

A conversation with Alexander Rowe, January 23, 2020

Participants:

- [Alexander Rowe](#), Strategic and Applied Science Team, Malaria Branch, U.S. Centers for Disease Control and Prevention (CDC)
- Juliette Finetti, Research Analyst at Charity Entrepreneurship

Note: These notes were compiled by Charity Entrepreneurship and provide an overview of the major points made by Alex Rowe. The opinions expressed in this conversation are his own, and not those of the CDC. For details on the systematic review referenced in this summary, see the following publication: Rowe AK, Rowe SY, Peters DH, Holloway KA, Chalker J, Ross-Degnan D. *Effectiveness of strategies to improve health-care provider practices in low-income and middle-income countries: a systematic review*. Lancet Global Health 2018. Available at: [http://dx.doi.org/10.1016/S2214-109X\(18\)30398-X](http://dx.doi.org/10.1016/S2214-109X(18)30398-X).

Summary: This conversation was one of Charity Entrepreneurship's interviews with experts in the field of improving the quality of health services in low- and middle-income countries (LMICs). It covers the following topics:

- Alex Rowe's work at the Centers for Disease Control and Prevention and the context of his systematic review of strategies to improve health worker performance in LMICs
- Potential for impact of interventions involving training and monitoring health workers to promote family planning, including evidence of their effectiveness, challenges and considerations related to its implementation, and promising implementation strategies.

Assessment of the intervention: Several interventions to improve health worker performance look quite effective from the evidence base. When combined with other components, performance-based incentives for health workers and their managers as well as health worker training could have large positive effects on health services utilization. Health worker training on its own seems less promising in terms of effect size and duration of effect. A specific example of a promising intervention is *collaborative improvement*. However, there is substantial heterogeneity in these findings, and the factors influencing effectiveness are still uncertain. A closer look at the evidence base from our region of interest, and a cost-effectiveness analysis, are necessary to determine the

potential impact of this intervention. A considerable amount of funding seems available for quality improvement interventions, but for specific health conditions. Here are a few general implementation considerations:

- An iterative approach and close monitoring of results will be necessary to identify the right strategy, based on contextual problems limiting health services utilization.
- Engaging with existing actors (for example, through the [Quality of Care Network](#)) to identify ways to integrate the approach into broader health systems would be most impactful.
- Entrepreneurs should pay close attention to potentially negative knock-on effects of the intervention on other health areas.

Conversation notes (summarized)

1. Past and current work in the field

Alex Rowe leads the Strategic and Applied Science Team for malaria at the U.S. Centers for Disease Control and Prevention (CDC). He manages a team of about a dozen people who conduct trials related to malaria prevention (malaria vaccines, insecticides, etc.) and treatment. His interest in health is broad and touches on many different areas.

He started studying health worker performance and quality improvement in 1994. Recent field projects include assisting with randomized control trials (RCTs) of text message reminders for health workers in Kenya and Malawi, and an evaluation of collaborative improvement in Uganda. He started working on a systematic review of interventions to improve the performance of health workers (the Health Care Provider Performance Review, HCPPR) 15 years ago, in partnership with Harvard Medical School, Johns Hopkins University, Management Science for Health, and the World Health Organization. This review has been a key focus for much of his research. The HCPPR began with little funding and found a surprisingly large number of relevant studies (499 from the initial search). The Bill and Melinda Gates Foundation has been the main source of funding over the past decade to continue work on the review. The HCPPR investigators initially started synthesizing the impact of strategies on health workers' practices, and then looked at results on health services utilization. In 2015, the HCPPR team began updating the review to incorporate more recent studies, as the initial search dated back to 2006 ([Rowe et al., 2018](#)).

As part of this work, they have also built a publicly available tool that allows users to search for the effects of different interventions on health worker practice outcomes, under different conditions, which can be set using filters. The tool can be found here:

<https://www.hcppperformancereview.org/>.

2. Strategy effectiveness and strength of the evidence

The discussion summarized below presents an overview of the HCPPR results on the comparative effectiveness of different interventions. However, a large part of the review did not focus on health use outcomes but on health worker practices, and looked at different areas of health. Thus, a more careful exploration of the data is needed to assess each intervention for Charity Entrepreneurship's purpose. Alex highlighted that although there is some evidence to support the theory of change under which improvements in health worker performance led to improvements in health services utilization, this is not always the case. Some interventions have been shown to be effective at improving one, but not other, outcome categories.

High-level preliminary results of the review: For utilization outcomes that are continuous, such as number of consultations, number of IUDs per month, etc. (for which there were at least three studies), interventions involve:

- Group problem solving, which had a median effect size of 0 percentage points (but they found a positive effect on health worker practices);
- Increase in user fees, which had a median effect size of -42 percentage points (i.e., lower utilization);
- Reduction in user fees, which had a median effect size of 10 percentage points;
- Insurance schemes, which had a median effect size of 16 percentage points;
- Financial incentives for health workers or managers (combined with other components), which had a median effect size of 68 percentage points, although did not affect health worker practices (i.e., this strategy seems to have increased the quantity of services delivered, but not the quality);
- Health worker training plus communication training via radio, which had a median effect size of 70 percentage points (although this analysis included two studies only).

Alex highlighted one type of intervention that could be quite effective at improving health worker practices - collaborative improvement combined with health worker training. Collaborative improvement is a group problem-solving strategy that involves self-monitoring and coaching. The health team in each facility first puts together a quality improvement plan based on what they believe to be the root causes of inadequate health

worker practices at their clinic. Then, they monitor the implementation of the plan and corresponding outcomes. Every few months, quality improvement teams from different facilities meet and share their findings and experiences. There were interesting results from a cluster randomized control trial (RCT) in Malawi, but it had a high risk of bias and was focused on child mortality (not health worker practices).

Alex noted as a general point that there is much variability in effect sizes, even within a single category of interventions, which can come from heterogeneity of the methods and contextual differences. Context plays a huge role in the effectiveness of any of these strategies, so no matter what strategy we choose, the entrepreneurs will have to monitor their results closely. (More on this in the implementation strategy section.)

3. Cost-effectiveness

As cost data (when available) were presented in numerous (generally non-combinable) ways, and as the systematic review team did not include an economist, they did not calculate the cost-effectiveness of different interventions. However, Alex noted that 37% of the studies reported information on either cost or cost-effectiveness, which we can look at by accessing their database.

4. Promising implementation strategies

Because of the heterogeneity in the results, Alex recommends that entrepreneurs approach the implementation of this intervention iteratively. The best way to set up the program, if it involves the sort of interventions assessed in the review, would be to pilot a particular implementation strategy and monitor its results to get a sense of the quality gap: the difference between the result of what is implemented and the program's quality goal. NGO leaders should start by working alongside clients and health workers to identify what can be done to improve health services, then measure progress and identify the strategy that works best.

The question of which context is most promising for the intervention to be effective is still unsolved. However, one finding from the review was that the lower the quality of health services at baseline, the larger the effect of the intervention tends to be. If we target an upper middle-income country, for example, we will probably have a much smaller impact than a rural area in a low-resource setting. A quantitative analysis to identify contextual factors that might influence strategy effectiveness suggested that level of development and infrastructure might be important, but only for certain strategies. Alex highlighted that more

intensive and complex interventions will require a certain level of existing infrastructure to work (e.g., collaborative improvement). The other thing we can start with is to filter studies by context and focus on those that are more relevant to us (e.g., only look at studies in Asia).

5. Stakeholders: implementers and donor support

Many NGOs are trying to improve the quality of care because of the huge vertical programs for HIV, tuberculosis and malaria that could benefit from these improvements. For the same reasons, there is a lot of funding for these types of interventions. The problem is that the interventions being implemented are not as effective as they could be. For example, programs often focus on training. However, from the review of 199 studies, we know that the effect of training is moderate (in the 10 percentage point range) and tends to wane over time.

Alex notes that it would be impactful if people were working smarter with the resources that they have, really integrating their work into health systems. In most countries, there are groups already working on quality improvement, so it would be worth looking at what people are doing and learning from them. A potential approach would be to choose a country where there is a [Quality of Care Network](#) to prevent maternal and newborn deaths. These groups are working with the ministries of health to build better infrastructures, so integrating ourselves into these networks would be a good first start to see if we can add value as a new actor.

Donors will be funding these kinds of interventions but will work on more specific health conditions (not necessarily family planning).

Implementing these sorts of performance improvement interventions will be more specific than we might think. If we care about family planning, then the training and monitoring will be around that, and we have to be careful about knock-on effects on other sectors of health. While it can have a positive effect on utilization of family planning services, we should make sure it does not negatively affect other health services by driving health workers' attention away from them.