

## HEALTH CARE COMMUNITIES CAN COUNT ON

Community monitoring and nonfinancial award programs for health clinics in Sierra Leone improved clinic utilization, patient satisfaction, and reporting during the 2014 Ebola crisis. Community monitoring improved child health and reduced mortality among Ebola patients.

Featuring an evaluation by Darin Christensen, Oeindrila Dube, Johannes Haushofer, Bilal Siddiqi, and Maarten Voors



PHOTO: BELEN B MASSIEU | SHUTTERSTOCK.COM

Over eight million people die annually in low- and middle-income countries from treatable conditions. Potentially life-saving health services are often available at low cost but are frequently underutilized, in part because patients doubt the quality of health care. Under-utilization of health services can be particularly damaging during health crises such as epidemics, when complying with public health directives like testing and contact tracing can help contain their spread.

One approach to improving health care delivery and utilization is holding frontline health providers accountable through community monitoring, whereby health providers and community members are brought together to jointly address obstacles to adequate health care provision.<sup>1</sup> An alternative approach involves introducing competition among health providers and giving status awards to high performers as a form of motivation. These

nonfinancial social incentives differ from the use of pay-for-performance incentives, which have shown mixed effectiveness and may be too expensive for resource-constrained governments.<sup>2, 3, 4</sup>

To test if motivating frontline health providers to supply higher quality health care can improve utilization and health outcomes in Sierra Leone, researchers Darin Christensen (University of California, Los Angeles), Oeindrila Dube (University of Chicago; J-PAL), Johannes Haushofer (Stockholm University), Bilal Siddiqi (University of California, Berkeley), and Maarten Voors (Wageningen University) conducted a randomized evaluation measuring the impact of community monitoring and nonfinancial awards programs for government-run health clinics. Their evaluation uses data collected in 2013 after one year of program implementation as well as data from case reports from the 2014–15 Ebola crisis.

### KEY RESULTS:

**Both community monitoring and nonfinancial awards for clinic staff increased patient satisfaction and health care utilization.**

On average, patients' satisfaction with their care increased by 0.10 standard deviations relative to clinics in the comparison group. General health care utilization increased by 0.11 standard deviations on average.

**Community monitoring also improved child health.** Community monitoring led to 38 percent fewer deaths of children under age five.

**Improvements in the perceived quality of care increased reporting of Ebola symptoms and willingness to seek treatment during the epidemic.** During the 2014 Ebola crisis, areas with program clinics increased reporting of Ebola cases—including patients that tested both positive and negative for the virus—by 62 percent relative to comparison areas.

**Similar to the pre-Ebola period, only community monitoring improved health outcomes during the Ebola crisis.** Community monitoring reduced Ebola-related deaths from one patient death for every four Ebola cases to about one in ten.

# EVALUATION

In 2010, the Government of Sierra Leone launched a free health care initiative in an effort to combat high rates of maternal and child mortality. The initiative removed user fees for pregnant and lactating women and children under age five, and increased health worker salaries. The government also wanted to institute additional programs to motivate frontline health workers in providing health services. Researchers, working with Innovations for Poverty Action, partnered with the Government of Sierra Leone, the World Bank, Concern Worldwide, International Rescue Committee, and Plan International to evaluate the impact of two programs—community monitoring and nonfinancial awards—on health care utilization and health outcomes. They randomly assigned 254 government-run primary health clinics in four districts to either community monitoring, nonfinancial awards, or a comparison group. Clinics did not receive any additional resources as part of the evaluation.

The community monitoring intervention created and shared clinic scorecards with staff and community members during facilitated meetings. The scorecards compared clinic performance to the district average on several indicators, including maternal mortality, under-five mortality, vaccination rate, percentage of births in a health facility, and use of antenatal care. The intervention included three facilitated meetings involving: only community members; only clinic staff; and interface meetings with both groups. During interface meetings, both groups shared complaints and formulated a joint action plan outlining activities they would take to improve services. Facilitators helped attendees specify a time frame and assign a responsible “point person” for

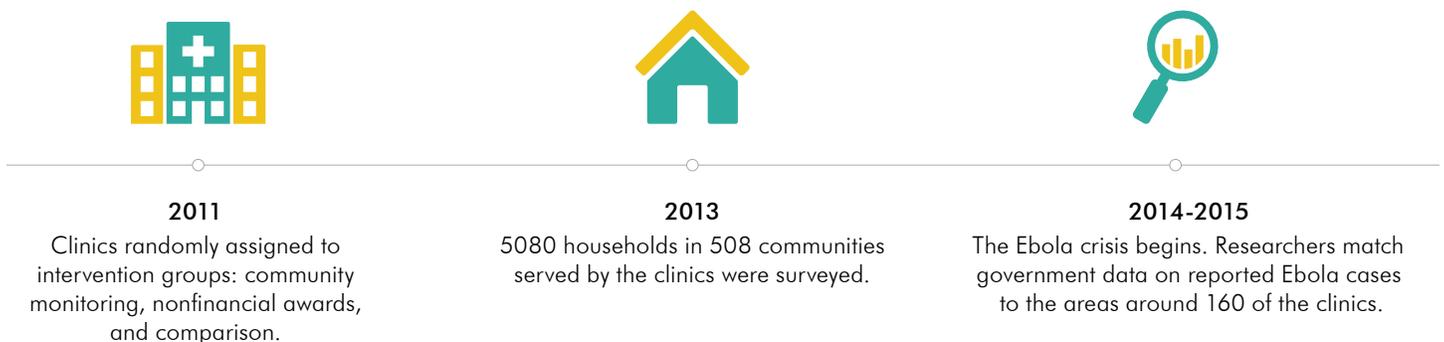
each component of the action plan. They also held three follow-up meetings to revisit the plan and monitor progress.

The nonfinancial awards facilitated competition among clinics, and status awards were given to the highest performing and most-improved clinics in each district. Clinics were ranked on key measures such as worker absenteeism, staff attitude, and charging of illegal fees, though the criteria were not publicly revealed to avoid distorting staff effort. Staff at winning clinics received letters of commendation from district health officials and a public award ceremony.

To measure the impact of the programs, researchers surveyed households about their health, health care utilization, and health care satisfaction. Clinics were also surveyed to collect data on clinic organization and services. Further, researchers surveyed community leaders on community relations with the clinics.

In 2014, about one year after the interventions ended, the West Africa Ebola epidemic reached Sierra Leone. Fears of substandard care and a lack of confidence in health workers deterred patients from reporting to health clinics for treatment. By the end of the crisis in early 2016, Sierra Leone had roughly 14,000 cases of Ebola. To examine the interventions’ longer-run impacts on the epidemic, researchers matched government data on reported Ebola cases to the areas around 160 clinics in the study. This included data on confirmed, negative, suspected, and probable Ebola cases.<sup>5</sup>

**FIGURE 1.** TIME LINE OF THE INTERVENTIONS AND THE EBOLA CRISIS



<sup>1</sup> Björkman, Martina and Jakob Svensson. 2009. “Power to the People: Evidence from a Randomized Field Experiment of Community-Based Monitoring in Uganda.” *Quarterly Journal of Economics* 124(2): 735–769. <https://doi.org/10.1162/qjec.2009.124.2.735>

<sup>2</sup> Finan, Frederico, Benjamin A. Olken, and Rohini Pande. 2017. “The Personnel Economics of the Developing State.” *Handbook of Field Experiments II*, 467–514. <https://doi.org/10.1016/bs.hefe.2016.08.001>

<sup>3</sup> Huillery, Elise and Juliette Seban. Forthcoming. “Financial Incentives, Efforts, and Performances in the Health Sector: Experimental Evidence from the Democratic Republic of Congo.” *Economic Development and Cultural Change*. <https://doi.org/10.1086/703235>

<sup>4</sup> Donato, Katherine, Grant Miller, Manoj Mohanan, Yulya Truskinovsky, and Marcos Vera-Hernández. 2017. “Personality Traits and Performance Contracts: Evidence from a Field Experiment among Maternity Care Providers in India.” *American Economic Review* 107 (5): 506–10.

<sup>5</sup> Data on reported Ebola cases and deaths came from the Viral Hemorrhagic Fever (VHF) database, maintained by the Government of Sierra Leone and external partners, including the US Centers for Disease Control and Prevention (CDC).

<sup>6</sup> Christensen, Darin, Oeindrila Dube, Johannes Haushofer, Bilal Siddiqi, and Maarten Voors. 2020. “Community-Based Crisis Response: Evidence from Sierra Leone’s Ebola Outbreak.” *AEA Papers and Proceedings* 110: 260–64. DOI: 10.1257/pandp.20201015.

<sup>7</sup> Alsan, Marcella, Owen Garrick, and Grant Graziani. 2019. “Does Diversity Matter for Health? Experimental Evidence from Oakland.” *American Economic Review* 109(12), 4071–4111.

# RESULTS

## Both community monitoring and nonfinancial awards increased patient satisfaction and health care utilization.

Averaging across both programs, patient satisfaction with clinic care increased by 0.10 standard deviations relative to the comparison group, driven by improvements among households with the lowest initial levels of satisfaction. General health care utilization increased by 0.13 standard deviations in the community monitoring group and by 0.10 standard deviations in the awards group (Figure 2). While the awards had no impact on maternal health care utilization, women in the community monitoring group were 11 percent (9 percentage points) more likely to give birth in a Western-style clinic relative to women in the comparison group. Increased utilization suggests that individuals perceived improvements in the quality of care, which encompassed changes in both actual quality as well as views on quality.

**However, only community monitoring improved child health.** Community monitoring led to 38 percent fewer deaths of children under age five. Improvements in health outcomes could be driven by increased health care utilization. However, utilization increased by similar levels in both community monitoring and awards clinics, while health outcomes only improved under community monitoring. Furthermore, a relatively small set of recent mothers' decisions to deliver in clinics were unlikely to have had such a large impact on child mortality. This suggests that community monitoring may have improved health care quality, which improved child health.

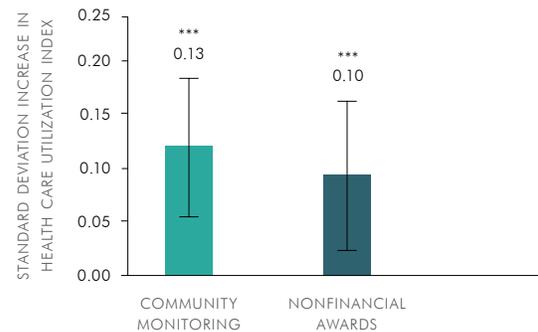
**Improvements in the perceived quality of care increased reporting of Ebola symptoms and willingness to seek treatment during the epidemic.** Households in the areas surrounding intervention clinics increased reporting of Ebola cases by 62 percent on average relative to comparison areas (Figure 3a). These results likely stem from improvements in the perceived quality of care, which increased patients' willingness to report their symptoms and seek treatment. The community monitoring and awards interventions were not instituted with the goal of containing epidemics. Nevertheless, the researchers calculated that if the chance of an epidemic event is greater than between two and three percent, then both interventions represent a more cost-effective way of increasing Ebola reporting than using the emergency care centers that were built after the outbreak, which also encouraged greater reporting.<sup>6</sup>

**The increases in symptom reporting supported containment efforts and do not suggest increased transmission.** Researchers calculated that the higher reporting in intervention areas reduced the reproduction rate (R0) of the disease by 19 percent, bolstering containment efforts. There is no evidence that Ebola transmission increased relative to comparison areas given that individuals who tested both positive and negative for Ebola increased their symptom reporting, with no change in the share of positive cases. Also, program areas did not receive additional emergency Ebola

care centers, contact tracing, or other resources that could have caused the increase in reporting.

**Similar to the pre-Ebola period, only community monitoring improved health outcomes during the Ebola crisis.** Community monitoring reduced Ebola-related deaths from one patient death for every four Ebola cases to about one in ten (Figure 3b). This suggests that improvements in the quality of care administered by community monitoring clinics persisted during the crisis.

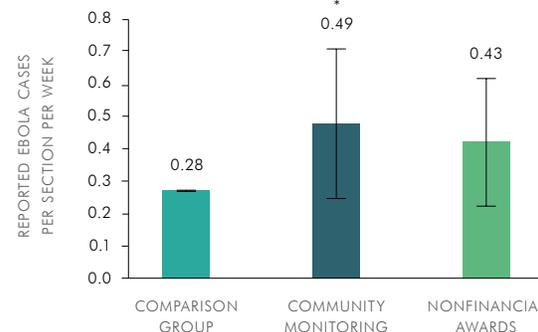
**FIGURE 2. HEALTH CARE UTILIZATION INCREASED ACROSS BOTH INTERVENTIONS**



Note: Figure represents changes relative to the comparison group. Error bars represent 95% confidence intervals. Statistically significant difference relative to the comparison group is noted at the 1% (\*\*\*), 5% (\*\*), or 10% (\*) level.

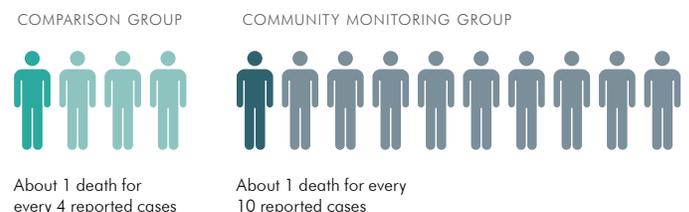
**FIGURE 3. AMIDST HIGHER REPORTING OF EBOLA SYMPTOMS, EBOLA-RELATED DEATHS DECLINED**

### 3A. REPORTING OF SUSPECTED EBOLA CASES INCREASED RELATIVE TO THE COMPARISON GROUP



Note: A section is a small administrative unit that is typically about 40 square kilometers in size with under 2,500 residents. This analysis was restricted to the 160 sections with a single health clinic. Error bars represent 95% confidence intervals. Statistically significant difference relative to the comparison group is noted at the 1% (\*\*\*), 5% (\*\*), or 10% (\*) level.

### 3B. COMMUNITY MONITORING REDUCED EBOLA DEATHS FROM 1 IN 4 TO ABOUT 1 IN 10 CASES



# POLICY LESSONS

**Building communities' confidence in health providers is important for increasing utilization, which can be crucial during health crises.** In Sierra Leone, community members acted on improvements in the perceived quality of care by utilizing health care services more, and they were subsequently also more willing to report symptoms during the Ebola epidemic. Additional evidence from the United States found that efforts to rebuild trust increased preventive health care utilization.<sup>7</sup> Preemptive investments in confidence-building programs can be worthwhile both for the immediate benefits and as a means to prepare for future epidemics.

**Directly involving the community can be effective at motivating frontline health workers and improving health outcomes in certain contexts.** In Sierra Leone, community monitoring reduced child mortality and improved Ebola patient outcomes up to two years later. Additional evaluations in Uganda and India support the effectiveness of community monitoring, particularly in contexts with poor initial health outcomes.<sup>8,9</sup> However, community monitoring had no impact on health outcomes in Indonesia, Tanzania, and during a later study in Uganda when initial health conditions were higher.<sup>10</sup>

**Nonfinancial rewards for health care workers can also improve patient satisfaction and the perceived quality of care.** Additional research in Zambia found nonfinancial rewards to be more effective than financial incentives at motivating health agents to promote preventive health products.<sup>11</sup> However, in Nigeria, a nonfinancial reward program publicly recognizing high performing employees improved health clinic workers performance in one state but not another, suggesting social recognition may only motivate employees in some institutional contexts.<sup>12</sup>

## SCALE-UP AND POLICY INFLUENCE

Based on the project's success within the health sector, the Government of Sierra Leone scaled up the community monitoring intervention to cover additional sectors, including water, education, waste management, and social services. The planned expansion was delayed by the Ebola outbreak, but scale-up efforts resumed in 2016.

<sup>8</sup> Björkman, Martina and Jakob Svensson. 2009. "Power to the People: Evidence from a Randomized Field Experiment on Community-Based Monitoring in Uganda." *Quarterly Journal of Economics* 124(2), 735–769.

<sup>9</sup> Mohanan, Manoj, Vikram S. Rajan, Kendal Swanson, and Harsha Thirumurthy. "Information and Facilitation Interventions for Accountability in Health and Nutrition: Evidence from a Randomized Trial in India." Economic Research Initiatives at Duke (ERID) Working Paper No. 295, February 2020.

<sup>10</sup> Raffler, Pia, Daniel N. Posner, and Doug Parkerson. "Can Citizen Pressure be Induced to Improve Public Service Provision?" Working Paper, October 2020.

<sup>11</sup> Ashraf, Nava, Oriana Bandiera, and B. Kelsey Jack. 2014. "No Margin, No Mission? A Field Experiment on Incentives for Public Service Delivery." *Journal of Public Economics* 120, 1–17.

<sup>12</sup> Gauri, Varun, Julian C. Jamison, Nina Mazar, and Owen Ozier. 2019. "Motivating Bureaucrats through Social Recognition: External Validity—A tale of Two States." *Organizational Behavior and Human Decision Processes*. <https://doi.org/10.1016/j.obhdp.2019.05.005>

**Featured Evaluation:** Christensen, Darin, Oeindrila Dube, Johannes Haushofer, Bilal Siddiqi, and Maarten Voors. Forthcoming. "Building Resilient Health Systems: Experimental Evidence from Sierra Leone and the 2014 Ebola Outbreak." *Quarterly Journal of Economics*.

**Briefcase Author:** Aimee Barnes | **Editor:** Caroline Tangoren

**Suggested Citation:** J-PAL Policy Briefcase. 2021. "Health Care Communities Can Count On." Cambridge, MA: Abdul Latif Jameel Poverty Action Lab.

This research was made possible by:

**Fieldwork:** Innovations for Poverty Action

**Partners:** Government of Sierra Leone's Decentralization Secretariat and the Ministry of Health and Sanitation, Concern Worldwide, International Rescue Committee, Plan International

**Funders:** World Bank, USAID Development Innovation Ventures (USAID-DIV), International Growth Centre, Air Force Office of Scientific Research (AFOSR), The Dutch Research Council (NWO), Economic and Social Research Council (ESRC), Royal Netherlands Embassy in Ghana, UCLA California Center for Population Research

The Abdul Latif Jameel Poverty Action Lab (J-PAL) is a network of affiliated professors around the world who are united by their use of randomized evaluations to answer questions critical to poverty alleviation. J-PAL's mission is to reduce poverty by ensuring that policy is informed by scientific evidence.

[povertyactionlab.org](http://povertyactionlab.org)

