**Letter from the Directors**

In 2018, we took the first bold step in expanding our impact by doubling the population we serve. This is part of a larger effort to build a model county of community-led health, transforming how the 1 million people in Migori, Kenya access healthcare, and ultimately influencing the health system at-large.

We are driven to reach more communities facing the challenges of a struggling health system, by one of our core values, neighborliness.

When our founders, Milton and Fred, got the opportunity to study in the US, it was their neighbors who sold chickens and goats to enable them to go to Dartmouth. And when they returned to fulfill their father’s dream of building a hospital, it was their neighbors who oversaw the blueprints, donated land, and dredged sand to make it possible. This founding community believed that we are each other’s keeper.

Over twelve years, we’ve built a holistic health model that is driven by the power of neighbors banding together to make change. This model has led to a 98% skilled delivery rate, 300% increase in contraceptive uptake, and virtual elimination of mother to child transmission of HIV.

This year, we published a peer-reviewed study with Vanderbilt Institute for Global Health in the Public Library of Science journal (PLOS ONE), showing a significant decrease in child death. Child mortality decreased from 105 deaths per 1,000 live births prior to Lwala’s intervention to 29.5 deaths per 1,000 live births in the last five years.

Now, we are reaching more communities with our lifesaving model. In partnership with the Ministry of Health, we supported 7 health facilities, trained and supervised over 200 Community Health Workers, and reached a population of 60,000 people. This year, our Community Health Workers have made over 30,000 household visits while our facilities saw a combined 95,000 hospital visits.

The relationship between communities and their health care system is changing, and with it health outcomes are improving. We have seen community committees lobby for resources to connect health centers with electricity, ensuring 24-hour maternity services in facilities that were hitherto deemed incapable. We have seen neighbors encourage each other to try a contraceptive method or finally get an HIV test.

In 2019, we will continue to expand our direct reach to 90,000 people. And, we will remain at the forefront of policy change within the Ministry of Health to safeguard the good health of our communities for the long term.

All of this is possible through the support of our neighbors and partners, like you. Thank you for standing with us!

In solidarity,

Ash Rogers  
**Executive Director**

Julius Mbeya  
**Managing Director**
Executive Summary

OUR MODEL........................................................................................................................................4
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• We co-authored global recommendations on Community Health Worker program delivery.
• Migori County began paying stipends to Community Health Workers for the first time and we supported them to codify Community Health Worker payment into a Community Health Services bill.
• We supported 7 health centers through our Quality Improvement Initiative which achieved numerous wins including resurrecting crucial governance structures and extending hours for maternal care.

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• A peer-reviewed study published in the Public Library of Science journal (PLOS ONE) shows significant decreases in under-5 mortality following Lwala’s intervention.
• We reached a 98% skilled delivery rate, 97% immunization rate, and 98% elimination of mother to child transmission of HIV rate.
• We trained 121 new Community Health Workers and doubled the population we serve, reaching 60,000 people.
• 12 Lwala villages were certified Open Defecation Free by an independent evaluator.

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• We improved our SafeCare quality improvement score by 12% and achieved the highest score amongst peer facilities on PEPFAR’s SIMS evaluation.
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Our Model: Community-Led Health

Through twelve years of bottom-up innovation, Lwala has developed a community-led health model that is uniquely positioned to drive systems change. Lwala Community Hospital and its associated community-based health, education, and economic programs have served as an innovation hub and center of excellence, proving that when communities lead change is drastic and lasting. We have codified our success over the last twelve years into a community-led health model primed for rapid scale.

Our community-led health model centers on four key pillars:

**Community Committees** – We organize community committees to launch their own health initiatives around water, sanitation, and hygiene (WASH), HIV, sexual and reproductive health, and nutrition. We also train community members to participate on the governance committees of public health centers and equip them to hold the health system accountable.

**Community Health Workers** – Through community-led recruitment, Lwala identifies and trains traditional birth attendants to convert them to Community Health Workers. Instead of seeing traditional birth attendants as barriers to facility deliveries, Lwala brings them in to the formal health system. We train, pay, supervise, and digitally empower these Community Health Workers, who then track, screen, treat, and refer every pregnant mother, child under-5, and person living with HIV.

**Health Centers** – Through our Quality Improvement Initiative we provide onsite support and training to 7 government health facilities. We employ a quality improvement framework built around the World Health Organization’s six building blocks of health systems: service delivery, health workforce, information systems, supply chain, finance, and governance. The evidence and refinement of our quality improvement model emanates from Lwala Community Hospital. We run this hospital in partnership with the Ministry of Health and it stands as our center of excellence and benchmarking facility for government clinicians.

**Data** – We employ Community Health Worker-driven data by equipping our network of Community Health Workers with tablets and our customized CommCare application, Lwala mobile. The Community Health Workers leverage this technology to monitor their caseload, collect data, and receive real-time decision support. Our approach ensures that illnesses are identified early, and no vulnerable community member slips through the cracks.
Health Systems Strengthening

Lwala’s model has generated ample evidence of success including a child mortality rate of 29.5 per 1,000 live births compared to the regional average of 82 per 1,000 live births, a 300% increase in contraceptive uptake, and virtual elimination of mother-to-child transmission of HIV\(^1\). As a result, the Ministry of Health invited us to scale our model throughout Migori County to reach a population of one million people. We’ll meet this challenge through a three-pronged approach: direct service delivery, government technical assistance, and peer replication.

This year, we expanded our direct services to a population of 60,000 people, led the countywide (pop. 1 million) roll-out of an obstetric hemorrhage initiative, provided technical assistance to the government on their countywide community health strategy, and co-authored global recommendations on quality community health worker program delivery.

DIRECT SERVICE DELIVERY

For eleven years, Lwala provided services directly to a population of 30,000 people in our innovation hub, North Kamagambo. We generated success through our holistic community-led health model comprised of community committees, community health workers, health centers, and data. This year, we doubled the direct reach of our community-led health model to the 30,000 people in East Kamagambo, bringing our total direct reach to 60,000 people. By 2020, we will cover all of Rongo sub-county (pop. 150,000).

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3 Sourced from Lwala Community Alliance’s routine monitoring data, collected at the household level through a customized data collection platform using CommCare, Open Fn and Salesforce.
In 2018, we achieved the following gains across the four pillars of our model:

- **Community Committees** – We revived and trained facility management committees at all 7 of our partner facilities in our expanded catchment area. These committees are an official structure within the Kenyan health system, but they are under-leveraged and often dormant. With all 7 of the committees resurrected, the facilities are better able to advocate for their interests. Similarly, we established 3 new (6 total) sexual and reproductive health committees, which advocate for women’s rights and child protection and handle incidents related to rape, abuse, and teenage pregnancy. We leverage our 43 HIV and WASH Integrated support groups to have dual functions: supporting people living with HIV as well as acting as our advocates for community-wide sanitation efforts. Community and religious leaders spearhead these committees, symbolizing to their constituents that these are issues of upmost importance in the community.

- **Community Health Workers** – To care for our expanded population, we recruited and trained an additional 121 Community Health Workers, bringing our total cohort to 204. We worked with community committees to identify the 34 active traditional birth attendants and included all 34 in our Community Health Worker cadre, as is core to our model. We worked closely with the government to train, pay, and supervise this cadre of health workers. And, for the first time, the Ministry of Health began paying stipends for Community Health Workers.

- **Health Centers** – We supported 7 government health facilities through our Quality Improvement Program. Our partner facilities achieved an 11% average increase in their quality improvement scores in a 6-month time period. We supported 5 facilities, who were previously open for limited hours, to change systems and infrastructure in order to deliver 24-hour maternity care. All of our facilities developed active health facility management committees and systemized pharmaceutical management.

**Data** – This year we brought more than 100 new users onto Lwala Mobile, our customized Community Health Worker platform in CommCare. Additionally, we created a new supervision module that allows Community Health Worker supervisors to view performance measures for individual Community Health Workers that they oversee. The purpose is to improve Community Health Worker monitoring and communication with supervisors.

**GOVERNMENT TECHNICAL ASSISTANCE**

**Global Engagement** – By working with forums like the Community Health Impact Coalition and the African Union we broadcast our proven interventions to a global audience. In December, the Community Health Impact Coalition in collaboration with UNICEF, USAID, and Initiatives Inc. released the Community Health Worker Assessment and Improvement Matrix (CHW AIM). Our Executive Director, Ash Rogers, co-authored the CHW AIM tool through a consultative process that pulled from premier tools available throughout the sector. This tool will be used to identify design and implementation gaps in both small- and national-scale CHW programs, and close gaps in policy and practice globally.
In September, Lwala was published in a peer-reviewed article from Vanderbilt University in the Public Library of Science journal (PLOS ONE) on our achievements in under-5 mortality\(^4\). The study also included important insights on the determinants of child mortality that provide actionable steps for Lwala as well as general knowledge to the wider global health field.

At the 2nd International Maternal Neonatal Child and Adolescent Health Conference in September hosted by the African Union, our staff presented on our innovations in preventing maternal death from post-partum hemorrhage using the non-pneumatic anti-shock garment and the latent potential of this intervention on the global scale. More details on this program can be found in the Maternal Health section below.

Finally, our team presented in Kigali, Rwanda at the International Conference on Family Planning on our successes and lessons learned in sexual and reproductive health service provision and our peer-to-peer sexual and reproductive health program.

**National Influence** – As part of Vision 2030, Kenya has committed to achieving Universal Health Care. To contribute to this vision, we are scaling-up our community-led health model through direct service provision, technical assistance, and peer replication.

This year, we presented to the Ministry of Health Community Health Services Unit on “Optimizing Community Health Work” to advocate for Community Health Worker payment and the under-utilized potential of incorporating traditional birth attendants into the formal health care system at the national level. The national government has translated key objectives such as Community Health Worker recruitment and capacity building into a Community Health Services bill which is now in parliament for discussion and vote.

Lwala is part of the National Reproductive Maternal Neonatal Health Working Group, focused on improving provision of maternal health services across Kenya. As part of this working group, we are sharing essential components of our collaborative work with the Migori County team responsible for shaping the national curriculum and health policy. This work includes creating a reliable supply chain from household to facility by equipping Community Health Workers with the commodities they need and financing a data system that can support the timely and accurate collection of critical health information. In working group meetings we have presented on how our integrated supervision model helps leverage official structures within the Ministry of Health, such as Community Health Assistants, to harmonize the agenda of Lwala Community Alliance and the Ministry of Health.

Regional Advisement – Community Health Workers are an essential component of Kenya’s health system and Lwala has been a fierce advocate for the codified remuneration and recognition of these workers. As a member of the Inter-County Coordination for Human Resources for Health team, a regional technical working group consisting of six counties in the Lake Victoria Region and representing ~8 million people, Lwala advocates for this agenda. Right now, payment for Community Health Workers depends on the political good will of the county Ministries of Health. Inclusion of Community Health Worker payment in the national Community Health Services bill at national level will entrench political support that we can leverage into law at the county level, where resources are allocated and much of the decision-making sits. As a result of this team, Kisumu, Homa Bay, and Migori Counties are in the process of drafting Community Health Services bills.

County Collaboration – We are directly influencing the health outcomes of 1 million people through replication of our model and aggressive political advocacy. Lwala was asked by the county government to provide technical support and education to inform the drafting of the Migori County Community Health Services bill. This is a pivotal opportunity to codify our community-led health innovations into the county government system, which will directly affect the health services of ~1 million people. We held education sessions at Lwala this year to inform government officials as they developed policy, and the bill is currently with a lawyer for review. In line with our advisement, remuneration for Community Health Workers is incorporated in the bill and in 2018 some of our Community Health Workers received payment from the government for the first time in the county’s history.

Lwala was the keynote speaker at the Migori County Health Services Summit and we spoke on a panel for a “critical workforce in community health services.” Because of our achievements in our direct implementation site reaching 60,000 people, Lwala has been included in county-level forums such as the Migori County Reproductive Maternal and Newborn Child and Adolescent Health Program Review.

Sub-County Implementation – We currently provide direct services in half of our sub-county and will reach the remaining population by the end of 2020. All of this work is done in close collaboration with the sub-county health management team. We meet weekly to harmonize and co-implement our activities. Together, we coordinate and deliver trainings, outreaches, and interventions, and set priorities for the Community Health Worker cohorts and partner health facilities. In addition, we conduct weekly reviews with our programmatic focal points to evaluate progress and eliminate constraints. We work with the sub-county Quality Improvement Focal Point to co-implement our quality improvement initiatives. Thanks to a finding in our Health Facility Assessment, the government shuffled staff at our partner facilities to move human resources to clinics in need.

QUALITY IMPROVEMENT

Lwala believes that in order to provide quality health access, community health worker initiatives must be tied to quality facility-based care. Our objective is to improve the systems and structures within the existing health system to create a seamless continuum of health service. In 2018, we supported 7 partner clinics with
iterative quality improvement and clinical mentorship.

**Health Facility Assessments** – The first step of the Quality Improvement Initiative was to develop a *Health Facility Assessment Tool* that measures facility performance across the 6 World Health Organization health system building blocks. We pulled from Kenya Ministry of Health and World Health Organization guidelines to determine 30 indicators that encompass health facility performance, against which we benchmark our progress. The *Health Facility Assessment Tool* also incorporates scores from three tools implemented on an ongoing basis: a patient satisfaction survey, staff satisfaction survey, and case observation guidelines.

We operationalized the *Health Facility Assessment Tool* for the first time in April 2018, conducting baseline assessments of facility performance at 5 of our partner facilities. In October we conducted our second round of Health Facility Assessments at the same 5 government clinics. In addition, we conducted a baseline for a 6th clinic, Kangeso, which began operating after we had conducted baselines at the other facilities. After our initial rounds of assessments, we reviewed, adapted, and streamlined the tool to best fit the clinics in our community. The 7th facility, Lwala Community Hospital, will undergo a baseline Health Facility Assessment in early 2019.

**Results** – Every facility that underwent a second assessment in October saw an increase in their overall performance score by an average of 11%. The increase is directly attributable to our interventions described below. In particular, the leadership section saw the highest average improvement with each facility improving an average of 3.2 points out of a possible 10 points. The other building blocks against which the facilities are measured include workforce, information systems, finance, medical products and technology, and service delivery.

### Health Facility Assessment Scores

<table>
<thead>
<tr>
<th>Clinic</th>
<th>Apr-18</th>
<th>Oct-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kochola</td>
<td>24%</td>
<td>35%</td>
</tr>
<tr>
<td>Ndege Orio</td>
<td>25%</td>
<td>31%</td>
</tr>
<tr>
<td>Ngodhe</td>
<td>26%</td>
<td>29%</td>
</tr>
<tr>
<td>Ngere</td>
<td>44%</td>
<td>19%</td>
</tr>
<tr>
<td>Minyenya</td>
<td>26%</td>
<td>31%</td>
</tr>
<tr>
<td>Kangeso</td>
<td>24%</td>
<td>31%</td>
</tr>
</tbody>
</table>

**Facility Improvement Planning** – Using the information gathered during the Health Facility Assessments, we create tailored work improvement plans for each facility. We generate these plans through a collaborative process with the facility management teams to create several high priority, actionable goals. In order to achieve the goals set-out in the facility improvement plans, we work with health facility management committees to implement a Plan Do Study Act (PDSA) cycle as illustrated by the graphic to the left.

Achievements from our 2018 work improvement plans include:

- **Governance** – In 2018 we guided all 7 partner facilities to resurrect or strengthen their Health Facility Management Committee. In the past these committees have existed in name only, leaving the facilities without vital oversight structures. We trained and strengthened these committees on creating strategic plans, leading minuted meetings, and designating facility management roles.
For example, Ndege Oriedo Dispensary was without electricity for 4 years. The revitalized health management committee insisted that funds be allocated towards electricity, which in turn allowed them to start 24/7 maternity services.

- **Pharmacy** – The Lwala Community Hospital pharmaceutical staff and Quality Improvement team coached the pharmacists at 5 partner facilities on effective inventory management systems. Through this consultative process of reorganizing their pharmacies according to these management systems, we uncovered numerous issues that caused drugs to be damaged, expired, or lost. Together we implemented preventative measures and better controls to ensure that this does not continue, which is saving the facilities hundreds of dollars. For example, at one facility we uncovered a case of theft within the pharmacy. By working with the health facility management committee, we urged the Ministry of Health to replace staff at this facility and improve the security system in the pharmacy by installing a new padlock, door, and ceiling. As a result, this facility now has a more reliable drug supply.

- **Patient Privacy** – Patient privacy is an often-overlooked component of quality healthcare, but service delivery that honors and respects patient dignity promotes positive health seeking behavior. Ndege Oriedo was having difficulty with patient privacy due to limited exam space for private consultations and limited staff that were juggling multiple patients. Through the mentorship of our Quality Improvement team, small but effective interventions, such as room partitions, were utilized to improve the patient experience.

- **24-Hour Maternity Services** – All 7 of our partner facilities now have 24/7 maternity services, up from 2 when we began! Through partnership with the Ministry of Health, we reshuffled staff so that every facility had adequate human resources to remain open 24/7, enabling mothers to deliver at night; which in turn increased the skilled delivery rate. In the chart to the right you’ll see that the number of skilled deliveries increased at our partner facilities over the course of 2018.

- **Data Quality Focal Point** – We trained and coached 6 quality improvement focal points at our partner facilities. These focal points create sustainability and ownership over quality improvement activities within their various facilities by leading micro-projects, such as records management and improving cold chain storage.
• **Data Quality Assessments** – This year we conducted the first data quality assessments at every facility. Currently none of the facilities we support, with the exception of Lwala Community Hospital, has a digitized reporting system. Therefore, patient intake information is recorded in hardcopy registers, summarized in additional reports, and sent to the Ministry of Health for official use. This manual system is vulnerable to human error and in turn leaves the facilities without timely information with which to make management decisions. Using an adapted tool from Jhpiego, we are conducting iterative audits to help facilities improve reporting strategy and accuracy.

• **Clinical Mentorship** – Our Nurse Mentor and Quality Improvement Coordinator use their medical expertise to observe service delivery at our partner clinics, scoring each case they observe on criteria gleaned from Ministry of Health and WHO guidelines. In a consultative process we coach our clinical counterparts on areas of improvement to ensure they are providing the best care they can. The scores they receive from the Case Observations inform part of the facility scores on the Health Facility Assessment Tool.

**PEER REPLICATION**

In conjunction with direct service expansion and government adoption, the expansion of our community-led health model includes peer replication. We are engaged with a fellow organization, RAPADO, through a memorandum of understanding to guide ongoing collaboration in community-led health. RAPADO works with and pays a number of the government Community Health Volunteers in our expansion site who we trained as Community Health Workers. Therefore, we will cost-share Community Health Worker salaries with RAPADO and offer them training and curricula on community-led health and Community Health Worker services. We are continuing to foster and leverage partnerships with organizations such as OBACODEP, USAID’s Afya Halisi, and Tupime Kaunti to maximize our impact and strengthen health service delivery in the communities we serve. For example, Afya Halisi’s efforts in strengthening data reporting for maternal, antenatal, and postnatal care have helped us track patient outcomes from our non-pneumatic anti-shock garment intervention.

**A LOOK AHEAD – 2019**

Next year, we will...

• Expand to our secondary expansion site, South Kamagambo, bringing us closer to actualizing our vision of direct implementation for all of Rongo Sub-County by 2020.
• Support policy change like the Migori County Community Health Services bill, codification of the remuneration of Community Health Workers, leveraging traditional birth attendants as Community Health Workers, and effective supervision of Community Health Worker cadres.
• Expand our Quality Improvement Initiative to two additional partner facilities to strengthen access to health services throughout the communities we serve.
• Perform our first digitized Health Facility Assessment, creating a streamlined, scalable process with increased transparency and efficiency.
Community Health
COMMUNITY HEALTH WORKERS

“CHWs represent an important health resource whose potential in providing and extending a reasonable level of health care to underserved populations must be fully tapped” (Lehmann and Sanders, WHO, 2007).

Our community-led health model incorporates former traditional birth attendants who we recruit, train, supervise, and pay as Community Health Workers. Our Community Health Workers seek out every pregnant woman, child under-5, and person living with HIV, and ensure that they receive crucial medical care and facility services through monthly household visits. A core element of our model is the inclusion of former traditional birth attendants in our Community Health Worker cadre.

Community Health Worker Expansion – This year we expanded beyond our innovation hub of North Kamagambo to a new location, East Kamagambo, to serve a total population of 60,000. We trained 121 new Community Health Workers on HIV, child wellness practices, maternal health, sexual and reproductive health, nutrition, and water, sanitation, and hygiene. Together with the 83 Community Health Workers in North Kamagambo, our 204 Community Health Workers have enrolled 12,194 households in community-based care.

Integrated Supervision Structure – Incorporating government supervision and collaboration is integral in pursuit of our mutual goal of universal access to health care. In 2018 we trained government Community Health Assistants as supervisors for our Community Health Worker cadre in our expansion site. In addition to technical training, we provided them with tablets to access a customized dashboard that tracks their key performance indicators in real time.

Some of our community health workers meet with a Lwala community health nurse, Paul Odero, for a briefing before an outreach.
**Home-Based Care** – In 2018 we provided iterative, **home-based care to 21,665 people**. 7,118, or 32.8% of those people were from our expansion site. We expect this number to rise as more clients are identified and enrolled in our programs. Our Community Health Worker cadre is trained to provide a suite of preventative care and direct intervention services including malaria diagnosis and treatment, contraceptive provision, and malnutrition screenings.

**MATERNAL HEALTH**

We are drastically improving health outcomes for mothers and children in the communities we serve, as evidenced by the **98% skilled delivery rate** as compared to the 53% regional average. Clients enrolled in our maternal and child health program receive care and support during iterative home visits focusing on key components of maternal, neonatal, and child care such as skilled delivery and preventing obstetric hemorrhage, a leading cause of maternal death. In 2018 we served **8,375 mothers** in this program, 768 of whom are also enrolled in our HIV and WASH Integrated program.

**Skilled Delivery** – This year, we **achieved a skilled delivery rate of 98% in our innovation hub** (North Kamagambo), exceeding our average performance of 97% skilled deliveries over the past three years. Our high skilled delivery rate speaks to the positive feedback loop we have created between our Community Health Workers, the community, and our partner facilities. We are harnessing the power of traditional birth attendants in the community and incorporating them into our Community Health Worker cadre. These community stakeholders in turn drive clients towards the clinics, building goodwill and strong ties to the people we serve. We are currently enrolling new mothers in our community health program in our expansion site, and we are employing the same tactics – employing former traditional birth attendants and tracking every pregnant woman on our mobile application – to achieve the same result in this new location.

**Antenatal Care** – In 2018, **80% of mothers enrolled in our maternal and child health program in our innovation hub (North Kamagambo) attended at least 4 antenatal care visits before delivery; our highest rate to date**. After six months in our expansion site (East Kamagambo) we found that 47% of mothers were attending at least 4 antenatal care visits before delivery.
Now that the majority of households are enrolled in our programs, we expect that number to plateau and then slowly rise as pregnant mothers receive iterative care from our health workers.

**Tackling Maternal Death** – In 2018 Lwala scaled-up our interventions to stop maternal death by employing the non-pneumatic anti-shock garment (NASG) to treat obstetric hemorrhage. Almost 99% of mortalities from obstetric hemorrhage occur in developing nations. The NASG has been shown to reduce mortality by 59% in cases of severe shock. In partnership with University of California San Francisco, we have trained 17 facilities, including three tertiary facilities, and 166 health care providers on the NASG, and distributed 40 garments. Lwala has trained 20 trainer-of-trainers on NASG. Trainer-of-trainers lead Continuing Medical Education sessions to train additional clinical officers at their respective facilities, thus multiplying the impact independent of Lwala. This low-technology, reusable tool constricts blood flow to the lower extremities while redirecting blood flow to the vital organs, giving women an additional 72 hours to get treatment. By training clinicians at both primary and tertiary facilities, we ensure mothers like our patient Mary Aketch can receive the lifesaving interventions they need. Two days after receiving treatments coupled with the NASG, Mary was sent home with her new healthy baby, Joy.

**CHILD HEALTH**

10,179 children under-5 regularly received care from our cadre of 204 Community Health Workers across our innovation hub (North Kamagambo) and expansion site (East Kamagambo) – a 60.1% increase from our 2017 enrollment rates. In 2018 we trained a cohort of 103 government Community Health Volunteers and 18 traditional birth attendants to form our new Community Health Worker cadre based in our expansion site. After training this summer, they began household visits to enroll every household in our catchment area. Then, they began providing monthly visits to every household in our community health program. Our Community Health Workers offer a holistic package of preventative and primary care services. Their service delivery package includes immunization, water, sanitation, and hygiene education, community case management of malaria, malnutrition screenings, breastfeeding support, and general health monitoring.

**Lwala’s Reduction in Child Mortality** – In 2018 we published and externalized our major achievements in reducing child mortality. In September, Lwala published a peer-reviewed article with Vanderbilt University in the Public Library of Science journal (PLOS ONE) on our achievements in under-

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6 All patient and beneficiary names are changed to respect privacy.
5 mortality in Rongo Sub-County. From this cross-sectional survey, it was found that there was a significant decrease in under-5 mortality before and after the presence of Lwala Community Alliance. In 1999 - 2006, before Lwala’s intervention, the under-five mortality rate was 104.8 deaths per 1,000 live births. After Lwala’s intervention, this rate was 53 deaths per 1,000 live births, and in the last five years this number has decreased further to 29.5 per 1,000 live births. This is compared to regional data which shows the under-5 mortality rate is 82 deaths per 1,000 live births.

In addition to validating the outcomes of our interventions, this study provides descriptive statistics that will help us better target at-risk children and further refine our integrated programming. We found that being born less than 18 months after your older sibling increases under-5 mortality rates from 11% to 29% as well as how owning livestock, time of year of birth, and maternal age affect outcomes in children under-5.

**Elimination of Mother-to-Child Transmission of HIV** – In 2018 we maintained a 98% elimination rate for HIV-exposed children. In November we graduated our cohort of 63 HIV-exposed infants from the elimination of mother-to-child transmission program. Of the 64 children that were enrolled into this cohort in May 2017, only one child has turned positive. In November, all 64 children had reached 18-months, and their status was officially recognized.

This incredible success is due to our integrated programming in which our HIV clients are provided clinical, home-based, and psychosocial care through our team of Community Health Workers and clinicians. Every pregnant woman is tested for HIV at her first antenatal care visit and again during labor. This allows us to enroll every baby born to an HIV-positive mother into the elimination of mother-to-child transmission component of our HIV program. This program provides the mother with specialized support throughout her pregnancy and immediately following birth. During monthly meetings, hospital staff lead educational sessions on drug adherence, infant feeding, and nutrition. In addition, an HIV-positive mentor mother provides counseling and support to encourage women to accept their status and be proactive about HIV care.

**Clinical Outreach** – In 2018 we conducted 90 clinical outreach events reaching 21,593 patients, with collaboration between the 7 partner facilities we support. To expand the accessibility of pediatric healthcare, we conduct clinical outreach events at common social gathering spaces such as

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schools and soccer fields, offering standard healthcare services, such as immunizations and growth monitoring. In 2018 we began using our new outreach van to transport our clinical staff to field events to provide HIV testing services, rapid diagnostic tests for malaria, reproductive health counseling, and commodity distribution at outreaches.

**Immunization** – Community Health Workers are dedicated to ensuring that all children in our communities are vaccinated, and as a result we have maintained a rate of **97% of children fully immunized** throughout 2018 in our innovation hub. This is significantly higher than the county rate of 57% (DHS 2014). When we entered into our expansion site (East Kamagambo), we found that 65% of children were fully immunized. Now that a majority of households are enrolled in our programs, we expect that number to plateau and then rise as children receive iterative care from our health workers.

**Malaria Community Case Management** – We combat malaria in 2 ways: at Lwala Community Hospital and through community case management. **At the hospital we have treated 900 cases of malaria for patients under-5 in 2018.** Equipped with rapid diagnostic tests and medication, our Community Health Workers have treated **402 cases of malaria** at the community-level in 2018. Between hospital- and home-based care, **we treated 1,302 cases of malaria in 2018.** The burden of malaria decreased significantly in mid-2017 thanks to wide-spread indoor residual spraying by the Ministry of Health. To continue decreasing the malaria risk in our region, we advocated for the Ministry of Health to repeat the spraying program, which they did successfully in March of 2018. As a result, the number of cases seen by our clinic has reduced by 48% in 2018 as compared to 2017. You can see the downward trend in malaria cases in the graph below.
Our nutrition program targets four key populations who are vulnerable to poor nutritional status: people living with HIV, children under-5, expectant mothers, and breastfeeding mothers. We provide a tailored curriculum and set of interventions to address the specific nutritional needs of each of these populations. Our Community Health Workers monitor and prevent malnutrition at the household-level and refer at-risk clients to Lwala Community Hospital. From there, our nutritionist can give a clinical assessment and create a long-term care plan.

Exclusive breastfeeding for the first six months of a child’s life can have lasting health benefits into adulthood. In line with WHO guidance, our clinicians encourage mothers to initiate breastfeeding within one hour of delivery. Our Community Health Workers then monitor breastfeeding practices for every child until six months of age.

We enroll HIV-positive clients and mothers with children under-5 into our nutrition program. Enrolled clients receive tailored nutrition training and seeds for food such as spinach, kale, and carrots to plant in their kitchen gardens. In 2018, we enrolled 1,303 clients in the program, 686 of which are HIV-positive clients. All of these individuals also receive routine care and support from a Community Health Worker on an ongoing basis. Our Community Health Workers are trained to give Middle Upper Arm Circumference (MUAC) readings, which determine whether a person is of normal weight, moderate malnutrition, or severe malnutrition status. If a person reads as moderately or severely malnourished,
they are referred to the clinic for confirmation of their nutrition status, and those who are confirmed receive supplements and clinical support.

**SEXUAL AND REPRODUCTIVE HEALTH**

Our community-led reproductive health program combines advocacy, diverse outlets for contraception provision, and education to empower youth and adults to take control of their sexual and reproductive health.

Through our community-led reproductive health model, we have drastically increased contraceptive uptake. In fact, we provided **14,833 couple years of protection, which measures the number of years a couple is protected from pregnancy, in 2018.** This is a 24% increase from the couple years of protection provided in 2017.

Through community sensitization, advocacy, and service provision in our innovation hub, the community members themselves have become champions for sexual and reproductive health services. In 2018, we brought these programs to our expansion site and found a community eager and waiting to access sexual and reproductive health services. Our sexual and reproductive health model consists of both community engagement and service provision.

**Community Engagement** – Our community engagement strategy is to create overlapping forums for conversations around reproductive health and rights. This approach allows us to reach a diverse set of the population in settings that feel most comfortable to them. Several of the engagement forums include:

- **Sexual and Reproductive Health Committees** – Community reproductive health committees are at the heart of our model. These committees are made up of religious leaders, local political leaders (village chiefs), teachers, and a diverse group of men, women, and youth. In 2018, a committee identified a child in a dangerous environment and was instrumental in connecting them with foster care and all the resources available. Our committees promote contraceptive access, male involvement in contraception use, and family health in general. The committees held 36 advocacy events in 2018 to discuss long-acting contraceptives, child protection and
rights, and domestic violence. 50-70 people attended each event. Through our guidance and collaboration, the committees identified teenage pregnancy, HIV/AIDs, and STIs as focus areas for the County Multisectoral Adolescent and Youth Sexual and Reproductive Health Action Plan.

- **Male Forums** – We conducted 24 male forums in 2018 on the topics of teenage pregnancy, adolescent and youth reproductive health, HIV/AIDs, and maternal care. Men are an essential target group because they are often the gatekeepers to women and children’s health. In male-only forums we are able to directly explore norms of masculinity and create a safe environment for men to challenge each other on harmful assumptions. Men are also given a chance to look at contraceptive commodities and understand their uses and side effects. These forums take place in venues where men already congregate – motorcycle taxi stages, gold mines, local pubs, and football games.

- **Youth Peer Providers** – In 2018 we doubled our Youth Peer Provider cadre by recruiting and training an additional 26 providers in our expansion site for a total of 52 Youth Peer Providers. The program is designed to make adolescents feel more comfortable talking about and accessing sexual and reproductive health services by delegating the services to people their own age. To remove barriers that may discourage youths from accessing services, our Youth Peer Providers distribute over 5,000 male condoms per month. In 2018, Youth Peer Providers have conducted 28 youth outreaches, reaching 5,646 youths. At the outreaches, community members can access informational material, STI and HIV testing services, and contraception.

- **Zinga Games** – Zinga Games is an innovative, mobile phone-based game that teaches young men about sexual and reproductive health. As men are often the gatekeepers of women’s health, we designed the game with a focus on promoting male involvement in their female family members’ healthcare. The game takes the player through multiple scenarios in which they must make decisions about family planning for their children and other family members. We launched the game in August and Community Health Workers have been catalyzing demand at popular events. We have trained 40 male champions, consisting of 15 Community Health Workers, 15 Youth Peer Providers, and 10 Community Committee members, to canvas the community and advocate for men to play the game.

- **Twak Mar Rowere Radio Program** – Every Thursday afternoon we host a radio show focused on issues related to sexual and reproductive health, HIV, STDs, family planning, and gender-based violence. The show, whose name means “A sharing platform for young people,” features a different staff member or stakeholder each week. We have a rotating schedule of Youth Peer Providers, Community Health Workers, Community Committee members, and health care
providers that join the show. Each week the hosts select a topic to discuss for the first half of the show, then they spend the second half taking listener calls and questions. We have ignited vast listener engagement through text messages and calls included in the show and have created a Facebook page where listeners interact with one another.

**Service Provision** – The goal of the service provision element of the model is to open as many access points to contraceptives as possible. We provide short-term and long-term methods consistently, and host clinic days for permanent methods. The graph below shows the consistent demand for contraceptives in our innovation hub (North Kamagambo) and the addition of these services in our expansion site (East Kamagambo) this year.

**Couple Years Protection by Month**

We’ve found that if we can help a woman start on a short-term method through home-based or community-based provision, she is likely to switch to a long-term method within 18 months. Our various contraception distribution networks include:

- **Health Facilities** – We support facility-based services with a focus on long-term methods: implants and IUCDs, at our 7 partner primary care facilities. At our partner facilities, we provide reproductive health training, conduct on-site clinical mentorship, drive continuous quality improvement, and ensure a reliable supply of contraceptive commodities. We also partner with Marie Stopes to provide permanent methods during clinic days within government facilities. Demand for these procedures has grown as awareness has increased in the community. In 2018 we provided 130 couple years of protection through permanent family planning methods.

- **Community Health Workers** – We provided our 204 Community Health Workers with male and female condoms, two types of birth control pills, and emergency contraception to distribute to community members during their household visits and outreaches. Since distribution began
this year, **Community Health Workers have provided 10,988 condoms and 165 birth control pill packs.** As condoms and pills are short-term contraceptive methods, home-based distribution facilitates consistent contraceptive use by providing refills to clients directly in their homes. Community Health Workers also generate demand for long-acting reversible contraceptives such as implants and IUCDs. The Community Health Workers refer their clients to a health center where they can access long-term contraceptive methods, creating a cycle of positive health-seeking behavior. In 2018, **Community Health Workers have referred 685 clients for family planning visits and reached 8,912 clients through family planning outreach events.**

- **Youth Friendly Corners** – In 2018 we launched two additional Youth Friendly Corners in our expansion site to better serve the youths in our community. We’ve learned that while integrating family planning services throughout all clinical departments increases uptake for women who have already had a pregnancy, it discourages uptake from a critical age group – youth aged 14 - 24 without children. Young people are more likely to access services if they can do so away from the general patient population. Thus, we equip, staff, and supply youth-friendly corners as separate spaces near government facilities. These corners provide games, youth leadership training, and access to reproductive health services in a friendlier environment than a typical health center. **In 2018 our Youth Friendly Corners served 10,312 clients compared to 6,457 in 2017.**

- **Dial-a-Condom** – Our Youth Peer Providers developed what they describe as “Uber for Condoms.” Youth in our communities are given mobile phone numbers for peers who have a consistent supply of condoms. They are able to order condoms on demand without having to travel to a health facility or risk being seen taking a condom from a public dispenser. Phenny, a Youth Peer Provider participating in Dial-a-Condom, remembers assisting a friend who was worried that without a condom she was going to have unsafe sex. They found a mutual spot to meet so Phenny could deliver condoms, preventing her friend from STIs, HIV, and pregnancy.
**Open Defecation Free Celebrations** – In 2018, **12 villages in our catchment area were declared Open Defecation Free** by a third party verification firm contracted by the County Public Health and Sanitation department. These villages took on community-wide initiatives as a direct result of Lwala’s HAWI program. An Open Defecation Free status is the culmination of effort from our Community Health Workers and community members in WASH compliance monitoring, latrine-building action days, and advocacy.

When a village makes this declaration, Community Health Workers and village-level WASH teams verify their status and then escalate their certification to the Ministry of Health. The Ministry of Health performs detailed spot-checks and certifies those villages that pass as Open Defecation Free. Because of our success providing sanitation coverage in our innovation hub, Lwala has been tasked to lead all villages in North Kamagambo to become Open Defecation Free by March 2019.

**Community-Led HAWI Model** – Consistent with our belief that holistic interventions best serve at-risk populations, Lwala addresses HIV and WASH together in our HIV and WASH Integrated program (HAWI, which also means “good luck” in Dholuo, the local language). Research shows that HIV-positive individuals are more susceptible to malaria, diarrhea, and other enteric diseases. Therefore, we implement WASH interventions in conjunction with HIV care to reduce the relative risk for malaria and diarrheal diseases among people living with HIV/AIDS. **In 2018 we enrolled 430 new clients in our innovation hub bringing our total HAWI enrollment to 2,096.**

Our HAWI model empowers community members to proactively address HIV and elevate WASH standards in their own communities. The model is composed of 4 key components: Community Health Worker monitoring, support groups, community-led total sanitation (CLTS), and water infrastructure.
Community-Led Total Sanitation (CLTS) – Community-led total sanitation is a process to promote WASH practices in our villages with community members at the helm.

- First, Lwala’s village level WASH teams trigger a particular village. To trigger a village, WASH teams identify local leaders and influencers and train them on water, sanitation, and hygiene. We typically select the highest performing HAWI clients to be the village-level leaders and influencers, because they are proven WASH champions.
- Then, WASH teams catalyze the trained leaders to promote proper WASH practices with their peers in their own communities. The leaders follow up with their neighbors and organize Action Days to construct latrines and safe water sources for those who are unable to construct them on their own, such as widows and the elderly. In 2018 community members constructed 488 latrines, 686 handwashing facilities, and 278 utensil racks due to CLTS triggering and hosted 139 Action Days, where WASH infrastructure can be constructed through community effort.
- Finally, once we have successfully triggered a village and the local WASH champions have catalyzed their peers to improve WASH standards, villages can declare themselves Open Defecation Free. This designation denotes that every household is covered by a high-quality latrine and handwashing station, which are used appropriately and without fail. The Ministry of Health then verifies that this designation is accurate and bestows official Open Defecation Free status to the village.

The highest performing community-led total sanitation villages who have achieved Open Defecation Free status then qualify for water infrastructure rehabilitation, which further improves WASH standards in their own community.

Water Infrastructure Rehabilitation – In 2018, Nyangweta and Lwala villages, which have achieved Open Defecation Free status, constructed handpumps. Once a village is certified as Open Defecation Free, it qualifies for water infrastructure rehabilitation. It is crucial to perform rehabilitation only in Open Defecation Free villages to ensure that improved water sources will not become contaminated. In addition, this criterion serves as an incentive for villages to accelerate Open Defecation Free processes. Lwala and Nyangweta were the first two villages to complete their bylaws and community agreements for water infrastructure construction, which are prerequisites. An additional waterpoint was rehabilitated in 2018 as a part of the ongoing maintenance plan for Lwala’s water access initiatives. There are 10 more villages that achieved Open Defecation Free status in 2018 who will write and approve bylaws before beginning water infrastructure projects.

CHW Monitoring – The HAWI program provides every HIV-positive client with a Community Health Worker who provides psychosocial support, adherence counseling, guidance on keeping a clean and healthy home, and referral services during monthly home visits. Community Health Workers provide additional WASH support through:
• **Water Treatment** – As a part of their service package, community health workers encourage their clients to access water treatment packets to purify their water. We distribute water treatment packets at facility visits, community gatherings, and outreaches. The water treatment packets contain chlorine to purify water that lasts a typical family for one month.

• **Water Filters** – In addition, we offer aquaclara water filters. One water filter is sufficient for an entire household. Community members can purchase a water filter at Lwala Community Hospital.

*Our 2017 Household Survey found that 96.1% of people in our catchment treat their water in some way (with chlorine, boil, etc.), compared to 45.9% on average in rural Kenya.*

**Support and Outreach** – In 2018 we held 12 WASH trainings in partnership with our 22 trainer-of-trainers. At the trainings, community members learn about food-borne illness, handwashing, mosquito net use, latrine coverage, safe water practices, and more. In addition, we have reached 8,343 people through our WASH outreaches in 2018. During the outreaches the Community Health Workers liaise with WASH-trained community members to provide education and share testimonies about the benefits of WASH and avoiding the repercussions of stigma relating to HIV.

**7th Annual HAWI Tournament** – Lwala held the seventh annual HAWI soccer tournament in August. Over six days, teams from all over the sub-county enter the tournament, drawing an average crowd of 1,141 people per day. The crowd size and audience energy create a perfect environment for awareness campaigns and outreach activities. During the tournament, we station clinical officers at tents to provide HIV testing services, rapid diagnostic tests for malaria, contraception, and maternal child health counseling. We provided HIV testing services to a total of 278 people, distributed 2,612 condoms, and provided 276 children with healthcare. This event also served to mobilize support for our Open Defecation Free celebrations which happened in the days following the tournament. From the tournament, 1,344 people registered for the Open Defecation Free celebrations.

**Support Groups** – We facilitate 43 support groups for 1,109 people living with HIV. Our support groups provide psychosocial support to clients who have historically been marginalized by the community. Through sensitization and ongoing community awareness raising, disclosure and discussion of HIV management has been accepted and supported by our community. The highest performing HAWI clients become WASH champions, a role that empowers them to lead their own communities through community-led total sanitation.

**A LOOK AHEAD – 2019**

Next year, we will...

- Recruit a new cadre of at least 180 Community Health Workers in our secondary expansion site, South Kamagambo.
- Lead North Kamagambo in its effort to certify every village as Open Defecation Free.
- Recruit, train, and deploy a new cadre of 26 Youth Peer Providers to address adolescent and youth needs surrounding sexual and reproductive health.
- Bring the life-saving non-pneumatic anti-shock garment intervention to all of Migori County.
In 2018, Lwala Community Hospital provided **59,109 patient visits**, compared to 47,491 patient visits during 2017. In our continued commitment to reduce HIV-prevalence and prevent transmission, we maintained our rate of 100% of eligible inpatients and outpatients tested for HIV this year. In addition to visits in the hospital, we provide patient visits at clinical outreaches. The combined number of patient visits at the hospital and at outreaches broken down by service type are displayed in the graph below.
We conducted 47,247 patient visits at Lwala Community Hospital alone. The steady trend in the number of patient visits at Lwala Community Hospital, excluding those that took place at outreaches, over the last five years can be found in the graph below.

**Total Patient Visits at Lwala Community Hospital**

**QUALITY ASSURANCE**

**SafeCare Assessment** – Our partner, PharmAccess, conducted their second SafeCare Assessment at Lwala Community Hospital in November. We received a score of 69, which is a **12% improvement from the baseline** of 57 they generated in 2017 and puts our facility significantly above the Kenya average of 40. This improvement is due to major achievements such as our pharmacy and laboratory certifications and patient experience improvements. To codify our commitment to patient and staff satisfaction, we developed and printed our internal hospital standard operating procedures which emphasize transparency and procedural excellence. Additions to clinical wards, such as new curtains for inpatient rooms and breastfeeding-friendly areas, uphold every patient’s right to privacy and comfort. We improved procedural components, such as waste disposal,
human resources, and finance, to ensure ongoing processes are established to best facilitate our clinical staff’s excellent work.

**SIMS Evaluation** – This year the Center for Disease Control and Prevention conducted a follow-up assessment through the Site Improvement through Monitoring System (SIMS) that rated our facility protocols, caregiver skills, data quality, waste management, and HR systems. In June we received a score of 94 which was a marked improvement from the 74 we received in 2016 with our biggest improvements coming from categories such as Support Services for Adolescents and HIV Exposed Infants. **Lwala received the highest score amongst all of our peer facilities in the county.**

**Patient Satisfaction** – In September we surveyed 389 patients from Lwala Community Hospital on their satisfaction with the care they received at our facility. The results from this survey inform our understanding of hospital procedure, perceived quality of care, and general client happiness. This year we saw a drop in patient satisfaction scores. As a result, we ran a second patient satisfaction survey and a series of focus groups to assess key areas of concern expressed by our patients. The main areas of improvement are poor timing of shift changes and wait time for laboratory services. In response to these assessments, Lwala Community Hospital has created a work improvement plan to address concerns and continue our commitment to quality improvement.

**Clinical Mentorship** – Our Nurse Mentor began routine case observations in our hospital to spot-check whether our clinical staff’s services are meeting best practice. These observations are based on criteria dictated by the World Health Organization and the Ministry of Health, and staff are measured across several service delivery areas including labor and delivery, postnatal care, integrated management of childhood illnesses, and immunization, among others. Through these assessments our Nurse Mentor determines areas for improvement and tailors her trainings to address them.

**NEW FACILITY SERVICES**

**Blood Transfusion** – Early in 2018 we received a hemogram machine from the Gould Foundation that enabled Lwala Community Hospital to begin performing blood transfusions. In 2018 we **conducted 15 blood transfusions**, primarily for anemia patients under the age of 5. We receive most of our blood supply from the Migori County Blood Bank, which has been experiencing shortages. Our laboratory team is trained and poised to perform more blood transfusions as supply increases. With the addition of this valuable laboratory technology, Lwala Community Hospital became one of the only facilities in our catchment with the capability to perform blood transfusions, bringing lifesaving treatment to anemia patients, trauma patients, and people with blood disorders.

**Ultrasound** – As part of the donation from Gould foundation we received an ultrasound machine and training. We have **conducted 239 ultrasounds** this year, increasing our ability to identify neonatal complications, track fetal heartbeat, and monitor multiple gestation pregnancies. Monitoring high-risk pregnancies will in turn enable us to provide tailored preventative care and deliver quality antenatal...
In 2019, we hope to source training for our clinical staff on the ultrasound machine so that we can increase the rate of ultrasound monitoring for expectant mothers.

**Non-Communicable Disease Clinic Days** – In 2018 we launched an effort to address non-communicable diseases (NCD) in our hospital by hosting NCD-specific clinic days once a month. As we continue to successfully tackle infectious diseases, non-communicable disease are presenting a new and compounding health risk for our population. Kenya is seeing rising rates of non-communicable diseases and we are adapting our patient care practices to meet this growing need. In 2018 we **served 550 NCD clients**, with the most common cases being hypertension, diabetes, and sickle cell disease. We have built the capacity of our clinical staff to treat these diseases by holding continuing medical education sessions on hypertension and sickle cell disorders.

**OPTIMIZING TECHNOLOGY**

**mUzima Pilot** – We are working with Moi University and the Vanderbilt Institute for Global Health to investigate the integration of a platform called mUzima with KenyaEMR. mUzima is a mobile app that connects with KenyaEMR and allows patient records to be updated remotely. Starting in August, we trained staff to use mUzima in the field to register HIV-positive clients in our system. We have identified HIV testing services at outreaches and defaulter tracing home visits as the two primary uses. This will create a harmonious interaction between the medical records at Lwala Community Hospital and the information collected at outreaches and defaulter tracing. We have piloted the technology with a small sample of HIV clients and the program is expected to fully launch in early 2019.

**KenyaEMR** – The Ministry of Health electronic medical records system, KenyaEMR, operates actively in all HIV and TB patient rooms at Lwala Community Hospital, so that patient information is accessible in real-time. Patient records for all HIV and TB testing, care, and treatment services are housed on this system and allow clinicians to better track their patients’ progress. In 2018 the KenyaEMR developers operationalized an updated version of the service that included the full range of indicators included in the Ministry of Health information systems, completing the partial set of indicators that was included previously. We are now better able to align our indicators and internal reporting with MOH standards and Key Performance Indicators, keeping Lwala Community Alliance appraised and accountable to the standards of care set by the government.

**IBM Partnership** – In 2018 we partnered with IBM to create a mobile application that will allow patients to maintain their own patient records which increases mobility and creates a seamless referral system. This application maintains prescriptions, sugar levels, and a comprehensive patient file so that any clinician or pharmacy can access the necessary information to treat their client. In December we piloted this application with a sample of our clients with non-communicable diseases and are looking forward to phase two of this innovative partnership.

**NATIONAL HEALTH INSURANCE FUND**

As a level 4 hospital, we are eligible for reimbursements from the **National Health Insurance Fund** for services provided. Trained staff have been filing claims and enrolling community members into the insurance program. In 2018 we registered 114 individuals for NHIF insurance. We also enrolled 560 women in the maternity-focused LindaMama insurance program, which provides free care for all pregnant women. We have seen a spike in enrollment since we hired an NHIF and LindaMama clerk, who facilitates the enrollment process for our clients. In 2018 we received $5,587 USD from the National
Health Insurance Fund. This year we received a large reimbursement due to unpaid debts from previous invoices. We also registered 38 of our Community Health Workers for NHIF through Lwala and we pay their monthly registration fee as part of their salary.

A LOOK AHEAD – 2019

Next year, we will...

- Improve the quality of care we provide patients by increasing our SafeCare score and ranking amongst the highest quality health centers in Kenya.
- Bring patient enrollment directly to the doorsteps of new HIV-positive clients through mUzima’s mobile application.
- Apply our Health Facility Assessment using the 6 WHO Building Blocks to Lwala Community Hospital, to further build upon our quality improvement approach.

Education

We collaborate with **13 government-run primary schools**. While we provide technical support, training, and evaluation, School Boards of Management carry out the design and implementation of initiatives. The education program spans various areas of youth achievement, from health to leadership to academics, while consistently incorporating a gender equity lens. Through the education program, our mission is to:

*“Partner with schools and communities to improve foundational learning outcomes and create great life chances for girls and boys, both in and out of school”*

BREAKING BARRIERS

**Broadened Horizons** – Increasing girls’ access to education and developmental pathways is critical to the progress of the communities we serve. The goal of the Broadened Horizons program is to mentor girls who have dropped out of school and to support them to re-enroll. For those that cannot re-enroll we provide workforce development training. This year, **117 women enrolled in the Broadened Horizons mentorship program**.

- **Re-enrollment** – In the 2018 school year, **22 girls re-enrolled in school**. To incentivize parents to keep girls in school, we provide business skills training and micro-grants to help them pay for school fees. The parents attend weekly training sessions for three months, and we disburse a $30 grant per term. In addition, the girls themselves are given uniforms, books, and pens once they have re-enrolled in school.
- **Apprenticeship** – The girls who cannot re-enroll in school are linked to our apprenticeship program after 6
months of mentoring. This year we linked 89 girls to an apprenticeship program in tailoring, farming, salon, or artisanship. The graduates from the tailoring program will help sew the new school uniforms distributed to female students in January.

- **Entrepreneurship** – Concurrent with the apprenticeships, we train the girls on business skills following the Village Enterprise (our partner in poverty graduation) curriculum. This year, 27 of the girls in our apprenticeship program have started their own businesses thanks to the training.

**School Supplies for Girls** – For the 2018 school year, we provided 706 girls with school uniforms and 1,120 girls with sanitary pad kits. Through our New Visions women’s sewing cooperative, we provide re-usable pads and school uniforms to build the self-agency of girls to remain in school. By providing girls with these resources, we reduce two of the largest barriers to girls’ school completion – lack of money for uniforms and insufficient access to feminine hygiene materials. To prepare for the 2019 school year, we fitted 768 girls for uniforms in June. Thanks to these resources and our gender-focused education programs, we achieved gender parity in primary school completion in 2017 and maintained it in 2018. The school completion rate by gender can be found in the graph to the right.

**In-School Girls Mentoring** – With the help of our 13 mentors, Lwala enrolled 385 female students into our in-school mentorship program in 2018. As opposed to the Broadened Horizons program which caters to girls who have dropped out, the in-school girls mentoring program reaches at-risk girls in school with the goal of preventing drop-outs. There was not a single pregnancy among our 2018 cohort and every single 8th grade girl sat for the KCPE exam, which enables students to move to high school. We are approaching gender parity in students passing the KCPE exam, which can be seen the graph to the left.
**Innovations Challenge** – We developed the innovations challenge to engage teachers in designing their own program improvement initiatives. Participating teachers submitted a total of **126 innovations** to combat challenges in the areas of parental engagement, student performance, and teacher attendance, among others. Of those submitted, **we selected 12 innovations to pilot** and then narrowed down 6 ideas for long-term implementation. The 6 innovations focus on positive behavior reinforcement systems, handwriting skills, teach-to-the-level reading lessons, providing specially fitted uniforms to pregnant students, and increasing parental engagement in student outcomes. After a review meeting with teachers in quarter 4, we decided to replicate all **6 innovations for scale-up in 2019**.

**Board of Management Training** – In 2018 we trained **81 Board of Management representatives** on our 8-module advocacy training, which includes resource mobilization, teacher supervision methods, and the no-repeat policy, among other critical topics for education reform in our catchment area. The Boards of Management are a critical education governance structure that have been historically under-utilized in our catchment. By leveraging the Boards of Management, we engage a sustainable oversight structure that can advocate for improvements to the education system from within the community.

**HEALTH**

**Youth Friendly Corners** – In quarter 4 we officially launched 2 new Youth Friendly Corners in our expansion site, bringing our total to 5 Youth Friendly Corners in the communities we serve. In 2018 we provided **10,312 youths** with services through our Youth Friendly Corners. These innovative health centers have a dual purpose: providing health care services such as contraception to youths in a private environment, and creating a safe space to spend time with peers when they are not in school. Stigma and lack of anonymity are major barriers to adolescents and youth accessing contraceptive services. These Youth Friendly Corners are key to our efforts to reduce HIV infection and pregnancy among youth.

**School Health Clubs** – Every week, students and teachers at the government-run primary schools hold health club meetings. **Over 2,000 girls and boys in grades 6 to 8 attend the clubs during after-school hours**. The health club patrons are Lwala-trained teachers who implement a curriculum entitled Life Skills, that discusses comprehensive sexual and reproductive health, contraception, gender-based violence, children’s rights, and more. In 2018 we added a curriculum entitled Young Love to address the high prevalence of inter-generational relationships that often lead to teenage pregnancy and HIV-infection. Since teachers often resist teaching sex education during class, the school health club program enables students to learn about sexual and reproductive health and other health matters after school.
Better Breaks – We hold 3 Better Breaks sessions every year to give kids a fun, safe, and educational activity to enjoy during school vacations. In our 2018 Better Breaks sessions we administered 96 pregnancy tests, provided 528 pieces of contraception, and tested 691 kids for HIV. We survey the attendants of our Better Breaks sessions on topics such as contraception access, gender-based violence, and perceptions of safety in the community.

A LOOK AHEAD – 2019

Next year, we will...

- Double down on our commitment to re-enroll girls in school. We will recruit a cohort of 175 girls in our Broadened Horizons program and assist at least 60% in re-enrolling back to school.
- Improve education outcomes for our community by tracking teacher performance and effectiveness in collaboration with the Ministry of Education to ensure teachers are teaching at the right level.
- Create a safe environment that encourages boys and girls to remain in school by breaking ground on infrastructure projects at 5 primary schools.

Economic Empowerment

VILLAGE ENTERPRISE PARTNERSHIP

To provide economic opportunities to our community, we partner with Village Enterprise, an expert in poverty graduation for the “ultra-poor.” Village Enterprise identifies the poorest members of the community through a poverty assessment. The assessment uses the Progress Out of Poverty Index (PPI), which measures household wealth and ranks households into four wealth categories. Those in the lowest category, ultra-poor, qualify to be enrolled into Village Enterprise, making them eligible for micro-grants and business skills training. In Village Enterprise’s 2018 fiscal year, our enrollees increased average household savings 91% to $43.12 USD and increased average household consumption from $273 to $352. Both of these measures are standard indicators in measuring economic wellbeing and reflect how our innovative partnership with Village Enterprise is improving the livelihood of our community members.

Poverty Assessment – Village Enterprise conducted the most recent round of the PPI in November. They surveyed 526 people and 478 qualified as ultra-poor. They are currently enrolling the qualified community members into the Village Enterprise poverty graduation
program and enrollment numbers will be available next quarter. Since Lwala began partnering with Village Enterprise in March 2017, 4,371 people have been measured by the PPI, 3,082 have qualified as ultra-poor, and 2,119 have enrolled into the Village Enterprise program. Those enrolled are trained on topics including leadership, group dynamics, basic savings, and managing a business, among others.

**Business Groups** – Village Enterprise groups all of the enrollees into 3-person business groups to receive training and start a business as a team. For the training cycle that ended in October, we had 157 business groups, consisting of 492 people. Village Enterprise provides each 3-person business group with a start-up grant of $100 and they are required to contribute $10 of their own money to ensure their commitment. In the most recent round, Village Enterprise disbursed $15,700 USD to the new business groups, bringing them to a total of $70,633 USD disbursed since the beginning of our partnership.

**Business Savings Groups** – Village Enterprise makes groups of ten businesses, or thirty people, to create larger business savings groups. After covering their costs and paying themselves, the participants invest their profits into the business savings group. The participating businesses can then borrow from this common pool of money to grow their businesses and they pay interest on the loan to grow the money pool for the entire group. We track business savings groups from inception to graduation. The total savings from the 45 business savings groups currently enrolled in the Village Enterprise poverty graduation program is $34,993 USD.

In July, Village Enterprise formed 16 new business savings groups, and trained them for 4 months. In November Village Enterprise began a new recruitment cycle and the new enrollees will form business savings groups in January after enrollment is finished.

**World Bicycle Relief** – In December Lwala Community Alliance, Village Enterprise, and World Bicycle Relief entered into a memorandum of understanding outlining an innovative partnership to address the role transportation plays in business ownership. Lwala received 145 bicycles from World Bicycle Relief that will be distributed to randomized business groups. The bicycles will facilitate transportation and reduce costs when buying inputs for the businesses. A reduction in expenditure will in turn increase profits. Every business group that receives a bicycle will attend a Capacity Enhancement Training focused on bicycle program management.

**COMMUNITY BANK**

Lwala Community Bank is a savings and loans cooperative, which operates independently and provides pro-poor financing to staff and community members. As seen in the chart below, the bank had 135 members investing, saving, and receiving loans in 2018. Total savings reached $42,803.61 USD and assets totaled $90,747.23 USD. This year, Lwala Community Alliance made a $10,000 investment in the bank, increasing the amount of capital available for lending. The bank is designed to increase access to fair and reliable microfinance and financial products for rural communities. Each member pays into the bank when they join, and after six months they are eligible to begin taking loans from the common pool of money. The assets held by the bank grow as the borrowers pay back interest on their loans. The loan products are specifically designed for the community’s needs – focusing on agriculture and other small businesses. Lwala also supports mentorship by encouraging successful business owners to mentor newer members and to motivate other entrepreneurs to join the bank.
Next year, Lwala & Village Enterprise will...

- Cut transportation costs for our business owners by distributing 145 bikes provided by World Bicycle Relief.
- Start 420 businesses in Migori County, impacting an estimated 8,499 people.
- Promote financial responsibility by increasing participation in community savings and loans groups and expanding access to financial products.
- Continue supporting stable entrepreneurs as they graduate from the first three grant cycles of the Village Enterprise program.
Measurement

Our Monitoring and Evaluation (M&E) system enables our team at Lwala, service providers, and government policy makers to make **client-centered, evidence-based decisions**. This means that we are building data collection systems while pushing analysis and conclusions at all levels of staffing, from frontline workers to government officials. We are using emerging technologies and platforms such as mUzima and CommCare to inform evidence-based decision-making and create information systems that drive systemic change.

Lwala’s performance M&E starts with an overarching **impact framework** designed to assess our collaboration with the community to improve overall health, agency, and wellbeing. The impact framework consists of a suite of **key performance indicators** (KPIs) and associated targets aligned with our ambitious goals. Each month, we evaluate our progress on our KPIs and compare our results with external results on comparable indicators to understand our impact. Our KPIs are chosen because they are indicators tracked at an international level, in Kenya, and specifically in Migori County (e.g., rate of skilled deliveries).

**GEO-INTELLIGENCE**

We are working with GeoGecko, a Uganda-based geo-intelligence firm, to better understand the topography of the communities we serve. Our ability to send workers into the field and survey households effectively depends on us knowing the location of key landmarks as well as understanding the population density of our catchments. These Geographic Information Systems (GIS) maps will allow us to use true randomization in our assessments, thus better measuring our impact.

**360° DEGREE SUPERVISION MODEL**

Lwala manages a data system designed for supervision on tailored client care that can respond in real time as well as a sophisticated beneficiary-centered database. The system is built in a Salesforce platform, which houses health and demographic information for more than 20,000 individuals. Through a CommCare mobile application, Community Health Workers access and input information about their maternal, child, and HIV-positive clients in real-time and the data is automatically updated in the database.

In 2018 we began utilizing a Community Health Worker
supervision module that we added to the Salesforce system to facilitate oversight from the government Community Health Assistants that supervise our Community Health Workers. This feedback loop has increased oversight into program activities and data quality by allowing Lwala staff, government workers, and Community Health Workers to react to data collection in real time.

**PUBLICATION OF OUR EVIDENCE**

In September, Lwala was published in a peer-reviewed article from Vanderbilt University in the Public Library of Science journal (PLOS ONE) on our achievements in under-5 mortality in Rongo-Sub County. From this cross-sectional survey, it was found that there was a significant decrease in under-5 mortality before and after the presence of Lwala Community Alliance. In 1999 - 2006, before Lwala’s intervention, the under-five mortality rate was 104.8 deaths per 1,000 live births. After Lwala’s intervention, this rate was 53 deaths per 1,000 live births, and in the last five years this number has decreased further to 29.5 per 1,000 live births. This is compared to regional data which shows the under-5 mortality rate is 82 deaths per 1,000 live births.

**PROGRAM EVALUATION**

We are in the midst of conducting a robust evaluation of our program expansion. This quasi-experimental study employs repetitive cross-sectional surveys to understand health impacts in Lwala sites compared to control sites. The study focuses on maternal and child health, but also collects a wide range of socio-economic data to help us understand more about the drivers of health outcomes. In March and April we surveyed households across our current innovation hub and primary expansion location. Through our partnership with Vanderbilt Institute of Global Health, the data from the most recent iteration of this evaluation is being analyzed. In December we trained 21 enumerators for our latest surveying effort, which will collect baseline information in two locations that will be included in our catchment area during our expansion. In previous iterations of the survey, the sampling frame factored in approximately 6,000 households and sample size was calculated using a binomial test to compare one proportion to a reference value. For survival analysis, Cox regression models with clustering at the household level were used to estimate hazards ratios. We will continue to gather this data over time. For the first time, we are engaging a control site in a neighboring sub-county, Uriri, to better understand the impact Lwala has had in our catchments.

**Lwala’s Leadership**

Our Managing Director, Julius Mbeya, was awarded the Angel of Africa award by Segal Family Foundation. Julius accepted this award in October in Nairobi at the Segal Family Foundation Annual Meeting. The award acknowledges leaders building partnerships and continually serving as a resource for others.

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Our Sexual and Reproductive Health Coordinator, Elisha Opiyo, traveled to Kigali to present our innovations in adolescent and youth reproductive health at the 2018 International Family Planning Conference.

Winnie Oyugi, our Community Programs Manager, participated in the prestigious iLeap Fellowship, recognizing rising leaders in social justice.

Our co-founder Fred Ochieng was featured on the Future of Healthcare podcast to share the story of how Lwala Community Alliance was born to bring hope from tragedy when his parents died of AIDS.

Our Head of Clinical Services, Wycliffe Okoth Omwanda, received the Aidsfonds Fast Forward award on behalf of Lwala Community Alliance at the 2018 International AIDS Conference in Amsterdam. The Aidsfonds Fast Forward award honors local innovation in global challenges like HIV/AIDS and building bridges between donors and communities. The ‘Silver Egg’ award aims to link innovative local interventions with donors in order to increase visibility and awareness of these solutions.

Our Executive Director, Ash Rogers, was published twice, as a co-author of the Community Health Worker Assessment and Improvement Matrix (CHW AIM), which is a toolkit for improving CHW programs, and on One.org to showcase our efforts to end maternal mortality and her personal experience of obstetric hemorrhage.

As we pursue progressive, gender-sensitive programming in all of our initiatives, we are simultaneously working to increase gender empathy among our staff. Supported by Imago Dei Fund, we designed a gender empathy curriculum to be led by consulting firm Phoenix Risen. In quarter four we held a two-day gender empathy training to further engage our leadership team and gender committee on gender stereotypes, stigma, and the way they present in a workplace. In a second workshop, our entire Kenya-based staff received 2 days of gender empathy training.

Lwala was featured in the University of Pennsylvania’s 2019 High Impact Giving Guide, which spotlights organizations that make their donors’ gifts go the farthest. We were featured alongside other impactful organizations such as Last Mile Health and Meta House.
Staff Spotlight

Nancy Akoth

Nancy joined Lwala in 2013 as a Youth Peer Provider in Sumba village. She was recruited to be a member of the first class of Youth Peer Providers. When she started, contraception was still a highly controversial topic, particularly in regard to youth access. Nancy spent her first year as a Youth Peer Provider trying to bring teachers, village elders, and parents on board with the progressive sexual and reproductive health agenda Lwala was pioneering. Teenage pregnancy was still very high in the area when she started.

In 2014 Nancy returned to school at Thika School of Medical and Health Sciences, to get a diploma in nutrition. After graduation, Nancy returned to Lwala as an intern for six months in 2017. At the time, Lwala Community Hospital did not have a nutritionist on staff. From her many field visits, engagement with our community health staff, and discussion with our clinicians, she could see the value a full-time nutritionist could bring to our community. She was soon asked to stay full-time as Lwala’s first nutritionist. In her role, she now balances clinical hours with home-visits and tailoring the nutrition curriculum to our most vulnerable populations: children and people living with HIV.

“I come from this area, but according to the history of Lwala I am impressed to be able to work with an organization like this in my area. I like to share my knowledge with my people. Not only with nutrition but also non-communicable diseases which are on the rise.”

Nancy has two kids and she hopes that when they finish school, they will return to Lwala to help the community just like she does.

Nancy recalls an impactful patient, “I had a client in the community I served, the mother was having mental illnesses, she had twins and their MUAC was reading red, indicating severe malnutrition.” Nancy visited them weekly, bringing them supplements and special food to treat malnutrition. Now the twins are 2-years-old and their nutritional status is good. “I don’t see them anymore as a health care provider, because they are doing well. I visit them as a friend.”

Nancy Akoth is Lwala’s nutritionist and former Youth Peer Provider.
Beneficiary Spotlight

Mary Ochieng

On July 3, 2018, Mary Ochieng, a 17-year-old female, arrived at Lwala Community Hospital. She had arrived from a village called Gem, which is 40 minutes away by motorbike. Dorothy was semi-conscious and complaining of abdominal pain.

Mary was immediately put on IV fluids and assessed by a clinician. During the assessment Mary became unconscious. The tests revealed that she was pregnant, and the clinicians determined that Mary was suffering from internal bleeding due to an ectopic pregnancy.

Ectopic pregnancies are the most common cause of death for women in their first trimester. Often women experience a rupture of the fallopian tube which leads to internal bleeding and can cause hypovolemic shock, and ultimately, death. Patients in middle- and lower-income countries are 10 times more likely to die from their ectopic pregnancies than patients in wealthy nations.

The clinicians applied the non-pneumatic anti-shock garment (NASG), a tool Lwala has introduced to facilities throughout Migori County, and Mary regained consciousness 5 minutes later. She was then referred to Homa Bay County Hospital for surgery.

A patient can remain in the NASG for up to 72 hours because it conserves blood flow to the vital organs. This addresses a major cause of death in cases of obstetric hemorrhage: delays in care while waiting to be seen by a clinician or during transport to a higher-level facility. The NASG can reduce almost all obstetric bleeding while redirecting the remaining blood from the lower extremities to the vital organs, which keeps the patient stable and reverses shock.

Mary was accompanied by one of Lwala’s Clinical Officers, Tom, by ambulance to Homa Bay County Hospital for further treatment. Tom instructed the operating team to perform Mary’s surgery without

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removing the NASG. Homa Bay County Hospital was able to successfully perform the surgery to remove the damaged fallopian tube while Mary remained stable in the garment.

Mary recovered at Homa Bay County Hospital and the NASG was eventually removed. She has been able to make a full recovery and was discharged and sent home on July 6, 2018.

As a Clinical Officer, Tom is grateful for the value the NASG has brought to his community. He can recall many instances, before the introduction of the NASG, in which patients died while being transported to receive advanced care. During the time it takes to initiate the referral process, find a facility with blood, and transport the patient, the NASG keeps the patient alive. To date Lwala has trained over 166 health care providers from 17 clinics on the NASG as a lifesaving intervention.