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Case Study

Leveraging HIV platforms to work toward comprehensive primary care in rural Malawi: the Integrated Chronic Care Clinic

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ABSTRACT

This case study describes an integrated chronic care clinic that utilizes a robust HIV program as a platform for NCD screening and treatment. A unique model, the integrated chronic care clinic provides longitudinal care for patients with an array of chronic diseases including HIV and common NCDs, allowing for a single visit for all of a patient's conditions. Set in Malawi's remote Neno District, this clinic structure aims to (1) increase access to care for NCD patients, (2) maximize efficiency given the severe human resource shortages, and (3) replicate strong HIV outcomes for patients with other chronic conditions. The goal is to increase the number of health facilities in Neno capable of fully delivering Malawi's Essential Health Package, the set of cost-effective interventions endorsed by Malawi MOH to reduce burden of disease and leading causes of death.

While implementation is ongoing and processes are evolving, this model of healthcare delivery has already improved the accessibility of NCD care by allowing patients to have all of their chronic conditions treated on the same day at their nearest health facility, notably without additional investment of human and financial resources. Currently, 6781 patients on antiretroviral therapy and 721 patients with NCDs are benefitting, including 379 with hypertension, 187 with asthma, 144 with epilepsy, and 76 with diabetes. Among the NCD patient population, 15.1% are HIV-positive. Success hinged largely on several factors, including clear leadership and staff ownership of their specific duties, and a well-defined and uniform patient flow process. Furthermore, deliberate and regular conversations about challenges allowed for constant iteration and improvement of processes.

Moving forward, several tasks remain. We are refining the data management process to further consolidate medical records, along with integrating our tracking processes for clients who miss appointments. Additionally, we are exploring opportunities for further integration, including family planning. A follow-up patient satisfaction survey is planned for the coming months to track the impact of the clinic's redesign.

Given limited human and financial resources, innovative solutions are required to address the growing burden of chronic disease in Malawi. We have found that an integrated, patient-centered approach maximizes efficiency and reduces barriers to care for the hardest to reach patients.

1. Background

As non-communicable diseases (NCDs) make up an increasing proportion of the burden of disease worldwide, finding innovative models of care delivery that maximize existing resources is increasingly important. In Africa, NCDs are projected to become the leading cause of death by 2030,[1] and in Malawi, hypertension and diabetes are already significant health problems, affecting 32.9% and 5.6% of the population, respectively.[2] In fact, 93.3% of these

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hypertensive patients are not even aware of their diagnosis.[2] In 2010, NCDs were responsible for 21.4% of the DALYs, an increase from 17.5% in 1990.[3] With an HIV prevalence of 10.6%, Malawi is thus facing a growing double burden of chronic diseases, both communicable and non-communicable.[4]

The Malawi Ministry of Health has implemented a robust, progressive, and free-of-charge HIV program at the primary health care level throughout the country.[5] For example, they led expansion of ARVs for life for pregnant women.[6] The success of this program can be attributed to a number of factors, including strong international and national leadership, adequate funding, clear and standardized ART protocols supported with training, supervision and monitoring, and a very reliable supply chain.[5] The HIV Program is strongly supported and directed from a central level within the MOH, whereas the NCD unit within the national MOH has three staff and is in the early days of creation of protocols, supervision, and training.

The Malawi government frames the delivery of primary health care around the Essential Health Package (EHP), which is the minimum package of services that should be available at the primary care level, covering conditions affecting the majority of the population with a focus on the poor. These include vaccine preventable diseases, acute respiratory infections, malaria, tuberculosis, sexually transmitted infections, HIV, diarrheal disease, malnutrition, perinatal conditions, and common injuries. In 2011, noncommunicable disease treatment was added to the EHP.[7] However, the successful incorporation of NCDs at the primary healthcare level has been limited: in Neno District, the district described here, only the two hospitals of 13 health facilities claim complete EHP delivery, and NCDs comprise a significant gap in services.

Given that 51% of Malawi's health care funding is directed toward HIV, whereas less than 1% is allocated for NCDs such as mental health, diabetes and cardiovascular disease, leveraging HIV programs for delivery of NCD care may be an effective strategy.[8] There have been a number of attempts to combine HIV care with other specific clinical programs,[9,10] as well as general primary care,[11,12,13] with studies suggesting that integration may offer system- and patient-level benefits. Our literature review uncovered just one example of a fully-integrated HIV and NCD clinic. The study, which took place in Cambodia, describes an integrated model in which physicians and nurses received training in HIV and NCD management as well as patient-centered care, and all patient groups demonstrated satisfactory outcomes.[14]

2. Organizational context

Partners In Health (PIH), an NGO known in Malawi by its Chichewa name Abwenzi Pa Za Umoyo (APZU), partnered with the Malawi Ministry of Health (MOH) in 2007 to strengthen health services in the rural and impoverished district of Neno. PIH's mission is to create *a preferential option for the poor in healthcare* by accompanying the public sector in strengthening health services, professional training and mentorship, and targeted research. These goals are pursued in Neno by supplementing human resources with health professionals, infrastructure development, supply chain support, and a strong focus on a community footprint through a network of over 900 community health workers (CHWs).

Neno District is an extremely rural district in southern Malawi. The majority of the 150,000 people rely on subsistence agriculture, and only 4.3% have electricity.[15] Neno became a district in 2003, a district hospital was built in 2008, and a community hospital was added in 2011. The MOH operates both hospitals in addition to overseeing a network of 11 health centers. PIH has worked with the MOH to delivery quality HIV care since 2007, enrolling over 7100 clients to date, with HIV care decentralized to all 13 facilities.[16]

In 2009, the Neno Chronic Care Clinic (CCC) began enrolling patients at the district hospital, a 120-bed public facility situated in the center of the district. This clinic treats a range of NCDs, most commonly hypertension, asthma, epilepsy, diabetes, and congestive heart failure (CHF). Patients were referred to clinic from the inpatient setting, health centers, and community-based screening events. In 2013, the CCC also opened at Lisungwi Community Hospital.

3. Personal context

PIH comprises a team of nearly 300 people made up of executive leadership, clinicians and nurses, community outreach personnel, and support staff. Daily work is accomplished by working alongside the MOH in Neno to strive toward the goals outlined in the Health Sector Strategic Plan.[7] MOH leadership consists of a District Health Officer (DHO), a District Medical Officer (DMO), and a District Nursing Officer (DNO)—along with four other members of the District Health Management Team—who lead the district in strategic planning, budgeting, implementation, and daily supervision.

After the initiation of CCC at both hospitals, clinical staff continued to notice an increasing burden of NCDs in Neno, including CHF and asthma admissions, and that HIV patients at antiretroviral (ART) clinic had a significant amount of hypertension, and so the team focused attention on the CCC program. However, though both clinics were running smoothly, as of August 2014 they remained vertical and pilot-sized. There were a total of 277 patients with hypertension, 38 with diabetes, 169 with asthma, and 189 with epilepsy. Moreover, based on Malawi epidemiologic data, if 33% of adults in Neno are expected to have hypertension, this clinic population only comprised 1.1% of the expected patients.[2,16]

Given this unaddressed burden of disease, teams from PIH and MOH delved into the current state of the CCC program to devise possible solutions. This coincided with relatively new senior leadership in both organizations, along with a fresh commitment to partnership. These factors facilitated discussions and creativity around plausible ways to expand NCD care.

4. Problem

The team observed several key factors that defined the problem and ultimately formed the solution to pursue. These factors included a high default rate in the NCD population, the remote terrain and long distances patients were forced to navigate to come to clinic, and the severe human resource shortages. The team further noted the strength of the HIV program in Neno, an imbalance of funding and disease burden, and some past attempts at integration of HIV and NCD care that had not led to the intended outcomes.

4.1. High default rate

Enrollment at CCC at both the district and the community hospital had remained steady without significant increases over many months by the end of 2014. However, the clinic population was growing even more slowly as the default rate was significant. For example, at the district hospital clinic, 34% ($N=241$) patients had defaulted over the preceding two years.[16] Though the HIV program had clear protocols for bringing patients back into care, the CCC program did not benefit from this system, and efforts to bring patients back were sporadic and often unsuccessful.