

Behaviour Change for Water, Sanitation and Hygiene

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POLICY BRIEF

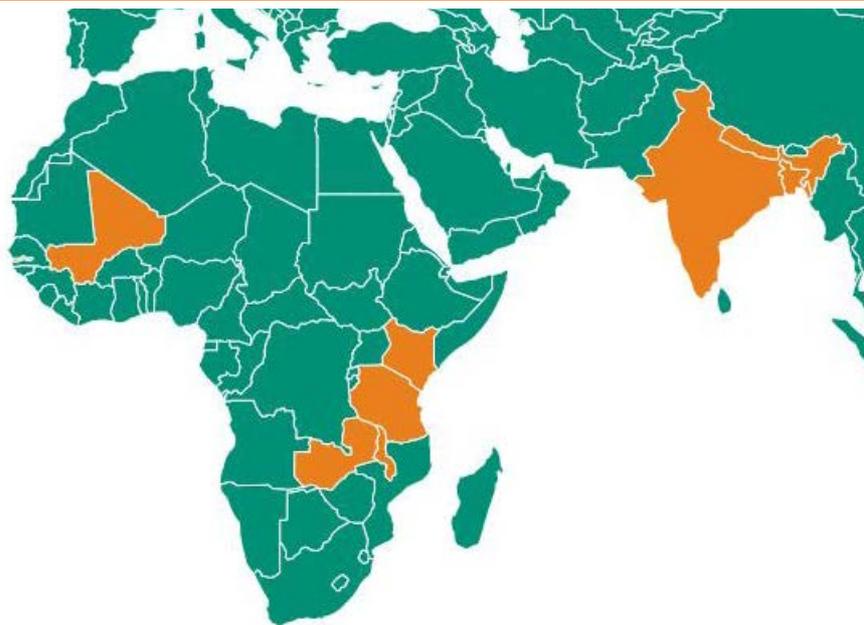


Figure 1. Countries where SHARE has funded behaviour change projects (orange)

Background

In the water, sanitation and hygiene (WASH) sector, it has become evident that providing access to services is not enough to change behaviour. Handwashing with soap (HWWS) is one of the most cost-effective interventions to end preventable child deaths (Cairncross and Valdmanis, 2006) and can reduce the risk of enteric and respiratory infections (Ejemot et al., 2008, Rabie and Curtis, 2006). However, a systematic review found that this behaviour is practiced by fewer than one in five people in the countries where it's most needed (Freeman et al., 2014).

Traditional approaches to health promotion have relied on educational messages, particularly around the health risks associated with germs. It is now increasingly acknowledged that educating people on health risks won't necessarily lead to sustained behaviour change (Kelly and Barker, 2016). Our understanding of the factors that influence WASH behaviours and the adoption of improved practices is still developing. Researchers and practitioners have begun to explore how a range of factors such as emotions, habits, and settings may drive behaviour. Successful WASH behaviour change interventions are often underpinned by theories or frameworks from a range of disciplinary backgrounds, including health psychology (Mosler, 2012, Michie et al., 2011), evolutionary

Key messages

- The SHARE Consortium has championed the importance of identifying novel and creative approaches to changing WASH behaviours.
- Formative research is important to ensure interventions respond to the local context.
- Interventions should be underpinned by a theoretical approach and an engaging campaign.
- Interventions must include well-designed and conducted evaluations to understand the process of what worked and why, as well as assessing behavioural and/or health outcomes.
- Funders should continue to invest in behavioural science, and policymakers should draw upon insights to inform decision-making.

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and environmental psychology (Aunger and Curtis, 2016) and behavioural economics (Datta and Mullainathan, 2014).

Since 2010, the Sanitation and Hygiene Applied Research for Equity (SHARE) Consortium has prioritised behaviour change in WASH interventions, championing the importance of identifying novel and creative approaches to changing behaviours across many countries (see Fig. 1). This policy brief documents SHARE's contribution to understanding behaviour change and associated health impacts. The structure will follow a practical five-step process for designing and evaluating interventions - Assess, Build, Create, Deliver and Evaluate - as outlined in the Behaviour Centred Design (BCD) approach (Aunger and Curtis, 2016).

Step 1: Assess

The first step, Assess, aims to understand what is already known about a target behaviour. Researchers or programme designers begin by compiling evidence about the behaviour they want to change, the target audience, the context for the intervention and its parameters.

For example, the **San-Dem** project aimed to determine how far a state-of-the-art approach to behaviour change could enhance demand for and acquisition of improved toilets in urban Zambia, independent of any hardware provision or subsidy. At the outset, a systematised literature review was conducted on the drivers of peri-urban sanitation improvement. Due to limited research in peri-urban settings, evidence from other contexts were also included. The review found that a number of motives - including comfort, status, disgust and fear - may be drivers for improving sanitation in other contexts (Tidwell, 2018). This initial step was critical for identifying research gaps and to inform the design of the formative research.

Step 2: Build

Knowledge gaps identified about the target behaviour through the Assess stage can be addressed in the Build stage. The Build stage uses formative research, which consists of field-based data collection, to help answer remaining questions and understand the contextually specific drivers of existing and/or target behaviours. Without some immersion in the study setting and with the target population, understanding the context and drivers of current behavioural patterns can be limited or even misguided. Formative research prioritises methods that engage with the target behaviour as it exists in a particular setting, rather than methods that focus solely on what people say about their behaviour. The examples that follow highlight how these initial stages are essential for the development of a well-designed intervention.

In the San-Dem project, the team undertook formative research to identify factors that prevent or enable acquisition of a toilet when demand is improved. Formative research methods used include motive mapping - presenting participants with images or text related to 15 human motives (Aunger and Curtis, 2013) and asking them to rate and/or rank them. In San-Dem, participants were



Figure 2. Motive mapping exercise as part of the San-Dem formative research

asked specifically to rank which motives would make them act to improve their sanitation facilities (see Fig. 2). For landlords, status scored highest. It emerged that landlords typically viewed their plots as a way to generate income and would prioritise building new bedrooms or apartments rather than upgrading a toilet facility. These findings were critical to identify the target population and associated motives that would underpin the intervention.

Direct observation of infant food preparation and infant feeding helped inform intervention development in two projects on WASH and infant food hygiene: **Banja la Ukhondo** (Hygienic Family) in rural Malawi, and **Safe Start** in peri-urban Kenya. In Malawi, observations revealed that within households, caregivers prepare two meals each day: maize porridge specifically for the child and family meals consisting of maize and relish. In contrast, food was prepared once a day in Kenya, with caregivers purchasing pre-prepared foods at local markets for supplemental feeding of the infant. These learnings helped to inform each intervention and tailor them to the local contexts.

In northeast Tanzania, formative research and pilot interventions were conducted in schools in advance of **Mikono Safi**, a handwashing intervention aiming to reduce helminth infections among schoolchildren. During the formative phase, four aspects were explored: organisational support, motivational and emotional messaging, environmental modification, and parental engagement. Qualitative interviews with children revealed that their perceptions of handwashing were closely associated with feelings of nurture, and lack of handwashing with feelings of disgust and fear. An extended Trial of Improved Practices (The Manoff Group, 2018) provided an opportunity to test the intervention in situ and address emergent logistical constraints before the intervention was finalised. For example, the issue of painted handprints and footprints washing off paths easily (see Fig. 3) were addressed ahead of the main intervention, and researchers were able to identify an alternative method for using environmental cues or nudges for handwashing (Dreibelbis et al., 2016).

Undertaking preliminary literature reviews and formative research is therefore essential to inform an intervention's theory of change and to refine intervention content based on what has worked in other contexts. By exploring behavioural motives, researchers were able to identify key elements that would underpin an intervention. Understanding the logistical constraints and context-specific practices are also necessary to plan for future steps in the intervention process.

Step 3: Create

The Create stage involves the design of an innovative campaign and associated materials. The BCD approach recommends that the intervention should be surprising and disruptive in order to maximise the effect on the target behaviour - otherwise, the old behaviours will simply persist. This stage is an iterative process which is often carried out by a creative team working closely with



Figure 3. Paint washing off paths in the Mikono Safi pilot intervention

researchers or programmers.

The **SuperAmma campaign**, supported by SHARE and the Wellcome Trust, was a handwashing with soap intervention implemented in rural Andhra Pradesh, India. A local creative agency used formative research findings to design a campaign based on the key motive of nature and status aspiration (Biran et al., 2014). Multiple iterations led to the development of the SuperAmma character (Fig. 4) - an extraordinary mother who exhibits ideal handwashing behaviours to ensure her children will be successful in life. The focus on visual details was an important component, ensuring all characteristics were designed to create the feeling of aspiration suitable within the local context.

The San-Dem project in Zambia used a creative workshop to bring together the research team, Lusaka government leaders and experts from local sanitation-related organisations to discuss initial ideas. This led to the development of a creative brief which was presented to a local professional creative agency. Building on the status motive associated with landlords, the ‘Bauleni Secrets’ campaign was developed. The campaign framed knowledge around what is needed to build and maintain a good toilet as a valuable secret that only landlords were privy to. High-quality, branded invitations were sent to the landlords in advance of meetings, adding to the feeling of exclusivity and high status (Tidwell, 2018).

All of SHARE’s behaviour change interventions have been designed with the target audience in mind. Ensuring the campaign has the right ‘look and feel’ may require multiple iterations with input from a diverse group from the WASH sector and beyond. This often involves a piloting process to ensure that the intervention can be delivered as intended, that key messages are understood and that elements are adapted to improve effectiveness. This process is essential to ensure that the design is underpinned by an intervention’s theory of change and has emotive appeal to enable sustained behavioural change.

Step 4: Deliver

The deliver stage refers to the implementation of the intervention. There are multiple factors that need to be considered during this phase. These include the exposure to the campaign, length of intervention, coverage, intensity, acceptability, fidelity, interferences, evaluability and sustainability (Aunger and Curtis, 2016). Interventions can be delivered through many different channels, from face-to-face contact to mass media campaigns.

The SuperAmma campaign in India, which centred on the female role model (Fig. 4), was delivered over 25 days to a number of rural villages. The implementing team followed a pattern of six working days followed by a rest day. In reality, there were some minor changes due to public holidays, religious festivals and bad weather (Biran et al., 2014). The intervention was delivered by street theatre artists, who were perceived to be better than rural sales promoters at engaging the crowd and building trust, which is particularly important in behaviour change campaigns. Intervention



Figure 4. SuperAmma character

activities included an inspirational animated film that provoked an emotive response in participants, as well as amusing live skits. Public pledging ceremonies were also used to encourage groups of women to promise to wash their hands at key times and ensure their children did too. These pledges were publicly displayed on boards in each village.

Building on SuperAmma, SHARE-funded PhD student Om Prasad Gautam carried out an intensive community-based intervention to improve behaviours around complementary food hygiene in Nepal. ‘**Safe Food, Healthy Child**’ was implemented in a rural area of the Kavre District (Gautam et al., 2015). The campaign engaged mothers in the community using a fictional ideal mother character who practiced safe hygiene. The intervention aimed to disrupt daily food preparation habits that were bound by tradition and routine, as well as social and physical settings of kitchens (see Fig. 5). Locally recruited female food hygiene motivators delivered a variety of activities over three months, including storytelling and games. Each event was designed around one of the motivational themes, including status, affiliation, disgust and nurture (Gautam et al., 2017).

Inspired by the Nepal intervention, SHARE-supported research in the Gambia sought to adapt and simplify the intervention in order to test its applicability to different contexts as well as its scalability. The team designed a complex community **Weaning Food Hygiene** intervention that aimed to improve all five food-related hygiene behaviours of mothers. The intervention was delivered over four days within a 25 day period by artists and communicators with health promotion experience, and used performing arts, competitions and environmental cues (Manjang et al., 2017). After six months, a fifth household visit took place to reinforce the behaviours ahead of the rainy season, when diarrhoea was a greater risk.

Many of SHARE’s behaviour change interventions, including in Kenya and Malawi, are delivered by community health workers or volunteers. As part of the Safe Start project in Kenya, a study is examining community health volunteers’ (CHVs) capability, motivations and opportunities to deliver behaviour change interventions in informal urban settlements. Findings from Kisumu suggest that CHVs are overburdened and receive inconsistent training (Aseyo et al., 2017). A range of personal, organisational and environmental barriers prevent CHVs from effectively engaging community members. Training CHVs in behaviour change communication methods is important to contribute towards promoting health-seeking behaviours.

As the examples above indicate, there is no one-size-fits-all approach to delivery. Achieving sustainable behaviour change is context-specific, and successful interventions may be delivered in different ways depending on the target behaviour and context. Understanding barriers and opportunities for delivering behaviour change interventions can help improve how we approach implementation.



Figure 5. Kitchen makeover in the Nepal intervention. Credit: Om Prasad Gautam

Step 5: Evaluate

Evaluating an intervention can provide insights in a number of ways. For example, it may indicate to funders whether they should continue an existing programme, it can provide researchers and implementers with new information on changing or redesigning a programme, or might inform policymakers whether they should replicate a similar programme elsewhere (Aunger and Curtis, 2016).

The initial studies SHARE supported on behaviour change measured behavioural outcomes at the household level. In peri-urban Mali, researchers used the **Hazard Analysis Critical Control Point (HACCP)** approach to develop a small-scale hygiene intervention aimed at mothers. The intervention was effective in both changing behaviour and reducing the prevalence and intensity of faecal contamination - the latter by several orders of magnitude. Another project in Bangladesh built on these principles and aimed to reduce complementary food contamination using the HACCP approach in rural Matlab. Results showed that the hygiene intervention significantly reduced food contamination, and hygiene behaviours of mothers were maintained three months after the intervention (Islam et al., 2012).

The SuperAmma evaluation measured whether the intervention had changed handwashing with soap behaviour at critical times. At baseline, this behaviour was rare in both the intervention (1%) and control (2%) groups. After 6 months, the proportion of handwashing with soap was 37% in the intervention group compared to 6% in the control group. A shortened version of the intervention was then implemented in the control group. After this, the proportion of handwashing with soap was 29% in both the intervention and control groups at 12 months follow-up (Biran et al., 2014).

In Nepal, the proportion of mothers practising all five key food hygiene behaviours at baseline was similarly very low in both intervention and control groups. Three months after the 'Safe Food, Health Child' campaign was implemented, these behaviours had increased to 43% in the intervention group, while they remained very low (2%) in the control arm (Gautam et al., 2017).

The Gambia trial investigated the effectiveness of a community-level intervention to improve food hygiene behaviours and reduce food contamination. The study had a positive effect on both behavioural and health outcomes. All behavioural outcome measures were significantly improved with exception of washing pots/utensils and placing on a clean surface. In addition, there was a significant reduction of a range of health and environmental outcomes, including diarrhoea (Manjang, 2017).

Measuring behavioural outcomes are key, as gaps between WASH-related knowledge and behaviour are prominent (Rabbi and Dey, 2013). To date, all SHARE-supported studies described above have found positive effects on behaviour change at different levels, from the household to the community. While each campaign differed, they were all underpinned by a theoretical approach and an engaging campaign to encourage the target population to change their behaviour. However, assessing the process of implementation

is also important, and process evaluations have been conducted across the SHARE studies to measure different aspects, from fidelity to coverage (Aunger and Curtis, 2016). Results from process and outcome evaluations of the **Safe Start**, **San-Dem**, **Mikono Safi** and **Banja la Ukhondo** (PACTR201703002084166) behaviour change interventions will be available in late 2018 or early 2019.

Recommendations

1

Implementers should undertake formative research which can ensure interventions respond to the local context.

Behavioural interventions can't necessarily be replicated across contexts, since many intervention and community-related factors are involved (Venkataramanan et al., 2018). Interventions must be context specific, as local routines, beliefs, customs, and the surrounding environment all significantly affect behaviour. Formative research provides insights into what motivates a particular population to carry out a specific behaviour in a certain setting. Implementers who do not fully understand the context can be unfamiliar with current practices among the target population, which could result in developing an intervention unsuitable for that setting.

2

Funders should invest in behaviour change research.

More research is needed to know what works and what doesn't work for behaviour change interventions. When behaviour change evaluations are poorly designed or conducted, it's often difficult to understand what worked and why. Funders should support researchers to use innovative designs underpinned by behavioural theories or frameworks to develop rigorous studies to understand the effectiveness of behaviour change interventions.

3

Funders should ensure behaviour change interventions are well-resourced in order to achieve the desired outcomes.

Evidence indicates that low-resourced, low-intensity campaigns may have little effect. Funders must ensure adequate financing is available to enable the intervention to be implemented as intended. In addition, resources must be available in order to determine whether an intervention leads to long-term sustainable behaviour change.

4

Policymakers should embrace insights from behavioural science.

Engaging with the evidence base can help decision makers to create better policies, programme and services. Behavioural science has been integrated into decision-making at the policy level with the establishment of 'nudge units' in countries including the United Kingdom and Peru. In the WASH sector, the use of behavioural science to inform and influence policy has increased in recent years. For example, India's Total Sanitation Campaign, first implemented in 1999, did not have a behavioural focus and resulted in little impact on behaviour (Barnard et al., 2013). The Swachh Bharat Campaign, which started in 2014, places behaviour change as central to the campaign (Patra, 2018). Considering all levels of decision-making is important to changing behaviour.

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Contributors



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