Optimising the coverage, quality of care, and cost of community health workers in South Africa

With the increasing importance of universal healthcare adding more pressure to systems worldwide, the shortage of healthcare workers in low- and middle-income (LMCI) settings is even more pronounced.

Community health workers (CHWs) are integral to the delivery of primary healthcare and can alleviate this need significantly.

By improving access to care for vulnerable communities, they can potentially contribute to better health behaviours and outcomes – and their skills are also being called on for more complex healthcare related activities. These increased demands require greater supervision in turn.

In countries like South Africa, there's a short supply of supervising professional nurses and their services are often needed in primary care too. As a result, the lack of adequate supervision and resources leads to poor CHW performance, motivation, and quality of care.

In 2011, ward-based outreach teams (WBOT) of community healthcare workers were launched in South Africa to provide prevention, screening, and referrals for various conditions.

Recommendations to increase CHW reach and efficiency

- Experienced supervision of CHWs is essential for optimal household coverage and quality of care.
- Greater investment is needed in CHWs, supervisors, training and equipment.
- Where there are not enough CHWs, a larger proportion of the PHC budget should be made available.
- Additional structures are needed alongside facilities, in which CHWs can meet and compile reports.
- Health posts in locations without clinics should be converted into formal clinics – or at least provide sufficient infrastructure and resources to operate as clinics.
- Effective linkages and integrations should be created with the formal health system to ensure that other health workers regard CHWs as essential team members.

However, the success of WBOT in key areas – including household coverage, quality of care, and optimising costs – are unclear. There is also no real indication of whether CHWs are coping with the wide range of health issues they're responsible for, and insufficient evidence on the positive and empowering effect of senior supervision.

It is critical to find innovative ways to strengthen supervision strategies in LMCIs, and to scale up the WBOT programme, decision-makers will need more information on the drivers of success in different CHW teams. Data on the coverage and quality of care that can be achieved by different configurations of teams will be valuable for future decisions – as well as challenges and constraints that may hamper performance.

In this first observation phase of a three-year intervention study, we looked at six CHW teams who varied in their supervising structure, location, and costs – and evaluated the achievements and challenges of each configuration.

Table 1	Configurations of CHW teams		
Model	**Supervisor**	**Based in**	**Site number**
1	Professional and enrolled nurse	Clinic	1
			2
2	Professional and enrolled nurse	Health post	3
			4
3	Enrolled nurse only	Clinic	5
			6

The second phase of the study focussed on an intervention to provide mentorship to EN supervisors, and a following brief will report on its achievements.

Methods

Using a case study approach, we combined qualitative and quantitative data to examine six CHW teams – consisting of three types of CHW supervision models (Table 1) – from September 2016 to February 2017 in Sedibeng in South Africa.

Teams were either clinic- or health-post based. Health posts are temporary wooden structures with 3-6 rooms. They have no electricity and often no running water. Some are close to their 'mother' clinic to provide outreach services; others are in communities without a clinic.

We observed CHW household visits by their purpose (medication delivery, follow-up visit, registration), which questions were asked during household registrations, and whether clients followed up on CHW advice and referrals (and why not).

Mixed methods case study design

This study made use of mixed methods (in a case study context) – including a random household survey; focus group discussions (FGDs); interviews with supervisors and clients; and observations of CHWs at work.

Study setting

We studied three types of teams, with two teams of each type:

- **clinic-based teams** supervised by a professional nurse (PN) and an enrolled (junior) nurse (EN);
- **health post-based teams** supervised by a PN and an EN; and
- **clinic-based teams** supervised by an EN only.

Participant selection

Household survey Fieldworkers used a random walk and a specified skip pattern to select households.

The household member who knew most about the health of other members was invited to participate and their responses were recorded on an electronic device.

CHWs The CHWs who were observed were selected randomly on the first morning of a four-day observation period. The fieldworkers observed the CHWs with or without supervisors at work and took notes in a template.

Focus discussion groups (FDG) All CHWs at work on the day of the FGD were included. A brief survey captured their demographic and career histories. Topics of discussion included typical activities that formed part of their jobs, as well as challenges.

Facility managers, clinic staff, and CHW supervisors Those in supervising roles were interviewed for feedback on CHWs and the programme.

CHW clients Fieldworkers asked to conduct interviews with clients who were given referrals by CHWs.

Statistical analysis

Bivariate and regressions analysis (applied to the survey data) were used to explore relationships among multiple variables.

Main findings of the study

Coverage CHWs reached less than a fifth (<20%) of households in the catchment communities and provided a limited service unless a skilled senior supervisor was part of the team. Having only an EN supervisor was associated with higher coverage, and households with persons aged 60 and above were almost twice as likely to be visited (due to the delivery of medication). On average, an estimated 1-2 households per day were visited by a pair of CHWs. We estimated that four CHW visits per day would increase coverage to 30%- 90% of households.

Quality of interactions In 47% of the visits, CHWs delivered medication; 38% were follow-ups with patients; and 15% were to register households. During registrations, CHWs asked **only half of the required questions** (which include enquiring about coughing, HIV testing, pregnancy, recent births, children under 5, chronic medication, as well as the need for family planning, home-based care, and social grants). None of the observed household registrations were completed in full.

Challenges Factors that affected the performance of CHWs included:

- a lack of resources (stationery, funds for transport, or mobile communication);
- equipment not working or not being restocked (such as blood pressure machines, glucometers, testing strips, weighing scales, mid-upper arm circumference tape for assessing malnutrition in children, and more);
- not receiving training on using the manual blood pressure machine;
- not having household registration forms due to faulty photocopiers;
- receiving a minimal stipend;
- wage disputes; and
- struggling to communicate with the payroll company.

Variation in performance of CHWs

Supervision unlocks potential Supervisors at sites that had access to meeting places used job training (including sessions on common health conditions in the community), supervised household visits, and debriefing sessions to train, motivate and monitor CHWs. The sessions strengthened their knowledge base and problem-solving abilities, improved collaboration with other clinic staff and enabled the CHWs to learn from each other's experience. It also increased their job satisfaction, professional confidence, and motivation.

Infrastructure matters Teams without access to meeting places steered clear of serious discussions due to confidentiality concerns. At EN-only sites, a lack of supportive supervision and training also hampered their ability to assist patients, and poor motivation and time management were observed.

Comparison of performance of supervision models

Cheapest EN-only model in a clinic. This model achieved a higher coverage, but the quality of care was poor.

High quality PN and EN models in a clinic, as well as the PN and EN models in a health post offered the best quality of care.

Best value for money The PN & EN models in clinics were the most expensive, but offered the best value for money. The teams were well integrated into the health system.

Wrapping up

With this study showing that CHWs could achieve up to 90% coverage with more CHWs and better supervision to improve their performance. As insufficient training and resources were demotivating factors, both will be key to strengthen CHW performance going forward. It's important to ensure collaboration with local facilities, with the help of senior supervising staff. Finally, the programme received only 3.9% of primary healthcare expenditure, and greater is investment is needed for capable supervision and CHWs on the ground.

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