

Menstrual Health Management and School Attendance in Zambia

Client Organization: Innovations for Poverty Action – Zambia

Faculty Advisor: Dr. Nessa Ryan

Team Members: Anna Ghnouly, Devina Srivastava, Eleanor Moriearty, Emily Boytinck, Samantha Happ, Sakshi Mishra, Serena Zainal Abidin, Sonali Patel

Abstract

Over the last 15 years, menstrual hygiene management (MHM) has become a global public health priority (Sommer et al., 2015). While there is strong qualitative evidence highlighting the innumerable challenges poor MHM poses for menstruating girls, there is little empirical evidence on the effectiveness of MHM interventions for schooling and health (Sommer et al., 2016). It is crucial that this gap is filled so that Zambia, and other countries like it, are equipped with evidence of the most effective MHM interventions. Through an extensive literature review supplemented by in-depth interviews with key MHM stakeholders, this report identifies the facilitators and barriers to implementing MHM interventions, particularly in Zambia, and recommends what intervention(s) in particular warrant prioritization by a research institute like IPA. This research is intended to serve as a foundation for IPA to inform their current programming and carry out larger-scale empirical research on potential MHM interventions.

Table of Contents

1. INTRODUCTION AND PROBLEM OVERVIEW	3
1.1 INTRODUCTION	3
1.2 MENSTRUAL HEALTH MANAGEMENT HISTORY.....	3
1.3 ZAMBIAN COUNTRY CONTEXT	5
1.3.1 <i>Zambian country context</i>	5
1.3.2 <i>MHM in Zambia</i>	6
2. LITERATURE REVIEW	8
2.1 QUALITATIVE LITERATURE REVIEW	8
2.1.1 <i>Products</i>	9
2.1.2 <i>Wash Infrastructure and Facilities</i>	12
2.1.3 <i>MHM Education, Knowledge, and Beliefs</i>	16
2.1.4 <i>MHM Programming in General</i>	20
2.2 QUANTITATIVE LITERATURE	21
2.2.1 <i>Menstrual Product Interventions</i>	22
2.2.2 <i>WASH Interventions</i>	24
2.2.3 <i>Promising Interventions</i>	26
2.3 RESEARCH PRIORITIES.....	27
2.4 KEY METHODOLOGY CONSIDERATIONS FOR FUTURE RESEARCH	30
3. STAKEHOLDER RESEARCH	35
3.1 STAKEHOLDER ANALYSIS	35
3.1.1 <i>Stakeholder Engagement Models</i>	37
3.2 PRIMARY STAKEHOLDER RESEARCH	40
3.2.1 <i>Key Insights</i>	41
4. PROJECT NEXT STEPS	47
5. PROJECT ACKNOWLEDGEMENTS	48
6. BIBLIOGRAPHY	49
7. APPENDICES	54
7.1 STAKEHOLDER INTERVIEW GUIDE PROTOTYPE	54
7.2 FOCUS GROUP DISCUSSION GUIDE	60

1. INTRODUCTION & PROBLEM OVERVIEW

1.1 Introduction

This report seeks to identify key facilitators and barriers to creating a MHM program in Zambia. Along with methodological recommendations on how to conduct MHM research in Zambia, this report provides recommendations, based on our primary and secondary research, regarding how to move forward with an evaluation project, such as a randomized control trial. We envision this report as a tool to inform the research agenda for MHM projects by IPA in Zambia in future phases of this project.

Innovations for Poverty Action (IPA) Zambia invited eight students from Columbia University's School of International and Public Affairs to undertake this research project for their Masters' Capstone project under the advisory of Dr. Nessa Ryan. The student team originally planned to travel to Zambia to conduct stakeholder interviews and focus group discussions in both rural and urban areas of Lusaka Province, under the guidance of IPA Zambia. Given the global pandemic of COVID-19 which began in early March 2020, the student team had to suspend travel to Zambia, postpone the focus group discussions due to safety concerns and school closures, and conduct all stakeholder interviews remotely. Given these unforeseen limitations, this report has been redesigned to focus on the literature review, stakeholder interviews that were still possible, a mapping of the stakeholders, and final recommendations to IPA Zambia. The appendices also include the focus group discussion guides and stakeholder interview guides for future use and reference.

1.2 Menstrual Health Management History

In the last fifteen years, menstrual hygiene management (MHM) has garnered global recognition as a public health priority; it refers to "the practice of using clean materials to absorb menstrual blood that can be changed privately, safely, hygienically, and as often as needed for the duration of the menstrual cycle" (PMA, 2020).

Prior to 2005, there were few references to MHM in the development literature, and little public discussion about the menstrual management-related challenges facing girls in low- and middle-income countries (LMICs). As documented by Sommer et. al (2015), it wasn't until 2004 and 2005 that a few non-governmental organizations (NGOs) started incorporating MHM into their programming in order to close the gender gap in education.

Indeed, MHM emerged under the pillar of education given its relationship with girls’ absenteeism; in many LMICs, girls’ school attendance and performance suffer when they are unable to properly manage their menses. In order to improve girls’ educational outcomes, NGOs had to start paying attention to MHM. At this time, the water, sanitation, and hygiene (WASH) community in schools began advocating for menstrual-hygiene related interventions. From 2006 onward, new evidence about the challenges menstruating schoolgirls face was published in peer-reviewed scientific literature. The qualitative documentation of girls’ lived experiences of menstruation in LMICs played the biggest role in drawing attention to this issue. This increased documentation and awareness about menstruation led to the coining of the acronym “MHM,” which was officially defined by the Joint Monitoring Program (JMP) of the World Health Organization (WHO) and UNICEF in 2014. As part of its lobbying efforts for the Sustainable Development Goals 2015-2030 (SDGs), the JMP included MHM in schools as a WASH priority. By creating a universal definition of MHM and advocating for its prioritization in the SDGs, the JMP institutionalized MHM on a global scale (Sommer et al., 2015).

The most important feature of MHM’s emergence as a global health priority has been the shift in expectations of responsibility for MHM away from individuals and families and onto public institutions. The first-person narratives of the menstrual-related challenges faced by girls in LMICs helped to frame MHM as a social problem requiring the involvement of schools and governments (Sommer et al., 2015).

The MHM response can be broadly categorized into three types of interventions:

Table 1: Types of MHM Interventions

Types of MHM interventions	Description
Sanitary Products (Technological Approach)	Sanitary products refer to any menstrual hygiene products that are used to absorb or collect menstrual blood (i.e. pads, menstrual cups, cloth, etc.). While this first approach to make sanitary products more affordable and accessible addresses a critical need, it has been critiqued due to its relatively narrow focus. Indeed, by focusing exclusively on a market-oriented technological approach, the fear is that it may undermine the public-sector’s responsibility to address the issue.

<p>WASH Facilities (Infrastructure Approach)</p>	<p>The second approach to provide girls with adequate WASH facilities at schools is deemed a priority but is often more difficult to implement than the “pad” approach; the expense and complexity of infrastructure projects makes them more politically unpalatable.</p>
<p>Menstrual Education (Behavior Change Approach)</p>	<p>Menstrual education—which covers information on both the biological process and management of menstruation—is deemed a necessary component to incite positive behavior change surrounding MHM. Providing menstrual education not only to girls, but also to parents, teachers, boys, and community leaders is seen as a critical part of desensitizing the taboo topic of menstruation and helping girls manage their menses safely and comfortably with the support of their family and community. In many LMICs, there are misconceptions and traditional beliefs about menstruation that prevent girls from being properly supported and informed about MHM. This third approach to provide puberty information and menstrual management education is often implemented in conjunction with the construction of WASH facilities as a way to ensure MHM interventions are lasting.</p>

While these are the general types of MHM interventions, there is little research that has evaluated these approaches. Most of the MHM literature has focused exclusively on identifying the menstrual-related challenges girls in LMICs face. This report seeks to go beyond defining the problem and focus on solutions. Through an extensive literature review supplemented by input from key MHM stakeholders, this report identifies the facilitators and barriers to implementing MHM interventions, particularly in Zambia, and recommends what intervention(s) in particular warrant prioritization by a research institute like IPA.

1.3 Zambian Country Context

1.3.1 Zambian country context

Zambia is a land-locked middle-income, resource rich country in East Africa. It is the second largest producer of copper in Africa, and possesses other mineral deposits as well. Zambia has been able to translate these endowments into growth: in the decade spanning 2004-2014, the country grew remarkably at an average pace of 7.4% annually (World Bank Group, 2018). However, this growth has not benefited all sections of the population with high rates of poverty prevalent in the country. Poverty in Zambia is severe and concentrated in rural areas and regions that are not part of the copper belt in the country. About 58% of the country lives in rural areas and around 77% live below the

national poverty line compared to the national average of 54% (World Bank Group, 2018). Zambia also has a high Gini coefficient at 0.56, reflecting severe income inequality. This widespread and deep poverty has significant implications for the Zambian society, including regarding MHM. Lack of WASH facilities, low awareness of menstrual products, and difficulties accessing menstrual products are critical challenges for many females.

1.3.2 MHM in Zambia

Although women comprise 51% of the total Zambian population (2018 estimates), Zambia has been slow in adopting national guidelines related to MHM (World Bank Group, 2018). However, this landscape has been changing with MHM gaining priority in the past few years. The education sector in Zambia has been leading this change with the Ministry of General Education (MoGE) being the first to launch national MHM guidelines related to the sector in 2015.

The guidelines launched by the education sector were a result of a study by the MoGE (UNICEF, 2017). The study identified menstruation as a cause of absenteeism and drop out among girls and highlighted that inadequate WASH infrastructure affects Zambian girls more than boys. This was evident by the decline in attendance of Zambian girls between grade five to grade nine. The study attributed the decline in attendance to poor MHM, as most girls were deemed as not being able to safely and hygienically manage menstruation while at school. Insufficient water and sanitation facilities in schools combined with inadequate access to menstrual products were identified as key factors contributing to adolescent girls dropping out of schools. Moreover, sanitation and hygiene education in schools include no practical discussions with extremely limited discussions on reproductive health and hygiene management. In light of this, the study also recommended promoting reproductive health as part of school curriculum to provide young school going girls and boys with access to essential information about puberty hygiene.

The MHM guidelines by the MoGE build on the study and attempt to reconcile its various recommendations. These guidelines aim at creating a supportive and inclusive school environment by providing relevant resources to menstruating girls whilst in schools. The purpose of the guidelines is to improve school attendance and reduce dropout rates attributable to menstruation.

According to the 2016 Educational Statistical Bulletin, following the launch of guidelines: 45.8% schools had provided education on menstrual health; 24.3% schools had provided sanitary pads for girls, and 66.5% schools had provided disposal facilities for sanitary pads (Muyovwe & Lockwood, 2019). In addition to this, in 2016 the Ministry of Finance

committed around \$198,000 to distribution of free pads in rural and peri-urban areas (Muyovwe & Lockwood, 2019). Despite these large claims by the government, the picture remains bleak at the grassroots level. Other than the numbers reported by the government, no empirical evaluations of the guidelines exist. In the absence of empirical evidence around the implementation of the policy, it is difficult to measure its effectiveness or success.

2. LITERATURE REVIEW

2.1 Qualitative Literature Review

Since research on MHM took off around 2006, an abundance of qualitative studies and a few literature reviews have illustrated the array of menstrual-related challenges girls face in LMICs (Sumpter & Torondel, 2013) (Hennegan & Montgomery, 2016)(Sommer et al., 2013) (Chandra-Mouli & Patel, 2017)(van Eijk et al., 2016). These articles have helped to raise awareness of the consequences that result from the lack of proper MHM. This literature review, however, seeks to go beyond the usual summary of challenges and look carefully at promising solutions and areas for further research. While several qualitative studies conducted across Africa were reviewed (Miuro et al., 2018) (Tellier & Hyttel, 2018)(Tegegne & Sisay, 2014) (McMahon et al., 2011)(Sommer, 2010) only peer-reviewed papers and gray literature that focused specifically on MHM in Zambia have been included in this section. Given how culturally dependent the success of MHM interventions is, it seemed most appropriate to describe the central MHM issues facing girls solely in Zambia, as well as the facilitators and barriers to implementing MHM interventions there. Fortunately, there are several relatively recent qualitative studies that were carried out in Zambia. The quantitative studies will be discussed in the next section.

The studies cited in this section include the those listed in Table 2:

Table 2: Qualitative Studies on MHM in Zambia from 2014 - 2019

Author(s)	Year	Location / Area Type	Title
Opong et al. (World Vision)	2014	Choma, Kasama, & Chongwe regions; rural	Investigating the Perceptions and Barriers to Menstrual Hygiene Management (MHM) in Zambia
Nanda et al., (USAID & WASHplus)	2016	Chadiza, Chipata, Lundazi, & Mambwe Districts; urban & rural	Menstrual Hygiene Management among Schoolgirls in Eastern Province of Zambia: Qualitative Research Final Report
Morgan et al.	2017	Mostly rural	Water, sanitation, and hygiene in schools: Status and implications of low coverage in Ethiopia, Kenya, Mozambique, Rwanda, Uganda, and Zambia

UNICEF	2017	Mumbwa & Rufunsa Districts; rural	Advancing Girls Education through WASH Programs in Schools A Formative Study on Menstrual Hygiene Management in Mumbwa and Rufunsa Districts, Zambia
Lahme et al.	2018	Mongu District; Rural, urban, & peri-urban	Factors impacting on menstrual hygiene and their implications for health promotion: a case study from Mongu District, Zambia
Chinyama	2019	Mumbwa & Rufunsa Districts; rural	Menstrual hygiene management in rural schools of Zambia: a descriptive study of knowledge, experiences and challenges faced by schoolgirls

This section is organized broadly by intervention type and outlines the general context, key barriers and facilitators to implementing MHM interventions in Zambia, and recommendations for future interventions and research. Given how closely linked and interdependent these interventions are, they often share the same facilitators and barriers; the layout of this report by topic is one way of organizing all the findings from the qualitative literature. Information gathered from stakeholder interviews have been included sparingly to emphasize certain points; these are summarized and elaborated on in-depth in the Stakeholder Research section.

2.1.1 Products

Girls' Sanitary Product Usage in Zambia

In Zambia, the sanitary materials girls generally use include cloth material, cotton wool, and, when affordable, disposable pads (UNICEF, 2017) (Nanda et al., 2016). The qualitative evidence illustrates that girls prefer using disposable pads over other options when given the choice (UNICEF, 2017). The main disadvantage of using cloth is that it fills up too quickly and does not stay in place by sticking to underwear, which leads to stains on the girls' uniforms (Chinyama et al., 2019). However, some girls reported that pads were not always sufficient to prevent leakage through their clothes and/or onto their seats in school (Nanda et al., 2016). In the only study that asked girls about reusable pads, the girls reported that they did not know about or use reusable pads (UNICEF, 2017). There was no information collected on other types of sanitary products, like menstrual cups. Only from the interview with an NGO stakeholder was it mentioned that there has been some success with getting girls to engage with reusable pads.

In general, girls acquire pads by making them by hand, buying them from the store, or receiving them from their mother, a female guardian, or teachers in school (never from their father or male guardian). Making pads is a relatively laborious process that can involve sewing on buttons and fasteners, using rope, or tying pieces of material together at school and in villages (Nanda et al., 2016). Many girls prefer store-bought pads because the materials used in creating home-made pads are uncomfortable and cause burning and blisters between the legs (Nanda et al., 2016).

Facilitators / Barriers to Girls Using Safe, Comfortable, and Effective Sanitary Products

Affordability: The biggest barrier to girls using safe, comfortable, and effective sanitary products is affordability at the household and school levels. All studies showed how girls resorted to using cloth when they could not afford pads. This constraint was cited in almost all of the studies (Lahme et al., 2018) (UNICEF, 2017) (Opong et al., 2014) (Chinyama et al., 2019). In an extreme case, an NGO stakeholder that we interviewed encountered a girl who used dried cow dung because she could not afford any other material. In one study, pads were considered the most expensive menstrual product option ranging from Zambian Kwacha (K) 8 to K10 for a pack of 10 pads (UNICEF, 2017). The main reason schools gave for not providing pads was also due to a lack of funds (UNICEF, 2017) (Opong et al., 2014). However, our interview with the NGO mentioned that in their experience, they have worked with schools that have a budget to buy emergency pads for girls.

Availability / Accessibility: Closely tied to the affordability barrier is the inability of girls to access sanitary materials. Many girls reported having to use cloth because they could not access absorbent menstrual materials, like cotton wool, from shops or cotton fields (Chinyama et al., 2019). In a district where cotton production was the main economic activity, girls had an advantage in managing their menses because cotton was readily available for use as a menstrual material (UNICEF, 2017). While in some studies most schools seemed to supply emergency pads (Nanda et al., 2016), other studies found that most of the schools surveyed did not have pads or even cotton wool for girls to use in an emergency (Chinyama et al., 2019).

Support: There are varying levels of support from teachers who sometimes provide pads for girls. One study found examples of teachers urging girls to not let the lack of menstrual materials deter them from going to school (Nanda et al., 2016). In other schools, the teaching staff was not as supportive. In one discussion, girls mentioned that teachers may tell them to go home and bathe when they're on their period (Nanda et al., 2016).

Underwear: In one study, girl respondents revealed that their peers did not have tight underwear or any underwear at all which makes the use of certain sanitary products and managing menses very difficult (Chinyama et al., 2019).

Pads: It is noted that one participant in a study thought that the chemicals in store-bought pads could cause cancer(Nanda et al., 2016).

RECOMMENDATIONS FOR INTERVENTION AND FURTHER RESEARCH

The main recommendation posited by most of the studies was the need for the provision of sanitary materials in schools, especially for girls experiencing menstruation for the first time and other menstrual emergencies (UNICEF, 2017) (Opong et al., 2014) (Nanda et al., 2016). One study also stated the need for supplies to be made more available in communities for women in general (Opong et al., 2014). In addition to providing menstrual supplies, one study suggests identifying a focal point person (female teacher or counselor) and letting students know that she is available to assist with their MHM needs, including emergency supplies. As stated in one study from World Vision: “Having supplies available is a first step, but knowing they are available and knowing who to ask is also necessary” (Opong et al., 2014).

In terms of research priorities, the studies suggest exploring if providing sanitary supplies in schools is a sustainable practice for girls without pads at home (Opong et al., 2014), as well as investigating the possible role reusable pads could play in the Zambian context, especially for girls who cannot afford to buy disposable pads (Chinyama et al., 2019).

In addition to the research needs highlighted by the studies, there are many gaps in the qualitative literature that warrant attention. These gaps include research on:

- Comparisons between disposable pads, reusable pads, menstrual cups, and possibly other products
- The role that social enterprises have played in making sanitary materials accessible
- The best way(s) to distribute pads at school
- The potential of making home-made pads more comfortable and easier to produce
- Assessment of the effectiveness of the Government of Zambia’s latest national policy to provide pads for free in all public schools

2.1.2 Wash Infrastructure and Facilities

Girls' Experience of WASH Facility Conditions in Schools

Adequate school WASH facilities for girls to change their pad and wash themselves are deemed by some MHM practitioners as the necessary first step for creating an enabling environment to keep girls in school. As the stakeholder from an NGO told us:

“Girls need a facility where even when they’re at school they have a room where they can change their pad, wash themselves, and feel comfortable enough when they sit in class. So in our experience, it’s important to have the facilities first because these facilities will provide an enabling environment for the girl to stay in school.”

Stakeholder interview with NGO

The qualitative literature shows that girls in Zambia find it difficult to manage their menses at school because they do not feel comfortable using school toilet facilities, which often lack soap, clean toilets, clean water, and privacy (Opong et al., 2014) (Chinyama et al., 2019). Cleanliness and privacy appear to be the primary concerns girls have about school WASH facilities (UNICEF, 2017). Through direct observation, one study found that while schools had tap water, the pit latrines did not have piped or stored water, doors, soap for cleaning hands, or any maintenance routine to ensure cleanliness (Chinyama et al., 2019). In rural areas, it is uncommon for schools to have piped water supply so pit latrines are generally used instead. While rural water and sanitation has become increasingly accessible in Zambia, there was only 36% coverage as of 2015 (20% lower than urban coverage) (UNICEF, 2017). These pit latrines, however, are characterized by high student-toilet ratios of up to 1:124 students—much higher than the WHO’s recommended ratios of 1:25 for girls and 1:40 for boys (UNICEF, 2017). When asked to describe their ideal toilet, girls said that they would want it to include tissue, water, soap, pads, bathroom, sink, mirror, and doors (UNICEF, 2017).

Governance of School WASH in Zambia

Zambia’s Ministry of General Education (MOGE) is the primary ministry responsible for WASH in schools but also works with the Ministry of Local Government and Housing (MLGH) and Ministry of Health (MOH) on this issue (UNICEF, 2017).

- **MOGE:** This Ministry oversees the School Infrastructure Unit (SIU) which handles WASH infrastructure designs and construction, as well as the School Health &

Nutrition Coordination unit in charge of Hygiene Education and WASH behavior improvements.

- **MOH:** This Ministry is responsible for monitoring water quality and ensuring that water and sanitation facilities are hygienic and safe.
- **MLGH:** This Ministry is responsible for ensuring safe water supply and maintaining water points at schools. It regulates the WASH standards by enforcing the Public Health (Drainage & Latrine) Regulations.
- **Teachers:** In our interview with an NGO stakeholder, it was shared that teachers often play a critical role in the maintenance of ablution blocks and water provision. In some schools, teachers have dedicated a particular budget to ensure ablution blocks are clean.

Facilitators / Barriers to Establish Adequate WASH Facilities at School

This figure from one study highlights some of the key barriers schools face in providing adequate WASH facilities, especially for girls experiencing menstruation (UNICEF, 2017).

Figure 1: Barriers for Providing WASH Facilities in Schools



(WinS stands for Water Sanitation and Hygiene in Schools)

Some other topics emerged from the literature and stakeholder interviews as well:

Beliefs about Disposal of Sanitary Products: Two studies showed that many girls in rural Zambia believe that witches use menstrual blood to cast spells on a person (UNICEF, 2017). The girls’ fear “that witches and Satanists would use the menstrual blood to bewitch them and rob them of their fertility” was also brought up in the interview with WaterAid Zambia (Chinyama et al., 2019). The consequence of this belief among the girls has led to their preference to discard their menstrual materials in pit latrines instead of

waste bins in WASH facilities (Chinyama et al., 2019). Pit latrines are considered the safer option to ensure the blood will not be used for Satanic purposes. Therefore, girls did not mention the need for trash bins when describing their ideal toilet since they prefer pit latrine disposal (UNICEF, 2017).

In one study, the District Planning Officer in Mumbwa, stated that he witnessed communities in the district rejecting MHM projects with one reason being that his office was accused of collecting girls' menstrual blood from pads in bins to use for Satanism (UNICEF, 2017). Incinerators, as opposed to pit latrines, are deemed the more environmentally friendly means of disposal for non-biodegradable menstrual materials (Chinyama et al., 2019).

While incinerators seem to address the concerns girls have about their menstrual blood being used for Satanism, it is not clear from the studies whether incinerators are the best compromise between disposal in the pit latrines or waste bins. Within the same study, one official stated that it was unlikely that parents and girls would be willing to have their pads burnt at school, while some focus group discussions revealed that girls would be okay with disposing of their pads either in a pit latrine or an incinerator (UNICEF, 2017). In the interview with an NGO, the burning of pads was identified as a challenge for implementing successful MHM programming:

"I feel we need a strategy to know how to engage the girls and make them understand that the burning of a pad does not mean we have burned her blood and she will never have children. This is probably another area we would have to invest in. We've seen success in getting girls to engage with reusable pads but not with the burning of pads."

Stakeholder interview with NGO

Water Storage: As iterated above, many schools have pit latrines without piped or stored water (Chinyama et al., 2019). While according to one study an improved water source on school premises was reported by 88% of schools in Zambia, only 16% of rural schools that stored water on site were found to have stored it correctly (Morgan et al., 2017). Water storage appears to be a key area where infrastructure is lacking in Zambia and undermines MHM programming efforts (Morgan et al., 2017).

According to an NGO, water provision is crucial because girls need access to water from the shower which must always be running. Water schemes are normally run through the power grid, as well as solar power systems, and they require maintenance.

RECOMMENDATIONS FOR INTERVENTION AND FURTHER RESEARCH

The central recommendation by the qualitative literature is for the Zambian Government and stakeholders to construct MHM-friendly infrastructure in schools (UNICEF, 2017). This recommendation entails inclusion of the following considerations:

- Broadly speaking, MHM must be included in the various MOGE strategies, work plans, and budgets (Nanda et al., 2016).
- MHM and the construction of girl-friendly school WASH facilities should also be incorporated into the school-led sanitation community (SLTS and CLTS). By streamlining MHM priorities with school WASH activities (which could entail partnerships) (Nanda et al., 2016), it may get greater buy-in from stakeholders (Opong et al., 2014).
- Girl-user friendly latrines should be designed and constructed with the girls' ideal toilet in mind and should include:
 - Increased number of toilets to better meet the student-toilet ratio standards proposed by the WHO (UNICEF, 2017). One source specifically suggests the construction of 2-sided toilets/double VIP pit latrines (Opong et al., 2014).
 - The construction of toilets for female teachers has also been advocated as a way to attain and retain females in more schools (Nanda et al., 2016).
 - Doors and locks for privacy (UNICEF, 2017).
 - Designated toilets for upper and lower grades so that older girls are not as fearful of younger girls disrupting their privacy while using the facilities (Opong et al., 2014).
 - Tissue for anal cleaning (UNICEF, 2017).
 - (Liquid) Soap/ash for hand washing and pit disinfection (Opong et al., 2014)
 - Secure, private bathing facilities (ablution blocks) located near or attached to toilets. It is recommended that these bathing facilities are supplied with washing containers, water, and soap (Opong et al., 2014) (Nanda et al., 2016). One study suggested that SHN Coordinators take a more active role to normalize bathing at school as part of general hygiene practices (Opong et al., 2014).
- Hygiene programs must be put in place to ensure WASH facilities remain clean. This includes:

- Provision of brooms/buckets available for cleaning purposes (UNICEF, 2017).
- Toilet-cleaning schedules that are created as a source of pride in the school where everyone can participate, as opposed to a source of punishment. There is a greater likelihood that toilets will be kept clean if their maintenance is considered a shared responsibility by all students (Opong et al., 2014).
- Water provision must be adequate, especially so that girls can access water from the shower (UNICEF, 2017). There should be a water tank so students do not have to draw water from another location before using it (Opong et al., 2014).
- There must be an appropriate disposal facility. The construction of incinerators is ideal but girls' beliefs and preferences about disposal must be considered (UNICEF, 2017).

The studies specifically stated that further research was required to address the challenges related to the disposal of menstrual products at school. Are incinerators or bin disposal better? Does this consideration change within the context of boarding schools? (Nanda et al., 2016).

Further research could also be considered for exploring the best ways to maintain the cleanliness of WASH facilities. Do students clean the toilet? Teachers? What systems are in place?

Additionally, how is accountability for school MHM efforts enforced or monitored? Given how relatively new MHM is, none of the studies delved into sustainability considerations and how schools would be held accountable for MHM promotion.

2.1.3 MHM Education, Knowledge, and Beliefs

Inadequate Knowledge about Menstruation

There is evidence across the Zambian qualitative literature that girls--in addition to boys, and sometimes parents and teachers--are inadequately informed about the biological process of menstruation and how to manage it (UNICEF, 2017) (Nanda et al., 2016) (Lahme et al., 2018) (Chinyama et al., 2019) (Opong et al., 2014). Several studies found that girls did not know anything about menstruation before they reached menarche and did not understand why it happened (Opong et al., 2014) (UNICEF, 2017) (Nanda et al., 2016) (Chinyama et al., 2019). One study revealed that menstruation was seen as a

process of cleaning up the body or “stomach”—an inadequate word used due to the fact that there was no local translation for the term “uterus” (Opong et al., 2014) (UNICEF, 2017). This is just one illustrative example of how little the girls (and boys) know about where menstrual blood actually comes from.

This lack of information causes girls who reach menarche to feel fear, shame, disappointment, worry, sadness, rejection, and even devastation when they experience their first period (UNICEF, 2017) (Opong et al., 2014) (Chinyama et al., 2019). These negative feelings are compounded by the fact that the topic of menstruation is clothed in secrecy and tied to deep-seated traditional practices and beliefs that feed into its negative perception as a taboo topic. While some girls have support systems, many are left to manage their menstruation in secret without adequate information or support (Opong et al., 2014). At school, girls often feel too shy to ask teachers for assistance and will say they have a headache when experiencing menstrual-related discomfort (Opong et al., 2014). Unsurprisingly, girl respondents expressed a desire to learn more about the biological process of menstruation and how to manage it properly (Opong et al., 2014).

Sources of Menstruation Knowledge

At Home: A few studies confirmed that girls generally learn about menstruation from female relatives (mothers, sisters, aunts, grandmothers, etc.) (UNICEF, 2017) (Nanda et al., 2016). However, it is most common for them to learn about menstruation from older female family members, most typically grandmothers (Nanda et al., 2016). In our stakeholder interview with WaterAid, it was explained that grandmothers are freer than mothers to discuss these issues since mothers in the Zambian context are often shier to talk about menstruation with their daughters. The majority of mothers also believed that girls should not learn about menstruation prior to menarche as the information may corrupt their thinking (UNICEF, 2017). Therefore, within the context of the home, girls are not generally taught about menstruation until they attain menarche (UNICEF, 2017).

At School: Most studies found that girls’ (and boys’) education about menstruation at school is lacking as well. There is a discrepancy between what girls know about menstruation, and what they are supposedly taught in schools (Opong et al., 2014). One study found that while menstruation is included as part of the schools’ health science curriculum, most girls still did not know its physiological basis (Chinyama et al., 2019). Another study found that there was no structured learning about menstruation at school (UNICEF, 2017). Even if teachers had not lacked materials or guides to teach the fundamentals of MHM, they would have been prevented from discussing menstruation in detail due to the culture of secrecy surrounding the topic. Even in informal discussions

outside of the classroom and in social clubs, MHM was rarely mentioned within the context of sexual reproductive health (UNICEF, 2017).

Facilitators / Barriers to Adequate Menstrual Knowledge

As clearly seen in the Zambian context, the biggest barriers preventing girls from being properly informed about menstruation are the cultural attitudes and traditional beliefs that define it as a taboo topic (Lahme et al., 2018) (Opong et al., 2014) (UNICEF, 2017). As stated by the District Planning Officer in Mumbwa, “A lot needs to be done to overcome the cultural barriers to accept initiatives aimed at improving MHM”(UNICEF, 2017). These barriers undermine efforts to improve education and information about MHM in the home and at school. However, there is a promising example from one study which found that once teachers and parents understood MHM to be a critical component to keep girls in school, communities became motivated to improve MHM education (Nanda et al., 2016). In that particular study, it was found that in less than a year of MHM program implementation, the topic of menstruation had become less taboo and was discussed openly in the community.

Two barriers that stem from the cultural attitudes toward menstruation are the different expectations and varying levels of support between female and male teachers. Even in contexts where male teachers received professional training in science and biology, female teachers stated that it would not be appropriate or beneficial for them to discuss menstruation with students (UNICEF, 2017). They were deemed more in need of extra support and tools to effectively teach MHM. Furthermore, one study revealed that while female teachers were generally supportive of MHM, many girls experienced negative encounters from their male teachers who lacked understanding and even punished them for menstrual-related issues (Nanda et al., 2016).

None of the studies explicitly mentioned affordability as a barrier to improving the MHM curriculum in schools.

RECOMMENDATIONS FOR INTERVENTION AND FURTHER RESEARCH

The main recommendations for improving MHM knowledge can be grouped into the three following categories.

Increase MHM Awareness and Understanding for Students at Schools:

- Revamp the sexual and reproductive health school curriculum to include detailed MHM information (Opong et al., 2014) (UNICEF, 2017). This information should

also teach girls how to manage their menses, and any menstrual related illnesses or pains.

- One study recommended that the MOGE be involved (Opong et al., 2014).
- It should be noted that WaterAid worked with Zambia’s MOGE to include menstrual health in all school curriculums in 2013.
- Create mentoring groups for girls at school to ensure they are learning the necessary MHM knowledge and skills (Opong et al., 2014).
- Use drama as a means of sensitizing students to MHM issues and spurring open conversation (Opong et al., 2014).
- Possibly establish MHM as a theme in WASH clubs that foster knowledge sharing, especially through activities, such as pad making (Nanda et al., 2016).
- Designate prefects (school captains) as a resource to disseminate MHM information to other classmates (Opong et al., 2014)
- Ensure boys are actively included in all MHM program activities so that their teasing and bullying of menstruating girls stops (Opong et al., 2014) (Nanda et al., 2016)
- Include MHM in school budgets (UNICEF, 2017).

Provide Adequate MHM Training & Materials for Teachers:

- Train teachers and provide them with teaching materials so they fully understand the biology and management of menstruation and can successfully educate girls and boys about these issues (UNICEF, 2017) (Nanda et al., 2016).
- Inform teachers of the connection between MHM and girls’ academic experience so they appreciate the importance of MHM instruction and develop a sense of shared responsibility to improve MHM education in school. Sensitize this topic so that teachers feel more comfortable teaching this material (Nanda et al., 2016).
- Perhaps offer additional training for “guidance teachers” to help foster an even more supportive MHM environment at school. These teachers would play a supervisory role for girls at school and be a key contact for girls to discuss MHM issues (Nanda et al., 2016).
- Pay particular attention to male teachers to ensure they are receiving the necessary training and support needed (Opong et al., 2014).
- Provide teachers with appropriate pain relieving medications to assist girls who experience menstrual pain at school. Establish connections between schools and health centers so teachers are prepared to refer girls who may need special medical attention related to menstruation (UNICEF, 2017).

Sensitize the Entire Community on MHM topics:

- Create a standard curriculum for teaching the community about MHM issues. Possibly impart this knowledge to community leaders through drama. Traditional leaders were identified as being the key entry point into communities (Opong et al., 2014). This was reaffirmed in our interview with WaterAid Zambia.
- Train Community Hygiene Promoters (CHPs) to conduct community outreach with women about MHM (Opong et al., 2014).

Some topics for further research include:

- The role of male teachers in promoting MHM: Are they better suited to instructing boys on these issues?
- The effects of Zambia's national menstrual health curriculum established in 2013: Is this curriculum being followed? How may it be improved to address local contexts? How to help schools who have not adopted this curriculum to do so. None of the studies mentioned the national menstrual curriculum; what explains this?
- Standardized training curriculum for teachers to teach MHM.

2.1.4 MHM Programming in General

While the previous sections identified facilitators, barriers, and recommendations for specific interventions, the main general recommendation for implementing successful MHM programming is to take a comprehensive approach that involves stakeholders at all levels and incorporates both soft and hard interventions that results in sustainable behavior change (UNICEF, 2017) (Lahme et al., 2018) (Nanda et al., 2016). Given how closely linked MHM is to cultural and traditional beliefs, it is necessary that all stakeholders are involved; for MHM efforts to be successful in the long-term, a supportive MHM environment must be fostered at home, in schools, and within communities.

One study describes this approach as a “super setting approach”:

*“A ‘**super setting approach**’ (described as a coordinated intervention aimed at creating synergies across different settings in a coordinated manner to achieve a more comprehensive intervention) is recommended, in which a Health Promoting School could improve the girls’ individual and group needs, and a community setting which would address the broader socio-economic, cultural and environmental conditions. This would enable creating a supportive environment for the girls to manage their periods. To successfully utilize the approach, **all stakeholders (parents, teachers, children, governments and communities) should cooperate to generate context-specific solutions for creating safe menstrual care, and better and dignified conditions for adolescent girls.** Therefore, this calls for comprehensive, strident advocacy for policy changes at national level, and mediation and involvement at community level.” (Lahme et al., 2018)*

An interview with an NGO supports this general MHM approach by emphasizing the critical roles parents, teachers, SHN Coordinators, and the MOGE play in promoting MHM. WaterAid’s recommendations are elaborated in the stakeholder report.

2.2 Quantitative Literature

Background

A growing body of research on Menstrual Hygiene Management (MHM) has been produced using primarily qualitative, participatory, and descriptive methods, therefore generating a preliminary understanding of barriers and facilitators of MHM among girls in low and middle income countries (Phillips-Howard, Caruso, et al., 2016). The section above describes some of this qualitative research as it pertains to product, WASH, and education interventions for MHM.

Quantitative research for MHM interventions has lagged significantly behind. There are, nonetheless, several studies that we can draw from to begin to have a sense of the effectiveness of various types of interventions. The following section will describe empirical research examining:

- 1) Menstrual product interventions
- 2) WASH interventions
- 3) Educational Intervention

Methods

Empirical research was searched using google scholar using the key words “Menstrual Health Management”, “Menstrual Hygiene Management”, “Randomized,” “WASH” and “School Attendance.” The final selection included both peer reviewed and grey literature. This was decided because of the very limited amount of quantitative literature on this subject.

2.2.1 Menstrual Product Interventions

In this section, criteria for study inclusion were as followed: The study needed to include the provision of menstrual products such as pads or menstrual cups, and the study needed to include school attendance and/or drop-out rates as an outcome measure.

Given the characteristics, four papers were identified. Please see an overview of the sample in the table below.

Table 3: Included Studies: Menstrual Products

Study ID	Year	Country	Title
(Wilson et al., 2012)	2012	Kenya	INSPIRES: Investigating a reusable sanitary pad intervention in a rural educational setting - evaluating the acceptability and short term effect of teaching Kenyan school girls to make reusable sanitary towels on absenteeism and other daily activities: a partial preference parallel group, cluster randomised control trial.
(Phillips-Howard, Nyothach, et al., 2016)	2016	Kenya	Menstrual cups and sanitary pads to reduce school attrition, and sexually transmitted and reproductive tract infections: a cluster randomised controlled feasibility study in rural Western Kenya
(Montgomery et al., 2016)	2016	Uganda	Menstruation and the Cycle of Poverty: A Cluster Quasi-Randomised Control Trial of Sanitary Pad and Puberty Education Provision in Uganda
(Oster & Thornton, 2011)	2011	Nepal	Menstruation, Sanitary Products, and School Attendance: Evidence from a Randomized Evaluation

The four studies listed provided a reusable menstrual product, either a menstrual cup or a menstrual pad, along with some type of utilization instructions. Most of the studies used cluster randomization, randomizing at the school level rather than the individual level. The exception to this trend is Oster & Thornton (2011), which is the only true randomized control trial that randomized at the individual level. The use of cluster randomization made it difficult for certain studies to draw robust conclusions; for example, Wilson et al (2012) and Montgomery et al (2016) included 10 primary schools or less. With such a small number of clusters, it is difficult to draw causal interpretations.

The results from these studies is mixed, but in general the evidence supporting the provision of menstrual products for the purposes of reducing school absenteeism and/or drop-outs among adolescent girls is fairly weak. In both studies with a larger size (Phillips-Howard et al, 2016; Oster & Thornton, 2011), the provision of menstrual cups or pads had no significant effect of reducing school absenteeism. For example, Oster & Thornton, 2011 gave 98 randomly selected girls in Nepal access to a menstrual cup. Although take-up rates were above 60% and largely popular among school girls, study authors were able to reject at the 1% level that having access to the cup closes the period-day attendance gap. Phillips-Howard et al (2016) arrived at a similar conclusion, noting that neither the menstrual cup nor the reusable menstrual pad had a significant effect on school drop outs.

Montgomery et al (2016) and Wilson et al (2012) both found small positive relationships between the provision of reusable menstrual pads and school attendance. Wilson et al (2012) found that 50.2% of girls reported missing school at the minimum of at least once in the last month due to menstruation and that girls receiving treatment missed slightly fewer days of school each year than students in the control group. Montgomery et al (2016) found that school attendance dropped for all girls over the study period, but that this increase in absenteeism was lower for girls that received pads. The results from this study, while promising, are limited by the extremely small level of clusters (there were 8 participating schools randomized into 4 groups).

Despite these conflicting results, several of the studies found additional benefits outside of school attendance. For example, Oster & Thornton (2011) noted that the girls who received menstrual cups very much appreciated them, suggesting that there might be a quality of life improvement unaccounted for by school attendance data. Phillips-Howard et al (2016) found that girls who received menstrual cups and pads had significantly lower levels of STIs, which they hypothesize is a result of a reduced need to engage in transactional sex, which has been reported by several sources in Western Kenya. Furthermore, the authors found that girls who received the menstrual cups had significantly lower levels of reproductive tract infections such as bacterial vaginosis,

which, besides being uncomfortable in the immediate terms for infected girls, can have long-term significant health consequences if left untreated.

The concern about transactional sex being performed for menstrual products has further informed a study currently underway in Western Kenya where girls are being randomly assigned to groups receiving menstrual cups only, cash transfers only, menstrual cups and cash transfers, and a control (Zulaika et al., 2019). While this study is examining the effects on school attendance and dropouts, it will also be measuring rates of STIs and pregnancy. The authors predict that all interventions, including the menstrual cup alone, will be successful in reducing pregnancy, absenteeism, and STIs among girls in Western Kenya.

Phillips-Howard et al (2016) and Montgomery et al (2016) both had significant data collection issues that inhibited much analysis on the relationship between school attendance and/or drop outs and menstrual health product provision. While Phillips-Howard et al (2016) had access to drop-out data, they relied on self-reported absence data which proved to be largely unreliable. The authors were therefore unable to make any significant claims regarding access to menstrual products and absenteeism. For Montgomery et al (2016), the failure to account for school drop outs made attendance trends difficult to discern; the authors noted that people who had dropped out of school may have already had lower attendance prior to the intervention, which would understate the resulting school absence trends.

Ultimately, it may be too early to discern any causal relationship between the provision of menstrual products and school attendance given the published empirical literature at the current moment. Initial studies show mixed results, and many are fraught with significant issues with respect to data collection and internal validity. Furthermore, given the lack of menstrual health data in LMICs, the external validity and overall generalizability of results from these studies is largely unknown. There is nonetheless promising initial results for quality of life improvements among girls receiving menstrual health products. Future studies should be cautious in design, noting school data collection and drop out issues, while also preparing to measure a wide variety of outcome variables (such as subjective well-being and or reproductive health indicators) rather than exclusively focussing on school attendance.

2.2.2 WASH Interventions

The qualitative literature has described WASH interventions as having important effects for MHM. While the following studies weren't explicitly MHM studies, both considered gender disaggregated effects of a WASH intervention in Western Kenya on school

absenteeism. Previous studies on WASH interventions and school absenteeism focussed entirely on effects stemming from influenza or other disease transmission; the two included studies, citing qualitative research, considered menstrual health as a potential component of school absence or enrollment.

Table 4: Included Studies: Related WASH Interventions

Study ID	Year	Country	Title
(Freeman et al., 2012)	2011	Kenya	Assessing the impact of a school-based water treatment, hygiene and sanitation programme on pupil absence in Nyanza Province, Kenya: a cluster-randomized trial
(Garn et al., 2013)	2013	Kenya	A cluster-randomized trial assessing the impact of school water, sanitation and hygiene improvements on pupil enrolment and gender parity in enrolment

Both of these papers were published following a single experiment in Western Kenya, where 135 Government of Kenya schools that did not meet the required latrine standard were randomly reselected and then randomly assigned into one of three groups; a treatment group focussing on hygiene promotion and water treatment, a second treatment group that also included the provision of additional latrines, and a control group.

Freeman et al (2011) found a significant and substantial result for pupil WASH knowledge in treatment groups. They also noted that in regions that were not disrupted by post-election violence, both treatments caused a 58% reduction in the odds of a two-week absence for girls, but not for boys. The authors predict that these interventions could reduce absence among girls by more than 6 days per year. They concluded by emphasizing compelling evidence of the impact of school-based WASH improvement on school absence for girls, without deciphering the exact mechanism by which this phenomenon takes place.

Garn et al (2013) looked specifically at schools that had been classified as “water scarce”, meaning that there was not an accessible water source less than 1 km away from the school. The treatments were the same as in the Freeman et al (2011) study, however there an additional group that was provided a water source to previously water scarce schools. In this group, the intervention was associated with a significant and substantial increase in enrolment, especially among girls. On average, there was a 4% average

increase in the proportion of girls enrolled in school after this comprehensive WASH intervention. The authors concluded that one mechanism that could be responsible for this improvement in gender parity could be improved possibilities for menstrual health management.

In general, the evidence on school-based WASH interventions is highly limited, notably when the outcome variable is gender desegregated school attendance data. However, the two studies listed above suggested greater improvements to girls from WASH interventions, which provides some empirical support to the qualitative literature described above.

2.2.3 Education Interventions

There appears to be very little empirical research on the effectiveness of menstrual health education. One exception is listed below:

Table 5: Included Studies: Related Education Interventions

Study ID	Year	Country	Title
(Djalalinia et al., 2012)	2012	Iran	Parents or School Health Trainers, which of them is Appropriate for Menstrual Health Education?

This study found that in comparing types of menstrual health educators, school-based educators were the most effective in raising girl’s confidence with managing their menstruation compared to parents. While these indicators may be correlated with school attendance, no research has been conducted to establish this link. Therefore, the role menstrual health education plays in reducing school drop outs remains largely speculative.

2.2.3 Promising Interventions

Menstrual Product Provision

Overall, the evidence linking provision of menstrual products to school attendance is largely mixed and highly speculative. There appears to be rhetoric among researchers suggesting that the provision of menstrual products might have quality of life improvements above and beyond their school attendance, such as reduced reproductive tract infections or a reduced need to engage in transactional sex.

WASH Infrastructure

Previous research has indicated preliminary yet positive results regarding WASH infrastructure and school attendance and school enrollment for girls. Many NGOs have started to include MHM into WASH programming. Many questions remain and further empirical research regarding WASH interventions must be executed in order to draw concrete conclusions.

MHM Education

Phillips-Howard et al ask “Is MHM education in schools a global necessity regardless of measurable health or school outcomes?” (Phillips-Howard, Caruso, et al., 2016). While there is limited empirical research on education initiatives, this might be a relevant question to consider. In this sense, studies focusing on education should prioritize the most effective types of MHM education, rather than trying to decide whether it should be implemented at all.

2.3 Research Priorities

In 2016, Phillips-Howard et al. summarized current knowledge gaps in MHM research among adolescent schoolgirls in low-and middle-income countries (LMICs), outlining research priorities for the next ten years which have guided MHM research, especially as it relates to other Sustainable Development Goals areas and intersects with relevant needs of vulnerable and marginalized populations (Phillips-Howard, Caruso, et al., 2016). The authors note that previous research has been created using predominantly qualitative, participatory, and descriptive methods, but that there was a strong gap in commensurate quantitative studies. The existing MHM literature, they conclude, is therefore comprehensive with respect to barriers facing schoolgirls in LMICs but provides little information on measurable outcome variables such as school absence, pregnancy, or school attainment. The authors list a variety of research questions and study methodologies to be considered in future research, emphasizing the need for large-scale and multi-site intervention trials to quantify the impact of MHM interventions across various cultural settings in LMICs.

Table 6: MHM research priorities

Topic Area	Research question
Neglect to address MHM issues	<p>Why does menstrual need continue to be socially neglected?</p> <p>What interventions are required to influence social norms across cultures and improve MHM worldwide?</p>
Environmental infrastructure	<p>Do WASH infrastructure improvements impact girls' ability to attain equitable educational outcomes as boys (with or without a specific menstrual product intervention)?</p> <p>Do girls use the improved infrastructure provided for menstrual management?</p> <p>Do WASH improvements ameliorate girls' MHM challenges in the school setting?</p> <p>What are cost-effective menstrual waste disposal systems?</p> <p>How can safe, hygienic, sustainable, and environmentally friendly disposal systems be developed?</p>
Hygiene products	<p>How can programs improve access to menstrual products, such as sanitary pads, other absorbents, or menstrual cups, and availability of underwear?</p> <p>Are certain MHM products only culturally acceptable in some countries?</p> <p>How does culture or religion affect uptake?</p> <p>Can acceptability and use be promoted globally?</p> <p>How can programs measure the benefits and risks of traditional hygiene materials (such as cloth) in LMIC and support safe practices?</p> <p>Can cluster randomized controlled trials define the cost-effectiveness of MHM products on hard outcome measures?</p>
School-based programming	<p>What MHM program delivery mechanisms effectively ensure provision for schoolgirls?</p> <p>What is the effectiveness of psychosocial support programs delivered through teachers, nurses, and/or counselors?</p> <p>Is MHM education in schools a global necessity regardless of measurable health or school outcomes?</p>
Delivery channels	<p>What modes of MHM service delivery best ensure girls in greatest need are served?</p> <p>What are the needs of girls with disabilities and what guidance is required to support them?</p>

	What is the design of an effective evidence-based community- or school-delivery and support program for refugees, orphans, street kids, or girls not in school?
Girls' health	<p>What health impact would MHM products have on reproductive tract infections, vaginal discharge and odor, and urinary tract infections?</p> <p>What impact would effective MHM products have in reducing transactional (or coerced) sex to obtain money for sanitary products?</p> <p>How is girls' psychosocial stress impacted by a lack of resources, guidance, and/or a non-supportive school environment for practicing MHM?</p>
Research and strategies to strengthen advocacy and action	<p>What MHM programs have successfully implemented activities and what are lessons learned?</p> <p>What added value can the Cochrane approach of systematic reviews and meta-analysis provide to aggregate and compare behaviors, impact, and cost-effectiveness of MHM interventions?</p>
Girls' empowerment and cultural norms	<p>What contribution does improved MHM have toward improving girls' lives and reducing gender inequity?</p> <p>How will girls' self-efficacy in managing menstruation correlate to later decision-making about their bodies (i.e. age at first sex, sex negotiation, condom negotiation, and contraception use)?</p> <p>What are the experiences of girls who do not experience regular menstruation and how does this impact their life prospects (social isolation, marriage, etc.)?</p> <p>What effect do males have on girls' ability to independently manage their menstruation, and engage in safe, healthy, productive, and meaningful activities?</p>

The 2019 Sommer et al. Green Paper was born out of a three-day conference focused on menstruation-related issues that impacted girls both in and out of school (Sommer et al., 2019). The paper examines the roles that NGOs, government actors, academics and researchers, and multilateral agencies and donors can play in order to support MHM, and how the scaling up of data collection and monitoring can strengthen MHM support at the local, national and regional levels. The paper identifies goals that, when coupled with the aforementioned Phillips-Howard research priorities, can create a robust national network of information and data to support MHM programming in schools to inform best policy and program design.

These actions include:

- A knowledge sharing platform that will include research findings obtained by MHM studies and RCTs to help determine measures of progress and needs
- Support for the translation of how to interpret measures and findings for implementation by schools, communities and local/national governments based on key findings
- Conducting research that may be relevant for MHM impacts in wider contexts

2.4 Key Methodology Considerations for Future Research

While research on MHM in schools is in preliminary stages, there is a growing global push towards addressing menstruation and MHM as a health, education and gender equality issue (Sommer et al., 2019). From research to policy-making, disaster and emergency response to conflict resolution, MHM issues are slowly integrating into gender mainstreaming, or the process of making gender concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes so that all genders benefit equally, priorities in policy responses and program design across communities and countries. There is a significant need to create robust systems of data collection and sharing in order to inform MHM indicators and measures; without it, action is minimized and women and girls' health can easily be ignored (Sommer et al., 2019). Measurements can inform needs assessments and serve as the baseline for intervention design and impact assessments; collecting both qualitative and quantitative data from a robust network of stakeholders, beneficiaries, community members, women and girls, educators, policy makers, innovators, product designers and governments (among others) should form the foundation of further MHM research.

Key Thematic Areas

Future MHM research must also seek to address multidimensional priorities and methodologies to better understand the facilitators and barriers to implementing MHM policies and programmes in schools. These multidimensional priority areas include (Emory University et al., 2014):

Table 7: Priority Thematic Areas

Priority Thematic Areas	Key Aims	Means of Assessment
Education	<ul style="list-style-type: none"> Increased understanding of current MHM practices, facilitators and barriers for girls in Zambian schools through a detailed view of curriculum, interactions at schools and teacher/student relationship, as well as cultural valuation of education 	<ul style="list-style-type: none"> Literature/Desk Review: MHM/health curriculum and teacher training standards KIIs: ministry of education, NGOs, community leaders, women’s organizations FGDs and interviews with women and girls, educators, parents for educational experience
WASH	<ul style="list-style-type: none"> Increased gender-sensitive support into existing and future WASH programs Environmental factors and constraints Capacity for WASH improvements/ 	<ul style="list-style-type: none"> Literature/Desk Review: School/ gender MHM and WASH policies (if any) Observations in schools/communities: WASH conditions and availability/potential for MHM supplies (including cost) KIIs with teachers to assess teachers role in educating girls re: WASH and MHM, as well as educators abilities FGDs with girls: perceptions of school environment and usage of current WASH facilities at school vs. home
Sexual and Reproductive Health (SRH)	<ul style="list-style-type: none"> Increased understanding of how SRH is being approached and taught in Zambian schools and who is responsible teaching and how curriculum is conducted 	<ul style="list-style-type: none"> FGDs with adolescent girls and boys: biological knowledge about menstruation and MHM; needs IDIs with girls: discuss symptoms/experience of menstruation, including physical and emotional factors; influence on behaviors; intensity of experience and impact on school performance; other physical/emotional symptoms

<p>Psychosocial</p>	<ul style="list-style-type: none"> Increased understanding of the psychosocial experience of menstruation on girls to inform sensitive interventions 	<ul style="list-style-type: none"> FGDs with adolescent girls and boys: Beliefs and perceptions about related to menstruation; stigma, bullying related to MHM, menarche and menstruation
<p>Gender</p>	<ul style="list-style-type: none"> Acute awareness of gender dimensions in context (state, city and community contexts) to better understand how gender roles/expectations/dimensions interact with MHM 	<ul style="list-style-type: none"> KIIs with local community members, teachers and mothers regarding gendered dimensions of lived experience and how attitudes and behaviors are impacted by menstruation and MHM FGDs with adolescent girls and boys: gendered experience of adolescence
<p>Cultural Norms and Sensitivity</p>	<ul style="list-style-type: none"> Understanding of cultural norms, beliefs, customs and traditions to design relevant, effective and sensitive interventions and policies 	<ul style="list-style-type: none"> KIIs with national and community-level government officials, NGOs FGDs: norms, beliefs and local knowledge from girls, boys, teachers, mothers FGDs with adolescent girls and boys: attitudes and beliefs about menstruation; self-efficacy about management

Key Methodological Considerations

Engaging in research related to menstrual hygiene management affirms a commitment to the advancement of women and girls’ rights and to meeting their needs in different settings and contexts. As such, research should be designed to both generate evidence on and strengthen the quality of life of women and girls in Zambia. To ensure this, women and girls should be centered in the research, especially disadvantaged, marginalized and vulnerable girls, as well as girls with disabilities. Additionally, considering the sensitivity of the topic and the fact that adolescent boys and girls are vulnerable populations, every action should be taken to ensure an ethical and confidential research process, which includes: “a clear justification for research, respectful engagement with participants to obtain informed consent, a commitment to privacy and a protocol for data security,”(UNICEF, 2019) as outlined in the IRB. MHM research methodology and design should also be guided by the following principles and considerations:

- **Gender Equality:** Selection of informants, experts and participants (in FGDs, interviews, etc.) should reinforce gender equality. Local women and girls are given opportunities to lead MHM research processes, including participatory approaches to research and project design, as well as data collection and monitoring. A special emphasis should be placed on youth involvement. Men and boys should be included to gather information.
- **Context Sensitive:** MHM research design should focus on creating an empowering atmosphere for informants to feel comfortable speaking openly about puberty, menstruation and empowerment. This will likely include careful, context and culturally-sensitive research question design, as well as carefully constructed FGDs with local experts in order to encourage participation. Research should also contribute to
- **Inclusive:** Research should be designed in order to make a special effort to reach and include girls with disabilities, girls from minority groups and transgender/non-binary menstruators. Recognizing that proper MHM cannot be achieved without including all, a special focus should also be placed on involving men and boys in the research and education processes.
- **Collaborative:** As listed above, MHM programs must be multidimensional, including actors, stakeholders and experts from many areas. Research should affirm this and be sure to include areas for collaboration across sectors. Data and findings should be shared with beneficiaries, participants, stakeholders and government. The results and findings should be validated by community members and beneficiaries that were not participants in FGDs and KIIs. Research findings should be shared with a panel of local educators, medical professionals, cultural leaders, government officials, and academic, WASH, education and health experts for feedback and review.

Methodological Considerations for Zambian Context

The methodological design of key informant interviews and focus group discussions has been designed with sensitivity to norms, traditions and customs of Zambian culture. We recommend that participatory research is conducted with the utmost sensitivity to gender, vulnerable groups and culture that may vary across communities and research sites. Collaborating with experts before engaging in any research with vulnerable groups (including adolescents) for review of materials and discussion questions for participants is essential.

Relevant cultural information needed to incorporate into the design of FGD and key informant interviews includes (but is not limited to):

- **Relevant Terminology and Communication:** Information related to how adolescents speak of menstruation and menarche, including terminology and slang, as well as common words for menstrual hygiene and products. Consideration should also be given to how female adolescents speak about menstruation with one another, how male adolescents speak about menstruation to one another, and how mixed groups speak to each other about menstruation.
- **Education:** Information regarding how adolescents/children first become exposed to the idea of menstruation; how menstruation is taught/explained, and how this is different in public vs. private vs. religious schools; how menstruation is believed to be connected to pregnancy and reproduction by adolescents; cultural myths and explanations for menstruation and/or stories to explain it
- **Product Usage:** Information of how menstrual hygiene products are acquired and/or made, disposed of/cleaned, and who purchases/makes these products in localized contexts (disparity among households in the same areas)
- **Hygiene Practices:** Based on available and used products, how girls and women practice menstrual hygiene management at home, at work and at school; If men and boys are aware of menstrual hygiene management
- **Attendance/Missing School:** How girls and women communicate that they are missing work/school because of menstruation-related needs; why they miss school and who shares this information to whom (teachers and parents, teachers and students, students to other students, no communication, assumed reasons vs. communicated reasons, etc.)
- **Symptoms:** Information regarding how girls and women explain and experience symptoms related to menstruation (i.e. cramping, bloating, fatigue, headaches, etc.)

3. STAKEHOLDER RESEARCH

3.1 Stakeholder Analysis

The purpose of this section is to provide a broad understanding of the types of stakeholders in the MHM landscape in Zambia, and an analysis of how these groups interact with each other. Table 8 provides a list of key stakeholders in Zambia, broken down by category. While not an exhaustive list, the table aims to identify the main players involved in the MHM space in Zambia.

Table 8: Key stakeholders in Zambia

Stakeholder types	Examples of stakeholders in Zambia
Government Institutions	Ministry of General Education (MoGE); Ministry of Local Government and Housing (MLGH); Ministry of Health (MOH); Ministry of Community Development Mother and Child Health (MCDMCH)
Bilateral and Multilateral Agencies	UNICEF; UNFPA; USAID
Local and International NGOs	CARE; FHI 360; Winrock International; Campaign for Female Education (CAMFED); Plan; SNV; WaterAid
Academia	Researchers from various universities and research organizations
Social Enterprises	Chic Cup; Talula Cup; The Urban Girl; Toilet Yanga
Local Community Members	Community and Religious Leaders; School Systems and Teachers; Parents

The stakeholders in Table 8 play different roles, from mobilizing resources for MHM programming, to providing technical support to MHM program design, implementing MHM interventions on the ground, as well as developing knowledge products and disseminating best practice. Table 9 provides an overview of the lead role(s) played by each stakeholder type. While it varies by project, we generally see similarities in role types of stakeholders across the board.

Table 9: Lead role(s) of each stakeholder type

	Funder	TA support	Implementer	Knowledge creator
Government	✓			
Bilateral and Multilateral Agencies	✓	✓		✓
NGOs		✓	✓	
Academic and Research Institutions		✓		✓
Social Enterprises			✓	
Local Community Members			✓	

Overall, the government provides policy direction and resource mobilization in relation to MHM policy and programming. While NGOs generally play a focused role as lead implementer in MHM programming, multilateral agencies are seen to take on a variety of roles, ranging from funder to implementer to capacity builder. To our understanding, local NGOs do not seem to play a huge role in MHM programming at this stage. Rather, the landscape is characterized by a few large international NGOs that have partnered with the Zambian government to deliver on key MHM programs. Social enterprises are a small but growing market in Zambia and could present potential partnership opportunities with NGOs and/or governments, although a barrier would be existing red tape and bureaucracy.

Research institutions play a very important role in the MHM space in Zambia, especially in regards to coordinating MHM interventions in schools, and supporting knowledge creation and dissemination of best practices. Going forward, they will be critical partners in expanding the body of rigorous evaluation around whether MHM programs are achieving their intended outcomes.

Other important stakeholders include community and religious leaders, teachers and parents – all of whom play essential roles in gathering community support for MHM programs. They help spread awareness and demystify myths and beliefs around MHM, especially in rural areas, and are important players in creating sustained behavior change in the local community.

The section below provides more detailed information regarding each stakeholder group.

3.1.1 Stakeholder Engagement Models

Government Institutions

At a very high level, the government provides policy direction and resource mobilization in relation to MHM policy and programming. In 2012, the Ministry of Education set up a multi-sectoral technical working group with a variety of stakeholders—including NGOs, UN agencies and private companies—to kickstart the dialogue around menstrual hygiene in schools. In 2016, the Ministry of Finance committed funding of \$198,000 to distribute free sanitary pads to rural and peri-urban schools in 2017—though anecdotal evidence at the grassroots level is indicating that the government has yet to follow through on their commitments (Muyovwe & Lockwood, 2019). Other key government stakeholders in the MHM space include the Ministry of Local Government and Housing (MLGH), Ministry of Health (MOH) and the Ministry of Community Development Mother and Child Health (MCDMCH).

Bilateral and Multilateral Agencies

Multilateral agencies in Zambia may take on a variety of roles, depending on the MHM project. Unfortunately, due to the current environment, we were not able to conduct interviews with stakeholders in this space. However, secondary research indicates that UNFPA and UNICEF are the two main multilateral agencies that are active in the MHM space in Zambia. Depending on the project, they take on a variety of roles, from funder to implementer to capacity building. In terms of bilateral agencies, USAID Zambia is a major funder in MHM programming, and has partnered with international NGOs to support the delivery of a US\$20 million five-year comprehensive MHM program in eastern Zambia (USAID, 2015).

Local and International NGOs

In Zambia, NGOs mainly play the role of direct implementing partners in MHM programming. To our understanding, local NGOs do not seem to play a huge role in MHM programming at this stage. Rather, the landscape is characterized by a few large

international NGOs that have partnered with the Zambian government to deliver on key MHM programs. For example, a 2010 USAID-funded project called SPLASH (Schools Promoting Learning Achievement through Sanitation and Hygiene) was led by FHI 360 with CARE and Winrock International as core partners (USAID, 2016). These international NGOs worked with the Ministry of General Education (MoGE), as well as other key line ministries such as the Ministry of Local Government and Housing (MLGH), Ministry of Health (MOH), Ministry of Community Development Mother and Child Health (MCDMCH). Rolled out between 2010 and 2016, the project's comprehensive programming is a leading example of a water, sanitation, and hygiene (WASH) program that integrates menstrual health across its efforts.

The NGO community has spearheaded numerous initiatives in Zambia to collaborate on MHM policies and programs. One such initiative is the MHM Technical Working Group, led by WaterAid, UNFPA, Save the Children, UNICEF and the Ministry of Education, amongst many other government institutions and civil society organizations.¹ Along with the Ministry of Girl's Education, the working group led a policy to introduce menstrual health in school curriculum in 2013. In another example, WaterAid is working towards developing standards for menstrual hygiene products (including reusable products), around quality, distribution and access, to create a basis for a market so people at the community level could make and sell pads (WaterAid & UNICEF, n.d.).

There exists other international NGOs that also focus on WASH interventions in Zambia—such as Plan USA and SNV. Generally, it can be observed that, in the early years, NGOs focused on launching programs to solve larger WASH challenges for all students. Only in the later years has the focus shifted to MHM products and facilities for school girls, as any MHM intervention depends on the existence of these basic, yet enabling WASH environments. In terms of gaps, there is a lack of literature online on how NGOs as implementing partners are tackling aspects of norms and attitudes, such as involving community opinion leaders in MHM programming and addressing the taboo around discussing menstruation. This could be an area for further investigation.

Academic and Research Institutions

Research institutions play a very important role in the MHM space in Zambia, especially in regards to coordinating MHM interventions in schools, and supporting knowledge creation and dissemination of best practices. While MHM programming is relatively new in Zambia, there has been an increase in the number of research studies conducted on

¹Interview with a member of the MHM Technical Working Group, April 2020

this topic over the past few years. To date, these studies have mostly been exploratory in nature, centered around understanding the knowledge, attitudes and practices of menstruation in Zambia. Section 2 of this report provides a comprehensive overview of key quantitative and qualitative studies on MHM in Zambia and internationally.

While academic institutions and research centers have played an essential role in understanding complexities around MHM in Zambia, research efforts are influenced by funding requirements, and hence, some research areas have not been explored adequately. For example, according to our interview with an academic, NGOs are keen to draw causal links between pad provision and school attendance for the purposes of attracting more donor funding, but researchers are wary about this narrative being sold as it discounts other contributing factors at play.² There exists a lack of rigorous evaluation on whether the MHM programs currently being delivered are achieving their intended outcomes. The field also seems to be dominated by international academics, and it would be worth exploring potential engagement with local researchers.

Social Enterprises

While a relatively small market, there are a number of social enterprises in Zambia that produce innovative sanitary products as an alternative to disposable pads. Such enterprises include The Urban Girl, which produce reusable sanitary towels, and Talula Cup, which promote menstrual cups. Affordability and sustainability are often marketed to be the competitive selling points of these products. For example, while a menstrual cup may seem expensive on the outset, it can be used for a few years, thus making it more sustainable and affordable than single-use disposable pads. However, the market for alternative sanitary products is still quite small in Zambia. There could be potential for partnership with NGOs and/or governments to promote usage of these products, although social enterprises have lamented on the existing red tape and bureaucracy working with these stakeholders.

Community and Religious Leaders

Community and religious leaders play essential roles in gathering community support for MHM programs and creating buy-in amongst local members. They help spread awareness and demystify myths and beliefs around MHM, especially in rural areas. Furthermore, community and religious leaders can play an instrumental role in getting buy-in from key people (i.e. school systems and mothers). They often bridge the gap by introducing the work of NGOs to their local communities and extending the trust.

² Interview with academic, April 2020

Furthermore, they have also helped in identifying key roles of impact and influence that each community member may have to ensure successful programs.

School Systems

Teachers play significant roles in ensuring programmatic success, and it is important that they are provided with adequate training to deliver puberty education in schools. For example, the School Health & Nutrition Coordinator (SHIN) is a teacher who specifically spearheads MHM in schools and also has a critical role (Zambia Ministry of Education, 2006). This person is a teacher but is also the lead in spearheading MHM in the school. They also play a key role in ensuring the sustainability of the programs. In some schools, the SHIN Coordinators conduct weekly meetings with both the boys and the girls so that there is no stigma in terms of the outlook on MHM. For adolescent girls specifically, teachers can support them with safe access to toilets, training around the use of MHM products and access to MHM products and services.

Parents and Families

Parents also play a critical role and are easier to influence once the teachers are onboard. Through their programmatic experience, an NGO realized that mothers often feel shy to talk to their children about menstruation. Female teachers often become the first point of contact to talk to girls about MHM. Often, extended family members including grandmothers and aunts are more comfortable talking to adolescent girls in the families, as compared to the mothers. Hence, in the rollout of MHM interventions, these family members along with teachers are key in influencing the parents and obtaining their buy-in. When the parents obtain buy-in, they help with continuous sustainability of the program, even at home. A vehicle used to drive behaviour change amongst the parents are the Parent Teacher Associations (PTAs), where teachers spend extensive time with parents (and sometimes adolescent girls) to conduct awareness and training programs around MHM.

3.2 Primary Stakeholder Research

To complement the secondary research on stakeholders in the previous section, field research (via key informant interviews) were conducted with various stakeholders to corroborate findings and develop a deeper understanding of the MHM landscape in Zambia.

Approach

Our initial approach involved conducting field research, including stakeholder interviews and focus group discussions with local community members in Zambia. Due to COVID-19, travel to Zambia was cancelled. Hence, the current field research focuses exclusively on stakeholder interviews. Efforts have been made to ensure that the interviews were conducted with as wide a sample of stakeholders as possible, however some of the scheduled interviews got cancelled due to the current crisis.

In terms of data collection, while interview guides were tailored to each stakeholder depending on the nature of their contribution to the landscape, each interview aimed to achieve the following key learning outcomes:

- Understand their perspective on the facilitators and barriers to implementing MHM projects in Zambia
- Understand the engagement levels and dynamics of different community members around MHM projects
- Gain insight to their best practices leading MHM projects on the ground
- Gain insight to the roadblocks they have faced leading MHM projects on the ground

3.2.1 Key Insights

Our findings from the interviews have been organized into five themes:

Theme I: Cultural and Social Norms

Social and cultural norms play a significant role in impacting the success of MHM programs. For instance, in Zambia, there exist beliefs that it is essential to burn a sanitary pad or napkin after being used, as leftover burn signifies the infertility of the girl or woman. These beliefs impact the way that menstrual products and services are used by girls.

According to a researcher who specializes in MHM in Emergencies, such taboos are especially relevant around the usage of MHM products. In general, preference around MHM products can be very personal and cultural.

“Thinx menstrual underwear (reusable) was introduced within refugee camps in Greece. The program was not successful as the women and girls there had been used to using sanitary napkins and pads for generations.”

They shared that there is an increase in the introduction of menstrual cups in conflict-affected contexts. While these products are resilient and sustainable, it is important to consider taboos around insertion in many communities across the world.

According to another senior researcher in MHM, there is limited research that is conducted around existing social and cultural norms, and their impact on MHM practices by adolescent girls and women.

For instance, there is not enough research around the impact of social norms and cultural contexts to the success of MHM programming. The ecosystem needs to go beyond focusing on the impact of education campaigns and awareness programs on shifting social norms and debunking myths around menstruation.

Theme II: Influential Individuals for an Adolescent Girl

The results from any research and programs conducted around MHM tend to be contextual in nature. There lies a risk in generalizing insights, even within a country, district or a school. In order to influence behaviour and attitudinal change around MHM amongst adolescent girls, it is important to engage individuals in their lives who have an impact on their daily lives and who they trust.

School systems and teachers are one such stakeholder group. A senior public health specialist shares that MHM programs in schools tend to be more effective and successful whenever MHM components are an integral part of the curriculum in teacher's training and are clear deliverables for them, along with their other responsibilities. Teachers play a key role in making MHM programs sustainable, especially by ensuring the maintenance of WASH facilities. Teachers manage the WASH facilities in schools, especially in girls' bathrooms, often manage the cleanliness of the ablution blocks, and stock up on emergency pads for the girls.

A program officer working in MHM in Zambia shares:

“For example, right now we are doing water schemes, as well as ablution blocks. So those water schemes are normally run through the power grid, as well as solar systems, and that needs maintenance because for the girls to access water from the shower, the water has to always be running. The teachers have played a very critical role with that. In terms of the cleanliness of the ablution blocks, we’ve seen initiatives where the teachers have dedicated a particular budget to make sure the ablution blocks are clean, they have a budget

to actually buy emergency pads so just in a case a girl comes to school and has just started her period, they can provide those pads to her.”

They share that they have witnessed innovative approaches to MHM policies in schools where designated SHIN’s in schools are making sanitary napkins for the girls, in order to make these products accessible. This creates a subtle shift in behaviour amongst young populations, as school students witness teachers engaging in these practices.

“We’ve heard brilliant stories from the boys saying, ‘I need to learn how to make a reusable pad in case my sister starts her period and she doesn’t know how to make one.’”

A public health specialist insists on the importance of engaging men and boys in MHM research and programming. Fathers, sons, brothers and schoolmates play important roles in changing perceptions and attitudes around MHM. Current programs in schools tend to focus primarily on creating awareness amongst boys. Programs need to expand their focus to engage and educate boys and men around the daily, operational and logistical struggles around menstrual health management.

According to a researcher who specializes in MHM in Emergencies, an essential stakeholder that often gets left out are the parents. They shared two examples in their research to support this argument.

In the first case, in a camp in Somalia, girls were provided with underwear and sanitation products. Their fathers were not comfortable with this program as underwear was not culturally worn, and this resulted in the program being discontinued. In another example in Northwest Tanzanian refugee camps, books focused on introducing adolescent youth to MHM practices were translated Burundi for the Burundi refugees and Swahili for the Congolese refugees. However, as a large number of people were not literate, especially the parents, this resulted in them only viewing the images without prior context, and hence, being horrified.

Parents can provide a lot of cultural knowledge and practices around MHM, and hence must always be included in programming and research, especially because this space is so taboo in a variety of contexts.

Theme III: Methods to Measure Programmatic Success

A senior researcher in MHM discussed the numerous methods used to measure programmatic success. Indicators include school attendance, grades achieved in school, the rate of high school dropouts (boys versus girls), and the average age at which a girl may have her first pregnancy. While these metrics help get a holistic perspective around the impact of MHM, most of the indicators are long-term in nature and access to data can be a problem.

Another challenge identified by the individual was the reliance on school attendance as a primary metric to measure programmatic success. Within the MHM landscape, there have been major shifts to move beyond measuring attendance of schoolgirls as a pathway to understanding the success of MHM programming in a region. School attendance has historically been a hook for NGOs to get donor funding on MHM interventions due to the hypothesised link between school attendance and educational outcomes.

However, broadening the range of outcomes can result in a more holistic understanding of the experience of an adolescent school-going girl. They presented four main endline outcomes for measuring MHM programmatic success beyond the instrumentalization of school attendance: 1) social participation (engagement across all aspects of daily life, beyond school and work), 2) school and work attendance, 3) physical health, 4) psychological wellbeing. Furthermore, there are more proximal (immediate) outcomes related to MHM experience that should be considered, including shame, confidence, distress, which can often lie on the pathway to some of the proposed endline outcomes.

A public health specialist adds that in their experience, MHM is closely related to the mental health of adolescent girls, especially while in school, as it eliminates surprises when girls are not around reliable sanitation facilities. Hence, they recommend the inclusion of indicators that measure the mental health of adolescent girls, to measure programmatic success.

Theme IV: A System's Perspective of the MHM Ecosystem

In research conducted by a public health specialist, where a new school attendance system was implemented in India using biometrics, it was observed that menstruation was the second highest reason for the absence of adolescent girls from school. Other reasons included ill health, familial responsibilities and informal labour.

A research specialist in MHM in Emergencies shared that MHM researchers and programmers must consider the larger WASH ecosystem as well when working towards

solving MHM challenges. While there exists a lot of encouragement to promote certain products, it is equally important to think about whether girls have access to toilets, clean water and safe disposal spaces.

Furthermore, often different aspects around MHM programming at the government level, are dispersed across the Ministry of Health, the Ministry of Education and the Ministry of Women and Child Welfare. In their experience, this often results in disparate independent efforts in siloes, with limited collaboration, hence resulting in challenges of scale and sustainability in the MHM policy.

Theme V: Access and Affordability of MHM Products

In their early years working with MHM, a program manager working with an international NGO working in Zambia realized that it was essential to ensure private and safe spaces for adolescent girls in school, prior to launching MHM programming. In addition to not having appropriate facilities, they also saw that girls in rural areas could not afford clean and reusable pads. This resulted in unhygienic methods with girls reusing cloth pieces (and sometimes sharing these cloths with other girls), blankets, and even resorting to using things like dried cow dung (which would chafe their legs). A barrier to safe and hygienic products was the affordability and access, especially in rural areas. As families found it difficult to afford soap, girls often used dried cow dung to clean themselves and their menstrual cloth pieces.

A research specialist in MHM in Emergencies shared her reservations around the introduction of menstrual cups in conflict-affected areas. Even in the US, many women hesitate on using menstrual cups as they are uncomfortable cleaning the cups in common sink areas (such as public bathrooms in offices). In the context of conflict-affected areas, informal settlements or rural areas, women and girls often do not have access to clean and boiling water, which is necessary in order to be able to sterilize the cup. While menstrual cups are also being promoted widely in refugee camp contexts, the challenges around the actual functioning of the cups must be considered before these programs take scale - families often live in small shelters with no personal rooms. They share:

“How does a girl clean and boil her menstrual cup around the rest of her family members? With menstrual cups in specific, there is a lot of scope for research around what could potentially go wrong. As they are relatively new products, there is not much academic literature around the chances of reinfection or complications.”

They shared that often there is limited access to soaps and cleaning supplies. Often, soaps may be used for bathing and to clean utensils. However, soaps are not used to clean sanitary napkins or products, as that is seen as a luxury.

It is interesting to note that the uptake of menstrual cups in rural areas may be more favorable than in urban areas. A representative from a social enterprise specializing in MHM in Zambia shared that, in their experience, awareness and accessibility plays a major role in determining the success of an MHM product. In their experience, women and girls in rural areas tend to be more receptive towards the adoption of menstrual cups, primarily due to the limited resources and options available, as compared to the case in urban areas. While women in urban areas have access to pads, women in rural areas use rags as they are not able to afford pads. Menstrual cups, while seemingly expensive on the outset, provide a more affordable option for them in the long term. To ensure affordability, the women paid for the menstrual cup over a 3-month installment period. However, the entrepreneur emphasizes the importance of the cup being provided at the start rather than the end of the installment period. According to the entrepreneur, the uptake of menstrual cups in rural Zambia has been quite successful. However, traditional MHM programs tend to be risk averse. They share that better inter-agency partnership across stakeholders, including government bodies and non-profits, can help scale such initiatives.

RECOMMENDATIONS

On the basis of the primary and secondary stakeholder research, there are certain recommendations that can be made:

- The most successful entry point for a successful program is to engage stakeholders that the girls trust. Facilitators who are well known by the community and who understand the local context and language are key in helping address the cultural aspects that can hinder progression in implementing MHM activities.
- Broaden the scope for programmatic success beyond the attendance of school girls to gain a more holistic perspective of the lives of the adolescent girls and understand their needs, barriers and facilitators better.
- Consider more sustainable pathways for programmatic success, including methods such as curriculum development, behaviour change programs and teacher training. While short-term vehicles such as awareness campaigns are successful, they often struggle to scale beyond needs and contexts.
- Explore localization opportunities for the purposes of capacity building, such as creating partnership opportunities for local NGOs to be involved in the implementation of MHM programs and for local researchers to be involved in program evaluation efforts.

4. PROJECT NEXT STEPS

Handover of Materials

The SIPA Capstone team plans to hand over materials created during research to IPA Zambia. The materials will include this report, the Focus Group Discussion Guide and the Stakeholder Interview Guide (See Appendices).

The Focus Group Discussion Guide provides instruction for an IPA staff member or a third party to conduct interviews with students, parents, and teachers. The guide provides information about how to get consent from adults and assent from children, how to build rapport, and how to ask probing questions throughout the interview.

The Stakeholder Interview Guide provides a framework for how to reach out to experts, set up an interview, and the roles and materials needed for each interview. The guide also provides questions to ask experts across organizations and professions.

Suggested Next Steps

The SIPA Capstone team proposes that once fieldwork is permitted and safe and once the schools are back in session, the IPA team should continue with the IRB process with the University of Zambia in order to conduct focus group discussions and more stakeholder interviews. IPA Zambia has indicated that they have interviewers and translators through third parties that could conduct these interviews in both urban and rural areas. After a qualitative analysis of the data gathered during interviews, there will hopefully be interventions that are identified as improving the livelihood of adolescent girls. From these findings, if appropriate, IPA Zambia can begin the process of designing a randomized control trial to test the effectiveness of the chosen menstrual hygiene management intervention on a chosen outcome, such as school attendance.

The Spring 2020 Capstone team would also encourage a future group of SIPA students to continue this research with IPA Zambia once travel is possible for their SIPA Capstone project.

5. PROJECT ACKNOWLEDGEMENTS

The SIPA Capstone team would like to thank all of the faculty involved in making this research possible. First, we would like to thank our faculty advisor, Dr. Nessa Ryan, for her guidance and support throughout the semester. Dr. Ryan met with us weekly, shared readings and resources, and provided her expertise in public health and mixed methods research. We would also like to express our gratitude to Suzanne Hollman, Director of the Capstone Program, for her guidance and for organizing educational trainings. Our Capstone team is thankful for the panel of experts, Yvette Stacey Cumberbatch, Judith Pincus and Shawna Wakefield, who provided feedback on our midterm presentation.

Our Capstone team greatly enjoyed working with the client, IPA Zambia, namely Policy Manager Tamara Billima, Senior Survey Coordinator Grace Msichili, and Zambia Country Director Salifu Amadu. Their team shared their expertise and guidance during our weekly calls. They also shared their contacts with us, which was instrumental for our stakeholder interviews.

Lastly, thank you to our participants for sharing their expertise and insights.

6. BIBLIOGRAPHY

Chandra-Mouli, V., & Patel, S. V. (2017). Mapping the knowledge and understanding of menarche, menstrual hygiene and menstrual health among adolescent girls in low- and middle-income countries. *Reproductive Health*, 14(1), 30. <https://doi.org/10.1186/s12978-017-0293-6>

Chinyama, J., Chipungu, J., Rudd, C., Mwale, M., Verstraete, L., Sikamo, C., Mutale, W., Chilengi, R., & Sharma, A. (2019). Menstrual hygiene management in rural schools of Zambia: A descriptive study of knowledge, experiences and challenges faced by schoolgirls. *BMC Public Health*, 19(1), 16. <https://doi.org/10.1186/s12889-018-6360-2>

Djalalinia, S., Tehrani, F. R., Afzali, H. M., Hejazi, F., & Peykari, N. (2012). Parents or School Health Trainers, which of them is Appropriate for Menstrual Health Education? *International Journal of Preventive Medicine*, 3(9), 622–627.

Emory University, UNGEI, & UNICEF. (2014). *The WinS4Girls E-Course*. WASH in Schools for Girls E-Course. <http://washinschoolsmapping.com/the-wins4girls-e-course>

Freeman, M. C., Greene, L. E., Dreibelbis, R., Saboori, S., Muga, R., Brumback, B., & Rheingans, R. (2012). Assessing the impact of a school-based water treatment, hygiene and sanitation programme on pupil absence in Nyanza Province, Kenya: A cluster-randomized trial. *Tropical Medicine & International Health*, 17(3), 380–391. <https://doi.org/10.1111/j.1365-3156.2011.02927.x>

Garn, J. V., Greene, L. E., Dreibelbis, R., Saboori, S., Rheingans, R. D., & Freeman, M. C. (2013). A cluster-randomized trial assessing the impact of school water, sanitation and hygiene improvements on pupil enrolment and gender parity in enrolment. *Journal of Water, Sanitation and Hygiene for Development*, 3(4), 592–601. <https://doi.org/10.2166/washdev.2013.217>

Hennegan, J., & Montgomery, P. (2016). Do Menstrual Hygiene Management Interventions Improve Education and Psychosocial Outcomes for Women and Girls in Low and Middle Income Countries? A Systematic Review. *PLOS ONE*, 11(2), e0146985. <https://doi.org/10.1371/journal.pone.0146985>

Lahme, A. M., Stern, R., & Cooper, D. (2018). Factors impacting on menstrual hygiene and their implications for health promotion. *Global Health Promotion*, 25(1), 54–62. <https://doi.org/10.1177/1757975916648301>

McMahon, S. A., Winch, P. J., Caruso, B. A., Obure, A. F., Ogutu, E. A., Ochari, I. A., & Rheingans, R. D. (2011). "The girl with her period is the one to hang her head" Reflections on menstrual management among schoolgirls in rural Kenya. *BMC International Health and Human Rights*, 11(1), 7. <https://doi.org/10.1186/1472-698X-11-7>

Miiro, G., Rutakumwa, R., Nakiyingi-Miiro, J., Nakuya, K., Musoke, S., Namakula, J., Francis, S., Torondel, B., Gibson, L. J., Ross, D. A., & Weiss, H. A. (2018). Menstrual health and school absenteeism among adolescent girls in Uganda (MENISCUS): A feasibility study. *BMC Women's Health*, 18(1), 4. <https://doi.org/10.1186/s12905-017-0502-z>

Montgomery, P., Hennegan, J., Dolan, C., Wu, M., Steinfield, L., & Scott, L. (2016). Menstruation and the Cycle of Poverty: A Cluster Quasi-Randomised Control Trial of Sanitary Pad and Puberty Education Provision in Uganda. *PLOS ONE*, 11(12), e0166122. <https://doi.org/10.1371/journal.pone.0166122>

Morgan, C., Bowling, M., Bartram, J., & Lyn Kayser, G. (2017). Water, sanitation, and hygiene in schools: Status and implications of low coverage in Ethiopia, Kenya, Mozambique, Rwanda, Uganda, and Zambia. *International Journal of Hygiene and Environmental Health*, 220(6), 950–959. <https://doi.org/10.1016/j.ijheh.2017.03.015>

Muyovwe, B., & Lockwood, C. (2019, April 2). *MHM and Period Poverty: The Price of Being a Woman in Zambia*. End Water Poverty. <https://www.endwaterpoverty.org/blog/period-poverty-zambia>

Nanda, G., Lupele, J., & Tharldson, J. (2016). *Menstrual Hygiene Management among Schoolgirls in Eastern Province of Zambia: Qualitative Research Final Report*. USAID/WASHplus. https://menstrualhygieneday.org/wp-content/uploads/2016/12/USAID_MHM-among-Schoolgirls-in-Eastern-Province-of-Zambia-FINAL508.pdf

Opong, E., Person, C., & Kayula, N. C. (2014). *Investigating the Perceptions and Barriers to Menstrual Hygiene Management (MHM) in Zambia*. World Vision. https://www.wvi.org/sites/default/files/Final%20MHM%20Report_CPerson_2.14.2014_0.pdf

Oster, E., & Thornton, R. (2011). Menstruation, Sanitary Products, and School Attendance: Evidence from a Randomized Evaluation. *American Economic Journal: Applied Economics*, 3(1), 91–100. <https://doi.org/10.1257/app.3.1.91>

Phillips-Howard, P. A., Caruso, B., Torondel, B., Zulaika, G., Sahin, M., & Sommer, M. (2016). Menstrual hygiene management among adolescent schoolgirls in low- and middle-

income countries: Research priorities. *Global Health Action*, 9(1), 33032. <https://doi.org/10.3402/gha.v9.33032>

Phillips-Howard, P. A., Nyothach, E., ter Kuile, F. O., Omoto, J., Wang, D., Zeh, C., Onyango, C., Mason, L., Alexander, K. T., Odhiambo, F. O., Eleveld, A., Mohammed, A., van Eijk, A. M., Edwards, R. T., Vulule, J., Faragher, B., & Laserson, K. F. (2016). Menstrual cups and sanitary pads to reduce school attrition, and sexually transmitted and reproductive tract infections: A cluster randomised controlled feasibility study in rural Western Kenya. *BMJ Open*, 6(11), e013229. <https://doi.org/10.1136/bmjopen-2016-013229>

PMA. (2020). *Menstrual Hygiene Management*. Performance, Monitoring, and Accountability 2020. <https://www.pma2020.org/mhm-briefs>

Sommer, M. (2010). Where the education system and women's bodies collide: The social and health impact of girls' experiences of menstruation and schooling in Tanzania. *Journal of Adolescence*, 33(4), 521–529. <https://doi.org/10.1016/j.adolescence.2009.03.008>

Sommer, M., Hirsch, J. S., Nathanson, C., & Parker, R. G. (2015). Comfortably, Safely, and Without Shame: Defining Menstrual Hygiene Management as a Public Health Issue. *American Journal of Public Health*, 105(7), 1302–1311. <https://doi.org/10.2105/AJPH.2014.302525>

Sommer, M., Kjellén, M., & Pensulo, C. (2013). Girls' and women's unmet needs for menstrual hygiene management (MHM): The interactions between MHM and sanitation systems in low-income countries. *Journal of Water, Sanitation and Hygiene for Development*, 3(3), 283–297. <https://doi.org/10.2166/washdev.2013.101>

Sommer, M., Schmitt, G., & Gruer, C. (Eds.). (2019). *Monitoring Menstrual Health and Hygiene: Measuring Progress for Girls on Menstruation*. Columbia University and WSSCC.

Sumpter, C., & Torondel, B. (2013). A Systematic Review of the Health and Social Effects of Menstrual Hygiene Management. *PLoS ONE*, 8(4), e62004. <https://doi.org/10.1371/journal.pone.0062004>

Tegegne, T. K., & Sisay, M. M. (2014). Menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia. *BMC Public Health*, 14(1), 1118. <https://doi.org/10.1186/1471-2458-14-1118>

Tellier, S., & Hyttel, M. (2018). *Menstrual Health Management in East and Southern Africa: A Review Paper* (p. 52). UNFPA ESARA.

<https://esaro.unfpa.org/en/publications/menstrual-health-management-east-and-southern-africa-review-paper>

UNICEF. (2017). *Advancing Girls' Education through WASH Programs in Schools A Formative Study on Menstrual Hygiene Management in Mumbwa and Rufunsa Districts, Zambia*. UNICEF. <https://www.unicef.org/zambia/media/826/file/Zambia-menstrual-hygiene-management-schools-report.pdf>

UNICEF. (2019). *Guidance on Menstrual Health and Hygiene*.

USAID. (n.d.). *Schools Promoting Learning Achievement through Sanitation and Hygiene*. http://www.washplus.org/sites/default/files/splash_overview2015.pdf

van Eijk, A. M., Sivakami, M., Thakkar, M. B., Bauman, A., Laserson, K. F., Coates, S., & Phillips-Howard, P. A. (2016). Menstrual hygiene management among adolescent girls in India: A systematic review and meta-analysis. *BMJ Open*, 6(3), e010290. <https://doi.org/10.1136/bmjopen-2015-010290>

WaterAid, & UNICEF. (n.d.). *Menstrual Hygiene Management in schools: South Asia: Synthesis Report*. Retrieved May 4, 2020, from <https://washmatters.wateraid.org/publications/menstrual-hygiene-management-in-schools-south-asia>

Wilson, E., Reeve, J. M. K., Pitt, A. H., Sully, B. G., & Julious, S. A. (2012). INSPIRES: Investigating a reusable sanitary pad intervention in a rural educational setting—Evaluating the acceptability and short term effect of teaching Kenyan school girls to make reusable sanitary towels on absenteeism and other daily activities: A partial preference parallel group, cluster randomised control trial. The University of Sheffield. <http://eprints.whiterose.ac.uk/43906/>

World Bank Group. (2018). *FY19-FY23 Country Partnership Framework for the Republic of Zambia*. World Bank Group. <http://documents.worldbank.org/curated/en/805841545925652368/pdf/zambia-cpf-12212018-636811129246125968.pdf>

Zambia Ministry of Education. (2006). *National School Health and Nutrition Policy*. <https://extranet.who.int/nutrition/gina/sites/default/files/ZMB%202006%20School%20Health%20and%20Nutrition%20Policy%20%202006.pdf>

Zulaika, G., Kwaro, D., Nyothach, E., Wang, D., Zielinski-Gutierrez, E., Mason, L., Eleveld, A., Chen, T., Kerubo, E., van Eijk, A., Pace, C., Obor, D., Juma, J., Oyaro, B., Niessen, L., Bigogo,

G., Ngere, I., Henry, C., Majiwa, M., ... Phillips-Howard, P. A. (2019). Menstrual cups and cash transfer to reduce sexual and reproductive harm and school dropout in adolescent schoolgirls: Study protocol of a cluster-randomised controlled trial in western Kenya. *BMC Public Health*, 19(1), 1317. <https://doi.org/10.1186/s12889-019-7594-3>

7. APPENDICES

7.1 Stakeholder Interview Guide Prototype

STAKEHOLDER INTERVIEW GUIDE

Date:

Duration: 60 minutes

Mode:

Type of Stakeholder: Academia, Social Enterprise, International NGO, Local NGO, Government, Multilaterals and Community Leaders

Research Questions

How does the current social, political and cultural environment in Lusaka urban and Lusaka rural and B regions Zambia support IPA's goals to conduct a randomized evaluation that measures the impact of MHM interventions on school attendance (and other health and wellbeing indicators) amongst adolescent girls between the ages of 14 and 17?

Rationale for Interview

- Reason for interview
 - *[insert reason for interviewing current stakeholder]*
- Key learning outcomes *[tailor below depending on stakeholder being interviewed]*
 - Understand their perspective on the facilitators and barriers to implementing MHM projects
 - Understand the engagement levels and dynamics of different community members around MHM projects
 - Gain insight to their best practices leading MHM projects on the ground
 - Gain insight to the roadblocks they have faced leading MHM projects on the ground

Resources Required

- iPhone
- Notepad and pens
- Name tags (for in-person)
- Stakeholder interview guide and script

Method of Collection

Columbia investigators will use encrypted, password-protected iPhones and attached microphones to record the interviews. A translator will translate in real-time and transcribe and translate the recorded interviews for further review.

Interview Facilitators and Roles

Two investigators from the Columbia University Team will attend every stakeholder interview, along with a local translator, if required. If possible, a member from IPA staff will also participate in the interview.

One member of the Columbia University Team will serve as the facilitator. Their responsibilities are the following:

- Introduce the participants, establish the objectives for the call and lead the conversation
- Ensure a safe, comfortable environment for participations
- Be alert and free from distractions, practice active listening and respond to participants' answers
- Control reactions to participants (head nods, short verbal responses)
- Use pauses and probes
- Use subtle group control (i.e. experts, dominant talkers, shy participants, rambler)

One member of the Columbia University Team will serve as the assistant. Their responsibilities are the following:

- Handles logistics
- Takes notes throughout the discussion - conversational (with help from translator if not in English) and emotional (including body language)
- Deliver structured and unstructured probes, if the facilitator is unable to
- Debrief with facilitator
- Share notes with team, after the interview

- Provide feedback on analysis and reports

Question Guide for Facilitators

- Use open ended questions
- Avoid dichotomous answers
- Why? Is rarely used
- Use “think back” questions to ask participants to recount experiences
- Use different types of questions (opening questions, introductory questions, transition questions, key questions, ending questions)
- Use questions that get participants involved
- Sequentially order the questions (and flow from general to specific)
- Be cautious of spontaneous questions (esp. if they can be saved for end of discussion)

Tips for Facilitator

- Use purposeful small talk to begin in order to create warm and friendly environment
- Control your reactions to participants (give head nods and short verbal responses, but avoid praise or affirmation, i.e. “that’s good”)
- Uses pauses and probes to allow for enough time for those still thinking to respond, and to dive deeper or hint at a question another way
- Note taking
 - Clarity and consistency of note taking: assume that others will use your notes and may not review immediately. Clarity, depth and detail are essential.
 - Different types of information to include:
 - Quotes: listen for notable quotes (and note the timing it was said to return to it for review from audio recordings)
 - List key points and themes discussed for each question
 - Follow-up questions that could be asked
 - Other factors: make note of things that may further aid analysis (body language, non-verbal activity, head nods, other forms of approval/disapproval)
 - Please send out a thank you note after the call, and follow up on any specifics discussed (if relevant)

Interview Guide

The role of this guide is to provide an overview of topics that would be covered in the interviews. Some examples of questions that would be used to lead the discussion are provided below. Depending on the stakeholder and the flow of conversation, it is possible that the specific questions may alter accordingly.

I. Opening Questions

- a. Thank you for participating in this discussion with us today. Could you please introduce yourself?
- b. Could you tell us a little bit about your role at this organisation?

II. Introductory Questions: Understanding the context of the stakeholder

- a. What work does your team/organisation conduct in the space of education and/or menstrual health management? (this will be more specific depending on the stakeholder and the response to earlier question)
- b. How long has your organisation/team been working in this space? (this will be more specific depending on the stakeholder and the response to earlier question)

III. Transitory Questions: Understanding the Zambian context

- a. How has your work and/or the overall work in this space evolved over the last few years? (this will be more specific depending on the stakeholder and the response to earlier question)
- b. How has the culture in Lusaka (rural/urban) evolved over the last few years towards topics of menstrual health?

IV. Positioning Questions: Exploring key issues preventing effective MHM

- a. In your experience and understanding, do you believe that school attendance for adolescent girls could vary around their menstrual cycles?
- b. According to you, what do you believe could be the reasons that adolescent girls do not attend school once they begin their menstrual cycles or during their menstrual cycles? (this will be more specific depending on the stakeholder and the response to earlier question)
- c. Is this (the response to question above) trend generic across rural and urban Lusaka? Could you please explain further?
- d. How could this experience improve for adolescent girls? Are there ways to ensure that school attendance does not drop around the menstrual age?

- e. How do MHM programs usually measure success? What are the metrics that may be used? (could be based on respondent's organisational experience or their experience working with other stakeholders in the ecosystem who use these metrics)
- f. If you had a million dollars to spend on a MHM program, what would be the program's focus?
- g. If you had a million dollars to spend on an MHM research project, what would it be focused on?

V. Ending Questions

- a. Do you believe there are any other factors or considerations that could affect this observation? Please explain.
- b. Is there anything else you would like to clarify or discuss before we conclude this discussion?

Key Considerations

- All conversations/discussions would be made for specific/catered to the exact individual interviewed to ensure learning is maximised
- A semi-structured in-depth interview type is chosen to ensure that the conversations/discussions are led by the respondent themselves and the moderator/interviewer does not bias or lead the conversation towards certain topics, hence ensuring reflexivity
- Probes (verbal and non-verbal) will be used through the conversation, as and when required to nudge respondents for more detail
- All interviews would be recorded for ease of translation, transcription and analysis (translators would be provided by IPA)
- Each stakeholder type would have more than one participant interview to test the validity of their responses and to avoid one conversation biasing the learnings
- All respondent information would be kept confidential and will be anonymously shared and analysed for reporting
- In-depth interviews will be utilized for stakeholders as they are easier to discuss sensitive topics such as menstrual health management, helps put the interviewee at ease, can be private and can yield more detailed responses

Introductory Script

Hi! Thank you for taking the time to participate in this call today. We understand that this has been an unsettling time for all of us across the world, and we really

appreciate you spending this time with us. My name is x and we have y on the call. Y will be taking notes during the call. We are happy to share the notes with you, if you would like that. All of the information shared will be anonymised for analysis. In case there is a certain bit we may want to use in our report, we will seek your permission to quote you, prior to doing so. We are both members of the team from Columbia University that has been working with IPA over the last three months. We have been conducting a formative assessment around the facilitators and barriers for MHM interventions in Zambia. We are focused on understanding how the provision of MHM products and services can improve the school attendance of adolescent girls.

We have been studying the available literature around this topic and have come across your work numerous times. We are excited to hear from you and learn from your experiences. Once again, thank you for time.

We would like to keep this informal and would like to structure this as a conversation, as compared to a formal interview. Feel free to interject at any point or provide feedback around our questions. While we have conducted secondary research around this topic, we understand that context truly determines programmatic outcomes, and we would like you to feel free to share our thoughts openly and honestly. Let's begin!

7.2 Focus Group Discussion Guide

FOCUS GROUP DISCUSSION GUIDE | ADOLESCENT GIRLS

Date: Day of Week, March ____, 2020

Duration: 60 minutes

Location: {School Name, School District, Town Name, Zambia}

Justification and Rationale for Study:

- Reason for Focus Group
- Key Learning Objectives

Materials Needed

- iPhone (for audio recording)
- Microphone (iPhone attachment)
- FGD Guide + Script
- Nametags, pens

Facilitators and Staff: Roles and Responsibilities

Two Columbia investigators will attend every FGD, along with a local translator. If possible, a member from IPA staff will also accompany the group.

FACILITATOR	ASSISTANT
<ul style="list-style-type: none"> ● Responsible for leading the discussion and serving as the point person for the entire FGD duration ● Along with translator, will distribute and explain Assent/Consent forms and ensure signing before beginning ● Ensure a safe, comfortable environment for participations 	<ul style="list-style-type: none"> ● Help with equipment & refreshments ● Arrange the room ● Handles logistics ● Welcome participants as they arrive ● Sit in designated location ● Take notes throughout the discussion (if not in English, could take notes on reactions and body language, things recorder is not picking up) ● Operate recording equipment ● Do not participate in the discussion

<ul style="list-style-type: none"> ● Be alert and free from distractions, practice active listening and respond to participants' answers ● Control reactions to participants (head nods, short verbal responses) ● Use pauses and probes ● Use subtle group control (i.e. experts, dominant talkers, shy participants, ramblers) 	<ul style="list-style-type: none"> ● Ask questions when invited ● Give an oral summary ● Debrief with moderator ● Give feedback on analysis and reports
--	---

Participants:

Each focus group should only have between 6 and 8 participants (enrolled students (boys and girls), parents of students or teachers/administrators).

Room setup:

The room should be set-up in a circle (either around a table, if available) or a circle of chairs or a circle sitting on the floor. The facilitator and translator should be in the circle, and the assistant should be sitting outside of the circle, but within close viewing distance.

Method of collection:

Columbia investigators will use encrypted, password-protected iPhones and attached microphones to record the interviews. A translator will translate in real-time and transcribe and translate the recorded interviews for further review.

Question Guide for Facilitators:

- Use open ended questions
- Avoid dichotomous answers
- Why? Is rarely used
- Use "think back" questions to ask participants to recount experiences
- Use different types of questions (opening questions, introductory questions, transition questions, key questions, ending questions)

- Use questions that get participants involved
- Sequentially order the questions (and flow from general to specific)
- Be cautious of spontaneous questions (esp. if they can be saved for end of discussion)

Tips for Facilitator:

- Use purposeful small talk to begin in order to create warm and friendly environment
- Control your reactions to participants (give head nods and short verbal responses, but avoid praise or affirmation, i.e. “that’s good”)
- Uses pauses and probes to allow for enough time for those still thinking to respond, and to dive deeper or hint at a question another way

Types of Questions (instead of verbal question/verbal answer):

- Choose among alternatives
- Make a list/rank a list
- Fill in the blank
- Rate with a colored card
- Draw a picture/map
- Develop a solution
- Role playing

Note-taking Guide (for Assistant Moderator):

- Clarity and consistency of notetaking: assume that others will use your notes and may not review immediately. Clarity, depth and detail are essential.
- Different types of information to include:
 - Quotes: listen for notable quotes (and note the timing it was said to return to it for review from audio recordings)
 - List key points and themes discussed for each question
 - Follow-up questions that could be asked
 - Other factors: make note of things that may further aid analysis (body language, non-verbal activity, head nods, other forms of approval/disapproval)

Focus Group Discussion: Outline & Topical Questions

- I. Welcome and Introduction to Study
 - a. Introduce Facilitator, Assistant and Translator
 - b. Topic Area
 - i. Explain what the topic/research is
 - ii. Use of Results
 - iii. Why participants were selected
 - c. Guidelines
 - i. No right or wrong answers
 - ii. Audio recording; one person should speak at a time
 - iii. First-name basis
 - iv. Flow of conversation, purpose of moderator
 - v. Explanation of proceedings
- II. Discussion Questions
 - a. Education
 - b. Public Health
 - c. Menstrual Health: Knowledge
 - d. Menstrual Health: Experiences
 - i. Experiences at home
 - ii. Experiences at school
 - iii. Cultural attitudes regarding menstruation
 - e. Menstrual Health: Products
 - f. Menstrual Health: Facilities & Sanitation
- III. Activity
- IV. Conclusion

Focus Group Discussion Script: Adolescent Girls

Welcome and Introduction to the Study

Good afternoon (**hello in local language**) and welcome to our session. Thank you very much for taking the time to join us to talk to us today. My name is _____ and assisting me is _____. We're both with Columbia University in New York, United States. _____, who is with the local Innovations for Poverty Action, asked us gather information about adolescent health and menstrual hygiene. They want to know how your periods affect your daily life, what products you use, and how these products could be made available to you in your schools for free. We are having

discussions like this with several other groups of adolescent girls around the Lusaka area.

You were invited because your school designated you and we are interested in learning more about your experience. There are no wrong answers but rather differing points of view. Please feel free to share your point of view even if it differs from what others have said. Keep in mind that we're just as interested in negative comments as positive comments, and at times the negative comments are the most helpful.

We're recording the session on a phone because we don't want to miss any of your comments. People often say very helpful things in these discussions and we can't write fast enough to get them all down. We will be on a first name basis tonight, and we won't use any names in our reports and will not share your name with anyone. You may be assured of complete confidentiality. The reports will go back to the Innovations for Poverty Action office to help them design future programs.

Well, let's begin. We've placed name cards on the table in front of you to help us remember each other's names. Let's find out some more about each other by going around the table. Tell us your name and your age.

Discussion Questions

- I. Education**
- II. Public Health**
- III. Menstruation: Knowledge**
 - a. Have you ever heard of the term menstruation or period? When did you first hear about it?
 - b. Who was the first person to talk to you about menstruation?
 - c. What do you know about it?
- IV. Menstruation: Experiences**
 - a. Feelings about menstruation
 - b. Stigma around menstruation
 - c. Have you ever been afraid of leaking through your pad/tampon/product?
 - i. What would you encourage a friend to do if this was the case?
 - ii. What types of products (if pads, homemade or store-bought) are most reliable/prevent leakage?
 - d. How did you feel (emotionally) when you received your first period?
 - i. DRAW AN EMOTION & EXPLAIN

V. Menstruation: Products

- a. What products have you heard of before?
- b. What products have you used?
- c. Where do you get your products?
- d. Who pays for your products? How do you pay for your products?
- e. How

VI. Menstruation: Facilities and Sanitation

- a. Do you find the latrines at your school
- b. How do you manage your menstruation cycle when you are at school?
- c. Have you ever had to leave school during the school day to manage your menstruation cycle?
- d. Have you ever missed school because of your menstruation cycle?
 - i. If yes, did you need parental permission?
 - ii. If yes, why did you stay home?
 - iii. If yes, did anyone ask you why you missed school? What did you tell them?
- e. Personal hygiene at home

VII. Menstruation: Education & Teachers

- a. Has your menstruation cycle ever negatively impacted your academic performance?
- b. What do you do when you experience menstruation pain and cramping at school?
- c. Have you ever had to leave school because of the pain?

VIII. Ending Questions:

- a. Suppose you could design a solution. What would you be sure to include?
- b. Of all the things we discuss(ed today, what is the most important to you?

Focus Group Discussions Analysis (post FGD)

Sources:

- <https://ctb.ku.edu/en/table-of-contents/assessment/assessing-community-needs-and-resources/conduct-focus-groups/main>
- <https://www.eiu.edu/ihec/Krueger-FocusGroupInterviews.pdf>
- <https://www.issuelab.org/resources/30788/30788.pdf>