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Partners In Health: Building Surgical Systems in Haiti

Following a long career as an OB/GYN surgeon working in Haiti's rural Central Plateau, Dr. Maxi Raymonville became executive director of University Hospital of Mirebalais (Hôpital Universitaire de Mirebalais or HUM) when it opened in April 2013. The new position departed from Raymonville's previous experience as a physician at the Boston-based, non-governmental organization (NGO) Partners In Health (PIH). For the previous 22 years, he had worked through PIH's sister organization in Haiti, Zanmi Lasante (ZL), serving women in PIH-ZL's catchment area, a rural, mountainous region with a population of roughly 1.2 million. (See **Exhibit 1a** for the catchment area and **Exhibit 1b** for an aerial photograph of HUM.) Raymonville believed serving poor women in rural Haiti for over two decades meant "not only addressing surgery or maternal mortality," but also "deep social problems—[everything from] poor living conditions, to education, to family planning."

PIH-ZL provided quality services to the most vulnerable patients irrespective of their ability to pay. It had developed a list of committed financial donors and an operation spearheaded by Dr. Paul Farmer, a leading physician and medical anthropologist.

Professor of Global Health and Social Medicine at Harvard Medical School, Farmer had been named Kolokotrones University Professor.[1] He was also chief of the Division of Global Health Equity at Brigham and Women's Hospital in Boston. PIH-ZL was committed to investing in and collaborating with public sector institutions and actors. Over the years, PIH-ZL had developed a 12-site network of health clinics and hospitals across the Central Plateau, a mountainous region along Haiti's border with the Dominican Republic, and in the lower Artibonite region. The goal was to build capacity and infrastructure consistent with public sector aims and objectives. (Refer to **Exhibit 1a** for the location of the 12 facilities.)

The newest hospital in Mirebalais was seen by many as the culmination of over 25 years of investment in the healthcare network of rural Haiti, given its large scale and high aspirations for becoming, in the words of a PIH-ZL surgeon, "the country's premier teaching hospital." The new executive director and his staff faced operational and strategic challenges. For the prior 18 months, they had been investigating ways for the hospital to become financially sustainable in the coming years. Their goal was to transfer financial and operational responsibility for HUM to the Ministère de la Santé Publique et de la Population (MSPP), the Haitian Ministry of Health, in 2023.

Some within PIH-ZL believed it should drop the no-fee policy. HUM's director of finance, Bryan Mundy, advocated charging a fee to those who could pay, including patients with medical insurance. "There is no such thing as free healthcare, someone has to pay!" Many

[1] The title of University Professor was the highest professional distinction offered by Harvard.

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PIH staff believed in providing health services at no cost to patients, regardless of ability to pay or place of residence. Raymonville knew he would need to communicate the rationale for his decision to a diverse range of constituents.

A topic that remained politically charged long after the decision had been made was the location of HUM in the rural town of Mirebalais. Haiti's MSPP had concentrated clinical education in the capital city of Port-au-Prince at Hôpital de l'Université d'État d'Haïti or HUEH (University Hospital of Haiti).[2] This hospital had not been rebuilt despite significant damage from the 2010 Earthquake. Raymonville as HUM's chief spokesman was in a position to defend the rural location to those who believed HUM had set itself on a diminished path for success by locating in Mirebalais.

Healthcare in Haiti: Background

Haiti gained its independence from France in 1804 following a slave revolt that began in 1791. The first free black nation in the world, the small Caribbean country east of Jamaica and south of Turks and Caicos suffered ongoing political instability. In 2012, the economy generated only $1,220 per capita, lowest in the Western Hemisphere. The population of 10.5 million was vulnerable to high unemployment which reached 40% in 2010.

Operating with a constrained budget, the MSPP struggled to deliver adequate healthcare, achieving unfavorable outcomes compared with regional or global averages. In 2010, WHO[3] healthcare statistics showed Haiti's maternal mortality ratio was 380 per 100,000 live births compared to a regional average of 68. HIV prevalence was 1,435 per 100,000 versus a regional average of 315. Prevalence of tuberculosis per 100,000 was 296 compared to a regional average of 40. (See **Exhibit 2** for WHO healthcare statistics.) These metrics had changed somewhat in recent years. In December 2014, MSPP reported maternal mortality had decreased to 157 per 100,000 births, and HIV had increased to 2,200 for males and 2,700 for females per 100,000. Two other statistics indicated a need to strengthen health systems. Only 25% of births took place in health centers, and an estimated 60% of the population had access to health services.[4]

An array of organizations representing public, private, and non-profit sectors sought to fill the gap in healthcare services. In 2013, 907 healthcare entities were working in Haiti, with fewer than 40% operating under the direct control of MSPP. Resource deficiencies in healthcare delivery and surgical capacity were apparent:

- Few hospitals possessed an intensive care unit.
- No hospital had a geriatric clinic.

[2] This institution was also know alternatively as University Hospital, State University Hospital, and General Hospital, not to be confused with HUM, which bore a similar name.
[3] World Health Organization.
[4] Pan American Health Organization website, "Haiti Explores Channels of Cooperation for its National Health Plan." http://www.paho.org/hq/index.php?option=com_content&view=article&id=9294&Itemid=2&lang=en, accessed April 2015.

- Sixty to 65 orthopedic surgeons served a population of more than 10 million. (The United States had approximately 880 orthopedic surgeons per 10 million people.)
- Basic medications, electricity, and oxygen were often absent from operating rooms.
- Haiti lacked trained cardiac surgeons. Medical teams from abroad were able to perform open-heart surgery on a limited basis.

One surgeon stated, "If you get a heart attack and you need a percutaneous transluminal coronary angioplasty (PTCA),[5] you won't get it in Haiti. You cannot have open-heart surgery here. If you get a heart attack in Florida, one hour and 45 minutes from here, your outcome would be completely different. So why not here?" The limited surgical capacity in Haiti left many patients under-served, especially those in rural areas.

A Mountainous Land

Access to medical care in Haiti remained a financial and logistics obstacle. The challenging geography often meant a day's travel for patients seeking care, while limiting the ability of hospital physicians and staff to reach their places of work. Establishing a well-functioning supply chain over difficult terrain remained problematic, although road construction in the Central Plateau had greatly improved over the years, facilitating transport between Port-au-Prince and Mirebalais.

Patients regularly deferred proper surgical care due to travel difficulties, with 50.4% of the population living in rural areas in 2010.[6] "Mostly they go to the hospital when they have complications, when they have something that really bothers them, and then they seek medical attention. We have to have patients come to the hospital sooner. We have people die because of complications from appendicitis or a strangulated hernia. Those patients should have been able to survive," said a general surgeon who split his time between PIH-ZL and Médecins Sans Frontières (MSF, known in English as Doctors Without Borders).

A Fragmented Health Sector

Churches sought to fill the access gap by offering free healthcare services. Care was typically underwritten by charitable donations and often gave an alternative to traditional healers. Faith-based healthcare was delivered without coordination or direction from the MSPP, bypassing the public system. Dr. Jacky Fils, Paul Farmer Global Surgery Research Fellow, believed the role filled by churches "good for the population in the short term," but that it "weakened the healthcare system as a whole over time."

Some physicians and healthcare policy-makers raised similar questions about the unintended impact of many well-intentioned healthcare NGOs in Haiti and elsewhere across the developing world. MSF, for example, delivered medical humanitarian aid to people in acute crisis. MSF had been in Haiti since 1991, growing and reducing its presence based on

[5] Percutaneous transluminal coronary angioplasty (PTCA) was a minimally invasive procedure to open blocked coronary arteries.
[6] Trading Economics website, "Rural Population in Haiti," http://www.tradingeconomics.com/haiti/rural-population-wb-data.html, accessed January 2015.

medical needs. They now operated five healthcare sites in Haiti addressing maternal care, emergency obstetrics, pediatric care, general surgeries, burn victims, and cholera. MSF served local communities but had an unintended effect on hospitals. A prominent Haitian physician and hospital administrator commented.

> When MSF came into Haiti, they wanted to come into the General Hospital. But circumstances prevented them from coming here, so they set up shop elsewhere. We surgeons saw our patient populations melting like butter in the sun, both our private and public patient populations. When MSF opens up a clinic in which one can operate on patients without money, all of the patients in Port-au-Prince will go there. What happens then is that I, who am responsible for surgical training in the city, can't guarantee the 600 annual minimum cases for each resident per year. It used to be 700 to 800 per year. But now these organizations suck up all the patients because the patients don't pay anything. Here patients pay a pittance, there they pay nothing. This means that I lose the public patients, and I lose training opportunities for my residents.

Some leaders acknowledged inefficiencies of the fragmented health system. "There were a lot of problems that came with this diversified kind of surgical care delivery system, in coordinating and not doing redundant things in terms of supplies and equipment and staff and so on," said one PIH administrator. The MSPP was developing a process to regulate healthcare professionals who had been trained abroad. They expected to sign contracts of cooperation between MSPP and other organizations.

Many believed that NGOs acting independently across Haiti were responsible for upgrading healthcare capacity. "The exponential[7] growth of the Haitian population means that neither the public nor the private system can guarantee necessary access to care, and quality of care, if the NGO system wasn't there to absorb excess patients," said a senior Haitian surgeon.

PIH-ZL stood out among NGOs for its long-term commitment to the region and its interest in system-wide integrated solutions. "PIH is one of the rare organizations that collaborates with the public system," said Fils. "Towards their long-term goal of integrating the public sector, PIH has invested in, renovated, and helped run two departmental hospitals in its catchment area instead of building new clinics."

Surgeon Retention

So-called *brain-drain* in Haiti topped the list of challenges to the healthcare system, with many young physicians leaving for higher pay, improved working conditions, cutting-edge equipment, opportunities for professional development, or simply an opportunity to live with a higher level of safety and security. A medical director commented.

> Fifty percent of my residents move to the U.S. And when I go to the U.S., I see them in their mansions, their Mercedes limousines, their beautiful hospitals in Washington,

[7] The exponential annual growth rate measured in 2011 was 1.37.
http://www.tradingeconomics.com/haiti/population-growth-annual-percent-wb-data.html, accessed March 2015.

> Chicago, and New York. And they take me for the little doctor who stayed in Haiti, because they are assistant professors of surgery who make a ton of money and write in the journals. When I visited Howard University in Washington, I saw my cousins, my classmates, with their photos posted as great surgeons. I have trained 40 classes of surgeons. I love my patients here in Haiti. They don't have the opportunity to go to the U.S., or even to Cuba or to Santo Domingo. So I go there, I learn, I master a technique, to bring the Haitian people what I have learned there. It's not always appreciated. But I have stayed here. I have taught anatomy for 35 years.

One surgeon born and based in Haiti drew motivation for his work from two seminal childhood experiences. The first was losing a school friend at age nine to typhoid fever. The boy simply did not return to school following a holiday break, with the teacher matter-of-factly alerting the class to his death on the day classes resumed. "Every time I have an achievement in my career, I think of him," the surgeon said. "I say maybe if it had not been for that fever, maybe he would have been here also. We have the same first name. So my goodness, it could have been me also. The experience placed something in my mind."

The second experience was that one of his elementary teachers had a visible hernia, a condition that drew jokes from the class. "Now, doing surgery you treat so many people with hernia. It's like paying a debt to my teacher who was so instrumental in those early years, and because he was suffering so much. Today he would be able to come to HUM, and he would be treated for nothing."

Surgeons electing to stay in Haiti were the exception. "Of the doctors who stay in Haiti, most practice in Port-au-Prince, which makes it difficult for rural people to access care." Educating and retaining Haitian surgeons was important to the development of University Hospital in Mirebalais.

A New Teaching Hospital Comes to Mirebalais[8]

On January 12, 2010, an earthquake measuring 7.0 on the moment magnitude scale (MMS) struck Haiti with its epicenter located about 25 kilometers (16 miles) west of Port-au-Prince. The natural disaster carried on with sizeable aftershocks in the following days, killed more than 200,000 people, and destroyed buildings, roads, and vital infrastructure. It leveled much of the country's main public teaching hospital and nursing school in Port-au-Prince. "You can imagine that after the earthquake in Haiti, there was a lot more focus on emergency care," said a PIH medical director. "And I think the Ministry, right on down to the average citizen in Haiti, realized that they were totally unprepared for this."

A PIH-ZL health facility located 78 kilometers from Port-au-Prince in Cange treated Haitians injured during the earthquake. It was selected because it was located a safe distance from the fault line and remained operational. Within two weeks, 220 patients checked in. The Cange facility had opened in the late 1980s to treat patients with AIDs. The "once remote

[8] Content for this section drawn from or excerpted from Partners In Health website, http://www.pih.org/country/haiti/about, accessed on January 15, 2015.

hospital set up to serve the rural poor" had grown into "a destination of choice for people injured in the capital."[9]

A few months before the earthquake, a decision had been made to build a large-scale hospital in Mirebalais. The tragic events added impetus and resolve for the project. The need for a tertiary care teaching hospital was evident given the damage to the General Hospital in Port-au-Prince. A separate option was to expand the Cange facility, which maintained only two small operating rooms. "The move from Cange to Mirebalais resulted in the loss of a lot of people's jobs [in Cange], and a change in the whole character and role of what had been the hallmark hospital of PIH-ZL," said Dr. Michael Steer, director of surgery at Partners In Health. Most surgical services in Cange were transferred to HUM, with Cange left to focus on primary care including HIV/AIDS and maternal/child health.

University Hospital, Mirebalais

Hôpital Universitaire de Mirebalais (HUM), a 205,000-square-foot, 300-bed facility, was intended to serve people with limited access to quality healthcare locally and nationally. The hospital offered primary care services to about 185,000 people in Mirebalais and two nearby communities. Patients from a wider area including central Haiti and Port-au-Prince could receive secondary and tertiary care. The hospital saw as many as 1,000 patients daily in ambulatory clinics. Haiti needed skilled professionals, and HUM introduced education for nurses, physicians, and medical students.

The new hospital maintained six well-equipped operating rooms. A processing department sterilized surgical instruments after operations and stored them for future use. Special surgical lamps illuminated procedures while staying cool and minimizing shadows cast by surgeons' hands. The ventilation system cooled operating rooms and created positive air pressure to block airborne bacteria from entering the room, reducing risk of infection. The operating rooms were large enough to accommodate surgical residents on rotation. Successful surgeries depended on all areas of the hospital to be equipped and operational: the lab and radiology for diagnosis; housekeeping, to clean and cook for inpatients; anesthesiology; and trained nursing staff.

Demand for services grew quickly as referrals from other facilities increased and word spread about free specialty care at HUM, unavailable elsewhere in Haiti. As of March 2014, there had been 77,655 patients at HUM: 53% from the hospital catchment area, 23% from the West Department area, and 24% from the remaining eight departments of Haiti. (See **Exhibit 3** for geographic distribution of patients.) Since the opening of surgical services, 1,370 individuals had received one or more operations. Of these patients, 70% came from the Central Plateau, 21% from the West Department, 6% from the Artibonite Department, and 3% from all other departments. (See **Exhibit 4** for geographic distribution of patients.)

By December 2014, 151,093 patients had been served, and 3,622 patients had received one or more surgeries. Of these patients, 33% were from the catchment area, 17% from the

[9] Stephen R. Sullivan et al, "Surgeons Dispatch from Cange, Haiti, *The New England Journal of Medicine*, 2010.

secondary area, 30% from the tertiary area, and 20% from outside the hospital's catchment area altogether. Most of these operations were general surgery (38%), followed by OB/GYN (37%) and orthopedics (16%). The 2014 operating budget was $12.17 million, with the MSPP contributing two-thirds or about $8 million. The MSPP contribution was this institution's largest gift to any hospital in Haiti in 2014. Money had been sourced from a multi-donor, post-earthquake, relief fund. (See **Exhibit 5a** for budget and **Exhibit 5b** for patient cost.)

In fall 2013, the teaching hospital welcomed its first class of residents. Fourteen young Haitian doctors were training to become specialists in pediatrics, internal medicine, and surgery, with a new class scheduled to enroll every year. In fall 2014, hospital leaders began training for other specialties including a residency program in emergency medicine, the first of its kind in Haiti. New resident programs were being planned for OB/GYN, orthopedic surgery, and anesthesiology. Nurses were being trained in anesthesiology and critical care, necessary for emergency and surgical care. Raymonville commented, "Training, yes, it's another component that we need to address in terms of bringing surgeons to the rural area. Most surgeons would like to stay in the capital city. It's always difficult to attract a general surgeon to work in a rural area. That's the reason we are starting to train this group of surgeons that we call the *new generation of surgeons*, those motivated to serve in the rural areas."

PIH-ZL Approach in Haiti: An Accompaniment Model

> Accompaniment is an elastic term. It has a basic, everyday meaning. To accompany someone is to go somewhere with him or her, to break bread together, to be present on a journey with a beginning and an end. There's an element of mystery, of openness, of trust, in accompaniment. The companion, the *accompagnateur*, says: I'll go with you and support you on your journey wherever it leads; I'll share your fate for a while. And by a while, I don't mean a little while. Accompaniment is about sticking with a task until it's deemed completed, not by the *accompagnateur*, but by the person being accompanied.[10] Dr. Paul Farmer

Supporting the Haitian Government and Haitian Communities

Dr. Paul Farmer co-founded Partners In Health in 1987. A 1993 recipient of a MacArthur Fellowship, Farmer served as PIH's chief strategist. His life's work and the work of PIH connected through high-need, low-resource regions worldwide including Rwanda, Lesotho, Malawi, Mexico, Russia, Peru, and the Navajo Nation in the United States. Farmer's travel to Haiti during his early medical education years set his path and vision. As noted in his biography, "Farmer visited the arid village of Cange. Here he found a community of squatters, displaced by the construction of the Péligre dam project, living in squalid huts with dirt floors and bark roofs, with no access to clean drinking water, education or medical care of any kind. In Cange, Paul Farmer found his calling. …These were the people who needed his help the most."[11]

[10] Paul Farmer, Foreign Affairs website," Partners in Help," July 29, 2011. Retrieved April 27, 2015, from http://www.foreignaffairs.com/articles/68002/paul-farmer/partners-in-help.
[11] Academy of Achievement website, Paul Farmer Biography, "A Man Who Could Cure the World," http://www.achievement.org/autodoc/page/far1bio-1, accessed January 2015.

The PIH mission was to "provide a preferential option for the poor in healthcare."[12] In Haiti, this translated into a focus on the rural Central Plateau. Working with its local sister organization Zanmi Lasante, PIH established a *flagship* project, PIH-ZL, the "oldest, largest, most ambitious, and most replicated."[13] As of 2014, PIH-ZL operated clinics and hospitals at 12 sites across the Central Plateau and lower Artibonite, including HUM. (Refer to **Exhibit 1a**.) PIH-ZL staff led hospital administration and financing activity for the $23 million HUM building project. Farmer described foundational ideas and practices at PIH-ZL.

> The organization is underpinned by solid and, we'd like to think, innovative ideas. But many of these ideas were not original when we founded PIH. We'd encountered them in poor communities in Latin America. Our innovation was largely in listening and translating these ideas into projects to serve the poor. That's been a constant over the years—listening. I don't think listening is all that easy. Most people who go to a place like Haiti from a place like Stanford, Harvard, or Duke do not know how to listen to the poor. Where would they have picked that up? It requires discipline and linguistic capacity, although this is the least important part. Simply sitting in a dirt-floor shack and listening—I don't know that many people who do it humbly and regularly. We insist that our clinicians make house visits. This is true in Boston, just as it is in Haiti.[14]

Farmer and PIH-ZL staff committed to investing in public systems and infrastructure, working with government officials and seeking innovative ways to reduce healthcare dependence on foreign aid. Farmer believed the following:

> Positive gains achieved through imported technology and expertise cannot be sustained if we fail to strengthen the public institutions that are responsible for the ongoing delivery of these goods to all citizens.[15] …The case of Haiti's General Hospital, the main public hospital in Port-au-Prince, provides a concrete example. The outpouring of goodwill that followed the 2010 earthquake, for example, resulted in thousands of donors, philanthropists, and international organizations coming to Haiti to offer services. For months they worked to save lives and ease suffering. What they did not do, however, was to contribute to strengthening Haiti's public health system. After these groups left, Haiti's General Hospital—an institution that was understaffed and underfunded even before the earthquake—was faced with caring for the sick and wounded on a budget that amounted to a small fraction of the local operating costs of some of the international healthcare providers.

Loune Viaud, ZL's co-executive director, then director of operations and strategic planning, described in testimony to the U.S. Congress an approach she believed NGOs and

[12] PIH website, hhttp://www.pih.org/pages/our-mission, accessed January 2015.
[13] PIH website, http://www.pih.org/country/haiti, accessed January 2015.
[14] SSIR editors, *Stanford Social Innovation Review*, "15 Minutes with Paul Farmer," Summer 2015. http://www.ssireview.org/articles/entry/15_minutes_with_paul_farmer, accessed January 2015.
[15] Dr. Paul Farmer, "Accompaniment in Aid Delivery: Concept Note," March 2012. http://www.lessonsfromhaiti.org/lessons-from-haiti/accompaniment/, accessed March 2015.

other partners should adopt in assisting Haiti in the wake of the earthquake. In testimony to U.S. Congress, she stated:

> We need Haitians to lead the reconstruction efforts. We need our partners to take a rights-based approach in the construction of a new Haiti. This means supporting the capacity and the leadership of both the Haitian government and Haitian communities; it means deferring to the experiences of Haitians and guaranteeing our participation in the rebuilding of our country; it means unconditionally respecting all of our human rights—including the right to food, the right to decent housing and sanitation, the right to health, the right to potable water, the right to education and the right to security.[16]

Adding Community Health Workers

A hallmark of PIH-ZL success in Haiti was its ability to recruit, train, and engage with patients and community health workers (CHWs), called *accompagnateurs* (people who accompanied). Numbering 2,000 in 2008, these paid *accompagnateurs* served "as the vital link between ZL's health facilities and patients dispersed across the rural countryside."[17] These workers reached patients, who might otherwise have slipped through the cracks of treatment, to connect them with health services, including referrals for surgical treatment at Cange.

PIH leadership believed that "transportation costs, social stigma, lack of information, discrimination, and time constraints" presented "major barriers to medical care in poor communities."[18] PIH-ZL management explained:

> CHWs help patients overcome obstacles to healthcare by accompanying patients through treatment, monitoring needs for food, housing, and safe water, leading education campaigns, and empowering community members to take charge of their own health. As members of the communities they serve, CHWs establish relationships of trust with their patients, bridging the gap between the clinic and their community. CHWs help healthcare systems overcome personnel and financial shortages by providing high-quality, cost-effective services to community members in their homes, and by catching serious conditions at an early stage before they become more dangerous and expensive to treat.[19]

The program improved workforce development in Haiti while leveraging the PIH-ZL network of clinics and hospitals in the Central Plateau catchment area. Consistent with the mission and policy of PIH-ZL, all patients treated through its network received free care. PIH-ZL was unique among NGOs at the time, operating with a no-fee policy.

[16] PIH Website, "Focus on Haiti: The Road to Recovery," excerpted from July 27, 2010, testimony before U.S. Congress. http://www.pih.org/blog/focus-on-haiti-the-road-to-recovery-a-six-month-review, accessed January 2015.
[17] Louise C. Ivers et al, "Increasing Access to Surgical Services for the Poor in Rural Haiti: Surgery as a Public Good for Public Health," *World Journal of Surgery,* March 5, 2008.
[18] Partners In Health website, "Community Health Workers," http://www.pih.org/priority-programs/community-health-workers/about, accessed January 2015.
[19] Ibid.

Building Public Infrastructure

Over more than 25 years working in the region, PIH-ZL physicians and administrative staff had developed long-standing relationships with public officials, including members of the MSPP. PIH-ZL and the MSPP shared the goal to improve sustainability of the Central Plateau healthcare infrastructure. They directed human and financial resources to this effort. Relationships shed light on infrastructure needs, and PIH-ZL followed the *accompaniment* model. (See **Exhibit 6** for Farmer's summary.) Over time, PIH-ZL's engagement with the public health sector led to expanded access to services, as noted by researchers.

> Since 2001, ZL has collaborated with the Haitian Ministry of Health to revitalize and reinforce eight public hospitals and clinics in central Haiti, from rebuilding hospitals to installing generators for electricity, to hiring and training staff, to establishing pharmaceutical supply chains. The explicit goal of this public-private partnership was to leverage funds for AIDS and tuberculosis programs, which became available in 2002, to reinforce comprehensive primary healthcare and to strengthen health systems in general.[20]

A prominent PIH-ZL physician and administrator commented, "The first advice I would give to NGOs is that they need to have good relationships with the government. I think this is one of the big strengths of ZL—they work with the government. The second advice I would give NGOs is to put in place a structure to have control of money, equipment, procurement that they will provide. And the third piece of advice is to try to build capacity, try to give more skills to local care providers."

Farmer's operating philosophy ran counter to what he referred to as "another myth in foreign aid"—namely, that NGOs represented the solution. "No health or educational intervention can be brought to scale without an effort to strengthen the public sector. For those who believe in the aspirational notion of a right to healthcare or education, it's best to note that such rights, like civil and political ones, are conferred by the state."[21]

Developing Surgical Services Capabilities

"Surgery is very important in a poor country even though you have other diseases, like infectious disease. Surgery is very important." OB/GYN physician and administrator, HUM.

Surgical services were made available through the PIH-ZL network beginning in the late 1990s. Surgery started in Hospital Bon Sauveur of Cange. Initial patients were drawn from the immediate catchment area around the hospital. As the hospital reputation grew, including word of the no-fee, high-quality surgical services, patients began to arrive from throughout

[20] Louise C. Ivers et al, "Increasing Access to Surgical Services for the Poor in Rural Haiti: Surgery as a Public Good for Public Health," *World Journal of Surgery,* March 5, 2008.
[21] Dr. Paul Farmer, Foreign Affairs website, "Rethinking Foreign Aid: Five Ways to Improve Development Assistance," December 12, 2015. http://www.foreignaffairs.com/articles/140495/paul-farmer/rethinking-foreign-aid.

Haiti. However, many patients incurred heavy personal costs for travel. Ambulance service was not readily available in the early years of Cange's expansion to surgical services. Community health workers suggested the best routes for travel and specifics on surgical services once a patient arrived in Cange.

Cases in the late 1990s and early 2000s in Cange were mainly general surgery and OB/GYN. Surgeons handled an average of 21 cases per week (about 1,000 annually) and were limited by having only 15 beds for overnight stays. In 2005, once-weekly ENT surgery (ears, nose, throat) was added at Cange. By 2008, the hospital had many patients for surgical care. Demand outstripped capacity at Cange, and surgical services soon expanded to include four additional hospitals in Boucan-Carré, Hinche, Saint-Marc, and Belladère. (Refer to **Exhibit 1a** for PIH-ZL catchment area and facilities.)

By 2013, 4,600 surgical procedures had been performed across the ZL network, most (61%) in core services involving general surgery, orthopedics, OB/GYN, and anesthesiology. As of 2013, 2,800 core services cases were completed, as well as 1,500 sub-specialty cases and 300 support facilities cases.

- **Core Services:** General Surgery, Orthopedics, OB/GYN, Anesthesiology
- **Sub-Specialties:** Urology, Ophthalmology, Otorhinolaryngology, Oncology
- **Support Facilities:** Operating Rooms (12), Rehabilitation, Radiology, Laboratory, Pharmacy, Health Information Systems, Administration

Specialty and sub-specialty services were not yet as well-developed or widely available as health officials or practitioners desired, thus increasing the importance placed on the surgical training program instituted at Mirebalais in 2013. An experienced surgeon emphasized, "I insist we need fellowships because we also need specialist surgeons. It's not only general surgery; we need *specialists*." While optimism surrounded the residency program at Mirebalais, most believed it too soon to measure results for a program beginning its second year of operation. Outcomes on trainee retention would not be apparent for at least five years; and residents would make choices about whether to stay in Mirebalais, set up practice in Port-au-Prince, or relocate to the United States or another more developed health system. "There is not just emigration of well-educated medical professionals from Haiti," said Fils. "There is also an issue with retention in rural areas as many chose to work in more urban areas." (See **Exhibit 7** for ZL services and human resources.)

Current Challenges Facing HUM's New Executive Director

In his new role as HUM executive director, Raymonville oversaw daily operations and long-term strategic planning. He spoke about care across the Central Plateau. "I think of the cost of the burden of disease. As we reinforce the system, this is not only going to decrease rates of mortality and morbidity, but you can also bring a greater sense of happiness to the country in terms of healthcare access."

A recent issue was whether PIH-ZL should maintain its long-held policy of no-fee services at HUM. The no-fee policy appeared embedded in the philosophy of PIH, whose mission read "When our patients are ill and have no access to care, our team of health

professionals, scholars, and activists will do whatever it takes to make them well—just as we would do if a member of our own families or we ourselves were ill."

Patients seeking treatment needed to obtain an identity card at the time of registration. The card required a one-time fee of 50 gourdes (about $1.10). This was the only payment required. ID cards were issued free to patients unable to afford the fee at registration. Mundy as finance director noted, "Last year, based on the number of new patient registrations we had, the ID card should have brought in $60,000. It only brought in $35,000 because if people can't afford to pay, they get the card for free anyway."

PIH-ZL's no-fee approach differed from the payment scheme in MSPP-directed public hospitals. While patients were not required to pay fees associated with delivery of care (e.g., physician and staff time and expertise), costs associated with materials such as IVs, gloves, sutures, and the like were borne by patients. "It's not really free in the General Hospital," explained one PIH-ZL surgeon. "You have to give something." He explained how a few months earlier, his mother had fallen, gone unconscious, and then had trouble sleeping. He took her to the nearby General Hospital. "They know me at the hospital. Everybody knows me. But I had to buy everything for my mom. Even the fluid, even the syringes. Even the medication. So there's a big difference. You have to pay."

The MSPP was considering instituting a national health insurance program in which everyone would be asked to pay into the system. Program details had not yet been developed, however, and a national solution remained outside of Raymonville's direct control.

It was expected that the MSPP would support a pay-for-service approach based on patient ability to pay. One observer commented the no-fee approach "did not sit well" with the MSPP and Haitian officials. He thought a policy change might bring resistance from physicians and staff. A physician commented, "I would like to remind you one thing about PIH-ZL. It is not only to provide access to healthcare for all vulnerable people. It is also a pledge for keeping local resources in Haiti. It's a fight for social medicine. It's a fight for global health. I think PIH-ZL is in a good position to achieve that."

Another surgeon offered his view. "I would say straightforwardly that PIH-ZL is offering the best possible care at no cost for everybody, with no regard to religion, sex, age, or economic status. And that is to my understanding an example of humanitarian action."

Perspective from the Finance Office

Of the $12.2 million in total operating expenses in FY 2014, the Haitian Government provided $8.3 million. The rest came from foundations, corporations, and individual donors. In 2015, the operating budget grew to $15.6 million with 120 additional staff. Director of Finance Mundy believed a budget of $19 million to $20 million was required to cover growth in patient services. He estimated that once a planned lab was added, the figure would be $23 million per year. In 2015, there was a delay in opening new services, and the purchase of medications and medical supplies was reduced due to budget constraints.

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Operating expenses increased but the MSPP contribution to the hospital decreased. Mundy said MSPP "cannot afford $8 million a year. So far this year we have received nothing. We might, if we are lucky, receive $4 million per year, but that is not a certainty."

Leadership believed funding shortages might be met through intensified philanthropic measures. PIH would continue to draw on its network and the committed funders Paul Farmer had developed, and it maintained cash reserves as well.

Mundy indicated long-term funding commitments were not enough to cover future operating expenses. He believed one way to continue operations and make the hospital self-sustaining was to charge a discounted rate to patients able to afford healthcare fees, including those who were insured. He believed maternal health services and treatment to children under five should remain free, and he understood most PIH-ZL staff saw free care as a moral good.

> We have patients coming from every part of Haiti because we are free. Private doctors refer patients to us for free scans but continue to charge for treatment in their private practice. We need to receive funds from people who can afford to pay and from insurance companies that send us their insured patients. Emergency treatment will always be free, but if we can recoup via insurance companies we should. I want to make sure care remains for all to benefit, but to do so we must change the provision for insured individuals. It is a marketplace just as any other commercial enterprise.

Discounted Pricing Model

Mundy sketched out a discounted pricing model. A first step would be to establish a Haiti-wide price list in agreement with MSPP and insurance companies. Healthcare pricing used high ceiling levels with the understanding that a price could be discounted 100% if a patient lacked the means to pay. He proposed an approach based on where a person lived in relation to the hospital, with lower fees for those in nearby catchment zones. "We have three zones, and the rest of Haiti is beyond our expected zone," said Mundy. He suggested free care for those living in the Primary Zone. Patients from the Secondary Zone would receive a 50% discount, and those in the Tertiary Zone would be discounted 25%. Patients from outside the catchment areas would receive a 10% discount. Mundy thought this pricing would prevent people from travelling 80 kilometers for free care and allow HUM to serve the rural and poorest areas free.

Patient distribution by geography varied according to the type of treatment they received. For obstetric patients, 60% came from Mirebalais, or the Primary Zone. Thirty percent came from the Secondary and Tertiary zones, and the remaining 10% came from outside the main catchment areas. Patients receiving other services were not likely to live in the Primary Zone.

Mundy's calculations, based on current distribution of patients and proposed discount rates, showed HUM might generate $3 million to $4 million annually in incremental revenue if it adopted a plan such as he proposed. This still left a funding gap. Mundy hoped to look into other funding models for non-profit healthcare providers. MSF received support

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from private funds, individual donors, charitable foundations, and corporations. These organizations funded over $16 million in field projects in Haiti in 2013.

Table A Distribution of HUM Patients by Location, March 2013 to November 2014

Treatment	Primary	Secondary	Tertiary	Outside	Total
CT scan	1,203	504	1,895	1,708	5,310
%	23%	9%	36%	32%	
Ultrasound	1,207	256	1,101	1,315	3,699
%	28%	7%	30%	36%	
Unclassified	124	47	116	60	347
%	36%	14%	33%	17%	
X-ray	9,890	3,600	7,446	5,146	26,082
%	38%	14%	29%	20%	
Operation	1,155	578	1,015	662	3,410
%	34%	17%	30%	19%	

The HUM Location

A potential political and public relations issue that had drawn Raymonville's attention was HUM's location in Mirebalais, an hour's drive from Port-au-Prince. The decision to develop HUM had been a response to the earthquake, and capacity limitations existed at the Cange hospital with only two operating rooms. Space to receive, treat, and house patients was suboptimal.

No one close to Haiti's healthcare system doubted the need for a hospital of HUM's size and aspiration. However, in or near the capital city were an academic healthcare care community and five hospitals. "The system is very centralized," said a PIH-ZL oncologist. "You will see many things happening in Port-au-Prince, apart from what PIH is doing. For the government, everything is in Port-au-Prince, and that is where they have the academic centers."

A complaint brought to Raymonville in various guises related to high costs at PIH-ZL. The finance function at HUM was analyzing costs to deliver surgical care using an activity-based methodology. A study had been undertaken to quantify the economic impact that siting HUM in the Central Plateau was having in the local economy. Raymonville was looking at workforce development figures to gain clarity on economic costs and benefits associated with HUM, while advocating increased surgical care in the Central Plateau.

Raymonville acknowledged that a rural location cost more than an urban location. Many staff traveled great distances from rural residences to work in Mirebalais. He explained, "When you ask people to come far from home to work, it's hard because you need to feed and often house them, and there is going to be transportation. That's one of the reasons the costs are very high." Raymonville and his staff had identified housing options on campus and in guest houses to help reduce these costs.

HUM was in the early development stage. It was unclear whether doctors trained in a high-caliber hospital located in rural Haiti would want to practice in a rural setting after their training, but Raymonville and other colleagues remained hopeful. Raymonville noted:

> That's one of the reasons we built Mirebalais hospital starting two years ago, to address not only access to services but also training. And the goal is not to train people in the way we used to train people, because most of the specialists trained in Haiti stay in a big crowded capital city. I can understand that. Maybe it's the same thing for California and New York. Everyone wants to spend their time in a big capital city. But how do you attract people to be trained in a rural area and to stay? The only way you do that is to boost their morale, provide them the tools they need. You need to get people engaged, to understand global health in terms of addressing the needs in the rural setting.

Looking Toward 2023

Raymonville focused on improving healthcare delivery by addressing a number of key issues. The priorities were to improve staffing and provide ample work space for the high case load. Improving logistics and supply chain management, and efficient allocation of funds, remained a challenge.

PIH-ZL planned to turn over HUM operation to the MSPP in 2023. This added to the urgency and administrative burden for Raymonville and his staff. Some NGO physicians and staff viewed this plan as aspirational but not realistic. As of early 2015, MSPP leadership was taking steps to facilitate handing over control in the coming years. The MSPP assigned a permanent representative to work within HUM on a daily basis, participating in day-to-day decision-making and serving as a conduit between PIH-ZL administrators and the Haitian government.

The intent was to ensure that budget contributions by MSPP were put to good use, and to help align PIH-ZL objectives with those of MSPP. Raymonville commented, "You need to understand how to support the public sector as your main partner. For now, you can see we have different partners. We have donors. We have other NGOs. The community is our partner. But you always need to be guided by the strategy and plan of the government. The public sector, the Ministry of Health, is definitely our central, most high-priority partner.

It was unclear how the relationship would unfold, particularly if public funding for the hospital were to decline. Raymonville knew he needed to decide whether to adopt some version of his finance director's plan for a discounted fee. Mundy believed the time had come for such an approach, but he recognized PIH colleagues would likely view it as irreconcilable with their mission and thus unacceptable. The accompaniment model had demonstrated potential to build a productive NGO-public partnership, but many believed the test lay in how PIH-ZL and MSPP moved forward to create a sustainable economic model.

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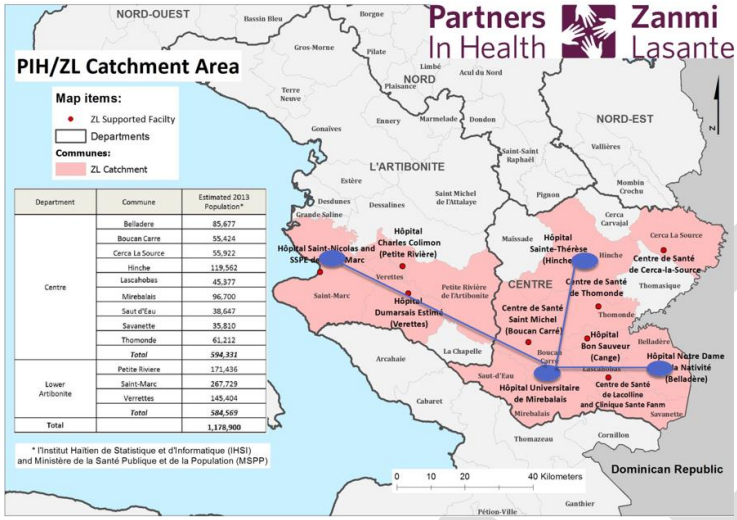
Exhibit 1a PIH/ZL Catchment Area



Department	Commune	Estimated 2013 Population*
Centre	Belladere	85,677
	Boucan Carre	55,424
	Cerca La Source	55,922
	Hinche	119,562
	Lascahobas	45,377
	Mirebalais	96,700
	Saut d'Eau	38,647
	Savanette	35,810
	Thomonde	61,212
	Total	*594,331*
Lower Artibonite	Petite Riviere	171,436
	Saint-Marc	267,729
	Verrettes	145,404
	Total	*584,569*
Total		1,178,900

* l'Institut Haitien de Statistique et d'Informatique (IHSI) and Ministère de la Santé Publique et de la Population (MSPP)

Source: PIH Surgery Presentation, "Hôpital Universitaire de Mirebalais." Used with permission.

Exhibit 1b University Hospital, Mirebalais (HUM)

Source: Vincent Degennaro, HUM helicopter photo, 2014. Used with permission.

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Exhibit 2 Haiti Health Profile

Selected Indicators (2012)	Haiti	Regional Average
Utilization of Health Services (%)		
Contraceptive prevalence	35	74
antenatal Care (4 visits)	67	86
Births attended by skilled caregiver	37	94
Measles Immunization	58	94
Smear Tested TB test treatment success	84	74
Healthcare Workforce (per 10,000 population)Most recent data		
Doctors	2.5	20.8
Nurses and midwives	1	45.8
Distribution of years of life lost by causes (%)		
Communicable	57	16
Non-communicable	31	66
Injuries	12	18
Per capital Expenditure on healthcare (US $)		
2005	20	336
2012	53	729

Source: World Health Organization website, "Countries: Haiti," http://www.who.int/gho/countries/hti.pdf?ua=1, retrieved March 20, 2015.

Selected Indicators (2012)	Haiti	Regional Average	Global Average
Total Population	10,174		
Population living in urban areas (%)	55	80	53
Gross National Income per capital (PPP int. $	1220	27457	12018
Total Fertility Rate	3.2	2.1	2.5
Life expectancy at birth (years)	62	76	70
Life expectancy at age 60 (years	17	22	20
Healthy life expectancy at birth (years)	52	67	62
Under 5 mortality rate (per 1000 live births)	76	15	48
Adult mortality rate (probability of dying between 15 and 60 years per 1000 population	Male 266	161	187
	Female 227	89	124
Maternal mortality rate (per 100,000 births)	360	68	210
Prevalence of HIV (per 100,000 population	1435	315	511
Incidence of malaria (per 100,000 population)	1299	139	3752
Prevalence of TB (per 100,000 population	296	40	169

Source: World Bank, http://data.worldbank.org/indicator/SH.XPD.PCAP/countries/HT-ZJ-S3-XJ?display=graph, retrieved April 1, 2015.

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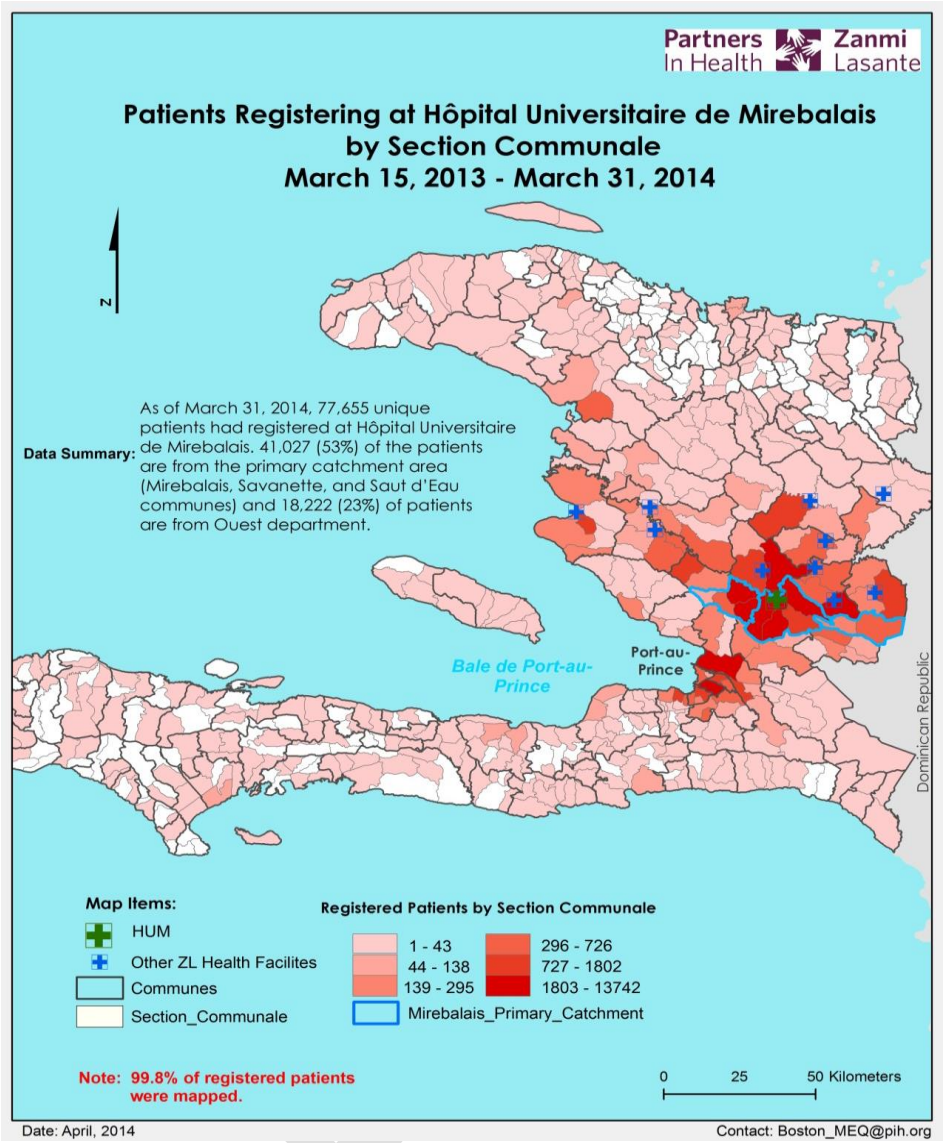
Exhibit 3 HUM Patient Distribution



Catchment Area	Number of Patients (percent of total)
Primary	41,027 (53%)
Secondary	18,222 (23%)
Tertiary	18,406 (24%)

Source: Ermyas Birru, Geographic Information Systems Specialist, Monitoring Evaluation and Quality Department at Partners In Health. Used with permission.

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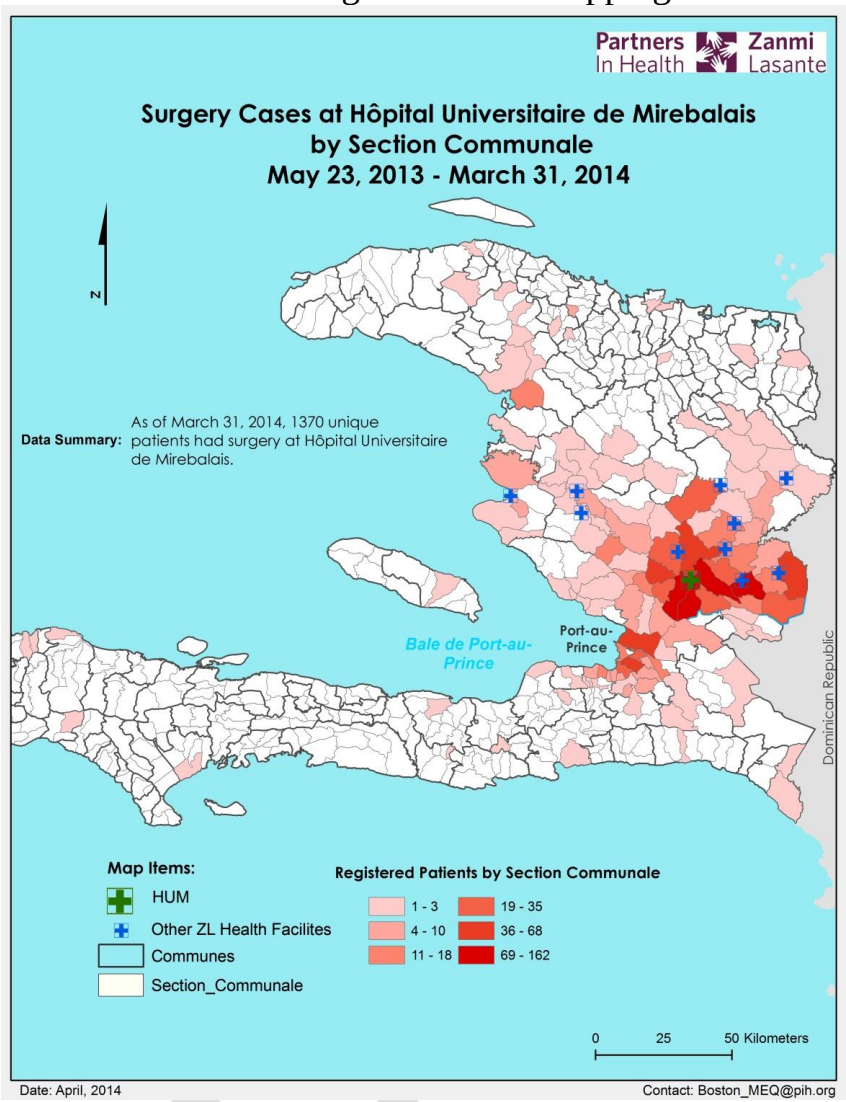
Exhibit 4 HUM Surgical Patient Mapping



Catchment Area	Number of Surgical Patients (percent of total surgical patients)
Primary	964 (70.4%)
Secondary	293 (21.3%)
Tertiary	114 (8.3%)

Source: Ermyas Birru, Geographic Information Systems Specialist, Monitoring Evaluation and Quality Department at Partners In Health. Used with permission.

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Exhibit 5a HUM 2014 Operating Budget

Hôpital Universitaire de Mirebalais: 12 month budget **Ministère de la Santé Publique et de la Population**	
	Budget Total
Total Human Resources	**$7,500,000**
Operating Expenses	
Drugs and Medical Supplies	$2,200,000
Infrastructure and Operations	$200,000
Transport and Gas	$240,000
Food	$280,000
Repair and maintenance	$200,000
Office supplies and housekeeping	$85,000
Telecommunications	$80,000
Medical education	$100,000
Miscellaneous	$65,000
Total Operating expenses	**$3,450,000**
Capital Expenditures	
Medical Equipment	$225,000
Non-Medical Equipment	$125,000
Construction	$650,000
Vehicles	$220,000
Total Capital Expenditures	**$1,220,000**
Total Expenditure	**$12,170,000**

Source: Harvard Business School Case Study, Robert S. Kaplan et al, "Hôpital Universitaire de Mirebalais, Partners In Health in Haiti."

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Exhibit 5b Cost per Outpatient Visit and Inpatient Stay

Final cost centers	MASH Cost Allocation	Number of outpatient visits/inpatient days	Cost per Outpatient visit/ Inpatient day
Outpatient General	$104,675	3451	**$30**
Outpatient Dental clinic	$7,331	581	**$13**
Outpatient Community health	$41,108	570	**$72**
Outpatient women health	$48,780	1058	**$46**
Outpatient Pediatrics	$18,988	713	**$27**
Outpatient Mental health	$14,427	92	**$157**
Outpatient Oncology	$50,853	373	**$136**
Accident & Emergency	$139,638	1056	**$132**
Labor and Delivery	$112,581	375	**$301**
Inpatient Pediatrics	$62,850	698	**$90**
Inpatient Medical Ward	$115,879	1074	**$108**
Inpatient Surgical Ward	$156,827	1369	**$115**
Inpatient NICU	$51,642	646	**$80**
Inpatient Isolation ward	$18,253	59	**$309**
Inpatient Prenatal ward	$28,837	202	**$142**
Inpatient Postnatal ward	$41,500	761	**$55**

Note: MASH is an abbreviation for Management Accounting Systems for Hospitals.
Source: Harvard Business School Case Study, Robert S. Kaplan et al, "Hôpital Universitaire de Mirebalais, Partners In Health in Haiti."

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Exhibit 6 Dr. Paul Farmer's High-Level Summary of Accompaniment

Like the aid effectiveness agenda, the accompaniment approach also calls for more resources to be invested directly in a country's institutions. Guided by a pragmatic solidarity with the poor, the accompaniment approach seeks to listen, rather than provide solutions, not only to the goals and plans of citizens and their institutions, but also to the challenges that they face in their day-to-day operations and their perspectives on how to meet them. With a strong emphasis on implementation through partnership, accompaniment is specifically focused on guiding international partners to transfer more resources and assets directly to national and local institutions so that they can work to overcome these challenges.

This paper sets forth eight principles for applying the accompaniment approach to international assistance that I have learned through my experience in Haiti and elsewhere:

1. Favor institutions that the poor identify as representing their interests
2. Fund public institutions to do their job
3. Make job creation a benchmark of success, even in public sector oriented programs
4. Buy and hire locally
5. Co-invest with governments to build a strong civil service
6. Work with governments to provide cash to the poorest
7. Support regulation of international non-state service providers
8. Apply evidence-based standards of care that offer the best outcomes

Source: Farmer, Paul, "Accompaniment in Aid Delivery: Concept Note," March 2012. *Office of the Secretary-General's Special Adviser*.
http://www.lessonsfromhaiti.org/download/Report_Center/accompaniment-in-aid-deliverycon. Accessed April 2015.

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Exhibit 7 Distribution of Surgical Offerings and Surgeons in ZL Network

Locations	HSN	Hinche	Belladère	Cange	HUM
Surgical Offerings					
General Surgery	x	x	x		X
ENT					X
Ophthalmology	x			x	
Urology	x				X
Plastic Surgery	x				X
Number of Surgeons					
General Surgery	3	2	1		6
ENT					1
Ophthalmology	1	1		1	
Urologist	*1				*1
Plastic Surgery					
Orthopedic surgeons	2	1			3
*One covering both HSN and HUM, with option to serve other hospitals					

Source: PIH Surgery Presentation, "Hôpital Universitaire de Mirebalais."

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