A conversation with Emily Bancroft, March 22, 2018

Participants

- Emily Bancroft – President, VillageReach
- Elie Hassenfeld – Co-Founder and Executive Director, GiveWell

Note: These notes were compiled by GiveWell and give an overview of the major points made by Emily Bancroft.

Summary

GiveWell spoke with Ms. Bancroft of VillageReach to get an update on its work. Conversation topics included a history of VillageReach's supply chain work, the impact evaluation of its scale-up to four provinces in Mozambique, VillageReach's current framework for thinking about the contribution of supply chain improvements to ensuring that all children are vaccinated, and VillageReach's current work.

History of VillageReach's supply chain work

Pilot project in Cabo Delgado

From 2002 to 2007, VillageReach conducted a pilot project of its Dedicated Logistics System (DLS), which delivered vaccines and other medical supplies to health facilities in the Cabo Delgado province of Mozambique. VillageReach was entirely responsible for financing and operating the pilot project in Cabo Delgado, as the local government wished to see positive results before investing in the program.

Scale-up to four provinces in Mozambique

From 2009 to 2011, GiveWell directed funding to VillageReach, which it used to recommence its DLS program in Cabo Delgado and expand the program to the Niassa, Gaza, and Maputo provinces in Mozambique. The scale-up began in 2010 and continued through 2015, with each province's program managed and financed jointly by VillageReach and the respective provincial government.

Monitoring and modification of program model

During VillageReach's scale-up to four provinces, it modified its program model based on a number of key performance indicators, including:

- **Stock levels –** VillageReach optimized programs to achieve stockout rates below 5%.
- **Frequency of deliveries –** In its pilot project in Cabo Delgado, VillageReach made deliveries to health facilities every 30 days. During its scale-up, it found that with the buffer stock included in the deliveries, health facilities could wait up to 40 days between deliveries before stockout rates began to increase.
- **Number of vaccines provided at facilities**

National scale-up in Mozambique

In 2015, the Bill & Melinda Gates Foundation expressed a desire to significantly expand VillageReach's program model to more provinces and other countries. With support from the Bill & Melinda Gates Foundation and Gavi (an international organization focused on increasing global access to vaccines), VillageReach began scaling its program in Mozambique to a national level. While the approach for its scale-up to four provinces was to share financial responsibility with governments, VillageReach's approach for the national scale-up was to determine how provinces could operate more independently.

Instead of strictly adhering to VillageReach's DLS model, provincial-level data was utilized to tailor systems to each respective province in Mozambique. Although provinces were largely responsible for designing and implementing programs, VillageReach still provided financial and technical assistance for the planning and budgeting processes. The national government applied for funding from Gavi, whose health system and immunization strengthening work includes providing grants to help countries increase immunization coverage.

Currently, eight provinces in Mozambique are actively implementing improved medical supplies delivery programs based on their planning work with VillageReach. Two other provinces have designed programs but have not begun implementation, and one province is still in the planning stage. VillageReach has found that a program approach dependent on government ownership moves more slowly, as provinces cannot rely heavily on external resources to quickly put their plans into action.

Decline in performance

In the middle of 2016, VillageReach ceased all financial support to provinces for medical supplies delivery programs. Financial independence had no immediate effect on programs. Provincial governments were able to use their budgets to continue delivering supplies to health facilities. However, provinces gradually began exhibiting a decline in performance. VillageReach believes that the programs' transition to financial independence uncovered other challenges that provincial governments need to overcome to maintain a high level of performance. One specific challenge is the amount of time it takes a province to request and receive funds in the government system, which in turn affect timely availability of funds for regular distribution-related costs (fuel, vehicle maintenance, etc.). VillageReach is conducting further analyses to fully understand the reasons for declines in performance and to determine ways to support the provincial governments to address them.

Expansion to other countries

VillageReach is now directly supporting supply chain work in three additional countries:

- **Pakistan –** VillageReach was invited by UNICEF to design an evidence-based program for the delivery of medical supplies in Pakistan. VillageReach views its work in Pakistan as an opportunity to demonstrate the effectiveness of its program model to UNICEF, which would be able to expand the program to a number of high-priority countries.
- **Zambia** – Immunization coverage rates are relatively high in Zambia but have been declining over the past few years. VillageReach is working with the Zambian Ministry of Health to develop a strategy to increase immunization coverage rates. The strategy takes a holistic approach that includes supply chain improvements—which will increase efficiency and reduce costs but will not increase coverage rates alone—as well as capacity-building, registration of vaccination data, and other activities. Instead of employing field staff, VillageReach is supporting work through the Centre for Infectious Disease Research in Zambia.
- **The Democratic Republic of Congo (DRC)** – VillageReach is directly managing a medical supplies delivery program in a rural area of the DRC. Similar to VillageReach's initial work in the Cabo Delgado province of Mozambique, improvements in the delivery of medical supplies can have large impacts on healthcare coverage in the DRC. Although VillageReach has only been implementing the program for six months, it has already observed an increased number of vaccines being provided to children. At some point, the improvement in vaccine coverage that can be gained from just a supply chain intervention will plateau as pent-up demand is reached, at which time VillageReach will consider outreach programs or other interventions to increase immunization coverage rates in the DRC.

Global focus on immunization supply chain

The optimization of vaccine supply chains receives much more global attention currently than when VillageReach first began working with GiveWell in 2009.

In 2015, Gavi developed its "Immunisation Supply Chain Strategy", which influenced large global health institutions such as UNICEF and the World Health Organization to begin focusing on the improvement of vaccine supply chains. VillageReach serves on Gavi's Immunisation Supply Chain Strategy steering committee, influencing the implementation of the strategy.

Impact evaluation of scale-up to four provinces in Mozambique

For the impact evaluation of its initial pilot project in Cabo Delgado, VillageReach administered surveys and conducted assessments of coverage rates. However, for the impact evaluation of its scale-up to four provinces in Mozambique, VillageReach utilized research conducted by external organizations. It estimated baseline coverage rates using the 2010 Mozambique Demographic and Health Survey. Endline coverage rates were estimated using the Inquérito de Indicadores de Imunização, Malária e HIV/SIDA em Moçambique (IMASIDA), which collected data in 2015.

Findings

VillageReach is reasonably confident that its pilot project in Cabo Delgado resulted in increased immunization coverage rates. However, results from VillageReach's impact evaluation of its scale-up to four provinces are difficult to interpret. It found increased immunization coverage rates in most provinces in Mozambique, not solely in the four provinces in which VillageReach was working. Furthermore, the increases in coverage rates were relatively small. VillageReach is therefore not able to confidently attribute increases in the four provinces' immunization coverage rates from 2010 to 2015 to its work. Potential causes for the impact evaluation's outcomes include:

- **Presence of UNICEF –** UNICEF was conducting programs in Mozambique to increase vaccination coverage at the same time VillageReach was scaling up its program. However, UNICEF's work varied by province and scope and would not fully explain the results of VillageReach's impact evaluation.
- **Targeting process –** VillageReach did not identify target provinces based on need. It worked with provinces that had expressed interest and possessed the necessary capital to fund medical supplies delivery programs. VillageReach's targeting process resulted in a selection of provinces, such as Gaza and Maputo, that were already demonstrating relatively high vaccination coverage rates and therefore may have had less room for improvement.
- **Evaluation methodology –** For the impact evaluation of its pilot project in Cabo Delgado, VillageReach was able to have consistency across baseline and endline assessments because it oversaw data collection. However, the impact evaluation of its scale-up to four provinces utilized two studies conducted by different organizations and with different samples. VillageReach is not able to guarantee that the studies were similar enough to use for comparison. If it wished to better understand changes in vaccination coverage rates from 2010 to 2015 in Mozambique, VillageReach would consider conducting rigorous statistical analysis using datasets from the two studies.

Definitive explanations for the results of VillageReach's impact evaluation of its scale-up to four provinces remain unclear. For example, even though program implementation in Niassa was consistent and well-executed, the province experienced only a modest increase in vaccination coverage.

Diminishing value of supply chain improvements

Over the course of its work, VillageReach has found that improvements to the delivery systems for medical supplies have the largest impact for areas with extremely low immunization coverage rates and poor quality of healthcare. However, as coverage rates and service quality improve significantly, supply chain improvements begin to have less impact. VillageReach believes that once an area

achieves an 80-85% immunization coverage rate, improving the vaccine supply chain is no longer the most effective intervention to increase coverage rates. Increasing coverage rates beyond the 80-85% threshold requires specifically identifying and targeting the children not being vaccinated.

Current work

VillageReach's broad mission is to develop, test, and scale programs that solve issues in healthcare access. It is currently devoting most of its resources and time to four main program areas:

1. **Next-generation supply chain** – VillageReach's next-generation supply chain program area includes immunization supply chain work modeled on its initial DLS pilot project in Cabo Delgado. As mentioned previously, improvements to immunization supply chains may begin to have less impact after an area has achieved a relatively high vaccination coverage rate, at which point non-vaccinated children must be reached through other means. VillageReach is beginning to develop new interventions to reach non-vaccinated children in Mozambique, although it would be more effective if it possessed more resources.
2. **Open-source logistics management information system (OpenLMIS)** – OpenLMIS is open-source software, developed by a global community, that helps countries manage health commodity supply chains. Members of the OpenLMIS community have implemented the software across a multitude of countries. VillageReach supports the OpenLMIS community through core software development, supporting the global product roadmap, and other activities, although it would like to transition these activities to build OpenLMIS as an independent and sustainable community over the next few years. It does not believe that OpenLMIS activities would be a good match for GiveWell funding, as OpenLMIS already receives considerable funding from various institutions. The OpenLMIS community is working on a new business plan for the long-term vision of the product, at which point there may be an opportunity for investment.
3. **Health center by phone** – Time-motion surveys in Malawi suggest that medical providers at health facilities spend approximately 60 seconds with each patient. In this time, a patient must explain their symptoms, and the medical provider must determine a treatment course and communicate it to the patient. The short amount of time that providers spend with patients results in misinformation, unanswered questions, and a negative public opinion of the healthcare system. VillageReach's "health center by phone" program, known as Chipatala cha pa Foni (CCPF) in Malawi, was designed as a health hotline that could bridge the divide between communities and health facilities. CCPF was piloted in Balaka District and targeted populations with maternal and child health concerns. Results from an impact evaluation of the pilot project indicated improvements not only in knowledge of health issues but also in early

initiation of antenatal care, exclusive breastfeeding, use of insecticide-treated bednets, and other behaviors that positively impact health outcomes. Malawi's Ministry of Health has incorporated CCPF into its Health Sector Strategic Plan as a core health service. Although it was initially intended for maternal and child health issues, CCPF has evolved into a holistic service for all general health concerns. VillageReach will be conducting a second evaluation of CCPF to understand the impact of the program's broader scope. It is also in the process of nationally scaling CCPF and plans to transfer complete ownership and management of the program to the Ministry of Health by the middle of 2019. VillageReach's work on CCPF in Malawi is well-funded, although it may consider using additional funding to expand CCPF to other countries.

4. **Pharmacy assistant training program –** VillageReach's pharmacy assistant training program places highly trained pharmacy personnel, able to effectively manage medicines and supply chains, in rural health facilities in Malawi. An impact evaluation of the program conducted by researchers from the University of Washington found inconclusive results. For example, there was an increase in treatment of malaria during the first year of the program but no increase during the second year. Now that pharmacy assistants have been working in facilities for a significant amount of time (they were training as students during the first impact evaluation), VillageReach will be conducting further impact research. Although further data will be useful, the pharmacy assistant training program will be scaled up regardless of the results from the forthcoming impact evaluation. USAID and the Global Fund to Fight AIDS, Tuberculosis and Malaria are already providing funding for students to participate in the program, and training institutions in Malawi already offer courses for the students.

VillageReach is in early stages of work on a few more program areas, including:

- **Work with unmanned aerial vehicles (UAVs) –** VillageReach is working with UAVs to determine whether the technology would be effective for the delivery of supplies to the areas in which VillageReach works. Although UAVs are a popular emerging technology, there is currently not sufficient funding available to build a large evidence base for the effectiveness of UAVs on health outcomes.
- **Lab sample transport –** VillageReach is developing systems to ensure that patients receive lab samples and lab results quickly.

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