWs, acknowledged that married adolescent girls were previously 'neglected' by them, while husbands indicated that they had not previously been included in FP counselling. Findings also revealed some challenges with SS implementation as HEWs were 'deprioritizing' the intervention and many HEWs had been *in situ* for several years and were overworked and frustrated. Against this backdrop, A360 was viewed as adding to the HEW workload. While the programme design was focused on adolescent users, there was increasing recognition that HEWs also needed to be at the centre of solution design.

Conclusions: Despite challenges associated with the HEP, Ethiopia FP2020 plans to support the 'next generation' of HEWs, including a focus on adolescents and youth. To gain deeper insight and put the

Open Peer Review

Approval Status

	1	2
version 1		
15 Oct 2019	view	view

1. **Beth Anne Pratt**, Global Health Insights, New York, USA

2. **Kate Sabot** , London School of Hygiene and Tropical Medicine, London, UK

Any reports and responses or comments on the article can be found at the end of the article.

HEW at the centre of design, A360 will continue to work with the process evaluation to understand contextual barriers and enablers from the perspective of the HEW.

Keywords

Contraception, adolescent sexual and reproductive health, health extension programme

This article is included in the [International](#)

[Conference on Family Planning](#) gateway.

Corresponding author: Gabrielle Appleford (Gabrielle.aline@gmail.com)

Author roles: **Appleford G:** Conceptualization, Formal Analysis, Methodology, Writing – Original Draft Preparation; **Cole C:** Writing – Review & Editing; **Ayenekulu M:** Writing – Review & Editing; **Newport S:** Writing – Review & Editing; **Mulhern E:** Writing – Review & Editing

Competing interests: No competing interests were disclosed.

Grant information: This work was supported by the Bill and Melinda Gates Foundation [OPP1134172].

The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Copyright: © 2019 Appleford G *et al.* This is an open access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

How to cite this article: Appleford G, Cole C, Ayenekulu M *et al.* **Get Smart: Learning and partnership with Ethiopia's Health Extension Programme to re-envision contraceptive service delivery to young couples [version 1; peer review: 2 approved]** Gates Open Research 2019, 3:1570 <https://doi.org/10.12688/gatesopenres.12970.1>

First published: 15 Oct 2019, 3:1570 <https://doi.org/10.12688/gatesopenres.12970.1>

Introduction

How might we better meet the needs of adolescent couples with contraceptive counselling and services through Ethiopia's health extension programme (HEP)?

This was the motivation behind the integration of Adolescents 360 (A360) into Ethiopia's health extension programme (HEP), resulting in the creation of the Smart Start programme (SS; Box 1). The HEP is largely attributed with a 'significant and systematic' increase in the modern contraceptive prevalence rate and health equity improvements¹. This includes for married, child-bearing adolescents with no or little education, or those living in rural areas. Despite these achievements, low utilisation of and large unmet need for contraception remains among this population, alongside increasing recognition of an overstretched HEP and overworked health extension workers (HEWs), the 'backbone' of rural primary health care (PHC).

Box 1. Smart Start solution

"Smart Start focuses on what's relevant to married adolescent girls: their ability to set up a new home for the first time, to find a path to financial stability, and to have healthy children. With Smart Start, contraception becomes a key tool to achieving these goals."

A360 Ethiopia business case

Through a transdisciplinary approach, A360 merges public health, human-centred design (HCD), adolescent developmental science, socio-cultural anthropology, youth engagement and social marketing to yield country-specific adolescent and youth sexual and reproductive health solutions. The A360 project is implemented by Population Services International (PSI) and works in partnership with IDEO.org, Center for the Developing Adolescent at University of California, Berkeley and the Society for Family Health Nigeria. A360 is co-funded by the Bill and Melinda Gates Foundation and the Children's Investment Fund Foundation.

In the Ethiopian context, the SS programme, premised on financial planning, is an entry point to discuss family planning with newly married couples. Whilst the design of the programme was guided by adolescent girls, central to the delivery of are the HEW. The HEW are supported by a PSI Smart Start Navigator (SSN) to deliver couples counselling and family planning (FP) services ("catch up") but are subsequently left to continue the SS programme ("keep up"), while the SSN moves to another location. The SS programme has been tasked with demonstrating its effectiveness to the HEP before its adoption by the Federal Ministry of Health (FMOH) of Ethiopia.

In this article, we describe the result of participatory action research (PAR) undertaken to evaluate the A360 project, which includes evaluation of the HEP, the HEW and the SS programme.

Methods

Itad is working in collaboration with the London School of Hygiene and Tropical Medicine (LSHTM) and Avenir Health to independently evaluate and distil lessons from the A360 project.

As part of this evaluation, a process evaluation (PE) has been specifically designed to support A360 with 'uncovering' contextual enablers and barriers and to guide adaptive management and course correction. The PE, grounded in A360's theory of change, has four areas of inquiry - process, context, experience and solution. To date, the PE has included four rounds of data collection over the period of 2016-2017 in two regions and one municipality of Ethiopia; Oromia, Amhara and Addis Ababa.

In early 2018, the PE conducted PAR, the basis of the findings presented below^a. This involved co-development of the action research focus with A360, while data collection and analysis were conducted independently by a PE team. A purposive sampling strategy was employed whereby, in consultation with the A360 Ethiopia team, key stakeholders were identified, based on exposure to the SS programme. These included Federal Ministry of Health programme managers; HEP staff, including HEWs; and, PSI staff involved in SS programme delivery. Staff were interviewed using discussion guides (see *Extended data*)² in their places of employment and interviews took approximately 45 minutes to one hour. Participant oral consent was sought in advance of interview. Oral consent was selected due to poor literacy of some participants and potential reluctance to sign documents. These were taped using a digital recorder, de-identified and later transcribed. In total, 27 key stakeholders were interviewed from Oromia, Addis Ababa and Amhara. Findings from the PAR were shared with A360 through a one day sounding workshop facilitated by the evaluation team in a participatory manner. The workshop provided a safe space where team members could critically engage with PE findings and reflect on what this means for A360 learning and optimization of implemented solutions. This included interactive sessions where A360 team members identified areas for further exploration, for example, through the use of a seasonal calendar to reflect on HEW workload and other touch points for introducing family planning as part of household financial planning (Figure 1).

Data analysis

Analysis was undertaken by the PE team lead and reviewed by the two national PE researchers. Key informant interviews were coded using qualitative analysis software (Dedoose v8.2.12; other non-proprietary software for coding includes QDA Miner Lite). A pre-defined coding frame was employed (see *Extended data*)², aligned to the domains of the PE and relevant evaluation questions. Common themes were drawn out into a word narrative document (see *Extended data*)², tracking relative weight of number of respondents expressing a view. This was also used to develop the basic heat map (Figure 2).

Key findings

Findings are presented using the three areas of inquiry for the PAR: the HEP; the HEW; and the solution - Smart Start. We

^aParticipatory action research is "a set of principles and practices for originating, designing, conducting, analysing and acting on a piece of research... Within PAR projects, many different methods may be used." (<http://www.aral.com.au/resources/guide.html>).

Figure 1. Seasonal calendar prepared during the workshop.

Figure 2. Heat map of community structures.

present implications at the end of the article to guide further investigation.

Health Extension Program

From Health Extension Workers (HEWs) through to Ministry of Health (MoH) program managers, there is strong agreement that maternal and child health (MCH) is the priority of the HEP. Family planning is also recognised as a priority but relative to MCH, and, in many instances, is viewed as being *for* mothers. Older and high parity mothers are reported as prioritized. While adolescent health is included in the HEP, this is viewed more as health promotion and less as service delivery.

“...the [health extension] program has a problem in addressing health access for adolescents.” MoH Respondent

For the HEP, the intersection of FP and adolescents is MCH, when an adolescent girl becomes pregnant. Ethiopia has a high teenage pregnancy rate (18% of all women giving birth in rural areas) and high rates of child marriage remain prevalent in all regions (49% in rural areas)³. The MoH has made both a key priority and has defined a national adolescent and youth health strategy³. To avoid teenage pregnancy, if not child marriage, some respondents noted that mothers sometimes bring their daughters for family planning in *advance* of marriage.

“...the [health extension] program has a problem in addressing health access for adolescents.” MoH Respondent

Health Extension Worker

HEWs reported an extensive list of tasks that they perform, with most citing MCH activities as their priority. In most instances, HEWs expressed satisfaction in making children well, and saving mothers' lives. Satisfaction was reported to come from seeing a visible change, such as a healthy child, a clean environment or a happy mother.

“If you are a mother I think you would understand what a mother feels when her child gets sick and what she feels when he gets better. So, I am very satisfied when I see a mother's happy face.” HEW

Similar to MoH respondents, HEWs noted seasonal variation in their priorities and workload. These varied by region, informed by HEP plans and priorities and influenced by topography and demography.

Dry season. Workload increases during the dry season as the HEWs do outreach to households.

“The mode of life our community is mobile so it is difficult to access community during dry seasons. However, HEWs provide family planning services to the community either before they leave or where they settle through outreach programs. And thus, workload increases

during dry season for we have frequent outreaches.” MoH Respondent

Rainy season. The rainy season is associated with discontinuation of short-term FP methods and unintended pregnancy. While FP does not have a 'season', adoption and continuation are seasonally impacted and is one of the main reasons that the MoH is promoting long-acting reversible contraception (LARC).

“During rainy seasons the work load became less because it is very challenging to come to the health post due to the over flow of water. Even the number of pregnancies increase during the rainy seasons since most women discontinue using family planning.” (HEW Respondent)

Wedding season. While the SS programme has identified the wedding season^b as key months for promoting adolescent contraception, weddings are associated with demonstrating fertility. Some respondents further acknowledged that adolescents have already engaged in sex before the wedding and this is 'just the formality'.

“The official wedding is just for the formality, I can say most of them are already start sex or they are living together before the wedding. Some of the adolescents are pregnant on their wedding.” HEW

Adolescents without children have not been the main 'target audience' of HEWs. Smart Start is associated with having changed this for married adolescents but this may not be the case for unmarried adolescents.

“So, if they use family planning, they get time to think about their future life. Early marriage is common in our surrounding.” HEW

Through the sounding workshop, participants developed seasonal calendars for Oromia and Amhara regions. They identified that HEWs performed a number of non-health related activities that involve husbands, such as seasonal distribution of fertiliser, suggesting that there may be other touch points for introducing family planning as part of household financial planning.

Smart Start programme

Financial planning for couples was viewed as part of Smart Start's unique selling point (USP). The counselling manual (see *Extended data*)², produced for this programme, is considered attractive and the images engaging for participants and HEWs. While the manual appeared to generate dialogue with couples sometimes the HEW cannot address their questions.

“These manuals make Smart Start program out of the ordinary.” HEW

^bThe months of January and April are wedding 'seasons' for Christians, there is no season for Muslims.

Despite the manual's attraction, counselling with it is reported to take a long time (approximately one hour). While HEWs reported that they were comfortable with counselling on financial planning, where Smart Start Navigators (SSNs) have been working, the division of labour has seen SSNs provide the financial counselling while HEWs focus on FP. This is likely due to HEW workload and greater comfort with FP.

"It takes you more than 30 minutes in order to bring a mother to family planning. So, the short hand of this manual would be important. The current manual differs from the previous manuals that it focuses more on economic aspect while the previous ones focuses on explaining about the medicines." HEW

Couples counselling is also viewed as part of SS's 'USP'. While this resonated with MoH respondents, in practice it was difficult to implement. A husband's lack of availability featured as part of the challenge. The heavy workload of married adolescent girls was also reported to constrain their availability.

"In the absence of husbands, we provide counselling to the wives and ask them to come back with their husbands. In so doing, we go half a way." PSI Ethiopia Respondent

HEWs reported being satisfied when couples agreed to be counselled and took up a FP method. When this was not the case, it was reported as frustrating, given the time taken to visit the household and do the counselling.

"It is a difficult task but I feel happy when they accept my advice. Contrary to this I feel more tired when they ignore me." HEW

Smart Start support

A360 has introduced SSNs (Oromia only) and *woreda* (district) health advisors (Oromia and Amhara) to support SS implementation. SSNs were viewed as an extra pair of hands, working closely with, and sharing the workload of, HEWs. Smart Start staff based at *woreda* level troubleshoot supply-side constraints in the health system. HEWs expressed the need for more 'morale and technical support' after the SSN has left the *kebele* (village).

"We support her in SS program and she also support us in other health extension activity. We have very good relationship with her...If they provide the SS counselling to the married adolescents, I can stay in the health post to perform other health extension activities." HEW

HEW support for SS has ranged from resistance, to bargaining, to acceptance. Resistance was reported initially at the time of the SS training and mainly emanated from HEW concerns about workload. Bargaining is also evident in the way some HEWs have agreed a division of labour with SSNs, whereby HEWs focus on family planning while SSNs focus on the financial counselling.

Finally, in some instances, there is acceptance, underpinned by an intrinsic motivation to address adolescents' wellbeing.

"On the training we were resistant to accept and implement SS program, we mentioned that we are very busy, and we have very much work loaded in other HEP, but later we believed that it is our responsibility to serve the community... I will consider Smart Start as part of my routine job so that I can get mental satisfaction, I will do it not to be judged by my conscious." HEW

The community plays a critical but under recognised role (in terms of support) for the SS programme. In particular, *kebele* and women's development army (WDA) leaders were considered as playing a brokerage role within their communities. In many instances, the WDA actively supports the identification of newly married couples and mediates with husbands to get them to attend counselling.

"We should empower the community, particularly the grassroots level stakeholders, for example, women groups in terms of skills, attitudes, so that the community produce its own health." MoH Respondent

Smart Start future

There are a number of potential sources of support for Smart Start as it looks to the future and optimization.

Community leading. There was opinion that the community does not need to be pursued by SS, but rather should be the pursuers of the programme. This suggests that rather than 'pushing' SS through door-to-door visits, SS should 'pull' the community using existing community structures and natural touch points. Using existing community structures may make it easier to engage with husbands, considered a USP of the Smart Start solution. In particular, the *kebele* leadership was viewed as highly influential with husbands if they themselves are convinced. Not to be under-estimated, WDA leaders were also viewed as being able to convince husbands about the merits of Smart Start. A rough heat map^e of the importance of community structures is included in Figure 2 based upon respondent feedback.

"Once awareness is created effectively the community asks the service by itself" MoH Respondent.

"More influential for them [husbands] is the Kebele leader. So, if we use the Kebele leader to talk to the husband, it would be better and more influential." MoH Respondent

Entry point. If HEWs can integrate financial planning into FP, can FP be included in financial planning? Using a broader community structure, and being led by the community, may open

^eWhere the intensity of the colour on the heat scale (blue/cool through to red/hot) is indicative of the level of importance of the community structures

more possibilities for integration and leverage. There is precedent for this within resilience programmes which the SS programme may wish to explore^d.

“In our community when people meet they ask each other about their health, finances or businesses next to greeting. Therefore, there is no problem in discussing financial planning and then family planning simultaneously.” MoH Respondent

“The kebele administration structure is supposed to work on transforming the livelihood of households. Part of that is family spacing and working on a planned manner...” MoH Respondent

Health system. Smart Start requires greater integration into the health system if it is to be absorbed into the HEP. Greater integration may facilitate adoption in other kebeles (within clusters) without the need for additional Smart Start human resources, as is currently the case. With communities leading and more communal touch points for Smart Start, the solution may be less vulnerable to weaknesses in the health system. At the moment, Smart Start is highly reliant on the HEW, their role being seen as ‘decisive’ to its future.

“It may continue in some kebeles. You cannot predict at this early stage. It depends on what HEWs do mainly with regards to finding and convincing the newly married couple to bring them to family planning services. In other words, the role of HEWs is decisive.” MoH Respondent

Conclusion and implications

Despite challenges associated with the HEP, Ethiopia FP2020 plans to support the ‘next generation’ of HEWs and ensure LARC capacity at PHC levels. This includes a focus on adolescents and youth. The A360 experience and learning from the Itad PE can be brought to bear on this ‘next-gen’ aspiration. To gain deeper insight and put the HEW at the centre of design, A360 will work with the PE to understand contextual barriers and enablers from the perspective of the HEW.

^d**Partnership with a Microfinance Organization:** In India, PROGRESS partnered with the Network of Entrepreneurship & Economic Development (NEED) to test an intervention through which village health guides provided family planning messages and referrals. **Family Planning Services through Agricultural Field Days:** Pilot research to integrate health services into field days sponsored by Land O’Lakes dairy cooperatives in Kenya successfully linked underserved populations with health services, including resupply of family planning methods. **Partnership with the Green Belt Movement:** Staff of the Greenbelt Movement’s population, health and environment project in Kenya were trained to teach volunteers how to integrate family planning discussions into their routine environmental activities.

Based on the findings from this action research and the sounding workshop, PSI Ethiopia will work with IDEO.org to explore a number of questions through a HCD process, with the HEW at the centre. As such, the conclusions are framed as questions in order to guide the HCD process. These may also have wider application for the HEP.

- Should Smart Start expand its focus from recently married adolescents, to those who have been married for some time and have had a child/children already? Should Smart Start also address unmarried adolescents given that they may already be having pre-marital sex?
- Seasons matter to the HEW workload. How can we plan around seasonal variation to optimise Smart Start and make it easier for HEWs to perform their tasks?
- How to position FP relative to MCH - what brings HEWs job satisfaction? Is it found in the absence of an event, such as an unplanned pregnancy?
- How can Smart Start capitalize upon its USP of engaging men in family planning through financial planning? Are there other touch points with men that Smart Start can mobilise?
- What motivates mothers to bring their daughters for family planning in advance of marriage? How can we learn from these early adopters without revealing their secret?
- What is the cost-benefit of Smart Start to the MoH? How can both integration into the HEP and cost effectiveness be improved?
- What is the cost-benefit of Smart Start to communities? How can both integration into other community-based activities and cost effectiveness be improved? How can communities ‘pull’ on Smart Start, so that is requires less ‘push’ from A360?

Data availability

Underlying data

The underlying data for this study consisted of interview transcripts which were coded and analysed and sounding workshop minutes. Approval was obtained from participants to use their anonymised data within research analysis and reports. However, the raw data transcripts contain a number of references to locations, organisations and individuals, which means that they cannot be effectively de-identified. Therefore, in order to protect participant privacy, transcripts and minutes have not been made available in a public repository. In order to request access to these files, please contact mary.lagaay@itad.com stating the reason access is being requested. Approval will be granted on a case-by-case basis (e.g. to researchers for specific research purposes), subject to ethics approval.

Extended data

Open Science Framework: A360 Ethiopia supporting documents.
<https://doi.org/10.17605/OSF.IO/E5AVF>²

This project contains the following extended data:

- A360 Ethiopia Case Study Data Collection Guide_V4_2018.04.20.doc (Data collection guide including discussion guides, consent form and write-up templates)
- Discussion Aide_HEW_Short_Amharic.pdf (Smart Start counselling manual)
- ET HEW case study_Proofread.docx (Full case study document)

- ET coding framework PDF.pdf (Coding framework used for data analysis)
- ET Analysis_Narrative.pdf (Narrative document prepared during analysis)

Data are available under the terms of the [Creative Commons Attribution 4.0 International license](#) (CC-BY 4.0).

Acknowledgements

We would like to thank all stakeholders who took the time to participate in this research, and the PSI Ethiopia team for their support. Data accessibility and publication of this article was supported by Mary Lagaay.

References

1. Hounton S, Barros A, Amouzou A, *et al.*: **Patterns and trends of contraceptive use among sexually active adolescents in Burkina Faso, Ethiopia, and Nigeria: evidence from cross-sectional studies.** *Glob Health Action*. Countdown to 2015 for Maternal, Newborn and Child Survival. 2015; 8: 29737.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
2. Lagaay M: **A360 Ethiopia supporting documents.** 2019; 31.
<http://www.doi.org/10.17605/OSF.IO/E5AVF>
3. FMOH and Population Council: **National Adolescent and Youth Strategy: Baseline Statistics 2017.** Population Council, Addis Ababa, Ethiopia. 2018.
[Reference Source](#)

Open Peer Review

Current Peer Review Status:

Version 1

Reviewer Report 06 February 2020

<https://doi.org/10.21956/gatesopenres.14077.r28348>

© 2020 Sabot K. This is an open access peer review report distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Kate Sabot

The Centre for Maternal, Adolescent, Reproductive and Child Health (MARCH), London School of Hygiene and Tropical Medicine, London, UK

Summary:

This paper describes a process evaluation of the Strong Start (SS) component of the Adolescent360 (A360) adolescent family planning program implemented by Population Services International (PSI) in select geographies within Ethiopia. The program was designed using HCD methods with adolescent women to ensure a user-centric approach to improving uptake of family planning among a hard to reach demographic. The SS program uses financial planning as an entry point to initiate family planning counselling sessions with newly married adolescent couples relying upon the Ministry of Health's Health Extension Program (HEP) platform to deliver this service. The cornerstone of the HEP are the Health Extension Workers (HEW), who along with assistance from Strong Start Navigators (SSN) in one region (Oromia), conducted approximately one-hour long counselling sessions using a visual discussion guide.

The process evaluation involved in-depth interviews (IDI) with 27 stakeholders drawn from the MOH federal/national, regional and zonal leadership, PSI staff, primary health care unit (PHCU) staff, HEWs and SSNs. These interviews were then analyzed and the findings summarized with recommendations for the next phase of implementation. While the discussion guides for the IDIs cover a wide range of topics, the paper focuses on the most actionable findings from the process evaluation, chief among them to shift the focus from adolescents to the health extension workers themselves, to ensure the program design is reflective of HEW perspective, given the model is reliant on them to drive implementation. The innovative and iterative approach to program development and the value of the richly qualitative process evaluation is important to share with the broader research community.

Methodologically sound and well written, my primary suggestion is to further situate the SS program and the PE findings in the context of the existing literature, as that will mark the difference between this being a rigorous case study and a research paper. It would also be helpful

to have a little more detail regarding the SS program.

In my report assessments I responded “partly” to two questions. Below are further notes as to why. I then provide further comments and by paper section below.

It was a delight to read this paper, I congratulate the authors for sharing their process and findings with the academic research community, as applied/implementation research studies often de-prioritize publication in the interest of focusing efforts and attention on translation of findings into programmatic improvements. There is great value in scholarly analyses of implementation research for both informing and sharing best public health practices and ensuring the relevance of academic research.

I hope my comments are helpful.

“Is the work clearly and accurately presented and does it cite the current literature?” Partly

The paper would benefit from referencing in the introduction articles covering background on the Health Extension Program, family planning models like this one in other contexts and in the discussion, grounding the interpretation of the findings in existing literature evaluating the HEPs. See below for more details in the respective sections of the paper.

“Are sufficient details of methods and analysis provided to allow replication by others?”

Partly

In reviewing the COREQ checklist one area was not provided: non-participation. Consider including if/how many potential participants refused and the reasons for refusal, if known. Additionally, the FMOH discussion guide was missing (see below under supporting documentation for more details).

Comments on paper sections:

Abstract:

The methods subsection specifies the number of participants but the method of data collection is missing. While this is provided in the full text, the abstract should include this. It also was not explicit if the sounding workshop was a method of data collection/validation or purely dissemination of research findings the way it is described in the abstract.

Introduction:

The introduction would benefit from a brief description of the history, structure and scope of the HEP and the Ethiopian Health system, referenced accordingly. Details such as how long it has been in existence, who is involved (HEWs, WDA, PHCUs) and the services provided (even just the number and how that has changed over time to convey scope well beyond MCH and one that has been growing substantially over time) would provide helpful context to interpreting some of the findings. Also, “WDA” appears in the heat map in Figure 2 before the term is defined, readers who are unfamiliar with the Ethiopian health system may not be a little lost without further explanation of how they relate to the HEWs/HEP.

A paragraph that describes the SS program would be useful. Specifically describing what was implemented (2 day training to X HEWs/ X per PHCU, for example or X HEWs within a selection of X PHCUs) when it was implemented, and at what scale would be useful. While the process evaluation timeline was clear, it wasn't entirely clear the timeframe of the A360 or SS program implementation. It was not clear how the SSNs relate to the WDA (if they were selected from the WDA, who are intended to support HEWs) or if they were a new and separate structure. It would be helpful to know how the SSNs were selected. If I missed this description of the SS, my apologies! If there isn't space to go into details around the SS/A360, these descriptions could be placed in supporting documentation.

While the focus of the PE is inherently qualitative, are there any quantitative programmatic monitoring results that could be reported? Number of HEWs trained, uptake of the SS program? I.e. couples counselled? Uptake of FP among those counselled?

It would be helpful context to understand if, how and when the FMOH was engaged in the design of SS. From reading the article it was not immediately apparent if they were involved in the design, or just in the discussions around the threshold of evidence required for scale up.

Methods:

I would recommend defining what a "sounding workshop" means in this context.

It would also be helpful to understand non-participation — how many refused and the reasons for dropping out, if known?

Findings:

"Ethiopia has a high teenage pregnancy rate (18% of all women giving birth in rural areas) and high rates of child marriage remain prevalent in all regions (49% in rural areas)". The reference provided for these statistics should be checked, I think it may have just been an error as the subsequent reference was to the National Strategy and the citation is listed as the same. The stats should reference the original source, which is unlikely to be the national strategy itself. There may be a relevant updated stat to cite from the 2019 miniDHS, although I have not confirmed if these data points specifically are available.

There were questions in the discussion guide regarding other extension service providers and the opportunities for integration. Was the agriculture extension program discussed? The HEP was modelled after the agriculture equivalent and it primarily engages men. Given the recommendation to explore other touch points with men for financial planning and family planning integration, I would have thought this might have come up in the interviews.

Since this is a research paper I would expect a brief discussion of how the findings are supported by or refute existing literature both in Ethiopia and more broadly. For example, one finding was the challenge HEWs have with their existing workload. There are a number of articles that explore the workload of HEWs (time motion series study among others) and how that has changed over time, and hence grounding the findings that those HEWs who have been in situ for longer were frustrated by the additional work presented by implementing the SS.

Supporting documentation:

"ET HEW case study_Proofread.docx (Version: 1)": This appears to be highly repetitive with the paper itself. I would suggest removing the repetitive content and only including that which is additional to the paper. Furthermore, this appears to be a draft as it includes notes to a graphic designer and typos (see first spelling of mCPR).

A360 Ethiopia Case Study_Data Collection Guide_V4_2018.04.20.doc (Version: 1): It is really helpful to see the field guide, not all papers include such a level of detail. However, I did notice that the interview guide for the FMOH is not included, as it appears it was to be added after a briefing with PSI. Perhaps this is not the latest version? If the document was ultimately not updated, as happens, perhaps the FMOH discussion guide that was used could be included as a separate supporting documentation?

Is the work clearly and accurately presented and does it cite the current literature?

Partly

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Not applicable

Are all the source data underlying the results available to ensure full reproducibility?

Partly

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Public health monitoring & evaluation, Ethiopia, Health Extension Program

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 25 November 2019

<https://doi.org/10.21956/gatesopenres.14077.r28228>

© 2019 Pratt B. This is an open access peer review report distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Beth Anne Pratt

Global Health Insights, New York, NY, USA

This paper is a report on the findings of a process evaluation of the Adolescents 360 (A360) project in Ethiopia which targeted health extension workers (HEWs) in the delivery of adolescent-friendly reproductive health interventions. In particular, it focuses on the Smart Start component of the project which involves introducing financial planning into the counselling of newly married couples as a gateway to improving family planning (FP) uptake. The paper explores findings of and lessons from the process evaluation and proposes a number of solutions to overcome the implementation and contextual barriers identified. The paper concludes by raising a number of issues with respect to the design of Smart Start going forward (e.g. that demand and ownership by the community should be improved by shifting from a 'push' to a 'pull' system of community engagement; that the project might benefit from making the family planning-financial planning connection a bit more of a two-way street; and that Smart Start is still mostly an external project that is not really integrated into the routine of Ethiopia's Health Extension Program (HEP) within which HEWs work).

The methodology was based on participatory action research (PAR) and was entirely qualitative, and thus statistical analysis was not applicable to the findings. The qualitative nature of the article is its strength, as the perspectives of the HEWs with respect to the purpose and implementation of Smart Start (i.e. that adolescent pregnancy is not a problem; that Smart Start might increase HEWs already overwhelming workload; and that the health extension project as a platform for Smart Start itself already has a number of issues with respect to prioritization of adolescents) are important health systems and socio-cultural lenses as to the potential hurdles that A360 and Smart Start must overcome. These sorts of issues are often not touched upon by evaluations which frequently focus on whether projects succeed in achieving objectives and targets and treat context as something simply mentioned in passing. The uniqueness of the article was in how it made health systems context and cultural context absolutely central.

The only real recommendation I would have with respect to strengthening the article would be to situate it a bit more in existing literature on community health workers, their use as program implementers, and the strengths and weaknesses of their involvement with respect project implementation. Just a couple of paragraphs on what has been written about this issue, first, elsewhere (I think there is quite a lot of literature, for example, on this issue from Nepal, Pakistan, and India, as well as a number of review articles) and, then, with respect to Ethiopia specifically (I think too there is quite a lot on HEWs and barriers to implementation) – Maryse Kok would be someone one would probably wish to cite at some point - and then a sentence on what the research contributes to this body of literature would strengthen the paper. Otherwise, I really enjoyed reading it and recommend it to be indexed.

Is the work clearly and accurately presented and does it cite the current literature?

Partly

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Not applicable

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Anthropology, Health Systems

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.