Barrier Analysis Report

Integrated Pathways for Improving Maternal, New-born and Child Health (InPATH) Project

Malawi, April 2019

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List of acronyms

BA	Barrier Analysis
BC	Behaviour Change
BCC	Behaviour Change Communication
BO	Behavioural Objective
CO	Clinical Officer
EBF	Exclusive Breast Feeding
D	Doers
DBC	Design for Behaviour Change framework
HBM	Health Belief Model
HF	Health Facility
HPO	Health Promotion Officer
HSA	Health Surveillance Assistant
HWWS	Handwashing With Soap
HWWS-U5	Handwashing With Soap – mothers/caregivers of children U5
HWWS-SBA	Handwashing With Soap – Skilled Birth Attendants
IG	Influencing Group
InPATH	Integrated Pathways for Improving Maternal, New-born and Child Health Project
ITN	Insecticide Treated Net
MD	Maternal Death
MDHS	Malawi Demographics and Health Survey
MOH	Ministry of Health
MNCH	Maternal, New-born and Child Health
ND	Non-Doers
ORS	Oral Rehydration Salt
ORT	Oral Rehydration Therapy
PG	Priority Group
PSA	Public Service Anouncement
SABC	Social Art for Behaviour Change
SAG	Social Art Group
SAP	Social Art Partner
SBA	Skilled Birth Attendants
SHPO	Senior Health Promotion Officer
ToRA	Theory of Reasoned Action
WASH	Water, Sanitation and Hygiene
U5	Children under five years of age

Contributors

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Alvin PHIRI	Senior Health Promotion Officer (SHPO), Health Education Unit (MoH)
Anna ZISA	Project Officer, One Drop
Angella SAKWATA	Health Promotion Officer (HPO), Salima District Health Office
Catherine YOWELI	HPO, Kasungu District Health Office
Carol KAMBA	Gender Specialist, Cowater Sogema International
Caseby BANDA	Principal Environmental Health Officer (PEHO), Ministry of Health
Ella CHAMANGA	SHPO, Health Education Unit (MoH)
Felix PHUKA	M&E Capacity Officer, Cowater Sogema International
Masida NYIRONGO	HPO Chitipa District, Health Office
Mathews CHAVUNYA	Program Manager, Plan Malawi
Priya JOHN	India Project Manager, One Drop
Raymond KAWAYI	SABC Coordinator, Cowater Sogema International
Thanks CHIRWA	Community Mobilization Coordinator, Plan Malawi

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Executive Summary

Background & purpose:
The purpose of this InPATH barrier analysis was to document the main psychological and psychosocial factors that affect the adoption of behaviours associated with good practices in water, sanitation and hygiene (WASH) and maternal, new-born and child health (MNCH) in Malawi. The results of this study are intended to inform the design and development of a comprehensive Social Art for Behaviour Change (SABC) strategy that will address perceptions that prevent or enable uptake of three WASH behaviours and two MNCH behaviours. The overall goal is to contribute to the reduction of maternal and child mortality in three project districts.

Picture 1: BA data collection team in Salima after the first day of data collection.

This InPATH project was managed by Cowater Malawi in three districts: Salima, Kasungu and Chitipa. Barrier Analysis (BA) was used as the main formative research methodology. This qualitative data collection technique was suggested by One Drop. All the findings presented and discussed in this report will be used as evidence (content) for programming the SABC intervention.

One Drop definition of Social Art for Behaviour Change (SABC)

According to One Drop:

> … Social Art has the potential to trigger an emotional response in target audiences leading to sustained behaviour change in focused WASH interventions. […] Social Art is also an artistic medium through which specific behaviour change messages and healthy hygiene practice modelling are channelled to different segments of the population. Social Art for Behaviour Change (SABC) allows audiences to be more than mere spectators. As active participants in the activities, individuals can identify themselves within the stories, characters and/or role models depicted, and are inspired to reflect on their own detrimental behaviour(s). Ultimately, through reflection, reinforcement by peers, and an enabling environment, these individuals can be inspired to change.
>
> Social Art is art forms used to entertain, evoke emotion, raise awareness, and mobilize communities to address social issues. Social Art is also a way of practicing art with local artists and groups involved in daily efforts to build better communities. As they are part of these communities, living the same challenges, they have a strong impact on addressing social change and new behaviours, especially through modelling (Wijk & Murre, 1995).[1]

Methodology: A qualitative study consisting of open-ended questions, the BA looked into identifying which determinants, amongst the twelve determinants of health described in *A Practical Guide to Conducting a Barrier Analysis,*[2] were more likely to prevent or enable behaviour uptake. The sample size when conducting a survey is 90 interviews: 45 with those who practice the behaviour (Doers [D]) and 45 with those who do not (Non-Doers [ND]). According to the BA guide (Kittle, 2017) "the responses found to be significant on a Barrier Analysis study have less than a 5 percent probability of being due to chance (hence there is a 95% validity rate). Because the Barrier Analysis identifies important differences between Doers and Non-Doers, it is very probable that the responses with a 15-percentage point gap or more are *true* differences; not just due to chance."

[1] One Drop, *ABC for Sustainability, A guide book for partners*, *Appendix 1 – Theory Of Change*, 2016.
[2] Kittle, Bonnie, *A Practical Guide to Conducting a Barrier Analysis*, 2nd edition, 2017.

During a period of two weeks in September and October 2018, nine enumerators and three coordinators carried out data collection in the three project districts (Kasungu, Chitipa, and Salima). The behaviours for which data was collected were:

1) Handwashing with soap (HWWS) at the five critical times by mothers of children under five years of age (U5) [3]
2) Latrine use for defecation at all times by mothers of U5
3) Handwashing with soap at the five critical times in the labour room and post-natal wards by skilled birth attendants (SBA)[4]
4) Exclusive breastfeeding (EBF)
5) Giving oral rehydration salt (ORS) to treat diarrhoea amongst U5.

Key findings for WASH behaviours

HWWS-U5: The notion of 'risk' seemed to be underestimated. D were more likely to believe that their U5 were not at risk of diarrhoea within the next three months, and ND perceived the practice of the behaviour to be easier if they "feared their U5 getting diseases". Although ND were more likely than doers to perceive the behaviour to be difficult to perform due to lack of soap, they seemed very knowledgeable about the benefits it brings, e.g. preventing infections.

Usage of a latrine: The manoeuvres the surveying teams had to go through in order to find the required sample of non-Doers speaks to a behaviour that is perhaps already largely practiced. However, ND were more likely to perceive that "not owning a latrine" makes it difficult for them to use one. In addition, they were more likely to perceive that finding one (access) is "very difficult". Although these two barriers are significant, it is fair to question their importance since many of the interviewed ND were from displaced communities and their new or temporarily assigned residence had no household latrine. The displacement argument could also justify ND finding it "very difficult" to access a latrine, especially if the new welcoming community is without public or community latrines, and/or signs leading to them.

HWWS-SBA: Within the context of performing a service at the health facility, ND found the practice to be difficult due to having to "rush at work", i.e. managing emergencies, stress and being under pressure. Links here can be made with ND more likely to perceive that remembering the five critical times is "very difficult". From a semantic standpoint, "protocol" and "policy" seem to be understood differently with perhaps the former not being interpreted as governing as the latter. D were more likely to mention that there is "no policy", making it more likely for an SBA to wash hands as required by the protocol (standards of quality service).

Key findings for MNCH behaviours

Exclusive breastfeeding (EBF): Two of the most actionable results for all five behaviours were 1) ND more likely to believe that it is "very likely their infant will suffer from malnutrition" even if performing the behaviour, and 2) ND more likely to think that the psychosocial support (help) – i.e. reducing the mother's workload as well as letting her feel she is not alone caring for the infant, allowing her to be more rested and spend more time (quality) with the infant – is "very difficult" to get. In addition, ND were more likely to identify "not having enough breastmilk" and having to manage the baby's hunger ("crying because of hunger") as things that make the behaviour difficult to perform.

[3] After defecation, after cleaning child who has defecated, before preparing food, before feeding child, before eating

[4] Before vaginal examination during first stage of labour, before conducting a delivery, before examining a new-born, after conducting a delivery, after examining a new-born.

Giving ORS to a sick child: The nature of the findings points to a behaviour that is already known and practiced. D were more likely than ND to perceive that "getting advice and the ORS package from a health worker" and "having the tools (small spoon and cups)" made the behaviour easier to perform. D and ND perceived the benefits of doing the behaviour, with D more likely to think it "stops diarrhoea and helps the child to recover".

SABC recommendations

Table 1: SABC recommendations summary

Key recommendations	Behaviours				
	HWWS -U5	**Usage of a latrine**	**HWWS-SBA**	**EBF**	**Giving ORS to a child with diarrhoea**
a) Edutainment[5] of primary and secondary audiences (influencing groups who 'disapprove') to become more aware (educated) and better informed (understand) of the notion of risk (results from *perceived susceptibility/risk)* and their relationship to it, i.e. their contribution to the problem and solutions when the behaviour is performed, or not	X			X	
b) Continued edutainment on the epidemiological facts (science) based on the results for *perceived positive consequences* of both primary and secondary audiences (influencing groups who 'disapprove')	X				X
c) Being systematically consistent in the mass celebration of priority audiences using positive imagery (visual and oral art forms) of characters and symbols representing influencing groups who 'approve' (*social norms* results)	X	X	X	X	
d) Mainstream individual/community values: dignity, self-respect, family, health, resilience, etc. through grassroots (bottom-up) story-telling (oral and visual), song writing & music		X	X	X	
e) Allow space and time for priority audiences to acquire and/or improve their skills, becoming more confident about their capacity to perform the behaviour, through experiencing the creation process of different art forms			X	X	X
f) Have social art partners (SAP) technically train and morally encourage and support (coaching, mentoring) social art groups (SAG) (can be individuals too) in the spirit of empowering grassroots artists to feel confident about their potential and skills. SAP are 'role models' who SAG look up too.	X		X	X	X

[5] Edutainment refers to entertainment (as by games, films, or shows) that is designed to be educational www.merriam-webster.com

Introduction

Background and purpose of study

The purpose of this InPATH barrier analysis was to document the main psychological and psychosocial factors that affect the adoption of behaviours associated with good practices in water, sanitation and hygiene (WASH) and maternal, new-born and child health (MNCH) in Malawi. The results of this study are intended to inform the design and development of a comprehensive Social Art for Behaviour Change (SABC) strategy that will address perceptions that prevent or enable uptake of three WASH behaviours and two MNCH behaviours. The overall goal is to contribute to the reduction of maternal and child mortality in three project districts.

This InPATH project was managed by Cowater Malawi in three districts: Salima, Kasungu and Chitipa. Barrier Analysis (BA) was used as the main formative research methodology. This qualitative data collection technique was suggested by One Drop. All the findings presented and discussed in this report will be used as evidence (content) for programming the SABC intervention.

WASH and MNCH Situation in Malawi

Despite demonstrable advances in some WASH indicators, hygiene-related infections are still a problem affecting pregnant women and new mothers and children under the age of five years (U5) in Malawi. For example, pneumonia and diarrhoea are the second and third causes of deaths and illnesses among under 5 children respectively. In 2010 alone, there were 224,354 U5 cases of diarrhoea with 369 deaths[6] from the primary and secondary health care levels. According to the Malawi Demographics and Health Survey (MDHS, 2015-16) the prevalence of diarrhoea rises after age 6 months, from 13% among children under age 6 months to 41% among those 6-11 months, when complimentary foods and other liquids are introduced. In health facilities, poor infrastructure in the delivery rooms and postnatal wards, waste management infrastructure, and lack of handwashing facilities for skilled birth attendants (SBAs) contributes to the spread of nosocomial infections.[7] For example, one of the top ranking causes of maternal deaths (MD) is postpartum sepsis (19%). Inadequate infection prevention practices, such as hand washing by SBAs, are contributing factors.

Although substantial gains have been made in improving access to water and sanitation facilities, Malawi still faces serious health challenges. Poor practices surrounding use of sanitation and hygiene facilities resulting in diarrhoeal infections are common occurrences. The MDHS 2015-16[8] puts access to improved sanitation at household level at 51.8%, while access to basic sanitation (which includes traditional latrines) is at 88%. Thirty seven percent (37%) of the population practice good hygiene.[9] The 2014 Multiple Indicator Cluster Survey (MICS)[10] also concluded that 42% of children U5 have experienced at least one incident of diarrhoea. Table 2 shows some of the indicators in WASH.[11]

[6] Health Management Information System (HMIS), 2012.
[7] An infection acquired in hospital by a patient who was admitted for a reason other than that infection (1). An infection occurring in a patient in a hospital or other health care facility in whom the infection was not present or incubating at the time of admission. This includes infections acquired in the hospital but appearing after discharge, and also occupational infections among staff of the facility. (Benenson AS, *Control of communicable diseases manual*, 16th edition, 1995)
[8] Malawi Demographic & Health Survey (MDHS), 2015-2016.
[9] Ibid.
[10] Multiple Indicator Cluster Survey, 2014.
[11] Sources: MICS 2015, MDHS 2015-2016.

Table 2: Selected WASH indicators at household level in Malawi (2015-2016)

Indicators	Description	Value (%)
Use of improved drinking water sources	Percentage of household members using improved sources of drinking water	86.2
Use of improved sanitation	Percentage of household members using improved sanitation facilities which are not shared	51.8
Safe disposal of child's faeces	Percentage of children age 0-2 years whose last stools were disposed of safely	88.2
Place for handwashing	Percentage of households with a specific place for hand washing where water and soap or other cleansing agent are present	4.2
Availability of soap or other cleansing agent	Percentage of households with soap or other cleansing agent	56.2

It is a proven fact that handwashing with soap (HWWS)[12] is a single significant practice that prevents infections and cross-infections among households, including in health care settings. However, the behaviour is not consistently practiced for a number of reasons such as access to adequate water for handwashing and soap availability, among others. Evidence of actual hand washing practice is scanty in Malawi, especially in health facilities. A national study among households in rural areas of Malawi suggests that the actual practice of HWWS at the five key times is between 3% and 18%[13] but more likely on the low end of this scale. Current efforts to promote good hygiene and HWWS practice among mothers/caregivers of U5 children, in particular at the five critical times,[14] have not been sufficient to bring about mass behaviour change on the scale that is needed. In health facilities, adherence to HWWS at the five critical times in labour and postnatal wards[15] is not always practiced despite being a standard procedure. The five critical times for mothers of U5 and SBA are further described in the *Methodology* section of this report.

Hand washing with soap at five critical times (mothers of U5)

Handwashing with soap is the most effective intervention that reduces diarrhoeal diseases. Documented evidence points to positive associations between WASH technologies and a range of health outcomes.[16] Evidence also points out that interventions that promote handwashing with soap in communities with high child mortality consistently report a reduction in childhood diarrhoeal diseases.[17]

Approximately 66% of households in Malawi use mobile washing places (bucket) and 24% have fixed washing places for handwashing.[18] Handwashing with soap is observed in only 15-16% of households in the Northern and Central Regions, including Chitipa and Kasungu District. This is consistent with findings in other low-income countries, as well as other parts of Malawi, where handwashing with soap is uncommon. Barriers to washing hands with soap in low-income countries include the relatively high cost of soap, risk of theft, and the time required to obtain soap.

[12] Unicef, *Handwashing in Malawi: Our Hands, Our Future*, 2009.
[13] National Handwashing Campaign, 2011-2012.
[14] After defecation, after cleaning child who has defecated, before preparing food, before feeding child, before eating
[15] Before vaginal examination during first stage of labour, before conducting a delivery, before examining a new-born, after conducting a delivery, after examining a new-born
[16] Lyer P et al. The handwashing handbook: a guide for developing a hygiene promotion program to increase handwashing with soap, 2005.
[17] Ibid.
[18] MDHS, 2015-2016.

Malawi health facilities, where pregnant women and their guardians stay in "guardian shelters" awaiting delivery, are effective venues for promoting behaviours involving hand hygiene. However, during the diagnostic study, pregnant women and their guardians expressed concerns on the lack of hygiene due to lack of safe sanitation facilities. Availability of water is also a challenge in the health facilities in the districts. Priority group[19] (PG) members do not wash hands most of the time, or, if they do, they have to use water that they have kept in plastic buckets for uses other than hand washing. The most frequent times PG wash hands whilst at the health facility is after using the toilet or before eating main meals, that is, lunch or dinner, but in between, it's only when they see that their hands are dirty. Lack of handwashing among women also continues when they go back to their community after delivery. They fail to wash their hands at critical times, including before breastfeeding. This, compounded by early introduction of foods other than breast milk before the baby reaches six months, exacerbates high diarrheal cases among U5 children. Although exclusive breastfeeding (EBF) is a common practice in the country, there are mothers who do not practice it as required. Of these mothers, 52% do not exclusively breastfeed their infants for six months because of pre-occupation with work, 35% because of the perception that they have insufficient milk, and 27% attribute their failure to breastfeed to inverted nipples (MDHS, 2015-2016).

Handwashing with soap by skilled birth attendants (SBA) in labour & postnatal rooms

Despite widespread awareness of the importance of hand hygiene, many health facilities in the developing world lack access to facilities, soap, and safe water for hand washing. Implementation of labour room hygiene is often greatly impeded because of the shortage of adequate clean water and supplies for infection prevention and control. In Malawi, this problem has been made worse due to poor and delayed funding that government health facilities receive. Further, the state of repair of labour room facilities, which determines ease of cleaning, is another factor affecting implementation of hand hygiene practiced by skilled birth attendants. However, even with limited supplies of water and soap, appropriate hand hygiene by SBAs is part of a set of important infection prevention and control behaviours to achieve clean and safe childbirth.[20] Although Malawi has made demonstrable advances in MNCH indicators (see sidebar), there are still significant challenges to MNCH services that, if not checked, may lead to reverses in the strides that have been made.

MNCH Indicators in Malawi (MDHS data)

- Reduction of maternal mortality rate from 675 per 100,000 live births in 2010 to 439 per 100,000 live births in 2015
- Reduction of neonatal mortality rate from 31 deaths per 1,000 live births in 2010 to 27 per 1,000 live births in 2015
- Reduction of under-five mortality rate from 112 deaths per 1,000 live children age 12-59 months to 63 deaths in the same period
- Reduction of infant mortality from 66 deaths per 1,000 live births to 42 deaths in the same period

Usage of a latrine – pregnant women and guardians at Guardian Shelters

Ownership of improved latrines at household level is slowly increasing in most rural areas in Malawi, including Kasungu and Chitipa. This is owed to programmes that promote open defecation free environments at household level and the introduction of by-laws that force people to own and use latrines in the two districts. According to the 2010 MDHS report, Malawi had a relatively low rate of open defecation in rural districts with approximately 11% of households open defecating. In 2016,

[19] This is the group of people that are being encouraged to adopt the behaviour, as well as those people who ensure that someone else (such as a child) practices a new behaviour.
[20] Ith P. et al, *Quality of maternity care practices of skilled birth attendants in Cambodia*, 2012.

MDHS reported 53% use of improved latrines in rural households in Malawi.[21] Improved latrines are available in most of Malawi's rural health facilities, but insufficient partly due to the large client-latrine ratio linked to high daily client turnover. Further, as these facilities are public, there is little responsibility taken by either users or the health facility to maintain cleanliness. Limited health sector funding also contributes to erratic maintenance. Both of these features, coupled with the limited privacy provided by the latrines, can change or disrupt the context of latrine use, in some cases leading to a resumption of open defecation.

In view of the current situation regarding MNCH and its linkage to WASH in Malawi, the InPATH Project aims to strengthen health systems in the Districts of Chitipa, Salima and Kasungu, by working with local health authorities through capacity building of facility and community-based health workers to deliver gender-responsive MNCH services. The project also aims to create demand for MNCH services by the communities in the targeted districts and improve their MNCH practices, which include EBF and use of ORT.

[21] MDHS, 2015-2016.

Section 1: Barrier Analysis Methodology

What is Barrier Analysis?

Barrier Analysis is a rapid assessment tool used in community health and other community development projects to identify behavioural determinants associated with a particular behaviour so that more effective behaviour change communication (BCC) messages and support activities (e.g. changing social norms) can be developed. An outline of the process used in Barrier Analysis[22] is shown in Figure 1.

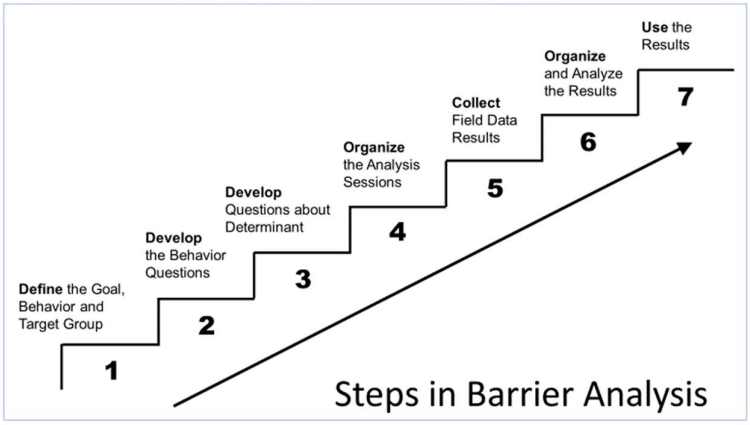

Figure 1: Seven steps to conducting Barrier Analysis

Two of the main theories that underpin the BA method are the Health Belief Model (HBM) and the Theory of Reasoned Action (ToRA). BA explores up to 12 recognised behavioural determinants. The method involves a cross-sectional survey, carried out among a sample of 45 "Doers" (those who practice the behaviour) and 45 "Non-Doers" (those who do not), for a total of 90 participants per behaviour studied. Individuals are screened and classified according to whether they are Doers or Non-Doers, and then asked questions according to their classification.

Barrier Analysis is not a standalone formative research methodology, but rather a "form of qualitative research to be conducted, in order to identify determinants and write bridges to activities and to select or design the most appropriate activities"[23] when using the *Design for Behaviour Change* (DBC) Framework. The DBC "is a tool that has been developed to help us think about the different things that need to be considered when designing/revising a behaviour change strategy. […] In the DBC Framework, the behaviour is a specific action that the Priority Group members adopt to address a problem they face." [24] Priority Group (PG) members are those who have been interviewed during this study in order to collect and better understand their perception *vis-à-vis* the practice of the targeted behaviours.

Picture 2: Enumerator administering the BA questionnaire with a priority group member for HWWS-U5 in Salima

When using the DBC as a strategic framework for behaviour change (BC), there will be a DBC Framework for each targeted behaviour. In this report, since five targeted behaviours were studied, all five completed DBC Frameworks are detailed and included in annexes 1 to 5.

[22] Source: http://barrieranalysis.fh.org/what_is/what_is_barrier_analysis.htm.
[23] Kittle, Bonnie, *A Practical Guide to Conducting a Barrier Analysis*, 2nd edition, 2017.
[24] Ibid.

Who was interviewed?

In a Barrier Analysis, the questions are usually asked of individuals from the Priority Group. Their responses are compared based on whether they are Doers or Non-Doers. A person who used to belong to the Priority Group (i.e. someone who practiced the behaviour in the past) should be interviewed when the behaviour is time-bound (should be practiced within a specific time period). For example, a respondent for exclusive breastfeeding (during the first 6 months of life) is a mother whose child is 7 months or older.[25] This rule was respected and followed for the BA conducted in the Project's three districts.

Table 3: Summary of priority group members and respondents of the BA

Behaviours	Priority group members	Who was interviewed
HWWS-U5	Mothers/caregivers of U5	Mothers/caregivers of U5
Usage of a latrine	Mothers/caregivers of U5	Mothers/caregivers of U5
HWWS-SBA	SBA: nurse-midwife, medical assistant, clinical officer (CO), community midwife assistant	SBA: nurse-midwife, medical assistant, clinical officer (CO), community midwife assistant
Exclusive breastfeeding	Mothers of infant 0-6 months.	Mothers of infant seven to 10 months.
Giving ORS to a child with diarrhoea	Mothers/caregivers of children 6-59 months	Mothers/caregivers of children 6-59 months

Sample interviewed

For results to be reliable and actionable, BA recommends a sample of 90 interviews for each behaviour, including 45 D and 45 ND. However, during the exercise, two behaviours – HWWS-U5 and usage of a latrine – came short of the required sample mainly due to time and last minute logistical constraints for the former, and difficulties enumerators had in finding ND in Salima and Chitipa for the latter. The table below shows the exact numbers of respondents for each behaviour studied.

Table 4: Numbers of D and ND interviewed in all three districts

Behaviours	HWWS-U5		Latrine usage		HWWS-SBA		EBF		Giving ORS	
	D	ND	D	ND	D	ND	D	ND	D	ND
Sample studied	45	42	57	32	46	46	45	45	44	46

Definitions of behaviours and determinants

In this section, all five behaviours for this study are defined. It is important that these behaviours are understood in terms of how they should be performed within the context of the InPATH Project. The definitions come from the MDHS and/or the World Health Organisation (WHO). [26] Following each definition there is a "behaviour statement"[27] that was used in both the interview questionnaires and the DBC frameworks.

[25] Kittle, Bonnie, *A Practical Guide to Conducting a Barrier Analysis*, 2nd edition, 2017.
[26] WHO, *Hand Hygiene: Why, How & When*, 2009.
[27] In the DBC strategic framework, the behaviour is a specific action that priority group members adopt to address a problem they face […] For the purpose of the formative research we need to define the behaviour in a specific way called a *behaviour statement*. The behaviour statement should be written in a positive way. It includes three elements: 1) the priority group, 2) the verb in present tense, and 3) the details that describe how/when/where/how often/how long the behaviour should be done, as appropriate. The statement must be very specific, measurable, and observable.

Handwashing at the five critical times

This behaviour applies to two different priority groups – mothers/caregivers of U5 and SBA – hence the specifics of the five times vary.

For mothers/caregivers-U5:

1. After defecation
2. After cleaning child who has defecated
3. Before preparing food
4. Before feeding child
5. Before eating.

Behaviour statement: "Mothers/caregivers of children 0-59 months wash their hands with soap at the five critical times each day."

For SBA, the five times are:

1. Before vaginal examination during the active phase of first stage (3 to 10 cm dilatation) of labour (labour ward)
2. Before conducting a delivery (labour ward)
3. Before examining a new-born (labour ward or postnatal ward)
4. After conducting a delivery (labour ward)
5. After examining a new-born (labour ward or postnatal ward).

Behaviour statement: "Skilled birth attendants (SBA) wash their hands with soap at the five critical times when attending labour and delivery at the health facility."

Usage of a latrine

This suggests depositing human waste (faeces) in a secure latrine (or toilet) reducing contact with humans in order to prevent the potential of causing diseases. Faeces categorised here also include those of children.

Behaviour statement*:* "Mothers/caregivers of children 0–59 months of age defecate in a latrine at all times."

Exclusive breastfeeding (EBF)

It is recommended that children be exclusively breastfed during the first 6 months of their life, i.e. fed with only breast milk.

Behaviour statement: "Mothers of infants 0–6 months feed them only breast milk."

Giving ORS to a child with diarrhoea

Children with diarrhoea are given a fluid mixture made from a special packet of oral rehydration salts (ORS). Oral rehydration therapy (ORT) is a simple and effective way to reduce dehydration caused by diarrhoea.

Behaviour statement: "Mothers of children 6-59 months whose child has diarrhoea give the child oral rehydration solution (ORS)."

Twelve determinants of behaviour change

Determinants [of behaviour change] are categories of reasons why the priority group may or may not practice a given behaviour. There are 12 determinants, as shown in Table 5. Knowing the 12 determinants helps to develop the BA questionnaire. Formative research, such as a Barrier Analysis,

is conducted among the priority group members to identify the most significant reasons why they are not practicing the behaviour as well as the enablers that facilitate adoption of the behaviour.[28]

Table 5: Definitions of determinants

Determinants	Definitions
Perceived Self-Efficacy/skills	An individual's belief that he or she can do a particular behaviour given their current knowledge and skills; the set of knowledge, skills or abilities necessary to perform a particular behaviour.
Perceived Positive Consequences	An individual's perception of the benefits, the good things that would result from performing the behaviour.
Perceived Negative Consequences	An individual's perception of the negative impact, the bad things that would result from performing the behaviour.
Perceived Social Norms	The perception that people important to an individual think that s/he should do the behaviour; norms have two parts: who matters most to the person on a particular issue, and what s/he perceives those people think s/he should do.
Perceived Access	The degree of availability (to a particular audience) of the needed products (e.g. soap, insecticide treated nets [ITNs], condoms) or services (e.g. immunization posts) required to adopt a given behaviour. This also includes an audience's comfort in accessing desired types of products or using a service.
Perceived Cues for Action/Reminders	The presence of reminders which help a person to remember to do a particular behaviour or remember the steps involved in doing the behaviour. This also includes key powerful events that triggered a behaviour change in a person (e.g. "my brother-in-law got Cholera"; "the drought happened"). Examples of reminders are radio announcements reminding people of the date and location of an immunization event and a sticker with the steps on how to use a tippy-tap to wash hands. It is important to remember that people are sometimes unaware of these cues for action.
Perceived Susceptibility/Risk	An individual's perception of how vulnerable they feel to the problem. For example, do they feel that it's possible that their children will be malnourished once given breast milk only? Is it possible for them to contract diarrhoea?
Perceived Severity	The belief that the problem (which the behaviour can prevent) is serious. For example, a farmer may be more likely to take steps to prevent aflatoxin infection of stored harvest if he perceives it to be a serious problem that could cause harm. A mother may be more likely to take her child for immunizations if she believes that measles is a serious disease.
Perceived Action Efficacy	The belief that by practicing the behaviour one will avoid the problem, that the behaviour is effective in preventing the problem. For example, if I sleep under a mosquito net, I won't get malaria. (This determinant is sometimes just talked about as part of "perceived consequences").
Perceived Divine Will	An individual's belief that it is God's will (or the Gods' will) for her/him to have the problem, and /or to overcome it; may also be the person's perception about their religion or the spirit world. BA studies have commonly found this to be an important determinant for many behaviours, particularly for health and nutrition behaviours.
Policy	Laws and regulations that affect behaviours and access to products and services. For example, the presence of infection prevention and handwashing laws may make it more likely for a person to take steps to practice the behaviour. A policy of mandatory HIV testing during antenatal visits may make it more likely for women to have HIV testing. Policy often affects "enablers and barriers", things that make it easier or more difficult to do a behaviour.
Culture	The set of history, customs, lifestyles, values and practices within a self-defined group. This may be associated with ethnicity or with lifestyle, such as "gay" or "youth" culture. Culture often influences perceived social norms.

[28] Kittle, Bonnie, *A Practical Guide to Conducting a Barrier Analysis*, 2nd edition, 2017.

Note: *Perceived Susceptibility/Risk, Perceived Severity* and *Perceived Action Efficacy* relate to the problem, NOT to the behaviour.

Formative research questionnaire design and administration

The five barrier analysis questionnaires were developed in English first, following the standard BA questionnaire design guidelines. This was done in collaboration with the InPATH SABC Coordinator and One Drop's SABC Advisor. Apart from the SBA questionnaire, the other four questionnaires were translated from English to Chichewa for the Kasungu and Salima teams and to Tumbuka for the Chitipa team. The Chichewa version was initially translated by the SABC Coordinator and input was sought from all enumerators during the BA training. The Tumbuka version was completed by the SABC Coordinator alone.

Selection and training of enumerators

Nine (9) enumerators were selected for the study. Three were InPATH Project Staff and six were MoH staff (three HPO from the Health Education Unit of the Ministry of Health and three HPO from impact districts of Salima, Kasungu and Chitipa). In terms of gender balance, there were five males and four females. Three coordinators were responsible to oversee and lead the three survey teams: the InPATH SABC Coordinator with the Chitipa team, the One Drop International Programs Project Officer with the Kasungu team, and the One Drop India Project Manager with the Salima team. The One Drop SABC Advisor supervised and led the overall process and compiled the final results.

The training, which was initially planned for three days, lasted four and half days, from September 17 to 21, with another half day used for the teams to travel to their respective surveying locations. The first three days were used to study the methodology main principals and concepts, do's and don'ts, and other logistic fundamentals using the latest version of *A Practical Guide to Conducting a Barrier Analysis* (Kittle, 2017). The fourth and half day was used to practice the administration of the questionnaires, i.e. pre-testing them both in Lilongwe and in the field in order to adjust last minute translation needs and for the enumerators to get a real sense of how challenging administrating this type of questionnaire could be.

Entering Data: collection, coding and tabulation

Data collection started on September 21, with time off on the 22 (Sunday), resuming on the 23 and lasting until the 28. All in all, each surveying team was responsible for administering 30 questionnaires per behaviour. Once completed, the team coordinator was in charge of leading the coding[29] and tabulation of the data immediately after collection. Thereafter, coordinators took pictures of their coded and tabulated results, forwarded them to the BA supervisor for him to enter them into a MS Excel table[30] specially created for finding differences between Doers and Non-Doers.

Picture 3: One Drop BA coordinator practicing coding and tabulating with the team of enumerators in Kasungu.

Study limitations

Some operational and technical challenges were faced during this assessment, such as:

a) Due to limited time towards the end of the BA training, not all questionnaires were translated at once. Therefore, pre-testing was not done for all questionnaires (to ensure that questions make sense and that enumerators are able to deliver).
b) Due to the variations in the distances travelled to data collection sites as well as difficulties in accessing some places, especially in Chitipa, the three teams had different numbers of days for collecting, coding and tabulating data.

Recommendations related to the methodology

The BA methodology was employed because it is a quick assessment allowing direct access to perceptions associated with performing the behaviour from those contributing to the problem or the solution, when practicing or not practicing a healthy behaviour. The methodology was also preferred because it helped build the capacity of both the Project and MoH staff with practical experience for future similar behaviour change interventions. The following lessons learned may benefit future implementers of this method in contexts similar to Malawi (Chitipa, Kasungu, and Salima districts).

<u>Recruitment of enumerators</u>

- Involving project and MoH staff in the BA as enumerators was an added value to the project because it builds their capacity on how to conduct formative research in the context of a behaviour change project.
- Working with enumerators that are knowledgeable in the health subject matters simplified the process because they were able to handle technical issues faced in the field during data collection without frequently referring to the supervisor, which eased the pace and process of data collection.

[29] "Coding" is the process of examining the responses to a given question, looking for ways to categorize them according to their similar meaning, then assigning a few words that represent that categorization. (Kittle, 2017)
[30] The MS Excel spreadsheet calculates the percentages of Doers and Non-Doers who gave each response and identifies important differences. Because the spreadsheet is more sensitive sometimes the number of significant differences may be different from the manual method. The spreadsheet also shows the magnitude of the difference of each response (e.g., Doers were 7 times more likely to say that their husbands approved of the behaviour than Non-Doers). (Kittle, 2017).

- Working with both MoH and project professionals was an added advantage because they were familiar with the area/location and the people they were surveying, and therefore in the best position to mitigate any risks or potential conflicts and misunderstandings.

Training of enumerators and supervisors

- There was a need to allocate more time to training enumerators in the BA process in order to complete all the required steps, especially practicing how to administer questionnaires and getting more familiar with the technique of 'probing'.[31]
- Holding training in neutral venues, away from work places, is ideal as it avoids distractions from equally demanding tasks from offices and ensures maximum concentration.

Data collection

- There is a need to better plan in advance data collection logistics for each behaviour, especially in remote areas where populations are spread out, in order to ensure that adequate samples of respondents are identified.
- The numbers of enumerators deployed for data collection managed to do the exercise. However, in the event that one behaviour should be studied per day, there is a need to recruit adequate numbers of enumerators to aid quick data collection, especially in areas where geographical terrains pose a great challenge, e.g. Chitipa. Chitipa's population density is significantly lower than the other two Project districts, making it more of a challenge to find the right sample size.

Questionnaire orientation

- In the next assignments, there is a need to allocate adequate time for questionnaire orientation for enumerators, especially for reaching consensus on translating the questionnaire into different languages (as needed), and time to agree on key areas to probe participants in order to gather the required information.

[31] Probes are neutral questions, phrases, sounds, and even gestures interviewers use to encourage participants to elaborate on their answers and explain why or how. Probing therefore requires the interviewer to listen carefully to participants and to engage actively with what they say. (Family Health International, *Qualitative Research Methods: A Data Collector's Field Guide*, 2005)

Section 2: Discussion of the Results

Barrier Analysis Findings

Determinants interpretation matrix

Table 6 is built in the form of a matrix illustrating every result for every behaviour.[32] The number of times one group was more likely to give that answer than the other group is shown in parentheses. However, since not all results are equal, e.g. some are more actionable than others, some need to be addressed earlier in the intervention while others can be addressed later. The matrix uses three colour codes to give decision makers a better feel of how to use the findings and when.

1) Most actionable results to be addressed now are highlighted in **GREEN**.
2) Most actionable results to be addressed later are highlighted in **PURPLE**.
3) Non-actionable results are highlighted in **RED**.

The reason behind addressing results in green before results in purple is "because Doers have found a way to overcome the obstacle. […] programmers should be ready to overcome this barrier once the Non-Doers become motivated to try [the new behaviour]."[33] On the other hand, what justifies not acting on findings in red is "because the approval of the influencing group has not been powerful enough to motivate the person to adopt the Behaviour. Some other barrier must be preventing the person from adopting the Behaviour and [the Project] should focus on that." [34]

Table 6: Determinants interpretation matrix

Determinants	**WASH Behaviours**			**MNCH Behaviours**	
	HWWS-U5	**Usage of a Latrine**	**HWWS-SBA**	**Exclusive breastfeeding (EBF)**	**Giving ORS to a child with diarrhoea**
Perceived self-efficacy/skills (Can you do it – skills, knowledge, ability; what makes it easy, difficult?)	*What makes easier?* Non-Doers feel if they had **fear of diseases** (5.2x). Doers think because **water is available** (3.1x) and feel they **have the**	*What makes difficult?* Non-Doers feel that **not having/owning a latrine** (13.9x), or when it is **broken or collapsing (Un-operational: no doors**	*What makes easier?* Doers feel it is because **water is available**. *What makes difficult?* Non-Doers find that **rushing at work**	*What makes easier?* Doers feel because **they are used to it, having the skills and knowledge** (1.8x), and when they are **being reminded/advised (e.g.**	*What makes easier?* Doers feel that when **getting advice and ORS from a health worker** (at the hospital – because of proximity) (2.9x), and that when **having the**

[32] The number of times one of either group (D or ND) is more likely to give that answer was calculated using the MS Excel *Barrier Analysis Tabulation Sheet* (http://www.fsnnetwork.org/document/barrier-analysis-tabulation-sheet): The further away from "1" this number is, the more important the determinant is. (Kittle, 2017)
[33] Kittle, Bonnie, *A Practical Guide to Conducting a Barrier Analysis*, 2nd edition, 2017.
[34] Ibid.

Determinants	WASH Behaviours			MNCH Behaviours	
	HWWS-U5	Usage of a Latrine	HWWS-SBA	Exclusive breastfeeding (EBF)	Giving ORS to a child with diarrhoea
	habit/are being used to it (3x). *What makes difficult?* Doers feel **nothing** (4.5x). Non-Doers feel because there is **no soap (at home or work)** (3.6x).	**or roof, etc.)** (4x), or when it is **full, dirty, smelly** (3.8x). Doers feel **nothing makes difficult** (6.3x), or when they **are away from home** (2.9x).	**(emergency patient, pressure, panic)** (3x). Doers feel **that when ward too busy (many patients)** (2.8x).	**by husband, PSA, health workers)** (1.4x). Non-Doers feel if a **mother would be eating/drinking well (quantity and quality food)** (1.8x). *What makes difficult?* Non-doers feel that if/when the **baby crying of hunger** (3.5x), and that they **don't have enough breastmilk** (1.8x). Doers feel **nothing makes difficult** (2.2x).	**tools, equipment for making it (spoons, pot, cup)** (2.6x). *What makes difficult?* Doers find that **when/if the child is sick, vomits (refuses to take)** (4.3x).
Perceived positive consequences (What are the advantages?)	Non-Doers think it would **prevent infections** (7.8x).				Doers think it **stops diarrhoea and helps the child to recover** (3.4x). Non-Doers think it would **make the child stronger** (3.4x).
Perceived negative consequences (What are the disadvantages?)	Doers think there are **no disadvantages**.	Doers think there are **no disadvantages** (2.9x).	Non-doers think there would be **no disadvantages.**	Doers think there are **no disadvantages** (2.3x). Non-Doers think it **makes the baby cry a lot**.	
Perceived social norms (Who approves and who disapproves?)	Doers believe that **no one disapproves** and that **most people approve**	Non-Doers believe their **mother** (3.8x) and **grandfather would approve**, and their	Doers believe **patient attendants/support staff** approve.	Non-Doers believe their **father would approve** (3.5x). Doers believe their **husband approve**.	

Determinants	WASH Behaviours			MNCH Behaviours	
	HWWS-U5	Usage of a Latrine	HWWS-SBA	Exclusive breastfeeding (EBF)	Giving ORS to a child with diarrhoea
	(4.5x), in particular, **neighbours**. Non-doers believe **HSA would approve.**	**husband would disapprove**. Doers believe **no one disapproves**.			
Perceived access (How difficult is it to access?)	Doers find soap **not difficult** to get (2.2x).	Non-Doers think latrines are **very difficult** to access (7x).	Doers find soap (3.2x) and water **not difficult** to get.	Non-Doers think psychosocial support is **very difficult** to get (3.2x).	
Perceived cues for action/reminders (How difficult to remember?)	Doers think it is **not difficult** to remember (2.8x).	Doers feel it is **not difficult** to remember (5.7x).	Non-Doers feel it is **very difficult** to remember.	Doers feel it is **not difficult** to remember.	
Perceived susceptibility/risk (How likely to suffer from the problem?)	Doers believe their child **is not likely to suffer from diarrhoea** in the next three months.			Doers believe their infant is **not likely to become malnourished** (1.5x).	
Perceived severity (How serious the problem?)					
Perceived action efficacy (How likely to get the problem if behaviour is performed?)				Non-doers believe it is **very likely their infant will suffer from malnutrition** even if performing the behaviour (2.5x).	
Divine will (God approves?)					
Policy (Regulations, laws?)			Doers think there is **no** policy (11.4x).		
Culture (Are there cultural rules or taboos?)					

How to look at the results

This section presents and discusses the results for each behaviour studied in all three districts: Kasungu, Chitipa, and Salima. These results were analysed following *Lesson 12: Coding, Tabulating, and Analysing the Data* in "A Practical Guide to Conducting a Barrier Analysis" (Kittle, 2017).

There are two ways to look at and analyse the results:

1- The results are coded and tabulated manually on flip charts, and the percentage is calculated using a simple calculator. Those responses with a 15-point difference or higher indicate the most significant responses. It is important to note that the percentages of Doers or Non-Doers giving a particular response alone (or even the total combined) are not meaningful; it's the difference between the two groups that matters. Also, sometimes a minority of Doers and Non-Doers will give a particular response, but the difference between them is large enough to indicate an important determinant.

2- The MS Excel spreadsheet[35] shows the magnitude of the difference of each response (e.g. Doers were 7 times more likely to say that their husbands approved of the behaviour than Non-Doers). That is when looking at *Column M: Estimated Relative Risk* tells us how many times more likely it is that Doers mention a response as compared to Non-Doers (or *vice versa*). The further away from "1" this number is, the more important the determinant is. Then, looking at *Column N: p-value* tells if the response is important (statistically significant). If the p-value is less than 0.05, it should display in a **blue font**. A p-value of less than 0.05 means that the difference between Doers and Non-Doers is probably statistically significant (not due to chance).[36]

Both ways have been used to look at the results in order to confirm those that are most significant and actionable (statistically not due to chance) as suggested in the *determinants matrix* (Table 6).

Lastly, let's keep in mind that Doers were asked questions in the present tense (e.g., *what makes it easier*), and Non-Doers were asked questions in the conditional future tense (e.g. *what would make it easier*). The reason is that Doers do the behaviour, therefore can talk about their experience about doing it, while Non-Doers, because they don't do the behaviour, are asked to think about *if* they were doing the behaviour.

Picture 4: BA enumerator/InPATH MOH partner (left) with project participants after an interview in Chitipa.

[35] http://caregroups.info/wp-content/uploads/2015/08/1Final-Computerized-Tabulation-Sheets-June-2016.xlsx
[36] Kittle, Bonnie, *A Practical Guide to Conducting a Barrier Analysis*, 2nd edition, 2017.

Results for WASH behaviours

Handwashing at the five critical times (mothers/caregivers-U5)

Seven determinants were found to be significant for this behaviour: positive consequences, self-efficacy, social norms, cue for action/reminder, access, negative consequences, and risk/susceptibility.

1. **Positive Consequences (benefits)**

Respondents were asked: *what are (or would be) the advantages of performing the behaviour?*

Non-doers were 7.8 times more likely than Doers to think that preventing infection is a benefit.

Discussion: Despite ND being correct about the benefit performing the behaviour would bring, it could mean that a) the majority of ND know but are not yet convinced about this benefit, or b) there are other factors (perhaps linked to more determinants below) preventing them from washing their hands. Regardless, the BC intervention will want to reinforce the perception of that benefit.

2. **Self-Efficacy/Skills**

Respondents were asked: 1) *what makes it (would make it) easier for them to perform the behaviour?* and 2) *what make it difficult for them to perform the behaviour?*

To *what makes it easier*, Non-Doers were 5.2 times more likely than Doers to report that if they had fear of diseases they would do the behaviour, while Doers were respectively 3.1 times and 3 times more likely than Non-Doers to report that the behaviour is easier because water is available and because they have the habit, being used to it.

To *what makes it difficult*, Doers were 4.5 times more likely than Non-Doers to feel that nothing makes it difficult, while Non-Doers were 3.6 times more likely than Doers to feel that it is because there is no soap at home or work.

Discussion: ND seem to feel that the notion of risk – getting disease and being sick – is somewhat of a motivation to them. This is linked to the HBM reference to the "lack of perceived threat"[37] and the capacity of the project to increase the perception about the threat (risks) associated with poor hygiene. From a D perspective, there is the sense that the behaviour is *easy* to perform, that it has become a habit for them to practice. It would be interesting to find out what factors or specifics, according to them, makes it so easy that it becomes a habit. Promoting those factors could largely contribute to increasing the perception that washing hands can become a habit.

3. **Social Norms**

Respondents were asked: 1) *if they thought (yes, maybe, or no) that most people they knew approved of them performing the behaviour?* then 2) *who are the people that (or would) approved?* and 3) *who are the people that (or would) disapproved of them performing the behaviour?*

Doers were 4.5 times more likely than Non-Doers to believe that most people they know approve of them washing hands at the five critical times. There is also a significant difference (although not a statistical significance) for Doers to believe that neighbours approve (15 pts difference) and that no one disapproves (15 pts difference).

[37] Mark Conner and Paul Norman, *Predicting Health Behaviour: Research and Practice with Social Cognition Models*, 2005.

Discussion: The belief that neighbours are "approvers" makes a lot of sense from the perspective that neighbours are beneficiaries or victims of one's good or risky hygiene practices. In other words, and considering the communal dimension of the project, neighbours play a strategic and important role in influencing and contributing to how the priority group members feel and think about how they should behave in regard to their community's health status. Integrating and building messages and emotional landmarks and making use of these influencing groups (images, symbols, etc.) is essential.

4. **Cues for Action/Reminders**

Respondents were asked: *how difficult is it (or would it be) to remember to perform the behaviour?*

Doers were 2.8 times more likely than Non-Doers to feel that it is not difficult to remember the five times for handwashing.

Discussion: This result can be associated with the Doers' perception that *nothing makes it difficult* and that "it is easier" *because it is a habit* – discussed above under perceived self-efficacy. Here, besides building messages and emotional landmarks around the notion that "it is easy to perform," part of the SABC intervention will have to increase the capacity of priority group members to remember the five times.

5. **Access (soap)**

Respondents were asked: *how difficult is it (or would it be) to get the soap they need to perform the behaviour?*

Doers were 2.2 times more likely than Non-Doers to feel that getting soap is **not difficult**.

Discussion: Perception wise, accessing soap seems to be easy. The role of the project here is not to increase the quantity (or access) of soap on the market, but to increase the perception that soap is easy to find, and that it is accessible.

6. **Negative Consequences (disadvantages)**

Respondents were asked: *what are (would be) the disadvantages of performing the behaviour?*

Doers think that there are no disadvantages.

Discussion: This result is not linked to statistical significance but to a difference significance, i.e. the p-value is 0.087 while the point difference between D and ND is 17 pts. The suggestion here would be, again in reference to the HBM, to point out that the "cost" (disadvantages) associated with the uptake of behaviour (benefits) is low. Strong links can be made with *having the habit, being used to it* under self-efficacy (i.e. because there are no (or few) disadvantages and because it is not difficult to do, I get used to it easily, therefore it becomes a habit).

7. **Susceptibility/Risk**

Respondents were asked: *how likely it is that their child gets the problem (diarrhoea) in the next three months?*

Doers believe that it is not likely.

Discussion: This result is retained because of the difference significance, i.e. the p-value is 0.050 (but not showing in **blue font** in the MS Excel sheet) while the point difference between D and ND is 20 pts. Despite ND saying, under self-efficacy, that one of their motivations to do it would be *if they had fear of diseases*, here D believe their child is not at risk of getting the problem (within the next three

months). Is it fair to say that what motivates D to do it is not the fear associated with the risk? Or that they don't need 'fear' as an enabler? Or maybe, because D don't worry about the risk, ND also don't worry, therefore reinforcing the "non-doing" (i.e. one more reason why I don't need to do it). Talking about the risk, but in less "classical" ways, needs to be included. The perception of risk needs to be increased.

Usage of a latrine

Five determinants were found to be significant for this behaviour: self-efficacy, access, cues for action/reminders, social norms, and negative consequences.

1. Self-Efficacy/Skills

Respondents were asked: *what makes it difficult to perform the behaviour?*

Picture 5: Kaluluma Health Facility latrine in Kasugu district

Non-doers were respectively 13.9 times, 4 times, and 3.8 times more likely than Doers to feel that it is more difficult because they do not own a latrine, when the latrine is un-operational (no doors or roof), or when the latrine is full, dirty and smelly.

Doers were respectively 6.3 times more likely than Non-Doers to feel that nothing makes it difficult, and 2.9 times more likely to feel that being away from home makes it difficult.

Discussion: Owning a latrine can make using it easier. But it is also possible to live in a community where all public areas have accessible toilets, and that as long as a latrine is in good shape, it can be used by many. Considering gender norms and principals when agreeing to this notion will also allow for more access. If or when these conditions are met and principals agreed upon, more members of the audience could agree that there is nothing very difficult about using a latrine, as long as it provides a sense of dignity for the one using it, and a feeling of self-respect for the one making it available and usable.

2. Access

Respondents were asked: *how difficult is it to access a latrine each time they needed to perform the behaviour*?

Non-Doers were 7 times more likely than Doers to think that accessing a latrine is very difficult.

Discussion: Mapping and making latrines within public areas and around residential areas should not only increase perception of access, but literally direct individuals towards 'latrine points' when in need. Emphasis on the notion of risk prevention from a community and public institutions standpoint, and self-respect and dignity from an individual standpoint, could convince Non-Doers to become less inhibited using a latrine.

3. Cues for Action/Reminders

Respondents were asked: *how difficult is it to remember to perform the behaviour?*

Doers were 5.7 times more likely than Non-Doers to feel that it is not difficult at all.

Discussion: Remembering to use a latrine doesn't require much skill. Perhaps a cool image, a fun spot, a trusted voice would be enough to help mothers remember where to go when needed, and why.

4. Social Norms

Respondents were asked: 1) *who are the people that (or would) approve of performing the behaviour?* and 2) *who are the people that (or would) disapprove of performing the behaviour?*

To *who disapproves*, Doers were 2.6 times more likely than Non-Doers to believe no-one does. Non-Doers believe that their husband would.

Discussion: The project will want to build on the belief that performing the behaviour is something *no one* disapproves of, while reinforcing and engaging "husbands" with positive imaging and messaging so they are perceived as figures and symbols who agree with the behaviour being performed. Institutions could make it part of their role to support the perception that the general public approves.

5. Negative Consequences (disadvantages)

Respondents were asked: *what are (would be) the disadvantages of performing the behaviour?*

Doers were 2.9 more times likely than Non-Doers to think that there are no disadvantages.

Discussion: In the end, it was hard to complete data collection for this behaviour because Non-Doers were hard to find, which is unusual when setting up a BC intervention that addresses essential hygiene actions (EHA) such as in this case. This could indicate that this behaviour is already widely practiced throughout the project areas, and perhaps the whole country. Decision makers for the project should also look into the national score for open defection (about 6)[38] and consider the existence of many by-laws regulating (punishing) the practice of open defaecation.[39]

This perception here can also be linked to the HBM regarding the associated high cost or disadvantages of not doing the behaviour compared to the benefits accrued in taking up the same. This also links strongly with "nothing makes it difficult" under self-efficacy, as well as "many people approve" under social norms i.e. because nothing makes it difficult and also that most people approve, I find no disadvantages (difficulties) in using a latrine any time I want to defecate.

Handwashing at the five critical times (SBA)

Six determinants were found to be significant for this behaviour: self-efficacy, policy, access, social norms, negative consequences, and cues for action/reminders.

1. Self-Efficacy/Skills

Respondents were asked: 1) *what makes it (would make it) easier for them to perform the behaviour?* and 2) *what make it difficult for them to perform the behaviour?*

To *what makes it easier*, Doers feel it is because water is available.

To *what makes it difficult*, Non-Doers were 3 times more likely than Doers to feel that having too much pressure at work (because of dealing with emergency patients, being under pressure, panicking) makes it difficult, while Doers were 2.8 times more likely than Non-Doers to feel that when the ward(s) is/are too busy (with many patients).

[38] MDHS, 2015-16.

[39] In Chitipa, there are local by-laws that have been agreed upon and enforced by traditional leadership, punishing everyone who defecates openly because they haven't constructed or owned a latrine.

Discussion: The first result associated with *what makes it easier* is retained because it shows a significant difference (20 pts) and a statistical significance (p-value of 0.000, appearing in **blue font**), but not the *estimated relative risk* (column M of the MS Excel tabulation sheet). For SBA to be feeling good and confident about having enough water and soap (as part of the tools they need to perform their work) – so that the handwashing protocol is respected (standards for service quality) – results of the project's WASH facilities component[40] could be shared and integrated into the messaging developed with the SABC component.

On the other hand, SBA should consider handwashing one of – if not the main – criteria contributing to the definition of what "standards for quality service" means, regardless of how many patients there are to be attended to. In other words, having too many patients to attend shouldn't be a justification for not taking the time to provide quality services, but the opposite, i.e. the more patients there are to attend, the more important it is for an SBA to wash hands (maintaining good hygiene). The perception that working under pressure makes handwashing difficult needs to be decreased in favour of the perception that all clients expect the same quality of services.

2. Policy

Respondents were asked: *are there any policies or laws that make it more likely to perform the behaviour?*

Doers were 11.4 times more likely than Non-Doers to think there are no policies/laws.

Discussion: Doers don't perceive that there are policies on handwashing, yet they perform the behaviour. They could be doing it because of other factors, in the sense of "even if there are no policies telling me what to do (or not do), I need to do it "because to them it is a standard operating procedure for example, among others. However, this result could also be looked at from the standpoint of Non-Doers not performing the behaviour because they perceive policies to be non- existent; therefore handwashing is not perceived as a priority or a standard of quality for them when attending a patient. In other words, the failure to interpret the guidelines and protocols as the policy gives the impression that there are no laws, therefore no "obligations" to performing the behaviour. Regardless, and because there are guidelines and protocols for handwashing (SBA are exposed to it while in training), the project will want to reinforce the perceptions that protocols are policies that need to be applied and adhered to.

3. Cues for Action/Reminders

Respondents were asked: *how difficult is it to remember to perform the behaviour?*

Non-Doers feel that it is very difficult.

Discussion: Although there is a significant difference between the two groups (15 pts difference), and the results are statistically significant (p-value of 0.006 appearing in **blue font**), no *estimated relative risk* is given. In looking at what this result means, a few things come to mind. First, it could be that the five times are not clear, or official, or formally expressed as part of the policy (protocol) for SBA. Second, there could be a link between feeling rushed and pressured to perform at work (self-efficacy above) and forgetting to practice the behaviour. Third, it could be that the five times are just hard to remember either because they are not systematically applied at all times, or do not have to be performed all the time. Regardless, the project will want to make sure those times are formal, and

[40] InPATH Project will provide the health facilities with infrastructure to ensure that water is available at all times in order to ease access. In so doing, it will promote the handwashing by SBAs due to ease of access.

then increase the capacity for SBA to remember them, so they become an intrinsic part of the work ritual, i.e. respecting the protocols leading to quality of service standards.

4. **Access – soap & water**

Respondents were asked: *how difficult was it to access the soap and water needed to perform the behaviour?*

Doers were 3.2 times more likely than Non-Doers to feel that getting soap is not difficult. They also feel water is not difficult to get.

Discussion: The results on water access were kept only because of the significant difference between the two groups (15 pts difference). We have already seen above (self-efficacy) that SBA perceive performing the behaviour to be easier because/when water is available. The project will want to reinforce the perceptions that both water and soap are easily accessible, and remind SBA about where to get it. Institutions also need to do their part in providing SBA with the "tools" they need, as noted above. It is worth pointing out that there are times when SBA have to use personal resources to buy soap and manage for themselves by fetching water from places far away from the facility.

5. **Social Norms**

Respondents were asked: 1) *who are the people that (or would) approve of performing the behaviour?* and 2) *who are the people that (or would) disapprove of performing the behaviour?*

Doers believe that patient attendants (support staff) approve.

Discussion: This result was kept because of the difference significance between the two groups (15 pts difference). It speaks to the close working relationship between SBA and those perceived as the "supporting staff" who also attends to patients when recovering after being assisted by the SBA. It makes sense that they *approve* of SBA washing their hands since they also care for and want their patients to be in good health after receiving quality services. In other words, patient attendant's work is made easier because they are taking care of patients who have the peace of mind of being in good hands because healthy protocols are respected. Another reason could be that patient attendants (support staff) approve because they are the ones that make sure that the labour ward has water at all times. Sometimes this role is also taken up by other support staff or guardians. For better and more precise messaging during the design of the SABC package, it would be worth knowing who exactly are tagged as *patient attendants*.

Results for MNCH behaviours

Exclusive Breastfeeding (EBF)

Seven determinants were found to be significant for this behaviour: self-efficacy, social norms, access, action efficacy, negative consequences, risk and cues for action/reminders.

1. **Self-Efficacy/Skills**

Respondents were asked: 1) *what makes it (would make it) easier for them to perform the behaviour?* and 2) *what makes it difficult for them to perform the behaviour?*

To *what makes it difficult*, Non-Doers were respectively 3.5 times and 1.8 times more likely than Doers to feel that if the baby is crying and if there was not enough milk then it would be difficult to exclusively

breastfeed. On the other hand, Doers were 2.2 times more likely than Non-Doers to feel that nothing makes it difficult.

To *what makes it easier*, Doers were respectively 1.8 times and 1.4 times more likely than Non-Doers to feel that because I am used to it (I have the skills and knowledge) and that when being reminded/advised (husband, PSA, health workers) then it makes it easier to exclusively breastfeed. Lastly, Non-Doers were 1.8 times more likely than Doers to feel that if a mother eats/drink well (quantity and quality food).

Discussion: There are many reasons why new-borns cry, one of which is to express the need to eat (hunger). Mothers need to feel more confident about being able to tell the difference and learn the various ways an infant expresses its needs-and-wants for breastmilk. Speaking to what makes it easier for Doers (having the skills and habit), gaining that confidence and those skills is not a complicated process, so given and allowed the time, new mothers should be able to pick it up so that it can easily become part of their routine (habit).

The perception of not having enough milk (baby stays hungry) is a common one in settings where food security is low and financial resources are limited. In addition to increasing skills and confidence of new mothers (with peers, family members, etc.) to negotiate with a crying infant, the project should focus on increasing the perception that it is ok for EBF mothers to eat more (frequency, quantity) and better (nutritious foods) during the first six months of the infant's life. In other words, there is no need for the baby to be given additional food to breastmilk since a mother has the necessary milk the baby needs as long as she is "well fed".

2. Social Norms

Respondents were asked: 1) *who are the people that (or would) approved?* and 2) *who are the people that (or would) disapproved of performing the behaviour?*

Doers believe that their husband approves.

Discussion: The "husband" result is kept based on the significant difference between the two groups (18 pts difference, despite a p-value of 0.070). The belief that husbands are among the people that "approve" makes a lot of sense from the perspective that they share the pride in raising a healthy family and want to be associated as such. Husbands positively influence how the priority group members feel and think about doing the behaviour.

3. Access – psychosocial support

Respondents were asked: *how difficult is it to get the support (help) you need to perform the behaviour?*

Non-Doers were 3.2 times more likely than Doers to feel it is very difficult.

Discussion: The notion of support is psychological/emotional and functional, as in: 1) taking away some of the mother's obligations allowing her to spend the time needed with the infant, 2) agreeing with the mother's modified routine. It will be interesting for the project to work around the gender roles and influencers associated with the tradition and rituals for when families and household members welcome a new-born. In addition to providing the perceived support, husbands could also – because of their decision-making contributions to "community dynamics" (local and traditional institutions) – set the tone for new mothers to be given the space (e.g. mother-baby corners) and allowing them to access services (informal) and support from other mothers.

4. Action Efficacy

Respondents were asked: *how likely is it that your infant will suffer from malnutrition (the problem) if you perform the behaviour?*

Non-Doers were 2.5 times more likely than Doers to think it is very likely that an infant will suffer from malnutrition.

Picture 6: Exploring and expressing a parent's emotions using pottery and the usage of soft and hard clay could help ground those emotions with health messages.

Discussion: Mothers don't perceive practicing the behaviour as the way to solve the problem. Great opportunities here for the project to achieve impact by finding ways to convince mothers – as well as those having a role in providing the support talked about under *access* – that EBF is the most efficient way to avoid malnutrition. In other words, EBF leads to healthy and strong babies. Therefore, this is one more reason for new mothers to feel confident about their skills to perform it. One more argument in terms of linking results for this practice is emphasising the discrepancies between benefits (huge) and disadvantages (none) as mentioned below by Doers.

5. Negative Consequences (disadvantages)

Respondents were asked: *what are the disadvantages of performing the behaviour?*

Doers were 2.3 times more likely than Non-Doers to think there are no disadvantages.
Non-Doers think that it makes baby cry a lot.

Discussion: The last result was kept based on its statistical significance, with a p-value of 0.028 showing in **blue font**, despite the difference between the two groups of 11 pts. Since non-doers associate breast feeding with crying, the intervention should focus on changing this perception by highlighting the positive relationship between EBF (at very little to no cost) and contributing to preventing malnutrition (high reward). By addressing *self-efficacy*, the project should address possible causes and reasons for a new-born to cry.

6. Susceptibility/Risk

Respondents were asked: *how likely is it that their infant will suffer from malnutrition?*

Doers were 1.5 times more likely than Non-Doers to believe that it is not likely at all.

Discussion: Perception of a/the risk is often enough of a motivation one needs to be convinced that he/she should take the right measures in order to prevent that risk. Despite Doers believing their infant "not to be at risk of malnutrition" – which would make sense from the angle that because they are performing the behaviour, they believe there is little to no chance (not likely) for their infant to get malnourished – the perception that new-borns and under 6 months old infants are always at risk of malnutrition needs to be increased.

7. Cues for Action/Reminders

Respondents were asked: *how difficult it is to remember to perform the behaviour?*

Doers feel it is not difficult to remember.

Discussion: This result shows a significant difference (18 pts difference) among the two groups, and a statistical significance with a p-value of 0.003, but doesn't provide the *estimated related risk* telling how much more likely Doers are to mention that answer than Non-Doers. Regardless, this is an important result because of the low p-value. There could be many reasons as to "why" Doers feel remembering is easy. Support provided by family members may be one of the reasons. The results from self-efficacy mentioned in point 5 above (that Doers are more likely to think there are no disadvantages) should be used to encourage Non-Doers so that the mother's capacity to remember is improved. The project could encourage other family members to provide support for EBF to help Non-Doers remember.

Giving ORS to a child with diarrhoea

Two determinants were found to be significant for this behaviour: self-efficacy and positive consequences.

1. **Self-Efficacy/Skills**

Respondents were asked: 1) *what makes it (would make it) easier for them to perform the behaviour?* and 2) *what makes it difficult for them to perform the behaviour?*

To *what makes it difficult*, Doers were 4.3 times more likely than Non-Doers to feel that when/if child is sick, vomits (refuses intake).

To *what makes it easier*, Doers were respectively 2.9 times and 2.6 more likely than Non-Doers to feel that getting advice and ORS from health workers (at the hospital-proximity) and having the tools, equipment for making it (spoons, pot and cup) makes it easier.

Discussion: It would be interesting to have Doers share how they managed to overcome that obstacle, i.e. what tips and strategies have they developed so that their sick child (showing symptoms of fatigue, nausea, fever, etc.), who is showing resistance to taking the ORS (vomiting the solution), consumes it. Perhaps Non-Doers haven't taken the time to think of some strategies, and feel discouraged about their low capacities to administer "medicine-like" solutions because they feel overwhelmed or intimidated by how sick they perceive their child to be.

In addition to learning about Doers' "tips and tricks", there is a great opportunity for the project to reinforce the perception that the "health institutions" are of great service and support within the community, and that whoever is associated with them, e.g. health worker, HSA, etc., are to be trusted with providing the right advice and product. Another way of saying it would be that the perception that one gets the quality advice (service) and product (ORS) from those who work in the system is to be reinforced. It is also safe to think that mother's capacity to think ahead, i.e. planning by having the right equipment so that ORS can be mixed and prepared at home in the right way, could improve the way ORS is administered so that the child's intake is full (using smaller cups so the child can sip and take smaller quantities rather than too much of it at once).

2. **Positive Consequences (benefits)**

Respondents were asked: *what are (or would be) the advantages of performing the behaviour?*

Doers were 3.4 times more likely than Non-Doers to think that it stops diarrhoea, helps recover is a benefit.

Discussion: It is true that ORS helps coping with the negative effects of diarrhoea, allowing the child's intestinal flora to absorb needed electrolytes and perhaps nutrients lost during the diarrheal episode. That is a perception that needs to increase and the project should be talking about it explicitly, i.e., talking about the science behind it in ways that are original and convincing. In addition to educating audiences on the science (benefits), the project will want to simplify how to make ORS and where to get advice about finding and making the product.

Interpretation of the results

In this section we look at how the evidence should be interpreted in order to achieve the project's expected behavioural modifications. Since the project works with artists who use different art forms and have different backgrounds, and wants to put them in charge of channelling and communicating specific messages with powerful emotional landmarks, it is better at this stage to shape or translate the evidence in a way that speaks to social art partners' (SAP) capacities to interpret it, so that they feel confident and comfortable working with it from a creativity standpoint. Handing them the previous 10 pages of results or the *determinants matrix* alone, without translating it in precise and clear terms favouring creative 'out-of-the-box' thinking, would be counter-productive and increase the risk of SABC activities not addressing the evidence collected in this study, and consequently affecting the Project's expectation of achieving behaviour uptake.

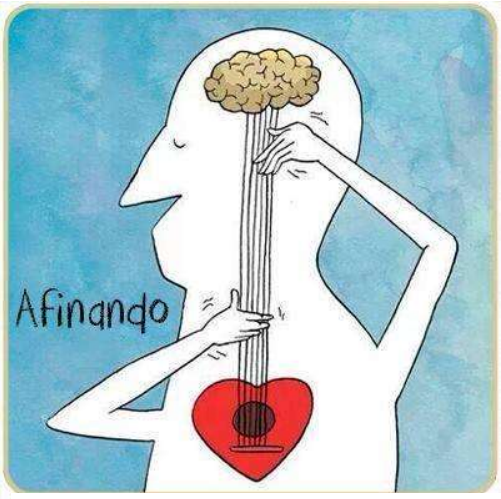

Figure 2: Adjusting *system 1* and *system 2* for targeted audiences to make better informed choices and decisions in regard to the proposed change.

Processing information rationally and emotionally

One Drop's approach to behaviour change emphasizes the importance of designing and developing – with the Project's SAP – activities that appeal not only to the capacity of audiences to make decisions and choices by processing information rationally, but emotionally as well. This is what Kahneman refers to as *System 1* and *System 2,*[41] where System 1 is fast, instinctive and emotional, and System 2 is slower and more logical (Figure 2: *Afinando* means "adjusting").

The key messages and emotions presented below are what implementers, and particularly SAP, will need to consider when designing BC activities so that the evidence collected amongst priority group members, i.e. links to their beliefs, knowledge (thinking), abilities (skills), but also their values and attitudes (emotional landmarks), can be used as content, and therefore stimulate the creative thinking needed to design tailor-made SABC activities.

By looking at the evidence this way, the tone is set for later making decisions as to which activities are most appropriate for the intervention that allow audiences to progress, at their pace, through the different *Stages of Change* (Prochaska & DiClemente, 1983). These three levels of activities are discussed below in *Recommendations for SABC activities.*

[41] Kahneman, Daniel, *Thinking, Fast and Slow*, 2011.

Key messages and emotions for WASH and MNCH behaviours

Here we present the evidence in the form of cognitive and rational messages (System 2) and emotions (System 1) around which SABC activities need to be designed in order for priority group members to be convinced of what is being suggested to them in terms of behavioural modifications. In other words, these messages (information processed cognitively) and emotions are what the Project wants its audiences to be acknowledging and feeling when taking part in the activity.

Table 7: Messages and emotions for WASH and MNCH behaviours

Handwashing at the five critical times (mothers/caregiver-U5)	
Cognitive & rational (system 2)	Emotions/feelings (system 1)
▪ Believe that most people approve, amongst them neighbours and community members ▪ Think that "preventing infections" is a main benefit ▪ Believe that U5 are always at risk of getting diarrhoea ▪ Able to remember the five times ▪ Able to find soap at home or work	▪ Feel valued, supported, and appreciated by most people ▪ Stress free that children will not become sick (from diarrhoea) ▪ Feel confident about becoming used to it (requires little education and minimal skills) ▪ Feel less anxious about soap and water being hard to find: peace of mind about having enough water and soap consistently in the house (to work with those in charge of household finance)
Usage of a latrine	
Cognitive & rational (system 2)	Emotions/feelings (system 1)
▪ Believe that a latrine is a common good, i.e. its usage is made to be universal (for everyone who needs when in need) ▪ Able to find a usable latrine (or toilet) easily, even when away from home	▪ Feel the latrine they own "is the best there is" (quality, cleanness, original); agree with the message of universality ▪ Feel the household is blessed (self-respect, dignity) because of approving husband, allowing/providing access to family members first, then neighbours, then whoever needs a functional latrine (access to a quality latrine = caring for self and others = being aware of how important it is to use a latrine and therefore making a positive difference in the community).
Handwashing at the five critical times (SBA)	
Cognitive & rational (system 2)	Emotions/feelings (system 1)
▪ Believe that policies and protocols are expected to be known/followed in order to set 'quality service standards' ▪ Able to remember the five times (becomes a ritual) ▪ Believe that water and soap are health commodities (assets) as important as the tools/equipment needed when performing a safe delivery	▪ Feel encouraged about two things: 1) faith (trust) in health institution (decision makers) to make water and soap (health commodities) available all the time; and 2) Influencing Group (IG) celebrating and rewarding SBA resilience with emotional and positive testimonies ▪ Feel proud respecting quality of service protocols (resilience) despite the hardship of working under pressure and managing emergencies
Exclusive breastfeeding	
Cognitive & rational (system 2)	Emotions/feelings (system 1)
▪ Consume nutritious (quality) and enough (quantity) food so that mother's body produces what the infant needs ▪ Believe the most efficient way to avoid the risk of malnutrition is by performing the behaviour ▪ Time and space to acquire the skills and confidence to become an EBF mother are allowed (it is the "new norm")	▪ Feel safe (less stressed) and confident that within their family and social environment, there are enough resources (influencing group) to provide psychological and functional support needed ▪ Feel that they are not alone caring for infant and agreeing that having enough breastmilk is a shared responsibility ▪ Develop a new emotional rapport with the notion of 'risk', i.e. the motivation to perform is not based on

	fear but the capacity to avoid it (feeling more in control after understanding the risk, as opposed to fearing it)
Giving ORS to a child with diarrhoea	
Cognitive & rational (system 2)	Emotions/feelings (system 1)
▪ Find sick-child friendly ways, tricks and tips on how to make and administer ORS.	▪ Feel that health institutions (health workers and HSA) are THE most reliable (trust-worthy) source of advice and information when it comes to procuring a product and benefiting from a service of good quality

Behavioural objectives for WASH and MNCH

Behavioural objectives (BO) reflect how the evidence collected is articulated to inform the development of the SABC action plan (strategy) to positively influence the target audience's behaviour uptake. In other words, by achieving these objectives, the project is confident about also achieving its behaviour change expectations.

BO are developed based on the combination of what is known, i.e. determinants, and bridges to activities from each DBC Framework, in order to guide the project in developing SABC activities that will target different audiences and using different channels (art forms).

The formulation of behavioural objectives allows the project to better frame its behaviour change interventions, from an activity standpoint, in order for health and social art indicators to be clearly monitored and measured during the SABC intervention timeline. It is expected that monitoring and evaluation metrics will be developed to later measure success in meeting these objectives.

The BO in the Table 8 below were developed to lead an SABC action plan from perceptions associated with System 1 and System 2 (Kahneman, 2011) for each behaviour.

Table 8: Behavioural objectives

Behavioural objectives	Cognitive & rational (system 2)	Emotions/feelings (system 1)
1. Shape the social discourse by using neighbours and HSA to profile a positive image of mothers of U5 (champions) who are committed to preventing infections	▪ Believe that most people approve, amongst them neighbours and community members ▪ Think that "preventing infections" is a main benefit ▪ Believe that U5 are always at risk of getting diarrhoea	▪ Feel valued, supported, and appreciated by most people ▪ Stress free that children will not become sick (from diarrhoea)
2. Increase the capacity to remember that "less than five every day increases the risk every day…" by convincing financial decision makers at the HH level that prevention is cheaper than treatment – now in the present but also for tomorrow (future)	▪ Ability to remember the five times ▪ Ability to find soap at home or work	▪ Feel confident about becoming used to it (required little education and minimal skills) ▪ Feel less anxious about soap and water being hard to find: peace of mind about having enough water and soap consistently in the house (to work with those in charge of household finance)
3. Design environments (nudges) so that public latrines (as opposed to HH latrines) are seen to be available and accessible by using user-friendly visual landmarks in numbers (quantity) and appearance (quality)	▪ Able to find a usable latrine (or toilet) easily, even when away from home	
4. Get latrine owners to discuss and debate the opportunity for their latrines to be used/shared with neighbours and other community members (close external circle) by having husbands express their feelings on the notion of risk and how it affects the social fabric of their families and communities	▪ Believe that a latrine is a common good, i.e., its usage is made to be universal (for everyone who needs when in need)	▪ Feel the latrine they own "is the best there is" (quality, cleanness, original); agree with the message of universality ▪ Feel the household is blessed (self-respect, dignity) because of approving husband, allowing/providing access to family members first, then neighbours, then whoever needs a functional latrine (access to a quality latrine = caring for self and others = being aware of how important it is to use a latrine and therefore making a positive difference in the community)
5. Channel the theme of 'cleanliness' by designing and maintaining (keeping clean) HH latrines based on the value of 'self-respect' and 'dignity'		
6. Empower SBA and delivering mothers to document their delivering experience underlining the positive impact of team dynamics by 1) emphasising the value of good and efficient coordination (amongst SBA) and leadership (from management),		▪ Feel encouraged about two things: 1) faith (trust) in health institution (decision makers) to make water and soap (health commodities) available all the time; and

Behavioural objectives	Cognitive & rational (system 2)	Emotions/feelings (system 1)
and 2) how it contributes to service delivery staff, supporting staff and patient attendants coming together during all phases of delivery		2) IG celebrating and rewarding SBA resilience with emotional and positive testimonies
7. Emphasise how essential are soap and water for an SBA to perform their duties by engaging their superiors in modelling the behaviour and supporting the practice by providing them with water and soap in order for them to perform as required by protocols (empathy)	▪ Believe that water and soap are health commodities (assets) as important as the tools/equipment needed when performing a safe delivery	▪ Feel proud respecting quality of service protocols (resilience) despite the hardship of working under pressure and managing emergencies
8. Bring attention to the meaning and purposes of protocols/policies by clarifying that they have the same intention/purpose	▪ Believe that policies and protocols are expected to be known/followed in order to set 'quality service standards' ▪ Able to remember the five times (becomes a ritual)	
9. Convince husbands to increase the ratio (quantity) and variety (quality) of food their partners need to intake during pregnancy and while breastfeeding (inclusive of immediate breastfeeding but focus on EBF) after giving birth by financially planning for it	▪ Consume nutritious (quality) and enough (quantity) food so that mother's body produces what the infant needs	▪ Feel safe (less stressed) and confident that within their family and social environment, there are enough resources (influencing group) to provide psychological and functional support needed ▪ Feel that they are not alone caring for infant and agreeing that having enough breastmilk is a shared responsibility ▪ Develop a new emotional rapport with the notion of 'risk', i.e. the motivation to perform is not based on fear but the capacity to avoid it (feeling more in control after understanding the risk as opposed to fearing it)
10. Entrust husbands to continue providing support and being a positive influence to prevent the risk of their new-born becoming malnourished by educating them on the science of nutrition (benefits) and the efficacy of breastmilk	▪ Believe the most efficient way to avoid the risk of malnutrition is by performing the behaviour.	
11. Teach/improve mothers' skills and self-confidence to feed their infants breastmilk by making use of mother-child friendly spaces where EBF mothers' emotions and feelings (experiences) associated with the support they received from their internal (family) and close external circles (friends and neighbours) can be documented	▪ Time and space to acquire the skills and confidence to become an EBF mother are allowed (it is the "new norm")	
12. Teach mothers of U5 to prepare and give ORS by having community health staff conduct product demonstration sessions and promotion of health services at the health facility and community levels	▪ Find sick-child friendly ways, tricks and tips on how to make and administer ORS	▪ Feel that health institutions (health workers and HSA) are THE most reliable (trust-worthy) source of advice and information when it comes to procuring a product and benefiting from a service of good quality

Designing SABC activities

As mentioned above, there is a specificity about how SABC activities are developed and designed, i.e. to allow targeted audiences to process information and make choices rationally and emotionally (Kahneman, 2011). This is why the SABC approach, making use of various art forms and allowing individuals to experience art – either through consuming it as a product (edutainment), or taking part in it as a process (methods and technics) – is so rich, because it increases the possibility for these individuals to explore different ways of looking at reality (perceptions), and therefore giving them more leeway and freedom to make their own choices in adopting the suggested change or not.

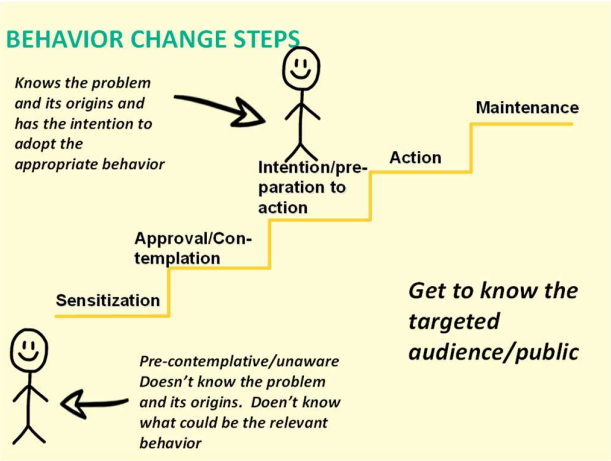

Figure 3: Stages of Change seen through SABC activities

Another specificity of the SABC approach is the way activities are deployed in three different levels so that the BC component can be achieved in accordance to Prochaska's & DiClemente (1983) *Stages of Change* model (Transtheoretical Model – TTM) (Figure 3). Here is a brief definition of the three levels intended to facilitate progress through the different stages of change:

1. **INSPIRE**: an initial launch activity geared to the entire community and focused on awareness and education around the focus WASH themes of the intervention. Activities here correspond to "sensitization" and "approval/contemplation" stages.
2. **ACTIVATE**: several targeted activities often addressing specific determinants associated with skills, self-confidence, etc. and targeting priority group audiences first. Activities here correspond to "intention/preparation to action" and "action" stages.
3. **SUSTAIN**: products (also called "documedia") and processes that will live on long after the intervention is completed, such as books, toolkits, murals, short films, ongoing trainings and capacity building to create community change agents versed in Social Art for Behaviour Change for WASH. Activities and/or SABC products here correspond to the "maintenance" stage.

Picture 7: Evidence of social art talent in Salima

Recommendations for designing SABC activities

In light of these three levels of activities, the project should consider these recommendations in developing activities in a sequence that will allow audiences to progress from one level to the next. For example, it would not prove constructive nor strategic to have a husband (perceived as someone who approves of the behaviour – a positive influencer) of an exclusively breastfeeding mother to jointly take part in an *activate* activity designed to illustrate or document the positive impact of "psychosocial support" on that mother, before having taken part in an EBF *inspire* activity in which he is "made aware" of a few essential health facts allowing him to have a greater perspective of his role and what is expected of him as a supportive husband. *Inspire* level activities are meant to set the stage for

activate and *sustain* activities so that they make more sense later and are more effective from a stage-of-change perspective.

For that to happen, it is recommended that the Project, when developing its SABC action plan/roadmap, identifies activities that are made to *inspire*, roll them out first, and then decide how and when it wants to deploy *activate* activities, and so on.

The purpose of the recommendations in Table 9 is for the Project to make sense of the strategic sequence of each DBC Framework found in annexes 1 to 5. All five DBC Frameworks have been populated with activities reflecting these recommendations.

Table 9: Recommendations for *inspire*, *activate*, and *sustain* SABC activities

Level of SABC activities	Recommendations	Targeted behaviours
Inspire	a) Edutainment (comedy/role play, theatre, radio drama) of primary and secondary (influencing groups who 'disapprove') audiences to become more aware (educated) and better informed (understand) of the notion of risk (results from *perceived susceptibility/risk)* and their relationship to it, i.e. their contribution to the 'problem' and 'solutions' when the behaviour is performed, or not. b) Continued edutainment on the epidemiological facts (science) based on the results for *perceived positive consequences* of both primary and secondary (influencing groups who 'disapprove') audiences.	▪ HWWS-U5 ▪ EBF ▪ Giving ORS to a child with diarrhoea
Activate	a) Being systematically consistent in the mass celebration of the priority audiences using positive imagery (visual and oral art forms) of characters and symbols representing influencing groups who 'approve' (*social norms* results). b) Mainstream individual/community values: dignity, self-respect, family, health, resilience, etc. through grassroots (bottom-up) story-telling (oral and visual), song writing & music, sculpting. c) Allow space and time for priority audiences to acquire and/or improve their skills, becoming more confident about their capacity to perform the behaviour, through experimenting with the creation process of different art forms, e.g. drawing/painting, sculpting.	▪ HWWS-U5 ▪ Usage of a latrine ▪ HWWS-SBA ▪ EBF ▪ Giving ORS to a child with diarrhoea
Sustain	a) Have SAP technically train and morally encourage and support (coaching, mentoring) social art groups (SAG) (can be individuals too) in the spirit of empowering grassroots artists to feel confident about their potential and skills. SAP are 'role models' who SAG look up to. b) Expect documenting (video & radio digital platforms) at least recommendation "b" for *activate*	▪ HWWS-U5 ▪ HWWS-SBA ▪ EBF ▪ Giving ORS to a child with diarrhoea

Gender Considerations

Notably, the InPATH Project puts emphasis on promoting gender equality across its interventions. The barrier analysis also considered gender by looking at gender influencers and specific norms that are either enablers or barriers to individuals adopting the behaviours. The analysis revealed some of the key gender-related aspects around decision making, roles and responsibilities as well as ownership of assets such as latrines.

For instance, in the communities investigated in the BA, decision making is mostly done by the husband or father, child caring and household chores mostly done by the mother, and most mothers lack access to financial resources, making it difficult for some to buy soap. Therefore, it is important to recognise the gender influencers in designing activities as they do have a bearing on the behaviour change adaption process.

As such, gender will be a cross-cutting consideration in all SABC activities (drama, songs, paintings/drawings, etc.) and there will be efforts to ensure that all activities are gender aware and not biased or stereotypical, and where relevant/possible, aim to be gender transformative in promoting behaviour change along the targeted behaviours.

Picture 8: Evidence of a mural representing a breastfeeding mother in dire need of an SABC makeover, with a gender sensitive touch to it, in Salima

Conclusion

The barrier analysis represents the first assessment by the InPATH Project to gather evidence to help plan SABC interventions focusing on WASH and MNCH. The barrier analysis exercise was conducted in the three districts of Chitipa, Kasungu and Salima where the InPATH Project will support systems strengthening in MNCH. It is expected that the findings of the barrier analysis will strengthen the programming efforts in the three districts and provide the SAP with enough content to stimulate their creativity in designing activities that will appeal both intellectually and emotionally to their audiences. It is also expected that the activities that have been generated in the DBC Frameworks will be implemented using the social art approach and that they will subsequently result in improving the WASH and MNCH indicators, and hence improvement in the health status of the children.

The exercise involved staff from the InPATH Project as well as Ministry of Health in Malawi. The aim was to build staff capacity in using the BA methodology so that they can use it in the future to gather evidence on specific areas of intervention using different approaches. This resulted in getting the MoH to buy-in into the SABC approach, which is a great achievement.

To address the significant determinants for each behaviour, the Project now needs to work towards achieving the behavioural objectives by implementing the recommended activities presented in the DBC Frameworks. After following this logical sequence of collecting evidence, developing behavioural objectives, and identifying potential activities, the project, in collaboration with SAP, will need to develop a behaviour change action plan or roadmap. In this plan, activities should be prioritised and sequenced so that each level of SABC activities – *inspire*, *activate*, and *sustain* – is respected and so that significant barriers are addressed first.

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Section 3: Annexes – DBC Frameworks and BA Questionnaires

Annex 1: Handwashing at the five critical times (mothers/caregivers-U5) DBC Framework

Behaviour statement	Priority Group and Influencing Groups	Determinants (barriers + enablers)	Bridges to activities (action)	SABC Activities + Messages + Emotions
Mothers/care givers of children 0-59 months wash their hands with soap at the five critical times each day	<u>Priority Group</u> Mothers/caregivers of U5 <u>Influencing groups</u> ▪ Neighbours approve. ▪ "No one" disapproves. <u>Demographics</u> ▪ Live in rural and semi-urban areas ▪ Go to church and mosques ▪ Lowly educated ▪ Average of 70% literate ▪ Majority work in agricultural field <u>Daily Routine</u> ▪ Are busy with household chores ▪ Also spend their time caring for children, gardening. ▪ Attending women group events such as kitchen top-ups, ginnery as well as village savings meetings on occasional basis. ▪ Attending gathering events weddings. ▪ Also patronise markets to buy and sell merchandise. <u>Common desire</u> ▪ To be loved and cared for by their husbands.	**Positive consequences (benefits)** ▪ Prevents from infections (ND 7.8x) **Self-efficacy/skills** *What makes easier?* ▪ Fear of diseases (ND 5.2x) ▪ Water is available (D 3.1x) ▪ Having the habit/being used to it (D 3x) *What makes difficult?* ▪ Nothing (D 4.5x) ▪ No soap (at home or work) (ND 3.6x) **Social norms** *Most people approve*? ▪ Yes (D 4.5x) *Who approves?* ▪ Neighbours (D) *Who disapproves?* ▪ No one (D)	▪ Reinforce the perception that preventing infections is a benefit. ▪ Improve knowledge about the health risks for U5 linked to bad hygiene. ▪ Increase the perception that little skills and knowledge are required for it to become a habit (easy to learn and do). ▪ Increase the perception that soap can be made available at home and work. ▪ Increase the perception that most people approve: especially neighbours. ▪ Increase the perception that it is easy to remember.	<u>Suggested activities</u> HWWS_U5.1: "heroes and champions of good hygiene" – neighbours express their confidence, trust and faith towards using visual art-forms and oral tradition (folk, poems) to portray mothers of U5 as heroes & champions of good hygiene. They become characters to be re-used in large scale communications (mass media). HWWS_U5.1.a: documentary of real life stories (case studies from each districts) based on the 'heroes & champions of good hygiene' (activity HWWS.U5-1) to inspire characters of at least one radio-drama production. Those characters need to be used redundantly when or if more mass media productions are designed as reminders, etc. NOTE: there is enough content under HWWS-U5 and HWWS-SBA to develop a story(ies) around how good hygiene saves lives from both mothers of U5 and SBA's standpoints. HWWS_U5.2: "road shows" – this is a huge signing-song-writing-performing-recording activity that cuts across all five behaviours. As part of 'shaping the social discourse' around 'heroes and champions of good hygiene, every other documented value and emotion (feeling motivating individuals to replace

	▪ Their husbands to give them all their basic needs and amenities ▪ To live healthy lives and in clean environment, look clean and smart ▪ To be perceived as responsible mothers, model mothers. <u>Known common barriers</u> ▪ Inadequate time especially when multi-tasking. ▪ Lack of support. ▪ Lack of money to buy soap for handwashing ▪ Scarcity of water ▪ Negligence, i.e. they don't. ▪ When they are away from their homes. <u>What mothers know, feel, and practice</u> ▪ Know that handwashing with soap prevents diseases. ▪ Feel loved and appreciated by husbands when they are clean and smart. ▪ Peace of mind when their children are healthy. ▪ Feel proud when recognized by other as healthy families. ▪ Feel loved and with sense of belonging when their husbands provide them with their needs. ▪ Concerned when their children are sick. <u>Gender influencers</u>	**Cues/Reminder** ▪ Not difficult (D 2.8x) **Access – soap** ▪ Not difficult (D 2.2x) **Negative consequences** ▪ No disadvantages (D) **Susceptibility/risk** ▪ Not likely (D)		unhealthy habits with new healthy behaviours are channelled within this activity. It involves SKEFFA, who is renowned to be a popular national figure (singer and musician) and positive role model to mentor/coach SAG (music) and members of the public (primary audiences) into expressing themselves using songs and music. HWWS_U5.3: "connecting the dots" game (in three times) – 1) gather husbands to sketch the decision making process (struggles, challenges) they go through when budgeting for health (health family budget); 2) gather wives to sketch their role in and their need (washing hands 5 times) for that decision making process; 3) both husband and wife, in tandem, sketch their common vision of how and why 'budgeting' resources for the family health needs should happen. These sketches become art work to be included and/or re-used in activity HWWS_U5.1. HWWS_U5.4: the 'hand painting/powdered colour came' – instil a culture of HWWS where paint symbolises germs, and when hands are washed without soap (at the five key times), paths of contamination become more apparent. <u>Tentative message(s).</u> ▪ Mothers! Know that a lot of people in your community approve of handwashing including neighbours.

	▪ Husbands as heads of households are final decision makers at family level and therefore are key to making decision regarding provision of soap and handwashing facilities. ▪ Mothers are duly responsible to make sure that water is always available for handwashing at all times. <u>Stage of Change:</u> Preparation: mothers are more aware of the pros of changing but are also acutely aware of the cons and are ready to commit to the change.			▪ It is easy to remember to wash hands with soap at all critical times and can be turned into a habit. Always wash hands to prevent infections. <u>Emotional landmarks</u> ▪ Peace of mind that their children are healthy ▪ Respect from their neighbours. ▪ Strong family bonds with their husbands for being smart and clean. ▪ Increased confidence to practice behaviour.
<u>Outcome (project) indicators (health, WASH, nutrition, etc.):</u> ▪ % mothers/care givers of children 0-59 months who wash their hands with soap at the five critical times each day		<u>Output/activity (process) indicators:</u> ▪ # of powdered colour games conducted per district.		

Annex 2: Usage of a latrine DBC Framework

Behaviour statement	Priority Group and Influencing Groups	Determinants (barriers + enablers)	Bridges to activities (action)	SABC Activities + Messages + Emotions
Mothers/care givers of children 0–59 months of age defecate in a latrine at all times.	<u>Priority group members</u> Mothers/caregivers of U5 <u>Influencing groups</u> ▪ "No one" and husbands disapprove. <u>Demographics:</u> ▪ Live in rural and semi-urban areas ▪ Go to church and mosques ▪ Lowly educated ▪ Average of 70% literate ▪ Majority work in agricultural field <u>Daily Routine:</u> ▪ Are busy with household chores ▪ Spend their time caring for children. ▪ Attending women group events such as kitchen top-ups, ginnery as well as village savings meetings. ▪ Sell merchandise. <u>Common desire</u> ▪ Husbands to support them with their routine needs ▪ To raise health families especially children ▪ To be seen as responsible mothers, model mothers and as supportive parents by their husbands, friends and neighbours. ▪ To have enough food to feed their families ▪ To live health lives and in clean environment, look clean and smart.	**Self-efficacy/skills** *What makes difficult?* ▪ Not having/owning a latrine (ND 13.9x) ▪ Nothing makes difficult (D 6.3x) ▪ Un-operational (no doors or roof), broken, collapsing (ND 4x) ▪ When full, dirty, smelly (ND 3.8x) ▪ When away from home (D 2.9x) **Access** ▪ Very difficult (ND 7x) **Cues for action/reminders** ▪ Not difficult (D 5.7x) **Social norms** *Who disapprove?* ▪ No one (D 2.6x) ▪ My husband (ND) **Negative consequences** ▪ No disadvantages (D 2.9x)	▪ Increase the perception that owning a latrine makes it easier. ▪ Increase the perception that clean and well-maintained latrines (repaired, with doors and roof) makes for easier usage. ▪ Decrease the perception that latrines are hard to find. ▪ Decrease the perception that husband disapprove. ▪ Increase the perception that there are no disadvantages when using a latrine.	<u>Suggested activities</u> UL.1: Drone mapping – with the help of a drone mapping consultant, create an illustrative latrine map and print it out to paste at the location of model latrines (UL-X). The map will be a sign that will be clear and easy to follow using imagery rather than words. UL.2: Arts Competition – a competition that will enable mothers of U5 and their husband to express, using any visual art-forms, how they think good sanitation looks like (in relation to latrine usage). Artworks will be judged on art-forms aesthetics and the narrative participants attach to it. UL.3: Latrine painting – use winning designs (UL.2) to paint and decorate latrines and other buildings at and around the health facility (HF). This allows audiences to take ownership of the project and the latrines in the community.

	<u>Known common barriers</u> ▪ The practice that faeces are fed to pigs. ▪ When they are away from home resort to open defecation. ▪ When they can't pay for latrine in some places. ▪ Traditional conflict e.g. when the latrine is also used by their father in-laws. <u>What mothers know, feel, and practice</u> ▪ Know that open defecation can facilitate disease outbreaks. ▪ Dignity in owning a latrine. ▪ Feel loved and respected by others. ▪ Burry and deposit faeces in toilets. <u>Gender influencers</u> ▪ Husbands as heads of households are responsible for providing such facilities. ▪ Mothers are tasked inlcudes taking care of the toilet facilities to make them more user friendly to all. <u>Stage of Change:</u> Action: mothers have made specific overt modifications in their life-styles within the past six months.			NOTE: themes of 'cleanliness', 'self-respect' and 'dignity' will also all be included and mainstreamed in SKEFFA led song and music productions. <u>Tentative Messages</u> ▪ Mothers! Know that latrines are not difficult to find. ▪ Mothers! Know that it is easy to remember to defecate in a latrine <u>Emotional landmarks</u> ▪ Pride to be associated with cleanliness. ▪ Feeling of dignity because of having/allowing other to use a latrine where no one can see. ▪ Feeling of self-respect because of contribution to the health of the community.
<u>Outcome (project) indicators (health, WASH, nutrition, etc.):</u> ▪ % of mothers of U5 who report using a latrine only every time they want to defecate in the last 24 hours prior to the survey.		<u>Output/activity (process) indicators:</u> ▪ # of community exhibition sessions conducted per district. ▪ # of latrine painting sessions conducted per district.		

Annex 3: Handwashing at the five critical times (SBA) DBC Framework

Behaviour statement	Priority Group and Influencing Groups	Determinants (barriers + enablers)	Bridges to activities (action)	SABC Activities + Messages + Emotions
Skilled birth attendants wash their hands with soap at the five critical times when attending labour and delivery at the health facility.	<u>Priority group members</u> Nurse-midwife, medical assistant, clinical officer (CO), community midwife assistant (CMA) <u>Influencing groups</u> Patient attendants (support staff) approve. <u>Demographics</u> ▪ Both male and Female ▪ Majority live in rural health facilities ▪ Post-Secondary school educated ▪ Trained in nursing and medical curricula ▪ Both Christians and Muslims in all the three districts. ▪ Public service employees <u>Daily Routine at work</u> ▪ Conducting ANC ▪ Assessing pregnant mothers. ▪ Conducting deliveries ▪ Prescribing and dispensing medicines to clients ▪ Conducting Health Education to clients ▪ Supervising junior staff ▪ Updating registers and reporting. <u>Common desire</u> ▪ Adequate support by supervisors and spouses in order to work conductively. ▪ To be recognised by community.	**Self-efficacy/skills** *What makes easier?* ▪ Water is available (D about 14x) *What makes difficult?* ▪ Rushing at work (emergency patient, pressure, panic) (ND 3x) ▪ Ward too busy (many patients) (D 2.8x) **Policy** ▪ No (D 11.4x) **Cues for action/reminders** ▪ Very difficult (ND around 11x) **Access** *Soap* ▪ Not difficult (D 3.2x)	▪ Increase the perception that water and soap are available and easy to find. ▪ Increase the perception that all patients/clients, regardless of how many in the ward – including those who are assisted urgently – require the same quality of service standards. ▪ Increase the perception that hygiene protocols for SBA (including HWS at the five critical times)	<u>Suggested activities</u> HWWS_SBA.1: use of cinema with SBA interns to project dialogues and discussions facilitated by experienced SBA: highlighting 'the good mistakes' and other lifesaving experience and testimonies. (behavioural objectives 6, 7, 8 CONTENT): record, document, capture real life stories of Doers' (volunteers) good relationships with delivering mothers, other SBA, and management staff (different dimensions of the SEM). Frame and facilitate creative discussions around if or why or what makes them (SBA) good service providers, champions and/or role models. HWWS-SBA.2: radio drama – develop a dramatic-problem-solving-positive-ending plot using characters and content for BO 6, 7, 8 who take on the innumerable challenges a health service provider takes on daily. On her/his/their journey to achieving professional success (the new norm), they interact with friends and foes who will help them define the meaning of health quality service standards. HWWS_SBA.3: TFD with CHENEKO and CAST and their SAG… TBD OR One Drop activities from the Mali context.

	▪ To be respected by community members ▪ To be trained ▪ To be promoted on the job after serving for a particular period ▪ To have adequate working equipment ▪ Safe environment free from possible infections. <u>Known common barriers</u> ▪ Busy schedule especially during emergency situation. ▪ Negligence especially low risk perception about the possibility of acquiring infections. ▪ Use of alternatives cleansing and disinfection and gloves. <u>What SBA know, feel, and practice</u> ▪ Peace of mind when working in safe environment ▪ Know that handwashing with soap prevents diseases. <u>Gender influencers</u> ▪ Both male and female SBAs participate equally in facility delivery roles as they work in shifts. <u>Stage of Change</u> Action: SBAs believe they have the ability to act and are actively involved in taking actual steps.	*Water* ▪ Not difficult (D) **Social norms** *Who approves?* ▪ Patient attendants/support staff (D)	are to be respected as a policy. ▪ Increase SBA's capacity to remember the five critical times. ▪ Increase the perception that patient attendants (support staff) approve.	HWWS_SBA.4: drawing and painting (using the "connecting the dots" game principals for representing the 'five times') – one artist(s) sketches drawings in absence of the SBA. They are then instructed what to connect the dots so that the drawing comes to life. Drawings representing the 'five times' will be permanently visible within the HF. HWWS_SBA.5: photography (exposition) on the themes of 'empathy', 'resilience', 'hard work' – SWET facilitates photography as a medium amongst HF staff (not SBA) and guardians to capture 'beautiful' moments happening before-during-after when protocol is applied. <u>Tentative Messages</u> ▪ SBAs! Know that your support staff including patient attendants approve of you washing hands with soap. <u>Emotional landmarks</u> ▪ Personal satisfaction for offering quality services. ▪ Personal satisfaction to be recognised for good and quality work. ▪ Pride that others recognise their role within their work places. ▪ Feel motivated for being recognised.
- % of SBAs who report having washed their hands with soap at the five critical times in the labour and postnatal wards every day.	<u>Output/activity (process) indicators:</u> - # of times SMSs and video clips sent to SBAs. - % SBAs recalling messages delivered through SMS. - # of facilities decorated with art work addressing HWWS by SBA.			

Annex 4: Exclusive Breastfeeding (EBF) DBC framework

Behaviour statement	Priority Group and Influencing Groups	Determinants (barriers + enablers)	Bridges to activities (action)	SABC Activities + Messages + Emotions
Mothers of infants 0–6 months feed them only breast milk.	<u>Priority group</u> Mothers of infants 0–6 months <u>Influencing groups</u> Husbands approve. <u>Demographics</u> ▪ Live in rural and semi-urban areas ▪ Lowly educated i.e. mostly primary school level ▪ Average of 70% literate i.e. ability read and write ▪ Speak district-based local languages. ▪ Majority are self-employed and work in agricultural field i.e. subsistence farming. ▪ Pray in church and mosques. <u>Daily Routine</u> ▪ Take much time breastfeeding infants ▪ Spend their time doing domestic chores e.g. cooking, washing, and cleaning. ▪ Attending women group gathering e.g. village bank, ginnery meetings ▪ Working in the farms and gardens <u>Common desire</u> ▪ To be loved and provided for by their husbands e.g. adequate food and clothing. ▪ To be perceived as responsible wives ▪ To raise health children at all times. ▪ To maintain cleanliness.	**Self-efficacy/skills** *What makes difficult?* ▪ Baby crying of hunger (ND 3.5x) ▪ Nothing makes difficult (D 2.2x) ▪ Not enough breastmilk (ND 1.8x) *What makes easier?* ▪ I am used to it; I have skills and knowledge (D 1.8x). ▪ Mother eating/drinking well (quantity and quality food) (ND 1.8x) ▪ Being reminded/advised (husband, PSA, health workers) (D 1.4x) **Social norms** *Who approves?* ▪ Husband (D) **Access – psychosocial support**	▪ Increase the perception that mothers have enough breastmilk. ▪ Increase the perception that it is easier when being supported and reminded. ▪ Improve mothers' skills and confidence. ▪ Increase the perception that husbands approve of EBF. ▪ Increase the perception that it is the most efficient way to prevent from malnutrition. ▪ Decrease the perception that it makes the baby cry more. ▪ Increase the perception that	<u>Suggested activities</u> EBF.1: "illustrated budget": connecting the dots" – replicate the pattern and method used for activity HWWS_U5.3 making parallels between the dots (finance) and the final art work (infant's health) illustrating that without dots (finance) the full happy picture of the family (health of the infant) is at risk (jeopardised). Suggested parallels: monthly budget for quantity with pattern/colour X; monthly budget for quality with pattern Y. EBF.2: "molding health" – father and mother duos will artistically reproduce their perception of what a healthy infant looks like in the form of a baby being fed breastmilk statue, first by using raw-sandy clay, and then using refined-soft clay. The contrast of the two representing the efficacy of EBF. EBF.2.a: "breastmilk fed baby statue" – the Twice Alive team to sculpt or mold a real size (or giant) representation of a healthy breastmilk fed for duos to decorate (paint) using 'health color codes' (validated by MoH) to be displayed at HF within each district. EBF.3: "holding my baby" – visual art used to teach EBF technics (holding the baby, putting on breast, etc.). EBF mothers are asked to sketch and draw

	▪ To be loved by friends and neighbours Known common barriers ▪ Busy with multiple task ▪ Lack support from their relations and husbands. ▪ Are advised to introduce other foods early. ▪ Belief that colostrum should not be fed to infants. ▪ Belief that mother is sick can transfer illness to the child. What mothers know, feel, and practice ▪ Peace of mind when child is growing healthy. ▪ Feel loved when their husbands provide them for their needs. ▪ Feel confident to breastfeed when they are eating well. Gender influencers ▪ Traditionally, mothers are the ones tasked with the responsibility of taking care of children in the household than fathers (husbands) ▪ Husbands are by tradition, providers or support their families with all their needs. ▪ Husbands are by tradition decision makers regarding family matters in the household Stage of Change Contemplation: mothers are more aware of the pros of changing but are also acutely aware of the cons.	▪ Very difficult (ND 3.2x) **Action efficacy** ▪ Very likely (ND 2.5x) **Negative consequences** ▪ No disadvantages (D 2.3x) ▪ Makes baby cry a lot (ND) **Susceptibility/risk** ▪ Not likely (D 1.5x) **Cues for action/reminders** ▪ Not difficult (D)	malnutrition is a risk.	their 'technical skills' themselves with the facilitator (Zaluso). EBF.3.a: revamp all EBF thematic visual representations throughout health facilities within the three districts. EBF.4: healthy EBF dialogues – EBF mothers share entertaining stories from real life experiences adopting a community dialogue approach inclusive of traditional methods and positive deviance testimonies (e.g. problem identification and analysis for a preferred future for all). **Tentative messages** ▪ Mothers! Know that your husbands approve of EBF. ▪ Parents! Remember that EBF is the most efficient way to prevent malnutrition among infants. ▪ Parents! Remember that malnutrition is a health risk in infancy. ▪ Mothers! Know that you have enough breast milk to EBF your infant all the time. **Emotional landmarks** ▪ Personal satisfaction for acquiring skills and confidence to EBF. ▪ The feeling of being appreciated by their husbands.
Outcome (project) indicators (health, WASH, nutrition, etc.): ▪ % of mothers of infants 0-5 months who report only having fed their breast milk in the last 24 hours prior to the survey.		Output/activity (process) indicators: To be determined.		

Annex 5: Giving ORS to child with diarrhoea DBC

Behaviour statement	Priority Group and Influencing Groups	Determinants (barriers + enablers)	Bridges to activities (action)	SABC Activities + Messages + Emotions
Mothers/care givers of children 6-59 months whose child has diarrhoea give the child oral rehydration solution (ORS).	<u>Priority group members</u> Mothers/care givers of children 6-59 months <u>Demographics</u> ▪ Live in rural and semi-urban areas ▪ Lowly educated i.e. mostly primary school level ▪ Average of 70% literate i.e. ability read and write ▪ Speak district-based local languages ▪ Majority are self-employed and work in agricultural field, i.e. subsistence farming. ▪ Pray in church and mosques <u>Daily Routine</u> ▪ Busy with domestic chores such as cooking, fetching water and fuel wood ▪ Seasonally work in their gardens and go to markets. ▪ Going to under-five clinics with their U5 children when it is due. <u>Common desire</u> ▪ To raise health families especially their children ▪ Desire to be loved and provided for by their husbands. ▪ To be perceived as responsible wives (respected). <u>Known common barriers</u> ▪ Health facilities and shops do not have ORS. ▪ Health facilities are far. ▪ Mothers do not have money to buy ORS	**Self-efficacy/skills** *What makes difficult?* ▪ When/if child is sick, vomits (refuses intake) (D 4.3x) *What makes easier?* ▪ Getting advice and ORS from health worker (at the hospital-proximity) (D 2.9x) ▪ Having the tools, equipment for making it (spoons, pot, cup) (D 2.6x). **Positive consequences (benefits)** ▪ Stops diarrhoea; helps recover (D 3.4x)	▪ Improve mother's skills administrating ORS to a sick child. ▪ Increase the perception that ORS helps the child's recovery. ▪ Reinforce the perception that mothers' have the minimum tools at home (ORS preparation home kit). ▪ Increase the perception that health workers provide mothers with good advices and ORS.	<u>Suggested activities</u> ORS-1: public product demonstrations – using a mix of health worker comedy/roles play professionals, demonstrations are scripted allowing members of the audiences (mothers of U5 first) to test and try-out options about how to make, administrate, and where to find best ORS possible during the performance. While attending a performance, they become more aware of their ability to use ORS and administrate it to a sick child. <u>Tentative Messages</u> ▪ Mothers! ORS preparation requires little skills. Consult your medical personnel from the nearest health facility for advice. ▪ Mothers! Know that you have the tools that are required to prepare and administer ORS every time your child has diarrhoea. <u>Emotional landmarks</u> ▪ Trust in the health system because their advice and the product they provide (ORS) are always the best.

	▪ Mothers don't know how to prepare ORS. <u>What mothers know, feel, and practice</u> ▪ Feel accepted if others help them with childcare. ▪ Worried when the child is sick. ▪ Feel proud if commended by others that they are raising a healthy family. <u>Gender influencers</u> ▪ Mothers are key to child's health seeking responsibilities than fathers (husbands) do. ▪ Husbands as heads of households take a leading role in providing resources for the family more than mothers i.e. including buying ORS to treat diarrhoea. ▪ Husbands are by power relation in the family decision makers regarding family matters in the household that include health seeking. <u>Stage of Change</u> Action: mothers have recently changed their behaviour (defined as within the last 6 months) and intend to keep moving forward with that behaviour change.			
<u>Outcome (project) indicators (health, WASH, nutrition, etc.):</u> ▪ % of mothers of U5 who report using ORS to treat diarrhoea in the last one month prior to the survey.		<u>Output/activity (process) indicators:</u> To be determined.		

Annex 6: Handwashing at the five critical times (mothers/caregivers-U5) BA Questionnaire

GROUP: ❑ DOER ❑ NON-DOER

Barrier Analysis Questionnaire
Handwashing at the five critical times – mothers/caregivers of U5

Behaviour Statement
Mothers/care givers of children 0-59 months wash their hands with soap at the five critical times each day

Demographic Data
Interviewer's Name: _____ Questionnaire No.: _____
Date: ____/____/____ Community: _____

Scripted introduction.

Mulibwanji, dzina langa ndine _____; ndipo ndine m'modzi wa gulu lomwe likulimbikitsa ukhondo wa pa thupi. Tikhala tikukambirana za nkhani ya ukhondo kwa mphindi 20 ndipo ndikufuna ndimve manganizo anu pa nkhani imeneyi. Simukukakamizidwa kutenga nawo mbali pankhaniyi komanso palibe chimene mutaluze ngati mwasakha kutero. Simulandira mphatso kapena kanthu kalikonse ngati mwasakha kutenga mbali pankhaniyi. Zonse zimene tikambirane pano zikhala zachisisi ndipo palibe wina aliyense amene adziwe kupatula inu ndi ine. Kodi mwasakha kutenganawo mbali kupereka manganizo anu pa nkhaniyi? [Ngati akana, anthokozeni Kamba ka nthawi yawo.
Hi, my name is_____; and I am part of a study team looking into hygiene practices. The study includes a discussion of this issue and will take about 20 minutes. I would like to hear your views on this topic. You are not obliged to participate in the study and no services will be withheld if you decide not to. Likewise should you decide to talk with me, you will not receive any gifts or services or be remunerated in any way. Everything we discuss will be held in strict confidence and will not be shared with anyone else. Would you like to participate in the study? [If not, thank them for their time.]

Section A. Screening Questions

1. Kodi mwana wanu omaliza ali ndi zaka zingati? How old is your youngest child? _____ months ← [*write the age in months*]
   ❑A. 59 months or younger
   ❑B. 60 months or older → [*End interview and look for another respondent*]
   ❑C. Don't know/won't say→ [*End interview and look for another respondent*]

2. Kodi dzulo, munasamba m'manja? Yesterday, did you wash your hands?
   ❑A. Yes
   ❑B. No → [*Mark as **Non-Doer** and go straight to Section B*]
   ❑C. Don't remember → [*End interview and look for another respondent*]

3. Ndikukupephani inu kuti muganize za dzulo ndipo mundiuze, kodi munasamba m'manja kangati dzulo? I would like you to think about yesterday and tell me how many times you washed your hands. _____ [*this is just to help with memory*]

4. Kodi dzulo, munasamba m'manja mwanu mu zochitika zanji? Yesterday, at what times/moments during the day did you wash your hands? [**DO NOT READ THE LIST!** Mark all that are mentioned.]
   ❑A. After defecation

❑B. Before eating
❑C. Before giving food to children/feeding the baby
❑D. Before preparing food
❑E. After attending to a child who has defecated/handling nappies
❑F. Don't know/won't say→ [*End interview and look for another respondent*]

5. Pambali pa madzi, munagwiritsa ntchito china chake posamba m'manja dzulo? Yesterday, in addition to water, did you use anything else to wash your hands?
❑A. Yes
❑B. No → [*Mark as **Non-Doer** and continue to Section B*]
❑C. Don't know/won't say→ [*End interview and look for another respondent*]

6. Ngati yankho ndi loti EYA, munagwiritsa ntchito chani? If yes, what did you use?
❑A. Soap/ash
❑B. Anything else → [*Mark as **Non-Doer** and continue to Section B*]
❑C. Don't know/won't say→ [*End interview and look for another respondent*]

7. Ndingathe kuwona nawo sopo imene munagwiritsa ntchito? May I see the soap/ash that you used?
❑A. Soap/ash is available and looks used
❑B. Soap/ash is available but does not look used → *Mark as **Non-Doer** and move to Section B.*
❑C. No soap/ash available→ *Mark as **Non-Doer** and continue to Section B.*

DOER/NON-DOER CLASSIFICATION TABLE

DOER all of the following	**NON-DOER** with any one of the following:	**DO NOT INTERVIEW** with any one of the following
Question 1 = A		Question 1 = B or C
Question 2 = A	Question 2 = B	Question 2 = C
Question 4 = A, **plus any two** between B, C, D, E.	Question 4 = No A, or A and **only one** other response between B, C, D, E.	Question 4 = F
Question 5 = A	Question 5 = B	Question 5 = C
Question 6 = A	Question 6 = B	Question 6 = C
Question 7 = A	Question 7 = B or C	

Group: ❑ Doer ❑ Non-Doer

Behaviour Explanation: in the following questions I am going to be talking about the hygiene practice of handwashing at the five critical times each day. Those five times are: 1) before preparing food/cooking, 2) before eating, 3) before feeding the baby/children, 4) after defecation, 5) after tending to a child's faeces (changing nappies). Please try keeping this in mind during our discussion.

Section B – Research Questions

DOERS	NON-DOERS
(Perceived Self-efficacy) **1a.** ***Doers***: Kodi chomwe chimakuthandizirani kuti kusamba m'manja ndi sopo pa nthawi zonse zofunikira zisanu kukhale kosavuta ndi chani? What makes it **easy** for you to wash your hands with soap/ash at the five critical times each day? ***(Write all responses below. Probe with "What else?")***	*(Perceived Self-efficacy)* **1b.** ***Non-Doers***: Kodi chomwe chikanakuthandizirani kuti kusamba m'manja ndi sopo pa nthawi zonse zofunikira zisanu kukhale kosavuta ndi chani? What would make it **easy** for you to wash your hands with soap/ash at the five critical times each day? ***(Write all responses below. Probe with "What else?")***
(Perceived Self-efficacy) **2a.** ***Doers***: Ndi zovutabe ziti zomwe zimakulepheretsani kusamba m'manja ndi sopo pa nthawi zisanu zofunikira? What makes it **difficult** for you to wash your hands with soap/ash at the five critical times each day? ***(Write all responses below. Probe with "What else?")***	*(Perceived Self-efficacy)* **2b.** ***Non-Doers***: Kodi chikanakulepheretsani kuti musambe m'manja ndi sopo pa nthawi zonse zisanu zofunikira ndi chiyani?.What would make it **difficult** for you to wash your hands with soap/ash at the five critical times each day? ***(Write all responses below. Probe with "What else?")***
(Perceived Positive Consequences) **3a.** ***Doers*:** Kodi pali ubwino wanji wosamba m'manja ndi sopo pa nthawi zonse zisanu zofunikira tsiku lili lonse?What are the **advantages** of washing your hands with soap/ash at the five critical times each day? ***(Write all responses below. Probe with "What else?")***	*(Perceived Positive Consequences)* **3b.** ***Non-Doers*:** Kodi pangakhale ubwino wanji wosamba m'manja ndi sopo pa nthawi zonse zisanu zofunikira tsiku lili lonse?What would be the **advantages** of washing your hands with soap/ash at the five critical times each day? ***(Write all responses below. Probe with "What else?")***
(Perceived Negative Consequences) **4a. Doers:** Kodi kusamba m'manja ndi sopo pa nthawi zonse zisanu zofunikira tsiku lili lonse kumabweretsa zipsinjo zanji? What are the **disadvantages** of washing your hands with soap/ash at the five critical times each day? ***(Write all responses below. Probe with "What else?")***	*(Perceived Negative Consequences)* **4b. Non-Doers:** Kodi kusamba m'manja ndi sopo pa nthawi zonse zisanu zofunikira tsiku lili lonse kungabweretse zipsinjo zanji? What would be the **disadvantages** of washing your hands with soap/ash at the five critical times each day? ***(Write all responses below. Probe with "What else?")***
(Perceived Social Norms) **5a.** ***Doers*:** Kodi mwa anthu omwe mumadziwa amagwirizana nazo zosamba m'manja ndi sopo pa nthawi zisanu zonse zofunikira tsiku lili lonse? Do most of the people that you know **approve** of you washing your hands with soap/ash at the five critical times each day? Yes, possibly, or no? ❑ a. Yes ❑ b. Possibly ❑ c. No	*(Perceived Social Norms)* **5b.** ***Non-Doers***: Kodi anthu amene mumadziwa akanagwirizana nazo zosamba m'manja ndi sopo pa nthawi zisanu zonse zofunikira tsiku lili lonse? Would most of the people that you know **approve** of you washing your hands with soap/ash at the five critical times each day? Yes, possibly, or no? ❑ a. Yes ❑ b. Possibly ❑ c. No

❑ d. Don't know/won't say	❑ d. Don't know/won't say
(Perceived Social Norms) **6a.** ***Doers*****:** Kodi ndindani amene amagwirizana nazo zosamba m'manja ndi sopo pa nthawi zisanu zonse zofunikira tsiku liri lonse?Who are the people that **approve** of you washing your hands with soap/ash at the five critical times each day? ***(Write all responses below. Probe with "Who else?")***	*(Perceived Social Norms)* **6b.** ***Non-Doers*****:** kodi ndindani amene akanagwirizana nazo zosamba m'manja ndi sopo pa nthawi zisanu zonse zofunikira tsiku liri lonse?Who are the people that would **approve** of you washing your hands with soap/ash at the five critical times each day? ***(Write all responses below. Probe with "Who else?")***
(Perceived Social Norms) **7a. Doer:** Kodi ndindani amene samagwirizana nazo zosamba m'manja ndi sopo pa nthawi zisanu zonse zofunikira tsiku liri lonse Who are the people that **disapprove** of you washing your hands with soap/ash at the five critical times each day? ***(Write all responses below. Probe with "Who else?")***	*(Perceived Social Norms)* **7b. Non-Doer:** kodi ndindani amene sakanagwirizana nazo zosamba m'manja ndi sopo pa nthawi zisanu zonse zofunikira tsiku liri lonse Who are the people that **would disapprove** of you washing your hands with soap/ash at the five critical times each day? ***(Write all responses below. Probe with "Who else?")***
(Perceived Access – soap/ash) **8a.** ***Doers*****:** Kodi nkovuta bwanji kuti mupeze sopo osambira m'manja pa nthawi zisanu zonse zofunikira tsiku liri lonse? Munganene kuti ndikovuta kwambiri, kovuta pang`ono kapena ndikosavuta mkomwe How difficult is it to get the soap/ash you need to wash your hands at the five critical times each day? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all	*(Perceived Access – soap/ash)* **8b.** ***Non-Doers*****:** Kodi kukanakhala kovuta bwanji kuti mupeze sopo osambira m'manja pa nthawi zisanu zonse zofunikira tsiku liri lonse? Munganene kuti ndikovuta kwambiri, kovuta pang`ono kapena ndikosavuta mkomwe How difficult would it be to get the soap/ash needed to wash your hands at the five critical times each day? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all
(Perceived Access – water) **9a.** ***Doers*****:** Kodi nkovuta bwanji kuti mupeze sopo osambira m'manja pa nthawi zisanu zonse zofunikira tsiku liri lonse? Munganene kuti ndikovuta kwambiri, kovuta pang`ono kapena ndikosavuta mkomwe How difficult is it to get the water you need to wash your hands at the five critical times each day? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all	*(Perceived Access – water)* **9b.** ***Non-Doers*****:** Kodi kukanakhala kovuta bwanji kuti mupeze sopo osambira m'manja pa nthawi zisanu zonse zofunikira tsiku liri lonse? Munganene kuti ndikovuta kwambiri, kovuta pang`ono kapena ndikosavuta mkomwe How difficult would it be to get the water you need to wash your hands at the five critical times each day? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all

(Perceived Cues for Action/Reminders) **10a.** ***Doers*****:** Kodi ndikovuta bwanji kukumbukira kusamba m'manja mwanu ndi sopo pa nthwai zisanu zonse zofunikira tsiku lili lonse? Munganene kuti ndikovuta kwambiri, kovuta pang`ono kapena ndikosavuta mkomwe How difficult is it to remember to wash your hands with soap/ash at the five critical times each day? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all	*(Perceived Cues for Action/Reminders)* **10b.** ***Non-Doers*****:** Kodi kukanakhala kovuta bwanji kukumbukira kusamba m'manja mwanu ndi sopo pa nthwai zisanu zonse zofunikira tsiku lili lonse? Munganene kuti ndikovuta kwambiri, kovuta pang`ono kapena ndikosavuta mkomwe How difficult it would be to remember to wash your hands with soap/ash at the five critical times each day? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all
(Perceived Susceptibility/Risk) **11.** ***Doers and Non-Doers*****:** Kodi ndikwapafupi bwanji kuti ana kapena aliyense m'banja mwanu angathe kudwala kwambiri? Ndikwapafupi kwambiri, kwapafupi pang`ono, kapena sikwapafupi mkomwe How likely is it that your child will get diarrhea in the next three months? *Very likely, somewhat likely, or not likely at all* ❑ a. Very likely ❑ b. Somewhat likely ❑ c. Not likely at all	
(Perceived Severity) **12.** ***Doers and Non-Doers*****:** Lingakhale vuto lalikulu bwanji ngati ana kapena ena mwa anthu m'banja lanu atadwala kwambiri? Ndikwapafupi kwambiri, kwapafupi pang`ono, kapena sikwapafupi mkomwe How serious of a problem would it be if your child would get diarrhea in the next three months? *Very bad, somewhat bad, or not bad at all* ❑ a. Very serious ❑ b. Somewhat serious ❑ c. Not serious at all	
(Action Efficacy) **13.** ***Doers and Non-Doers*****:** Kodi nkwapafupi bwanji kuti ana kapena aliyense m'banja mwanu atha kudwala kwambiri? Ndikwapafupi kwambiri, kwapafupi pang`ono, kapena sikwapafupi mkomwe how likely is it that your child would get diarrhoea if you wash your hands with soap/ash at the five critical times each day? *Very likely, somewhat likely, or not likely at all* ❑ a. Very likely ❑ b. Somewhat likely ❑ c. Not likely at all	
(Perceived Divine Will) **14.** ***Doers and Non-doers:*** Kodi mukuganiza kuti mulungu amapangitsa ana anu kudwala matenda otsegula m'mimba? Do you think that God causes children to get ill with diarrhoea? ❑ a. Yes ❑ b. Maybe ❑ c. No	
(Culture) **15.** ***Doers and Non-Doers*****:** Kodi pali miyambo kapena zikhulupiriro zomwe zimaletsa kusamba m'manja ndi sopo pa nthawi zisanu zonse zofunikira tsiku liri lonse Are there any cultural rules or taboos that you know of against washing your hands with soap/ash at the five critical times each day? ❑ a. Yes ❑ b. Maybe ❑ c. No	

[*THANK THE RESPONDENT FOR HIS OR HER TIME!*]

Annex 7: Usage of a latrine BA Questionnaire

❑ **DOER** ❑ **NON-DOER**

BARRIER ANALYSIS QUESTIONNAIRE
Usage of a latrine at all times when defecating

Behaviour Statement
Mothers/care givers of children 0–59 months of age defecate in a latrine at all times

Demographic Data
Interviewer's Name: _____ Questionnaire No.: _____
Date: ____/____/____ Community: _____

Scripted Introduction

Hi, my name is_____; and I am part of a study team looking into sanitation and hygiene habits. The study includes a discussion of this issue and will take about 20 minutes. I would like to hear your views on this topic. You are not obliged to participate in the study and no services will be withheld if you decide not to. If you decide to talk with me you will not receive any remuneration, gifts or services. Everything we discuss will be held in strict confidence and will not be shared with anyone else. Would you like to participate in the study? [If not, thank them for their time.]

Section A – Screening Questions

1. Kodi mwana wanu omaliza ali ndi zaka zingati? How old is your youngest child? _____<-- (write the age in months)
   ❑A. 59 months or younger
   ❑B. 60 months or older→ *End interview and look for another interviewee.*
   ❑C. Don't know/won't say → *End interview and look for another interviewee.*

2. Kodi m'masiku anayi apitawa, mwapitako kangati ku chimbudzi? In the last 4 days, how many times did you defecate?
   ❑A. 2 or more times
   ❑B. 1 or fewer times→ *End interview and look for another interviewee.*
   ❑C. Do not remember/no response → *End interview and look for another interviewee.*

3. Ganizirani masiku anayi apitawa, kodi munapita malo ati ndi ati kukanyera? Thinking back over the last 4 days, where are the places that you defecated?
   ❑A. My own latrine/neighbour's latrine/community latrine/any latrine
   ❑B. Bush → [*if **BUSH** is also the only response, mark as **Non-Doer** and go straight to Section B*]
   ❑C. Do not remember/no response → *End interview and look for another interviewee.*

4. Ganizirani masiku anayi apitawa, kodi mwanyera m'chimbudzi chanu kangati? Thinking back over the last 4 days, how many times did you defecate in a latrine?
   ❑A. 2 or more times
   ❑B. 1 or fewer times [*Mark as **Non-Doer** and go straight to Section B*]
   ❑C. Do not remember/no response → *End interview and look for another interviewee*

DOER/NON-DOER CLASSIFICATION TABLE

DOER (all of the following)	**NON-DOER** (any of the following)	**DO NOT INTERVIEW** (and of the following)
Question 1 = A		Question 1 = B or C
Question 2 = A		Question 2 = B or C
Question 3 = A	Question 3 = B	Question 3 = C
Question 4 = A	Question 4 = B	Question 4 = C

Group: ❑ Doer ❑ Non-Doer

Behaviour explanation

In the following questions I am going to be talking about the sanitation and hygiene practice of using a latrine when defecating. Please try keeping this in mind during our discussion.

Section B – Research Questions

DOERS	**NON-DOERS**
(Perceived Self-efficacy) **1a.** ***Doers***: Kodi chomwe chimapangitsa kuti kunyera m'chimbudzi nthawi zonse kukhale kosavuta ndi chani? What makes it **easier** for you to use a latrine every time you need to defecate? ***(Write all responses below. Probe with "What else?")***	*(Perceived Self-efficacy)* **1b.** **Non-Doers**: Kodi chomwe chingapangitse kuti kunyera m'chimbudzi nthawi zonse kukhale kosavuta ndi chani? What would make it **easier** for you to use a latrine every time you need to defecate? ***(Write all responses below. Probe with "What else?")***
(Perceived Self-efficacy) **2a.** ***Doers***: Ndi zovutabe ziti zomwe zimakulepheretsani kugwiritsa ntchito chimbudzi nthawi zonse mukafuna kunyera? What makes it **difficult** for you to use a latrine every time you need to defecate? ***(Write all responses below. Probe with "What else?")***	*(Perceived Self-efficacy)* **2b.** ***Non-Doers***: Ndi zovutabe ziti zomwe zingakulepheretseni kugwiritsa ntchito chimbudzi nthawi zonse mukafuna kunyera? What would make it **difficult** for you to use a latrine every time you need to defecate? ***(Write all responses below. Probe with "What else?")***
(Perceived Positive Consequences) **3a.** ***Doers*:** Kodi pali ubwino wanji pamene mukugwiritsa ntchito chimbudzi nthawi zonse mukafuna kunyera? What are the **advantages** of using a latrine every time you need to defecate? ***(Write all responses below. Probe with "What else?")***	*(Perceived Positive Consequences)* **3b.** ***Non-Doers*:** Kodi pangakhale ubwino wanji pamene mukugwiritsa ntchito chimbudzi nthawi zonse mukafuna kunyera?What would be the **advantages** of using a latrine every time you need to defecate? ***(Write all responses below. Probe with "What else?")***
(Perceived Negative Consequences) **4a.** ***Doers*:** Kodi kumwetsa kugwiritsa ntchito chimbudzi nthawi zonse mukafuna kunyera kumabweretsa zipsinjo zanji? What are the **disadvantages** of using a latrine every time you need to defecate? ***(Write all responses below. Probe with "What else?")***	*(Perceived Negative Consequences)* **4b.** ***Non-Doers*:** Kodi kumwetsa kugwiritsa ntchito chimbudzi nthawi zonse mukafuna kunyera kungabweretse zipsinjo zanji What would be the **disadvantages** of using a latrine every time you need to defecate? ***(Write all responses below. Probe with "What else?")***

(*Perceived Social Norms*) **5a.** ***Doers*****:** Kodi ndi anthu ambiri omwe mumawadziwa amene amagwirizana nazo zogwiritsa ntchito chimbudzi mukafuna kunyera nthawi zonse? Do most of the people that you know **approve** of you using a latrine every time you need to defecate? ❑ a. Yes ❑ b. Possibly ❑ c. No ❑ d. Don't know/won't say	(*Perceived Social Norms*) **5b.** ***Non-Doers***: Kodi ndi anthu ambiri omwe mumawadziwa amene angagwirizane nazo zogwiritsa ntchito chimbudzi mukafuna kunyera nthawi zonse? Would most of the people that you know **approve** of you using a latrine every time you need to defecate? ❑ a. Yes ❑ b. Possibly ❑ c. No ❑ d. Don't know/won't say
(*Perceived Social Norms*) **6a.** ***Doers*****:** Kodi ndi anthu ati amene amagwirizana nazo zogwiritsa ntchito chimbudzi mukafuna kunyera nthawi zonse? Who are the people that **approve** of you using a latrine every time you need to defecate? ***(Write all responses below. Probe with "Who else?")***	(*Perceived Social Norms*) **6b.** ***Non-Doers*****:** Kodi ndi anthu ati amene akanagwirizana nazo zogwiritsa ntchito chimbudzi mukafuna kunyera nthawi zonse? Who are the people that **would approve** of you using a latrine every time you need to defecate? ***(Write all responses below. Probe with "Who else?")***
(*Perceived Social Norms*) **7a.** ***Doers*****:** Kodi ndi anthu ati amene samagwirizana nazo zogwiritsa ntchito chimbudzi mukafuna kunyera nthawi zonse? Who are the people that **disapprove** of you using a latrine every time you need to defecate? ***(Write all responses below. Probe with "Who else?")***	(*Perceived Social Norms*) **7b.** ***Non-Doers*****:** Kodi ndi anthu ati amene sakanagwirizana nazo zogwiritsa ntchito chimbudzi mukafuna kunyera nthawi zonse? Who are the people that **would disapprove** of you using a latrine every time you need to defecate? ***(Write all responses below. Probe with "Who else?")***
(Perceived Access) **8a.** ***Doers*****:** Kodi nkovuta bwanji kupeza chimbudzi nthawi zonse mukafuna kunyera? How difficult is it to access a latrine each time you need to defecate? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all	*(Perceived Access)* **8b.** ***Non-Doers*****:** Kodi kukanakhala kovuta bwanji kupeza chimbudzi nthawi zonse mukafuna kunyera? How difficult would it be to access a latrine each time you need to defecate? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all
(Perceived Cues for Action/Reminders) **9a.** ***Doers*****:** Kodi nkovuta bwanji kukumbukira kugwiritsa ntchito chimbudzi nthawi zonse mukafuna kunyera? How difficult is it to remember to use a latrine every time you need to defecate? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all	*(Perceived Cues for Action/Reminders)* **9b.** ***Non-Doers*****:** Kodi kukanakhala kovuta bwanji kukumbukira kugwiritsa ntchito chimbudzi nthawi zonse mukafuna kunyera? How difficult do you think it would be to remember to use a latrine every time you need to defecate? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all
(Perceived Susceptibility/Risk) **10.** ***Doers and Non-Doers*****:** Kodi ndikwapafupi bwanji kuti mwana wanu angathe kudwala matenda okutsekula m'mimba mu miyezi itatu yikubwerayi? How likely is it that your child will get diarrheal diseases within the next three months? *Very likely, somewhat likely, or not likely at all* ❑ a. Very likely	

❑ b. Somewhat likely
❑ c. Not likely at all

(Perceived Severity)

11. ***Doers and Non-Doers*****:** Lingakhale vuto lalikulu bwanji ngati wanu angatenge matenda otsekula m'mimba?How serious of a problem would it be if your child would get diarrheal diseases? *Very serious, somewhat serious, or not serious at all*

❑ a. Very bad
❑ b. Somewhat bad
❑ c. Not bad at all

(Action Efficacy)

12. ***Doers and Non-Doers*****:** Kodi ndikwapafupi bwanji kuti mwana atha kudwalamatenda otsekula m'mimba ngati inuyo mukugwiritsa ntchito chimbudzi nthawi zonse mukafuna kunyera? how likely is it that your child would get diarrheal diseases if you use a latrine every time you need to defecate? *Very likely, somewhat likely, or not likely at all*

❑ a. Very likely
❑ b. Somewhat likely
❑ c. Not likely at all

(Perceived Divine Will)

13. ***Doers and Non-doers:*** Kodi mukuganiza kuti mulungu amapangitsa ana anu kudwala matenda otsegula m'mimba?Do you think that God causes children to get ill with diarrheal diseases?

❑ a. Yes
❑ b. Maybe
❑ c. No

(Culture)

14. ***Doers and Non-doers*****:** Kodi pali malamulo ena aliwonse okhazikika amene amapangitsa kuti anthu asamagwiritse zimbudzi nthawi zonse akafuna kunyera? Are there any **cultural rules** or **taboos** that you know of against using a latrine every time you need to defecate?

❑ a. Yes
❑ b. Maybe
❑ c. No

THANK THE RESPONDENT FOR HER TIME!

Annex 8: Handwashing at the five critical times (SBA) BA Questionnaire

❑ **DOER** ❑ **NON-DOER**

BARRIER ANALYSIS QUESTIONNAIRE
Handwashing at the five critical times among Skilled Birth Attendants (SBA)

Behaviour Statement
Skilled birth attendants wash their hands with soap at the five critical times when attending labour and delivery at the health facility

Demographic Data
Interviewer's Name: _____ Questionnaire No.: _____
Date: ____/____/____ Community: _____ Nurse-midwife/medical assistant/CO/CMA

Scripted introduction

Hi, my name is_____; and I am part of a study team looking into what skilled birth attendant do to prevent infections when assisting delivering mothers at the health facility. The study includes a discussion of this issue and will take about 20 minutes. I would like to hear your views on this topic. You are not obliged to participate in the study and no services will be withheld if you decide not to. Likewise, should you decide to talk with me, you will not receive any gifts or services or be remunerated in any way. Everything we discuss will be held in strict confidence and will not be shared with anyone else. Would you like to participate in the study? [If not, thank them for their time.]

Section A. Screening Questions

1. What is your profession?
   ❑A. Nurse-midwife/medical assistant/clinical officer (CO)/community midwife assistant
   ❑B. Other profession → [*End interview and look for another respondent*]
   ❑C. Don't know/won't say → [*End interview and look for another respondent*]

Now, I would like you to remember the last time you attended a mother who was in labour and helped deliver her new born (*give the SBA a few seconds to think for memory purposes*).

2. During that time, did you do anything to prevent the spread of infection?
   ❑A. Yes
   ❑B. No → [*Mark as **Non-Doer** and go straight to Section B*]
   ❑C. Don't know/won't say → [*End interview and look for another respondent*]

3. If yes, what did you do?
   ❑A. Washed my hands
   ❑B. Anything other than washing hands → [*Mark as **Non-Doer** and go straight to Section B*]
   ❑C. Don't know/won't say → [*End interview and look for another respondent*]

4. At what times/moments when helping the delivering mother did you wash your hands? [***DO NOT READ THE LIST!*** *Mark all that are mentioned*]
   ❑A. Before vaginal examination during the active phase of first stage (3 to 10 cm dilatation) of labour (labour ward)
   ❑B. Before conducting a delivery (labour ward)
   ❑C. Before examining a new-born (labour ward or postnatal ward)
   ❑D. After conducting a delivery (labour ward)
   ❑E. After examining a new-born (labour ward or postnatal ward)

❑F. Don't know/won't say→ [*End interview and look for another respondent*]

5. In addition to <u>water</u>, did you use anything else to wash your hands?
   ❑A. Yes
   ❑B. No → [*Mark as **Non-Doer** and <u>continue to Section B</u>*]
   ❑C. Don't know/won't say→ [*End interview and look for another respondent*]

6. If yes, what did you use?
   ❑A. Soap
   ❑B. Anything else → [*Mark as **Non-Doer** and <u>continue to Section B</u>*]
   ❑C. Don't know/won't say→ [*End interview and look for another respondent*]

7. May I see where you washed your hands?
   ❑A. Soap is available and looks used
   ❑B. Soap is available but does not look used → [*Mark as **Non-Doer** and <u>continue to Section B</u>*]
   ❑C. No soap available→ [*Mark as **Non-Doer** and <u>continue to Section B</u>*]

DOER/NON-DOER CLASSIFICATION TABLE

DOER ALL of the following	**NON-DOER** with ANY ONE of the following:	**DO NOT INTERVIEW** with ANY ONE of the following
Question 1 = A		Question 1 = B or C
Question 2 = A	Question 2 = B	Question 2 = C
Question 3 = A	Question 3 = B	Question 3 = C
Question 4 = **A and B;** or **A and B** <u>plus any one</u> between C, D, E.	Question 4 = **A or B alone** or with anyone between C, D, E; or only <u>anyone</u> between C, D, E.	Question 4 = F
Question 5 = A	Question 5 = B	Question 5 = C
Question 6 = A	Question 6 = B	Question 6 = C
Question 7 = A	Question 7 = B or C	

Group: ❑ Doer ❑ Non-Doer

Behaviour Explanation: in the following questions I am going to be talking about the hygiene practice of handwashing at the five critical times for an SBA when attending a woman in labour at the health facility. Those five times are: 1) before vaginal examination during the active phase of first stage of labour, 2) before conducting a delivery (labour ward), 3) before examining a new-born (labour ward or postnatal ward), 4) after conducting a delivery (labour ward), 5) after examining a new-born (labour ward or postnatal ward). Please try keeping this in mind during our discussion.

Section B – Research Questions

DOERS	**NON-DOERS**
(Perceived Self-efficacy) **1a.** ***Doers***: What makes it **easier** for you to wash your hands with soap at the five critical times when attending labour and delivery at the health facility? ***(Write all responses below. Probe with "What else?")***	*(Perceived Self-efficacy)* **1b.** ***Non-Doers***: What would make it **easier** for you to wash your hands with soap at the five critical times when attending labour and delivery at the health facility? ***(Write all responses below. Probe with "What else?")***

(Perceived Self-efficacy) **2a.** ***Doers***: What makes it **difficult** for you to wash your hands with soap at the five critical times when attending labour and delivery at the health facility? ***(Write all responses below. Probe with "What else?")***	*(Perceived Self-efficacy)* **2b.** ***Non-Doers***: What would make it **difficult** for you to wash your hands with soap at the five critical times when attending labour and delivery at the health facility? ***(Write all responses below. Probe with "What else?")***
(Perceived Positive Consequences) **3a.** ***Doers*:** What are the **advantages** of washing your hands with soap at the five critical times when attending labour and delivery at the health facility? ***(Write all responses below. Probe with "What else?")***	*(Perceived Positive Consequences)* **3b.** ***Non-Doers*:** What would be the **advantages** of washing your hands with soap at the five critical times when attending labour and delivery at the health facility? ***(Write all responses below. Probe with "What else?")***
(Perceived Negative Consequences) **4a.** ***Doers*:** What are the **disadvantages** of washing your hands with soap at the five critical times when attending labour and delivery at the health facility? ***(Write all responses below. Probe with "What else?")***	*(Perceived Negative Consequences)* **4b.** ***Non-Doers*:** What would be the **disadvantages** of washing your hands with soap at the five critical times when attending labour and delivery at the health facility? ***(Write all responses below. Probe with "What else?")***
(Perceived Social Norms) **5a.** ***Doers*:** Who are the people that **approve** of you washing your hands with soap at the five critical times when attending labour and delivery at the health facility? ***(Write all responses below. Probe with "Who else?")***	*(Perceived Social Norms)* **5b.** ***Non-Doers*:** Who are the people that would **approve** of you washing your hands with soap at the five critical times when attending labour and delivery at the health facility? ***(Write all responses below. Probe with "Who else?")***
(Perceived Social Norms) **6a.** ***Doers*:** Who are the people that **disapprove** of washing your hands with soap at the five critical times when attending labour and delivery at the health facility? ***(Write all responses below. Probe with "Who else?")***	*(Perceived Social Norms)* **6b.** ***Non-Doers*:** Who are the people that **would disapprove** of washing your hands with soap at the five critical times when attending labour and delivery at the health facility? ***(Write all responses below. Probe with "Who else?")***
(Perceived Access - soap) **7a.** ***Doers*:** How difficult is it to get the soap you need to wash your hands with soap at the five critical times when attending labour and delivery at the health facility? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all	*(Perceived Access- soap)* **7b.** ***Non-Doers*:** How difficult would it be to get the soap you need to wash your hands with soap at the five critical times when attending labour and delivery at the health facility? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all

(Perceived Access - water) **8a.** ***Doers*:** How difficult is it to get the <u>water you need</u> to wash your hands with soap at the five critical times when attending labour and delivery at the health facility? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all	*(Perceived Access - water)* **8b.** ***Non-Doers*:** How difficult would it be to get the <u>water you need</u> to wash your hands with soap at the five critical times when attending labour and delivery at the health facility? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all
(Perceived Cues for Action) **9a.** ***Doers*:** How difficult is it to **remember** to wash your hands with soap at the five critical times when attending labour and delivery at the health facility? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all	*(Perceived Cues for Action)* **9b.** ***Non-Doers*:** How difficult it would be to **remember** to wash your hands with soap at the five critical times when attending labour and delivery at the health facility? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all
(Perceived Susceptibility/Risk – delivering mother) **10.** ***Doers and Non-Doers*:** How likely is it that mothers will contract an infection during labour and delivery? *Very likely, somewhat likely, or not likely at all* ❑ a. Very likely ❑ b. Somewhat likely ❑ c. Not likely at all	
(Perceived Severity – delivering mother) **11.** ***Doers and Non-Doers*:** How serious of a problem would it be if mothers would contract an infection during labour and delivery? *Very serious, somewhat serious, or not serious at all* ❑ a. Very serious ❑ b. Somewhat serious ❑ c. Not serious at all	
(Action Efficacy – delivering mother) **12.** ***Doers and Non-Doers*:** how likely is it that mothers would contract an infection during labour and delivery if you washed your hands with soap at the five critical times when attending labour and delivery at the health facility? *Very likely, somewhat likely, or not likely at all* ❑ a. Very likely ❑ b. Somewhat likely ❑ c. Not likely at all	
(Perceived Susceptibility/Risk – new-born) **13.** ***Doers and Non-Doers*:** How likely is it that new-borns will contract an infection during delivery? *Very likely, somewhat likely, or not likely at all* ❑ a. Very likely ❑ b. Somewhat likely ❑ c. Not likely at all	
(Perceived Severity – new-born) **14.** ***Doers and Non-Doers*:** How serious of a problem would it be if new-borns would contract an infection during delivery? *Very serious, somewhat serious, or not serious at all* ❑ a. Very serious ❑ b. Somewhat serious ❑ c. Not serious at all	
(Action Efficacy – new-born) **15.** ***Doers and Non-Doers*:** how likely is it that new-borns would contract an infection during delivery if you washed your hands with soap at the five critical times when attending labour and delivery at the health facility? *Very likely, somewhat likely, or not likely at all* ❑ a. Very likely ❑ b. Somewhat likely ❑ c. Not likely at all	

(Perceived Divine Will – delivering mother)

16. ***Doers and Non-doers:*** Do you think that God causes delivering mothers to contract infections as a result of delivering at the health facility?

- ❑ a. Yes
- ❑ b. Maybe
- ❑ c. No

(Perceived Divine Will – new born)

17. ***Doers and Non-doers:*** Do you think that God causes new-borns to contract infections as a result being delivered at the health facility?

- ❑ a. Yes
- ❑ b. Maybe
- ❑ c. No

(*Policy*)

18. ***Doers and Non-Doers***: Are there any **policies** or **laws** that makes it more likely that you wash your hands with soap at the five critical times when attending labour and delivery at the health facility?

- ❑ a. Yes
- ❑ b. Maybe
- ❑ c. No

(Culture)

19. ***Doers and Non-Doers*****:** Are there any **cultural rules or taboos** against washing your hands with soap at the five critical times when attending labour and delivery at the health facility?

- ❑ a. Yes
- ❑ b. Maybe
- ❑ c. No

[*THANK THE RESPONDENT FOR HIS OR HER TIME!*]

Annex 9: Exclusive Breastfeeding BA Questionnaire

❑ Doer ❑ Non-Doer

Barrier Analysis Questionnaire
Exclusive breastfeeding

Behaviour Statement
Mothers of infants 0–6 months feed them only breast milk

Demographic data
Interviewer's Name: _____ Questionnaire No.: _____
Date: ____/____/____Community: _____
Scripted Introduction

Mulibwanji, dzina langa ndine _____; ndipo ndine m'modzi mwa gulu omwe tikupanga kafukufuku mdera lanu lino. Tikhala tikukambirana za nkhani ya kuyamwitsa mwana wakhanda bere lokhalokha pamene asanakwanise miyezi isanu ndi umodzi, kwa mphindi 20. Choncho ndikufuna ndimve manganizo anu pa nkhani imeneyi. Simukukakamizidwa kutenga nawo mbali pankhaniyi komanso palibe chimene mutaluze ngati mwasakha kutero. Simulandira mphatso kapena kanthu kalikonse ngati mwasakha kutenga mbali pankhaniyi. Zonse zimene tikambirane pano zikhala zachisisi ndipo palibe wina aliyense amene adziwe kupatula inu ndi ine. Kodi mwasakha kutenganawo mbali kupereka manganizo anu pa nkhaniyi? [Ngati akana, anthokozeni Kamba ka nthawi yawo.
Hi, my name is_____; and I am part of a study team looking into infant feeding practices. The study includes a discussion of this issue and will take about 20 minutes. I would like to hear your views on this topic. You are not obliged to participate in the study and no services will be withheld if you decide not to. Likewise, should you decide to talk with me, you will not receive any gifts or services or be remunerated in any way. Everything we discuss will be held in strict confidence and will not be shared with anyone else. Would you like to participate in the study? [If not, thank them for their time.]

Section A. Screening questions

1. Kodi mwana wanu omaliza ali ndi zaka zingati? How old is your youngest child? _____ (write the age in months)
   ❑A. 7-10 months (200 – 300 days)
   ❑B. 0-6 months → [*End the interview and look for another respondent*]
   ❑C. 11 months or older → [*End the interview and look for another respondent*]
   ❑D. Don't know/won't say → [*End the interview and look for another respondent*]

2. Kodi munayamba mwamuyamwitsapo mwanayu? Have you ever breast fed this child?
   ❑A. Yes
   ❑B. No → [*End the interview and look for another respondent*]
   ❑C. Do not remember/no response → [*End the interview and look for another respondent*]

Panopa ndikufuna kuti mukumbukire m'mbuyomu nthawi yomwe mwanayu anali khanda kapena atangobadwa kumene. Now, I would like you to remember back when your baby was very young – even when s/he was a new-born.

3. Tandiuzeni!!! Kodi mwanayu anayamba kulandira zakudya za madzi-madzi pambali pa mkaka ali ndi miyezi ingati? (mwachitsanzo, madzi, juwisi, mkaka wa ng'ombe/mbuzi) Please tell me how old the baby was when you first gave him/her any liquids other than breast milk (e.g. water, juice, cow/goat milk, etc.)
   ❑A. 5 months or older

❑B. 0-4 months → [*mark as **Non-Doer** – go straight to Section B*]
❑C. Do not remember/no response → [*End the interview and look for another respondent*]

4. Tandiuzeni!!! Kodi mwanayu anayamba kulandira zakudya zolimbirako pang'ono ali ndi miyezi ingati? (mwachitsanzo, phala) Please tell me how old the baby was when you first gave him/her semi solid foods (e.g. like soup, porridge, etc.)
   ❑ A. 5 months or older
   ❑ B. 0-4 months → [*mark as **Non-Doer** – go straight to Section B*]
   ❑ C. Do not remember/no response → [*End the interview and look for another respondent*]

DOER/NON-DOER CLASSIFICATION TABLE

The respondent is a "DOER" with ALL of the following	**The respondent is a "NON-DOER"** with any one of the following	**DO NOT INTERVIEW!!!** with any one of the following
Question 1 = A		Question 1 = B or C or D
Question 2 = A		Question 2 = B or C
Question 3 = A	Question 3 = B	Question 3 = C
Question 4 = A	Question 4 = B	Question 4 = C

Group: ❑ Doer ❑ Non-Doer

Behaviour Explanation: in the following questions I am going to be talking about feeding your infant with only breast milk during the first six months of his/her life. This is what is called *Exclusive breast feeding* (EBF). Please try keeping this in mind during our discussion.

Section B. Research Questions

(Perceived Self-efficacy)

1a. ***Doers***: Kodi chomwe chimakupangitsani kuyamwitsa mwana wanu mkaka wa m'mawere okha kwa miyezi 6 yakubadwa kukhala kosavuta ndi chani What makes it **easy** for you to feed your infant only breast milk during the first 6 months?

1b. ***Non-Doers***: Kodi ndi chani chomwe chingapangitse kuyamwitsa mwana wanu mkaka wa m'mawere okha kwa miyezi six yakubadwa kukhala kosavuta? What would make it **easier** for you feed your infant only breast milk during the first 6 months?

(Write all responses below. Probe with "What else?")

(Perceived Self-efficacy)

2a. ***Doers***: Ndi zinthu ziti zomwe zimakulepheretsani kuyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? What makes it **difficult** for you to feed your infant only breast milk during the first 6 months?

2b. ***Non-Doers***: Ndi zinthu ziti zomwe zingakulepheretseni kuyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? What would make it **difficult** for you to feed your infant only breast milk during the first 6 months?

(Write all responses below. Probe with "What else?")

(Perceived Positive Consequences)

3a. ***Doers:*** Kodi pali ubwino wanji woyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? What are the **advantages** of feeding your infant only breast milk during the first 6 months?

3b. ***Non-Doers*****:** Kodi pangakhale ubwino wanji ngati mutayamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? What would be the **advantages** of feeding your infant only breast milk during the first 6 months?

(Write all responses below. Probe with "What else?")

(Perceived Negative Consequences)

4a. ***Doers*****:** Kodi pali kuyipa kwanji koyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? What are the **disadvantages** of feeding your infant only breast milk during the first 6 months?

4b. ***Non-Doers*****:** Kodi pangakhale kuyipa kwanji koyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? What would be the **disadvantages** of feeding your infant only breast milk during the first 6 months?

(Write all responses below. Probe with "What else?")

(Perceived Social Norms)

5a. ***Doers*****:** Kodi anthu ambiri amene mumadziwa amagwirizana nazo zoyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? EYA kapena AYI. Do most of the people that you know **approve** of you feeding your infant only breast milk during the first 6 months? *Yes, possibly, no*

5b. ***Non-Doers***: Kodi anthu ambiri amene mumadziwa angagwirizane nazo zoyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? EYA kapena AYI Would most of the people that you know **approve** of you feeding your infant only breast milk during the first 6 months? *Yes, possibly, no*

- ❑ a. Yes
- ❑ b. Possibly
- ❑ c. No
- ❑ d. Don't know/won't say

(Perceived Social Norms)

6a. ***Doesr*****:** Kodi ndindani amene amagwirizana nazo zoyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? Who are the people that **approve** of you feeding your infant only breast milk during the first 6 months?

6b. ***Non-Doers*****:** Kodi ndindani amene angagwirizane nazo zoyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? Who are the people that **would approve** of you feeding your infant only breast milk during the first 6 months?

(Write all responses below. Probe with "Who else?")

(Perceived Social Norms)

7a. ***Doers*****:** Kodi ndi anthu ati amene samagwirizana nazo zoyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? Who are the people that **disapprove** of you feeding your infant only breast milk during the first 6 months?

7b. ***Non-Doers*****:** Kodi ndi anthu ati amene sangagwirizane nazo zoyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? Who are the people that **would disapprove** of you feeding your infant only breast milk during the first 6 months?

(Write all responses below. Probe with "Who else?")

(Perceived Access)

8a. ***Doers*****:** Kodi nkovuta bwanji kuti mupeze thandizo lokhudza kuyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? How difficult is it to get the **support (help)** you need to feed your infant only breast milk during the first 6 months? *Very difficult, somewhat difficult, or not difficult at all*

8b. ***Non-Doers*****:** Kodi kungakhale kovuta bwanji kupeza thandizo lokhudza kuyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? How difficult would it be to get the **support (help)** you need to feed your infant only breast milk during the first 6 months? *Very difficult, somewhat difficult, or not difficult at all*

- ❑ a. Very difficult
- ❑ b. Somewhat difficult
- ❑ c. Not difficult at all

(Perceived Cues for Action/Reminders)

9a. ***Doers*****:** Kodi ndikovuta bwanji kukumbukira kuyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? How difficult is it to **remember** to feed your infant only breast milk during the first 6 months? *Very difficult, somewhat difficult, or not difficult at all*

9b. ***Non-Doers*****:** Kodi kungakhale kovuta bwanji kukumbukira kuyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? How difficult would it be to **remember** to feed your infant only breast milk during the first 6 months? *Very difficult, somewhat difficult, or not difficult at all*

- ❑ a. Very difficult
- ❑ b. Somewhat difficult
- ❑ c. Not difficult at all

(Perceived Susceptibility/Risk)

10. ***Doers and Non-Doers*****:** Kodi ndikwapafupi bwanji kwa mwana wanu kudwala matenda osowa chakudya m'thupi? Ndikwapafupi kwambiri, kwapafupi pang`ono, kapena sikwapafupi mkomwe How likely is it that your infant will suffer from malnutrition? *Very likely, somewhat likely, or not likely at all*

- ❑ a. Very likely
- ❑ b. Somewhat likely
- ❑ c. Not likely at all

(Perceived Severity)

11. ***Doers and Non-Doers*****:** Lingakhale vuto lalikulu bwanji kutapezeka kuti mwana wanu wadwala matenda osowa chakudya m'thupi? How bad of a problem would it be if your infant suffers from malnutrition? *Very bad, somewhat bad, or not bad at all*

- ❑ a. Very bad
- ❑ b. Somewhat bad
- ❑ c. Not bad at all

(Action Efficacy)

12. ***Doers and Non-Doers*****:** Kodi ndikwapafupi bwanji kwa mwana wanu kudwala matenda osowa chakudya m'thupi pa nthawi yomwe mukumuyamwitsa mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa? How likely is it that your infant will suffer from malnutrition if you feed him/her only breast milk during the first 6 months? *Very likely, somewhat likely, or not likely at all*

- ❑ a. Very likely
- ❑ b. Somewhat likely
- ❑ c. Not likely at all

(Perceived of Divine Will)

13. ***Doers and Non-doers***: Kodi mukuganiza kuti mulungu amapangitsa ana anu kudwala matenda osowa chakudya m'thupi? EYA, MWINA, AYI Do you think that God causes **malnutrition**? *Yes, maybe, no*

- ❑ a. Yes
- ❑ b. Maybe
- ❑ c. No

(Culture)

14. ***Doers and Non-doers*****:** Kodi pali miyambo kapena zikhulupiriro zomwe zimaletsa kuyamwitsa mwana wanu mkaka wa m'mawere okha-okha kwa miyezi six yakubadwa Are there any **cultural rules** or **taboos** against feeding your infant only breast milk during the first 6 months?

- ❑ a. Yes
- ❑ b. Maybe
- ❑ c. No

THANK THE RESPONDENT FOR HER TIME!

Annex 10: Giving ORS to child with diarrhoea BA Questionnaire

❑ Doer ❑ Non-Doer

Barrier Analysis Questionnaire
ORS Administration for use among Mothers of Children 6-59 months

Behaviour Statement
Mothers/care givers of children 6-59 months whose child has diarrhoea give the child oral rehydration solution (ORS).

Demographic Data
Interviewer's Name: _____ Questionnaire No.: _____
Date: ____/____/____ Community: _____

Scripted Introduction:
Hi, my name is_____; and I am part of a study team looking into what mothers do when their children have diarrhea. The study includes a discussion of this issue and will take about 20 minutes. I would like to hear your views on this topic. You are not obliged to participate in the study and no services will be withheld if you decide not to. Likewise, if you chose to be interviewed you will not be compensated or receive any gifts or special services. Everything we discuss will be held in strict confidence and will not be shared with anyone else. Would you like to participate in the study? [If not, thank them for their time.]

Section A - Doer/Non-doer Screening Questions

1. Kodi muli ndi ana a pakati pa miyezi 6 ndi zaka zisanu? Do you have any children between the ages of 6 months and five years?
   ❑ a. Yes
   ❑ b. No → *End interview and look for another mother*
   ❑ c. Don't Know/won't say → *End interview and look for another mother*

2. Mu miyezi iwiri yapita'yi, kodi pali wina mwa ana anu a pakati pa miyezi 6 ndi zaka zisanu amene anadwalapo matenda otsegula m'mimba? In the past 2 months has any child in your family between the ages of 6 months and five years had diarrhea?
   ❑ a. Yes
   ❑ b. No → *End interview and look for another mother*
   ❑ c. Don't Know/won't say → *End interview and look for another mother*

3. Pa nthawi imene mwana wanu anatsekula m'mimba, kodi munamupatsako chakumwa chili chonse chothandizira kuti apeze bwino? When this child had diarrhea did you give him anything to drink to help the child get better?
   ❑ a. Yes
   ❑ b. No → *Mark as Non-doer and proceed to section B*
   ❑ c. Don't Know/won't say → *End interview and look for another mother*

4. Munamupatsa chiyani? What did you give?
   ❑ a. ORS
   ❑ b. anything other than ORS → *Mark as Non-doer and proceed to section B*
   ❑ c. Don't Know/won't say → *End interview and look for another mother*

DOER /NON-DOER CLASSIFICATION TABLE

DOER (all of the following)	**Non-Doer** (any ONE of the following)	**Do Not Interview** (any ONE of the following)
Question 1 = A		Question 1 = B or C
Question 2 = A		Question 2 = B or C
Question 3 = A	Question 3 = B	Question 3 = C
Question 4= A	Question 4 = B	Question 4 = C

❑ Doer ❑ Non-doer

Behaviour Explanation – In the following questions I am going to be talking about Oral Rehydration Solution (ORS). ORS is a solution made with this packet (*show the mother the ORS packet*) and water. When I talk about making ORS, I am referring to this.

Section B – Research Questions

DOERS	**NON-DOERS**
(Perceived Self-efficacy) **1a.** ***Doers***: Kodi chomwe chimakuthandizirani kuti kumumwetsa Thanzi/ORS mwana wanu amene watsekula m'mimba kukhale kosavuta ndi chani? What makes it ***easier*** for you to give ORS to a child with diarrhea? ***(Write all responses below. Probe with "What else?")***	*(Perceived Self-efficacy)* **1b.** ***Non-doers***: Kodi chomwe chikanakuthandizirani kuti kumumwetsa mwana wanu amene watsekula m'mimba kukhale kosavuta ndi chani?What would make it ***easier*** for you to giving ORS to a child with diarrhea? ***(Write all responses below. Probe with "What else?")***
(Perceived Self-efficacy) **2a.** ***Doers***: Ndi zovutabe ziti zomwe zimakulepheretsani kumumwetsa Thanzi/ORS mwana wanu amene watsekula m'mimba? What makes it ***difficult*** for you to give ORS to a child with diarrhea? ***(Write all responses below. Probe with "What else?")***	*(Perceived Self-efficacy)* **2b.** ***Non-doers***: Kodi chikanakulepheretsani kumumwetsa Thanzi/ORS mwana wanu amene watsekula m'mimba ndi chiyani? What would make it ***difficult*** for you to give ORS to a child with diarrhea? ***(Write all responses below. Probe with "What else?")***
(Perceived Positive Consequences) **3a.** ***Doers:*** Kodi pali ubwino wanji womumwetsa mwana wanu amene watsekula m'mimba Thanzi/ORS? What are the ***advantages*** of giving ORS to a child with diarrhea? ***(Write all responses below. Probe with "What else?")***	*(Perceived Positive Consequences)* **3b.** ***Non-doers:*** Kodi pangakhale ubwino wanji womumwetsa mwana wanu amene watsekula m'mimba Thanzi/ORS? What would be the ***advantages*** of giving ORS to a child with diarrhea? ***(Write all responses below. Probe with "What else?")***
(Perceived Negative Consequences) **4a.** ***Doers:*** Kodi kumwetsa mwana wanu amene watsekula m'mimba Thanzi/ORS kumabweretsa zipsinjo zanji? What are the ***disadvantages*** of giving ORS to a child with diarrhea? ***(Write all responses below. Probe with "What else?")***	*(Perceived Negative Consequences)* **4b.** ***Non-doers:*** Kodi kumwetsa mwana wanu amene watsekula m'mimba Thanzi/ORS kungaabweretse zipsinjo zanji? What would be the ***disadvantages*** of giving ORS to a child with diarrhea? ***(Write all responses below. Probe with "What else?")***

(Perceived Social Norms) **5a.** ***Doers:*** Kodi mwa anthu omwe mumadziwa, ndi ati amene amagwirizana nazo zoti mudzimwetsa mwana wanu Thanzi/ORS akamatsekula m'mimba? Who are the people that ***approve*** of you giving ORS to a child with diarrhea? ***(Write all responses below. Probe with "Who else?")***	*(Perceived Social Norms)* **5b.** ***Non-doers:*** Kodi mwa anthu omwe mumadziwa, ndi ati amene angagwirizane nazo zoti mudzimwetsa mwana wanu Thanzi/ORS akamatsekula m'mimba? Who are the people that ***would approve*** of you giving ORS to a child with diarrhea? ***(Write all responses below. Probe with "Who else?")***
(Perceived Social Norms) **6a.** ***Doers:*** Kodi mwa anthu omwe mumadziwa, ndi ati amene samagwirizana nazo zoti mudzimwetsa mwana wanu Thanzi/ORS akamatsekula m'mimba? Who are the people that ***disapprove*** of you giving ORS to a child with diarrhea? ***(Write all responses below. Probe with "Who else?")***	*(Perceived Social Norms)* **6b.** ***Non-doers:*** Kodi mwa anthu omwe mumadziwa, ndi ati amene akanatha kusagwirizana nazo zoti mudzimwetsa mwana wanu Thanzi/ORS akamatsekula m'mimba?Who are the people that ***would disapprove*** of you giving ORS to a child with diarrhea? ***(Write all responses below. Probe with "Who else?")***
(Perceived Access) **7a.** ***Doers:*** Kodi nkovuta bwanji kuti mupeze ma paketi a ORS? How difficult is it to get the ORS packets? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all	*(Perceived Access)* **7b.** ***Non-doers:*** Kodi kukanakhala kovuta bwanji kuti mupeze ma paketi a ORS? How difficult would it be to get the ORS packets? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all
(Perceived Cues for Action / Reminders) **8a.** ***Doers:*** Kodi nkovuta bwanji kukumbukira kukonza Thanzi/ORS pamene mwana akamatsekula m'mimba? How difficult is it to remember how to make ORS when your child has diarrhea? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all	*(Perceived Cues for Action / Reminders)* **8b.** ***Non-doers:*** Kodi kukanakhala kovuta bwanji kukumbukira kukonza Thanzi/ORS pamene mwana akamatsekula m'mimba? How difficult would it be to remember how to make ORS when your child has diarrhea? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all
(Perceived Cues for Action / Reminders) **9a.** ***Doers:*** Kodi nkovuta bwanji kukumbukira kumupatsa mwana wanu Thanzi/ORS akamatsekula m'mimba? How difficult is it to remember to give ORS to your child each time he passes a watery stool? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all.	*(Perceived Cues for Action / Reminders)* **9b.** ***Non-doers:*** Kodi kungakhale kovuta bwanji kukumbukira kumupatsa mwana wanu Thanzi/ORS akamatsekula m'mimba? How difficult do you think it would be to remember to give ORS to your child each time he passes a watery stool? *Very difficult, somewhat difficult, or not difficult at all* ❑ a. Very difficult ❑ b. Somewhat difficult ❑ c. Not difficult at all.
(Perceived Susceptibility/Risk) **10.** ***Doers and Non-doers:*** Kodi ndikwapafupi bwanji kuti mwana wanu amene akutsekula m'mimba adwale kwambiri? How likely is it that your child with diarrhea will get seriously ill? *Very likely, somewhat likely or not likely at all* ❑ a. Very likely ❑ b. Somewhat likely ❑ c. Not likely at all	

(Perceived Severity)

11. ***Doers and Non-doers*****:** Lingakhale vuto lalikulu bwanji ngati wanu amene akutsekula m'mimba atadwala kwambiri? How serious of a problem would it be if your child with diarrhea got seriously ill? *Very serious, somewhat serious, or not serious at all*

- ❑ a. Very serious
- ❑ b. Somewhat serious
- ❑ c. Not serious at all

(Action Efficacy)

12. ***Doers and Non-doers*****:** Kodi ndikwapafupi bwanji kuti mwana atha kudwala kwambiri mukamamumwetsa Thanzi/ORS pamene akamatsekula m'mimba? How likely is it that your child with diarrhea would get seriously ill if you gave him/her ORS? *Very likely, somewhat likely or not likely at all*

- ❑ a. Very likely
- ❑ b. Somewhat likely
- ❑ c. Not likely at all

(Perception of Divine Will)

13. ***Doers and Non-doers:*** Kodi mukuganiza kuti mulungu amapangitsa ana anu kudwala matenda otsegula m'mimba? Do you think that God causes children to get diarrhea?

- ❑ a. Yes
- ❑ b. Maybe
- ❑ c. No

(Policy)

14. ***Doers and Non-doers*****:** Kodi pali malamulo ena aliwonse okhazikika amene amapangitsa kuti kumwetsa mwana wanu Thanzi/ORS kukhale kosavuta? Are there any policies in place that made it easier for you to give ORS to your child with diarrhea?

- ❑ a. Yes
- ❑ b. Maybe
- ❑ c. No

(Culture)

15. ***Doers and Non-doers*****:** Kodi pali miyambo kapena zikhulupiriro zina zomwe mumadziwapo kuti zimaletsa kumwetsa mwana wanu Thanzi/ORS akamatsekula m'mimba? Are there any cultural rules or taboos that you know of against giving ORS to your child with diarrhea?

- ❑ a. Yes
- ❑ b. Maybe
- ❑ c. No

THANK THE RESPONDENT FOR HER TIME!