

Researchers

Peter Rockers
Boston University

Richard Laing
Boston University

Veronika Wirtz
Boston University

Monica Onyango
Boston University

Zaina Kiragu
Boston University

Madeline Ray
Boston University

Timeline

2017-2019

Sample Size

Approximately 384 health facilities in 8 counties in Kenya, and 800 NCD patient households within those counties

Research Implemented by IPA

Yes

The Impact of Price Reduction on Access to Medicine for Non-Communicable Diseases in Kenya

Abstract

Non-communicable diseases (NCDs) like diabetes, hypertension, and cancer have become increasingly prevalent in low- and middle-income countries in recent years, but health systems in most of these countries have been geared towards treatment of acute rather than chronic diseases. In Kenya, researchers are evaluating the impact of Novartis Access, an initiative that offers a basket of NCD medicines at a reduced wholesale price, on the availability and purchase price of medicines. Results from 15 months after the program began suggest that it did not impact the availability and prices of medicines at participating facilities on average, though it did increase the availability of certain individual medicines.

Policy Issue

Over the last two decades, the global prevalence of non-communicable diseases (NCDs) like diabetes, hypertension, and cancer has increased significantly. Reasons for this increase include population aging and increased exposure to risk factors such as tobacco use, harmful use of alcohol, physical inactivity, and unhealthy diets.¹ Globalization and rapid urbanization, meanwhile, have accelerated the exposure to these risk factors.

Treatment of NCDs and prevention of complications largely depends on medication, but health systems in most low and middle-income countries have been geared towards treatment of acute rather than chronic diseases. These countries now face tremendous challenges in managing growing NCD burdens.² For patients, out-of-pocket spending can result in catastrophic health expenditure and increased poverty. In addition to their direct medical costs to patients, NCDs can be a burden on the countries' economies.

This research will provide rigorous evidence of the impact of a new medicine access program called *Novartis Access*. The evidence will inform Novartis' efforts to improve their program in Kenya and in subsequent countries as it is rolled out globally in the coming years.

Context of the Evaluation

The increasing prevalence of NCDs is a significant health concern in Kenya. NCDs account for 27 percent of deaths among people between ages 30 and 70.^{3,4} More than 50 percent of inpatient admissions and 40 percent hospital deaths result from these diseases.⁵ In Kenya, medicines are purchased by either public, private non-profit, and private for-profit health facilities, where patients then obtain them. Patients at private for-profit facilities generally pay medicine costs out-of-pocket, while at public and non-profit facilities they may pay the full price or a partial "cost-recovery fee." According to a household survey conducted in 2008, only 33% of respondents who reported being diagnosed with an NCD had medicine for that condition available in their house at the time of the survey.⁶

The pharmaceutical company Novartis/Sandoz has introduced a new global initiative, *Novartis Access*, that offers a basket of 15 medicines for the treatment of NCDs at a reduced price in 30 countries, including Kenya, by 2020. Initial rollout of the program began in Kenya in 2016, and additional countries will be added in the coming years. The main activity of *Novartis Access* is the direct sale of reduced price NCD medicines to wholesale purchasers in program countries. In Kenya, the basket of medicines focuses on 4 NCDs: cardiovascular disease, Type 2 diabetes, breast cancer, and respiratory illness.

Details of the Intervention

Researchers working with Innovations for Poverty Action are conducting a randomized evaluation to study the effects of *Novartis Access* on the availability and purchase prices of NCD medicines included in the program at health facilities and households in Kenya.

During the study period, *Novartis Access* was selling its medicine baskets exclusively to the Mission for Essential Drugs and Supplies, or MEDS, the main supplier of medical facilities associated with faith-based organizations and was also a key supplier for public facilities in several counties in the country. Thirty of Kenya's counties have signed up with MEDS to purchase medicines and are eligible to receive the *Novartis Access* portfolio. Of these counties, researchers are studying the program's effects at approximately 137 health

facilities in eight counties (this is the level at which medicine purchasing is done). Four counties were randomly assigned to a group that received *Novartis Access* medications through MEDS, while the other four comprise a comparison group that is not receiving *Novartis Access* during the 15-month study period.

Researchers are assessing *Novartis Access*'s effects on prices and availability at the household level, with a total of 639 NCD patient households randomly selected from the eight study counties. To be eligible, a household must contain at least one member who has been diagnosed with and prescribed medication for one of the four NCD conditions targeted by *Novartis Access* in Kenya. Of those households, 342 are from counties receiving *Novartis Access*, and 297 are from counties in the comparison group.

Researchers are collecting data at both the health facility and household level through a three-phase survey focused on medicine prices and availability. Short monthly phone interviews are also being conducted with health facilities to collect basic information on medicine stock and price. Half of all households are also receiving phone interviews to collect information on the availability and price of the prescribed medicines for the diseases of interest; the other half of study households are not receiving the interviews so that researchers can detect any effects of the phone interviews themselves. Study health facilities and households were enrolled at the time of baseline data collection in 2016. A midline survey took place in 2018 and an endline survey is planned for 2019.

Results and Policy Lessons

Overall, after 15 months, *Novartis Access* did not have statistically significant impacts on medicine prices or availability at health facilities, though it did increase the availability of certain individual medicines. There were no impacts on medicine availability in patients' households.

Impacts on medicine availability at health facilities: Clinics receiving *Novartis Access* were more likely to have amlodipine (used to treat high blood pressure) and metformin (used to treat Type 2 diabetes) available than comparison facilities were. However, there were no significant impacts on the availability of other medicines, or for the average availability of medicines in the *Novartis Access* portfolio overall.

Impacts on medicine prices: There was no significant difference between prices at *Novartis Access* facilities in this evaluation and comparison facilities.

Impacts on medicine availability in homes: Patients who visited *Novartis Access* facilities in this evaluation were no more likely to have medicines included in the program's basket than those who visited comparison facilities.

The results suggest that the program had little impact in its first 15 months. Potential reasons for this lack of impact include limited uptake among eligible facilities; the fact that regulatory approval and importation of the basket medicines were still ongoing during the study period; a selection of medicines in the program's portfolio that were not in high demand for

treatment of their conditions; prices similar to or higher than other comparable products on the market; and the decision to distribute Novartis Access exclusively through one supplier of faith-based and public facilities in a setting where most people use private facilities.

Another follow-up survey will measure impacts in the longer term, though the program will be altered during this time period and thus there will not be an opportunity to measure the longer-run impacts in the program's current form.

The study has generated multiple peer-reviewed publications, [available here](#).

The Lancet Global Health published a pair of commentary pieces about the study and its results:

- ["Novartis Access: a small step towards increased access for non-communicable disease care"](#)
- ["Access to medicines—business as usual?"](#)

Sources

¹World Health Organization. Global Status Report on non-communicable diseases. 2014. [Available at: <http://www.who.int/nmh/publications/ncd-status-report-2014/en/>].

²Atun R, Jaffar S, Nishtar S, Knaul FM, Barreto ML, Nyirenda M, Banatvala N, Piot P. 2013. Improving responsiveness of health systems to non-communicable diseases. *Lancet* 381(9867):690-7.

³Clark H. 2013. NCDs: a challenge to sustainable human development. *Lancet* 381(9866):510-1.

⁴Atun et al.

⁵World Health Organization. 2014. UN, Kenyan government take broad-based approach to fighting NCDs. [Available at: <http://www.who.int/nmh/events/2014/kenya-ncd-prevention/en/>].

⁶Vialle-Valentin CE, Serumaga B, Wagner AK, Ross-Degnan D. 2015. Evidence on access to medicines for chronic diseases from household surveys in five low- and middle-income countries. *Health Policy and Planning* 30(8):1044-52.

November 10, 2017