

# “WaterGuard is the smell of safety:” A qualitative exploration of home water treatment behaviors in an antenatal safe water program—Machinga, Malawi, 2011

## Antenatal Safe Water and Hygiene Kit Program

WaterGuard, a liquid chlorine water treatment product, has been marketed by Population Services International in Malawi since 2002. In 2010, Malawi Ministry of Health and Clinton Health Access Initiative launched a pilot program to increase household water treatment and safe storage (HWTS) and hygiene behaviors among pregnant women during antenatal care (ANC) visits at 15 clinics in Machinga District. The program included:

- Distribution of 25,000 safe water hygiene kits to pregnant women with husband present
- Education on hygiene practices, the need for safe water and how to prepare it
- Four free refills of WaterGuard and soap at subsequent ANC, delivery and postnatal visits
- Multiple home visits by health assistants to promote water treatment and hygiene
- Referral to HIV counseling and testing for couples

## Exploring motivations through qualitative research

In 2011, PATH and the Centers for Disease Control conducted qualitative research to:

- Understand the high uptake of HWTS found in the quantitative program evaluation
- Explore programmatic factors, and beliefs, attitudes, and conditions which influence women to try, purchase, and continue or discontinue using WaterGuard
- Explore how water treatment practices diffuse across a community

## Study Design

**Method:** In-depth semi-structured interviews during home visits and focus groups conducted in 2011

**Sample:**

- Interviews with 36 ANC program participants, 15 friends and relatives of program participants, 16 husbands of program participants, 16 health workers, and 7 WaterGuard vendors
- 11 focus groups with ANC program participants and 3 with health workers

**Recruitment:** ANC program participants, friends and relatives, and husbands who had participated in quantitative surveys; health workers and vendors were recruited directly at clinics or shops.

**Analysis:** Data analyzed using thematic coding and MAXQDA software



The kit includes a storage container with tap, WaterGuard, oral rehydration solution, and a bar of soap.

## What effect did the program have?

- Between baseline and follow-up, WaterGuard use increased from 0% to 71% among participants and from 1% to 34% among friends and relatives of participants.
- There was an increase in the proportion of women who delivered at a health facility, and a high acceptance of referral to HIV counseling and testing for couples (data not shown).
- 81% of interview respondents (participants, husbands and friends and relatives) reported using WaterGuard in the previous 7 days.

### What motivated women to try and continue to use WaterGuard?

- Distribution of free WaterGuard samples allowed participants to experience its benefits prior to purchasing it, and the free storage container facilitated a system to maintain safe drinking water once treated.

*“When we received the free refills, we saw its importance, so me and my husband decided to go buy it.” –Participant, current user*

- Educational messages, encouragement, and practical support offered by trusted health workers, especially during home visits.

*“My neighbors may say bad things about me treating my water, but health workers come and compliment me on my treated water. They tell me that it is important to treat water that my children will not get sick.” –Participant, non-current user*

- Encouragement and financial support from husbands.

*“I was very happy (that my husband came to the ANC clinic) because we heard the messages together. If I heard it alone, he wouldn’t have believed me. He would have said I thought it all up by myself. That’s what I was happy about.” –Participant, current user*

- Encouragement from friends and relatives who already use WaterGuard. Safe water messages are diffused from program participants to others in their community.

*“They [relatives] said that they suffer from diarrhea frequently, so I told her it’s because she doesn’t use WaterGuard. When she started using WaterGuard, she came to thank me for giving her the advice.” –Participant, Focus Group Discussion*

- Three free refills allowed participants to get used to the smell and taste of WaterGuard.

*“You know, the children (used to) shout by complaining about the smell of WaterGuard, but then they get used to it and if you do not put WaterGuard in the water, they ask, ‘Why you did not put WaterGuard?’” –Participant, current user*

- Many people treat drinking water inconsistently.

*“I treat my water according to my pocket. If we have money, we buy WaterGuard. Sometimes it depends on the situation. If there is an outbreak of cholera or diarrhea, then I have to treat my water, so buying WaterGuard is a must.” –Participant, non-current user*

## Conclusions

- Elements of the ANC Safe Water and Hygiene Kit Program appear to have an important effect on increasing safe water practices among participants.

- Offering initial free product to pregnant women encourages ongoing use by allowing their families to get used to the smell, taste, and experience benefits. Providing the safe storage containers offers people a simple way to keep their water safe.

- Integrating husbands into prenatal care services appeared to be a positive influence on Waterguard use and family-centered care. To enable all pregnant women access, future programs should assure alternatives are in place for pregnant women who are single or whose husbands cannot or refuse to participate.

- Interpersonal communication with health workers and others encourages ongoing use among participants and uptake among their friends and relatives.

- WaterGuard use among many respondents fluctuates due to irregular access to cash and changing perceptions about risk of source water contamination across seasons. Water treatment practices appear to be driven more by concerns about source water contamination than contamination during transport or storage.

- Contrary to findings from many chlorine-based water treatment studies, participants did not report the smell and taste of WaterGuard to be a barrier to sustained use.



Woman drawing water from a well

## Recommendations

- Expanding the ANC Safe Water Hygiene Kit program could be an effective strategy for increasing HWTS practices throughout Malawi.

- HWTS programs should emphasize the importance of treating drinking water throughout the year and the value of WaterGuard in relation to costs for treating diarrhea.

- Subsidization of the price of WaterGuard could be an important safe water promotional strategy since cost was reported as the most common barrier to consistent product use.

- Program implementers should be aware that many people use WaterGuard inconsistently and tailor promotional messages accordingly. Future areas of research could include studies designed to accurately assess triggers of inconsistent use.

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