

Editorial: What works? And how can we know?

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In the international water, sanitation, and hygiene annual cycle, we are soon to enter the main conference season. WEDC's annual conference takes place in July in the UK; Stockholm's World Water Week begins at the end of August; the University of North Carolina will hold its Water and Health conference in October in the USA; and the International Water Association Water and Development Congress will take place in November in Argentina. This is just to mention a few of the largest international gatherings over the remainder of this year.

Why do WASH specialists attend these meetings (apart from the general desire to travel, to meet with others, and to share experiences)? I believe that the many practitioners who participate want to gather more ideas about 'what works' and what doesn't work; while those whose roles engage them in policy and strategy also wish to understand how national and global sector guidance can better promote effective, efficient, sustainable, and equitable services. And perhaps both groups – to the extent that they are distinguishable – are trying to persuade their peers, and potential funders, of the superiority of their particular approaches.

So how are we to determine what constitutes good or even 'best' practice? How can we figure out whether one approach is better than another? The answer of course lies in evaluations, research, studies, and learning processes, of a wide range of scales and types. Much of this study and reflection is reported in journals such as this, and research studies which are considered to exhibit most rigour may later figure in systematic reviews and meta-analyses which attempt to synthesize findings.

There is need for care, however, as we read and potentially use such findings. There is a strong temptation I believe to seek simple answers: this approach is better than that; such-and-such an intervention has a greater impact on health than another; and so on. But this rush to read and apply someone else's conclusions may blind us to the flaws and gaps in their research, or to the reasons why it may not be applicable in another context. We need to be constantly questioning and re-evaluating our own learning.

Two broad principles apply as we try to learn what works best; which approaches or technologies most effectively (efficiently, equitably, sustainably ...) meet the needs. The first is that context (or enabling environment) is (almost) everything. The natural environment – land, water, climate; the political economy – how policy and decision making are meant to happen and actually happen; the social, cultural, educational, historical, and political realities; economy and poverty; all these factors exercise a strong determining influence on 'what works'. Furthermore 'context' is not static. What works in this place today, may not work here tomorrow when political, economic, or environmental circumstances are different. All this should

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cause us to reflect on what it is (or was) about the context which enabled a particular approach to work, or conversely which thwarted its success.

The second principle is that learning about ‘what works’ must come from multiple approaches, sources, and methods, otherwise its reliability is highly questionable. Even those impact evaluations which are widely considered to provide the most reliable information about cause–effect linkages (randomized controlled trials) must be accompanied by process evaluations which analyse both the intervention context and the extent to which the intervention was carried out correctly. Otherwise the situation can arise in which a trial of a poorly conducted programme in a challenging context finds no impact, and the researchers cannot distinguish the extent to which it was the context, the programme design, or the way it was implemented that led to negative findings. The risk then of the wrong policy implications being inferred is high.

The very question ‘what works?’, or the more exact question ‘did this specific intervention work?’ requires us to define specifically what we mean by ‘works’. Impact evaluations often focus on improved health; while I have argued elsewhere that more directly useful evaluations focus on outcome level results – many of which are to do with human behaviour and use of services. None of these results is easy to measure. Results which lie lower in the logical framework hierarchy – activities and outputs – may be relatively easy to observe and count, although qualitative aspects of even these may be hard to capture. On the other hand, changes in human health cannot generally be determined with precision, especially, as is often the case, when studies rely on reported data from informants who have to recall, for example, episodes of their children’s diarrhoea. In such circumstances Schmidt et al. (2011) suggest that ‘even a diarrhoea reduction of 50% observed in unblinded trials may be compatible with no true effect’.

So how can we better understand what works, and which approaches to the improvement of water and sanitation services and hygiene behaviour change show most promise? I would suggest we need to draw from all types and scales of research and learning; while sharing our own experiences with those from other places and contexts; all the while critically questioning what we read and hear. It is often what a written paper or conference presentation does not reveal which is as significant as what it does report.

Inasmuch as an approach is thought to have worked or not worked in a particular situation, the question should be ‘to what extent did the context, the design of the intervention, and the quality of its implementation contribute to that result?’ The answer may be hard to establish, but it is crucial.

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Reference

Schmidt, W.P., Arnold, B.F., Boisson, S. Genser, B. Luby, S.P., Barreto, M.L., Clasen, T. and Cairncross, S. (2011) Epidemiological methods in diarrhoea studies: an update. *International Journal of Epidemiology* 40: 1678–92 <<http://dx.doi.org/10.1093/ije/dyr152>>.