

2020 ANNUAL REPORT

Maya Health Alliance

Wuqu' Kawoq





We're especially grateful for Dr. Peter, who has been caring for our daughter for more than six years, and for the nurses who have helped her live independently. They have helped from the point where she could not walk on her own.

– Daniel De Leon

FROM OUR EXECUTIVE DIRECTOR

Dear Friends,

There's no way to fully convey the depth of the challenges we faced in 2020. The Covid-19 pandemic, along with hurricanes Eta and Iota, created major disruptions to daily life for most Guatemalans. Public transportation stopped; jobs and food resources quickly became scarce; the public health system faltered; and confusion and mistrust took hold in much of the country.

As these events unfolded, our team quickly regrouped and reoriented. Because so many of our staff live in the communities we serve, we were able to rapidly assess and respond, providing food and basic health assistance to those in need, always staying connected to our patients. We also began a massive telemedicine and communication effort to provide care and reliable information about Covid-19 in Mayan languages.

As we started these efforts, others looked to us for leadership. In the early days of the pandemic, we convened more than 100 nonprofits to share knowledge and coordinate resources. Our experiences in this tremendously difficult year demonstrated that what we are doing is working — that the community-based approach to health that we've adopted and advocated for is the path forward for a healthier and stronger Guatemala.

Everyone on our team and their families, along with millions of people around the world, have been deeply impacted by Covid. Our hearts are broken for those who have lost mothers, fathers, grandparents, and friends along with livelihoods, housing, and good health.

I'm incredibly proud to lead this dedicated team of professionals who have shown such resilience and strength in impossible situations this year. And I'm deeply grateful to our supporters for partnering with us each step of the way to make this work possible.

With gratitude and best wishes,



Anne Kraemer



A HARROWING YEAR

The first coronavirus case was confirmed in Guatemala in March 2020 in a man returning from Europe. The government responded swiftly with closures, curfews, public transportation shut-downs, and a new facility to isolate people with the virus. While the measures were intended to keep people safe, they also decimated the economy and, for many, were terrifying reminders of the harsh crackdowns during the country's decades-long civil war. In Guatemala as in much of the world, Covid cases continued to surge at the close of 2020, with hundreds of people being diagnosed and dozens dying every day.

As the pandemic began to emerge across the world, we were able to procure protective equipment and develop protocols to keep our staff and patients safe. We also provided PPE to hundreds of other health care workers to help keep community health posts staffed. We convened a group of more than 180 people from 100 organizations to share information, training, and resources and mobilize a high-impact response, including health information in seven languages distributed by radio, podcasts, and video messaging. We dramatically increased our use of telemedicine to reach homebound patients and created the Conectados Guatevida program to respond to those with Covid questions or diagnoses.

We are grateful to report that our staff have remained largely healthy. Their dedication and tenacity have made it possible for us to stay connected and support our 20,000 patients with home visits, community care, and telemedicine.

OUR COVID RESPONSE

Leveraging our core strengths, we built a powerful, comprehensive response to the pandemic.



320

rural health care workers equipped with PPE, allowing them to continue caring for patients

1,000+

food baskets delivered, each serving a family of five for a month



2M+

People reached daily with COVID videos and radio spots in Kachiquel, K'iche, and Tzotujil



OUR WORK

We transform the health of communities in Guatemala by creating high quality solutions to close critical gaps in care. Community health care providers work collaboratively with patients in Mayan languages and communities to develop practical, sustainable approaches to break down barriers to health and wellbeing.

We are a global leader in research and treatment models for chronic diseases, including child malnutrition, diabetes, heart disease, and cancer.

Health Services

Primary Care

Women's Health

Maternal Health

Early Childhood

Chronic & Complex Care

2020 IMPACT

In the initial months after Covid was first reported in Guatemala on March 13, we paused or restricted some activities, such as research and clinic visits, to protect the safety of our patients and staff and observe government restrictions on travel. We quickly developed strategies to safely operate in the new environment, including enhanced sanitation and social distancing measures and greater use of telemedicine. Thanks to the creativity and perseverance of our staff, we were able to fully restore services in all of our program areas by September.

Here are just a few of the ways we made progress toward quality health care for all in 2020.

7,334 patients 22,990+ visits

including:



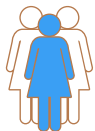
NUTRITION

1,003 patients
8,425 visits



PRIMARY CARE

4,500 patients
7,553 visits



WOMEN'S HEALTH

755 patients
2,529 visits



DIABETES

130 patients
1,715 visits



MATERNAL HEALTH

805 patients
2,189 visits



COMPLEX CARE

25 patients
400 visits

"We work in way that we can give our patients the medical attention they need and give them the confidence that they need. More than anything, we are giving our patients our best care so they can feel safe with us."

- Reyna Tumax, Nurse, Women's Health

WHERE WE WORK

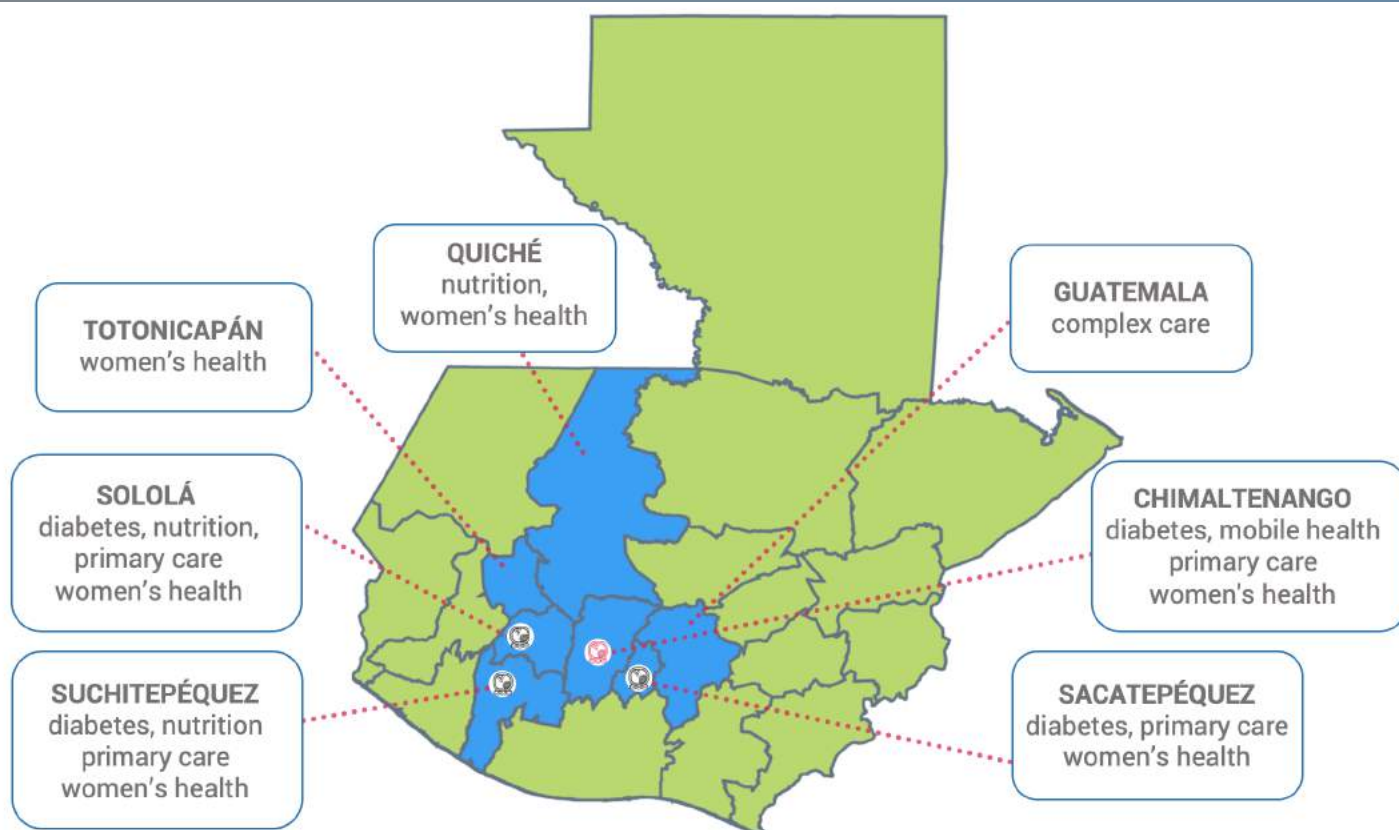
Guatemala is home to some of the poorest communities in the Western Hemisphere. It has one of the greatest income inequalities in the world. The public health system is vastly under resourced.

Most health care is delivered in Spanish despite the fact that half of the population speaks a Mayan language. These barriers, along with longstanding discrimination, prevent many indigenous people in rural areas from accessing basic health services.

Health outcomes reflect these gaps:

- As many as **80% of children in rural communities suffer from malnutrition.**
- Guatemala's overall maternal mortality rate is **88/100,000**, but rates **among indigenous women are twice as high.**
- The rate of **type 2 diabetes and pre-diabetes among indigenous people is 25% - more than double** the national rate.

We're working in seven states in Guatemala to change these realities.



HEADQUARTERS & CLINIC
Tecpán, Chimaltenango



STATIONARY CLINICS
Socorro, San Pablo Jocopilas, Suchitepéquez; San
Andrés Semetabaj, Sololá; Santiago, Sacatepéquez

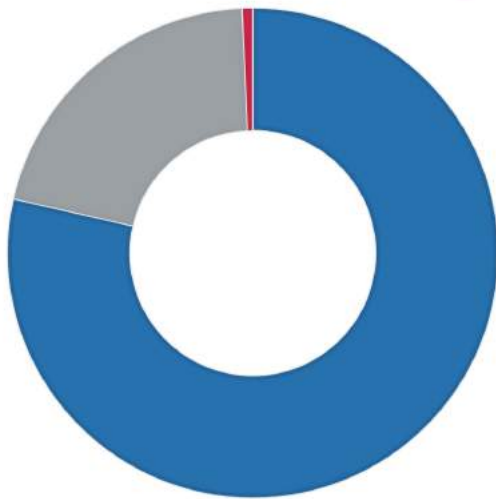


We believe that everyone – no matter where they were born or what language they speak – should have access to high quality health care.

2020 FINANCIALS

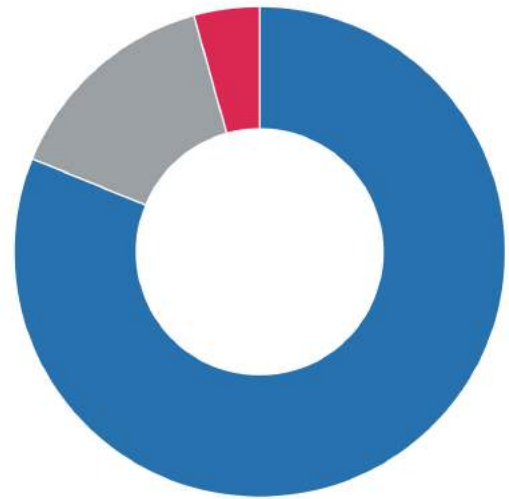
2020 REVENUE \$1.51 M

■ Direct Contributions (78%) ■ Grants (21%) ■ Other (1%)



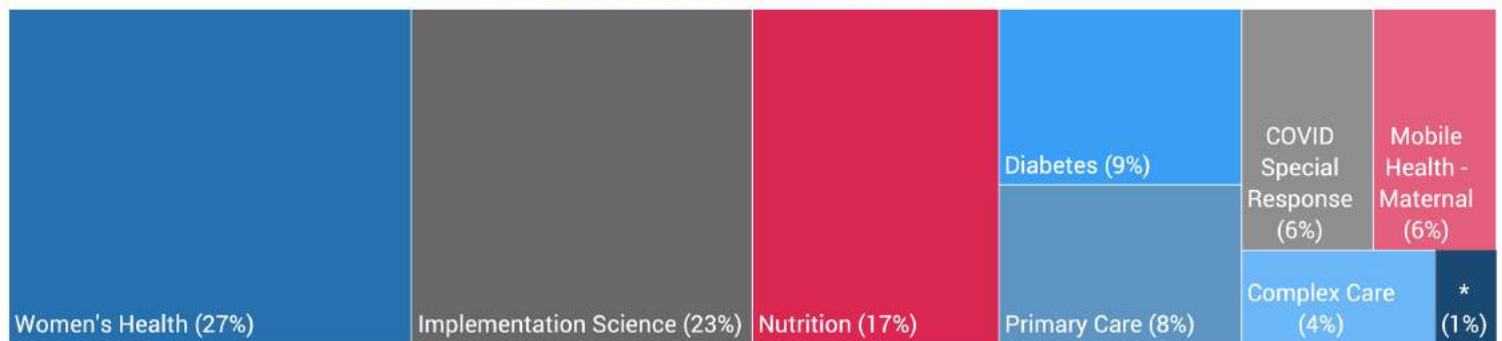
2020 EXPENSES \$1.15 M

■ Program Expenses (81%) ■ General & Admin (15%) ■ Fundraising (4%)



* Note: some 2020 expenditures were delayed due to Covid-19 restrictions.

PROGRAM EXPENSES: \$940,586



- Other: Volunteers, Kaqchikel School, Glucosalud, etc.(1%)

OUR MODEL

We partner with patients and communities to create lasting, practical, culturally-relevant, high-quality solutions to prevent avoidable illness & death and promote wellbeing for all Guatemalans.



CONTEXT

centering language, culture & community, collaborating for maximum impact



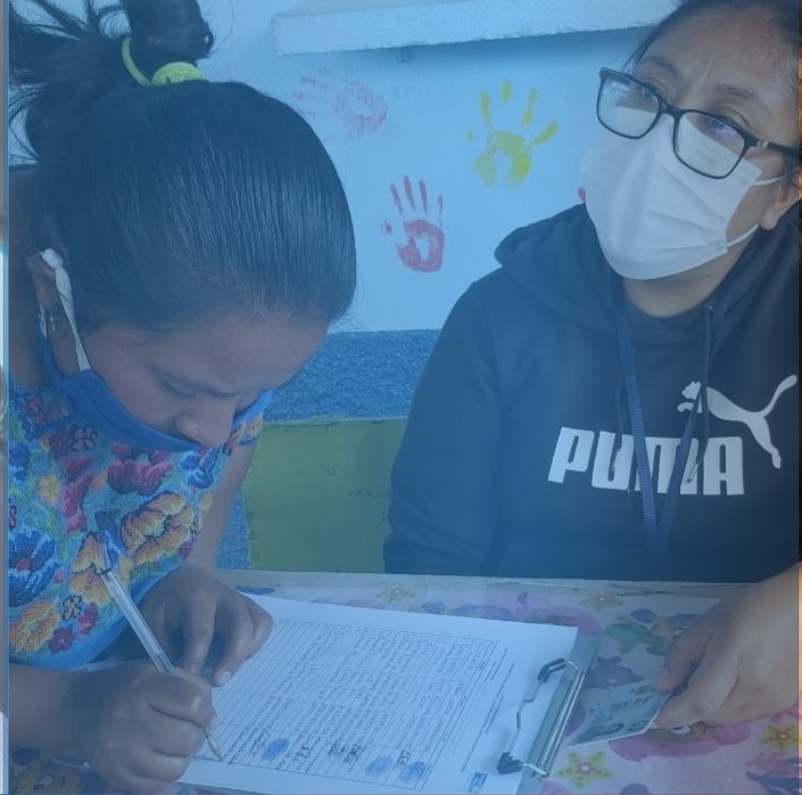
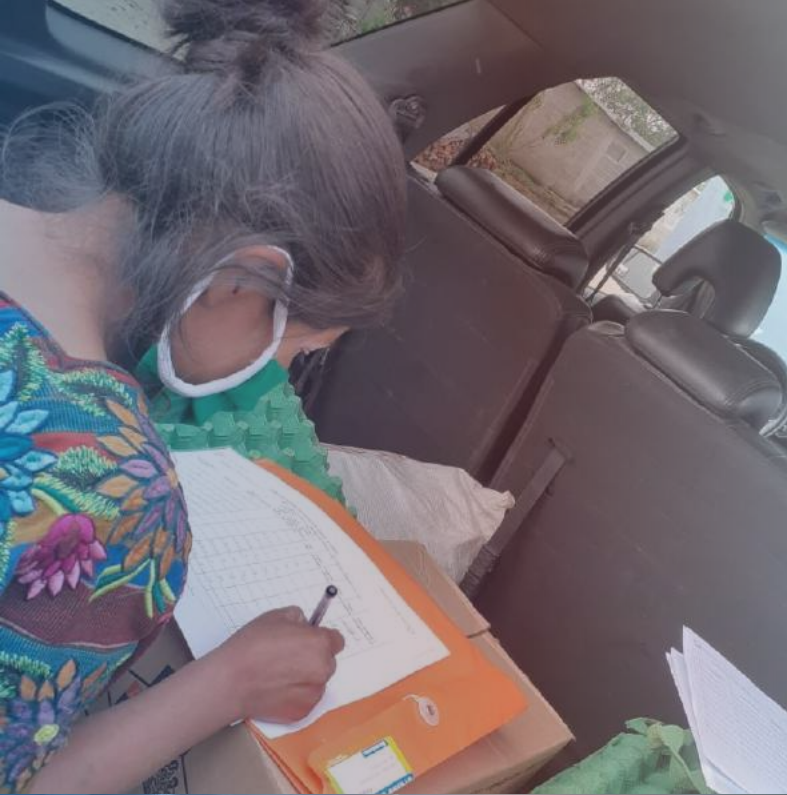
QUALITY

measuring, studying, discovering, sharing & scaling best practices



SUSTAINABILITY

building capacity, investing in women, advocating for systems change



OUR TEAM

94% Guatemalan,
84% Indigenous Maya, and
90% Women

We are a diverse team of physicians, nurses, anthropologists, linguists, teachers, nutritionists, engineers, public health practitioners, lawyers, designers, accountants, entrepreneurs, and community health workers. We are united by our dedication to improving health and wellbeing in Guatemala.

BOARD OF DIRECTORS

ANNE KRAEMER

Executive Director

Anthropologist
Antigua, Guatemala



PETER ROHLOFF

Medical Director

Physician
Antigua, Guatemala
Boston, MA



BRENT HENDERSON

Board President

Assistant Professor
Gainesville, FL



KARA ANDRADE

Board Member

PhD Candidate
American University



PATRICK JENNINGS

Secretary

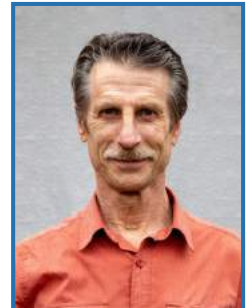
Health Care Consultant
San Francisco, CA



CHRIS DAVIES

Board Member

Property Manager
San Francisco, CA



TOM MELVIN

Treasurer

Financial Analyst
New York, NY



MARK DOERR

Board Member

Attorney
New York, NY



RUSSELL ROHLOFF

Financial Controller

Engineer
Bethel, VT



CLAIRE MELVIN

Board Member

Attorney
New York, NY





PARTNERS

Maximizing impact through collaboration
Our rich network of partnerships is key to our success!





I want to commend Maya Health Alliance for its flexible healthcare delivery model and great success in continuing to serve its patients despite the unique Covid-19 constraints.

- Patrick Jennings, Board Secretary



WOMEN'S HEALTH

For Every Stage of Life

We provide medical care for thousands of women each year, with a strong focus on family planning and other primary care needs. We are especially skilled in the diagnosis and treatment of cervical cancer, a leading cause of death in Guatemala. In 2020 we began expanding our cervical cancer screening work to include the use of HPV virus-based methods to enable early detection and treatment and prevent deaths.

The Covid pandemic posed particular challenges for many women in rural Guatemala. Incidents of domestic abuse rose as families faced new hardships and were largely isolated in their homes. The suspension of public transportation and other disruptions in the public health system made it more difficult for women to access family planning services. Throughout the pandemic, we were able to stay connected and help our women patients navigate these challenges.

Doña Carmen: Taking Control of Her Family's Future

At 34 years, Doña Carmen had been pregnant nine times and had seven surviving children. She also had a medical condition that she could not afford to treat that caused daily seizures. While she treasured her children, she felt it would be wise to space out or even avoid future pregnancies due to her health difficulties. But her husband believed that they should have as many children as God gave them. He also claimed that family planning methods caused disease.



During a visit to the local health post in her rural community outside Tecpán to vaccinate her four-month-old baby, Carmen met some nurses from Wuqu' Kawoq. The nurses were providing education and testing for HPV (human papillomavirus), the virus that can cause cervical cancer. Carmen decided to be tested and in the process, she confided her concerns around family planning and her husband's resistance. The nurses provided education around safe contraceptive options and assured Carmen that she was entitled to make decisions about her own body and health.

With the nurses' help, Carmen selected a family planning method and arranged for follow up care. She is now at peace knowing that she is able to decide if and when she is in good enough health to add more children to her family.



MATERNAL MOBILE HEALTH

Advocating for Mothers, Each Step of the Journey

Our groundbreaking Maternal Mobile Health program equips traditional Maya midwives with a smartphone application that helps them identify and seek treatment for problems early on, preventing avoidable deaths and complications at birth. In the Tecpán region where we piloted our program, childbirth-related deaths among the hundreds of mothers we serve have dropped from eight in 2016, to four in 2017, to zero in 2018, 2019, and one in 2020.

Despite the additional obstacles that Covid presented, from transportation shut-downs to limited services at hospitals, the midwives and navigators behind our Maternal Mobile Health program continued to provide quality care for mothers in rural Guatemala throughout the pandemic.

Doña Rosa: Braving Barriers

Maternal Mobile Health client Doña Rosa, 42, experienced high blood pressure, blurred vision, and headaches during her twelfth pregnancy. Late into the pregnancy, her midwife, who had been monitoring her symptoms using our mobile health app, noted that her condition was worsening and urged her to go to the hospital to check for preeclampsia, a condition that can cause serious problems for both the mother and baby.

Worried that she would be stopped at one of the many Covid-19 travel barricades, Doña Rosa was reluctant to make the trip. Her husband also discouraged her from undertaking the journey, observing that she seemed to be fine. Concerned for the health of Doña Rosa and her baby, the navigator offered to accompany her to the hospital. She assured Doña Rosa that they would do whatever it takes to navigate the many barriers they would encounter traveling across four communities.



After a long but mercifully uneventful trip to the hospital, Doña Rosa delivered her child through a cesarean section due to complications from preeclampsia. Throughout the process, the navigator helped Doña Rosa, who speaks Kaqchikel, communicate with the Spanish-speaking doctors. When the doctors pressed Doña Rosa to undergo sterilization, the navigator advocated for her patient, who wanted to decline.

Doña Rosa is now home with her baby and doing well; her blood pressure is under control. From time to time, she calls the Mobile Health Program to express her thanks. She tells them she saw death flash before her, but now she is doing well.



EARLY CHILDHOOD DEVELOPMENT

Investing in Our Future

Working with infants, young children, and their families is our largest program area. We have developed and tested ground-breaking approaches to improve children's diet in collaboration with their caregivers, providing each family with education, food supplementation, medical care, and monitoring for at least six months. We integrate our programs with interventions to foster early development, such as the World Health Organization / UNICEF's Care for Child Development package.

Even before Covid, Guatemala had one of the highest rates of childhood stunting in the world. These rates spiked during the pandemic. Government precautions, including public transportation shutdowns, business closures, and curfews, cut off income sources for many families. Hurricane season took another toll on food and job sources. In response, we redoubled our efforts to fight malnutrition, delivering food and supplies to more than 1,000 families.

Tomás: Thriving in Tough Times

Throughout the pandemic, we continued to provide guidance and care to the families enrolled in our Family-Centered Nutrition program to maintain the gains we are making against malnutrition in Guatemala's most vulnerable communities. One example is young Tomás, who once was struggling to survive and now is thriving.



When Tomás was two months old, his mother was having trouble producing breast milk. He was agitated during feedings, and he was severely underweight. Concerned, his parents reached out to Maya Health | Wuqu' Kawoq, which had recently begun working in their community of Caserío Sucún in San Andrés Semetabaj, Sololá.

We sent a community health worker who consulted with the family to develop a plan to improve Tomás' nutrition and health. The health worker advised the baby's mother to drink plenty of water and to do her best to eat a diverse, healthy diet with food available in her community. She suggested spacing out feedings so that there was ample breast milk and offered guidance on positions to help the feedings go more smoothly. The Wuqu' Kawoq team also provided formula and nutritional supplements for Tomás, along with regular monitoring and emotional support for his mother.

After nine months of working with our team, breastfeeding improved, Tomás reached a normal weight, and his mother was supplementing his feedings with mashed fruits, vegetables, and beans. "Now he is heavy to hold in my arms," she laughed.



CHRONIC DISEASE CARE

Committing Long Term

Our Chronic Disease Program integrates quality clinical care, health education, language, and culture. By working over the long term with patients and their families and investing in the skills of our nurses and community health workers, we are able to achieve excellent results managing adult and child chronic diseases including diabetes, heart disease, cancer, kidney failure, epilepsy, and rheumatoid arthritis.

During the pandemic, we continued home visits and expanded telemedicine to help keep in touch with our patients with chronic conditions. We also stepped up care for new patients with chronic conditions who were shut out when public health systems were overwhelmed by Covid cases. Among the challenges these patients faced was accessing medicines when borders and airports were closed. We worked with them to ensure the necessary medicines were available in their communities.

Doña Leona: Learning to Live with Diabetes

After her daughter-in-law died during childbirth, Doña Leona's grief was compounded by own health problems. A Kaqchikel woman then in her 50s, Doña Leona began losing weight, was always thirsty, had a constant headache, and had difficulty finding the energy to care for her new granddaughter and help her family grow and sell crops.

She finally consulted with a doctor, who diagnosed her with diabetes and advised her to change her diet and take medication to control her blood sugar. But over the next couple years, she didn't see much improvement. Eventually, a friend connected her with Wuqu' Kawoq, which provides home visits in her community in Santiago, Sacatepéquez. Our team offered education and medications to help control her diabetes, but Doña Leona's blood sugar levels remained high, so our care team suggested that she start using insulin.



Doña Leona was daunted by the prospect of daily injections and uncertain how she would keep the insulin since she did not have a refrigerator. But working with her care team, she made a plan. Every day, she gets ice and places it in a container in the coldest place in her house to keep the medication cool. She has learned to give herself injections with her daughter's help. She continues to eat a healthy diet, and has returned to working in the fields six days a week, getting the exercise she needs to burn glucose and improve her blood sugar levels.

Doña Leona, now 64, with six children and eight grandchildren, understands that while her diabetes will never be cured, she can successfully manage her condition with the help of her family and Wuqu' Kawoq.

2020 PUBLICATIONS

Webb M, Cuj M. Guatemala's Public Health Messaging in Mayan Languages during the COVID-19 Pandemic. *J Indigenous Social Development* 2020; 9(3):102-109.

Miller AC, Tuiz E, Shaw L, Flood D, Garcia P, Dhaenens E, Thomson D, Barnoya J, Mendoza Montano C, Rohloff P. Population estimates of Glomerular Filtration Rate and Risk Factors for Chronic Kidney Disease in Guatemala. *Kidney International Reports*. December 31, 2020. DOI:<https://doi.org/10.1016/j.ekir.2020.12.015>

Flood D, Hane J, Dunn M, Brown SJ, Wagenaar BH, Rogers EA, Heisler M, Rohloff P, Chopra V. Health system interventions for adults with type 2 diabetes in low- and middle-income countries: A systematic review and meta-analysis. *PLoS Med* 2020 Nov 12;17(11):e1003434

Garcia P, Mendoza C, Barnoya J, Monzon J, Miller AC, Aguilar-González A, Boj J, Cifuentes A, Dávila P, Flood D, Guzmán-Quilo C, Hernandez A, Lou-Meda R, Palacios E, Sánchez-Polo V, Sosa R, Rohloff P. CKD care and research in Guatemala: Overview and meeting report. *Kidney Int Rep* 2020 Jul 2; 5(9):1567-1575.

Nandi M, Kurschner S, Wilcox K, Flood D, Montano CM, Barnoya J, Rohloff P, Chary A. Perceptions of chronic kidney disease among at-risk adults in rural Guatemala. *Glob Public Health* 2020 Nov 8;1-16.

Valderrama Cuadros CE, Katebi N, Marzbanrad F, Rohloff P, Clifford GD. A review of fetal cardiac monitoring, with a focus on low- and middle-income countries. *Physiol Meas* 2020 Oct 26. doi.org/10.1088/1361-6579/abc4c7

Webb MF, Martinez B, Rodas P, Gonzalez A, Rohloff P, del Pilar Grazioso M. Language Interpretation in the Administration of Bayley Scales of Infant Development III in an Indigenous Population in Guatemala. *WAIMH Perspectives in Infant Mental Health*. 2020. Epub 15 May 2020.

Alajajian S, Guzmán-Abril AP, Brewer J, Rohloff P. Patrones alimentarios y agrícolas de hogares con niños desnutridos en dos comunidades indígenas con distinto nivel socioeconómico en Guatemala. *Estudios Sociales* 2020; 30:55

Garcia A, Nandi M, Mux S, Chary A, Austad K. Contraception during COVID-19: experiences from rural, indigenous communities in Guatemala. *Med Anthropol Quarterly*, June 19, 2020.

Zhang D, Advani S, Waller J, Cupertino AP, Hurtado-de-Mendoza A, Chicaiza A, Rohloff PJ, Akinyemiju TF, Gharzouzi E, Huchko MJ, Barnoya J, Braithwaite D. Mobile Technologies and Cervical Cancer Screening in Low- and Middle-Income Countries: A Systematic Review. *JCO Glob Oncol*. 2020 Apr;6:617-627. doi: 10.1200/JGO.19.00201.

Valderrama CE, Marzbanrad F, Juarez M, Hall-Clifford R, Rohloff P, Clifford GD. Estimating birth weight from observed postnatal weights in a Guatemalan highland community. *Physiol Meas*. 2020 Mar 6;41(2):025008. doi: 10.1088/1361-6579/ab7350.

Flood D, Wilcox K, Ferro AA, Mendoza Montano C, Barnoya J, Garcia P, Lou-Meda R, Rohloff P, Chary A. Challenges in the provision of kidney care at the largest public nephrology center in Guatemala: a qualitative study with health professionals. *BMC Nephrol*. 2020 Feb 28;21(1):71. doi: 10.1186/s12882-020-01732-w.

Nandi M, Moore J, Colom M, Quezada ADRG, Chary A, Austad K. Insights Into Provider Bias in Family Planning from a Novel Shared Decision Making Based Counseling Initiative in Rural, Indigenous Guatemala. *Glob Health Sci Pract*. 2020 Mar 31;8(1):10-17. doi: 10.9745/GHSP-D-19-00377.



