

# MORINGA DATA PACKET

Walkthrough of the data and analysis for the Moringa research from the International Medical Outreach

The community of Mare Brignol, located deep in the mountains of Southeastern Haiti is a community living in extreme poverty. Isolation, not only geographical but within the community also makes subsisting conditions even tougher. International Medical Outreach (IMO) has traveled to Mare Brignol since 2011. We identified three major issues: access to proper health and nutrition, lack of health education, and community disconnection. In 2013 we started a permanent project to attempt to mitigate the dire conditions and improve the quality of life for this population. We started the Moringa Project. Moringa is a plant full of many nutritional and health benefits. We introduced this project to the Mare Brignol community via collective seminars and created awareness through social marketing. We collected the number of disease cases in order to understand their health conditions and anthropometric values to gauge nutritional status. We did this to obtain baseline values to measure the impact of this project in a sample population. In addition, we created community gardens, a community tool-renting system, and delegated project management roles in order to integrate and empower the community through ownership and encouragement. This project aims to increase the quality of health and nutrition as well as to increase community cohesiveness in order to improve the overall quality of life.

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## Introduction

Within the following document we will attempt to make following the data and research as easy as possible. The compressed .zip file will contain the majority of our data and analysis along with supporting documents. We will also discuss our limitations and constraints

## File Structure & Descriptions:

- 1) Summer 2013
  - Clinical data and other notes from Summer '13
- 2) Winter 2013
  - Clinical data and other notes from Winter '13
- 3) Summer 2014
  - Clinical data and other notes from Summer '14
- 4) Winter 2014
  - Clinical data and other notes from Winter '14
- Cited Articles
  - A compilation of related articles referenced in our poster publication
- Form Templates
  - All the paper forms used in the clinical setting and house to house surveys
- IMO Medical Records System Screenshots
  - Screenshots of the Medical Records System in operation
- Publications + Posters
  - Our Moringa research is currently not published in a journal but included is a poster presentation for a research conference.
- Reference Photos
  - Includes an arrangement of reference photos for a better understanding of the research environment

## Included within this packet:

1. Clinical Data
2. Cited Articles
3. Form Templates
4. Publications
5. Posters
6. MRS Overview

## MORINGA RESEARCH INTRODUCTION

*The following information contains information and details from the Poster Presentation*



**Figure 1:** Moringa plants

the quality of life for this population. Moringa is a plant full of many nutritional and health benefits. We introduced the Moringa Project to the Mare Brignol community via collective seminars and created awareness through social marketing. We collected the number of disease cases in order to understand their health conditions and anthropometric values to gauge nutritional status. We did this to obtain baseline values to measure the impact of this project in a sample population. In addition, we created community gardens, a community tool-renting system, and delegated project management roles in order to integrate and empower the community through ownership and encouragement. This project aims to increase the quality of health and nutrition as well as to increase community cohesiveness in order to improve the overall quality of life.



**Figure 2:** Moringa Ambassadors

**OBJECTIVES:** Health and Nutrition to establish baseline values for health and nutrition in a sample population representative of the Mare Brignol community. This will be done to measure the impact of the consumption of Moringa.

**METHODS:** We quantified the community's nutrition status in children (0-21) living in twenty randomly selected households, by measuring basic anthropometric indicators such as age, sex, weight, length, and height, which were then compared to the sex-specific National Centre for Health Statistics (NCHS) and WHO-guided international reference population as a way to assess the level of undernutrition, using percentile and Z-score based growth charts to such reference population.



**Figure 3:** Children learning through Social Marketing

**CONCLUSIONS:** The Moringa tree is a powerful source of nutrients. Gram for gram it contains seven times more vitamin C than an orange, four times more vitamin A than carrots, four times more calcium than milk, three times more potassium than bananas and as much protein as an egg. In addition, Moringa has plenty of beneficial properties for the improvement of health, such as antihypertensive, antibiotic, antifungal, antiparasitic, and antipyretic properties. It is like growing a natural pharmacy in your backyard.

## LIMITATIONS & CONSTRAINTS

*Because of the nature of the research there are a few limitations and constraints to consider. The following page outlines some of them that we consider and afterward the solutions to this problem.*

### LIMITATIONS & CONSTRAINTS

1. Lack of reliable data: We collect data from the clinics we operate and utilize licensed physicians for diagnosis and treatment. Our team is made up of undergraduate students from a range of disciplines that encounter this stressful environment for the first time, more often than not. Because of this aspect of our research there are always questions with the reliability of the data we receive. For some students this may be first time they have been exposed to a clinical setting. For others they are not familiar with the standards of integrity necessary for a successful research project.
2. Lack of Student Training: Following the limitation of the lack of reliable data we realize that the majority of our volunteers have no formal training in either research or medicinal practices. Some students lose motivation for the research project because they do not understand both the impact and importance of the data collection. Other times there is lack of direction from those competent in the research and medicinal practices to the other student's volunteers. For example, the house to house surveys for the expeditions of Summer 2014 and Winter 2014 are poor compared to the other data sets. We believe that the lack of student training was a reason for this poor data.
3. Language Fluency: As students traveling to a foreign country language is a natural barrier when assessing patients both in the clinic and house to house surveys. This impedes us from obtaining a further level of detail of patient's symptoms and needs.
4. Self-Reported Data: A common limitation present in any clinical environment is the reliability of patient reported symptoms and conditions. Our clinics and house to house surveys are not exempt from this limitation. This limitation is compounded by the language barrier.

### PROCEDURES TO FIX CONSTRAINTS

1. Lack of reliable data: We are taking steps to standardizing every aspect of data collection including the tools and methods of data collection to reduce extraneous variables. By requiring every member of the trip to bring their own equipment we are able to thus bring new equipment and have plenty of tools to acquire the most accurate measurements. We have also developed a Medical Records System (MRS) to better keep track of patients and track their progress. The MRS also forces data entry to be inputted in a certain way. This feature restricts our student volunteers from recording data in incorrect units and other common miscellaneous mistakes.
2. Lack of Student Training: As part of the selection process we require members to attend our Health Training meetings. These meetings consist of a Health Training Director knowledgeable in our clinic and house to house surveys to instruct members attending. Over this year our Health Training meetings have been overhauled and specialized. For the upcoming year we plan on further fortifying the Health Training meetings to allow a holistic training for our operations in Haiti.
3. Language Fluency: By partnering with Club Kreyol, the Haitian student association at UCF, we are able to optimize the amount of translators we bring to our expeditions. By increasing the number of translators we can reduce the language barrier of other non-creole speaking members.

## MEDICAL RECORDS SYSTEM OVERVIEW

*We will now go over a new feature we have been testing for our research project in order to provide a more robust and reliable platform as opposed to a paper records system*

### Introduction

The International Medical Records System (MRS) is based on the open source software OpenMRS. The software is similar to what is implemented in hospitals and allows us to utilize the benefits of technology to further our research goals.

### Benefits

- By implementing a medical records system we are able to create a more accurate database of the villagers and our house to house surveys
- We are now able to implement GPS coordinates to better track the houses we survey. The GPS coordinates are including within the packet.
- Because of the robust platform and electronic nature of the records we are better able to organize and categorize clients and groups. The MRS gives IMO a better foundation for our future research project and lets prospective contributors and researchers to better assess our data.

### More information

For a more detailed documentation please visit <http://openmrs.org/about/>

We have also provided screenshots of the Medical Records System for further details