# How can implementers use evidence to inform their handwashing programme design?

By Sian White

**Over the last twenty years we have seen a growing number of publications about handwashing with soap and behaviour change. It can be hard to keep up with the literature. It can also be hard to know how to apply research findings to your programmes. In this article I outline five key programme recommendations based on our current state of knowledge about handwashing.**

Wash'Em

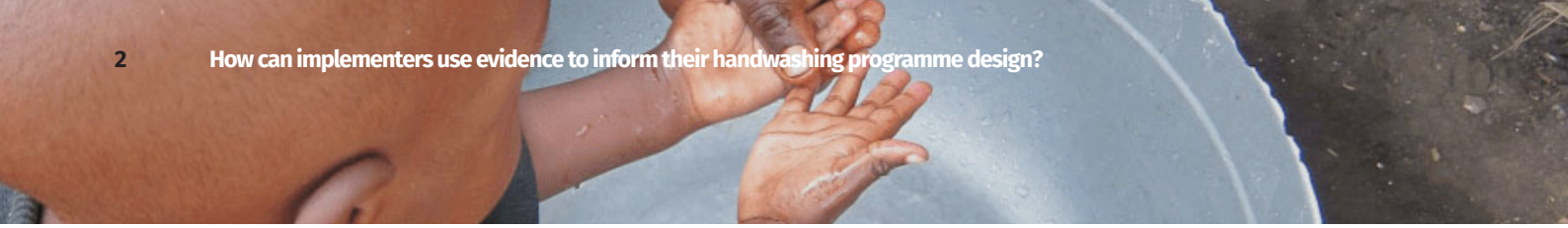
## 1 Knowledge is not the answer

Almost everyone has a basic understanding of disease transmission and can explain the benefits of handwashing in simple terms – even populations with low levels of formal education [1,2]. Unfortunately, having bio-medical knowledge does not mean that people are more likely to wash their hands with soap. Several studies have demonstrated that handwashing programmes which only focus on improving bio-medical knowledge have no effect on behaviour [3-6]. Maybe this is not so surprising. If about 90% of people already know the benefits of handwashing, then increasing this by a few percentage points is not going to create a change of public health significance. Research also suggests that bio-medical 'facts' sit alongside a range of other beliefs and competing priorities [1, 7-10]. Just think about your own behaviour. At the times when you need to wash your hands, say for example when you are about to sit down and enjoy a nice homemade dinner, you are not likely to be contemplating the transmission of faecal-oral pathogens! You will be smelling the tasty food, worrying about all the things you have to do, talking to your family, etc. All these other distractions mean that we rarely activate the health knowledge we possess at the times when it could be most useful.

## 2 Infrastructure really matters

Handwashing promotion programmes often deprioritise the most important mode of changing behaviour: improvements to handwashing infrastructure and products. Did you know that if households have access to a handwashing facility they up to 60% more likely to wash their hands with soap [6, 9, 11-16]? If soap and water are always available at that handwashing facility then people are 2-3 times more likely to wash their hands with soap than if these things were absent [13, 17-22]. When handwashing facilities are conveniently located near the kitchen or toilet [20] and desirable and attractive (e.g. the facility has bright colours, has a soap container, has a mirror) [11, 15, 23-25] this can increase handwashing rates even further. This means that if we design handwashing promotion programmes comprising of only 'soft' behaviour change techniques in areas where the basic handwashing ingredients are lacking, then we may see no effect on behaviour. We may also risk offending or disengaging local populations who might wonder why we are promoting a behaviour that is not feasible for them to practice.

Handwashing programmes should also think carefully about how physical environments can be modified to cue handwashing behaviour. Using 'behavioural nudges' is one way of doing this. For example, one study showed that if you paint footprints on the path between the toilet and the handwashing facility handwashing behaviour increases by 64% [26]. Another study paced an image of eyes above a handwashing facility, resulting in people being 10% more likely to wash hands [27]. Lastly a study in a displacement camp found that putting toys in soap made handwashing more fun for children and made them 4 times more likely to wash their hands with soap [28].



## 3 Focus on getting people to wash their hands more frequently rather than more thoroughly

You will have all have seen posters which spell out the multiple steps of 'correct and thorough handwashing with soap'. It might surprise you though that we don't have good evidence to support most of these steps. We know that the following things can be beneficial: running water that allows you to rub both hands against each other to create a good soapy lather, cleaning under your nails and under jewelry, and drying your hands [29-35]. We know that your hands do get cleaner the longer you wash them for but we do reach a point of diminishing returns (where lots of effort is required for fairly minimal additional pathogen removal) [33]. On average people wash their hands for less than 10 seconds [36-38] – this nowhere near the WHO recommended 40-60 seconds. We also know that within an hour hands typically get as dirty as they were prior to them being washed [39]. This means that if we want to make a public health difference we should focus on getting people to wash their hands more frequently even if they do it for a shorter, more realistic amount of time. Having said all this, thorough handwashing for longer durations, is much more important in healthcare settings or outbreak situations.

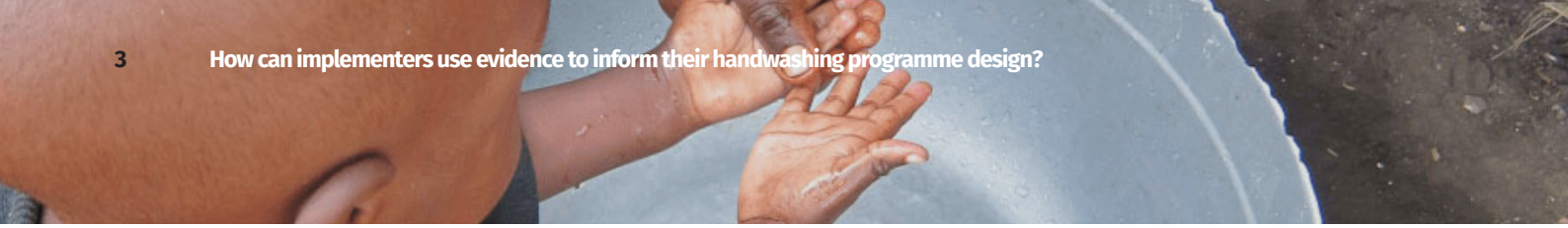
## 4 Meaningful behaviour change is not cheap, quick or easy

Handwashing promotion is often cited as one of the most cost-effective public health interventions [40, 41]. These figures tend to be misinterpreted by donors and implementers alike and this commonly results in hygiene programmes being underfunded [42]. The evidence suggests that sustained handwashing behaviour change is not normally cheap – nor is it quick to design and implement [43, 44]. Achieving sufficient 'dose' seems to be a critical factor which can make or break a handwashing promotion programme [45-47]. The easiest way to conceptualize 'dose' is to think about an analogy of a vaccine. Some vaccines are effective after only one dose but for many vaccines a person needs more than one injection in order for the vaccine to work. Similarly, most behaviour change programmes need to interact with target populations on multiple occasions, over an extended period of time, in order to be effective [48, 49]. Handwashing programmes also seem to be successful when they target multiple delivery channels [50-53]. Ideally programme implementers should consider combining mass media strategies with interpersonal techniques which reach the target population at the community and household level.

## 5 Everyone wants to be seen to wash their hands

Handwashing with soap is a socially desirable behaviour in all cultures. This has several implications for hygiene programmes. Firstly, it means that people are almost 50% more likely to wash their hands if there are other people in a public bathroom [27, 54, 55]. Handwashing interventions which remind people that others might judge them on their handwashing behaviour have been shown to be effective [54]. Secondly, it can make measuring handwashing behaviour rather challenging. If you ask people if they wash their hands with soap at critical times, most people know that the ideal answer is 'yes'. This is one of the reasons why we find that self-reported measures handwashing behaviour typically overestimate actual practice. Although there is no perfect way of measuring handwashing behaviour [56-58] the Joint Monitoring Programme now suggests dropping self-reported handwashing measures in favour of using the new global handwashing indicator [59]. This is a proxy measure which is rapid and cheap to assess and provides a meaningful comparable indicator.

This article will also be published by the Global Handwashing Partnership.



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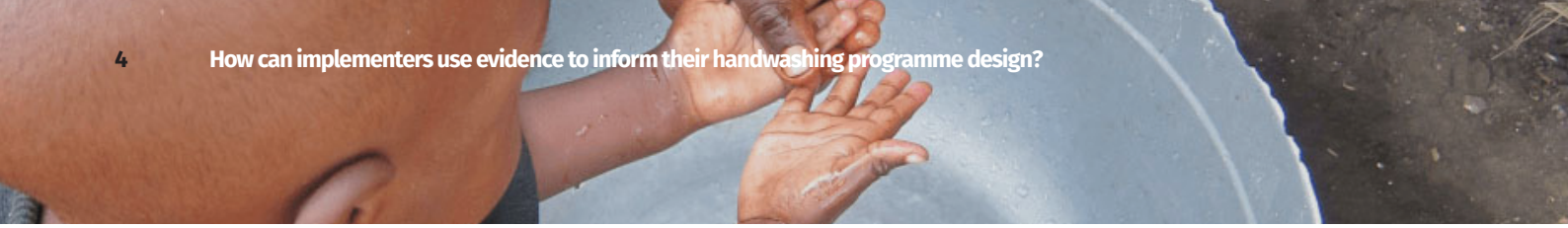


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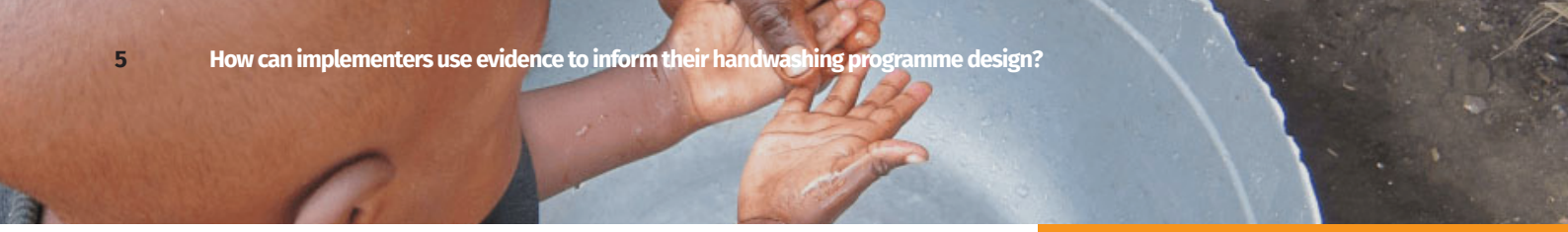


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I am the lead researcher on the Wash'Em project. I have been designing, delivering and evaluating public health behaviour change programs throughout Asia, Africa, the Middle east and the Pacific for more than a decade. For the last 4 years of this I have been researching hygiene programming in humanitarian crises.

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