Operations Research Brief

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CHS

Can the Addition of a Quality Improvement Collaborative Improve Performance and Retention of Community Health Workers in Benin?

A quality improvement collaborative together with financial incentives improves performance but not retention when compared with financial incentives alone.

Key Findings

> 75% of QITs held monthly meetings with the CHW to review community health data, prioritize community health issues, and identify strategies to address them.

> CHWs who participated in the combined intervention had higher odds of achieving a high performance score during the project period than those who received only financial incentives.

> Community support and engagement was a key determinant of high CHW performance.

> Retention was not impacted by the collaborative + financial incentive intervention.

> The cost per CHW achieving a high performance score was 650,000 FCFA ($1321) over the life of the study.

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Challenge

In Benin, community health workers (CHWs) have been operating for over 20 years and are seen as an essential part of the health system. They provide a package of high-impact interventions focused on treating priority child illnesses—malaria, diarrhea and acute respiratory infections (ARI)—and conducting health education and promotion activities. Yet, motivating CHWs to perform at a high level and stay in their position have been long-standing challenges for the Ministry of Health (MOH). Moreover, there is often a low level of community participation in CHW activities and community satisfaction with their services. In 2010, the MOH implemented a policy to provide performance-based financial incentives to improve CHWs' performance in the country. These incentives include 10,000 cfa (approximately $20) per quarter to each CHW, and up to a maximum of an additional 5,000 cfa (approximately $10) based on the CHW's performance on specific indicators. While this policy may improve CHW performance in the short-term, evidence has shown that financial incentives are not sufficient to sustain CHW motivation and retention, and further strategies are necessary to address non-financial issues, such as community participation and engagement in CHW work.

A quality improvement team displays their findings at a learning session. *Photo by PRISE-C team.*

Innovation Tested

CHS tested whether implementation of a community-level quality improvement collaborative in addition to the performance-based financial incentives would improve performance and retention of CHWs more than financial incentives alone. A quality improvement collaborative is an organizational intervention which consists of the formation of multiple community-based quality improvement teams (QITs) which come together at regular collaborative learning sessions to foster mutual learning and sharing of data and

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Focus group with mothers of children under 5. *Photo courtesy of Center for Human Services*

experiences in order to rapidly improve and scale-up quality health services. This method has been shown to be effective at improving performance in health facilities, but there has been limited data on its application at the community level. We hypothesized that the engagement of the community through this collaborative methodology would provide a non-financial incentive in achieving and sustaining CHW high performance and retention.

CHS created 4 collaboratives in the intervention zone, with each collaborative consisting of 8 QITs, resulting in a total of 32 QITs formed. Each village-level QIT was composed of the CHW (or CHWs if more than one CHW in a village), the village Chief, the secretary and treasurer of the Village Health Committee, and representatives from different groups within the community, including women and youth, as well as representatives from each village hamlet, ethnic, and religious group.[1] Every month from December 2011 until the end of the study in April 2014, each QIT assessed village performance on certain health indicators and identified and implemented appropriate strategies to improve low indicators. The QITs came together in their collaborative at quarterly quality improvement learning sessions to chart village performance on key indicators and share lessons learned with the other QITs in their collaborative.

Research Methodology

The objective of this quasi-experimental study was to determine if the addition of a community-level quality improvement collaborative to the MOH's financial incentive policy (collaborative + financial incentives) resulted in better performance and retention of CHWs than the financial incentives alone. We also investigated the cost-effectiveness of the collaborative + financial incentives as compared to the financial incentives alone.

The SAO health zone was randomly selected to be the intervention zone, and 39 CHWs participated in the collaborative + financial incentives group, while the DAGLA health zone served as the comparison zone and 48 CHWs received only the performance-based financial incentives.

CHW performance was measured by a composite score based on 12 MOH-defined performance outcomes used to determine his/her financial incentive (see Table 1). These data were based both on self-report and by observation of the CHW by their supervisors, MOH nurses from the local health center. Retention data were also reported by CHW supervisors throughout the study period. The research team collected qualitative data via in-depth interviews and focus groups with CHWs, their supervisors, and community members, including CHW beneficiaries. Cost data were collected throughout the life of the study for activities in both zones, including all training, supervision, as well as the cost of the collaborative activities in the intervention zone.

The quantitative data were analyzed to determine if there was a statistically significant change in performance and retention

Overall Project Strategy

This operations research study was embedded in a larger child survival project implemented by Center for Human Services (CHS) in partnership with the Benin MOH, Centre d 'Expertise d'Ingénierie pour le Developpement Durable (CEID), and the zonal health teams of SAO, DAGLA, and AZT. The four-year (2010-2014) PRISE-C (Partnership for Community Management of Child Health) project worked with CHWs and their supervisors in three health zones of Benin to improve and expand community health service delivery, reaching over 13,500 children under 5 years of age, and over 18,000 women of reproductive age (15-49). The overall project aimed to increase community engagement with CHWs, increase demand for community health services, and strengthen the performance and sustainability of the community health delivery system.

[1] Formative research helped identify the key community members to be a part of the QITs.

Table 1: CHW Performance Outcomes

Performance Outcomes
1. % of mothers of children 0-23 months in the catchment area who can name two danger signs
2. % of children estimated to have malnutrition monitored for acute malnutrition
3. % of children from 0-59 months who live in a household with a handwashing station at/near the latrine
4. % of children ages 0-59 months who live in a household who drink water from a pump or who treat their drinking water with Aquatabs
5. % of children ages 0-59 months in the catchment area who sleep under LLIN
6. % of infants less than 1 year old who were vaccinated during outreach activities
7. % of planned health education talks held
8. % of children under 5 who had a home visit from a CHW in the quarter
9. % of children 6-59 months correctly treated for malaria
10. % of children 2-59 months correctly treated for diarrhea
11. % of children 2-59 months correctly treated for ARI
12. % of referrals for malaria, diarrhea, ARI, and malnutrition in children 2-59 months which were justified

between CHWs in the two zones, and the qualitative data were analyzed to document important insights into their performance and retention. The cost data were compared with the performance outcomes to evaluate cost-effectiveness.

Conclusions

Our findings (see page 3 and 4 sidebars) indicate that the community-based quality improvement collaborative is a promising strategy to improve CHW performance when combined with financial incentives. The odds of CHWs achieving a high performance score were significantly greater in the combined intervention group compared to financial incentives alone. Qualitative data suggest that the collaborative engages the community in a way that ensures responsibility for their own health situation as well as provides a mechanism for their support of the CHW. These findings are in line with evidence from the 2012 USAID CHW evidence summit which demonstrated the importance of community participatory processes and that

Findings

> Over the 28 month study period 75% of QITs held a regular monthly meeting with the CHW.

These planned monthly meetings are the basis for all of the QIT activities, and provided dedicated time for the QIT members to meet with the CHW to review community health data, discuss different strategies and innovations to improve community health, specifically those aspects related to CHW performance. These fora are important for the CHW to communicate where and how the QIT members, as leaders in their community, can support the CHW. According to one CHW, "The QIT members play their role…they help with health education sessions. If someone doesn't want to follow the CHW's guidance, the QIT members come and discuss [the guidance] with him or her."

> CHWs who participated in the combined intervention were more likely to achieve a high performance score during the study period than those who received only financial incentives.

Performance scores were categorized as either low or high, based on a cut-off of 50%. The researchers analyzed CHW's scores over the course of the project and found that the odds of attaining a high score were significantly greater among CHWs in the collaborative + financial incentives group compared to CHWs who received financial incentives alone. One CHW participating in the collaborative said, "Now that we have these group meetings, that which I didn't know how to address, today I understand. They help me perfect my work, since others show what they did in the other villages and I can take what worked well, and correct what didn't work well and use it in my village. This is what contributes to change and improvement."

As shown in Figure 1, the CHWs in each group started out with equally low performance, with a very large improvement in performance in the intervention zone at the beginning of the study period, and that this difference between groups got smaller over time. More research is necessary to identify the reasons for why the gains in the intervention zone fluctuated over time.

> Community support and engagement was a key determinant of high CHW performance.

Throughout the study period, community support and engagement emerged in the CHW interviews as a determinant of high CHW performance, while lack of

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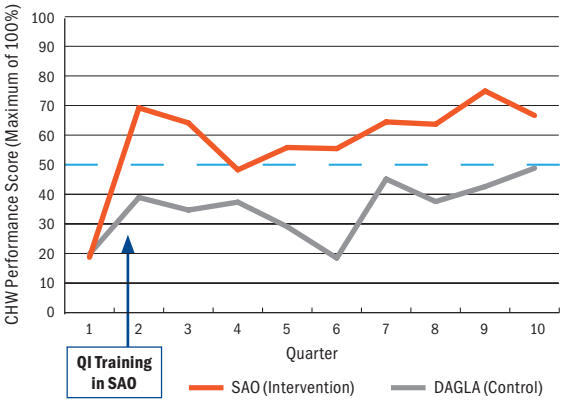
Figure 1. CHW mean performance scores over time



community support was mentioned as a determinant by low performing CHWs. The collaborative provided a structured mechanism for this community engagement.

> Retention was not impacted by the collaborative + financial incentive intervention.

During the study period, 5 of the 87 CHWs left their post, and there was no statistically significant difference between the zones. Previous research has shown low (7%) annual drop-out rates for CHWs in Benin. Our findings reflect even lower annual drop-out rates (1%-3%) in the study zones over the study period. Since these rates are already low in the study areas, it would be difficult for any intervention to demonstrate significant change in CHW retention. The primary reason for drop-out of CHWs in the study zones is relocation because of a new/different job which would provide a more consistent salary. Since the reason behind the majority of the drop-outs was financial, it is logical that the addition of the quality improvement collaborative would not have a significant impact.

> The cost per CHW achieving a high performance score was 650,000 FCFA (US$1321)[2] over the life of the study.

This value, known as the incremental cost-effectiveness ratio, is obtained by dividing the difference in cost of the two interventions by the difference in proportion of high performing CHWs. The 28 month cost of training and monitoring CHWs, as well as providing the performance-based financial incentives, was 110,000 FCFA (US$224) per CHW in the comparison group, and was 340,000 FCFA (US$691) per CHW in the intervention group with the addition of the collaborative intervention costs.

[2] Average exchange rate of 492 FCFA = US $1.

CHW were more motivated by intangible incentives than financial incentives.

This research was not without limitations. The SAO and DAGLA health zones are located next to each other, with families often spanning the border, therefore there was a risk of contamination in the comparison zone. In addition, there was no direct way to link the performance of the CHWs with the health outcomes of those whom they served. Finally, the cost-effectiveness analysis only considered costs from the perspective of the intervention funder or service delivery system and did not include broader potential financial impacts the services provided by the CHWs could have, such as increased wages if a parent stays home with a sick child for a shorter period of time.

Recommendations

Center for Human Services recommends further research on the community-based quality improvement collaborative approach as a way to engage communities in the work of CHWs and to improve CHW performance. In addition, it is recommended that this approach be tested in a CHW population with a higher drop-out rate to effectively evaluate its effect on retention. Further research is necessary to better understand the mechanisms behind performance improvements related to the collaborative as well as different implementation strategies. Examples of such further research include:

- Testing the effects of the quality improvement collaborative as compared to a cadre of non-paid volunteer CHWs.
- Testing the use of existing community structures such as the Village Health Committee to assume similar roles and responsibilities as a QIT.
- Incorporating psychosocial measures, such as CHW self-efficacy, to allow researchers to better assess the mechanisms through which the intervention acts to improve performance.

Use of Findings

There has been demonstrated interest from the Ministry of Health in Benin to scale-up different aspects of the intervention. The PRISE-C research team has been working with the zonal health coordinator in the intervention district to include several of the study's indicators in routine supervisions of the CHWs. In addition, the National Department of Public Health (DNSP) is currently examining how to scale-up the community engagement aspects of the community quality improvement collaborative.

For more information on the intervention and the operations research findings, please visit www.urc-chs.com.