

# Tab soap: a new handwashing system grounded in behavioural science

Handwashing with soap, especially after going to the toilet, is a highly effective way to reduce the transmission of many infectious diseases. However, it is often not prioritised – particularly when households have very limited incomes – meaning that millions of people around the world do not routinely engage in this healthy behaviour.

## BEHAVIOURAL INSIGHTS AND DESIGN PRINCIPLES

Many handwashing systems have been developed to improve hygiene practices in such situations, but they have struggled to embed handwashing as a habit among target populations. To overcome this challenge, a team of researchers brought together design professionals, hygiene experts and behavioural scientists to create a new handwashing system. By grounding the project in behavioural insights and iterative design principles, they aimed to create a product that was technically viable, economically feasible and psychologically desirable, and that could be implemented at scale.

## PRODUCT DEVELOPMENT

The project team began with in-depth research into existing hygiene practices in low-income households in rural and peri-urban locations in Tanzania. Through a series of interviews and house visits, they discovered several behavioural obstacles to overcome, including a general acceptance of washing hands without soap, and a widespread belief that other uses of soap – such as washing clothes and bathing – were more important than handwashing. Many people were also unwilling to store soap in or near their toilet for fear that it might become contaminated.

Equipped with these insights, the team then designed and built several prototype handwashing systems. Detailed discussions narrowed down an initial list of more than 150 ideas to just 11 potential products. After presenting mock-ups of these products to a focus panel in Tanzania, the shortlist was whittled down further to five possible solutions. These included a personal soap dispenser and a device to slice slivers off a bar of soap.

Participating households in Tanzania were each assigned a prototype and asked to keep it for a week. Their feedback



Over 150 ideas were originally suggested during product development.

allowed the team to reject several prototypes. The soap slicer, for instance, was deemed too complicated to use and failed to prevent households from using the soap for purposes other than handwashing. The personal soap dispenser, although highly rated, was rarely used in practice.

## CREATING TAB SOAP

This process of prototype testing and refinement ultimately produced a single handwashing product for further development. This was 'tab soap': a single-use strip of paper imbued with soap which, when wet, would release enough soap for a person to wash their hands.

Tab soap had several distinct advantages over other concepts. The limited amount of soap in each tab made it difficult to use it for activities other than handwashing. The paper was biodegradable and yet durable enough to be carried around in a bag or pocket for several days, so long as it did not get wet. Crucially, tab soap was also highly rated by participating households, who generally considered it a modern, hygienic product and one they would likely buy.

## PRODUCT TESTING

The next stage saw the project team refining the design and testing it with a set of potential users. Two versions of tab soap were produced: a roll of tabs, to be fitted into a dispenser, and a 'tear-and-share' sheet, which allowed users to tear off individual tabs. Both products were cheap to produce, costing less than USD 0.01 per tab at relatively low volumes.



Two versions of the tab soap were designed: a roll and a tear-and-share sheet.

In the proof-of-concept test, households were given rolls of tabs and a dispenser, whereas shop and kiosk owners were asked to display tear-and-share sheets. After two months, the project team collected feedback from participants. Tab soap, they discovered, was considered both easy and exciting to use. One participant reported that visitors were 'amazed' to see 'paper turning into soap'.

Importantly, many households not only liked the tab soap but used it regularly throughout the two-month trial period, with each individual participant using an average of 1.48 tabs every day. Anecdotal information suggests that all family members, including children, used the tabs.

## NEXT STEPS

Aspects of the product still require further investigation. Issues with the tab dispenser, for example, suggest that it may be difficult to manufacture reliably without increasing costs. The fact that participants were not required to buy the tab soap, meanwhile, means that a working business model remains to be established.

Nevertheless, the project team successfully achieved their goal of creating a new handwashing system that could embed handwashing as a habit among low-income households. This is a significant accomplishment. The team are now developing a larger field trial with the aim of demonstrating widespread willingness to repeatedly purchase and use tab soap, and to encourage an independent business to produce and market the product.



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