MEDIC MOBILE 2019 YEAR IN REVIEW

27,477
Network of health workers supported by our tools at the end of the year

11.7 MILLION
Total number of health worker actions in 2019

9,010
Health workers receiving tool upgrades or new workflows

4,248
New health workers supported

2,292,004
Under-5 assessments

83%
% assessed within 72 hrs

14
Countries with active deployments

207,992
Pregnancy registrations

92%
Facility-based delivery rate

2
New Ministry of Health deployments in E Africa

3
New Ministry of Health deployments in Nepal

6 PRODUCT RELEASES

87
Features & improvements

39
Performance updates

226
Bugs fixed

12
New Medic teammates hired

Launched The Community Health Toolkit online forum

Launched ANC Reference App

Formalized a list of core values at Medic

Humanity
Creativity
Solidarity
Initiative
Openness
We have been preparing for this moment.

In the past decade we have built long-term partnerships with governments and healthcare organizations around the world, learned how to collaborate remotely, practiced human-centered design until it became second-nature, built flexible and open-source tools that can be quickly adapted and reused across health systems, and consistently prioritized the needs of health workers serving the hardest-to-reach communities. These health workers and communities are beginning to mount a remarkable response to the COVID-19 pandemic, and we’re accompanying them with all the talents, tools, and experience we can offer.

I am incredibly proud of our progress in 2019. Together with partners, we equipped 4,248 new health workers while upgrading more than 9,000 health workers to new tools and workflows. The global network of 27,477 health workers provided 2,292,004 child health assessments and more than 11 million services for their neighbors. Six product releases included 87 features and improvements and 226 fixes. We welcomed 12 new teammates, launched an open online forum for the Community Health Toolkit (CHT) community, released the first global reference application for the CHT, onboarded our first two Technical Partners to build and deploy their own CHT apps, and supported governments deploying new tools. I am amazed by what a committed group of people can accomplish, and I remain in awe of steadfast efforts by community health teams.

The growth of our open-source community has brought about some important changes in the role of Medic Mobile. Our 2020-2022 strategy focuses on three key areas. First, we are distributing our expertise to a community of local technical partners to support scale-ups and maintenance of digital health systems. Second, we are serving as stewards of the CHT open-source project and core framework; supporting the community and consistently delivering high-quality improvements to the software. And finally, through Medic Labs, we are advancing R&D with a long-term view in collaboration with innovative partners and scientific collaborators. COVID-19 has forced us to refocus and delivered new challenges. Scale-ups are even more urgent and capacity building must happen remotely. As we hire and onboard staff we are also welcoming highly-skilled contributors to the CHT community. The R&D efforts from Medic Labs remain as ambitious as ever, but now include more rapid development as an important constraint.
For years Medic Mobile’s motto has been that we are all health workers, and we believe that people should be supported when they are called to care for others. We did not realize this would become a reality for nearly everyone, everywhere due to a pandemic. This moment requires harnessing humanity’s tools, moving resources, and helping talented individuals contribute to the mission. Our collective project has never been more pressing.

In my own view, there are two big ideas underlying global health: that where you are born should not determine your chance of surviving and thriving, and that one person’s health is connected to the health and wellbeing of others. COVID-19’s swift spread around the world serves as a stark reminder of the latter. As for the former, it seems all too clear that the steep human toll of this pandemic will fall disproportionately on the most marginalized among us. It is my hope that in the scramble to address a disease that impacts all of us, we won’t lose sight of the incredibly important role that rights-based approaches to healthcare and health systems play in meeting the needs of the most vulnerable. We must move forward, with urgency, as a global community.
In 2019, our innovative product team released six significant updates of the Core Framework of the Community Health Toolkit. Key improvements were made for users and builders of CHT apps. It was another inspiring year for our team and partners as the product evolved into the Community Health Toolkit (CHT) to help provide care that is:

- Equitable: focused on those that need it most
- Patient-centered: respectful of, and responsive to, individual patient preferences, needs and values;
- and Proactive: not waiting until patients are sick to receive attention of their CHWs

Notable product improvements in 2019 included:

- Reference app for antenatal care: provides app builders an example for building CHT apps. It includes a foundation for forms related to pregnancy and delivery, flexible data fields, and even analytics. It can be deployed as-is or customized by a developer for your unique context.
- Configurable hierarchies: allows for better-tailored solutions for new deployments and opens up new configuration possibilities. For example, an administrator can configure any number of place levels, multiple person types, or unbalanced place trees.
- SMS aggregator integration: a new integration with Africa’s Talking makes it more efficient to scale project deployments using SMS in Côte d’Ivoire, Kenya, Malawi, Nigeria, Rwanda, South Africa, Tanzania, and Uganda.
- Interoperability with health facilities workflows: enables patient referral information to be sent to a clinic and treatment data to be returned, closing the loop between community and clinic-based health workers. The interoperability is made possible by a new configurable outbound push feature, along with the CHT’s API to receive data from other tools. This style of interoperability opens the doors for app builders to connect CHT apps with other digital platforms.
- Easier to build CHT apps: modernized the approach for building digital health apps making it easier to reuse code and build unit tests.
- Whitelabelling for custom branding: apps can now be easily branded with the title, icon, and logos of government and NGO partners.
- Management of outgoing messages: a new view for system administrators to manage SMS messages sent using the CHT app.
- Performance boost: users can expect faster application load times, faster syncing, faster application load times, and faster form load times.
This was a year of growth and increased use case adoption for Medic Mobile. By the end of 2019, 27,477 health workers were supported on the Community Health Toolkit, with over 4,000 new health workers supported. Our investment in the CHT as a product was clearly illustrated with over 9,000 health workers receiving improved products, which is over 3x the number from 2018.

Over the last five years, the average number of use cases per CHW has increased from 1.5 in 2015 to 3.5 in 2019, which reflects the end-to-end care provided by CHWs using the CHT in many areas of the world. This growth in CHW engagement and use cases supported by the CHT is also reflected in the total number of CHW actions, which was 11.7M in 2019.

The majority of CHW actions take place in our five priority use cases, which include ANC, PNC, Family Planning, iCCM, and Malnutrition. We have seen increased adoption across all of our priority use cases, with the majority of CHWs engaged in a combination of ANC, PNC, and iCCM. Our goal is to continuously learn from the monitoring data we collect on our priority workflows and we've highlighted some key learnings below.

**Health workers supported by our tools in 2019**

<table>
<thead>
<tr>
<th>Year</th>
<th>Network of health workers</th>
<th>New health workers supported</th>
<th>Health workers receiving improved products</th>
<th>Total number of health worker actions in 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>11,408</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>18,826</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>24,463</td>
<td>27,477</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>4,248</td>
<td></td>
<td>9,010</td>
<td>11.7M</td>
</tr>
</tbody>
</table>

**Percent of CHWs engaged in each use case in 2019**

- 94% Antenatal Care (ANC)
- 90% Postnatal Care (PNC)
- 61% Integrated Community Case Management
- 38% Malnutrition
- 26% Family Planning
- **3.5** Average number of use cases per CHW
In 2019, we saw slight reductions across our ANC use case impact metrics, with 207,992 pregnancy registrations compared to 238,195 the previous year. Similarly, we saw a slight reduction in facility deliveries captured by CHWs with 102,774 in 2019 compared to 110,594 in 2018. However, across our deployments, the reported facility based delivery rate increased slightly to 92% in 2019 compared to 91% in 2018.

The leading causes of child deaths act fast and speed of care is critical to saving lives. Over the course of the year, CHWs using our tools conducted 2,292,004 assessments and made 1,226,388 diagnoses, as well as 343,006 referrals to care. Most importantly, 83% of all assessments of sick children took place within 72 hours of symptom onset.

Across our priority use cases, we saw increased adoption of our postnatal care, family planning, and malnutrition workflows. Family planning, in particular, saw growth both in the number of CHWs using the workflow and in the number of women reached by those CHWs with 113,775 women counseled and 26,408 additional users of modern methods this year compared to 21,411 and 3,507 last year. We also observed increases in the number of children screened for and diagnosed with malnutrition, as well as reported recoveries, with 5,639 children recovering from malnutrition representing a five-fold increase from 2018.
<table>
<thead>
<tr>
<th></th>
<th>Postnatal Care</th>
<th>Family Planning</th>
<th>Malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>360,305</strong></td>
<td><strong>113,775</strong></td>
<td><strong>12,909</strong></td>
<td></td>
</tr>
<tr>
<td>PNC visits</td>
<td>Women counseled</td>
<td>Cases identified</td>
<td></td>
</tr>
<tr>
<td><strong>97%</strong></td>
<td><strong>26,408</strong></td>
<td><strong>5,639</strong></td>
<td></td>
</tr>
<tr>
<td>deliveries with first PNC visit within 48 hours</td>
<td>Additional users</td>
<td>Children recovered</td>
<td></td>
</tr>
</tbody>
</table>

The increased adoption of our priority use cases and utilization of our tools exemplifies all the hard work and contributions of the Medic Mobile team and the broader CHT community, who work to design, build, and deliver stable, appropriate and impactful tools to health workers.

We are grateful for the immense efforts of all our implementing partners around the world in equipping and supporting health workers with digital tools that improve care in their communities. Most importantly, health workers are at the center of our mission, and we are honored to support their life-saving work in the communities they serve around the globe.
We work in accompaniment with partners including NGOs, technical partners, and Ministries of Health to embed and scale our digital tools into existing health systems. In 2019, we equipped 4,248 new health workers while upgrading more than 9,000 health workers to new tools and workflows. Below, we highlight several strategic initiatives to illustrate the reach and focus of our work last year.

Supporting Ministry Partnerships at Scale

We are committed to helping governments create, own and sustain systems that are accountable to an individual and community’s vision for health and well-being. We partner with Ministries of Health to design, implement, embed and scale digital health tools in the national health system with a focus on government leadership, adoption, and ownership.

In 2019, we continued to work closely with the Ministry of Health and key partners across Kenya supporting nearly 5,000 community health workers. In addition to strengthening our existing partnership with the Ministry of Health in Siaya County, we also kicked off an exciting new initiative led by the Ministry of Health in Kenya, focused on Community Events Based Surveillance (CEBS). The goal of this work was to leverage mHealth tools to increase the speed of reporting community events, to reduce the time between the identification of credible community events and action is taken, and to improve access to real-time data to aid decision-making. The resulting SMS tool, named mDharura, is used to facilitate signal reporting of any events occurring at the community level.

Following a year of intensive design, prototyping, iteration, testing, and deployment planning, in 2019 our team kicked off a project with Partners in Health (PIH) in rural Malawi. We partnered with the PIH team in Neno, known locally as Abwenzi Pa Za Umoyo (APZU), to equip 228 CHWs with a mobile app built on the CHT Core Framework to effectively screen, treat, and refer patients for a range of conditions. Now, 228 CHWs in Neno district support integrated, home-based care across antenatal and postnatal care, as well as screening, referrals, and follow-ups for malnutrition, childhood illnesses, and a range of non-communicable diseases (NCDs) use cases for over 40,000 people using CHT. The mobile app also allows a group of 17 supervisors and ministry staff to monitor CHW work to target areas in need of support.

In Nepal, we continued to work alongside the Ministry of Health and Population (MoHP) and provincial and local governments to harness technology for community health systems strengthening. Our model has since been tested, improved, and scaled to 16 districts in the past 8 years.
In 2019, we scaled to three additional districts, Sunsari, Rasuwa, and Dadelhura equipping 866 additional Female Community Health Volunteers (FCHVs) with care coordination tools for maternal and newborn health. In 2019, we also conducted a post-training learning study in Pyuthan District with FCHVs to better understand the factors influencing the impact and effectiveness of our digital health program on the community health system. We also piloted our newly designed facility-level analytics dashboard in Pyuthan and Dadeldhura districts in Nepal.

As our programs in Kenya, Nepal and Malawi continue to scale, we are committed to providing high-quality support to our partners and FCHVs, while continuously improving our training and deployment processes.

Empowering our Partners through Capacity Building

As technical stewards of the Community Health Toolkit, we’re committed to helping partners deploy and use the CHT to its fullest potential, and our capacity building services help to create self-reliant design and technical teams within our partner organizations to achieve this goal. In 2019, our team continued to work with the Living Goods team to enhance their capability to design and develop their own workflows, mock-ups, and tools and to deploy apps built on the CHT. We also continued to partner with the D-Tree team in Zanzibar to support the Ministry of Health in deploying, managing, and maintaining a digital health platform to support Zanzibar’s national community health volunteer program.

Creating a Thriving Community of Practice

Open Source projects rely on the insights, contributions, and guidance of their community to thrive. In 2019, our team launched an online community forum to share knowledge with others across the global health community. The Forum allowed community members to ask questions, share learnings and best practices, and receive remote support from our technical team, and was visited by over 5,000 visitors each month.
We completed dozens of learning initiatives in 2019, ranging from two-week learning sprints to multi-year studies. Many of these projects involved analyzing trends in how people use the Community Health Toolkit across health systems, including for example systematically analyzing and improving global task completion rates, or improving the way that we define and monitor Universal Health Coverage. Many of these projects result in peer-reviewed publications; here are a few of the major projects we completed in 2019:

**Human-Centered Design for Global Health Equity.**

Where does human-centered design come from, and how might it matter for health equity? These questions emerged in the early years of our work at Medic, and have featured prominently in our approach ever since. More than five years in the making, this paper addresses these questions through an in-depth literature review, and by reflecting on our experiences accompanying health workers through over seventy digital health initiatives. In light of this material, we describe human-centered design as a flexible yet disciplined approach to innovation that prioritizes people's needs and concrete experiences in the design of complex systems. In addition to reflecting on Medic's design work over the last decade, this paper lays a foundation for our design research agenda in the years to come. Published in Information Technology for Development, we'd encourage you to [download the paper here](#).

**Including the Voice of Care Recipients in Community Health Feedback Loops in Rural Kenya.**

To date, there has been limited research that explores the design of mechanisms that enable care recipients to provide feedback regarding their satisfaction with the services they receive. Such feedback has the potential to increase the motivation of community health workers (CHWs), enhance training procedures, detect fraudulent behavior, and inform key performance indicators for health programs. In a study led by collaborators at Cornell Tech, we designed and deployed a USSD-based system that allows anyone who possesses a basic mobile phone to provide feedback regarding the health services and quality of care they received from a CHW or during a hospital visit. Our system was designed through iterative fieldwork in rural Kenya that engaged with multiple stakeholder groups, including care recipients, CHWs, and high-level decision makers. After designing and testing the system, we deployed it for seven weeks in Siaya, Kenya, collecting both quantitative system usage data and qualitative data from six focus groups with 42 participants. We discuss the broader factors impacting deployment, including the feasibility of USSD, actionability of feedback, scalability, and sustainability. Our findings suggest that USSD is a promising approach for enabling care recipients to submit feedback in a way that balances privacy, equity, and sustainability. Published in Computer Supported Cooperative Work, you can [download the paper here](#).
IAn RCT on hybrid human-automated interactive texting for VMMC follow up

Voluntary medical male circumcisions (MCs) are generally safe: the majority of men heal without complication. However, guidelines require multiple follow-up visits. In a study led by collaborators at the University of Washington and I-TECH, we tested a 2-way texting (2wT) intervention to reduce provider workload while safeguarding patient safety. This workflow enabled the program to deal in an automated way with the majority of people who heal without complication, while still making a nuanced human expert available for complex cases. In our Randomized Controlled Trial there were no serious complications – the intervention was safe, and we reduced provider workload by 85%. It was cheaper for patients and for the health system than in-person visits. 2wT was also highly acceptable to patients: over 93% of men responded to at least one daily text. The results of the RCT were published in the Journal of AIDS Research, you can download the paper here.

These studies and Medic’s wider research agenda would not be possible without the remarkable network of scientific collaborators who make the Community Health Toolkit an important part of their research. To continue to strengthen our ties with the scientific community, Medic’s Chief Research Officer Isaac Holeman joined the Department of Global Health at the University of Washington in mid-2019. We’re excited to continue building community at UW and at other institutions around the world in the years to come.
In 2019, we added twelve talented new team members to support design, development, delivery, monitoring, and management.

As we continue to sustainably scale our work, we continue to expand responsibly. While over 35% of our team works remotely, we are in the process of setting up a formal entity in Uganda and increasing our presence in Senegal.

We're inspired by the diversity and global presence of our team. We are based in 30 cities, across 13 countries, mainly in countries where we are delivering software for health workers. We are grateful for all of the new ideas, energy, and skills that our colleagues bring to our mission every year.
## Profit and Loss Statement

<table>
<thead>
<tr>
<th>Revenue (USD)</th>
<th>2019*</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundations, Corporate Grants</td>
<td>5,638,625</td>
<td>4,040,360</td>
</tr>
<tr>
<td>Contracts</td>
<td>1,574,822</td>
<td>1,501,870</td>
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<tr>
<td>Other Income</td>
<td>114,498</td>
<td>29,076</td>
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<tr>
<td>Contributions In-Kind</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Interest</td>
<td>36</td>
<td>811</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,327,981</strong></td>
<td><strong>5,572,117</strong></td>
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<table>
<thead>
<tr>
<th>Expenses</th>
<th>2019*</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Services</td>
<td>4,896,529</td>
<td>5,294,465</td>
</tr>
<tr>
<td>Management and General Support</td>
<td>844,447</td>
<td>453,009</td>
</tr>
<tr>
<td>Fundraising Support</td>
<td>82,797</td>
<td>126,063</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,823,773</strong></td>
<td><strong>5,873,537</strong></td>
</tr>
</tbody>
</table>

## Balance Sheet

<table>
<thead>
<tr>
<th>Assets</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Assets</td>
<td>3,293,870</td>
<td>1,716,732</td>
</tr>
<tr>
<td>Other Assets</td>
<td>49,848</td>
<td>91,013</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td><strong>3,343,718</strong></td>
<td><strong>1,807,745</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Liabilities</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liabilities</td>
<td>513,774</td>
<td>534,779</td>
</tr>
<tr>
<td><strong>Net Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without Donor Restrictions</td>
<td>305,067</td>
<td>776,010</td>
</tr>
<tr>
<td>With Donor Restrictions</td>
<td>3,135,011</td>
<td>496,956</td>
</tr>
<tr>
<td><strong>Total Net Assets</strong></td>
<td><strong>2,829,944</strong></td>
<td><strong>1,272,966</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Liabilities and Net Assets</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3,343,718</strong></td>
<td><strong>1,807,745</strong></td>
</tr>
</tbody>
</table>
IMedic Mobile is a nonprofit organization and US 501(c)(3) public charity. Our nonprofit status allows us to stay focused on serving health workers and advancing global health equity, building and delivering software tools in the hardest-to-reach communities.

We are immensely grateful to the funders, donors, volunteers, advisors, and individuals who support this work and mission. Grants and donations to Medic Mobile provide critical funding for product development alongside health workers, research and rapid learning, and testing of new delivery strategies.

To our implementation partners and the health workers we serve: we are honored to do this work alongside all of you. On behalf of all of us here at Medic Mobile, thank you!