



Sustaining and Scaling School Water,
Sanitation, and Hygiene Plus
Community Impact



The Impact of School WASH in Absenteeism

Can a school-based water treatment, hygiene and sanitation program influence pupil absenteeism?

Questions

Few studies have previously examined the impact of improved school water, sanitation and hygiene (WASH) conditions on students, particularly as they relate to school absence. School absence is an important measure of impact as it can give insight on the health status of students and influence educational success and social development.

The SWASH+ partnership therefore undertook a cluster-randomized trial to learn **whether a school-based water treatment, hygiene and sanitation program can impact pupil absence**. To our knowledge this study was the first of its kind to assess various school-based WASH interventions to detect differences in pupil attendance in low-income settings.

Research

In 2007, 135 eligible public primary schools across three districts of Nyanza Province in Kenya were randomly selected and assigned into three intervention arms:

- 1) **Water treatment (WT) and hygiene promotion (HP)**. These schools received a 3-day teacher training on HP, behavior change and WT methods, and regular follow-up visits throughout the year;
- 2) **Sanitation facilities (latrines)** in addition to WT and HP; or
- 3) **Control setting** (note: control schools received all interventions at the conclusion of the study).

School absence (and duration of absence) was measured using pupil-reported absence over a two-week recall period. Over 99% of children in the schools (nearly 6,000 students) provided absentee information. Additional information was gathered on the interventions' impact on knowledge, attitudes, and behavior through structured observation of school WASH facilities and interviews with head teachers.

Findings

Reduction in Pupil Absenteeism

Researchers found no overall effect of the intervention on absence. However, results are believed to have been affected by post-election violence, which influenced absenteeism in the district (schools were not in session for four months). Among schools in two of the geographical areas not affected by post-election violence, those that received WT and HP showed a **58% reduction in the odds of 2-week absence** or an average reduction

of six days per year in girls' absenteeism (controlling for grade and age). Boys were not impacted by the intervention. Schools that received WT and HP and sanitation facilities had a **27% reduction in pupil absence**.

Conclusions

Educational and health benefits can be achieved by providing cost-effective school WASH facilities and promoting hygiene. Improved WASH access at school more directly impacts girls. Latrine provision as a necessary part of menstrual management, safety and privacy, and the role of handwashing water and soap to enable general cleanliness, may explain the different impact of school WASH for girls.

Role of Sanitation: Data revealed no significant differences between schools that received WT and HP, and schools that received sanitation facility infrastructure in addition to WT and HP. One potential explanation is that the sanitation intervention may not have been sufficient in number or quality. The benefit of sanitation as an amenity that encourages girls to attend school may also depend on the cleanliness of the facility.

Sanitation's reduction of pathogen exposure may depend on adequate hygiene. Of the schools receiving improved sanitation, only 44% had handwashing water and soap at follow-up. Data from this study suggests that the simple hygiene intervention improved sanitation conditions, possibly eclipsing the expected benefit from additional facilities. Programmatic and policy change is needed to ensure soap availability and clean latrines, rather than just infrastructure.

Education Findings: It is not surprising that the WASH intervention did not show an impact on test scores or school enrollment. Poverty and other structural barriers which make it difficult for students to attend school were not evident during the study. Additional research is needed to understand *how WASH impacts girls' attendance*; do the additional privacy, menstrual hygiene management facilities, safety, health or something else impact how WASH reduces absenteeism for girls? The differential impact of WASH among girls highlights the need to consider who benefits rather than how many.



This brief is based on the article, 'Assessing the impact of a school-based water treatment, hygiene and sanitation programme on pupil absence in Nyanza Province, Kenya: a cluster-randomized trial.' Freeman MC, Greene LE, Dreifelbis R, Saboori S, Muga R, Brumback B, Rheingans R. (2011). *Trop Med International Health*, 17: 380-391.

SWASH+ is a five-year applied research project to identify, develop, and test innovative approaches to school-based water, sanitation and hygiene in Nyanza Province, Kenya. The partners that form the SWASH+ consortium are CARE, Emory University, the Great Lakes University of Kisumu, the Government of Kenya, and formerly the Kenya Water for Health Organisation (KWAHO), and Water.org. SWASH+ is funded by the Bill & Melinda Gates Foundation and the Global Water Challenge. For more information, visit www.swashplus.org.