THE FUTURE OF GLOBAL HEALTH STARTS HERE

7 Creative Approaches to Health Workforce Challenges

IntraHealth
INTERNATIONAL
Because Health Workers Save Lives.

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INTRODUCTION

How do we come up with creative solutions to health workforce challenges? As these seven approaches designed by IntraHealth International show, there is no set formula. They range from developing and integrating exciting new technologies to simply rethinking old ways of doing things; from catalyzing public-private partnerships for common good to harnessing the primordial power of human storytelling.

And why do we need creative approaches? These examples cover a variety of reasons: from addressing intractable health systems challenges to responding to emerging threats; from advocating for high-level policy changes to bringing key health care services to the hardest-to-reach populations.

What these seven approaches do have in common is a focus on the all-important role of health workers and the systems that support them in improving the health of people and communities. We hope these examples will inform the efforts of other countries and organizations and inspire continued creative thinking as we work together to strengthen the next generation of health workers in an ever-changing and complex global health landscape.

AFYA ELIMU

Funding the Next Generation of Health Workers in Kenya

THE PROBLEM

Kenya has an acute shortage of health workers, which seriously undermines its ability to achieve universal health coverage. Its health-worker-to-population ratio is 1.3 to 1,000, while the World Health Organization recommends at least 2.3 to 1,000.

To remedy that shortage, Kenya needs more health workers graduating from health professional programs and joining the workforce. However, 42% of the population lives below the poverty line and college education is often a luxury. Medical training colleges charge around US$4,280 for a 3.5-year diploma nursing program, which is beyond the reach of most Kenyans. Those who want to serve often lack the resources or have to defer their studies several times in the training cycle, straining their ability to complete their studies on schedule.

OUR INNOVATION

The Afya Elimu Fund is a public-private partnership that provides affordable loans to health professional students. The fund was established in 2013 as a joint venture among IntraHealth International, through the USAID-funded FUNZOKenya project (2012-2017) and the follow-on Human Resources for Health Kenya Mechanism (2016-2021); Kenya's Ministry of Education through the Higher Education Loans Board (HELB); the Ministry of Health; and the private sector.

Afya Elimu is a revolving fund that offers student loans at a 4% interest rate (compared to the 14% typical of commercial rates) to help Kenyans pursue medical training. It particularly serves those studying to become nurses, clinical officers, medical laboratory technicians, pharmaceutical technologists, nutritionists, health record information officers, and public health officers—cadres that form the bulk of the health workforce in Kenya and are critical to achieving universal health coverage.

Loan eligibility criteria consider students' family income, orphaned status, gender, disability status, and county of origin—prioritizing hardship and high HIV-burden counties.

In launching the venture, the Afya Elimu Fund established an oversight committee for governance, appointed HELB as fund manager, and defined a partnership framework for fundraising targets with public and private sectors aligned to corporate social responsibility principles and shared value. The fund developed publicity materials to create awareness and implemented rigorous monitoring and evaluation for accountability to key partners. Resource mobilization strategies and appropriate financial management systems are in place to raise funds as well as monitor fund performance.

By June 2019, the Afya Elimu Fund had grown from two to ten partners (three public, seven private); it has mobilized US$16.1 million (70% from the public sector through HELB) since USAID provided the initial US$1 million in seed funding. Private-sector partners include the Family Group Foundation, I&M Bank, Standard Chartered Bank—Seeing is Believing initiative, and the Rattansi Educational Trust. In 2017, Kakamega County became the first county government to invest in the fund to support local students enrolled in medical training institutions countrywide. Four other counties are in the process of committing similar investments.

WHAT WORKED

As of June 2019, 22,491 beneficiaries, more than half of them women, had accessed Afya Elimu Fund loans to cover their tuition. Those beneficiaries came from all 47 Kenyan counties, with 82% of them from 27 marginalized, hard-to-reach counties with high rates of HIV. By that same date, 8,245 beneficiaries had graduated and were available for employment. A quarter of them were already employed in public, private, and faith-based health facilities that provide priority services for universal health coverage, such as HIV testing, counseling, care, and treatment; prevention of mother-to-child HIV transmission; family planning; and laboratory investigation. Employed Afya Elimu Fund graduates have repaid loans amounting to US$540,000, which will support additional needy students—hence the fund's journey toward sustainability.

One recipient, Statius Osoro Ondiba of Karantini Village, who initially didn't know how he would afford medical training, has gone from earning his diploma in clinical medicine to starting a clinic and employing other health workers to improve the quality of health care in his home community.

WHAT WE LEARNED

Stakeholder buy-in, whether from the private sector or government, was critical in setting up the Afya Elimu Fund as a workable venture for medical education financing.

A technical working group that spearheads fund implementation and an oversight committee chaired by the Ministry of Health enhance operational efficiency, prudent governance, and alignment with Government of Kenya priorities as a flagship initiative under Kenya's Vision 2030 development program and the president's "Big Four Agenda," which includes universal health coverage. Partnering with HELB proved a big plus, as the institution has a longstanding history of financing higher education in Kenya, a legal mandate to recover loans from recipients, and continued government funding through the Exchequer.

NEXT STEPS AND OPPORTUNITIES FOR REPLICATION AND SCALE-UP

The Afya Elimu Fund has developed a manual that guides its operations, charts its governance structures, and streamlines operational efficiency. Building on this, a strategic plan is under development and scheduled to be finalized by September 2019 to anchor the fund's sustainability as well as better position it to continue increasing access to medical education for prospective health workers through public-private partnership financing.

As the Afya Elimu Fund matures, it will explore new frontiers of health worker education financing that include post-basic training (higher diplomas) to help Kenya's devolved health sector provide advanced services through specialists' training for nurses and clinical officers in reproductive health/midwifery, oncology, nephrology, critical care, operating room care, anesthesiology, pediatrics, neonatology, and more. The goal is to help build a stronger health workforce that offers both primary and specialized health care services as part of universal health coverage.

The Afya Elimu Fund structure of public-private partnership financing provides a model that other countries can consider replicating to increase educational access to needy students who want to become health workers.

Figure 1: Growth of fund and beneficiaries, 2013-2019
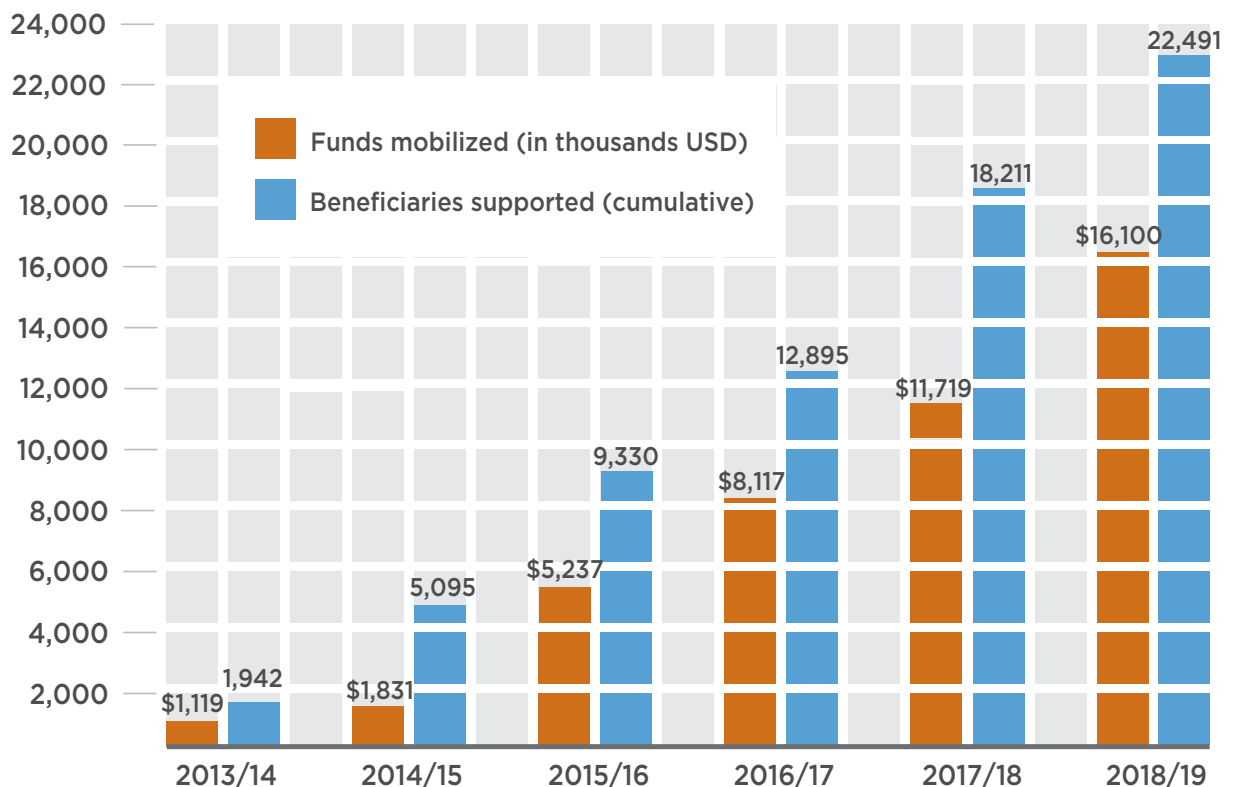
REIGNITING A YOUNG MOTHER'S DREAM

For Beatrice Mudhai, the youngest child in a family of ten, money had always been stretched. So much so that she had to wait three years before joining college. During the gap years, Beatrice conceived her first child, Norelle.

"It was one of the most difficult times in my life, a mixed bag of joy and gloom," Beatrice says. "I was glad to be a mother, but not ready to marry the father of my child, as we were both very young with no means to support the child."

Determined to further her education, in March 2011, Beatrice left her young baby in her mother's care and enrolled at Mukumu School of Nursing, Kakamega, to pursue her dream—a diploma in nursing.

During the course of her program, Beatrice struggled to pay her fees. She was in and out of school, taking on odd jobs to make ends meet. Despite her hard work, her hopes to complete her studies were almost dashed in 2015 as she approached her final semester with no money to pay her fees. Having depleted her family's resources, she despaired.

Then, on an ordinary afternoon, Beatrice was summoned to the college laboratory where she first heard of the Afya Elimu Fund. Her lecturer described the program and encouraged the students to apply.

"I followed the presentation halfheartedly," she says, "but applied nonetheless."

Two months later, Beatrice received a call from the principal notifying her that her application was successful. She had been awarded a loan of KES 55,000—the highest in her cohort.

Now Beatrice is an accomplished nurse working at St. Monica Mission Hospital in Kisumu, in the HIV Comprehensive Care Center.

"I love my job," she says. "Every day, I get to help people."

Beatrice started repaying her loan two months after her graduation in December 2015.

> "I gave my mother my first salary, so she could bless it," she says. (This is a common cultural practice in Kenya to honor a parent.) "I then started repaying back the loan the following month, and I want to finish paying my loan so I can give another student a chance to achieve their dreams."

Adapted from a post by Ida C. Rob published on IntraHealth's VITAL blog on November 9, 2017.

Photo Credit: Ida C. Rob for IntraHealth International
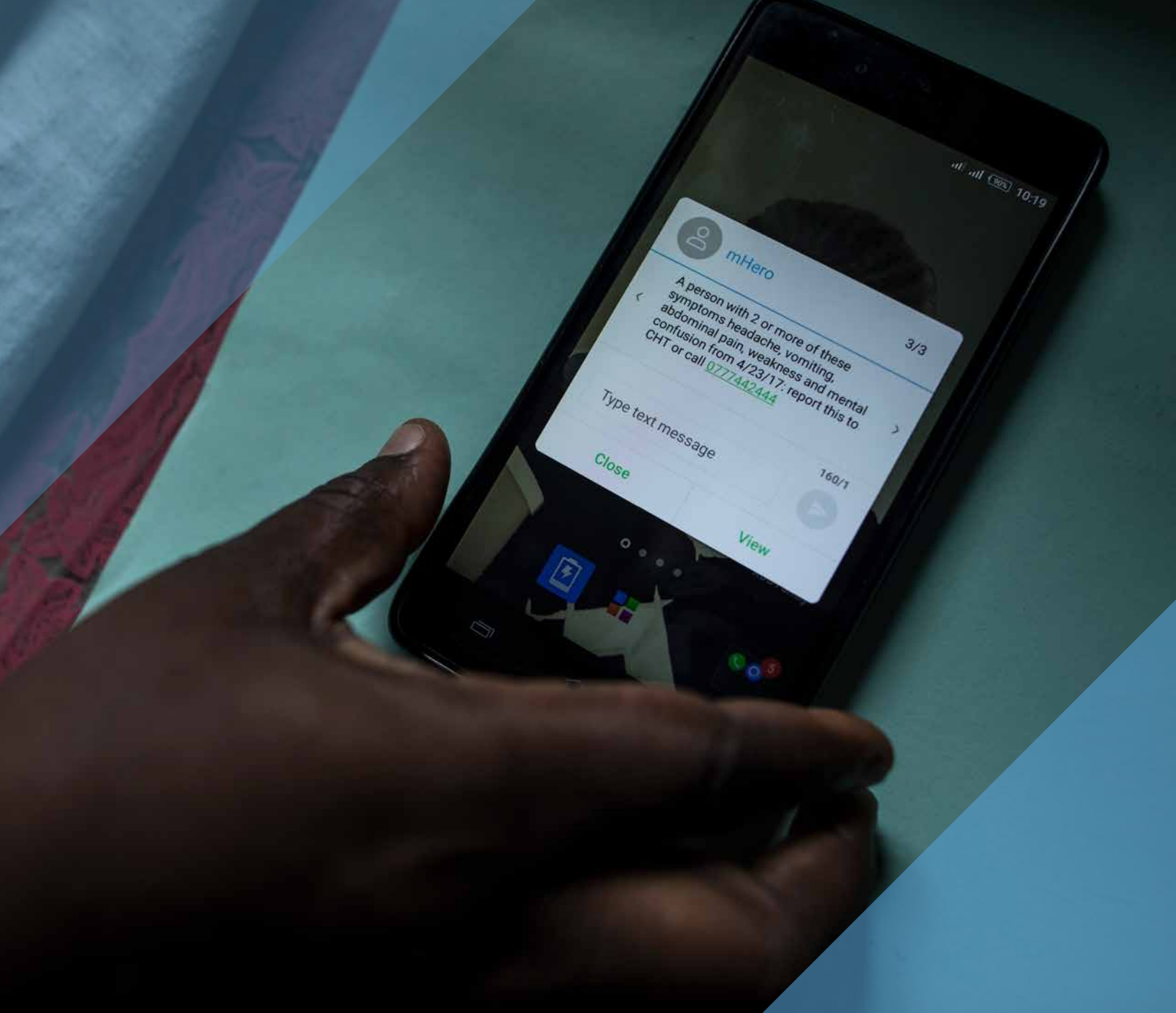
mHERO

Communicating with Health Workers on the Front Lines of Pandemics

THE PROBLEM

In August 2014, the world's largest-ever outbreak of the Ebola virus disease was emerging in West Africa. There were about 2,000 reported cases in Liberia, Guinea, and Sierra Leone, and the number was growing rapidly. Already-weak health systems were overwhelmed, and officials had no instantaneous way of reaching frontline health workers with critical, lifesaving information or support. With each passing day, communications gaps accelerated the spread of the virus.

For responding organizations, health workers served as critical eyes and ears, identifying Ebola cases as they emerged. Tragically, with a risk-of-exposure rate up to 42% higher than the average person, many fell ill or abandoned their posts. Compounding the crisis, governments lacked a clear picture of where health workers were located and what services they were providing. To fight the spread of Ebola, they needed real-time information on the availability, location, and needs of their health workforce. Health workers, in turn, needed information about how to protect themselves against the virus and the ability to share critical data about the disease's spread.

OUR INNOVATION

As the world became alarmed about what could become a global pandemic, staff from IntraHealth International and UNICEF brainstormed ways to connect with the health workforce through an instant, two-way communication platform between health workers and health officials. IntraHealth and UNICEF raced against the clock as Ebola spread through the streets of Monrovia and the hills of Sierra Leone.

Without the time and resources normally required to create new technologies, IntraHealth decided to build on its open source human resources information system, iHRIS, which helps ministries of health and other stakeholders in more than 25 countries to collect, analyze, and use data on their health workforces.

Fortuitously, IntraHealth had already been in discussions with UNICEF about integrating iHRIS with UNICEF's RapidPro software so that ministries could use their employee data to send targeted text messages (SMS) to health workers. With the urgency of the Ebola outbreak, IntraHealth and UNICEF sped up the timeframe.

The resulting platform, mHero (mobile health worker electronic response and outreach), brings together the following open source technologies:

- **iHRIS:** The free suite of software developed by IntraHealth for managing health workforce information that supplies decision-makers with high-quality data on employee contact information, deployment, position, cadre, skills, qualifications, and more.

- **DHIS2:** The web-based health management information system with robust visualization features supported by the Health Information System Programme (HISP) at the University of Oslo, which helps governments and organizations manage operations, monitor processes, and improve communications.

- **RapidPro:** An open source communication platform owned by UNICEF to send and receive data using basic mobile phones, manage complex workflows, automate analysis, and present data in real time by using texts to monitor programs, track activities, or engage with beneficiaries.

mHero leverages the principles of OpenHIE, a global community of practice dedicated to improving the health of the underserved through open, collaborative development. The platform operates on the basic mobile phones that most health workers already own—no smartphones or tablets are required. It is compatible with any health workforce information system or communication software that uses OpenHIE. A distinguishing feature of mHero is that it allows health workers to initiate direct contact with health officials—allowing data and information to be "pushed" by health workers, in addition to being "pulled" at the request of health officials.

Within weeks, IntraHealth, with financial support from UNICEF, was able to provide on-the-ground support to test the technology and plan implementation in Liberia. This led to a pilot by the Ministry of Health (MOH) in four counties in early December 2014.

WHAT WORKED

The pilot test in Liberia reached 289 health workers in four counties. The ministry used SMS exchanges to validate health workers' contact information, including their phone numbers, job titles, supervisor information, and health facility association.

Early in the development and testing phases, the ministry indicated it wanted mHero to be used beyond the Ebola response to strengthen overall communication and the country's health system. Consequently, other capabilities developed for mHero include the ability to conduct "flash" surveys, share inventory reports, send messages regarding refresher training and courses, and inform new employees about payroll IDs.

mHero was deployed to varying degrees in Guinea and Sierra Leone in the aftermath of the Ebola response and has since been implemented in Mali and Senegal as part of the Global Health Security Agenda to support integrated disease surveillance and response.

IntraHealth and UNICEF worked with Liberian stakeholders to improve and scale mHero and build institutional capacity within the ministry to guide and manage the platform. In December 2015, the ministry formally integrated mHero into its Health Information System (HIS) and ICT Strategic Plan for 2016-2021, which made its use an official part of the government's health strategy and HIS architecture. By January 2018, more than 17,000 health workers throughout Liberia had been contacted via mHero.

WHAT WE LEARNED

There was a significant learning curve with mHero in Liberia, starting with the fact that many health workers were unfamiliar with how SMS worked, and were afraid to respond for fear of incurring charges. (Due to a UNICEF-negotiated short code with mobile network operators, it did not cost health workers to send messages.) Health workers were not accustomed to receiving messages from the ministry on their personal phones and often ignored them. Simultaneously, the ministry did not know how to respond to messages from workers. Additionally, the system was only as good as the cellular networks, which, at the time, did not cover 30% of Liberia's population. Due to overwhelmed cellular networks during the Ebola crisis, text messages would sometimes take as long as 24 hours to arrive, negating the rapid response mHero promised. Finally, the pilot revealed that some of the data and contact information in iHRIS was out of date, making it impossible to contact those health workers.

While poor infrastructure delayed mHero implementation, IntraHealth worked strategically with other partners and donors to improve infrastructure in Liberia, Guinea, and Sierra Leone by investing in basic Internet connections and providing servers and backup servers for data. IntraHealth also worked with mHero teams in the respective ministries to foster skills-building in systems operations and data use.
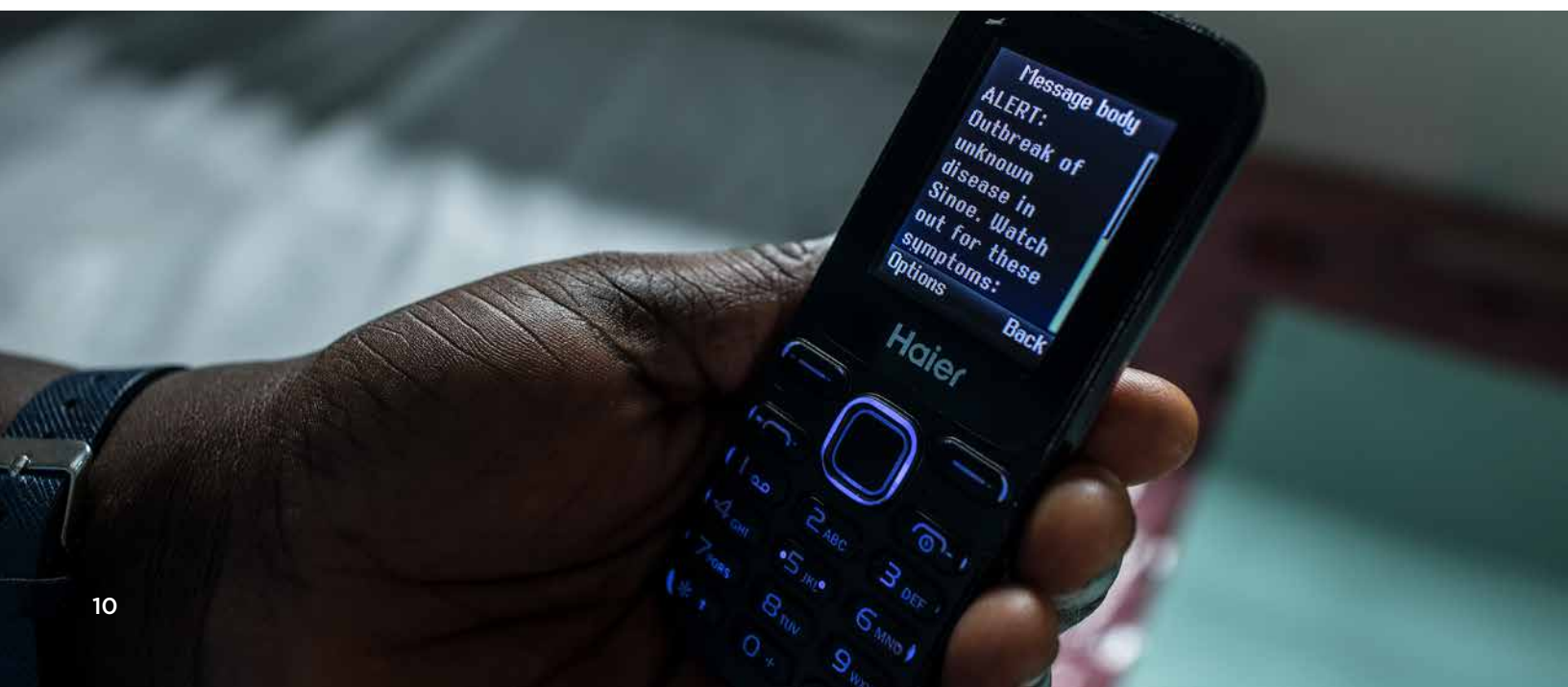
NEXT STEPS AND OPPORTUNITIES FOR REPLICATION AND SCALE-UP

Using OpenHIE's open data exchange standards means that mHero is replicable in multiple countries and contexts. With funding from the USAID K4Health project, collaborators were able to document mHero's capability and modify it to serve as an electronic integrated disease surveillance and response system.

After the phase-out of IntraHealth from the Liberia mHero project in 2018, additional funds were provided for UNICEF to work with the ministry to sustain the platform, as it had become an integral part of the ministry's HIS. USAID is supporting an activity to strengthen mHero in Liberia through September 2019. The goals of this activity are to make mHero the go-to resource in routine and emergency situations, build the capacity of the ministry to use information mHero gathers for informed decision-making, and fully transition the management of mHero to the ministry.

In 2019, IntraHealth was awarded funding from Digital Square for a project called Zero to mHero, which will enhance functionalities and make the platform easier to deploy. Other plans to expand the capability of the mHero platform include streamlined integration for health worker contact information and integration with iHRIS version 5.

TUTORAT

Building a Culture of Quality in Senegal's Primary Health Care Facilities

THE PROBLEM

Faced with critical shortages of health workers, particularly in rural areas, Senegal has struggled with unwanted pregnancies and high maternal and infant mortality rates. Since 2006, IntraHealth International has led a series of USAID-funded projects in Senegal to build the capacity of health workers to offer high-quality services for family planning, reproductive health, and maternal, neonatal, and child health.

In 2008, IntraHealth began advocating to allow nurses and other health workers, and not just doctors, to provide long-acting and reversible contraceptives (LARCs). This proposal made sense in Senegal, where nurses are the principal family planning service providers in smaller primary health care facilities that serve the majority of the population. However, this type of task-sharing—where procedures normally performed by higher-qualified health workers are undertaken by other health workers with less formal training—requires adequate skills-building and supervision.

Despite significant multiyear investments in traditional training approaches in Senegal, their effectiveness had been limited for several reasons: classroom training was largely theory-based; health services were interrupted while providers attended training; trainings were not based on the specific needs and context of the health workers and the facilities in which they worked; and the health facility environment did not encourage health workers to apply the new skills they acquired during training.

OUR INNOVATION

IntraHealth's experience has shown that peer health workers from the same health districts often make better coaches and mentors for health workers than outside experts. To test this approach in Senegal, IntraHealth, with the Ministry of Health and Social Action, designed and piloted *Tutorat* (which means "mentoring" in French) beginning in 2008, drawing on IntraHealth's Learning for Performance approach, which combines instructional design and performance improvement.

Mentoring and coaching are the foundation of *Tutorat*, which seamlessly integrates 1) a rapid needs assessment to identify inefficiencies and performance gaps, 2) action planning, 3) tailored training materials to address gaps in knowledge and skills, 4) overlap with local supervision systems, 4) collaboration with health facility management, and 5) facilitywide performance improvement, while building local ownership and a sustainable culture of quality.

Tutorat differs from other on-the-job training and performance improvement efforts in that it:

- Focuses on the specific needs of health workers by taking a customized approach to assessing performance gaps, improving individual performance, and addressing individual learning needs. Training is delivered onsite at health facilities, allowing health workers to learn in the same context—with the same equipment, supplies, clients, and colleagues—in which they work.

- Minimizes health service disruption.

- Emphasizes a whole-facility, whole-system approach. *Tutorat* engages health workers and support staff, managers, and the communities being served. Through this holistic approach, health workers gain skills while problems with supplies, infrastructure, management, policies, and/or funding are identified and prioritized for correction. Health committees composed of community members help hold health facilities accountable for improvements, mobilize resources, and devise solutions.

In 2013, IntraHealth introduced the expanded *TutoratPlus*, which includes six mentoring packages that cover family planning, maternal health, disease management, facility management, health information systems management, and health communication and (demand) promotion.

TutoratPlus also added a facility-level situation analysis that examines infrastructure, equipment, and supplies; creates an empirical identification of performance gaps by equipping mentors and regional/district health management teams with tools to measure and evaluate

performance; and further strengthens engagement with local officials and health committees by creating district-level action plans and evaluating progress through regular reviews.

Before *TutoratPlus* was introduced, the Ministry of Health and Social Action conducted a baseline situation analysis of 1,330 facilities in 14 regions to assess health workers' family planning knowledge and skills; health facility management and infrastructure (e.g., availability of running water, electricity, infection prevention materials, and IUD and implant insertion kits); and relationships with the community to identify gaps contributing to poor performance. The district action plans outlined activities to address three primary gap areas: provider performance, equipment, and infrastructure.

Tutorat is now in its third major iteration, *Tutorat 3.0*, which is now supported by the USAID-funded Neema project led by IntraHealth. *Tutorat 3.0* is being implemented in seven regions and is designed to better address gender issues and incorporate management of the community health system. *Tutorat 3.0* includes six modules: management of pregnancy, delivery, and postpartum; family planning; disease management; organization of services; social and behavior change communication; and community health management.

WHAT WORKED

Senegal first piloted *Tutorat* in six regions, training 407 nurses and midwives at 52 facilities in IUD and implant insertion and removal and infection prevention. Those facilities quickly started hitting their targets for health service improvements. A 2011 evaluation showed a 97% satisfaction level with *Tutorat* among health workers and stakeholders at participating health centers. Based on these results, the ministry committed to scaling up the
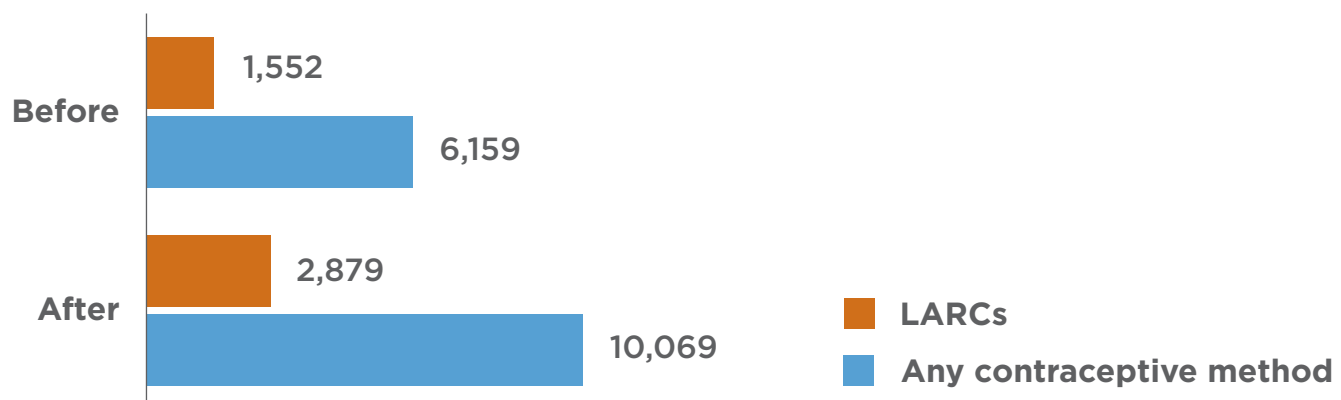
approach nationwide and Senegal changed its national policy to allow trained nurses and midwives in rural health posts to offer LARCs—which previously could only be administered in health centers and hospitals.

However, before *TutoratPlus* was implemented, an analysis of 290 facilities that wanted to strengthen family planning services revealed that fewer than half (47%) had a health worker on staff who could offer at least one LARC. Sixty-four percent of facilities did not have implant kits in stock and 69% lacked IUD kits. After *TutoratPlus* interventions and community engagement, all 290 facilities could provide LARCs.

Of 857 health workers trained by 85 mentors as part of the *TutoratPlus* intervention in those facilities, 552 were clinical staff (mainly nurses and midwives) and 305 were nonclinical providers who received mentoring only on family planning counseling for new clients. The number of clinical providers who had an acceptable performance level increased from 32% to 67% after mentoring.

In a subset of 100 facilities for which comparison data on family planning service delivery were available, the number of new clients who received any family planning method increased by 64% across the two six-month periods before and after the *TutoratPlus* intervention. The number of new LARC users increased by 86%, or 1,327 users, the vast majority of whom chose implants.

Figure 2: Number of new contraceptive users in 100 facilities, six months before and six months after *TutoratPlus* intervention

Before
- LARCs: 1,552
- Any contraceptive method: 6,159

After
- LARCs: 2,879
- Any contraceptive method: 10,069

■ LARCs
■ Any contraceptive method

From 2010 to 2014, Senegal's modern contraceptive prevalence rate (mCPR) rose from 12% to 20% among women of reproductive age in union, making as much progress as it had in the previous 20-year period. Much of the increase occurred in rural areas, where the mCPR rose by 86% (from 7% to 13%), compared with a 45% increase in the urban mCPR. Use of LARCs in rural and underserved areas increased 230% in those four years, from 1.7% to 5.6%.

The Ministry of Health and Social Action, with the support of IntraHealth, continued to scale up the *TutoratPlus* approach. As of 2015, 1,330 health facilities were enrolled in the *TutoratPlus* program, a level of expansion made possible because of the ministry's strong support for task-sharing and decentralizing LARC providers. For *Tutorat 3.0*, the Neema project—which is not nationwide—focuses on 611 facilities.

WHAT WE LEARNED

The sharp increase in the number of women in rural or underserved areas who have requested LARCs after the task-sharing policy was instituted and health workers were properly mentored via *TutoratPlus* has revealed a latent demand for those methods.

This approach highlighted the great value of mentors as resources and the need to retain them within the public health system. Attrition was a major problem during the two-year *TutoratPlus* intervention period, as roughly half of the mentors who were trained left their facilities of origin. This required training new mentors, and also meant that there were gaps in the support available to family planning providers who offer LARCs.

NEXT STEPS AND OPPORTUNITIES FOR REPLICATION AND SCALE-UP

Senegalese health officials now need minimal support from IntraHealth to manage the *TutoratPlus* program. The Ministry of Health and Social Action and IntraHealth initiated a steering committee to institutionalize *Tutorat* in Senegal. Many of the mentors have become respected health professionals. District-level action plans continue to prompt community stakeholders to get involved in investing in and improving services in their local health facilities by, for example, channeling resources toward staff recruitment, expanding and improving infrastructure, informing the community about newly available services, and acquiring new equipment.

A more formal evaluation of the national institutionalization of *TutoratPlus* in Senegal would offer further insights to better assess its potential for replication in other countries.

HOLDING HEALTH WORKERS ACCOUNTABLE

Using Data to Reduce Absenteeism in Uganda

THE PROBLEM

Health worker absenteeism undermines staff morale and the quality of care patients receive. It wastes health-sector resources and has even been linked to patient deaths.

In Uganda, which has a severe shortage of health workers, a 2015 study by IntraHealth International revealed that 68.8% of health workers in the public sector either weren't showing up or were leaving work early so they could collect a second paycheck at a different health site or job. This put pressure on other health workers, who were already thinly stretched, to do more than their share of work. In worst-case scenarios, people would arrive in some Ugandan health centers and find that there was no one on staff, because everyone had decided to take unauthorized holidays.

Absenteeism was exceptionally high among night- or weekend-shift workers due to lack of supervision at their facilities, often forcing patients who could afford it to pay for private duty services. In Amolatar District in 2012, clients who couldn't get care at a health center rioted and stormed the office of the resident district commissioner.

OUR INNOVATION

Tracking attendance is the first step to ensuring health workers are there to deliver critical services and that staff workloads are equitable and safe. A team of information technology (IT) and performance management experts on the IntraHealth-led, USAID-funded Strengthening Human Resources for Health (SHRH) activity piloted a package of attendance-tracking tools, starting with Amolatar District in January 2016 and gradually expanding to other districts.

The backbone of the tracking system is Uganda's unified Human Resources for Health Information System (HRHIS), which the Ministry of Health uses to collect data to make crucial decisions about public-sector health workforce funding, deployment, and development. Uganda's HRHIS is built on the iHRIS software, a suite of open source tools developed and supported by IntraHealth for managing and planning the health workforce.

Ever since the pilot initiative, facilities have been tracking attendance on a daily basis. They enter it monthly into HRHIS and share it with the respective district health officers and the District Service Commission.

Once the monthly data are in, payroll managers in each district run attendance reports and immediately see who reported to work fewer than the standard number of required days per month (usually 20) or who arrived late. The payroll managers check with facility heads to see if there are legitimate reasons for absenteeism, such as sickness or transportation problems, before recommending sanctions to the district health officer and chief administrative officer, who oversee public

health facilities. Sanctions include paying prorated salaries based on the number of days absent, disciplining chronically absent staff, and removing "ghost" workers from district payrolls.

Most health centers manually record attendance, but seven high-volume sites, mostly hospitals that employ hundreds of health workers, began using biometric scanners to log employees in and out.

IntraHealth's SHRH team also conducted annual longitudinal analyses of health worker absenteeism rates in sampled districts and health facilities from 2015 to 2018. Survey teams made unannounced visits to health facilities and recorded whether they found workers on the job that day. They also looked to see if workers had been on the job during the previous five working days. The teams collected additional information from interviews with health managers at facility and district levels. Absenteeism was defined as the number of health workers who are not off-duty who are absent from the health facility during an unannounced visit and during the previous five working days. The teams also analyzed unauthorized absenteeism to better understand the problem, underlying causes, and effective strategies to address it.

WHAT WORKED

The attendance tracking tools led to immediate results. Once employees realized they were being monitored, unapproved absences fell significantly in just a few months. During 2015-2018, overall health worker absenteeism (with and without approval) fell from 69% to 41%.

The success of the pilot initiative prompted the Ministry of Health to ask the team to roll out the approach to 4,507 facilities in all of Uganda's 122 districts by August 2018, and soon absenteeism without approval was down to 11.1% in 432 sampled health facilities. The monitoring system allowed Ugandan health officials to comprehensively track and analyze attendance data and take appropriate actions against chronically absent staff.

By mid-2018, informatics developers at IntraHealth had begun encouraging facilities to use biometric machines that scan thumbprints of each and every medical worker and register time of arrival and departure. This eliminates any chance of a health worker gaming the system by signing in for a workmate, as fingerprints are unique to each individual and require staff members to be physically present to sign in or out. By the end of that year, all 14 regional referral hospitals and 14 health center IVs (minihospitals, each serving a population of roughly 100,000) in Gombe, Adjumani, Kalanga, and Katakwi districts had added biometric systems to monitor employees.

The Office of the Prime Minister is helping add biometric systems to 37 district hospitals and health center IVs in 22 districts in eastern Uganda. Another 173 of the smaller health center IIIs (subcounty-level clinics with maternity wards) and IIs (parish-level facilities that treat common diseases and offer antenatal care) in the same districts received mobile phones to capture attendance. The phones work in the same way as the biometric machines, but don't require reliable electricity.

Today, the district of Amolator, where the pilot project began, is known to have some of the best medical personnel in the country. The HRHIS monthly report put absenteeism in Amolatar at only 3.2% as of May 2018.

WHAT WE LEARNED

Governments can effectively reduce absenteeism rates through regular tracking and analysis of data using technology-based tools. However, fully addressing the issue of absenteeism requires a holistic and multipronged strategy that employs different management interventions beyond a tracking system, such as involving key stakeholders, creating supportive supervision, and using appropriate rewards and sanctions. A supportive environment increases buy-in and participation from health workers.

The tracking tools revealed systems-related causes for absenteeism in Uganda, including weak supervision, a lack of clear job expectations, delays in getting paid, and poor working conditions. Data collected helped create appropriate sanctions or rewards to improve performance, retention, and health care delivery. District authorities can also better identify workers who are due to retire and determine where recruitment efforts are needed.

This program faced substantial hurdles, beginning with inadequate IT infrastructure, including computers, Internet, and inconsistent electrical power at health facilities. Health facilities often did not comply with taking attendance, resulting in low or delayed reporting of data. The system is only as good as the data that are shared. If managers don't use the data to promote health worker productivity, no gains are made in service delivery.
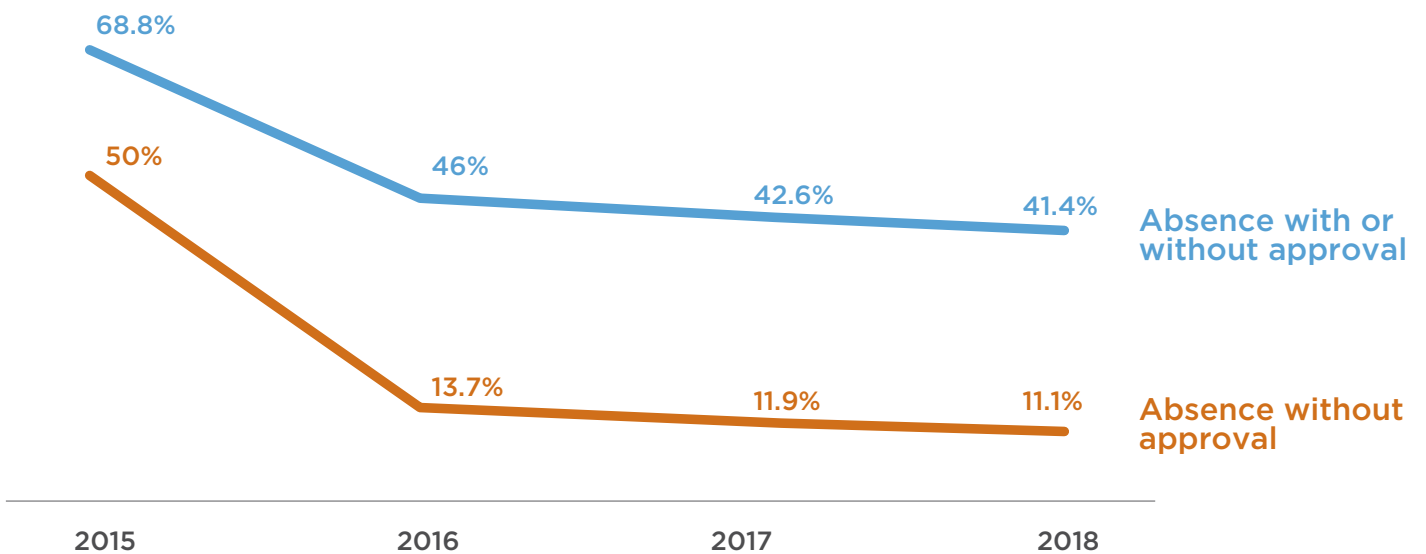
The system is still mostly manual and some administrators at the ministry found it difficult to digitize paper records. Workers who arrive late have to track down data collectors when attendance books are removed, taking valuable time away from other tasks. The continued reliance on a paper-based system in many facilities makes tracking more easily compromised as it is still relatively easy for one person to sign in on behalf of another.

NEXT STEPS AND OPPORTUNITIES FOR REPLICATION AND SCALE-UP

Future plans call for rolling out biometric tracking to more districts to replace the paper-based systems and to link HRHIS, including the attendance-tracking system, with the open source District Health Information System (DHIS2) to better assess health worker productivity. An estimation of the financial cost of absenteeism to the health system is in progress.

Figure 3: Health worker absenteeism, 2015-2018

68.8%

50%

46%

42.6%

41.4%   **Absence with or without approval**

13.7%

11.9%

11.1%   **Absence without approval**

2015   2016   2017   2018

THE POWER OF STORYTELLING

Advocacy by Frontline Health Workers

THE PROBLEM

Most people become inured to numbers and statistics. When they hear that, according to the World Health Organization (WHO), 400 million people around the world lack access to essential health services, or that the world will be short 18 million health workers by 2030, they might have a hard time comprehending what those figures really mean. What exactly does a shortage of 18 million health workers look like?

Statistics, particularly those that involve people, simply can't convey all the complexity and humanity that exist behind the numbers. Sheer numbers can numb. Data can support the bones of an argument, but human experience fleshes it out.

OUR INNOVATION

Storytelling is a way to give a face and narrative to numbers and statistics. Proper storytelling can foster empathy, establish trust, and more urgently convey the importance of taking action. Health workers who can provide first-hand context and succinctly convey a vivid portrait of the urgency and often tragic consequences of the lack of access to essential health services are more likely to resonate with decision-makers. In doing so, they can influence policies to enhance health services in their communities and raise the profiles of frontline health workers and the structural barriers they face.

In 2017, with support from the Medtronic Foundation, IntraHealth International invited a handful of inspiring frontline health workers who focus on fighting noncommunicable diseases to participate in a few months of intensive storytelling training. Since then, IntraHealth has trained 12 frontline health workers from Brazil, India, Ireland, Liberia, South Africa, Uganda, and the United States in the art of storytelling to better share their experiences of providing health care to underserved communities. Their stories have been shared at forums such as the World Health Assembly, US congressional briefings, the Fourth Global Forum on Human Resources for Health, the UN Commission on the Status of Women, the Global Conference on Primary Health Care, and IntraHealth's annual SwitchPoint conference.

IntraHealth and Medtronic partnered on the storytelling initiative with three principal aims: 1) to ensure global health policymakers and influencers hear more voices of frontline health workers, 2) that frontline health workers who received the training have the tools to continue advocating for policies and investments they feel are important, and 3) that more organizations and institutions prioritize the voices and stories of frontline health workers in high-level global health policy forums and meetings.

WHAT WORKED

The storytelling training equipped health workers to confidently and skillfully convey their stories and use them to try and improve policy whenever they get in front of policymakers and influencers. Through storytelling, some frontline health workers have influenced key policy changes. For example, Samalie Kitooleko, a nurse at the Uganda Heart Institute in Kampala, who spoke at the World Health Assembly in Geneva in 2017, spurred policies that allow all patients, regardless of their ability to pay, to receive care at the institute.

Shortly after Maria Valenzuela, a community health worker from Arizona, spoke in 2017 at a congressional briefing organized by the Frontline Health Workers Coalition on the impact of frontline health workers, bipartisan House Resolution 342 was introduced in the United States Congress. It recognizes that frontline health workers are essential "to strengthening the United States national security and economic prosperity, sustaining and expanding progress on global health, and saving the lives of millions of women, men, and children around the world."

At the 2017 World Health Assembly, said IntraHealth president and CEO Pape Gaye, "we saw the faces of policymakers at the highest levels—from ministers to the heads of multilateral agencies—transfixed by the stories of these frontline health workers... We are proud to help amplify their voices and will keep pushing to ensure they have a platform to tell their stories."

Sunil Kumar, who managed community health workers for IntraHealth in India's Jharkhand state, spoke in vivid detail about the dedication of frontline health workers to saving women's and children's lives at a World Health Assembly side session that included leaders such as the director-general of the WHO and executive director of

UNAIDS. This helped spur WHO's first-ever guidelines on community health worker programs.

Vince Blaser, director of the Frontline Health Workers Coalition, explained, "When we as advocates speak to policymakers about the acute necessity of far greater and more strategic investment in the global frontline health workforce, heads often nod but action doesn't always follow. But when policymakers are presented with data combined with the human stories that bring home the realities of working on the front lines of care, the onus to act becomes much harder to ignore."

Since the inception of the program, trained storytellers have been regularly asked to participate in panels, leadership programs, or other opportunities. For example, Valenzuela was selected to speak on a plenary at the invitation-only Global

Conference on Primary Health Care in Astana, Kazakhstan, in October 2018, and subsequently was selected as an Aspen-Aetna Healthy Communities Fellow. Organizations such as Last Mile Health, Women in Global Health, Global Citizen, and the Global Health Council have sought lessons learned from this initiative or invited storytellers trained by the project to speak on panels.

WHAT WE LEARNED

This initiative provided countless reminders of just how powerful individuals—and their personal stories—can be. Storytelling, or the ability to spin a narrative, is an art that is not always intuitive. By teaching health workers how to structure and present their personal stories, helping them tap into their authentic experiences and drawing out their passions, they can gain the confidence and authority that helps them become agents for change.

Valenzuela's story of growing up poor in the foster care system and becoming inspired to dedicate her life to a community health career, which she shared in front of nearly 70 congressional staffers and government officials, moved many to tears and prompted them to take action. She was able to get her audience to imagine themselves as the young child bouncing helplessly from foster home to foster home, or as the young woman who received community nutrition classes and chose to become a social worker rather than succumb to the negative influences around her.

It's not only policymakers who need to hear stories—patients also need them to influence changes in lifestyle patterns or to be encouraged to pursue or persevere with medical treatments. Kitooleko related a story about a family who refused life-saving procedures to encourage another family to seek treatment for their daughter. Within the community of frontline health workers, sharing stories and experiences can help inspire and motivate colleagues, or rekindle a commitment to serving others. Part of cultivating the art of storytelling in health workers is training them to be attuned to others' stories and how to share those stories with the larger world.

NEXT STEPS AND OPPORTUNITIES FOR REPLICATION AND SCALE-UP

Going forward, IntraHealth and the Medtronic Foundation intend to train additional health workers as storytellers, as well as create a community of practice for frontline health workers to share best practices, collaborate on advocacy initiatives, and help inspire further storytelling. Former trainees such as Vânia Soares de Oliveira e Almeida Pinto, a community physician in Brazil, have started regular storytelling sessions among local health workers. Ultimately, IntraHealth and Medtronic hope to have built the foundation of a sustainable movement for frontline health worker storytelling for advocacy.

GETTING CONTRACEPTIVES TO WOMEN WHO NEED THEM

Senegal's Informed Push Model

THE PROBLEM

In 2012, the Government of Senegal committed to more than double its modern contraceptive prevalence rate (mCPR), which was a little above 20%, to 45% by 2020, recognizing that reliable access to family planning would also contribute to reducing the country's high maternal mortality rate. However, public health facilities, where most consumers obtain contraceptives, reported shortages in inventory, or stockouts, more than a quarter of the time.

These facilities traditionally had to resupply their inventories using a paper-based "pull" system that left gaps in stocks. The National Supply Pharmacy (PNA) delivered commodities to its 11 regional supply pharmacies from its central warehouse in Dakar but had no oversight on the last-mile delivery to health facilities. Facility staff had to travel to district warehouses to purchase contraceptives and other medical commodities and bring them back to their clinics. With this old distribution model, there was no harmony between clinics' needs and the district warehouses, making it common for products to be in stock at the national level but absent from the shelves of facilities.

Another drawback of the pull-based inventory system was that clinic health workers, who typically aren't trained in supply chain management and who have competing demands on their time, were also asked to track and forecast needs for commodities. Clinics were required to pay for health products up-front using their own working capital, which created incentives for some facilities to prioritize stocking commodities that earned higher margins, making family planning products, which typically do not earn high revenues, a low priority.

OUR INNOVATION

In 2012, Senegal's Ministry of Health and Social Action and the PNA began working with IntraHealth International, Merck for Mothers, and the Bill & Melinda Gates Foundation to develop a nationwide Informed Push Model (IPM), a supply distribution approach that relies on private, third-party logistics providers (3PLs) to capture real-time data to proactively predict and manage stock at the facility level.

Logisticians make monthly deliveries of health products directly to facilities, where they evaluate current stock and enter data into a tablet-based electronic logistics management information system (Dimagi's CommCare), or eLMIS, to track consumption trends and forecast future needs. The logistics team generally consists of a driver, a logistician, and sometimes an assistant logistician, trained in IPM technical procedures.

The instant transfer of data from districts and regions helps ensure that information captured from facilities aligns with that recorded at the national level and can be used to regularly report on trends and track progress toward global and national targets.

The financial model was also changed. Facilities no longer purchase supplies up-front and are charged, using a consignment model, only for commodities consumed during the preceding month, which enables them to stock a wider array of products. Facilities pay a 25% margin redistribution, or percentage of net proceeds of sales, to PNA to cover sustainability of IPM.

The pilot phase of IPM was introduced in 2014, and the ministry decided to scale the model nationally starting in 2015. It now covers 1,460 facilities in all 14 regions of the country.

WHAT WORKED

Moving from paper to the eLMIS enabled stronger forecasting and tracking. Logisticians could now use historical data to estimate the amount of product each clinic needed and could adjust this amount based on a number of variables, including climate conditions, fluctuations in nationwide health trends, and regional or local factors. In one instance, the data allowed a district to see that declines in implant insertions were linked to a shortage of local anesthetic.

The pilot phase of IPM increased the use of modern contraceptives by more than 90% in some regions, influencing the ministry's decision to scale the model nationally. Areas that were still experiencing stockouts attributed them mostly to unexpected spikes in consumption. Other shortages were linked to logistician errors, nonpayment from facilities, or contraceptive community outreach programs that spurred demand that was not communicated to logisticians.

By 2016, the unmet need for contraceptives had dropped from 88% to 53%. Nationwide consumption of contraceptives increased by 48% over the 14-month period from April 2015 to May 2016 after full IPM scale-up. The ministry and PNA expanded IPM to include other essential commodities beyond contraception, as part of a broader supply chain transformation, and rebranded the program as Yeksi Naa ("I have arrived" in Wolof).

By 2017, Yeksi Naa was able to consistently deliver over 100 essential health products to facilities around the country. That same year, it reduced contraceptive stockouts to an average of 2% of all health facilities nationwide, improving access to family planning for an estimated 3.2 million women. Consumption data from all health facilities is captured electronically and available for procurement and programmatic decision-making. Margin redistribution is estimated to cover 70% of the costs of administering Yeksi Naa.

Yeksi Naa has transformed the delivery of essential health products in Senegal. Health workers can remain at their facilities rather than having to travel to procure supplies. Clinics can be open longer and, when patients arrive, the commodities they need are much more likely to be in stock. The willingness of public-sector health facilities to partner with private-sector trained logisticians has reduced inefficiency and improved data quality by ensuring that those responsible for recording stock information and forecasting have the necessary expertise to complete those tasks. As communities see the value of a consistent supply chain, they are more willing to visit facilities for services and supplies and facilities are in turn more invested in contributing margin redistribution to PNA to support Yeksi Naa.

WHAT WE LEARNED

The performance-based contract competitive bidding process used to select third-party logistics providers helps drive cost-effectiveness and quality control. If certain conditions are not met—if, for example, stock-out rates exceed 2% of facilities, based on data from the eLMIS—PNA can penalize the 3PL financially or even replace the 3PL with another company. This gives 3PLs an incentive to maintain high service levels at a competitive cost and develop innovative solutions to increase efficiencies. Beyond supply chain strengthening, utilizing 3PLs drives local business development, which enhances the local economy and creates jobs.

The final step in Yeksi Naa's success is institutionalization to ensure that the program will thrive without outside funding. While a transition road map including prerequisite activities for PNA to operate the program was in place, it was particularly important to have strong advocacy from high-level government officials at an early stage of implementation and their commitment to expend additional resources to maintain essential activities over the long term. Unfortunately, this did not occur in a timely manner, and, consequently, efforts to institutionalize the model did not really start until the end of the expansion stage. By then, the initial project's remaining time proved too short to institutionalize IPM and the project was extended twice, adding an additional 23 months to its timeline.

To catalyze high-level support, the Yeksi Naa team deployed an intense advocacy and communication campaign, including certification ceremonies in regional capital cities, which were used to attract media coverage; advocacy workshops in all 14 regions; and consistent, direct dialogue with the Minister of Health and other decision-makers. Senegal's former Minister of Health, Awa Marie Coll-Seck, publicly advocated for supply chain reform and committed to making requisite policy changes. Senegal's President Macky Sall highlighted his commitment to the Yeksi Naa supply chain model in his 2017 New Year's address to the nation.
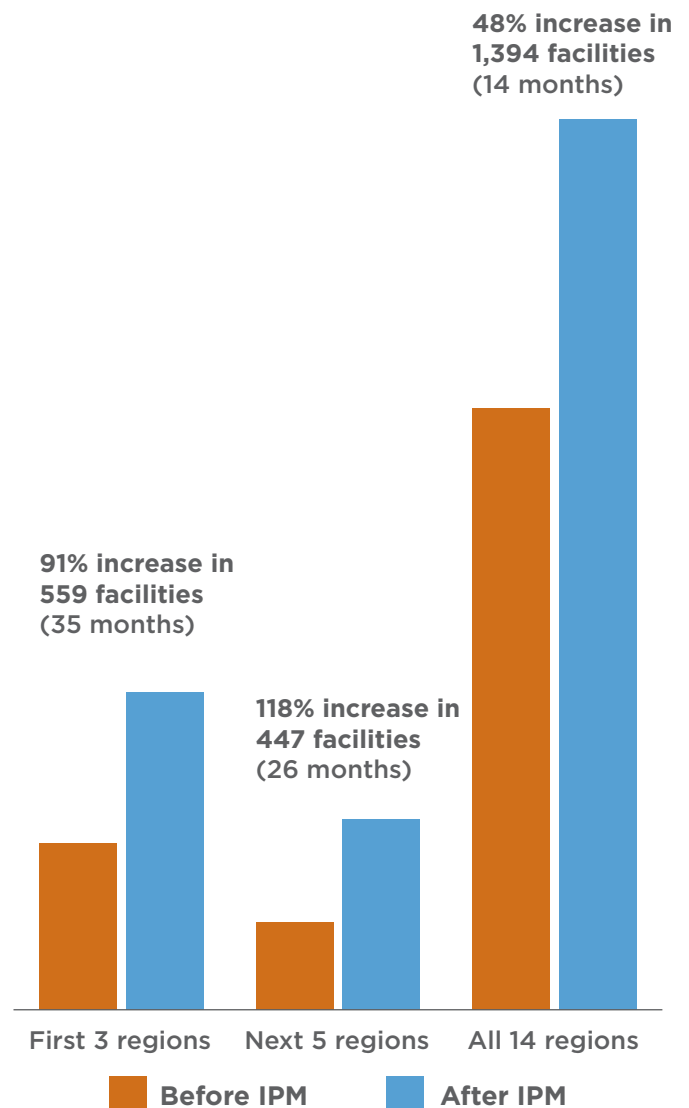
NEXT STEPS AND OPPORTUNITIES FOR ADAPTATION AND SCALE-UP

The Yeksi Naa model has the potential for adaptation and adoption elsewhere, particularly in the West African context where supply chain systems are similar. Best practice elements of the approach can be applied individually to supply chain systems in other low- and middle-income countries to improve availability of products in health facilities.

IntraHealth played an important supportive role in leading the successful introduction of IPM-Yeksi Naa. In addition to helping develop and refine the model, IntraHealth provided extensive coaching and mentorship support to logisticians and relevant supply chain actors to ensure operational efficiency. The architecture and cost of this support should not be overlooked as other countries consider adapting similar approaches. As of this writing, IntraHealth is progressively withdrawing from high-performing regions in favor of those that need more intensive coaching.

Figure 4: Contraceptive consumption rates before and after IPM implementation in 14 regions of Senegal, all methods combined (2013-2016)

48% increase in 1,394 facilities (14 months)

91% increase in 559 facilities (35 months)

118% increase in 447 facilities (26 months)

First 3 regions   Next 5 regions   All 14 regions

■ Before IPM   ■ After IPM

HEALTH4ALL

Strengthening Health Workers' Capacity to Serve Key Populations with Stigma-Free HIV Services

THE PROBLEM

Globally, remarkable progress has been made in halting and reversing the HIV epidemic: annual new infections have declined by 35% since 2000, and 15 million people living with HIV are now on antiretroviral therapy (ART). However, up to half of all new HIV infections among adults worldwide occur among key populations: sex workers, men who have sex with men, transgender people, and people who inject drugs. As governments, donors, and the wider health and development community work toward an AIDS-free generation, HIV programs are better engaging with and implementing approaches that meet the needs of key populations.

Unfortunately, stigma and discrimination across the spectrum of HIV services remain major barriers to epidemic control. Many members of key populations report unwelcoming, disrespectful, or discriminatory treatment by health workers, which affects whether those populations will continue or seek HIV services. Health workers' emotions and biases, as well as cultural norms, beliefs, and structural inequities, often determine how services to key populations are delivered.

OUR INNOVATION

Through the global USAID- and PEPFAR-funded LINKAGES initiative managed by FHI360, project partner IntraHealth International led the development of the Health4All campaign in 2016 to better assess, address, and strengthen the capacity of health workers to serve the needs of key populations. The aims of Health4All are to guide self-reflection among health workers and improve their empathic, clinical, and interpersonal skills so they can provide high-quality, comprehensive services to key populations free of stigma and discrimination.

As part of the campaign, IntraHealth produced a training guide, *Health4All: Training Health Workers for the Provision of Quality, Stigma-Free HIV Services for Key Populations*. IntraHealth pilot-tested the guide in Angola, Malawi, and South Sudan as a working document that should be continuously refined through feedback from ministries of health, trainers, peer educators, and health workers as it adapts to local needs.

Key to the Health4All approach is that training is conducted in collaboration with representatives from local key population constituencies who are already engaged in HIV programs. Meaningfully including members of key populations—such as those already working as advocates and program implementers—in the Health4All trainings as cofacilitators, participants, and panel members is a critical and essential component of successful training that leads to long-term changes. Honest dialogue between health workers and members of key population groups is clearly transformational for many health workers. Another important aspect of the trainings is the use of data from facilities to

guide participants to interpret and better use available monitoring data to assess quality and coverage of services.

The training guide provides a road map on how to assemble a facilitation team; core training principles to ensure sessions are locally relevant, self-reflective, and honest; and information about the latest and best clinical standards of care for key populations, including World Health Organization and United Nations HIV prevention strategies. It contains sample training agendas that can be customized and websites that connect to resources and deeper information.

The training guide includes modules on the rationale behind delivering services for key populations and the need for high-quality, appropriate services. The last and most important module helps ensure that lessons learned are translated into action items that are required of individuals, communities, providers, and facilities to correct stigma and discrimination. Action plans generated from the Health4All trainings become the responsibility of those in attendance as well as LINKAGES project staff who monitor and support action plans.

Prior to training, most health workers have little or no understanding of the concept of key populations. Thoughtfulness and empathy are elicited in health workers over time through a series of questions such as, "Why are key populations vulnerable to HIV?" Participants learn the difference between gender and sex and how to better understand those who do not adhere to cultural gender norms, or the reasons behind alcohol and drug abuse. Participants gain an awareness of human rights violations that key populations often

experience, such as rape, verbal abuse, or being denied food or services. The training ends with a follow-up questionnaire to see how well participants absorbed knowledge.

Complementing the Health4All training strategy, LINKAGES regularly monitors the quality of services among its partners through surveys and helps them to make changes, as needed, to modify activities and improve services. The program has also evolved to focus more on younger populations and those who engage in multiple high-risk behaviors.

WHAT WORKED

Since 2016, IntraHealth has worked with 14 LINKAGES country offices in Africa, Asia, and the Caribbean to deliver Health4All trainings to more than 800 participants. IntraHealth and LINKAGES have continuously refined the guide and strategies to reflect insights from the trainings. To date, pre- and post-training assessments have consistently demonstrated increases in knowledge and changes in attitudes related to key populations.

Post-training surveys show that those who go through the training report that they gain better insight into key populations, the factors that make them vulnerable, the challenges they face, and the constraints of professionals in dealing with those issues. The governments of Cambodia, Indonesia, Kenya, and Suriname have adapted and endorsed Health4All as a national curriculum.

WHAT WE LEARNED

It's imperative that key populations are fully engaged in the Health4All approach, as some of the most important outcomes of the trainings are the new social connections established among key population advocates, HIV program administrators, and service providers. Creating training environments that are safe spaces for open and honest dialogue between health workers and key populations proved relatively easy. Most participants are respectful of one another. Health workers are eager to learn more about key populations, especially their personal experiences trying to access HIV or other health care services. But, more than that, health workers truly want to serve their clients as best they can.

This training should be delivered to anyone at a health facility who interacts with key populations, not just clinical health workers but security guards, drivers, and receptionists. It is critical that facilities create supportive environments that are holistically free from discrimination and stigma so that key populations will feel encouraged to seek HIV services and treatments, thereby joining other populations who have been able to successfully manage the virus.

NEXT STEPS AND OPPORTUNITIES FOR ADAPTATION AND SCALE-UP

More program research is needed to determine the long-term effects of the Health4All approach, even as it has been recognized and scaled up as an important instigator for tackling complex interrelated social norms and attitudes that affect key populations' access to and use of HIV services. IntraHealth continues to support several LINKAGES country programs in the implementation of Health4All, and to make materials available for the global community to adapt and tailor it for further use. IntraHealth has also developed short, refresher education materials to be used with those already trained in Heatlh4All to support maintenance and expansion of Health4All campaigns.

COUNTRIES THAT HAVE COMPLETED HEALTH4ALL TRAININGS

Angola, Burundi, Cambodia, Côte d'Ivoire, Democratic Republic of the Congo, Haiti, Honduras, Indonesia, Liberia, Malawi, Mali, Mozambique, South Sudan, Suriname, Thailand.

ACKNOWLEDGEMENTS

Published August 2019

Photos by DL Anderson, Georgina Goodwin, Malaika Media, Emily Nicholson, Clément Tardif, Tommy Trenchard, and Morgana Wingard for IntraHealth International

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