Using a Point-of-Care EMR to Improve Quality of Care & Capacity at University Hospital in Mirebalais, Haiti

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Hôpital Universitaire de Mirebalais
Introduction

- Zanmi Lasante founded in 1983
- Partners In Health founded in 1987
- Ministère de la Santé Publique et de la Population Partnership
- Provide Preferential Option for the Poor

Cange, 1983
# PIH/ZL Catchment Area

**Map items:**
- ZL Supported Facility
- Departments
- Communes:
  - ZL Catchment

## Map

![Map of PIH/ZL Catchment Area](image)

## Table: Estimated 2013 Population

<table>
<thead>
<tr>
<th>Department</th>
<th>Commune</th>
<th>Estimated 2013 Population*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre</td>
<td>Belladère</td>
<td>85,677</td>
</tr>
<tr>
<td></td>
<td>Boucan Carre</td>
<td>55,424</td>
</tr>
<tr>
<td></td>
<td>Cerca La Source</td>
<td>55,922</td>
</tr>
<tr>
<td></td>
<td>Hinche</td>
<td>119,562</td>
</tr>
<tr>
<td></td>
<td>Lasc obstruction</td>
<td>45,377</td>
</tr>
<tr>
<td></td>
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<td>96,700</td>
</tr>
<tr>
<td></td>
<td>Saut d'Eau</td>
<td>38,647</td>
</tr>
<tr>
<td></td>
<td>Savanette</td>
<td>35,810</td>
</tr>
<tr>
<td></td>
<td>Thomonde</td>
<td>61,212</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>594,331</td>
</tr>
<tr>
<td>Lower Antilobite</td>
<td>Petite Rivière</td>
<td>171,436</td>
</tr>
<tr>
<td></td>
<td>Saint-Marc</td>
<td>267,729</td>
</tr>
<tr>
<td></td>
<td>Verrettes</td>
<td>145,404</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>584,569</td>
</tr>
<tr>
<td></td>
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<td>1,178,900</td>
</tr>
</tbody>
</table>

* l'Institut Haïtien de Statistique et d'Informatique (IHSI) and Ministère de la Santé Publique et de la Population (MSPP)
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**Date:** June 2013

**Contact:** Boston_MEQ@pih.org
• Plans to construct community hospital

• 2010 Haiti Earthquake

• National Tertiary Teaching Hospital

• Opened in March 2013
  o 300 bed facility
  o 6 operating suites
• Over 170 Donors
  o Private
  o Corporate
• Around 25% of Haitian trained clinicians leave Haiti*

• HUM Focus on
  o Capacity building
  o Professional development

• Building back a better Haiti

• Economic impact

* 2006 – www.usi.umontreal.ca/parc
Use of Technology

- Technology used to strengthen workforce
  - First CT scanner in public sector
  - PACS
  - EMR
  - Supply Chain Management Software
  - State of the art operating theatres
  - Telemedicine
Use of Technology

- Leveraging open source technology to build capacity
• OpenMRS
  o Open-source software
  o Global community of developers
  o Used in over 50 countries
  o Improve health care delivery in resource poor settings
- Patient Registration
- Archives Management
- Consultation note
- Radiology orders
- Dispensing application

Coming soon:
- Scheduling System
- Flexible Reporting Framework
• Health Information Systems
  o Medical Informatics
  o Monitoring, Evaluation & Quality Improvement
• Clinical Department
• Coaching clinical services:
  o Data Quality
  o Transform data into information
  o Data utilization
  o Evidence-based decision making
• Service and hospital-wide data dashboards
• Monthly presentations for clinical services
• Trainings, supervision, support
Proposed HUM Catchment Area

Map items:
- L'Hôpital Universitaire de Mirebalais
- Other PIH Supported H/Facilities
- Referral Hospitals

Mirebalais Catchment (by Commune):
- Primary
- Secondary
- Tertiary

2012 Population Estimates:
- Primary: 185,000
- Secondary: 451,000
- Tertiary: 3,300,000
Patients Registering at Hôpital Universitaire de Mirebalais by Section Communale
March 15 - May 31, 2013

Data Summary: As of May 31, 2013, 8475 unique patients had registered at 6761 (80%) at Hôpital Universitaire de Mirebalais of the patients are from the primary catchment area (Mirebalais, Savanette, and Saut d'Eau communes) and 706 (8%) of patients are from Ouest.

Map Items:
- HUM
- Other ZL Health Facilities
- Communes
- Section_Communale

Registered Patients by Section Communale:

- 1 - 2
- 3 - 15
- 16 - 51
- 52 - 192
- 193 - 355
- 356 - 2772

Note: 100% of registered patients were mapped.
Patients Registering at Hôpital Universitaire de Mirebalais by Section Communale
March 15 - December 31, 2013

As of December 31, 2013, 56,061 unique patients had registered at Hôpital Universitaire de Mirebalais. 33,029 (59%) of the patients are from the primary catchment area (Mirebalais, Savanne, and Saul d'Eau communes) and 10,764 (19%) of patients are from Ouest department.

Data Summary:

Map Items:
- HUM
- Other ZL Health Facilities
- Communes
- Section_Communale

Registered Patients by Section Communale:
- 1 - 43
- 44 - 138
- 139 - 295
- 296 - 726
- 727 - 1802
- 1803 - 11368

Contact: Boston_MEO@pih.org

Date: January, 2014
Number of Operations by surgical type (N=1,302), (May 2013 – Feb 2014)

- General Surgery: 418; 32%
- Obstetrics/Gynecology: 613; 47%
- Neurosurgery: 1; 0%
- Orthopedics: 205; 16%
- Plastic Surgery: 9; 1%
- Urology: 17; 1%
- Vascular Surgery: 1; 0%
- Otorhinolaryngology (ORL): 25; 2%
- Pediatric Surgery: 2; 0%
- Unknown: 10; 1%

N = 503

Contact: Ermyas Birru, Boston MEQ@pih.org

Data summary
Case data are collected from HUM EMR.
- Over 2500 patient consultations

- Breast Cancer Registry
  - Over 260 confirmed cases (July 2013 – February 2014)
Vision for HUM HIS

- Build culture of data utilization
- Build Academic Partnerships
- Specialty care research
  - NCD’s
  - Oncology
  - Surgery
  - Sickle cell screening
- Expand on foundation to extend to operational research
Impact of HUM on quality of care and population health

- Facility based deliveries
- Distance traveled for specialty services
- Costing of specialty services
- Using EMR to identify and reduce wait time for key services
- Using EMR to evaluate hospital performance on post-surgical re-admission
Conclusion

• Building and running a state of the art hospital in a resource poor setting is possible

• Partnerships and technology are transforming health care being delivered in Haiti

• Private/public partnerships are key to this success

• Having a strong information system creates a foundation for programmatic decision making, operational research and more
Acknowledgements

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  - Matt Peckarsky

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  - Thoughtworks

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  - Marie Line Masson
  - Gabou Mendy
  - Ricard Pognon
  - Jean Wesley Thosiac
  - Data Team

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  - Jean Paul Joseph

- **Ministère de la Santé Publique et de la Population**