

## Thumbprint to Healthprint- The Making of a Healthplan for Life

Sustainable Healthcare for Haiti is teaming with Foundation Montesinos, a non-profit Haitian orphanage and technical school, to implement a pilot program that enables children to participate in their own healthcare in order to foster ownership of their well-being for life. ***Thumbprint to Healthprint is an innovative approach to promoting good health because it addresses the relationship between individuals and healthcare structures in Haiti. We believe we can affect health outcomes in underserved communities by altering the physical and operational environment of facilities, creating a welcoming place of comfort, safety and opportunity, where children can go to find a healthy future.***

Haiti is a class based society where government currently provides little, while private finances and family connections provide access to education, healthcare, and other life needs that are considered privileges. Children who lack these privileges don't grow up to believe they are entitled to education and healthcare as a part of their lives, especially when their food, water, clothing, and homes aren't sufficiently safe to provide the basic foundation for healthy living. To the vast majority of children in Haiti, a hospital or clinic is not perceived as a place for healthy living, but rather as a place of trauma and illness. We believe that by starting with children, we can alter this perception to affect future generations for the better. Our hypothesis is that by changing children's perception of their constructed environment and their emotional response to what they currently regard as a place of illness, to one of open access and opportunity, they will have a greater sense of ownership of their well-being which will promote health-seeking behaviors for the rest of their lives.

We are a pro bono team of operational, design and construction professionals with expertise in both healthcare and sustainable design. We are teaming with this Haitian organization because it is a successful organization whose mission is to provide services to counterbalance the system of exclusion and marginalization which has controlled Haitian society since its independence. It teaches sustainable development, so that the rebuilding of Haiti is carried out with care for the safeguarding and regeneration of nature and life.

We have already succeeded in design projects there. We expect to continue to succeed because we understand how to create a built environment from a vision and for a purpose, and our partner already maintains a mission of education of life skills. Adding health education will be a natural development for our partner's already established curriculum. Also, our partner has sufficient and clear title to their land (a significant benefit for organizations working in Haiti). Finally, our partner supports a small and identifiable community of children whose housing, food, clothing and education needs are already being addressed. Together we will provide a fully integrated educational plan and constructed environment that teaches children to take care of themselves through education, physical conditioning, arts and crafting, gardening, healthy eating, engineering and technical training, so that, as adults, they will know how to be responsible for their financial and personal well-being and that of their families.

The pilot project includes several operational and environmental initiatives:

1. (Operational) Implementation of a personal Electronic Medical Record (EMR) that identifies children on a tablet device using only their thumbprint and is accessible to the children at any time of the day or night. Information is stored in "the cloud" and, because of the thumbprint identification, can follow the children wherever their lives lead them. The EMR will always be their own and only theirs. Using a new technology, this simplified software allows for patient registration, vitals capture, diagnosis, treatment, case review and administrative task support. The software will contain understandable graphs and charts so the children can see how they grow, thrive and develop, as they learn to use the information as a tool to maintain their well-being. The EMR is of utmost importance to the success of this program as it allows children to see the continuum of a healthy life.
2. (Operational) Implementation of health education programming by Haitian community health workers trained to inspire trust in the children. Programs will address topics such as young women learning about their reproductive cycle, issues related to puberty, and the importance of clean water.
3. (Operational) Commencement of a community health worker initiative which includes deworming, bed nets, vaccinations, healthy skin care, dental hygiene, HIV and tuberculosis (TB) screening, being paired with a trusted adult companion in the case of hospital visit for an illness, and the TB buddy system. The

- TB buddy system will teach children the signs of TB and how to look for signs of TB in their family members (in this case, because our partner is an orphanage, they will look for signs in other children).
4. (Environmental) Designing of a structure with contributions from the children. The children will learn important visual and team skills, how to express their visions of a place they imagine as their own, and to see how their ideas can become real.
  5. (Environmental) Integration of our partner's agricultural curriculum into our landscape curriculum where landscape architects and nutritionists will teach about the nutritional value of foods they can grow in their climate, and plants that can heal common skin disorders and are natural, safe cleansing products for humans and the land. Our partner already owns a large tract of land where they teach children to turn soil back to arable conditions and grow and sell their own food.

The building will house a medication and vaccination dispensary, a primary care clinic staffed by an already identified group of volunteer doctors from the US, and a safe room for children feeling unsafe around adults or other children. It will house computers providing access to web sites for children and teens on health, and sites that connect to other children or teens outside of Haiti to understand what they have in common with others their age around the world. As a first step, these functions will be accommodated in a building already on campus. Additional funds up to \$1M in Phase 2 will allow us to build the structure designed by the children. We hope to run the project for an additional ten years with these funds. Because of the location of our partner's land, which has excellent opportunities for solar, wind, and geothermal energy which are sustainable and cost-effective long term solutions, and the simplicity and inexpensive cost of the program, we expect the program to have minimal negative impact on resources but long lasting positive effects on the well-being of a community for a small financial investment.

The training of community health workers, delivery of supplies, and implementation of operational initiatives (1-3 above) will begin within a month of the award of funds. Community health workers will use the EMR which will provide appropriately worded questions and structure for the data collection on the number of patient visits, questions asked, web information accessed, and progress of the TB buddy program. Weekly communication from the Medical Fellow checking the EMR from the cloud, and visits by our personnel will enable us to monitor the behaviors. The environmental initiatives and primary care trip will take place in month 4. At month 9 and again at the end of the program, dental and physical hygiene will be assessed and data on the degree of independence shown by the children in their daily care will be extracted from the EMR and documented for final reporting.

**Budget:**

1. Two community health workers at \$500/month each for 18 months- **\$18,000**, and specialty training- **\$2,000**.
  2. Two, 5-day, trips for two doctors, a dentist, an optometrist, a dental hygienist, a nutritionist and a nurse to teach children daily care routines. They would also train the Haitian community health workers and administrative staff. Two, 3-day trips, for staff for the design exercise including two architects, a landscape architect, and civil, structural, water and wind engineers. Airfare is paid by the volunteers. Housing, food, and transportation for 14 people- **\$16,000**.
  3. Transportation of a donated refrigerator for vaccine storage with internet temperature monitoring capabilities and generator rental- **\$3,000**.
  5. Purchase of EMR software and equipment including internet based tablets for community health workers (4) at \$250 - **\$1,000**; main server in a travel case- **\$5,000**; workflow configuration- **\$5,000**; server access, technical support, training and software customization for language, and subscription - **\$19,500**.
  6. Stipend for Medical Fellow from an accredited Fellowship program in the U.S. to supervise community health workers weekly from the U.S.- **\$18,000**.
  7. Safe delivery of vaccinations and other medications that may be needed once children have received a primary care medical screening- **\$2,000**.
  8. Blood and TB testing- **\$2,000** and primary care supplies- **\$2,000**.
- TOTAL: \$93,500.**

While *Thumbprint to Healthprint* is targeting a small population, it is meant to be easily and inexpensively replicated by many small organizations with lasting impacts to larger communities and over future generations.