

Revisiting transformative WASH: measuring impact



In 2019, in *The Lancet Global Health*, Amy J Pickering and colleagues¹ called for more robust, “transformative”¹ water, sanitation, and hygiene (WASH) interventions after several studies from the WASH Benefits and SHINE trials in Bangladesh, Kenya, and Zimbabwe reported no detectable effect on children’s linear growth and only modest effects on diarrhoea. The traditional (and, in retrospect, narrow) focus on diarrhoea and linear growth—which are common metrics used in the monitoring and assessment of WASH interventions—probably obscured other health benefits produced by these trials. There is still little consensus on what transformative WASH means, but a broader set of assessment criteria could help practitioners show the transformative impact of WASH interventions.

The 2021 launch of *The Lancet Commission on Water, Sanitation and Hygiene, and Health* was an important development that recognised WASH’s role as a keystone of human health and development.² However, this Commission’s first study reaffirmed traditional WASH priorities of management of microbiological water quality and diarrhoeal disease control,³ and this ongoing focus on diarrhoea ignores the bigger picture. Wide-ranging literature has shown how WASH insecurity disrupts people’s lives, not only by increasing the risk of waterborne diseases, but also by increasing the likelihood of mental health disorders, nutritional disorders, reproductive health problems, gender disparities, interpersonal violence, injuries, and migration. Many of these socio-epidemiological pathways show intricate links among resource insecurities, such as food, water, and sanitation insecurity, and probably exacerbate diarrhoeal diseases and child stunting,⁴ thus further compelling WASH programmes to widen their measurement approaches.

The WASH literature already offers many tools for measuring physical and biosocial outcomes in diverse low-income and middle-income settings. Everyday experiences of water insecurity are being captured in new survey modules that assess universally experienced disruptions to daily activities or emotional wellbeing.⁵ WASH insecurity can produce water worries, and related forms of stress, anxiety, and depression, which are all incredibly disruptive to households and individuals, and can be assessed with mental health

screeners.⁶ WASH-related gender disparities, which include imbalances in household responsibilities for water fetching and participation in economic activities, are being assessed through new tools such as the Empowerment in WASH Index.⁷ Inadequate WASH services are well known to limit menstrual hygiene and can cause other reproductive health problems, which have been measured with tools such as the Menstrual Practice Needs Scale.⁸ We can assess injuries related to water carriage and household water management associated with WASH insecurity, such as pain, fatigue, perinatal effects, gender-based violence, stress, and disability from musculoskeletal disorders.⁹ WASH improvements can build resilience to displacement by stimulating economic activity, social capital, education and training, and community health, and thus could have implications for migration decision making.¹⁰ Inadequate WASH often interacts (thus creating multiplier effects) with poverty and leads to a wide range of adverse health effects related to maternal and child health, compromised immune function, malnutrition, and complications for people living with disabilities. All of these health issues are routinely captured by measurements of population health via household surveys, such as the US Agency for International Development’s Demographic and Health Surveys, UNICEF’s Multiple Indicator Cluster Survey, and WHO’s STEPwise approach to surveillance. Modules from these sources can be tailored to local context and incorporated into WASH assessments.

These tools present opportunities for WASH monitoring and assessment programmes to quantify if, and precisely how, different types of interventions transform lives. WASH programme implementers and assessors can start by reviewing the appropriateness and cost of each tool in a given setting using a community-based participatory design, and phasing useful modules into baseline assessments with protocols for incorporating future indicators into long-term assessment plans. We advocate multiple-indicator, dashboard-type approaches that can be adapted to local contexts. In particular, approaches that allow for community feedback and use of data could increase the speed of discovery and translation of WASH best practices. Such approaches could reinforce the value

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For more on community-based participatory designs see *WIREs Water* 2022; **9**: e1577

proposition of WASH projects in a more complete way; build trust between communities and development partners; and help implementers, donors, and researchers understand the most transformative aspects of WASH services to improve human wellbeing and development.

We declare no competing interests.

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