

WHO WASH

Staff Reflections Series

Sanitation and Health: Where to from here?

June 2019



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A NEW ERA IN SANITATION AT WHO

As the MDG period was drawing to a close the UN Deputy Secretary General SG issued a call to action on sanitation in a last ditch effort to accelerate progress on one of the most lagging targets. In response, WHO established a dedicated sanitation team and set about updating evidence, norms and monitoring to support this final push but more significantly to prepare for the SDGs. So, three years into the SDGs what's changed and what have we learned on sanitation and health? Here's a selection of insights so far.

Lesson 1: Higher service levels are needed to improve health

Findings from the 2014 burden of disease estimate sent a strong signal that achieving use of improved sanitation could only deliver modest health gains.

Significant health improvement could only come with entire community coverage with higher

service levels - either through sewer connection or on-site facilities with containment - storage/treatment in-situ or conveyance, treatment and safe end use or disposal offsite.

This finding challenged the MDG-era criteria for global monitoring and provoked reflection on how these higher levels can be achieved, reflection that when coupled with systematic reviews of the evidence would be ultimately presented in the WHO Guidelines on Sanitation and Health.

The burden of disease estimate dovetailed with and informed preparation of SDG targets for sanitation. The health-based higher service level of safely managed sanitation (6.2) and safely treated wastewater (6.3) are now well-established in global monitoring and the consciousness of the sector.

Links and resources: [Preventing diarrhoea through better water sanitation and hygiene](#)

Lesson 2: All service levels and steps of the sanitation service chain need to be reflected in national targets and monitoring

Achieving higher sanitation service levels for all is likely to take longer than the SDG period for many countries. JMP monitoring ladders capture and report on all service levels – from open defecation, unimproved, limited, basic and safely managed services. Monitoring also extends beyond safely managed sanitation to the final step of the service chain with treatment performance and safe use of wastewater and excreta called for under SDG 6.3 and linking with efforts to recover value from waste in the circular economy (SDG12).

At national level, countries have flexibility to reflect all service levels and steps of the service chain in national targets and monitoring systems. Monitoring progress on all service level as well as disparities by geographic and demographic measure will be critical to support equitable progress. The 2019 water theme of No One Left Behind is a welcome boost to highlight various dimensions of inequality in sanitation services – not least the impact on sanitation workers who are often invisible and suffer the worst health outcomes.

The challenge now, is to develop comprehensive but realistic national targets, incorporating equity dimensions, and to strengthen national statistical and regulatory monitoring systems to support national progress.

Links and resources: [JMP sanitation ladder \(SDG 6.2\)](#), [Wastewater treatment and use \(SDG6.3\)](#), [World Toilet Day – no one left behind](#)

Lesson 3: Sanitation interventions, as currently practised, are not as effective as we had hoped

In 2018, the WASH sector was shaken by three new high-quality studies (WASH-B Kenya and Bangladesh and SHINE in Zimbabwe) that show disappointing impacts of sanitation interventions on reducing diarrhoea and stunting. Numerous practitioners, researchers and funders reacted, questioning both the value of investing in WASH compared to other public health interventions and how future investments in WASH can be implemented better to achieve greater health gains.

The reasons for lower than expected impact of sanitation on infectious disease could be myriad; for example poor intervention design or delivery, incomplete coverage and use, or leakage of excreta into the community from poorly functioning systems. However, a key reason is that interventions are failing to systematically identify and interrupt the key transmission pathways along the whole sanitation chain. This phenomenon is shown in a recent paper mapping high quality studies against a faecal contamination index (Box 1).

The established understanding of how sanitation-related pathogens are transmitted (Box 2) is not undermined by these findings and irrespective, sanitation remains fundamental for mental and social well-being – however, it strongly points to the need for a stronger and more systematic public health approach to sanitation interventions and the national systems for policy, standards, targeting, financing and local level management of sanitation services.

Box 1: Analysing WASH and health outcomes using a faecal contamination index (FAECI)

The recent FAECI paper plotted results of all large well designed WASH trials against an index of contamination – 16 being a very contaminated environment at end line and 3 being a clean environment. The results show a non-linear relationship in which interventions that do not achieve a clean environment have little or no impact on diarrhoea. Improvement made in studies with an index score higher than 8 may have been a necessary incremental step but were insufficient to improve results for diarrhoea. The findings underscore the need for entire community coverage and higher service level to achieve clean environments. The study also found that less than 24% of people in low- and middle income countries live in communities with >95% coverage with basic sanitation. [Read the full paper here](#)

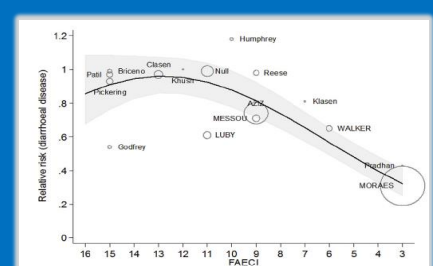


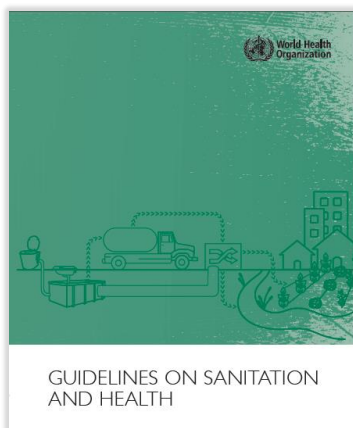
Figure 1: Relative risks of diarrhoeal disease as a function of the FAECI

Lesson 4: The time is right for comprehensive health-based guidance on sanitation and health

From 2012-2017 WHO looked much wider than these three high profile trials and systematically analysed over 1000 studies on a multitude of health outcomes associated with sanitation to develop the new WHO Guidelines on Sanitation and Health (2018). The reviews covered key infectious diseases associated with sanitation as well as nutrition and well-being outcomes. The guidelines provide recommendations on how to maximize health benefits from sanitation and include supporting implementation guidance on policy, planning and standards setting and importantly clarifies the role of the health sector.

At this moment of critical reflection in the sector, the new guidelines and ongoing work on local level risk assessment through Sanitation Safety Planning are well timed - together they provide a broader normative response to the questions raised by WASH-B and SHINE and a tested implementation tool to improve health outcomes from sanitation.

When embarking on the guidelines development we were cognisant of the breadth of knowledge within the sector and the need to use WHO's voice to impose normative clarity while taking care not to be so prescriptive



that it might stifle innovation taking hold in the sector. Feedback from experts and end users through wide stakeholders consultation in all regions was invaluable to fill gaps in evidence and ground enabling environment guidance in practice - so far reactions to the finished product have been overwhelmingly positive. As we transition to promoting implementation of the guidelines, developing and extending these partnerships will be crucial to ensure this new global guidance is taken up and contextualised to country needs.

Links and resources: [WHO Guidelines on Sanitation and Health](#), [Sanitation Safety Planning](#)

Lesson 5: Disease programmes are proactively collaborating with WASH to achieve and sustain health goals

Historically, disease programmes have tended to acknowledge the role of sanitation but have often worked in parallel on WASH preventable diseases - for example though vaccination, drug distribution to treat infections and emergency response to outbreaks. More than ever the role of sanitation as a foundational public health intervention is recognised and operationalized across WHO's General Programme of Work and individual disease strategies. These underscore that targeting and coordinating sanitation service delivery with disease control programmes is essential to achieve and sustain disease reductions - and that sanitation can be pursued concurrently, with vaccines or drug distributions, rather than as a competing intervention.

Box 2: A new F-diagram in the WHO Guidelines on Sanitation and Health

Most people working in WASH will be familiar with the old F-diagram first popularised in the 1958 in WHO's *Excreta Disposal for Rural Areas and Small Communities*. While it has served the sector well, the diagram oversimplified sanitation as a single barrier and represented exposure from contaminated water, soil, insects and hands as simple discrete events. The updated F-diagram retains the simple graphical style that was so effective in the original, but adds by unpacking sanitation hazards at each step of the sanitation chain and by representing the complex interplay between contaminated sites and the mode of exposure (hazardous events) to reach a new host. Keen readers might also appreciate the more detailed explanatory footnotes under the figure on page 4 and 5 of the guidelines.

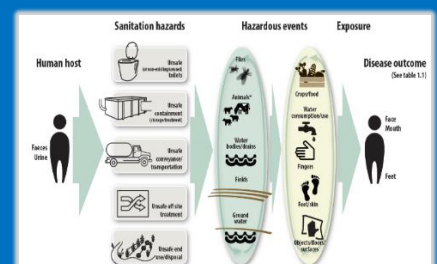


Figure 2: Transmission of excreta-related pathogens

For example:

- The Global Roadmap to End Cholera by 2030 and new national cholera action plans focus heavily on WASH and multisectoral action to prevent cholera. This shift denotes a drive to break out of a pattern of emergency response to control cholera in recurrent hotspots.
- New roadmap targets for Neglected Tropical Diseases (2021-30) are set to feature WASH in crosscutting targets at the highest political level and countries are increasingly turning collaborative rhetoric into action with the help of tools like the new WASH and Health Working Together toolkit.
- Access to WASH in communities, and especially health care facilities, is now well recognised within efforts to combat antimicrobial resistance (AMR). WASH is a key intervention to prevent infections that would otherwise be treated with antibiotics. The spectre of AMR also adds power and urgency to wider efforts to improve access to WASH in health care facilities. Research on the complex environmental drivers of resistance (including human, agricultural and manufacturing waste) is gathering pace while ‘no regrets’ actions are taken forward in AMR national action plans (NAPs).

Links and resources: [WHO General Programme of Work \(2019-23\)](#), [WHO WASH Strategy 2018-25](#), [Global cholera roadmap](#), [WASH and health working together toolkit](#), [AMR Global Action Plan](#), [SG’s 2019 report on AMR](#), [WASH in HCF](#)

Lesson 6: Sanitation is fundamentally a public good in need of huge public finance

In recent years, great progress has been made in developing the sanitation market and business models for resource recovery from waste. While these innovations are extremely important and necessary, as a sector we need to stand firm in asserting that sanitation is fundamentally a public good in need of public financing to deliver co-benefits for health as well as social and economic development. In doing so, it is necessary to engage in discussions on cost recovery and return on investment, but justifications based on these alone should not dominate the discourse.

Furthermore, in light of the strengthened evidence on the need for entire community coverage to achieve common public health gains, the sector needs, and is beginning, to have a more nuanced discussion about the use of subsidies for household facilities and services to ensure that everyone uses safe sanitation for the benefit of all.

The biennial GLAAS report and popular TrackFin initiative provide valuable insights into where financing for sanitation is coming from and how it is being allocated within countries.

Links and resources: [Business model catalogue: resource recovery from waste](#), Coming soon from WHO’s health financing team “Financing Environmental Common Goods for Health”, [2017 GLAAS report](#), [TrackFin](#)



FOR MORE INFORMATION:

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