

Changing urban sanitation infrastructure through behaviour change interventions in Lusaka, Zambia

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Typical sanitation in Bauleni, Lusaka

Rationale

The number of people using shared toilets has increased from 204 million to 465 million over the period 1990 to 2015 in Africa (UNICEF & WHO 2019). This situation is particularly prevalent in unplanned peri-urban settlements, which are on track to house two billion people globally by 2035 (UN Habitat 2012).

Of the two million residents of Lusaka, Zambia, 70% live in such peri-urban areas (Zambia Ministry of Local Government and Housing 2014). In Bauleni - where this study was conducted - improved, shared toilets were common (79%), but many were of low quality and poorly cleaned (Tidwell et al. 2019a).

Use of shared, low quality toilets can increase risk of disease transmission, the most common being diarrheal disease (Mara et al. 2010).

Sustainable Development Goal 6.2 calls for universal access to individual, non-shared improved household toilets. This seems ambitious as shared sanitation is so ubiquitous; accounting for 87% of sanitation in the area this research was conducted (Tidwell et al. 2018; McGranahan 2015).

POLICY BRIEF

Key messages

- Sanitation in peri-urban settings is an urgent public health and human rights concern
- Improving shared sanitation quality is paramount where private toilets are unavailable
- This research shows that a behaviour change intervention targeting landlords can lead to improvements in the quality of shared sanitation
- Behaviour change interventions have the potential to support urban sanitation programmes in challenging settings

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The growth of peri-urban settlements with under-developed infrastructure alongside growing sanitation demands mean our progress towards this goal is slow and threatened. There is also ongoing debate around whether shared sanitation must always be considered limited (Evans et al. 2017).

Therefore, immediate efforts should be made to improve the quality and hygiene of current shared sanitation.

One novel approach that has been proposed to this challenge is through creating household level demand for improved sanitation by leveraging social dynamics and prompting behaviour change (Roma and Curtis 2013).

The SanDem study was carried out by the Centre for Infectious Disease Research in Zambia (CIDRZ) in collaboration with the London School of Hygiene and Tropical Medicine (LSHTM) in Lusaka, Zambia. It shows that creating consumer demand through behavior change interventions can improve the quality of shared sanitation and associated public health issues without the provision of additional supplies.

Methods

The research was carried out between January 2015 and February 2016 in Bauleni, an informal settlement in southeast Lusaka with a population of around 64,000 and around 4000 plots, mostly with shared toilets and a resident landlord. The median number of tenant households per plot in addition to the landlord's was three (Tidwell et al. 2019c).

Behaviour Centred Design (BCD) (Aunger & Curtis 2016) was used in the study. It is a theoretical framework for behavior change comprising of five stages described below as they relate to the SanDem study:

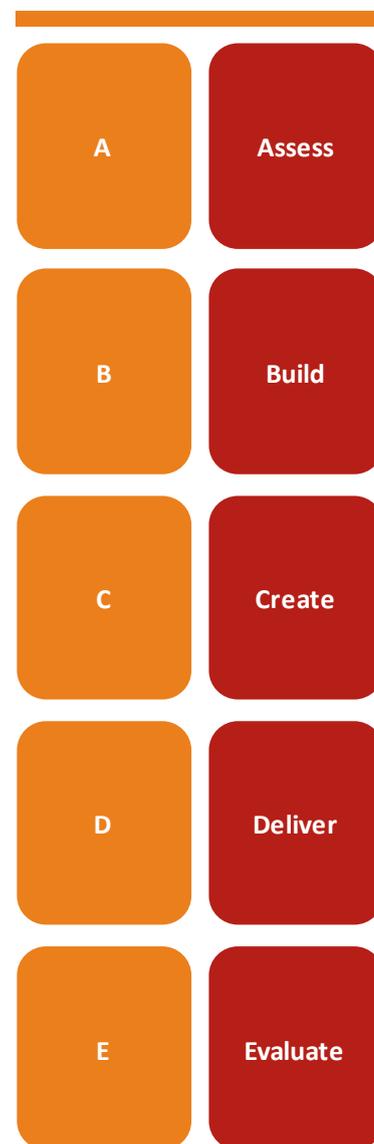
Assess: Existing knowledge was examined through a framing workshop and a review of the latest literature.

Build: Gaps in sanitation knowledge were filled through qualitative formative research. Various issues were uncovered which related to social dynamics among and between tenants and landlords (Chipungu et al. 2019). Tenants expressed willingness to pay for better quality sanitation (Tidwell et al. 2019c).

Create: The formative research directed the team to focus on four key sanitation improvements that have important implications for public health: having a well-functioning cleaning rota (for cleanliness and sustainability), a lock on the inside of the door (for privacy and security), a lock on the outside of the door (to restrict access by outsiders) and a sealed toilet (for reduced smell and improved hygiene) (Tidwell et al. 2019b).

Landlords' motives for improving sanitation were explored and status was found to be the strongest motive for making housing improvements.

With this in mind, the researchers created the Bauleni Secrets intervention which targeted non-health and status related motivations in landlords for improving toilets.



Elements of behaviour centred design (BCD)

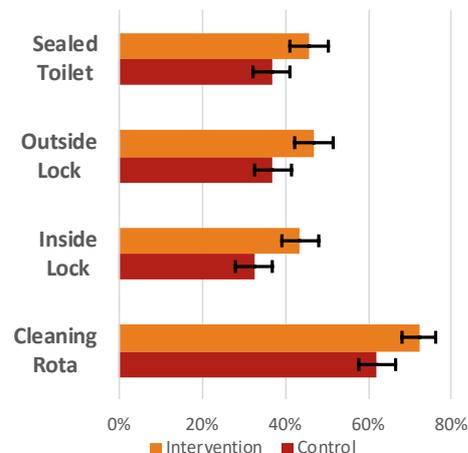
Deliver: Landlords were invited to secret meetings focussing on the sanitation improvements. Discussions around these issues were framed through carefully created videos of tenants' perspectives and demonstrations and games were used to encourage the landlords to reevaluate the benefits of improving sanitation. Practical steps for improving sanitation were suggested.

Evaluate: 928 landlords took part in the study: 474 took part in the activities mentioned above (intervention group) and 454 didn't receive any intervention (control group).

The primary outcome of interest for the study was the proportion of households that had acquired an improved toilet (assessed through the four improvements mentioned above) about four months after the last meeting.

Findings and conclusions

Improvements could be seen in all four of the toilet aspects measured in the intervention group when compared with the control group. There was approximately a 10 percentage-point increase in the intervention group across all four aspects. Additionally, 9.1 percentage-points more landlords were in the process of making improvements when data was collected at the end of the study.



Impact of the SanDem trial on peri-urban sanitation quality

Recommendations

1

This study is the first of its kind to show that a purely behavioural intervention, independent of institutional reform or provision of infrastructure or financial incentives, can improve the quality of shared toilets in peri-urban areas. Sanitation interventions in similar settings in Zambia and globally should consider integrating a behavioural aspect to achieve toilet improvements.

2

Funding is needed for larger, longer term studies to assess the sustainability of toilet improvements from behavioural based sanitation interventions over longer time periods and for interventions delivered at greater scale.

3

The SanDem study was designed to be a proof-of-concept for improving sanitation quality through demand and so it focused on measuring improvements in sanitation. Future studies should aim to determine the impact of behavioural sanitation interventions on health and well-being outcomes.

4

The SanDem study found that tenants showed a willingness to pay for improved sanitation; future work should explore how this financing stream might be used to support urban sanitation efforts.

Sanitation interventions should consider integrating a behavioural aspect to achieve toilet improvements.

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Contributors



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