ANNUAL REPORT
2019-2020

Yale Global Health Leadership Initiative
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Greetings from the Global Health Leadership Initiative (GHLI) at Yale. I am pleased to share this annual report, which highlights our collective achievements throughout the 2019-2020 academic year. As we reach GHLI’s 10-year mark, our mission has never been more relevant.

COVID-19 continues to spread, placing an exceptional burden on already strained health systems and exacerbating inequities and vulnerabilities in the US and around the world. In response, we have rapidly adapted our proven educational approaches to provide additional support for adaptive leadership, updated our case examples to reflect the management and leadership challenges and opportunities associated with COVID-19, and ensured continuous leadership support through virtual platforms. These pivots are equipping participants to identify and address complex challenges, and promoting individual and team resiliency in turbulent times. We are also working with our collaborators to systematically capture and elevate best practices in organizational responses to COVID-19, leveraging our deep experience in practice-based research using rapid mixed-methods designs, and innovative data collection methods to account for restrictions on travel and other physical distancing requirements.

We are also called to provide leadership in the global movement to address racial injustice, one of the most pressing public health challenges of our time. We cannot ignore the structural, social, and organizational dynamics that have allowed for oppression of black and brown people for centuries, and we build leadership to address these dynamics. At GHLI, we are reexamining our approaches to partnership in education and research to ensure that we are correcting for historical injustices; we are reviewing our curricula and ensuring that our facilitators and coaches are prepared to support those in leadership roles as they dismantle racist practices; and we are leveraging our expertise and experience in organizational culture change in support of the Yale School of Public Health’s commitment to embed a diverse, inclusive, and anti-racist culture across the school.

As you will see in the following pages, our GHLI team has big global impact. These achievements are made possible through our collaborations with diverse faculty from across the University, the Addis Ababa-based team which serves as an anchor for GHLI collaborations across the African continent, and our robust partnerships around the world. If these pages inspire you, we hope you will share your ideas and join us in our global network.

Erika Linnander, MPH, MBA
At GHLI, we harness the strengths of a leading research university to drive transformation in management, leadership, and organizational performance, creating stronger and more resilient health systems for all.

We believe that defining and solving the world’s most pressing human challenges will require us to work across cultural, professional, and organizational boundaries. Through education and research, we equip groups of people to come together in new ways, form effective ways of working and learning, and identify and solve problems in complex contexts. Founded in 2009, GHLI has served as a leading academic partner, promoting health systems transformation at the national, sub-national, community, and health facility level.

We are based out of the Yale School of Public Health, with collaborations across the university's schools and departments, to confront complex global health issues with a multidisciplinary approach. At GHLI, leadership and management experts, public health professionals, clinicians of all types, researchers, and expert facilitators and coaches work together to achieve comprehensive solutions.

OUR WAYS OF WORKING

- We believe management and leadership are fundamental to health systems performance
- We conduct rigorous and relevant research
- We create authentic partnerships for impact
- We harness the strengths of a world-class academic institution
- We connect the front lines to the highest levels to influence systems
- We value collaboration across disciplines, departments, and schools
- We equip emerging scholars to lead

THIS YEAR AT GHLI:

WE WORKED IN 36 COUNTRIES

WITH 1,234 PARTICIPANTS

PRODUCED 9 MANUSCRIPTS

WITH 10 ABSTRACTS

AND CELEBRATED 10 YEARS OF INTEGRATING RESEARCH AND PRACTICE IN GLOBAL HEALTH

$4.4 M REVENUE
To drive transformation in management, leadership, and organizational performance, we work across three pillars, as shown in the figure below. These pillars guide our organizational strategy, and serve as an organizing principle for the projects reflected in this annual report. We bring our strengths to bear on global health issues as diverse as including reaching every child with lifesaving immunizations, supporting digital transformation, promoting global advocacy in child health, increasing private sector engagement, and ensuring wellness for older adults.

**WHAT WE DO**

**PREPARING LEADERSHIP FOR SUCCESS**

We build capacity among individuals and teams to solve complex problems with measurable impact. We engage mid- and senior-career professionals in online learning, in-person retreats, executive coaching, and mentored projects. We also prepare Yale students and scholars for success after graduation.

**CATALYZING INNOVATION**

We catalyze innovation in global health by developing innovations in organizational performance to improve health outcomes, incubating innovations of all types to promote scale and sustainability, and amplifying innovations through robust research and evaluation.

**STRENGTHENING HEALTH SYSTEMS**

We work directly with Ministries of Health in support of their visions for health systems strengthening. In this work, we build systems and tools for performance management and accountability, catalyze intersectoral leadership teams, and evaluate complex interventions to improve health system performance.

**GENERATING EVIDENCE**

We are engaged scholars, bridging the gap between research and practice. We use rigorous and practical methods in health services research, including mixed-methods approaches and a positive deviance framework, to generate and disseminate insights that are derived from, and immediately relevant to, global health policy and practice.
Advanced Health Management Program (South Africa)  
2009-PRESENT

NHS Strategic Leadership Program (UK)  
2009-PRESENT

Strengthening Hospital Performance (Egypt)  
2009-2012

AAA: Linking Social Services Spending and Health Outcomes (US)  
2010-2015

HEPCAPS (Ethiopia)  
2012-2014

Supporting ECHORN and Yale-TCC (Caribbean)  
2012-PRESENT

Ethiopian Hospital Management Initiative  
2009-2016

AIDED Model for Scale-Up of Innovations (multi-country)  
2010-2011

Leadership Saves Lives (US)  
2012-2019

GHLI-Fudan Mental Health Program (China)  
2010

Evaluting Project Last Mile (multi-country)  
2011-PRESENT

GHLI Annual Conference  
2009-2014

Senior Leadership Program (multi-country)  
2011-2016

Ethiopian Rural Millennium Initiative  
2009-2011

Human Resources for Health Program (Rwanda)  
2011-2017

Goldman Sachs 10,000 Women Program (China)  
2008-2013
Primary Healthcare Transformation Initiative (Ethiopia)  
2015-PRESENT

Assessing Primary Care Performance Management Capacity (India)  
2015-2016

IMD Hospital Management Program (China)  
2016-2017

AAA: Integration of Medical and Social Care for Older Adults (US)  
2018-PRESENT

Yale-Tsinghua Health Management Summer Institute (China)  
2019- PRESENT

IPA LEAD Program (multi-country)  
2019-PRESENT

Preparing the NHS Workforce for the Digital Future (UK)  
2019-PRESENT

Supporting Sustainable Health Initiative (India, US)  
2019-PRESENT

Using Design Thinking to Leverage Rotating Credit Associations to Drive Demand for Immunizations (Cameroon, Ethiopia)  
2019-PRESENT

EPI LAMP (multi-country)  
2018-PRESENT

Clayton-Dedonder Fellowship (South Africa)  
2018-2019
This year, we implemented projects across 36 countries, including three multi-country Projects: EPI LAMP, IPA LEAD, and the evaluation of Project Last Mile. We are based out of the Yale School of Public Health in New Haven, Connecticut, USA. Our Addis-Ababa-based office, a hub for collaborations in Ethiopia and across the African continent, is led by a fully Ethiopian team, representing the mission and strengths of GHIL and the ethos of a Global South partner.
PREPARING LEADERSHIP FOR SUCCESS

We build management and leadership capacity among individuals and teams across diverse contexts, including our work with immunization professionals from 26 countries as part of the EPI LAMP program, our flagship leadership development programs with executives from the UK’s National Health Service, engagement with pediatricians from 16 countries through the IPA LEAD program, support to rising researchers in the eastern Caribbean through ECHORN, and leadership development for students from both Yale and Tsinghua University in China.
The Expanded Program on Immunization Leadership and Management Program (EPI LAMP) is a 9-month certificate program to strengthen the leadership and management of immunization teams from Ministries of Health across Anglophone and Francophone Africa and Asia. With Gavi, The Vaccine Alliance’s support, and in partnership with PATH, the University of Global Health Equity, University of Yaoundé, and the Ministry of Health in Cameroon, we use a blended learning model including interactive e-learning modules, in-person forums, and mentorship to transform national immunization programs.

Upon completion of the program, immunization teams emerge prepared to manage an increasingly complex immunization program, with attention to efficient operations, robust performance management and improvement, and effective political engagement and advocacy. Since 2018, three EPI LAMP cohorts have been successfully implemented with participation from 63 delegates across 16 countries. Beginning in June 2020, the consortium of partners began adapting EPI LAMP content to align with COVID-19 travel restrictions. Implementation of two EPI LAMP cohorts (one for Anglophone countries and one for Francophone countries) will begin in August 2020 with 11 new country delegations.

**This Year’s Highlights**

- **16** Delegate Countries Across Asia and Africa
- **110+** Team Coaching Sessions
- **83%** Graduation Rate
- **100%** Teams Showed Improvements in Management Competencies

Our mixed-methods evaluation of EPILAMP has shown:

- Mentored field-based projects have driven measurable impact on immunization program performance.
- Delegates illustrated improved data use for decision making including targeted data collection, analysis of patterns, and the evaluation of corresponding solutions.
- Delegates demonstrated enhanced attention to team dynamics by promoting role clarity, strengthening team responsibility, working across hierarchical boundaries, and giving structured feedback.
- Delegates described new insights into their own leadership abilities, with many delegates reporting that they have been placed into senior decision-making roles and entrusted with expanded responsibilities.

**EVIDENCE GENERATION**

- Together with colleagues from PATH and the University of Yaoundé I, we advocated for more equitable access to leadership and management programs for French speaking countries through a Lancet commentary, “Reaching across the linguistic divide in management and leadership education.”
- Faculty from the University of Yaoundé I and GHLI are using qualitative methods to understand leadership experiences of health professionals in French speaking countries in Africa as an input to context-specific leadership programs.
- We are working with consortium partners to disseminate the results of our rigorous evaluation of the first three EPI LAMP cohorts in a peer-reviewed manuscript.
The Expanded Program on Immunization (EPI) in Myanmar works across 17 regions and states with townships, Rural Health Centers (RHC) and Sub-Rural Health Centers (Sub-RHC). Routine immunization services are delivered through: a fixed and regular immunization at health facilities, monthly outreach in areas away from the health facility but easily accessible, and mobile and crash services at geographically hard to reach areas. The Myanmar immunization program relies on external funding from donors such as Gavi, The Vaccine Alliance. As Myanmar prepares to transition out of Gavi support, the country will start financing all vaccine-related costs. The Myanmar EPI LAMP delegation focused on decreasing routine EPI costs to support the country’s transition from Gavi's support.

“It has helped my colleagues in the EPI program. They were experiencing problems, but actually they could not find the root causes. They can now find the root cause of the problems”

“We really work more like a team, more than before”

The team worked with management coaches from GHLI and UGHE and a health economist from PATH to isolate the problem, collect and analyze data, and identify a new strategy to address high costs. Through these activities, the team:

- **Identified that transportation costs accounted for 29% of all immunization costs.** The only budget line higher than the transportation costs were vaccine supply and logistics, a budget line more difficult to influence.

- Set a goal to reduce transportation costs by 50% by the end of 2021, and then **conducted a root cause analysis to identify the drivers of the high cost of transportation.**

- **Used a regression analysis and cost modeling to project the operational costs associated with vaccine collection at various locations.** The team then projected the 10-year discounted cost for the following options: (a) cold chain expansion to RHC, (b) cold chain expansion to sub-RHCs, (c) reduction of outreach sessions through more effective demand generation, and, (d) reduction of outreach sessions through improved microplanning at sub-RHCs.

- **Showed cold chain expansion to RHCs was the most cost effective, allowing a net savings of 6.1 million USD over 10 years.**

Expanding cold chain to RHCs is expected to lead to improved service availability at RHCs and decrease transportation costs without changing routine immunization coverage. Upon completion of the EPI LAMP program, the team has started to implement the expansion of cold chain at RHCs.
“We are evolving with the COVID-19 pandemic. This EPI LAMP training was really very beneficial. It prepared me to take the reins of the EPI, and the concepts that I learned are those that accompany me today.”
(Delegate, Democratic Republic of the Congo)

“Now, going through this training, it’s like, ‘Okay, we’re doing things together. Whatever our success, whatever our failure, we are one.”
(Delegate, Solomon Islands)
Our most longstanding executive leadership program is delivered in partnership with the United Kingdom’s National Health Service (NHS) and Health Education England (HEE). We partner with the NHS to prepare executives, commissioners, and others in leadership roles to navigate complex contemporary health and social care challenges within the UK. Delegates are selected as members of three-person teams, with one representative each from the NHS, the social care sector, and local government. The 9-month program includes two modules (the first in the U.K. and the second on the Yale campus), with field work in between. The approach integrates traditional management and leadership training, informal professional development, and project-based learning to create a unique experience that equips delegates with the skills and confidence needed to become effective contributors to transformational change in health and social care. Since 2007, over 300 alumni have graduated from the Yale Health and Social Care Strategic Leadership Programme, many now serving in the highest offices across the NHS, the social care sector, and local governments.

This Year’s Highlights

- Geographic Areas in U.K.: 19
- Participating Delegates: 60
- Executive Training Program: 9 MONTH
- Delegate Projects Completed: 20

This year, the program evolved to prepare the NHS and social care workforce to deliver the digital future, integrating the latest scientific evidence on digital technology innovation, change management, leadership, project management and project-based team learning. This breadth of content equips delegates to become effective contributors to the transformational changes associated with rapid advancements in digital health care technology. The program offers a unique and comprehensive educational learning experience that includes experiential learning, access to vast curricular resources, interaction with top-tier academic and practitioner faculty from both the UK and US, and culmination in a certificate from a world-class university.

BREAKTHROUGH PROJECTS

Delegates from sustainability and transformation partnerships delivered high-impact projects that strengthened local integrated care systems, including:

- Improvements to mental health services in the Nottingham and Nottinghamshire Integrated Care System (ICS) through implementation of a cross-organizational approach to appropriately address patient needs for discharge, reducing length of stay in facility to the national benchmark.
- Implementation of a regional strategy, which included an addiction-based pathway for managing nicotine dependency, to reduce smoking among pregnant women in the North East.
- Reduction of high incidence of self-harm among children and young people (CYP) living in South West London through the development of a whole system approach that directly supports CYP, their parents, and guardians, and schools.

Delegates focusing on digital transformation will present the final results of their breakthrough projects in early 2021.
Very few leadership development programs have assessed which programmatic aspects participants regard as most valuable relative to leadership in increasingly complex systems, or whether and how learnings may sustain over time. This year we published a study in BMJ Open, reporting insights from a qualitative study using in-depth interviews with 26 alumni of the program. We identified key features of the program delegates found valuable for working in a complex system like the NHS and ways in which learnings were not only sustained, but in some cases amplified, over time.

Delegates reported the following:

- The program meaningfully impacted delegates’ professional development at multiple levels. Valued aspects of the program included presentation of newly generated scientific evidence, delivery of a field project utilizing a team-based approach, relevancy of content to the U.K. context, diverse multidisciplinary teams, and exposure to the U.S. healthcare system.

- The coupling of a professional network and practical tools allowed delegates to address cross-sectoral, system-wide problems in new ways.

- Delegates described a level of learning that sustained and amplified over time with increased complexity in their work.

“That mix of academic and practical really, really works. The U.K. base, the U.S. base, and the teaching work together. Even when we went to the US, we were able to ground it in what’s happening in the U.K. **The difference was the rigor of the academic foundation of this program. That’s important. But also, for me, that leap to the practical implementation was brilliant. It wasn’t one or the other. It did both.”

“[The program] is not absolutely forefront in our mind all the time, but that for me is probably a good sign because actually it’s embedding and becoming more of a natural thing to think in that way when I’m dealing with problems... [to use] the things we’ve learned about cross-organizational psychology and dynamics makes me feel like I have absorbed it...it is a constitutional change in myself in how I’m managing things.”
Although pediatricians are champions for global child health, they rarely receive formal leadership training or support, limiting their ability to influence change at the highest levels. The International Pediatric Association (IPA) LEAD program, a 2.5-year fellowship, fills this gap. In collaboration with faculty from the Yale School of Medicine, GHLI supported design and delivery of the program for its first cohort of 15 emerging pediatric leaders, each supported by IPA’s national and/or regional member societies.

This Year’s Highlights

- 100% of LEADers said that they would recommend IPA LEAD to their colleagues, and LEADers consistently report that this peer community has been critical in their leadership development.
- 100% of LEADers are on track to design and implement a leadership project addressing a complex child health challenge within their selected country.
- Since the start of the program, LEADers have published 29 accepted manuscripts (including 10 manuscripts with the LEADer as first author) and 44 abstracts.
- LEADers have used the strength of their network to deliver webinars and global social media campaigns on urgent child health issues.
- LEADers have demonstrated resilient leadership to further progress on their projects and take on new leadership roles in the context of the COVID-19 pandemic.

BREAKTHROUGH PROJECTS

Example of LEADer Projects include:

- Developing a pathway for standardized care for children with Autism Spectrum Disorder in Ghana
- Understanding the impact that air pollution has on school-aged children in India
- Developing vaccinology expertise in Nepal
- Decreasing the number of infants with Respiratory Distress Syndrome, a pathology with evidence-based and low-cost treatments, in Ethiopian neonatal units.
- Establishing a Pediatric Society in Liberia to have an organized and functioning pediatric group that will be a platform to advocate for children of Liberia
- Decreasing vaccine hesitancy among caregivers in Turkey
ADDITIONAL LEADERSHIP DEVELOPMENT PROGRAMS

Summer Institute for Healthcare Management

The Yale-Tsinghua Summer Institute for Healthcare Management engaged 25 master's students from China's premier institution in healthcare management, Tsinghua University's Institute of Healthcare Management, in a 7-day intensive on the Yale campus. The program provided students with a comprehensive overview of the US health care system through faculty and alumni lectures and practical site visits to academic health centers, local hospitals, and community service providers. Students brought the week together with a presentation of critical learnings at the end of the program to peers and program leadership.

Yale Transdisciplinary Collaborative Center for Health Disparities Research (Yale-TCC)

Yale-TCC is a collaboration between Yale's Equity Research and Innovation Center (ERIC) and health, policy, and community leaders in Region II (New York, New Jersey, Puerto Rico, US Virgin Islands), Trinidad, and Barbados. The Yale-TCC builds upon the infrastructure and knowledge of the Eastern Caribbean Health Outcomes Research Network (ECHORN) to generate novel science, strengthen partnerships, and implement interventions to reduce the burden of non-communicable diseases within Region II and the Caribbean. We are proud to provide strategic facilitation and leadership development support to members of the Yale-TCC as they pursue their vision for regional collaboration to eliminate disparities in the burden of noncommunicable diseases.

GHLI Internship Program

In 2019-2020, we welcomed 14 graduate-level interns to GHLI, leveraging our programs as platforms for learning and growth. Academic year and summer internships allow for engagement in both research and practice, often serving as the basis for thesis work, independent studies, and practicum credits. For example:

- New Haven-based internships allow for exposure to diverse projects across the global health landscape. A total of 14 interns supported the management of complex global health programs, development and implementation of robust evaluation frameworks, and effective public health communication.

- GHLI’s partnership with the NHS and HEE has resulted in opportunities for cross-cultural learnings for Yale College and Yale School of Public Health (YSPH) students. In 2019, 8 NHS organizations created a total of 12 internship positions for Yale College and YSPH students, with many offering funding to enable students to live in the UK for 8-10 weeks, engaging in research and projects related to systems transformation within the Sussex and East Surrey Commissioning Group, the Dorset Integrated Care System, Princess Alexandra Hospital NHS Trust, and the South West London Health and Care Partnership.

- GHLI’s network of partners allows for diverse field-based internships. In the last year, GHLI interns traveled to Cameroon, Ethiopia, and Germany, working with and learning from Ministry of Health officials, development experts, and local community groups. One GHLI intern joined the inaugural cohort of leadership fellows through the Yale Institute for Global Health, embedding in efforts to support the Ministry of Health in Ethiopia.
We develop innovations in driving demand for immunizations through the use of design thinking, incubate innovations through support for the start-ups participating in the Sustainable Health Initiative, and amplify innovations through study of partnerships to bridge health and social care in the US and transform private sector engagement globally.
Rotating Savings and Credit Associations (ROSCAs) are local groups which pool and subsequently distribute monetary contributions from members. Beyond this primary function, these local networks also yield powerful normative social influence on a variety of issues, including women’s choices around infant feeding and contraception. This project aimed to engage ROSCA networks in Ethiopia and Cameroon to generate demand for routine childhood immunization services using a Human-Centered Design (HCD) approach.

Policymakers and health and social care providers are calling for greater collaboration across sectors to address non-medical influences on health. Our prior research suggests that patterns of collaboration among organizations providing health care and social services within a community may be related to health outcomes, and that Area Agencies on Aging (AAAs) often serve as brokers for these collaborations.

Understanding how AAAs establish effective relationships to improve health for older adults and people with disabilities would support national scale-up of best practices in cross-sectoral partnerships.

This Year’s Highlights

Our research team responded promptly and constructively to redesign our approach to data collection in the context of the COVID-19 pandemic. We have successfully transitioned to fully online data collection and are on track for its timely completion.

EVIDENCE GENERATION

In this study we are collaborating with the University of California at Berkeley, Miami University, and the n4a to examine:

1) How highly partnered AAAs in regions with low-levels of avoidable health care utilization for older adults establish relationships with partners in health care and

2) How partnerships are catalyzed, developed, and sustained.

We have identified 15 sites across the country and have begun in-depth qualitative interviews with key individuals from a variety of social and health care organizations at each site.

This Year’s Highlights

While HCD has become a high-potential approach within global public health, approaches to evaluate HCD interventions are not well established. We developed an evaluation protocol which uses a mixed-methods design to assess acceptability, appropriateness, feasibility, fidelity, and short-term outcomes of the study. The results of this study are expected to inform the scale-up of successful approaches to demand generation for immunizations as well as the design and evaluation of future HCD efforts in global health.

In preparation for launch, we used ArcGIS to recruit ROSCAs from regions in Cameroon and Ethiopia with low demand for immunization services, hosted HCD workshop hosted in Addis Ababa, Ethiopia for designers from Ethiopia and Cameroon, and developed an extensive evaluation plan designed to determine the acceptability and impact of HCD in this context. Our designers look forward to resuming work on the empathy phase with ROSCAs once travel and convening can be safely resumed following the COVID-19 pandemic.
The Sustainable Health Initiative (SHI), a partnership between the RMZ Foundation, CoWrks Foundry, and the Yale Institute for Global Health (YIGH), is a global health business accelerator for early- to mid-stage companies striving for impact through social solutions. The program is driven by the conviction that the public sector cannot fully address today’s global health challenges without private sector creativity and entrepreneurial solutions at the intersection of health, technology, environmental science, urbanization, and public policy. We partnered with YIGH to develop and implement a 6-month leadership curriculum that supported effective organizational culture and team dynamics within each participating start-up. The program included an intensive 2-day master workshop on developing and leading effective teams, monthly webinars to support the development of organizational culture, and technical coaching on internal team dynamics and stakeholder engagement.

This Year’s Start-Ups

**Metamagics**
A cloud-based secure database using a combination of web, mobile apps and smart tracking devices, the platform provides a connected ecosystem for patient care.

**JioVio**
An AI-powered, wearable device that monitors and tracks the vitals of pregnant women transmitting the collected data to healthcare professionals. Vitals collected are analyzed using deep learning algorithms which identify women at high risk for pregnancy and other health complications.

**Naps and Nibbles**
A child wellness mobile app for Indian and diaspora parents covering topics including child sleep, breastfeeding and nutrition through a series of 5-7-minute videos. The content is designed and delivered by local Indian physicians and specialists.

**Onward Assist**
AI-based predictive analytics platform to improve the speed and accuracy of breast and cervical cancer diagnostics.

**Aero Therapeutics**
A low-cost self-sterilizing humidified high-flow nasal cannula (S-HHFNC) that oxygenates, warms, humidifies, and sterilizes air before it is delivered in a single, compact, and mobile enclosure developed iteratively on the ground in Ethiopia with feedback from physicians, nurses, mothers, and the community.

**Khushi-TB**
Using Khushi Baby’s digital health record technology, which has helped improve child health in rural India, Khushi-TB will focus on treatment and case management of tuberculosis in urban centers.
PROJECT LAST MILE

In 2011, a simple question drove a call to action: If you can find a Coca-Cola product nearly anywhere in Africa, why not life-saving medicines? Project Last Mile emerged as a global health partnership to adapt and translate best practices in supply chain, logistics and strategic marketing from The Coca-Cola Company to strengthen public health systems in Africa with the goals of improving availability of life-saving medications, driving demand for health services, and inspiring broader private sector engagement. The partnership brings together USAID, the Global Fund, the Bill & Melinda Gates Foundation, the Coca-Cola Company and the Coca-Cola Africa Foundation. **GHLI serves as the academic partner using a** mixed-methods evaluation design to track implementation, evaluate impact, and distill lessons learned.

This Year’s Highlights

- Last-mile supply chain transformation efforts continued in Liberia, Mozambique, Sierra Leone and Tanzania including development of an emergency supply chain playbook in Liberia that supported national response to COVID-19. We presented results at the Health & Humanitarian Logistics Conference (Kigali, Rwanda) and the Global Health Supply Chain Summit (Johannesburg, South Africa)
- An outsourced model for proactive maintenance and repairs for vaccine cold chain equipment was piloted in Nigeria. We presented evaluation results at the Global Health and Innovation Conference (Unite for Sight) (Virtual)
- Millions of patients with chronic disease accessed their medications through differentiated service delivery in South Africa and Uganda. We presented results from South Africa at AIDS 2020 Virtual and at the Global Health Supply Chain Summit (Johannesburg, South Africa)
- **Strategic marketing campaigns to empower young people to demand health services were crafted** in the Kingdom of eSwatini, Lesotho, and South Africa. We presented results from eSwatini – the Girl Champ brand - at AIDS Impact 2019 in London, UK and at AIDS 2020 Virtual

EVIDENCE GENERATION

Lessons learned through our 10-year evaluation of PLM have been captured in an interactive online teaching case, 10 technical reports this year, and numerous peer-reviewed manuscripts and presentations. For a more detailed description of PLM’s impact and lessons learned, as well as our scholarly outputs, please see our [full 2019 annual evaluation report](#).
The UN Sustainable Development Goals call for transformation in engagement with the private sector. However, little is known about whether and how cross-sectoral partners can build the trust required for effective collaboration and maximum impact.

To understand how trust evolved in Project Last Mile, we analyzed data from 77 interviews with stakeholders from the Kingdom of eSwatini, Mozambique, and South Africa.

“There’s always been a distrust between the public sector and the private sector. It was on that premise that I brought Project Last Mile on board. I had to see how to create systems and business models that work, but still achieve my public health imperatives.”

-(Public Sector Partner, South Africa)

“[PLM] opens our mind as a company to understand that, under our corporate responsibility, we can do more. That partnership with PLM gave us also more visibility in the communities. That relationship I hope [will] continue for years, because we leave a legacy with Project Last Mile. Their dedication, their attention to save lives, that is extraordinary.”

-(Private Sector Partner, Mozambique)

The resulting inductive framework includes five domains.

Assess the Reputational Context: Perceptions of the private sector and the reputations of specific brands varied across country contexts and informed how the partnership was positioned within the public sector.

Customize the team: Recruiting people who were both technically skilled and capable boundary spanners was essential.

Produce Tangible Outputs: Trust solidified as tangible outputs of the collaboration were generated. Sharing data and delivering results kept stakeholders actively engaged.

Cultivate shared values: An authentic shared concern for the patient or community was the aligning value that cemented trust between partners and acted as a salve when tensions between private and public sector ways of working flare.

Ensure communication: Ongoing communication through informal touchpoints, face time, and active governance structures sustained trust.
We work directly with Ministries of Health in support of their visions for health systems strengthening. This section describes our multi-faceted support for district (woreda) transformation, the latest chapter in Ethiopia’s longstanding commitment to effective management and leadership in public health.
The Primary Healthcare Transformation Initiative (PTI), a five-year (2015-2020) investment by the Bill & Melinda Gates Foundation, built a culture of performance management and accountability at the woreda (district), zonal, and regional level across four regions (Amhara, Oromia, SNNP, and Tigray) in Ethiopia. PTI was grounded in our prior use of positive deviance research to understand factors that differentiated higher- and lower-performing woredas, as well as our work to facilitate national visioning toward new models of primary care. PTI used five levers of change:

1) Enhanced team and individual capacity through intensive mentorship and certificate-level education
2) Development and use of management standards and key performance indicators (KPIs) to measure and improve performance
3) Improved mechanisms for governance and accountability through the use of Community Score Cards (CSC) and the Managerial Accountability in Primary Healthcare (MAP) tool
4) Promotion of peer learning opportunities including a quarterly peer-review of performance
5) Alignment of organizational structure with management functions


Project Impact

- **1,055** Health Management Alumni
- **1,617** Health Centers Engaged
- **47 M** Ethiopians With Access to Improved Primary Care

- We observed **significant improvement in primary care system performance**, as measured by coverage rates for full antenatal care, skilled birth attendance, complete routine childhood immunization, contraceptive acceptance rate, and stockouts of tracer medicines.
- Woredas with **embedded mentors improved management practice 5 times faster** than those receiving light-touch support, and sustained their practice once the mentors rotated out of the site.
- Phase II drove same change in performance improvement as Phase I, **reaching more than 10 times the number of districts** with approximately the same investment.
- PTI tools and systems have been **nationally endorsed**, incorporated into national tracking systems for woreda transformation, and adopted by other large-scale development programs.

**EVIDENCE GENERATION**

We demonstrated that management can be measured and improved, with impact on primary care performance. Our research, disseminated through numerous peer-reviewed publications and conference proceedings, has included development of locally relevant approaches for measuring organizational culture and promoting bottom-up accountability, demonstration of the impact of zonal-level intervention at the local level, and quantification of the association between good management and high-quality primary care.
<table>
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<th>No</th>
<th>Cause of Morbidity</th>
<th>M</th>
<th>F</th>
<th>Total</th>
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<td>Diarrheal Disease</td>
<td>52</td>
<td>47</td>
<td>99</td>
</tr>
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<td>3</td>
<td>AURTI</td>
<td>45</td>
<td>48</td>
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</tr>
<tr>
<td>4</td>
<td>Pneumonia</td>
<td>27</td>
<td>24</td>
<td>51</td>
</tr>
<tr>
<td>5</td>
<td>Malaria</td>
<td>27</td>
<td>20</td>
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</tr>
<tr>
<td>6</td>
<td>Others</td>
<td>15</td>
<td>10</td>
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</tr>
<tr>
<td>7</td>
<td>Total</td>
<td>210</td>
<td>245</td>
<td>455</td>
</tr>
</tbody>
</table>
We are grateful to work in partnership with diverse, forward-thinking organizations, including foundations, governments, educational institutions, and implementing partners, to drive meaningful change at a global scale. Our partners include:

**Funders and Implementing Partners**

- Aurum Institute
- US Centers for Disease Control and Prevention (CDC)
- Centro Internacional de Entrenamiento e Investigaciones Medicas
- The Coca-Cola Foundation
- The Commonwealth Fund
- The CoWrks Foundry
- Department of Disease Control, Epidemics and Pandemics at the Cameroon Ministry of Health
- The Patrick and Catherine Weldon Donaghue Medical Research Foundation
- Eastern Caribbean Health Outcomes Research Network
- Fogarty International Center of the National Institutes of Health
- Foundation for Professional Development
- Bill & Melinda Gates Foundation
- Gavi, The Vaccine Alliance
- The Global Fund to Fight AIDS, TB, and Malaria
- Health Education England
- International Pediatric Association
- Management Sciences for Health
- Medicines Company
- National Association of Area Agencies on Aging
- PATH
- PEPFAR
- Research Retirement Foundation
- RMZ Corp
- Robert Wood Johnson Foundation
- Tsinghua University
- United States Agency for International Development (USAID)
- University of Global Health Equity
- University of Yaoundé I
- University of the Witwatersrand

**Collaborators at Yale University**

- Center for Outcomes Research and Evaluation
- Center for Interdisciplinary Research on AIDS
- Equity Research and Innovation Center
- Yale Institute for Global Health
- School of Management
- School of Medicine
- School of Nursing
OUR TEAM

Our team includes faculty and staff with diverse backgrounds and strengths. We amplify our impact through collaborations with faculty from across the health professions schools at Yale (Public Health, Medicine, and Nursing) and with the Yale School of Management.

GHLI US

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Adeola Ayedun, MPH  
Program Administrator
Kali Bechtold, MPH, MBA  
Director of Programs
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Program Administrator

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Marcia Schwartz  
Director of Operations

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Technical Advisor
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Eshetu Ketema, MPH  
Technical Advisor
Melaku Kiros, MPH  
Technical Advisor

Dawit Kussia, MPH  
Technical Advisor
Habtamu Mergia, MPH  
Technical Advisor
Halima Mohammed, MHA  
Senior Regional Manager
Elizabeth Mulugeta, MA  
Operations Manager
Teshome Regassa, MA  
Technical Advisor
Daniel Sisay, MPH  
Technical Advisor
Asnake Tachbele, MS  
Country Finance Manager
Ibrahim Temam, MHA  
Technical Advisor
Jiregna Teshome, MPH  
Technical Advisor
Amira Yenus, MPH  
Senior Regional Manager

Special thanks to our 2019-2020 interns, who provided valuable support across our programs:

Misikir Adnew ’21; Leslie Asanga ’20; Christian Bradley ’20; Casey Chu ’20; Debbie Dada ’21; Nukte Goc ’20; Sunny Light ’21; Joel Lugones ’20; Zacharia Postle ’20; Pooja Rana ’20; Sina Reinhard ’21; James Richie ’20; Karen Singh ’20; Dillon Tjiptamustika ’20
Our global impact this year is the return on $4.4m in investments from diverse foundations, development organizations, and government agencies, as shown in the figure below.

- Educational contracts, multiple funders
- Bill and Melinda Gates Foundation
- USAID
- GAVI
- US Research Grants

Our people are our greatest asset, accounting for more than 57% of our annual operating expenses. A breakdown of our other expenses, including over $380,000 in support for University operations, is shown in the figure below.

- YGE (Ethiopia) Personnel
- Yale (US) Personnel
- Subawards
- Travel and Hosting
- Facilities and Administration
- Other Expenses
Abstracts


Ayedun AA, Christie S, Lensley R, Shekhar R, LaMonaca K, Cherlin E, Linnander EL. “If it's not cold, it's not sold:” Leveraging a private sector service network to improve cold chain uptime and vaccine availability in Lagos, Nigeria. Global Health and Innovation Conference (Unite for Sight); April 2020, New Haven, CT USA


Christie S, Liu L, Roberts P, Pillay M, Linnander E, Desai M. Project Last Mile in South Africa supports a national differentiated service delivery (DSD) model for integrated disease management and improved access to antiretrovirals (ARVs) research. AIDS 2020: Virtual Conference.

Manuscripts


McILvennan CK, Morris MA, Guetterman TC, Matlock DD, Curry L. Qualitative methodology in outcomes research: A contemporary look. Circulation: Cardiovascular Quality and Outcomes; 2019; DOI: 10.1161/CIRCOUTCOMES.119.005828.
