Malagasy members of the Pivot Board join key personnel for a tour of the Ifanadiana District Hospital.

QUARTERLY IMPACT REPORT

July 1 - September 30, 2021

Dear Pivot community,

As one of Pivot's co-founders and Chair of the Board, I am excited to be writing the introduction to the Quarterly Impact Report for the first time, as this past quarter was marked by significant progress on many fronts. With the Ministry of Public Health, Pivot directly supported nearly 55,000 (non-COVID) patient visits as we continued to do our best to ensure those we serve could receive dignified care on a daily basis. Additionally, our COVID response included the procurement of PPE for all of the country's 40,000 community health workers and vaccination of almost all of our staff. Meanwhile, Pivot partnered with the National Institute of Statistics to gather our fourth set of longitudinal cohort data, including the collection of dried blood spot (DBS) samples for the first time. The DBS data will allow us to produce the first representative sample of COVID seroprevalence in Madagascar, and create one of the most granular representative samples for a remote area in Africa. And all of this was accomplished while meeting both our fundraising and budget targets for the year.

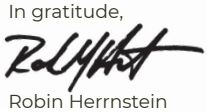
In September, our five Malagasy board members (including three Pivot staff alumni, a senior physician-scientist, and one of our founding board members) made a week-long trip to Ifanadiana with their families to engage with Pivot's work first-hand. Their site visit – complete with everything from visits to the hospital and community health posts to team-building lunches with the staff – provided them with the context and relationships to deepen their leadership and connection to the work. With this group of strong Malagasy board members in place, we now have the in-country supervision for Malagasy leadership in the near future.

Immediately after hosting this board visit, our Madagascar-based teams were faced with building Pivot's FY22 budget during a time where COVID restrictions were still limiting daily contact. Not only did the Senior Management Team (SMT) lead a massive annual planning and budgeting process from start to finish, but they did so using the best costing measures and timeline estimates we have ever had thanks to the wealth of data and research made available by our Science and M&E teams.

This fall, those 10 SMT leaders – 9 of them Malagasy, 7 of them women, and all based full-time in Madagascar – will enroll together in a 6-month virtual executive management course at the University of Global Health Equity in Rwanda to further their capacity to govern an expanding organization with imminent national influence. After completing the course, they will travel as a group to Rwanda to exchange knowledge with their peers first-hand. For many of them, this will be the first chance to meet fellow global health professionals working in counterpart roles at other organizations, and to observe another country's public health system in action.

With the recent partial reopening of Madagascar's borders, I have begun to dream of visiting Ifanadiana District in person again soon. After two years without a trip to Madagascar, I am eager to see how the organization has evolved on the ground. I look forward to seeing the newly-renovated health centers, visiting the new RT-PCR lab, welcoming new staff and congratulating others on promotions, and hearing new ideas and challenges first-hand. Most importantly, I look forward to thanking each and every staff member face-to-face for their continued dedication to our mission. With their leadership, I am more confident than ever that we are on the right path toward building an evidence-based model for universal health coverage in Madagascar.

In gratitude,



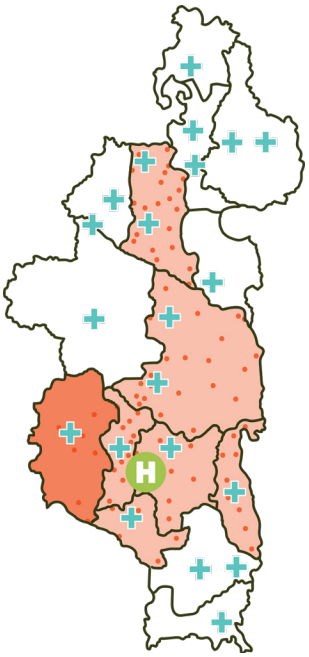
Robin Herrnstein
Co-Founder & Board Chair

IFANADIANA DISTRICT

In partnership with Madagascar's Ministry of Public Health, we are transforming Ifanadiana District's public health system into an evidence-based model for universal health coverage that can be sustained, replicated, and scaled.

Pivot's current support to the health system at each level of care:

- District referral hospital
- Primary care health centers
  15 receiving Pivot support
- Community health
  175 community health workers (CHWs)
- Proactive community health
  Including case-finding and household-level care
- Community health sites
  81 structures where CHWs receive patients



Total District Population: 187,571

- **Hospital catchment:** 187,571
- **Health center catchment:** 157,197
- **Community health catchment:** 82,224

– which includes –

- **Proactive care catchment:** 12,287

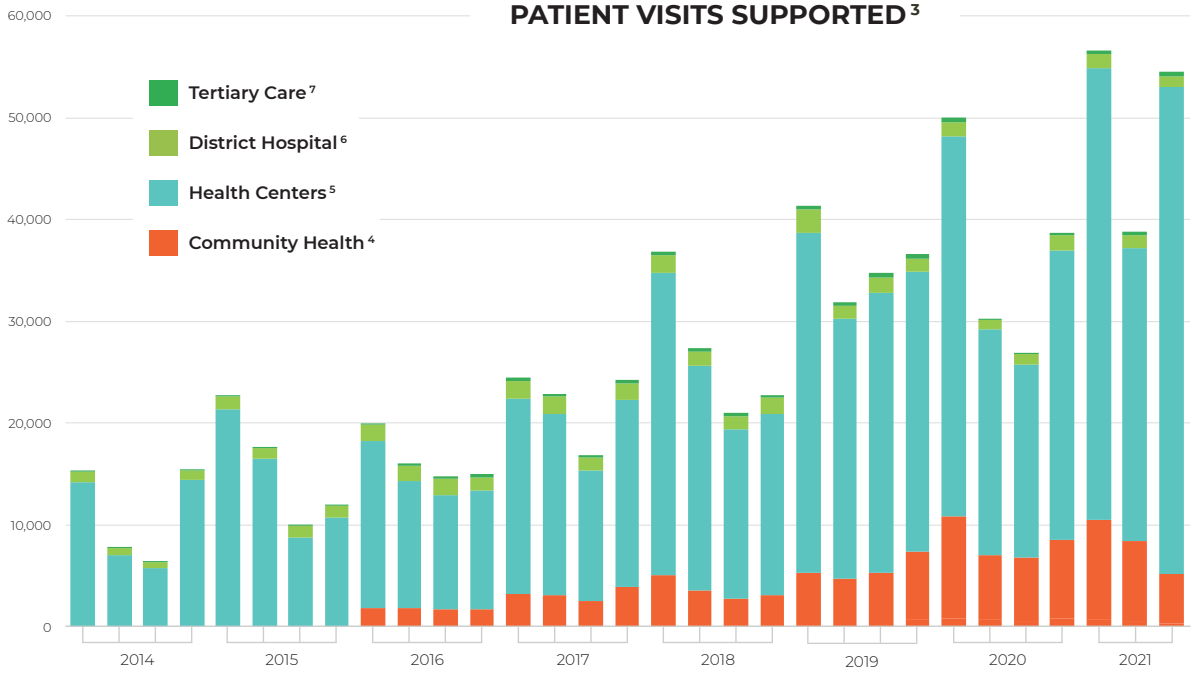
Baseline Statistics (2014):

- **1 in 7** under-5 mortality
- **1 in 14** maternal mortality
- **71%** of the population lives >5km walk from nearest health facility
- **49%** of the population lives >10km walk from nearest health facility

HIGHLIGHTS & CHALLENGES

- **Formally launched our UHC model throughout Ifanadiana District**, including removal of user fees for the full district population and authorization for continuing improvements to staffing and infrastructure in remote health centers.
- **Received international shipments comprising over 2 million pieces of PPE for the country's 40,000 community health workers (CHWs)** as part of a collaboration with partners at CHIC and CAF-Africa, to be distributed over the course of the coming months, marking Pivot's first national touch point will all the CHWs in Madagascar.
- **Gathered our fourth set of longitudinal cohort data** in partnership with the National Institute of Statistics. For the first time, this included the collection of dried blood spot samples, which will allow us to produce the first representative dataset of COVID seroprevalence in Madagascar.
- **Welcomed our 5 Malagasy board members to Ifanadiana District for the first time as a group**; joined by their families, they participated in an immersive 3-day site visit to observe Pivot's work in action at all levels of care and deepen their relationships with staff on the ground.
- Referral team **formalized the "human ambulance" initiative**, designed to incorporate traditional means of patient transport into the public health system by compensating community members for carrying patients over terrain impassable by car. *(See patient spotlight to learn more!)*
- **Launched "community dialogue" sessions with the aim of collecting direct community feedback to improve healthcare services.** First wave of discussions focused on maternal and reproductive health, with feedback already being used to improve the program. *(See clinical spotlight to learn more!)*
- Following a mass screening campaign revealing high rates of malnutrition among children under five in Marotoko and Androrangavola, **extended the malnutrition program, nutritional support, and psycho-social activities to these two additional communes.**
- **Participated in showcase day for Madagascar's Population, Health & Environment Network**, which was devoted to identifying relevant local issues and discussing how to apply a collaborative approach to address them.
- Following the detection of polio cases in three localities in Madagascar, **supported the MOPH's polio vaccination campaign with the goal of maximizing population immunity**, administering two doses to those not yet vaccinated.
- As new government officials come into office, **delayed authorization for the expansion of enhanced community health resulted in community-level utilization rates being far below targets**, which had been set with the assumption that activities would already be underway in at least one additional commune this quarter.
- **Established and began dispatch of field support teams** who – rather than being stationed in fixed positions at specific facilities – are now responsible for supporting the MOPH personnel at the district's 15 primary healthcare facilities on a rotating basis.
- **Carried out two waves of cervical and breast cancer screenings** at health centers in collaboration with local partner organization *Akbaraly La Vita per Te*.
- **Donated a portable ultrasound machine** to the district health office for use in the remote health center of Ambohimanga du Sud; hosted a one-day training session for midwives and other health workers to learn or strengthen related skills.

PATIENT VISITS SUPPORTED [3]



THIS QUARTER (JUL-SEP '21)
54,563

ALL-TIME (SINCE 2014)
810,006

Community Health

VISITS (CHILDREN UNDER-5)

5,219
(Target: 6,761)
77% of target achieved

PER CAPITA UTILIZATION [9]

1.4 visits
per child under 5 *(annualized)*

Community Health Outcomes in Proactive Care Pilot Commune vs. Non-Pilot Communes

	Proactive Care Pilot	Non-Proactive Communes
Percent of Households Visited	82%	0%
Per Capita Utilization Rate	1.3	1.4
CHW Adherence to Protocol	95%	90%
CHW Supervision Rate	71%	78%

Health Centers

EXTERNAL CONSULTATIONS [10] (ALL AGES)

47,797
(Target: 41,565)
115% of target achieved

PER CAPITA UTILIZATION [9]

1.0 visits
per person *(annualized)*

District Hospital

VISITS (ALL AGES)

3,691
(Target: 2,100)
176% of target achieved

HOSPITALIZATIONS	BED OCCUPANCY [11]
590 (Target: 594)	49% (Target: 58%)

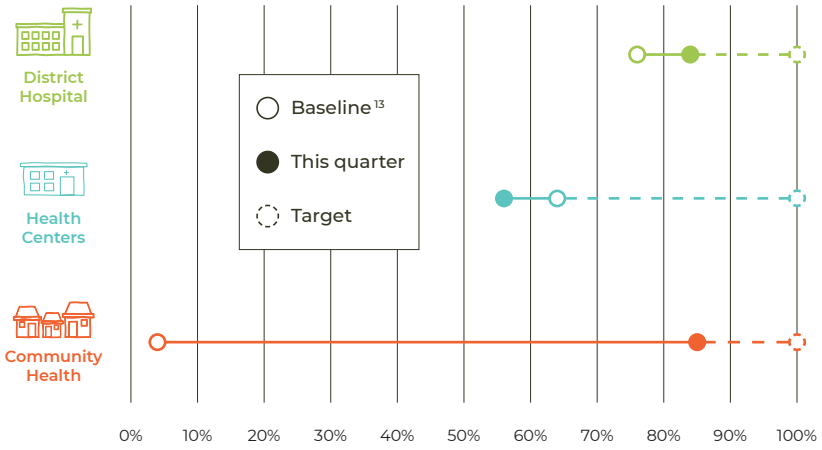
CLINICAL SPOTLIGHT: COMMUNITY DIALOGUES

To amplify the voices of those most impacted by the issues Pivot exists to address, the clinical team launched a new initiative this quarter called *dialogues communautaires*. This newly-formalized process of collecting community feedback involves coordination with local village leaders, who call upon members of their communities to gather with Pivot field teams. The aim is to gather honest, critical feedback about how the government health system's services, supported by Pivot, can be improved to better meet the needs of the population.

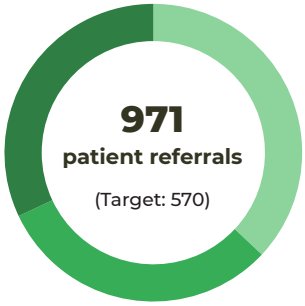
The inaugural series of community dialogue sessions were designed by members of Pivot's Maternal & Reproductive Health and Sensitization (awareness-raising) teams, in response to the facility-based delivery rates at some of the district's health centers; while some see consistently strong rates of women accessing labor and delivery services, others have experienced decreasing rates over time, despite various efforts. By going straight to the source – new and/or expectant mothers – our teams have been presented with a number of potential solutions to improve the rate of safe, accompanied deliveries at Pivot-supported facilities. **In turn, the community's input is already serving as transformative data to support adapting our approach at the programmatic level.**

As an initial example from this quarter, our teams have revised the contents of the "mother & child kits" that are distributed to moms who've just given birth at a health facility; now, in addition to the basic supplies they previously included, kits now include an expanded selection of health and hygiene items to support the wellbeing of every mother and child in their initial days postpartum. The feedback has also led to a new collaboration with traditional birth attendants, known as *matrones*, playing an active role in encouraging facility-based deliveries by accompanying women to their local health center ahead of labor. The result has been a quadrupling in the number of accompanied, facility-based deliveries where the initiative is underway.

AVAILABILITY OF ESSENTIAL MEDS[12]



CONTINUUM OF CARE



32% transferred by Pivot ambulance

31% transferred by taxi bus
with transport fees covered by Pivot

37% by other mode of transport
on foot, or by car, tractor, stretcher, etc.

STAFF

- **247** total Pivot employees
  - → **98%** Madagascar-based
  - → **96%** Malagasy
  - → **9:3** female:male leadership

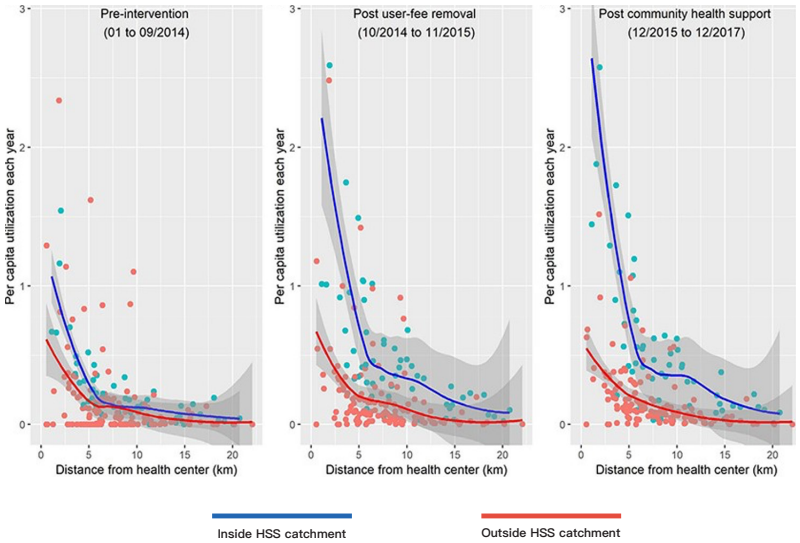
- **296** MOPH personnel supported
  - → **65** district hospital staff
  - → **56** health center staff
  - → **175** community health workers

Board member Benjamin Andriabihaja joins representatives from the Ministry of Public Health during the formal reception of over 2 million pieces of PPE procured for distribution to all of the country's 40,000 frontline community health workers.

SCIENCE SPOTLIGHT: GEOGRAPHIC BARRIERS TO ACHIEVING UHC

There is "surprisingly little evidence on the relationship between health system change and the geography of health access," says Andres Garchitorena, Pivot's Associate Scientific Director, discussing a study he led entitled "Geographic barriers to achieving universal health coverage: evidence from rural Madagascar." Recently published in *Health Policy and Planning*, **the study seeks to address this gap in knowledge by innovatively combining health system data with geospatial information.** Garchitorena et al. found that the removal of user fees – a fundamental tenet of UHC adopted by Pivot when we began work in 2014 – has led to increased utilization of health services among those living within five kilometers of Pivot-supported primary care facilities, but has had far less of an impact on those living farther away.

One solution Pivot has tested to address the issue is expanding and strengthening the community health workforce, which resulted in "CHWs [being] the main source of health care delivery for children in remote populations, representing 90% of primary care visits for those living further than 15 kilometers from a health facility," according to the study. With CHWs trained to deliver a limited subset of services, however, there remain clinical and information gaps in the health system. **Garchitorena et al. propose that, with the right support and compensation, CHWs could narrow those gaps significantly.** Access the full study here for more on the evidence we're producing to inform national health policy.



MATERNAL & REPRODUCTIVE HEALTH

This quarter, we saw a
97% maternal survival rate[15]
at Pivot-supported health facilities.

In addition to this, we achieved:

N/A*
contraceptive coverage rate[16]
(Target: 45%)

37%
facility-based delivery rate[17]
(Target: 40%)

41%
antenatal 4-visit completion rate[18]
(Target: 50%)

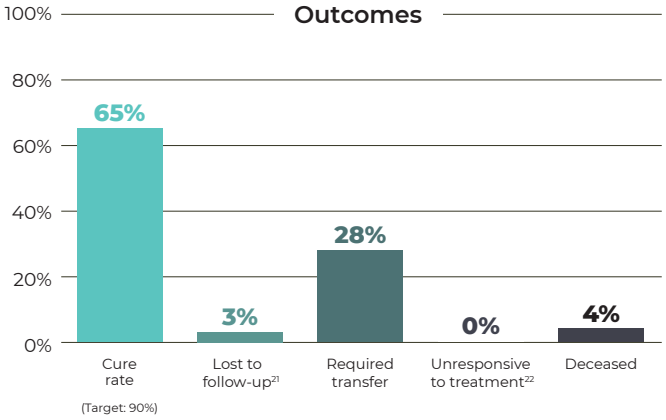
SINCE 2014, PIVOT HAS SUPPORTED
9,685
FACILITY-BASED DELIVERIES

* *Due to delays in field data collection, this quarter's contraceptive coverage rate is not yet available*

MALNUTRITION

HEALTH CENTERS

- **73 children** began treatment for severe acute malnutrition [19]
- **60 children** were discharged from treatment



DISTRICT HOSPITAL

- **20 children** were admitted for treatment of severe acute malnutrition with complications [20]
- **17** were successfully discharged from intensive treatment
(either cured or referred to a health center for continued care)

To celebrate National Week of Community Health Workers, the Pivot team convened CHWs across the district to gift staple household goods to each, in recognition and thanks for their commitment to delivering lifesaving care in their home communities (seen here in the commune of Kelilalina).

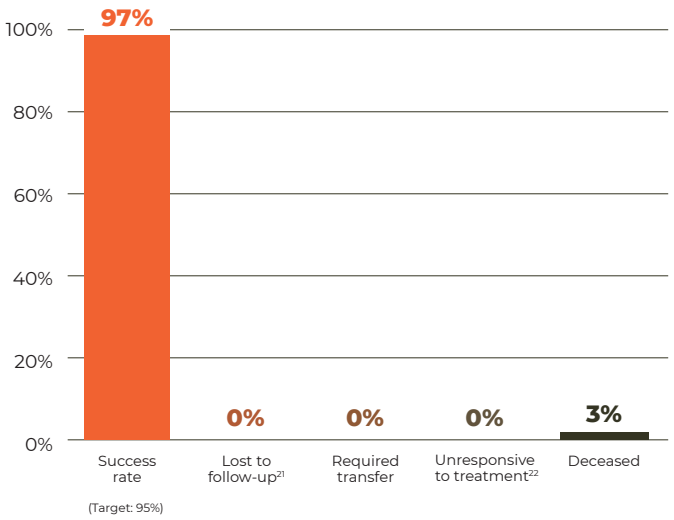
TUBERCULOSIS

This quarter, **72 patients** were enrolled for TB treatment.

- 92% smear positive
- 6% smear negative
- 2% extrapulmonary

Cohort Outcomes

for **35 patients** completing 1 year of treatment:



SOCIAL SUPPORT

1,280 social kits (food and household essentials) distributed to vulnerable patients at the district hospital

145 psycho-social sessions provided for hospital patients

2,934 reimbursements provided for transport to/from care

33,278 meals served to hospitalized patients and their *accompagnateurs* [23]

PATIENT SPOTLIGHT: SOARIVELO

Soarivelo, age 70, is a farmer who lives in the village of Ambodiriana with her youngest daughter and six grandchildren. Like the majority of the Ifanadiana District population, Soarivelo's community is located more than 10 kilometers from the nearest health center, and is reachable only on foot.

After months of minor digestive discomfort that she didn't feel was urgent enough to make the long trek to the nearest health center, Soarivelo suddenly began experiencing severe abdominal pain. Her eldest son, Randria, urged her to seek care at Marotoko Health Center, which is a 12 kilometer walk from her home.

This quarter, Pivot has started incorporating a traditional Malagasy mode of patient transport into the formal health system called ambulance à dos d'homme, which literally translates to "ambulance on the back of man" (or "human ambulance" for short). Soarivelo was the first patient to utilize this service in what turned out to be a life-saving mission.

The process typically involves 4-6 community members volunteering to carry a patient in a handmade stretcher (as seen on the right) and accompanying them for what could be many days away while the patient receives the necessary care. Pivot is formalizing this process by compensating the *porteurs* (carriers) for their time and effort, and establishing systems to connect them with our formal ambulance referral network.

In Soarivelo's case, it took four *porteurs* 2.5 hours to transport her from her home to the health center, where she was admitted, examined, and administered medicines to manage her pain. The next day, after health center clinicians determined that a higher level of care would be necessary for proper diagnosis and treatment, the *porteurs* departed at 5a.m. to carry her an additional 6 hours to a predetermined meeting spot (the closest accessible by car) where an ambulance was waiting to take her to the district hospital.

Once hospitalized, clinicians determined that Soarivelo had a gastrointestinal bleed. After receiving two blood transfusions, she was referred and accompanied to care at a university hospital just outside of the district, where the gastroenterology department performed a series of follow-up tests to ensure that no further complications were expected. Without Pivot ambulance support to reach the hospital, her journey would likely have ended there.

In follow-up, Soarivelo was discharged and transported back first by car and then by human ambulance, traversing the long route back home in the company of her son and *porteurs*. Now back in good health, Soarivelo reflects that she is "happiest that I am cured" and grateful for the warm reception of all the staff she met along the way, including the new *porteurs*. Her recovery will be followed by community health workers in her commune in the event that support is needed again.

MORE FROM THIS QUARTER:

CLICK TO READ

Joint Model for Universal Health Coverage Has Formally Launched in Ifanadiana District
On July 22nd, Pivot's first seven years of collaboration with the Ministry of Public Health to establish a model health system culminated in the formal, district-wide launch of universal health coverage. In this personal letter, Tara Loyd, Executive Director, reflects on what this moment means for the future of Pivot and Madagascar.

CLICK TO READ

Staff Spotlight: Rado Rakotonanahary
When Rado came onboard as Research Manager in 2019, his role was already broad, supporting all Pivot-related academic studies. Little did anyone know, his training and experience in immunology, quantitative methods, and laboratory engineering would be critical to our COVID-19 response – soon, he was leading coordination of the first-ever RT-PCR testing lab outside of Madagascar's capital.

CLICK TO READ

Pivot's Malagasy Board Members Convene in Ifanadiana District
In September, our five Malagasy board members visited Ifanadiana District with their families for three days of deepening their familiarity with our work, visiting facilities and observing healthcare delivery in action. By spending time alongside staff leaders, they walked away even better-equipped to support and advocate for our ambitious plans to expand our joint model for UHC in the years to come.

CLICK TO READ

Ensuring PPE for All CHWs in Madagascar
Thanks to the collaboration of our partners at the Community Health Impact Coalition and the COVID-19 Action Fund for Africa, Pivot is proud to serve as the Madagascar-based entity to receive and distribute over two million pieces of PPE that will ensure protection for all 40,000 of the country's community health workers. As Pivot's first nationwide engagement of CHWs, this is cause for celebration!

DEFINITIONS

1. **Pivot full support (for health center):** a health center that receives Pivot technical and financial support to ensure that: it is staffed at or above Ministry of Public Health standards; fees for patient visits are covered; facility infrastructure is improved; and the data system is supported through data quality assessments and feedback
2. **Pivot partial support (for health center):** a health center that receives Pivot's financial and technical support to hire staff, perform routine data collection, and address urgent district-wide or facility-specific issues as needed
3. **Supported patient visit:** a patient visit to community health worker, health center, or hospital for which costs of care are reimbursed by Pivot; patients are not charged a consultation fee
4. **Community health:** disease prevention and health promotion conducted by community health workers (CHWs) outside of health facilities and within a community
5. **Health center:** a health facility offering primary care services for the population of a geographically-defined commune, ranging from 4,500 to 20,800 people (Note: In Madagascar, every health center or centre de santé de base (CSB) is designated as either a CSB1 or CSB2; CSB2s are larger and staffed with at least one advanced level clinician; CSB1s are staffed by nurses and midwives; Pivot support currently focuses on CSB2s.)
6. **District hospital:** a secondary health facility offering inpatient care and specialized clinical services (including dentistry; emergency obstetric care, including caesarean sections; laboratory and radiology; infectious disease treatment; and inpatient malnutrition for children) for the district population; to access care at the district hospital, patients are referred from the health center
7. **Tertiary care:** specialized medical care provided at regional or national health facilities outside of the district
8. **Community health worker (CHW):** an elected community member trained to provide care for common illnesses in their home communities and to refer patients in need of higher levels of care to health facilities; patients served are primarily pregnant women and children under five
9. **Per capita utilization:** annualized rate at fully-supported health centers is calculated using the total number of quarterly health center visits multiplied by four and divided by total catchment area population
10. **External consultation:** new and follow-up outpatient visits with a clinician at a fully-supported health center or hospital
11. **Bed occupancy:** percentage of total hospital beds available that are occupied by admitted patients
12. **Essential medicines:** a subset of total medicines supplied (7 medicines at the community level, 15 medicines at health centers, and 31 medicines at the district hospital) that, informed by international standards, are necessary for providing basic health care in our setting
13. **Baseline:** the assessment of the availability of essential medicines before Pivot intervention, which was: 2018 at the district hospital, 2014 at health centers, and 2015 at the community level
14. **Standard referral:** a non-emergency referral from a community, health center, or hospital in which patients are counseled to seek specialized care, but are not provided transport by ambulance
15. **Maternal survival rate:** the percentage of health center births in the last quarter for which the mother was discharged alive following delivery
16. **Contraceptive coverage rate:** the percentage of women between the ages of 15-49 in Pivot's catchment area who use any method of birth control as documented at the health center for a three month period (adjusted for reporting delays)
17. **Facility-based delivery rate:** the percentage of the estimated number of infants expected to be born in the review period who were born at a fully-supported health center
18. **Antenatal 4-visit completion rate:** the percentage of women who gave birth at a fully-supported health center who attended at least four antenatal care visits prior to delivery
19. **Acute malnutrition:** weight for height between -2 and -3 z-scores according to growth standards
20. **Severe malnutrition:** weight for height below -3 z-score according to growth standards
21. **Lost to follow-up:** a patient whose treatment has been interrupted and who has not completed a program of care
22. **Unresponsive to treatment:** a patient whose health outcomes do not improve with treatment for specified disease
23. **Accompagnateur:** a family member, friend, or community member who accompanies a patient to seek care; often to cook, clothe, or otherwise provide necessary day-to-day support for the patient