



# Improving hypertension management: how can lay health workers help?

## Why is this study important?

South African primary care clinics are facing a rapidly increasing demand for services. This is because the population is ageing and anti-retroviral drugs to treat HIV are delivered here.

The ageing population leads to more people with chronic conditions, particularly hypertension. We know from previous research that hypertension affects many adults, although they are often unaware of it and it is poorly controlled. More and more people are also accessing HIV treatment, thanks to sustained information campaigns and the greater accessibility of the drugs in primary care clinics.

All of this puts new burdens on a primary care service that was originally organised to provide maternal and child care and care for acute, not chronic, conditions. Policy makers recently tried to improve the service for chronic conditions by allowing patients to make appointments, with the aim of having shorter queues in the clinics.

However, this reorganisation meant extra administrative tasks for the nurses, which they have struggled to cope with in addition to their clinical work.

## Conclusions and policy implications

- We already know that lay health workers (LHW) can improve access to care and aspects of the quality of care that patients receive.
- This study – the Nkateko trial - was the first to look at the role of LHW in chronic care in clinics.
- The presence of the LHW did not significantly improve patients' health or the treatment of hypertension. However, LHW contributed very positively to hypertension management, for example by getting patients to keep appointments, finding people with undiagnosed hypertension and reducing waiting time.
- The study showed that patients' health is unlikely to improve unless LHW are complemented by adequate equipment for measuring blood pressure and enough clinical staff to treat patients.

The Nkateko trial was the first to look at the impact of using lay health workers (LHW) in primary care clinics to support integrated chronic care. It tested if local people could be trained and supervised to do some of the administrative tasks, hence improving clinic organisation and reducing nurses' workload.

## Methods

This pragmatic trial was conducted between 2014 and 2015 in a rural area in the Agincourt Health and Socio-Demographic Surveillance System site in Bushbuckridge, Mpumalanga. Eight clinics were involved, four of which were randomly selected to receive support from two LHW in managing services for patients with chronic disease, particularly hypertension.

The LHW were recruited from the communities served by each facility, with the involvement of clinic personnel. They had all passed matric, were fluent in English, and were trained and supported throughout the trial by a local, experienced nurse. The clinic manager managed their day-to-day work in the clinics.

The staff in the intervention clinics decided how the LHW could help them. All the clinics involved the LHW in booking appointments, reminding patients with hypertension of their appointments, filing patient records, providing education on healthy lifestyles and the importance of adhering to treatment, measuring vital signs, and pre-packing medication.

The main question of the trial was whether the support provided by the LHW would change the proportion of people in the population who had a high blood pressure and were at moderate or greater cardiovascular risk, as defined by the South African guidelines on managing hypertension. This question was answered through two population-wide surveys; one before the LHW joined the clinics and the other 18 months later, after they had finished their work.

In addition to the population surveys, the researchers interviewed patients, community members, nurses and managers and made observations in the clinics to better understand how the intervention was working. The researchers also collected clinical data about patients with chronic diseases who attended the clinics during the trial.

### What is a pragmatic trial?

All health-related randomised controlled trials aim to test the effect of an intervention, which might be a new drug, a new surgical procedure or a change in how health care is delivered.

In explanatory trials, the aim is to find out whether the intervention works in an ideal situation, with all the necessary supportive procedures.

By contrast, a pragmatic trial aims to find out whether the intervention works in 'the real world'; that is, will it work given all the inevitable stresses and competing demands of health care?

Both types of trials are important. The explanatory trial will tell researchers whether an intervention works at all and whether it is worth pursuing. A pragmatic trial will tell researchers and health care managers whether an intervention works in a routinely functioning health care system.

There is no clear demarcation line between the two types of trials – most trials lie somewhere on a spectrum, with some more explanatory and others more pragmatic.

The Nkateko trial was close to the pragmatic end of the spectrum: The LHW:

- Were recruited from local villages and paid only what other community health workers were being paid;
- Were supervised by a local professional nurse; and
- Worked in the clinics alongside the usual staff, with minimal improvements or extra resources given to the clinics.

## Findings of the trial

The trial did not have any effect on hypertension management. In other words, after the second population survey, there was no difference between the clinics with and without LHW when it came to the proportion of the population with uncontrolled hypertension and moderate or greater cardiovascular risk.

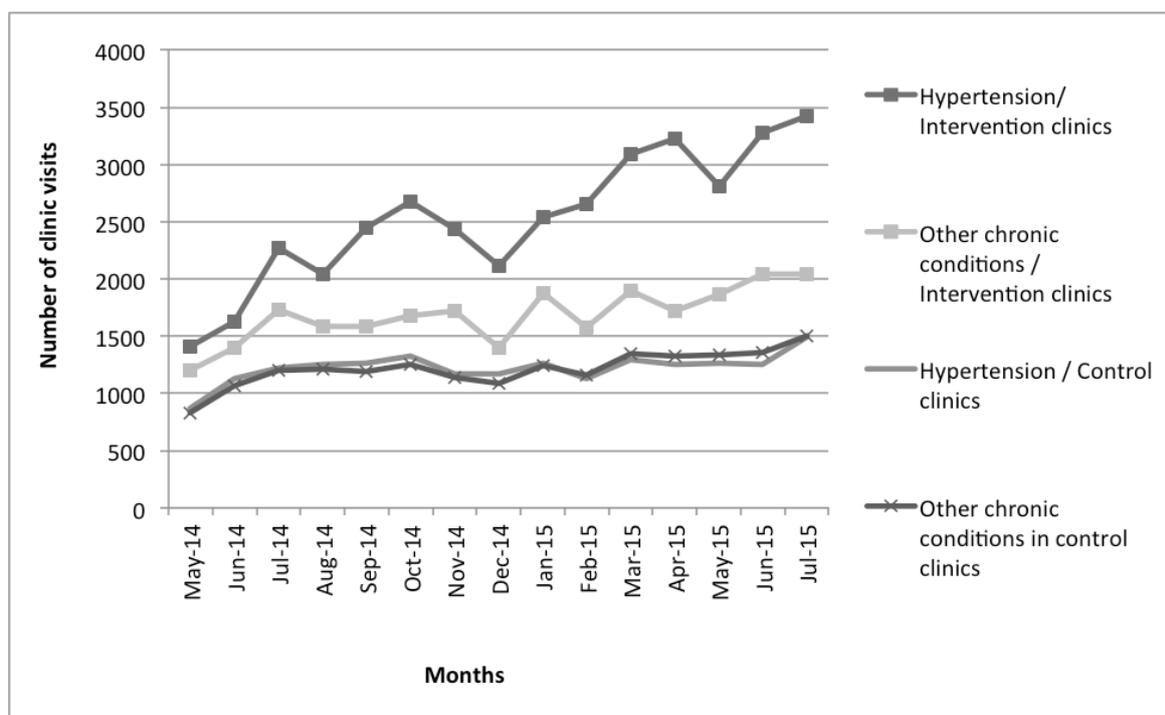
However, there were significant differences in how the clinics with the LHW functioned.

First, the clinics with LHW (intervention clinics) had a greater increase in the number of patients attending for hypertension.

This is shown in Figure 1 where the number of hypertension patients in clinics with LHW increased from about 1500 in May 2014 to 3500 in July 2015 ( $\pm 130\%$ ).

In the clinics without LHW (control clinics), the increase was from about 750 patients in May 2014 to 1500 in July 2015 ( $\pm 100\%$ ).

**Figure 1: Number of clinic visits by hypertension and other chronic conditions in the control and intervention clinics by month**

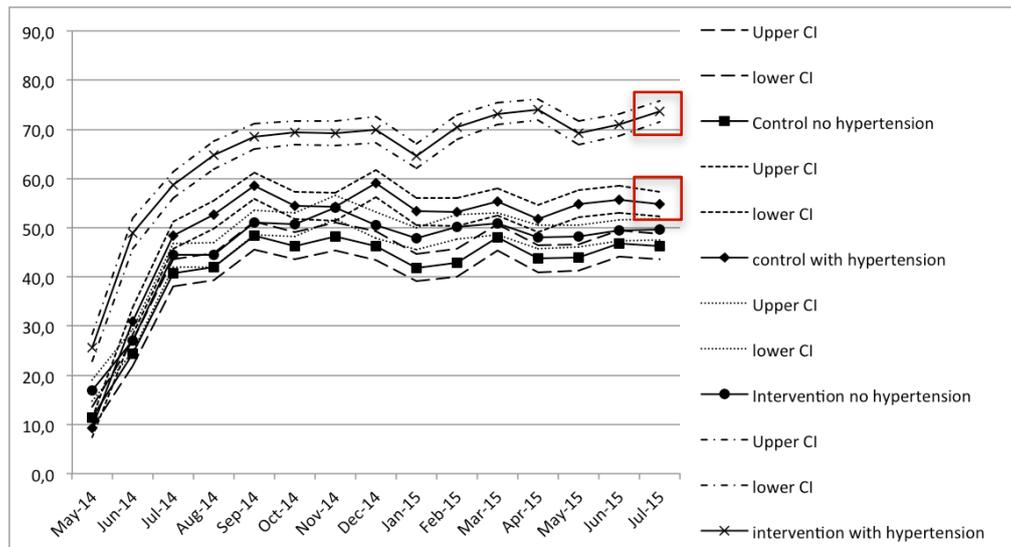


Second, the clinics with LHW had more hypertension patients attending on their correct appointment day. Figure 2 (next page) shows that, at the end of the trial, 75% of the hypertension patients in the clinics with the LHW (intervention clinics) came to the clinics on the day of their appointment, while only 56% of the patients in the other clinics (control clinics) did so.

Third, both patients and nurses in the clinics were positive about having the LHW, who relieved nurses of some routine work and reminded patients of their appointments.

Fourth, the waiting time for patients in the clinics with LHW fell by around one hour during the intervention, from around 3h20min to around 2h25min.

**Figure 2: Percentage of patients who attend the clinic on their appointed day (by month)**



### Why was the main aim not achieved?

Observations in the clinics and interviews with the clinic nurses showed that clinics were struggling with a rapidly increasing number of chronic disease patients. As Figure 1 highlights, the number of patients with chronic diseases who visited the clinics essentially doubled from May 2014 to July 2015.

In addition, most of the clinic buildings were cramped, blood pressure machines and cuffs were in a poor condition and often unreliable, and supplies of drugs, patient files and other important consumables were erratic.

The vertical funding and separate management of the anti-retroviral programme also led to hypertension and other chronic diseases taking a lower priority, with less emphasis on their effective management.

### Conclusion

The support that the LHW provided to nurses did not significantly reduce the proportion of the population with uncontrolled hypertension.

However, the LHW helped hypertension patients in other ways such as getting more of them to come to clinics and to do so on their appointed day, and reducing patients' waiting times.

Overall, this experience shows that simply adding LHW is not enough to improve patients' health. One also needs the necessary equipment to measure blood pressure, enough clinical staff to treat patients, and strategies to cope with the changing context of the ever-growing numbers of chronic patients who are coming to clinics for help.

**Source:** Goudge J, Chirwa T, Eldridge S, et al. Can lay health workers support the management of hypertension? Findings of a cluster randomised trial in South Africa. *BMJ Glob Health* 2018;0:e000577. doi:10.1136/bmjgh-2017-000577.

**Funding:** The study was funded the by UK Medical Research Council under the Global Alliance for Chronic Diseases (GACD) Programme.

**CHP policy briefs:** CHP policy briefs aim to make CHP's research accessible to key stakeholders by summarising the work and presenting key policy implications and recommendations. This policy brief is produced and distributed under the terms of the [Creative Commons Attribution-NonCommercial-No Derivative Works 3.0 Unported licence](https://creativecommons.org/licenses/by-nc-nd/3.0/).