



Insights from the field on unlocking impact at scale



Innovation Investment Alliance and CASE at Duke

# EVIDENCE ACTION: DISPENSERS FOR SAFE WATER

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MAY 2017









## **CASE IN BRIEF**

As a global nonprofit organization, Evidence Action's rigorous approach to scaling solutions that improve the lives of millions is apparent in its name and – more importantly - its persistent approach to balancing effectiveness and efficiency. Based on a randomized control trial, prior experience in Kenya, and a successful pilot in Uganda's Kibuku District, Evidence Action planned to scale the Dispensers for Safe Water program throughout Uganda. When initial efforts did not result in the desired community adoption rates, Evidence Action took a step back.

Knowing that its goal was to scale impact, not simply grow its geographic footprint, the organization refined its model and chose to work more deeply in existing partner communities, raising adoption rates from a low of 14 percent to 60 percent, providing 1.8 million Ugandans with access to clean water. Along the way, it learned that scaling is often a non-linear journey; performance management should be right-sized; local context matters; behavior change is difficult and continuous; and critical foundations must be in place prior to scaling.

This case study is relevant for any social enterprise wanting to effectively leverage evidence to reach audacious goals; to pursue financial sustainability through cost efficiency and earned revenue; and to drive behavior change.

#### Part of the Scaling Pathways series. Find the full series at www.scalingpathways.com

This study was funded by the United States Agency for International Development, made possible by the generous support of the American People. This study was prepared by CASE at Duke University in collaboration with Mercy Corps and the organizations described within. The findings of this study are the sole responsibility of Mercy Corps and Duke University and do not necessarily reflect the views of USAID or the United States Government.

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#### **Acknowledgments**

The authors wish to acknowledge the insights and feedback of many stakeholders who helped to shape this case study. The Evidence Action team provided their time and expertise, especially Richard Kibuuka, Andy Narracott, and the entire Dispensers for Safe Water team in Mbale, led by Caleb Wakhungu. Chris Walker and Amanda West of Mercy Corps provided valuable feedback and guidance throughout. Tom Schumacher, Erin Crossett, and Anne Healy from USAID and Liz Diebold from the Skoll Foundation reviewed and provided feedback on drafts. Finally, we are grateful to members of the CASE team, including Carrie Gonnella, Kimberly Langsam, Patricia Massard, and Kyle Munn for editorial and programmatic support.



### SUMMARY TABLE<sup>1</sup>

#### **Mission**

Evidence Action scales proven, rigorously-evaluated development solutions to benefit millions of people around the world. Programs include: Dispensers for Safe Water, Deworm the World Initiative, and Evidence Action Beta.

Organization name Evidence Action

Website www.evidenceaction.org

**Headquarters** Washington D.C., USA

Year founded 2013

Leadership Kanika Bahl, CEO

Andy Narracott, Deputy Director,

Global Safe Water

Country Leads: Richard Kibuuka (Uganda);

Moses Baraza (Kenya); Express Moyo (Malawi).

Staff size 331 staff across Evidence Action (Kenya,

Uganda and Malawi); 50 staff in Uganda

Scaling Pathway(s) Using direct service delivery and behavior

change strategies, Dispensers for Safe Water

scaled wide and then deep. In addition,

Evidence Action is working to maximize cost

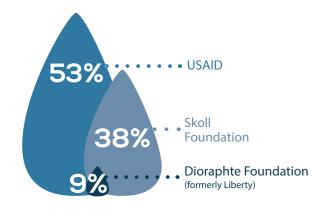
efficiency for scale by driving down costs and

by using innovative carbon credit financing.

**Financial summary** \$1.184 million in grants, contributions, and/or

earned income in 2015 for Dispensers for Safe Water

**Major supporters** 



## INTRODUCTION

Many in the developed world take for granted the ability to turn on a faucet and have dependable access to safe water. Unfortunately, this is not the case everywhere. At least 1.8 billion people are forced to use a drinking water source contaminated with feces<sup>2</sup> which can lead to life-threatening diseases such as diarrhea, cholera, dysentery, typhoid, and polio.

Access to clean, safe water is part of the foundation on which productive communities are built.<sup>3</sup> In the words of Ban Ki-moon, UN Secretary General, "safe drinking water and adequate sanitation are crucial for poverty reduction, crucial for sustainable development, and crucial for achieving any and every one of the Millennium Development Goals." In 2015, the UN included clean water and sanitation among the 17 Sustainable Development Goals, specifically calling for universal, equitable access to safe, affordable drinking water by 2030.<sup>5</sup>

Despite these goals and the availability of effective treatments, contaminated water is estimated to cause more than a half million diarrheal deaths each year.<sup>6</sup> Young children are disproportionately impacted, with nearly 1,000 children under five dying each day from diarrheal diseases due to poor sanitation, poor hygiene, or unsafe drinking water.<sup>7</sup>

Uganda is one of the countries hit hardest. According to Evidence Action internal reports, approximately 23,000 Ugandans die each year from diarrheal disease and nearly 90 percent of those deaths are directly attributable to poor water, sanitation, and hygiene. Given that only 10 percent of rural households had access to piped water as of 2011,8 Uganda's most vulnerable desperately need alternative paths to clean water.

Of the many initiatives attempting to tackle the issue of access to safe water in Uganda and around the world, Evidence Action, a nonprofit that scales proven interventions to improve the lives of millions, is one that has had success and is working to reach scale. Its Dispensers for Safe Water program provides access to safe water to more than 4.7 million people in rural Eastern and Southern Africa. It is a proven innovation that expands access to water treatment at a low cost.

This case study traces Evidence Action from origin to the launch and expansion of Dispensers for Safe Water in Uganda. We first describe the Dispensers' pilot in eastern Uganda and then explore Evidence Action's process of preparing for and scaling Dispensers across Uganda. This scaling path started with Evidence Action growing its geographic footprint before realizing that the quality and, ultimately, the impact of its intervention was suffering, causing it to stop expansion in order to refine its model and go deeper in existing communities.

## The case ends with lessons learned that are relevant for social ventures and funders working in all sectors, including:

- 1. scaling is often non-linear;
- 2. right-sized performance management is essential;
- 3. scaling is context specific;
- 4. behavior change is difficult and continuous; and,
- 5. strong foundations are necessary for scale.

## **ORIGINS**

Providing access to safe water is a complicated challenge. Even when governments are able to install and maintain piped water infrastructure that can supply safe water to rural areas, many households are unable to afford the fees to access this water. Other infrastructure funding goes to digging community wells and boreholes but, while these solutions increase access to water, they do not guarantee safe water, especially as communities expand, locating boreholes too close to pit latrines and other contaminants.

Other solutions focus on cleaning water that is already accessible. There are a number of methods for treating water at the household level, including chlorination, flocculant/disinfectant powder, solar disinfection, ceramic filtration, slow sand filtration, and simple boiling. However, there are challenges with many of these methods.

When compared with chlorination, flocculant, solar disinfection, and ceramic filtration are more expensive, less effective over time, and achieve lower adoption rates due to the number of steps involved and/or length of time required to treat the water. Some of the more commonly used methods do not protect the water along the entire supply chain (see figure 1). For example, boiling water is a common water sterilization practice in Uganda; however, once this sterilized water cools, cross-contamination occurs easily from common household practices, such as transferring the cleaned water to a contaminated receptacle or dipping a dirty cup or hand into the water.

COLLECTION
Bore hole, well, rain barrel

Chlorine, boiling, ceramic filtration, solar

Chlorine, boiling, other open sources

CONSUMPTION

disinfection

Figure 1: Water supply chain

Considering the downsides of alternative methods, significant research has been conducted and proven the efficacy and cost-effectiveness of chlorination<sup>10</sup> as a treatment method. Based on this evidence, Innovations for Poverty Action (IPA), a research and policy organization that partners with top researchers to design, evaluate, and improve poverty-fighting strategies, tested a new solution using chlorine. This solution would later become a core program for Evidence Action.

IPA's solution for increased and sustained chlorine adoption at the household level was called Dispensers for Safe Water. The program uses low-cost dispensers to provide free chlorine at the point of water collection. Through a randomized evaluation (also known as a randomized control trial or RCT), IPA researchers studied the role of price, persuasion, promotion, and type of chlorination products on chlorine adoption in Kenya.<sup>11</sup>

Results showed that having both free chlorine through point-of-collection dispensers and community promoters significantly increased household chlorine use, from 2 to 61 percent. This study also revealed that this two-pronged approach led to sustained adoption over time, with 50 percent of households in the RCT's treatment group continuing to chlorinate its water for nearly three years.<sup>12</sup>

Figure 2: Community member using Dispensers for Safe Water



Based on these positive results, IPA sought a way to scale the Dispensers for Safe Water solution to impact more lives. In August 2013, IPA announced the launch of Evidence Action. According to Annie Duflo, Executive Director of IPA, "IPA's vision is that evidence of what works translates to large-scale impact in practice. The creation of Evidence Action provide[d] an exciting new path to take demonstrated ideas to the next stage of expansion." <sup>13</sup>

In its own words, Evidence Action was created to provide a new approach to development, one that is "predicated on evidence of impact and on audacious goals for large and sustainable social impact." From the headquarters in Washington, D.C., and operations in Kenya, Uganda, Nigeria, Ethiopia, Bangladesh, Pakistan, Malawi, India, and Vietnam, Evidence Action works on three programs: Dispensers for Safe Water; Deworm the World; and Evidence Action Beta. The programs are built on rigorous evidence of impact and share a goal of developing and executing robust models for scaling.

The Dispensers for Safe Water program is a great example of Evidence Action's work to scale impact. Dispensers was launched in Kenya in 2010 and scaled to Uganda starting in 2012 and Malawi in 2013. The remainder of this case study focuses on the program in Uganda—from the initial pilot in the Kibuku district of eastern Uganda, to efforts (and setbacks) to scale across Uganda, to the provision of safe water to 1.8 million Ugandans and growing.



# DISPENSERS FOR SAFE WATER UGANDA: THE KIBUKU PILOT

Dispensers for Safe Water first launched in the Kibuku district of eastern Uganda, home to 20,000 residents. Kibuku is representative of many of the development challenges of rural Uganda. According to Margaret

- "Water is a curse
- as well as a blessing."

Wezikonya, Kibuku's Resident District Coordinator, the community has historically been challenged by low literacy and income levels, health problems, subsistence agriculture stymied by poor soil, and a "culture of receiving rather than that of empowerment." Too far removed from the city to have piped water, the community relied on boreholes to supply water for household and drinking needs. However, Kibuku's shallow water table resulted in contaminated water, rampant sickness, and dwindling economic production, leading Kibuku's District Health Inspector Stanley Nanumanyi to state, "Water is a curse as well as a blessing."

# At a Glance: Dispensers for Safe Water

Dispensers for Safe Water is a proven, innovative, and low-cost approach to increase rates of household chlorination.

- Provides access to more than 4.6 million people
- · Active in Kenya, Malawi, and Uganda
- Includes a sustained water service: dispenser hardware, community education, and a regular supply of chlorine
- Provides ongoing maintenance by an elected community "promoter" who encourages use of the dispenser, reports any problems, and refills the dispenser with chlorine
- Monitors usage and functionality of all dispensers by Evidence Action field workers who deliver chlorine on motor bikes, and track issues with mobile phones

Because of these unsolved problems in Kibuku, the district and its local leadership were receptive to Dispensers for Safe Water and willing to serve as Evidence Action's initial pilot location in Uganda. To increase access to safe drinking water and, consequently, create improved health outcomes, Evidence Action implemented the three major components of Dispensers for Safe Water in Kibuku starting in February 2012:







Community education



Ongoing service delivery and maintenance



### Component #1:

## **CHLORINATION HARDWARE**

The core of Dispensers for Safe Water is a relatively simple plastic bucket dispenser mounted on a stand at a community water point. This bucket is made of blow-molded high-density polyethylene (HDPE), manufactured to withstand the wear and tear of the field. The bucket houses a supply of sodium hypochlorite (chlorine) dispensed through a valve engineered to deliver a 3-milliliter dose of chlorine—the precise amount needed to treat a 20-liter jerrican of water, the size of the ubiquitous yellow containers seen throughout Kibuku and the rest of Uganda.

When administered in correct dosages, chlorine is effective in killing 99.99 percent of harmful bacteria, including those causing cholera, a major health threat in Kibuku and other areas of Uganda. As Kibuku residents walk home from a water point, the chlorine mixes in their jerrican and remains effective for up to 72 hours, even protecting water from potential recontamination. Therefore, Dispensers solves one of the major challenges of clean water initiatives: Water may be clean at the source but becomes contaminated along the chain from source to household use. <sup>16</sup> Chlorination maintains the water quality from source to use, eliminating the need to boil water for disinfection as well as saving time and natural resources.



### Component #2:

### **COMMUNITY EDUCATION**

Educating the community was the second critical component of Dispensers for Safe Water. The Evidence Action team knew that simply placing chlorine dispensers at the water points in Kibuku would not be effective in encouraging and sustaining adoption. Instead, the community needed to be engaged to establish initial buy-in and then educated on effective use of chlorine.

In the Kibuku pilot, the Evidence Action team developed a five-step process for engaging and educating the local community:



#### Holding initial stakeholder meetings and identifying water points

In the first step of the process, the Evidence Action team met with influential community stakeholders in Kibuku which meant starting with Resident District Commissioner Wazikonya, who some of the Evidence Action staff referred to as

"Mama Dispenser" for her critical role welcoming Dispensers and supporting its acceptance. The team also met with other district and sub-county government leadership, district health officers, and village representatives. These meetings helped to gain buy-in from these influential stakeholders as well as to provide Evidence Action with a list of water points in Kibuku.



#### Verifying water points

With the list of Kibuku water points in hand, Evidence Action conducted site visits to verify each water point's location and assess which met the criteria required for dispenser installation:

- Population density per water point: Evidence Action calculates that an individual water point can meet cost-effectiveness requirements if it is used by at least ten households.
- Water quality: For chlorine to be effective, water must meet a certain minimum quality threshold measured by turbidity, the cloudiness of the water due to presence of particles.
- Flow rate and seasonality: The water point must be active for at least nine months of the year and meet minimum flow rate requirements.
- Accessibility: The water point must be free and available to all members of the community.
   Based on assessment of these criteria in Kibuku, ten water points were selected for the initial pilot.



#### Sensitizing community members

Evidence Action then met with the community members who would actually use the water. The district and sub-county leaders mobilized the villagers so that Evidence Action staff could:

- Explain how the dispenser operates; the community's role in contributing some initial installation materials; and contributing rights to carbon credits (see page 10 for more information about carbon credits program);<sup>17</sup>
- Listen to and discuss community questions and concerns;
- Bring the community to a vote on whether to engage in Dispensers for Safe Water.

If at least two-thirds of the community vote to accept the dispenser, provide in-kind contributions of sand and other locally available materials, and sign over its carbon credit rights to Evidence Action, the process proceeds to installation. In Kibuku, 100 percent of community residents voted in favor of moving forward with the Dispensers program.



#### **Installing dispensers**

After the in-kind materials were mobilized, Evidence Action returned to install the ten dispensers throughout Kibuku and prepare them for use.



#### Holding community education meeting (CEM)

After the dispensers had been installed in Kibuku, Evidence Action returned to conduct a community education meeting (CEM) with local water users and officials. During the CEM, community members:

- 1. Were taught how to use the dispenser effectively
- 2. Officially signed the carbon rights waiver
- 3. Elected promoters—two volunteers that agreed to be the local point of contact for Evidence Action and oversee the use and maintenance of the dispensers

#### Financing Dispensers for Safe Water: Community Contributions of Carbon Rights

As part of its commitment to sustaining free access to dispensers while also ensuring community buy-in, Evidence Action finances a portion of the Dispensers for Safe Water program through the sale of carbon credits.

In 1997, the Kyoto Protocol called on industrialized countries to reduce carbon emissions. The Kyoto regulations incentivized the development of a carbon market, meaning that carbon is considered a form of property that has tremendous value.

The protocol also incentivized the participation of developing nations through the Clean Development Mechanism (CDM), which allows countries like Uganda to generate carbon credits if projects reduce carbon emissions below a standard trajectory. Organizations and governments can then sell these credits to industrialized countries seeking offsets as part of their overall strategy for emissions reduction.

Because chlorination is less carbon intensive than other disinfection strategies, such as boiling, communities served by Dispensers for Safe Water generate carbon credits. When a community agrees to transfer the rights to its credits to Evidence Action, the organization is positioned to generate revenue from this previously nonexistent community resource.

More on this innovative financing mechanism on page 23.



### Component #3:

# ONGOING SERVICE DELIVERY AND MAINTENANCE

Ongoing service delivery and maintenance is critical for a long-term, effective water treatment program. Evidence Action accomplishes this through two field-based roles: one volunteer and one paid. Volunteer "promoters," local leaders chosen by the community receiving the dispenser, refill the chlorine, report any issues to Evidence Action, and work to change water use behaviors by encouraging their neighbors to use the dispenser appropriately. Evidence Action also hired field staff, called Community Service Assistants (CSAs). According to Evidence Action CSA Derrick Maswere, CSAs ensure that dispensers are functional, complete any needed repairs within a matter of days, and deliver re-supplies of chlorine to the promoters.

CSAs, like Maswere, use a customized cloud-based process for monitoring dispensers. Using a smartphone-enabled survey tool, CSAs scan a barcode attached to the side of each dispenser to (a) log the unit and location and (b) complete a step-by-step questionnaire that documents the condition of the dispenser, the amount of chlorine remaining, characteristics of the water point, and more. The CSAs save the data on their smartphones and then upload it to Evidence Action's centralized database to track and to ensure ongoing functionality of the dispensers.

Figure 4: CSA using smart phone-enabled survey tool to log Dispensers monitoring visit



# **RESULTS** of Kibuku Pilot

As a result of Dispensers for Safe Water and the work of others, the dire health picture of Kibuku changed. According to Resident District Coordinator Wazikonya, "there has been tremendous change. You do not see long lines at the health clinic anymore as our people are much healthier than before. Evidence Action not only provided

chlorine but also educated the people so that we are now aware and know what to do."

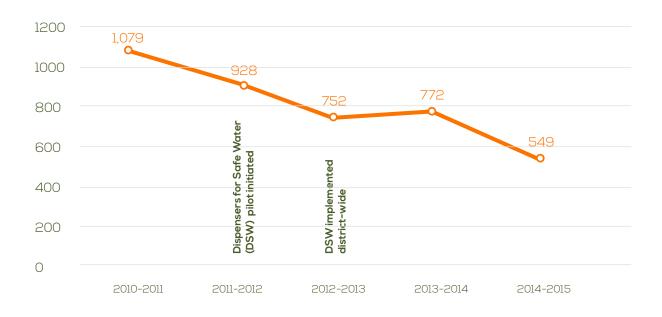
The data from Kibuku's health centers reinforce Wazikonya's impressions. As seen in figure 5, diarrheal rates decreased over time. District Health Inspector Nanumanyi also pointed out that typhoid has become less prevalent and proudly stated that cholera outbreaks have been contained

"You do not see long

- lines at the health clinic
- anymore. Our people
- are much healthier."

successfully. While causation cannot be directly attributed, these trends are likely due to effective chlorine dispenser use, education about handwashing, and increased latrine coverage.







Margaret Lepoyo, a local Kibuku promoter,

Local water users also noticed Dispensers' impact and became advocates for the program. As Margaret Lepoyo, a local Kibuku promoter, said when asked how the program helped her, "This old woman is still here." She was referring to her 90+ year-old mother-in-law who had suffered from chronic diarrhea but, after Dispensers, had significantly fewer incidences of diarrhea, clinic visits, and health issues.

With these positive results and increasing demand from the Kibuku community, Evidence Action quickly expanded the number of dispensers, from the initial 10 in February 2012 to 50 in July 2012. By 2013, approximately 700 more dispensers were added to cover the remaining Kibuku water points and expand into Budaka district.

# PATH TO SCALE



While the pilot in Kibuku was successful, the overarching goals for Dispensers for Safe Water in Uganda were more ambitious: With more than half of the Ugandan population in need of safe drinking water, Evidence Action hoped to eventually have Dispensers reach nine million people across the country.



#### **Preparing for Scale**

With the evidence of intervention effectiveness from IPA's original RCT and the successful pilot in Kibuku, the Evidence Action team prepared to scale Dispensers throughout Uganda.

To further prepare for the scaling journey, the team took these steps:

#### Identified the scaling "unit"

The scaling unit is the part of the program's model that needs to remain consistent across geographies and communities in order for the program to be successful. For Dispensers for Safe Water, that core scaling unit includes (a) the three main components of the program (hardware;<sup>19</sup> community education; and ongoing maintenance) and (b) the five-step community education process (stakeholder meetings; verification; community sensitization; installation; and community engagement meeting).

#### Ensured appropriate capacity

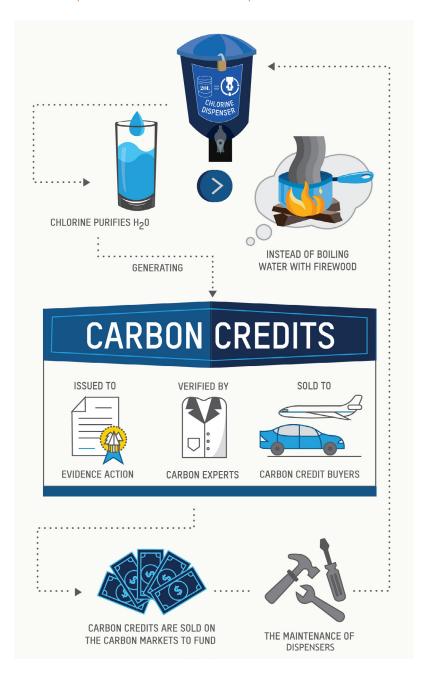
Experienced staff with commitment to the mission, creative problem solving skills, and specific skillsets, such as impact measurement, understanding of local context, program management, and IT infrastructure, were critical to successful scaling of Dispensers in Uganda. To ensure this capacity was in place, Evidence Action brought on new leadership to lead the scaling efforts and hired field staff who knew the local languages and, as community members themselves, could engender trust across the proposed scaling areas.

#### Secured funding

Knowing that a scaling effort would be costly and resource intensive, Evidence Action thought creatively about how to reach financial sustainability. It simultaneously pursued a traditional path by seeking philanthropic capital, and created an innovative, results-based financing model through carbon credits.

On the philanthropic side, Evidence Action applied for and received a scaling grant from the Innovation Investment Alliance (IIA), a funding and learning partnership created in 2012 by USAID's U.S. Global Development Lab and the Skoll Foundation, with support from Mercy Corps (as USAID's implementing partner). The IIA's grants aim to influence systems-level change by supporting proven, transformative, and innovative organizations to reach scale.<sup>20</sup> The grant to Evidence Action provided a combined investment of \$2 million to catalyze widespread adoption of chlorine dispensers for safe sustainable clean water in Uganda. The grant covered the time period from October 1, 2014, to December 31, 2015 (later extended to December 31, 2016), and was part of the funding required for Evidence Action to scale to 10,100 dispensers serving 3.2 million people in Uganda.

Figure 6: Carbon credit process flow for Dispensers for Safe Water



While the IIA grant and other philanthropic funds were critical to covering the upfront costs of installation and infrastructure, Evidence Action also made significant investments in generating ongoing earned revenue through carbon credits.

As shown in figure 6, after an intensive auditing process, Evidence Action is awarded carbon credits based on the amount of carbon offset by dispensers compared to that from boiling water with firewood, the alternative method used in Uganda.

Once those carbon credits are awarded, they can be sold on the carbon market with proceeds used to maintain and scale Dispensers. This results-based financing model entwines impact and financial sustainability. As Deputy Director Andy Narracott says, "The more people use chlorine in their water, as measured by actual testing of water in their communities with dispensers, the more carbon credits we are able to earn, the more resources we have to reinvest into Dispensers for Safe Water—and the more cases of diarrhea and other water-borne diseases averted."<sup>21</sup>

With these preparations in place, Evidence Action's Dispensers for Safe Water began on the road to scale.





#### Scaling Broad to Increase Reach

Before the IIA funding, Dispensers for Safe Water had reached the 1,000 dispenser mark in Uganda. With a proven model and funding in hand, Evidence Action began to "scale broad"—setting an ambitious goal of installing 10,100 dispensers and expanding

Dispensers for Safe Water's geographic footprint.

Evidence Action believed this dramatic increase in the number of dispensers would:

- 1. Serve more beneficiaries, driving improved health outcomes
- 2. Spread fixed infrastructure costs across a greater number of dispensers, driving cost per beneficiary per year down
- 3. Increase revenue potential through additional carbon credits produced

Field officers quickly built relationships with district leadership to educate communities and install dispensers across eastern Uganda. According to Evidence Action Field Officer Andrew Wandega, local districts enthusiastically welcomed Evidence Action. Rarely did Evidence Action encounter a community that did not want dispensers installed; to the contrary, districts often requested more dispensers and faster installation. Evidence Action stretched its team and its infrastructure to new levels to drive aggressive expansion.



#### Monitoring Showed Adoption Rates Not Scaling as Expected

Through a disciplined monitoring process, the Evidence Action team tracked key indicators to identify whether the chlorine was being used effectively. These indicators included the functionality and stock levels of the dispensers, the number of users accessing each water point, and, most importantly, adoption rates. Evidence Action measured adoption rates as the percentage of randomly sampled households whose water tested positive for Total Chlorine Residual during unannounced visits. <sup>22</sup>

Over time, the numbers showed a disturbing trend: As Evidence Action expanded Dispensers for Safe Water's reach and installed more dispensers, adoption rates decreased. Therefore, although the geographic footprint and number of dispensers installed was increasing rapidly (including the associated costs and resources required), the number of people using the dispensers was not keeping pace. By January 2015, adoption rates dropped to a low of 14 percent, significantly lower than the target of at least 45 percent.<sup>23</sup>

What followed was a difficult question for the organization: Should it continue to scale broadly as promised to its funders and constituents and hope that adoption rates would increase? Or should it slow down, or even stop, its expansion in order to address these challenges and refine its model? For Evidence Action, the answer came down to two factors: 1) **impact**—ensuring that what it was scaling was effectively driving behavior change and therefore health outcomes and 2) **financial**—financial sustainability depended on high adoption rates which would in turn lead to increased carbon credits.

## Scaling Deep to Refine the Model and Change Behavior

Evidence Action made the decision, in consultation with its major funders, to stop its geographic expansion and double down on increasing adoption at existing water points.

In order to better understand the underlying causes of the drop in adoption in Uganda, Evidence Action tested and validated its assumptions about the Dispensers' intervention. Evidence Action partnered with Boston-based Eleven, LLC; Eleven conducted a pro-bono human-centered design study<sup>24</sup> that validated the three main influencers that drove Dispensers for Safe Water adoption:

- Community interactions with promoters: The existence of a promoter was not enough to ensure program success. Promoters needed to be actively engaged in educating their community, dispelling myths, and ensuring chlorine was being used appropriately.
- Dispenser hardware problems: Regular maintenance of dispensers was fundamental. To maintain usage, dispensers needed to be functional 90+ percent of the time.
- Chlorine supply chain: Constant supply was critical.
   Adoption rates varied significantly if there was even a brief break in the availability of chlorine.<sup>25</sup>

By January 2015, adoption rates dropped to a low of 14%, significantly lower than the target of at least 45%. Once Evidence Action verified that these were the critical factors to drive adoption, it was able to pilot, evaluate, and roll out successful changes in response. While implementing these changes, Evidence Action also paid attention to sustainability to determine which strategies would most effectively increase adoption at costs that would not exceed the potential revenue generated from increased carbon credits. The most effective and feasible program changes included reinvigorating and retraining promoters, reeducating the community, improving staff, and supplying chlorine more effectively.

#### Reinvigorating and Retraining Promoters

The volunteer promoters' enthusiasm for their role tended to wane over time. Evidence Action staff met with promoters to reinvigorate, retrain, and reinforce their confidence and engagement. Reeducation efforts equipped promoters with the tools and knowledge to address misinformation, such as the erroneous belief that chlorine causes infertility, and promote best practices in terms of water collection and chlorine use. While these reeducation efforts helped to stem the tide of promoter disengagement, the issue remains a challenge for Evidence Action. With 11,634 promoters as of November 2016, adding salaries or other financial incentives is cost-prohibitive; however, Evidence Action is actively working to determine other measures for maintaining promoter motivation, including increasing promoter pride through t-shirts and training, and partnering with other organizations to provide products that promoters value, such as seeds for farming or phone cards.

#### Reeducating the Community

To support the promoters, Evidence Action also spends time reiterating proper dispenser care and effective chlorine use in communities. This reeducation includes new outreach strategies: conducting trainings at schools, since children often participate in water collection and are often responsible for dispenser vandalism; hosting trainings at health centers where mothers are taking their children for illnesses, including diarrheal diseases; and engaging local media through radio advertisements and other campaigns.

#### Improving Staff

Evidence Action made staffing changes to ensure that local communities were supported, chlorine was supplied, and dispensers functioned properly. Field officers were re-assigned to focus on increasing adoption, rather than expansion. This allowed staff to focus on community relationship-building. Staff regularly participate in meetings at the district, sub-county, and village levels, build trusted relationships, and are seen as part of the team invested in making health better in that community.

CSAs were also added to serve as additional "last mile" circuit riders and could be called to any water point by a promoter via a new toll-free telephone line. Promoters were encouraged to use the toll-free line to ask questions or report issues, such as chlorine stock outs or a broken dispenser. Finally, CSAs were supplemented by the creation of a specialized Dispenser Technician role. While CSAs are equipped to complete minor repairs, they can now delegate more difficult repair work to these technicians.

#### Supplying Chlorine More Effectively

Finally, Evidence Action put in place additional systems to smooth out customs processes for delivering chlorine to Uganda and altering chlorine storage for easier dissemination. As noted by Associate Area Coordinator Susan Werhike, an important decision was to transition chlorine storage from a purely centralized model to a hub and spoke model. In addition to storage at the Mbale office, chlorine is now kept at partner locations closer to local water points which enabled CSAs greater flexibility in designing their routes.

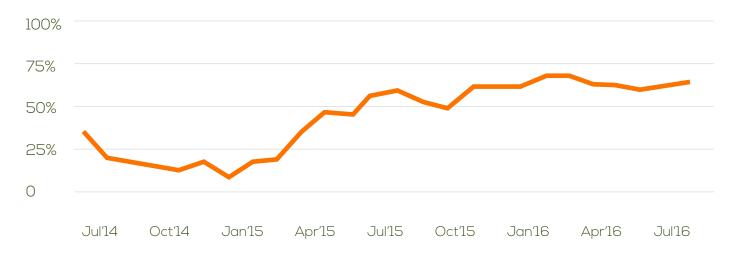


### THE RESULTS

# Scaling Deep Results in Increased Adoption

All of these program changes resulted in steadily increasing adoption rates in Dispensers' communities, as seen in figure 7.

Figure 7: Total dispenser adoption rates



As of September 2016 data, the adoption rates in Uganda had exceeded Evidence Action's 45 percent target, increasing to 64.3 percent from the low of 14 percent in January 2016.

Evidence Action was able to scale its impact by ensuring that existing sites reached more people, rather than simply growing the organization to new locations.

## THE RESULTS

## Progress toward Financial Sustainability

As Evidence Action focused on increasing adoption rates, it also knew that if increasing adoption rates dramatically increased costs, the gains would not be sustainable. Therefore, Evidence Action pursued financial sustainability through cost efficiency as well as earned revenue from the aforementioned carbon credits.

#### **Cost-efficiency**

Evidence Action's organizational culture is one of continuous improvement and assessment of operations to find opportunities for cost savings. Some savings have been large, such as when it significantly decreased staff to better align with the strategic shift away from expansion. More often the cuts are small, resulting from tweaks that don't significantly impact operations or the bottom-line, but collectively add up to meaningful cost savings. For example, shifting from hiring vehicles to transport staff to utilizing public transportation or ride sharing; buying chlorine in bulk; and closing field offices when the dispenser numbers made it more economical to send CSAs from further field offices.

As of the close of 2015, the installation cost per dispenser was \$259, while the on-going cost was \$160 per year. A footprint of 5,585 dispensers (1,970 newly installed that year) and 957,184 users results in a \$1.14 cost per user per year—a 75 percent decrease from the year prior (\$4.49 cost per user per year in 2014).

However, Country Lead Kibuuka clearly noted that "we are not just cost-cutting for cost-cutting sake. We are always looking at balancing costs with increasing adoption which will also lead to increased carbon credits" (as outlined next page). Program quality must be preserved to maintain dependable revenue—and achieve ultimate impact.

#### Carbon credit

In addition to improving cost efficiency, Evidence Action has made progress on funding the Dispensers for Safe Water program through the earned income generated by carbon credit sales. Evidence Action has a partnership with South Pole Group, a leading global provider of sustainability solutions, including carbon brokerage services, that generates credits for compliance markets. Credits generated in Uganda undergo further Gold Standard certification so they can be sold on the voluntary markets as well. In order to mitigate the consequences of carbon price fluctuations (a scenario experienced with a previous voluntary market partnership), Evidence Action, through their compliance market-based partnership with South Pole Group, has committed up to two million carbon credits from Kenya and Malawi to a presale contract. While the partnership has taken significant time to implement due to start-up auditing requirements (see figure 8), the agreement stipulates a fixed price for up to two million credits through 2020. Carbon credits generated in Uganda are sold by South Pole Group through a targeted sales process. Evidence Action collected initial carbon revenues from this compliance market partnership in late 2016.

Figure 8: Timeline for carbon credit auditing process

CDM - Clean Development Mechanism CPA - Component project activity



Evidence Action estimates that carbon financing could cover an impressive 80 percent of Dispensers for Safe Water costs when at scale across the three East African countries. Under these estimates, carbon financing will become a central funding stream, however, revenue will lag programmatic costs (installation of new dispensers, etc), which means philanthropic investment and other funding mechanisms—such as government resources or long-term loan financing, along with an ongoing focus on cost-cutting—remain critical.

Today, as Evidence Action continues to improve adoption numbers and make progress towards financial sustainability, it has become more disciplined in its expansion strategy. It focuses on monitoring data with the goal of sustaining and improving adoption rates, only scaling wide when adoption rates are high and with the help of financial resources and partners.

As of October 2016, Evidence Action had installed 5,865 dispensers in Uganda, providing 1,796,334 people with access to clean water.<sup>28</sup> With an October 2016 adoption rate of 59.6 percent, approximately 1,070,615 people were using Dispensers for Safe Water in Uganda. Across the three countries in which Dispensers for Safe Water operates, 27,389 dispensers give access to more than 4,653,810 people.<sup>29</sup> At an average regional adoption rate of 50 percent, more than 2,326,905 are now using Dispensers.<sup>30</sup>

## THE FUTURE

With a validated model, deep community engagement, sustained adoption rates, and rising demand, Evidence Action is setting the stage to scale Dispensers for Safe Water to new levels. Country Lead Kibuuka and his team are eyeing several new scaling pathways, including partnerships and advocacy.

#### **Partnerships**

From the outset of Dispensers in Uganda, Evidence Action has had the support of district health officers and government representatives and is now working to formalize those partnerships. Area Coordinator Caleb Wakhungu notes that, "success can never be attributed to just Evidence Action." Progress has been made in exploring co-funding models with local governments. The Butaleja district has signed a Memorandum of Understanding with Evidence Action stating that it will offset the program costs in its community through directly purchasing chlorine and sharing space for chlorine storage. As Butaleja Chief Administrative Officer Waweyo Abdunass Mudenya said, "We want to make sure this is sustainable teamwork. We pledge continued commitment to project staff, the project, and community."

Evidence Action plans to engage government on a national level as well. According to Deputy Director Narracott, "[Dispensers for Safe Water] is essentially a public good that we are providing. The RCT has shown the effectiveness of our intervention; we have now taken it to a reasonable scale through direct service delivery and eventually we would like to see the government help take the model to broad scale." Proving the model and building the capacity to engage at the country level were prerequisites for engaging the national government.

"We want to make sure this is sustainable teamwork. We pledge continued commitment to project staff, the project, and community"

Evidence Action is also exploring partnerships with local NGOs to help with implementation, while carefully considering each potential partnership's ability to maintain program quality. It believes that in some circumstances it will need to continue the direct delivery model in order to control quality, whereas in other cases it can partner to hand off operations while playing a monitoring or technical assistance role. Evidence Action has identified key criteria that must be in place to consider handing off part of the operations to partners:

- Rural distribution network by which the partner visits a community, and thus delivers chlorine, several times a year
- Local hubs to store the chlorine supply
- Ability to engender trust in the community
- Incentive and motivation to provide safe water
- Ideally, ability to monitor operations and adoption to keep quality high

With these criteria in place, Evidence Action is entering into its first significant NGO partnership in Uganda with BRAC, the world's largest development organization. BRAC entered Uganda in 2006 and now has more than 135 branches in Uganda with 4,075 Community Health Promoters (CHPs), serving nearly 4 million Ugandans. The BRAC/Evidence Action partnership will leverage these CHPs in place of the CSA and promoter roles from Evidence Action's model.

The CHPs will mobilize the community to use the dispenser, refill the chlorine stocks, and conduct basic dispenser maintenance. Evidence Action will serve as technical assistance and support to ensure that Dispensers is being implemented correctly. The partnership is just beginning, with the first CHP training held in October 2016, but the team is optimistic about the potential of this partnership as a demonstration model.

Evidence Action is entering into its first significant NGO partnership in Uganda with BRAC, the world's largest development organization.

#### **Advocacy**

Evidence Action Uganda is exploring advocacy as another means to scale its impact. Country Lead Kibuuka speaks passionately about the need to broaden the government conversation from access to water to water quality and he believes that Evidence Action can be a key influencer in that conversation—at both the district and national policy levels.

With clear evidence of local demand, adoption, and cost-effectiveness, Evidence Action has now begun to build the foundational network needed for these advocacy efforts. It recently joined UWASNET, the Uganda Water and Sanitation NGO Network, which plays the role of convener and advocate for water and sanitation rights in Uganda. In addition, Evidence Action is talking with the Ministry of Water and Environment about including chlorine dispensers in future government policy about safe water provision in rural communities.

As the Dispensers continues to find success in Uganda, the leadership team is excited to explore different models—continued direct service, technical assistance, and advocacy—to achieve the greatest impact possible. In the end, Country Lead Kibuuka envisions a day when "Dispensers for Safe Water is not seen as an Evidence Action program, but that Evidence Action co-owns the program with communities, government, [and] partners—with all contributing to the success and ultimate impact of clean water and improved health outcomes."



# KEY PIVOTS AND LESSONS LEARNED

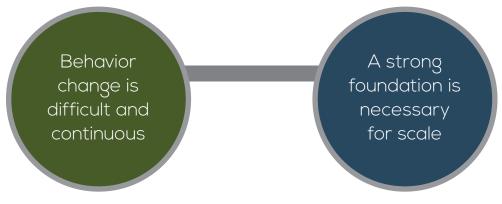
Evidence Action experienced many challenges on its scaling journey, forcing it to step back, validate assumptions, and pivot to new pathways for achieving impact. The lessons it learned along the way may be applicable to other social ventures seeking to scale:



The journey to impact at scale is rarely a straight line. By tracking key indicators, social ventures can assess and adjust to ensure they are achieving the greatest impact possible. This may mean not growing the organization.

Measuring progress towards mission is critical but more is not always better. The amount of data collected should be balanced against the resources required for collection, what will be used in decisionmaking, and what is needed to confidently show impact.

Even when an intervention may seem simple and straightforward, context matters. Knowledge of an ecosystem's prevailing ideologies, shifting priorities, and potential partners is critical to success.



Creating behavior change requires an awareness and appreciation of both rational and emotional concerns. Infrastructure, leadership, and performance management processes are fundamental fuel for the scaling journey.

#### Scaling is often non-linear

Evidence Action's experience in Uganda demonstrates that scaling social ventures is about scaling impact, not necessarily growing the size of an organization. As Dispensers for Safe Water rolled out in Uganda and adoption rates decreased, it became clear that growing the footprint of the program would achieve broader geographic reach but would not effectively scale impact. In fact, growing could have led to higher variable costs with fewer people served per site, driving up per person costs and driving down outcomes achieved per dollar spent. Evidence Action took a step back and questioned assumptions to ensure it was scaling a high quality, effective intervention.

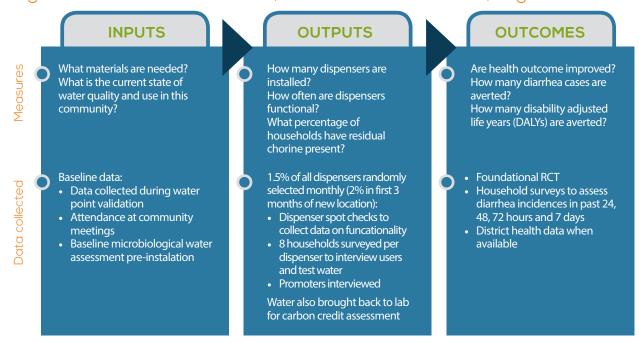
Many social ventures may need to step forward and back multiple times to test hypotheses and ensure quality of impact at scale. Therefore, scaling journeys often look more like a zig zag than a straight line. As Dispensers for Safe Water pursued its zig zag path to scale, the keys to success included:

- Scaling social ventures is about
- scaling impact, not necessarily
- , growing the size of an organization.
- Identifying key indicators: Instead of simply tracking the number of dispensers installed
  and the number of community members with access to those dispensers, Evidence Action
  also tracked adoption and tested water quality. By selecting an appropriate indicator that
  went beyond outputs, Evidence Action had a clear trigger to warn that impact was not
  being achieved as designed.
- Making the tough decisions to change direction when needed: It was not easy for Evidence Action to stop the expansion momentum it was building. However, as soon as it was aware of the downward trend in adoption rates, it shifted to testing assumptions. When data showed that additional community education and maintenance were needed to improve adoption rates, Evidence Action made the necessary organizational changes—shifting the focus of existing staff, hiring new staff, and increasing monitoring—to improve the effectiveness of the program.
- Adjusting funder expectations: None of these decisions happened in a bubble. Evidence Action had to carefully manage relationships with funders who had provided grants based on a series of performance targets and timelines that would no longer be met. Evidence Action kept funders updated about both progress and challenges. Therefore, when it presented its monitoring and evaluation data, the results of its human-centered design study, and its plan for increasing adoption rates, its funders were not surprised by the change in direction. In the end, the IIA partners were aligned on the ultimate impact they were looking to achieve and were therefore flexible on the path to achieving that impact. The funders considered the grant a success despite missing the initial targets and timeline. As Roger Martin and Sally Osberg, President & CEO of the Skoll Foundation, note in Getting Beyond Better, "[Organizations] need to balance adaptation and adherence, not flowing too quickly from one vision to the next, but also not sticking stubbornly to a model that had stopped working." By reevaluating and transforming the way it pursued and measured its depth of impact, Evidence Action took a risk—one that resulted in more meaningful and lasting change.

#### Right-sized performance management requires balance

Rebecca King, former Senior Associate in Evidence Action's Monitoring, Learning, and Information Systems team, states, "As an evidence-based organization, we rely on high-quality, timely, and systematic measurement of inputs, outputs, and outcomes to make decisions about our work, and evaluate our progress. We measure to make decisions." (These measures are outlined in figure 9.)

Figure 9: Measures for the Dispensers for Safe Water program



Signaling the importance of this activity, the Uganda team includes five staff members focused on monitoring and evaluation (in addition to the many staff members that participate in the data collection efforts). The Uganda team coordinates with its counterparts in the regional office in Kenya. The majority of data collection is done via mobile phones, using the open source Open Data Kit<sup>33</sup> survey software and cloud-based Management Information System that allows for real-time dashboards, issue tracking, and more.

With staffing and tools in place, Evidence Action collects 2,280 test results per month or 27,360 per year, across the three country programs, providing critical data about water quality and adoption rates. Yet, even with this focus on performance management, Evidence Action spends only the time and resources needed to collect data critical to decision-making and impact.

- "Measuring 'means' rather than 'ends'
- could be a controversial stance in an
- NGO community where M&E teams pride
- themselves on always measuring 'impact.'"

#### Impact on decision-making

Evidence Action regularly uses the collected data, combined with qualitative information gathered through its deep community engagement approach, for rapid feedback, analysis, and decision-making related to Dispensers' operations. Dashboards provide realtime tracking, allowing the team to quickly identify and troubleshoot issues, such as the dip in adoption experienced in 2015. However, the team is also careful not to overspend on data collection. For example, the team recently decided to scale back water point and household audits from every month to every other month. According to Country Lead Kibuuka, "If we were to move into a new region or see a drop in adoption rates in existing communities, we would probably go back to monthly monitoring to ensure the effectiveness of our program. But given the consistent adoption rates that we have seen in our districts, moving to an every other month model makes sense for cost efficiency and the best use of staff resources."

#### Measuring outputs, not impact

It is interesting to note that Evidence Action does not spend significant resources trying to measure impact but instead relies on the evidence from its initial RCT to show that outputs will lead to the intended impact. Salma Nassar, former Manager in Evidence Action's Beta Research and Projects team, justifies this "because we have sufficient evidence to know that there is a causal relationship between the intervention and the impact." Nassar admits that "measuring 'means' rather than 'ends' could be a controversial stance in an NGO community where M&E teams pride themselves on always measuring 'impact." But with a rigorous RCT backing its program, Evidence Action believes that careful monitoring of outputs and performance data provide the evidence that it needs to scale its program without spending unnecessary resources or necessitating control groups that would not receive the intervention.

- "If we were to move into a new region or see a drop in adoption rates in
- existing communities, we would probably go back to monthly monitoring
- to ensure the effectiveness of our program. But given the consistent
- adoption rates that we have seen in our districts, moving to an every
- other month model makes sense for cost efficiency and the best use of
- staff resources."

#### Scaling is context specific

Although this case study is focused on Uganda, Dispensers for Safe Water is also being implemented in Kenya and Malawi. In all countries, Dispensers includes the three core components—hardware, community education, and ongoing supply and maintenance—as well as the five-step process for community education. From there, modifications were made to the model to take advantage of the unique opportunities and challenges each country presented. As noted in an internal Evidence Action report,

"Whereas the major programming processes of the [Uganda] Dispenser program may be similar to those in a country such as Kenya, a failure to acknowledge, understand, and manage country-specific peculiarities and cultural context would have continued leading us on a path to low adoption rates."

While the best practice of engaging stakeholders early and deeply is always consistent, the exact stakeholders and the conversation script will differ from one country and context to another. For example, in Uganda the program was not resonating with Muslim communities, so the team sought out a partnership with the Uganda Muslim Rural Development Association (UMURDA), leading to better messaging about the program and its benefits for that specific community.

Among the three East African countries implementing Dispensers for Safe Water, there are three different organizational structures. In Kenya, where the communities served are spread over large geographic areas, Evidence Action uses a hub-and-spoke model, with eight field offices and a central office in Nairobi that houses common administrative functions. Early on, the Ugandan team simply copied this same structure. However, over time and with a careful eye on costs per dispenser, the team realized that supporting the physical infrastructure of secondary field offices was not cost effective in Uganda.

In Malawi, the unique ecosystem surrounding water influences organizational structure; Malawi has a long history of chlorine promotion and a government that was willing to partner with Evidence Action from the beginning. Therefore, instead of direct implementation, Evidence Action partnered with the Ministry of Health's (MOH) existing health officer infrastructure to provide the services that CSAs provide in Uganda and Kenya. While the core model remains the same, the staff carrying out the work is spread between Evidence Action and the central government. Because the MOH health officers are already embedded in and trusted by communities, Evidence Action believes this model will lead to increased impact and lowered costs over time in Malawi. In Uganda, centralized government partnership was not a viable possibility at Dispensers' inception; therefore the organization initially followed a path of direct delivery much like the model in Kenya.

#### Behavior change is difficult and continuous

Incentivizing and sustaining behavior change is a common challenge among social ventures. Evidence Action struggled with this throughout its Dispensers roll-out in Uganda. Initially, community members were excited about the new chlorine dispensers at their water points but over time the adoption rates dropped as the novelty of the dispenser wore off and new habits were not sufficiently formed. As Stanley Nanumanyi, the Kibuku District Health Inspector states, "The moment you slouch, people tend to go back."

A helpful framework for behavior change comes from the book "Switch: How to Change Things When Change Is Hard", written by CASE Senior Fellow Dan Heath and Stanford University Professor Chip Heath. The authors argue that sustainable behavior change requires three acts:

- 1. Direct the rider (the rational mind)
- 2. Motivate the elephant (the emotional heart)
- 3. Shape the path

Behavior change is tricky because it requires convincing both the rational and the emotional sides to move together down a path to change. In the case of Dispensers for Safe Water, Evidence Action has been successful in doing just that:

#### Direct the rider

The rider—the rational, logical side of our brains—can easily be overwhelmed by too many options and a lack of clarity. For example, community members can be overwhelmed by the many steps needed to keep their family healthy and the different options for cleaning water. Dispensers for Safe Water helps overcome this by providing crystal clear directions: go to your regular local water point, see the bright blue dispenser located right at the water point, turn the lever on the dispenser which will automatically dispense three milliliters of chlorine, walk home (the chlorine mixes as you walk), use the water (and read the directions posted on the dispenser in local languages if you forget).

The intervention is simple, easy to follow, and since the chlorine keeps the water clean for up to 72 hours does not require any additional follow-up. Evidence Action also appeals to the rider's logic by educating the community on the effects of unclean water, providing statistics about disease rates and giving examples of problems associated with contaminated water.



Data is important to convince people of the need for change but appealing to emotions is equally important when trying to get people to act on that change. Evidence Action engaged trusted community members (the promoters) and allocated staff time for a presence in the communities. This built rapport with residents and helped spread a community passion for clean water and good health.

In communicating with community members, both promoters and Evidence Action staff focused on three key emotionally-driven messages:

- Safe water leads to a good life
- It is everyone's responsibility to prevent diarrhea by using chlorine dispensers
- All parents should make the right choice to protect their children's lives by using chlorine dispensers

Evidence Action was also prepared when "opportunities" arose that struck at stakeholder's emotions. In the case of Uganda, these opportunities came far too often in the form of cholera outbreaks. In the words of Butaleja District Health Officer Henry Hisgoli, "a cholera outbreak came and it turned out that bad luck was good luck in disguise." During the outbreak, community members were able to see that neighbors who used chlorinated water were not getting sick. Demand for the dispensers skyrocketed.

#### Shape the path

With the rational (rider) and the emotional (elephant) on board, Evidence Action needed to shape the path and set it in the right direction. Because reinforcing messages through multiple channels provides consistent reminders and therefore helps build habits, Evidence Action attended community meetings, educated children through school programs, trained workers at health clinics to talk about clean water while discussing health challenges like diarrhea with patients, and used local radio advertisements and placements in weekly government talk shows. Evidence Action also made the chlorine free and readily accessible at local water points, making the path easier to follow.

Over time, the behavior change became contagious and peer pressure further solidified the habits. Since the dispensers are located at public water points, everyone could see who was using chlorine and neighbors could pressure each other to ensure the health of all.

#### Strong foundation is necessary for scale

Social ventures often underestimate the resources needed to successfully scale. In navigating its scaling path, Evidence Action learned the foundational elements it needed to have in place:

#### Strong infrastructure

Dispensers for Safe Water had the advantage of being one part of a portfolio of programs that Evidence Action offers, not only in Uganda, but also in Kenya and Malawi. Therefore, a shared-services model could be leveraged to share the costs of human resources, administration, and monitoring and evaluation across all programs and all country offices. Other infrastructure needed for successful scaling included storage facilities to keep chlorine stockpiles accessible, transportation for staff to access dispenser locations, and IT infrastructure to support mobile data collection and information sharing.

#### Need for strong leadership

Success of any scaling strategy requires that an organization has the people in place to lead and implement that strategy. For Evidence Action, that meant having staff members on the ground to implement the model. Even more importantly, it also meant having strong leadership to set the vision for scale, create and execute a plan to get to that vision, access the funds needed, adapt as conditions evolve, keep the team motivated, and much more. To achieve this, Evidence Action shifted leadership at the Uganda country level to bring in Kibuuka as Country Lead and at the Dispensers for Safe Water regional level to bring in Narracott as Deputy Director.

As Chris Walker, Social Innovations Director at Mercy Corps and manager of its role in the IIA states, "We often see that as an innovative program shifts from pilot to scale, a different type of leadership is needed. The leadership must have a clear vision for scale and understand how to best align human and financial capital to achieve that vision; an ability to put in place processes and structures that will achieve economies of scale while still allowing for adaptation to local context; and a learning mindset to continuously evolve as the organization scales. Evidence Action's leadership has been central to its success to date in Uganda."

#### Effective processes in place to streamline operations

Evidence Action learned how critical it is to have the appropriate operational processes in place to keep the team aligned on its work and motivated. For example, all team members engage in a weekly task-planning process that includes setting goals and targets that can be reported against and tracked by managers. Cloud-based software programs help to track time management. Annual performance review processes allow for 360 degree feedback to all team members, from leadership to field level. And a Kaizen process of continuous learning, reflection, and evaluation after each task, encourages the team to identify areas for improvement and continuously improve its work.

## CONCLUSION

Evidence Action's Dispensers for Safe Water program was built on a foundation of evidence-based impact and audacious goals. Even with this proven impact, it still needed to follow a zig-zag path to scale, using rigorous monitoring and evaluation to drive feedback loops and continuously refining its programmatic intervention and revenue model to increase quality and achieve impact.

With an eye towards the future, Evidence Action is now experimenting with partnerships and advocacy to continue to scale the impact of Dispensers for Safe Water. There is much left to do to reach the overarching goals of 9 million people served in Uganda and 25 million between Uganda, Kenya, and Malawi.

Many challenges lie ahead but Evidence Action is well positioned to meet these challenges and catalyze widespread adoption of chlorine dispensers for safe, sustainable clean water services leading to healthier communities.



## REFERENCES



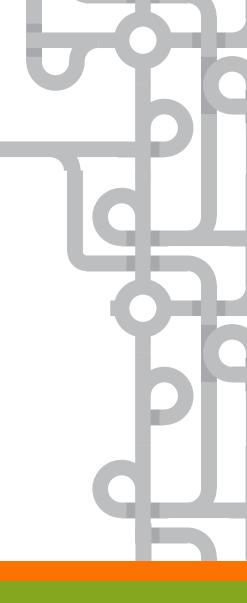
- 1. As of November, 2016.
- 2. "Drinking Water: Fact Sheet," World Health Organization, November 2016, <a href="http://www.who.int/mediacentre/factsheets/fs391/en/">http://www.who.int/mediacentre/factsheets/fs391/en/</a>.
- 3. "Water for Life: 2005-2015," UN-Water, May 29, 2014, <a href="http://www.un.org/waterforlifedecade/human\_right\_to\_water.">http://www.un.org/waterforlifedecade/human\_right\_to\_water.</a> shtml.
- 4. "The Human Right to Water and Sanitation," UN-Water Decade Programme on Advocacy and Communication and Water Supply and Sanitation Collaborative Council, accessed March 13, 2017, <a href="http://www.un.org/waterforlifedecade/pdf/">http://www.un.org/waterforlifedecade/pdf/</a> human right to water and sanitation media brief.pdf.
- "Sustainable Development Goals: 17 Goals to Transform Our World," UN Web Services Section, Department of Public Information, United Nations, accessed March 13, 2017, <a href="http://www.un.org/sustainabledevelopment/water-and-sanitation/">http://www.un.org/sustainabledevelopment/water-and-sanitation/</a>.
- **6.** "Drinking Water: Fact Sheet," World Health Organization, November 2016, <a href="http://www.who.int/mediacentre/factsheets/fs391/en/">http://www.who.int/mediacentre/factsheets/fs391/en/</a>
- 7. "Drinking Water: Fact Sheet" World Health Organization, accessed March 13, 2017, <a href="http://www.who.int/mediacentre/factsheets/fs391/en/">http://www.who.int/mediacentre/factsheets/fs391/en/</a>
- **8.** "Uganda Demographic and Health Survey 2011," Uganda Bureau of Statistics, August 2012, <a href="https://dhsprogram.com/pubs/pdf/FR264/FR264.pdf">https://dhsprogram.com/pubs/pdf/FR264/FR264.pdf</a>
- 9. "Safe Water System," Centers for Disease Control and Prevention, last modified May 1, 2014, <a href="https://www.cdc.gov/safewater/index.html">https://www.cdc.gov/safewater/index.html</a>
- 10. For specific information on the extensive evidence on chlorination for safe water that undergirds Evidence Action's work, see "Chlorine Dispensers Work for Safer Water: A Review of the Evidence," Evidence Action, June 12, 2014, accessed March 13, 2017, https://www.evidenceaction.org/blog-full/chlorineevidence
- 11. "Source Dispensers and Home Delivery of Chlorine in Kenya," Innovations for Poverty Action, accessed March 13, 2017, <a href="http://www.poverty-action.org/study/source-dispensers-and-home-delivery-chlorine-kenya">http://www.poverty-action.org/study/source-dispensers-and-home-delivery-chlorine-kenya</a>
- 12. Michael Kremer, Edward Miguel, Sendhil Mullainathan, Clair Null, and Alix Peterson Zwane, "Social Engineering: Evidence from a Suite of Take-Up Experiments in Kenya," Springs: Water Quality, Hygiene Behavior and Child Health in Kenya, April 2011, <a href="http://eml.berkeley.edu/~emiguel/pdfs/chlorinedispensers.pdf">http://eml.berkeley.edu/~emiguel/pdfs/chlorinedispensers.pdf</a>
- 13. "Innovations for Poverty Action Announces Launch of Evidence Action to Bring Evidence-Based Solutions to Scale," Innovations for Poverty Action, August 23, 2013, <a href="http://www.poverty-action.org/news/innovations-poverty-action-announces-launch-evidence-action-bring-evidence-based-solutions">http://www.poverty-action.org/news/innovations-poverty-action-announces-launch-evidence-action-bring-evidence-based-solutions</a>
- 14. "Scaling Up What Works," Evidence Action, accessed March 13, 2017, https://www.evidenceaction.org/#about
- **15.** Unless otherwise noted, all quotations in this case study are from interviews conducted by Erin Worsham and Robyn Fehrman in October and November 2016.
- **16.** For instance, a 2009 study in Kenya showed that protecting springs led to a 66 percent reduction in contamination of the water at the source. However, due to unsanitary water collection and storage (dirty cups, storage vessels, hands, etc.), contamination in household drinking water was reduced by only 24 percent. Noted in internal Evidence Action reports, 2014.
- 17. "Carbon Credits for Dispensers: Financing Clean Water for Millions," Evidence Action, June 23, 2014, <a href="https://www.evidenceaction.org/blog-full/carbon-credits-for-dispensers">https://www.evidenceaction.org/blog-full/carbon-credits-for-dispensers</a>

- 18. Leo Peskett and Gernot Brodnig, "Carbon Rights in Redd+: Exploring the Implications for Poor and Vulnerable People," World Bank and Redd-Net, 2011, <a href="http://siteresources.worldbank.org/EXTSOCIALDEVELOPMENT/">http://siteresources.worldbank.org/EXTSOCIALDEVELOPMENT/</a>
  Resources/244362-1232059926563/5747581-1239131985528/5999762-1318623469948/CarbonRightsReport.pdf
- **19.** On average, each hardware dispenser provides access to 170 people. "The Problem: Unsafe Drinking Water," Evidence Action, accessed March 13, 2017, <a href="https://www.evidenceaction.org/dispensersforsafewater/#the-problem">https://www.evidenceaction.org/dispensersforsafewater/#the-problem</a>
- **20.** "USAID-Skoll Innovation Investment Alliance," MercyCorps, May 20, 2016, <a href="https://www.mercycorps.org/sites/default/files/MercyCorps">https://www.mercycorps.org/sites/default/files/MercyCorps</a> USAID Skoll Fact Sheet 5.20.16 0.pdf
- 21. "Post-Pay for Results: What Makes Evidence Action's Work on Safe Water So Different?" Evidence Action, accessed March 13, 2017, <a href="https://www.evidenceaction.org/blog-full/post-pay-results-what-makes-evidence-actions-work-on-safe-water-so-different">https://www.evidenceaction.org/blog-full/post-pay-results-what-makes-evidence-actions-work-on-safe-water-so-different</a>
- **22.** "Our Track Record," Evidence Action, accessed March 13, 2017, <a href="https://www.evidenceaction.org/dispensersforsafewater/#track-record">https://www.evidenceaction.org/dispensersforsafewater/#track-record</a>
- **23.** 45 percent is Evidence Action's target for adoption based on their experience of what is feasible with strong, basic execution (good chlorine distribution, active maintenance, promoter engagement). According to Evidence Action leadership, this rate is four to six times higher than other commercially available alternatives.
- **24.** "A Culture of Design," ELEVEN, accessed March 13, 2017, <a href="http://www.eleven.net/">http://www.eleven.net/</a>
- **25.** A survey done by the team in Kenya showed that adoption rates were 8-10 percent lower in areas where dispensers were reported empty in the prior month, versus 10-24 percent higher in areas where the dispensers were full at four and twelve month spot checks.
- **26.** Internal Adoption Drivers Memo, sourced from Evidence Action, May-Jun 2015.
- **27.** Each carbon credit is equivalent to one ton of carbon dioxide emissions saved. "Understanding Carbon Credits: What You Really Get?" South Pole Group, http://www.thesouthpolegroup.com/sustainability-solutions/carbon-offsets, accessed March 13, 2017.
- **28.** Access refers to the number of people served by Dispensers for Safe Water. It collects and verifies data on the number of households that are using a given water point and then estimates the number of people per household based on monthly surveys of randomly selected households in that catchment area.
- 29. "Dispensers for Safe Water," Evidence Action, October 2016, http://dispenserdata.evidenceaction.org/#/? k=uoo7m3
- **30**. Ibid
- **31.** Roger L. Martin and Sally Osberg, Getting Beyond Better: How Social Entrepreneurship Works (Watertown, MA: Harvard Business Review Press, 2015), 179.
- **32.** Rebecca King, "Data for Decision Making at Evidence Action," Evidence Action, March 3, 2015, <a href="https://www.evidenceaction.org/blog-full/data-for-decision-making-at-evidence-action">https://www.evidenceaction.org/blog-full/data-for-decision-making-at-evidence-action</a>
- **33.** "Open Data Kit: Magnifying Human Resources Through Technology," Open Data Kit, accessed March 13, 2017, <a href="https://opendatakit.org/">https://opendatakit.org/</a>
- **34.** For more details, see Salma Nassar, "Why We Do Not Measure Impact at Scale (And are Unapologetic About It)," Evidence Action, May 5, 2015, <a href="https://www.evidenceaction.org/blog-full/why-we-do-not-measure-impact-at-scale-and-are-unapologetic-about-it">https://www.evidenceaction.org/blog-full/why-we-do-not-measure-impact-at-scale-and-are-unapologetic-about-it</a>



Insights from the field on unlocking impact at scale

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#### The Innovation Investment Alliance (IIA):

The Innovation Investment Alliance (IIA) is a funding and learning partnership between the Skoll Foundation and USAID's Global Development Lab, with support from Mercy Corps, that has invested over \$50 million in eight proven, transformative social enterprises to scale their impact. In 2017, with all its funding committed, the IIA is focusing on drawing out lessons on scaling that are applicable to the social enterprise community with the aim to inform the ongoing conversation on how to create systems-level change and sustainable impact at scale.

#### The IIA's partners include:

- The Skoll Foundation drives large scale change by investing in, connecting, and celebrating social entrepreneurs and the innovators who help them solve the world's most pressing problems. Skoll brings an expertise in identifying and cultivating social entrepreneurs. Learn more at www.skoll.org.
- The U.S. Global Development Lab (The Lab) increases the application of science, technology, innovation, and partnerships to achieve, sustain, and extend USAID's development impact to help hundreds of millions of people lift themselves out of extreme poverty. The Innovation Investment Alliance is supported by The Lab's Center for Transformational Partnership. Learn more at www.USAID.gov/GlobalDevLab
- Mercy Corps empowers people to survive through crisis, build better lives and transform their communities for good. Mercy Corps brings its experience in developing field-based programming in over 40 countries and investing in disruptive start-ups to the selection, evaluation and management of organizations selected for funding. Learn more at www.mercycorps.org.

#### The Center for the Advancement of Social Entrepreneurship (CASE) at Duke University:

CASE is an award-winning research and education center based at Duke University's Fuqua School of Business. Since 2002, CASE has prepared leaders and organizations with the business skills needed to achieve lasting social change. Through our research, teaching, and practitioner engagement, CASE is working toward the day when social entrepreneurs will have the skills, networks, and funding needed to scale their impact and solve the world's most pressing social challenges. Learn more at www.caseatduke.org.