



In Neno, Malawi, PIH built a new district hospital (right) in 2007 to replace the old building (left).



Photos by Zack Brant

## INFRASTRUCTURE & TECHNOLOGY

### A LIFE-CHANGING, LIFESAVING HOSPITAL

**D**r. Christophe Millien has distinct memories of delivering babies from women laboring on the cement floor of a dilapidated hospital in Lascahobas, Haiti. When he began working there as Partners In Health's (PIH) medical director in 2008, basic necessities like beds, electricity, and running water were in short supply. An ultrasound machine, NICU, or sterile operating theater were nowhere to be found.

When a patient required an emergency cesarean section, the OB/GYN had to refer her to another hospital. Millien recalls at least one patient who died of a hemorrhage en route to surgery—all because the hospital simply didn't have funds to build the space or buy the supplies clinicians needed.

*Every day, basic infrastructure, modern technology, and routine maintenance keep families intact, and prevent senseless deaths.*

Over time, Millien advocated for his patients and saw conditions improve at Lascahobas. **PIH collaborated with Haiti's Ministry of Health to support staff, purchase equipment, improve the building's crumbling infrastructure, and create a more organized system for providing care.** Finally, Millien had an operating room where he could perform lifesaving surgeries.

But it wasn't until 2013 that Millien saw the most transformative change. That's when PIH opened University Hospital in Mirebalais, a 30-minute ride south from Lascahobas. **The 300-bed state-of-the-art teaching hospital now houses six operating theaters, a maternal health clinic, NICU, reference laboratory, and more—all of which patients access for free.**

Millien transferred to University Hospital in 2013 and assumed his new role as director of obstetrics and gynecology. It was a world away from where he began in Lascahobas. There, he and his colleagues had the stuff, space, and systems they needed

to deliver quality health care to their patients. The importance of these essentials came into even sharper focus when Millien met Manoucheca Ketan, a 35-year-old expectant mother who presented one of the most difficult cases he'd ever seen.

Ketan was five months pregnant when she arrived at University Hospital. Millien performed an hour-long ultrasound that confirmed she was pregnant with triplets, and that two of the infants were joined at the abdomen.

When Ketan went into labor a month shy of her due date, Millien led a team of clinicians through a complicated C-section they had practiced during hours of simulation weeks in advance. All three girls—Tamar and the conjoined twins, Michelle and Marian—arrived healthy. And six months later, University Hospital hosted a team of international surgeons, nurses, and other specialists who helped successfully separate Michelle and Marian.

**Ketan's C-section and her daughters' separation simply wouldn't have been possible had she arrived at a facility like the one where Millien began working as a young OB/GYN.** He appreciates the difference University Hospital has made for him professionally, and every day sees how its basic infrastructure, modern technology, and routine maintenance prevent senseless deaths.

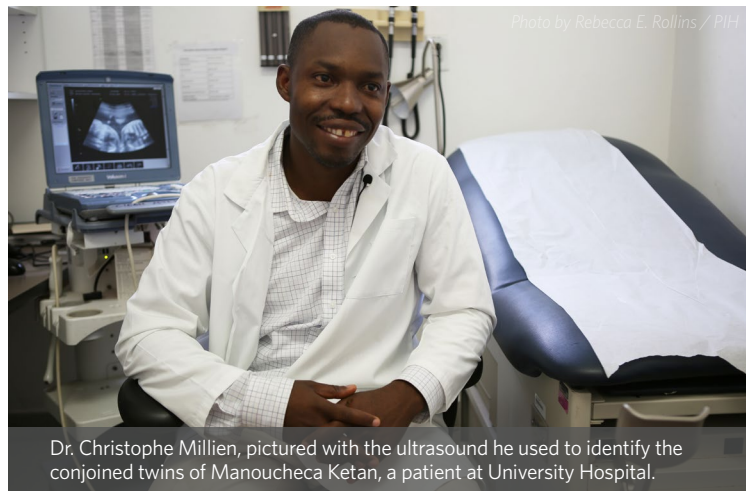


Photo by Rebecca E. Rollins / PIH

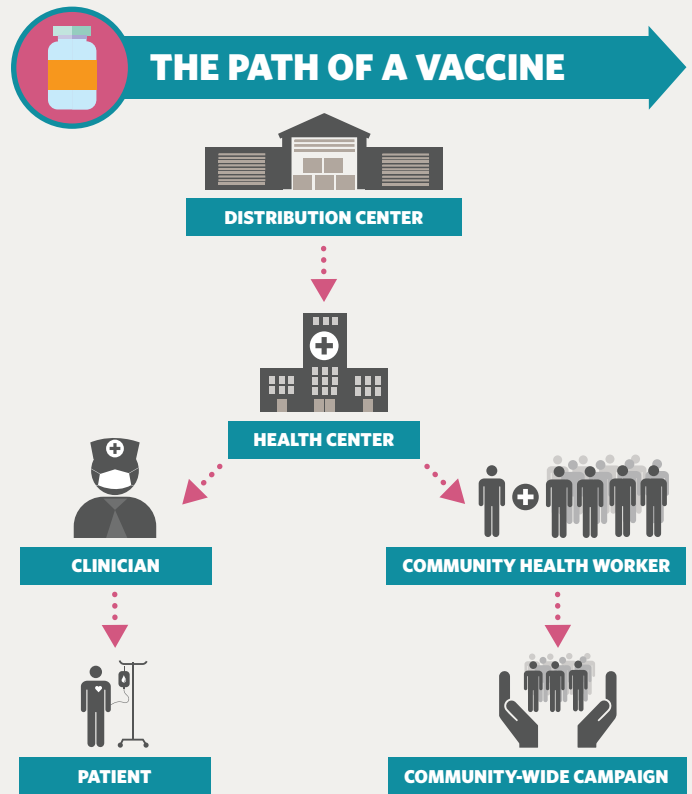
Dr. Christophe Millien, pictured with the ultrasound he used to identify the conjoined twins of Manoucheca Ketan, a patient at University Hospital.

## KEEPING SUPPLIES MOVING IN HAITI

In Port-au-Prince, our 17,000 square-foot, state-of-the-art distribution center has dramatically increased storage capacity and helped modernize how we stock and track the supplies clinicians need to provide reliable, high-quality care, from sterile gloves and lab tests to vitamins and scalpels.

Roughly one-third of the distribution center is climate-controlled for temperature-sensitive medication. **OpenBoxes, the open-source inventory tracking system PIH software engineers developed, allows staff to follow requests and shipments—resulting in a more than 90 percent fulfillment rate of all supplies and medications requested by clinicians.** And a covered loading dock means staff can simultaneously unload up to three shipping containers and pack three supply trucks heading to 12 PIH-supported health facilities.

Staff, stuff, space, and systems—these are the ingredients that strengthen a health care system. Through the distribution center, PIH invests in all four. The result is **a well-functioning supply chain that empowers clinicians and patients.** On the right, see how the process works for vaccine distribution—just one of many elements necessary for the delivery of quality care.



## ENSURING THE ESSENTIALS

PIH envisions a world in which all people can take basic clinical necessities—a sink with running water, or a fully-lit operating room—for granted. In the facilities we support, we’re working to ensure that clinicians and patients never go without these integral resources.

### WATER

Clean water allows staff to prevent infections when sanitizing surgical instruments, washing gowns and bedsheets, and dressing wounds.



### BLOOD

A stocked, staffed blood bank means patients can receive lifesaving transfusions after giving birth, during surgery, or in the emergency room.



### ELECTRICITY

Continuous electricity saves lives by powering critical equipment and providing consistent light throughout operations.



### SANITATION

Proper sanitation equipment and procedures ensure that illnesses and infections don’t spread among patients.



### OXYGEN

Reliable oxygen production enables clinicians to perform surgeries and treat patients suffering from TB, pneumonia, eclampsia, sepsis, and respiratory illnesses.

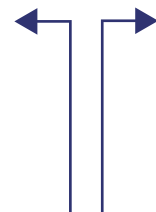


### FUEL

When ambulances and other vehicles are on the move, even the most remote patients can receive emergency care.



**CARE DELIVERY**







Koidu Government Hospital's maternity ward.

In Sierra Leone—where there is only

**10%**

access to electricity—PIH supports Koidu Government Hospital and Wellbody Clinic to have electricity

**99%**

of the time, allowing surgeons to perform lifesaving C-sections and other procedures, day or night.

Photo by Emma Minor / PIH



Patients at University Hospital in Mirebalais, Haiti, pass a wall-sized tile mosaic, one of many throughout the 300-bed teaching facility.

## DIGNIFIED CARE IN DIGNIFIED SPACES

All too often, the world's poorest people receive inadequate care in facilities that are grim, unwelcoming, and potentially deadly. Poorly built and maintained facilities do not inspire confidence in health care, and can even lead to patients becoming sicker.

**PIH designs and renovates health centers as spaces to heal both body and spirit, because everyone deserves to receive care in a safe, beautiful environment.**

**At Butaro District Hospital in Rwanda, natural air ventilation through high ceilings and open hallways reduce the chances of disease transmission.** Shaded outdoor seating areas provide patients a place to relax. And beds are turned to face windows, so patients can enjoy sweeping views of gardens and valleys.

**The pediatric and rehabilitation wards of University Hospital in Mirebalais, Haiti, feature colorful mosaics and Kreyol proverbs, such as "Many hands make the load light," and "Little by little, the bird makes its nest."** Gardens and courtyards throughout the facility give patients an opportunity for fresh air.

Even something as simple as a shower—recently installed in the maternity ward at Pleebo Health Center in Liberia, among other transformative renovations—encourages dignity, allowing women to remain clean and comfortable after they give birth.

Truly dignified care can only be delivered in equally dignified spaces. **At PIH facilities, healing involves more than medicine; it encompasses the whole person.**

## THE ENGINE OF GLOBAL HEALTH

**O**ur drivers go the distance to care for patients, deliver supplies to rural health centers, and transport patients to their appointments. They navigate dirt roads that turn into mucky, rutted messes during the rainy season in West Africa, and scale mountain paths that run like rivers whenever the clouds open in Chiapas, Mexico.

**Given the long distances our staff travel over difficult terrain, it's essential for PIH to have fleets of vehicles—and to maintain them.** Tires blow out, shocks wear down, and engines tire quickly over such rough roads. In Malawi, vehicles' shocks need replacing every three months, and in Sierra Leone, tires need replacing every year. **Vehicle maintenance is an often unanticipated side of global health delivery, but no less important.**

**Mechanic shops located near PIH-supported facilities—such as those a stone's throw away from J.J. Dossen Hospital in Liberia or Neno District Hospital in Malawi—maintain our fleets so that patients and staff can always receive the transportation they need.**

When PIH cars are healthy, they and our unflappable drivers help keep patients healthy, too.



Photo by Zack DeClark / PIH

Treacherous road conditions, like those pictured above in Neno, Malawi, mean heavy wear and tear on vehicles.



# LIFESAVING LABS

Laboratories are essential to every high-quality health system. They provide the critical tools to diagnose and manage illnesses, such as HIV, tuberculosis, cancer, and diabetes. In impoverished countries around the world, lab infrastructure is often substandard or nonexistent, and services are inaccessible to the poor and vulnerable. As a result, countless people cannot receive timely and accurate diagnoses.

In eight of the countries where PIH works, we closely collaborate with ministries of health and support 190 staff members across 23 laboratories. These facilities and lab professionals enable clinicians to effectively treat patients and fight intractable health problems.

In Haiti, our Stephen Robert and Pilar Crespi Robert Regional Reference Laboratory has transformed health care for more than 3 million people. Located across from University Hospital in Mirebalais, the 15,800 square-foot facility contains a clinical lab, a pathology lab, and Biosafety Level 2 and 3 laboratories. Highly trained technicians use advanced tools to improve the quality and efficiency of diagnostic services, allowing clinicians to deliver better care in less time to patients suffering from infectious diseases and non-communicable diseases, such as diabetes or cancer.

In Peru, our cutting-edge TB lab, housed inside a renovated shipping container, has all the necessary equipment and safety measures for technicians to diagnose and monitor patients on treatment for the world's deadliest infectious disease.

PIH-supported labs save lives every day, and are a testament to the necessity and feasibility of modern medical science in settings of poverty.



## Why I Stand With PIH

“I’m proud to invest in infrastructure because the buildings PIH builds serve as both the foundation for quality health care systems and as beacons of hope for the communities they serve.”

—Marjorie Benton, longtime supporter and trustee

### GET IN TOUCH



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