Distribution Agreement

In presenting this thesis or dissertation as a partial fulfillment of the requirements for an advanced degree from Emory University, I hereby gran to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis or dissertation in whole or in part in all forms of media, now or hereafter known, including display on the world wide web. I understand that I may select some access restrictions as part of the online submission of this thesis or dissertation. I retain all ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Signature:

_____ _____

Diego Schaps Date

Corazones Sanos:
The Development of a Hypertension Curriculum for Patients at the Institute for Latin American Concern (ILAC) in Licey al medio, Dominican Republic.

A Special Studies Project

By

Diego Schaps, BSA
Master of Public Health

Hubert Department of Global Health

_____

Mohammed K. Ali, MBChB, Msc, MBA

Committee Chair

Corazones Sanos:
The Development of a Hypertension Curriculum for Patients at the Institute for Latin American Concern (ILAC) in Licey al medio, Dominican Republic.
A Special Studies Project

By:

Diego Schaps, BSA

Bachelor of Science and Arts in Biological Sciences and Music Technology
Carnegie Mellon University
2016

Thesis Committee Chair: Mohammed K. Ali, MBChB, Msc, MBA

An abstract of
a thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree
of Master of Public Health in Global Health

Abstract

Corazones Sanos:
The Development of a Hypertension Curriculum for Patients at the Institute for Latin American Concern (ILAC) in Licey al medio, Dominican Republic.
A Special Studies Project

By: Diego Schaps

Background: There is poor health literacy and high prevalence of hypertension and diabetes among the 40,000 patients in the Institute for Latin American Concern (ILAC) healthcare system in northwestern Dominican Republic. Health literacy and a sense of agency are important in controlling these chronic diseases and ILAC has traditionally had no formal mechanisms in place to address these topics. In other settings, curricula have been created and implemented to increase patient understanding – which has been documented as being on the causal pathway toward disease control.

Purpose: The goal of this project was to develop and pilot a hypertension curriculum at the ILAC campus. This curriculum will be incorporated into the operations of the center to provide patients with the information and understanding required to increase their sense of agency and control over their diseases. This curriculum provides a tool to address patient education in an effective way.

Methods: The already existing "Su corazon, su vida" NIH curriculum was tailored to the population based on the results of a formative analysis aimed at extracting hypertension and diabetes misinformation and knowledge gaps present in the population. The formative analysis was initially piloted among 20 patients and then implemented with 29 patients. The information extracted from these surveys was applied to the tailoring of the curriculum. The curriculum was piloted in five classes attended by an average of ten patients and a pre-post analysis was conducted to evaluate information retention.

Results: The final curriculum was piloted among 50 patients and consisted of nine sections focused on hypertension with supplementary diabetes information added. Overall, hypertension and diabetes understanding both increased significantly with p-values of <0.0001 and 0.0065 respectively.

Discussion and future implications: Moving forward, this curriculum must be successfully implemented in a sustainable manner to ensure continuity of increases in patient understanding. Additionally, an electronic medical record (EMR) is set to pilot alongside curriculum implementation. The data extracted from the EMR must be tracked to evaluate whether increases in patient understanding are leading to successful management and control of hypertension and diabetes.

Corazones Sanos:
The Development of a Hypertension Curriculum for Patients at the Institute for Latin American Concern (ILAC) in Licey al medio, Dominican Republic.

A Special Studies Project

By
Diego Schaps, BSA

Bachelor of Science and Arts in Biological Sciences and Music Technology
Carnegie Mellon University
2016

Thesis Committee Chair: Mohammed K. Ali, MBChB, Msc, MBA

A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health in Global Health 2018.

Acknowledgements

I would like to thank the ILAC staff for their support and encouragement throughout this two-year project. It was my first experience imagining, designing, creating, and piloting my own project and they made it a fantastic experience. I would also like to thank Drs. Echenique, Michelle, Centurion, and Gaudio for their guidance through this project. This project would not have been as focused as it was without their guidance.

I would also like to thank my family for their continuing support throughout my academic career. They have empowered me to continue to move forward even when I was in unchartered territory. Without them, I would not have accomplished half of the things that I have so far.

Next, I'd like to thank Shannon Loughlin for her dedication and passion for the project. She helped with survey design and piloting and her contributions are greatly appreciated and never forgotten. I'd also like to thank Grace Drnach for her support in this project. Without her, this project would not have happened! I'd also like to thank Tressa Ellett for her support throughout the process. She is an inspiration to everybody that has the privilege of knowing her.

Finally, I'd like to thank Dr. Mohammed Ali for his guidance throughout this project. His career trajectory is truly inspirational and he always seems to know what to do and it is always evidence based!

Table of Contents

INTRODUCTION

My perspective

To better understand this special studies project (SSP), my perspective must be mentioned. I have been traveling to the Institute of Latin American Concern (ILAC) campus in Santiago de los caballeros in Dominican Republic (DR) since 2015. I am a part of a group funded and organized by the Cuban chapter of the Order of the Knights of Malta that brings pro bono primary care, specialized care, surgery, and medicine to patients in Dominican Republic. I began my relationship with Malta as a medical translator and as triage personnel. As a medical translator, I coupled my natural Spanish speaking ability with my ten years of volunteering and working in the healthcare setting. In the triage room, I used the skills I learned and developed as an Emergency Medical Technician (EMT). After travelling to ILAC several times, I began to lead the triage operation and to conduct quality improvement (QI) projects. This report is a description of one of those QI projects. This SSP is an account of my work in developing, piloting, and evaluating a hypertension-focused curriculum for patients using data from a formative analysis of health literacy, knowledge gaps, misinformation, and colloquialisms in the patient population.

Context

The ILAC campus is located in Licey al medio, a part of the city of Santiago de los caballeros in the north of Dominican Republic. Santiago is DR's second largest city with a population of 550,753 in 2010 (The Editors of Encyclopaedia Britannica 2013).

ILAC was founded by Jesuit priests, Fathers Narciso Sanchez-Medio, S.J. and Ernesto Travieso, S.J. in 1973. The translated mission statement of ILAC states, "Based in the spirituality

of Saint Ignatius of Loyola, we serve the rural communities, promoting the essential development of the human being, contributing by reducing the conditions that make up the diverse dimensions of poverty" (Mision Ilac 2018). ILAC has many operations that seek to bring about their mission including projects in health, education, agriculture, and rural infrastructure. This SSP is situated in the health branch of ILAC.

The main ILAC campus is comprised of a church, a cafeteria, living quarters, a prosthetics lab, a computer lab, and a clinic. This project utilized the clinic and the computer lab. The clinic is made up of 20 medical examination rooms, one dental examination room, a triage room, a small pharmaceutical storage room, three operating rooms, a post-anesthesia care unit (PACU), and a warehouse.

The staff is comprised of two main groups: local staff and international staff. The local staff is comprised of local physicians, community healthcare workers (CHWs) known as Cooperadores/as, volunteers, and administration. The international staff is comprised of physicians, nurses, and volunteers. The clinic is normally empty is only staffed when international groups are visiting the center.

These international groups are led by different organizations from around the world. This SSP was sponsored by the Cuban Order of the Knights of Malta based in Miami, Florida and by Sharemanity based in Pittsburgh, Pennsylvania. The Malta operations takes place in September and February of each year and specialties such as Gastroenterology, Plastic Surgery, General Surgery, Internal Medicine, Urology, Pediatric Urology, Emergency Medicine, Pediatrics, Cardiology, and Radiology are offered in these periods. The Sharemanity operation specializes solely in Internal Medicine.

During these three-day operations, the patients receive pro bono care and free medicine to address their respective medical needs. ILAC has set up a healthcare system that serves about 40,000 patients in the Northwestern area of Dominican Republic. The bulk of these patients come from small villages comprised of fewer than 200 people. To reach the main ILAC campus, volunteers coordinate buses that cost each patient 1000 Dominican Pesos – equivalent to about $20. The patients arrive at the main campus, are triaged by nurses, see a physician, and are given a prescription to the ILAC pharmacy where they receive free medicine. The majority of our patients struggle with hypertension, diabetes, or both. ILAC currently has paper medical records yet there are plans to implement an electronic medical record in May of 2018.

The healthcare system is based on a referral model that involves local physicians, international physicians, and Cooperadores. The Cooperadores are a group made up of at least one volunteer from each village that ILAC serves. These cooperadores are trained in basic medical knowledge and have a direct line to communicate with the main ILAC campus. They make sure that each ILAC patient in their community is regularly going to the main campus for medical care and taking their medication. If a patient has an issue, they speak to their Cooperador and the Cooperador attempts to address it themselves. If they cannot address the issues, they refer up the chain to the main ILAC campus where the issue is addressed by a nurse or a physician. These Cooperadores come to the main campus each time there is an international group visiting and serve as patient advocates and operational organizers to make sure that everything goes smoothly. The Cooperadores normally receive medical care at ILAC at the end of the day once all of their patients have been seen. These Cooperadores are not paid.

Additionally, there are administrators that work at ILAC full time. These administrators are paid to oversee all of ILAC's programs. Since health is just one of their focuses, they must split their time considerably.

Problem Statement

There is a high prevalence of hypertension and diabetes in the community. In our patient population, there is a problem with the control of hypertension and diabetes. The patients have access to bro bono medication and physician consultations every three months and there is not a widespread problem with steady access to medication. Additionally, ILAC did not have an existing patient education operation prior to this SSP. In conclusion, there is a high prevalence of uncontrolled hypertension and diabetes and the only mechanism in place to address the problem is the distribution of free medication.

Purpose Statement

The overall purpose of the project is to quantify the gaps in control and to identify the knowledge gaps, misinformation, and general lack of agency in the population as they pertain to hypertension and diabetes with the hopes of ultimately bringing the disease status of the patient population under control by implementing a curriculum. Due to the varied nature of this project, there are many steps. Each step has its own objectives and they are listed below.

I. Problem Discovery Objectives

a. To become familiar with ILAC and Malta's operations.

b. To build a respectful relationship with ILAC, Malta, and the patient population.

II. Formative Analysis Objectives

a. To determine whether previously diagnosed HTN and DM patients have their diseases under control; and quantify the extent of poor control

b. To identify potential mechanism underlying poor control (e.g, misinformation, knowledge gaps, sense of agency, and colloquialisms among the patient population as they pertain to HTN and DM).

c. To determine the correct place in the patient flow to intervene.

III. Curriculum Development Objectives

a. To tailor the "Su corazon, su vida" ("Your Heart, Your Life") curriculum to the patient population using the conclusions drawn from the formative analysis.

b. To develop a strategy for curriculum piloting as it pertains to operations and logistics.

IV. Curriculum Piloting Evaluation Objectives

a. To determine whether patients understand the curriculum.

b. To determine whether the logistics associated with the curriculum are working.

V. Evaluation Objectives

a. To evaluate whether patient understanding increased.

DEFINITION OF TERMS AND ABBREVIATIONS

Definition of Terms

Curriculum: "a set of courses constituting an area of specialization" to be used by educators to teach students (Merriam Webster Dictionary, 2018)

Cooperador/a: the community healthcare workers in the ILAC healthcare system

Triage: the sorting of patients (as in an emergency room) according to the urgency of their need for care (Merriam Webster Dictionary, 2018)

Bottleneck: a place or condition where improvement or movement is held up

Abbreviations

Hypertension (HTN)

Diabetes Mellitus (DM)

Institute for Latin American Concern (ILAC)

Quality Improvement (QI)

Post-Anesthesia Care Unit (PACU)

Community Healthcare Worker (HCW)

METHODS

Project Overview

The project can be separated into the following phases: problem discovery, formative analysis, curriculum development, curriculum pilot, and evaluation. The problem discovery phase involved my getting acquainted with the operations and patient population. The formative analysis involved the piloting and implementation of a survey aimed at assessing the knowledge and any misinformation present in the patient population as they pertain to hypertension and diabetes. The curriculum development involved combining the lessons learned from the aforementioned surveys with an already existing hypertension and diabetes curriculum to create a curriculum tailored to the ILAC patient population specifically. The curriculum pilot involved actually testing and estimating the potential impacts of the curriculum among the ILAC patient population. The evaluation involved assessment of knowledge retention after teaching the curriculum.

IRB Approval

A proposal was submitted to Emory IRB during the development of the formative analysis. The IRB decided that there was no review required for the project because it was a special studies project involving research of human subjects with the purpose of program quality improvement.

Problem Discovery

During the problem discovery phase, anecdotal data was collected to formulate a hypothesis as to why hypertension and diabetes have historically been uncontrolled in the population. From September 2015 to February 2017, I conducted informal and unstructured observations in the triage rooms and medical consultations rooms. I also conducted informal and unstructured interviews with physician leaders and with patients to arrive at the emic perspective as to why blood pressure and diabetes in the population were uncontrolled. During patient interviews, I also assessed patients' understanding of hypertension and diabetes. All of these informal and anecdotal data were recorded in the journal that I kept each day of working at ILAC. This portion of the SSP was an informal and formative phase that led to the general sentiment that hypertension and diabetes control in the population was lacking. It also led to the formulation of a project focused on addressing the supposed hypertension and diabetes knowledge gaps and misinformation.

Formative Analysis

The formative analysis was aimed at uncovering the misinformation and knowledge gaps present in the patient population in order to better understand them. This was accomplished by the development, piloting, and implementation of a hypertension and diabetes understanding survey. This survey was generated by conducting a literature search focused on accumulating already existing diabetes and hypertension assessment tools. After accumulating these tools, each question was loaded into a central question database. The questions in the overall question database were then evaluated for usefulness and applicability through consultation with leading physicians from the Malta and Sharemanity groups.

The vetted questions then were included in a pilot survey that was administered over three days in May of 2017. The pilot survey was administered to 20 patients and tested patient understanding of hypertension and diabetes with scores of seven and nine respectively. These scores were derived from questions meant to test patients on their understanding of these diseases. The hypertension score was derived from seven equally weighted questions and the diabetes score was derived from nine equally weighted questions. These questions were collected from the review of the literature focused on health literacy assessment tools. These patients were recruited as a convenience sample and consented. The data from this survey were analyzed using SAS.

The findings from this survey were shared with key stakeholders to confirm that there was indeed an issue with hypertension and diabetes control and understanding, thereby justifying the need for a curriculum.

The pilot survey was then edited based on lessons learned from its implementation. The final version of the survey was administered over three days in September of 2017 to 29 patients. These patients were recruited as a convenience sample and consented. The sample was not random because it would have disrupted the patient care operations of the clinic. The data from both surveys was distilled and lessons learned were extracted. These lessons learned were accumulated on a document and utilized to tailor the curriculum to the patient population in the next phase. The data collected from the survey were analyzed to attempt to quantify the lack of hypertension and diabetes control in the population and to uncover the misinformation and knowledge gaps. The data analysis methods for these two surveys were simply descriptive statistics and no hypothesis tests were conducted.

Data Analysis

All data were analyzed using Statistical Analysis Software (SAS) Version 9.4 licensed to Emory University's Rollins School of Public Health.

Curriculum Development

During this phase, an existing curriculum was combined with the lessons learned to develop a curriculum tailored to the patient population. The baseline curriculum used is an open source Latino health curriculum called "Su corazon, su vida" which was created by the National Institute of Health (NIH) in 1999 and later revised in 2008 (National Institutes of Health 2008). The curriculum has been supported and recommended by the Latino Caucus of the American Public Health Association, the National Hispanic Medical Association, and the United States-Mexico Border Health Commission, among others (National Institutes of Health 2008). The hypertension, exercise, diabetes, and diet sections of this curriculum were evaluated for applicability to the patient population. Then, relevant topics and lessons were extracted from the exercise, hypertension, diabetes, and diet portions of the original document to generate a skeleton curriculum. This skeleton curriculum was then enhanced by adding the lessons learned and colloquialisms discovered from the formative analysis. The final curriculum was spiral bound and titled "Corazones Sanos" – meaning healthy hearts.

Curriculum Piloting

The curriculum was taught during five sessions in February of 2018. 50 patients were recruited as a convenience sample by the Cooperador in charge of patient flow. We attempted to recruit only those patients with a prior history of hypertension to address confounding yet were

unsuccessful because the recruiting Cooperador continued to include patients without hypertension or diabetes. To attempt to ameliorate this issue, the recruiting Cooperador was counseled on the importance of recruiting only those patients with a prior history of hypertension yet included many patients in the sample. The patients were consented and incentivized by allowing them to skip to the front of the cue if they participated. The consented and incentivized patients were moved from the triage area to a computer lab about 400 meters away. The curriculum was taught for 20 minutes to groups of 9-14 patients. The patients were then escorted back to the triage area and were allowed to skip to the front of the cue.

The class was taught in tandem by me and a cooperador. We worked off each other to provide the class with an experience that emphasized local involvement and outside expertise.

Evaluation

The evaluation of patient knowledge retention was conducted through a quasi-experimental pre-post design. The patients completed a pre-assessment of their hypertension and diabetes understanding before attending the class and completed a post-assessment comprised of the same questions after they had taken the class and had been triaged the same day. The assessments were comprised of questions from the original formative analysis surveys. Hypertension understanding was evaluated by asking six questions and diabetes understanding was evaluated by asking five questions. A paired t-test was performed to see if there was a significant difference between pre-assessment and post-assessment scores.

Plan for Sustainability

The curriculum will be edited based on lessons learned from curriculum piloting and evaluation. This curriculum will then be handed over to the ILAC administration with the recommendation to have this curriculum taught during the operations conducted by each international group. Additionally, the administration will receive a full report with recommendations for curriculum implementation and sustainability.

RESULTS

Overview

Due to the varied nature of this project, this section will be divided into multiple sections to present the results of each portion of the SSP. Some parts of the SSP have anecdotal results, others have quantitative results, and still others have results in the form of a curriculum. In order to present the results of the project in a way that it indicative of what happened, I will be summarizing the anecdotal data, presenting the quantitative findings as is standard, and describing the data collection instruments derived during the study. The instruments themselves will be present in the appendix of this report. It must be noted that the main result from this SSP is the curriculum itself.

Problem Discovery

The upcoming findings are derived from anecdotal data in the form of journal entries collected from September 2015 until February 2017. It must be noted that this ‘problem discovery’ phase was unstructured and unintentional. It is only after rigorous reflection about the

process that I realized how absolutely vital it was to the success of the SSP. For this reason, it is included in this report although it was not a conscious part of the project. It is, however, what allowed me to be successful in my project and is therefore included.

During this time, I met the key ILAC leaders and familiarized myself with the setting. Specifically, I learned that the cooperadores run all of ILAC's ground level operations. They are the staff that coordinate the arrival of the patients from their respective campos, get the patients signed in, control patient flow, and escort patients through the process. If I was to be successful in this project, I had to make sure that the cooperadores were on board. Finally, I had to understand exactly how patient flow functioned at ILAC. Patient flow works in the following way: patients arrive either by coordinated travel or on their own, patients sign in upon arrival, patients wait outside to be called into the triage room, patients are weighed and wait in the triage room, patients are triaged by skilled personnel, patients wait to see a physician, patients move to another area to wait to see a physician, patients see a physician, patients are referred to other specialties if indicated, patients are given a prescription and sent to the pharmacy, patients wait at the pharmacy, patients are given free medicine, patients wait for their coordinated bus to return back to their campos, patients return to their campos. The common denominator in this flow is waiting. One of the opportunities I discovered in this phase was that patients were constantly waiting and that this time was mostly empty. If we could fill this time with something of value, then the patients could gain more during their time travelling to the center than they were already gaining. This became apparent early on, yet I did not know what should be filling this space.

Not only did I get to know the operations during this time, but I also got to know the patient population. Spanish dialects are quite different depending on country of origin. As a

native Spanish speaker from Miami and El Salvador, I did not have much exposure to the Dominican dialect growing up. My first two trips were spent picking up the colloquialisms and the culture. This information became vital when actually building the curriculum because I was able to present the curriculum in words that the patients used every day to describe their ailments. Additionally, I came to learn that the patients like to discuss things amongst each other. If I asked a question of or made a statement to the group of patients in triage, they would talk amongst each other before answering. This was vital information because it allowed me to focus on a conversational approach to the curriculum. Becoming familiar with the patient population was important because it allowed me to incorporate Dominican colloquialisms into the curriculum and because I became a familiar face to the patients. After returning to ILAC several times, patients began to recognize me and I built trust with the community.

It is during this phase that I noticed a problem. For the first two trips, I worked as a medical translator in the medical consultation rooms and as skilled personnel in triage. After these two trips, I was promoted to triage director. Before assuming the leadership position, I noticed that many of the patients had systolic blood pressure levels higher than 200 mmHg and blood glucose levels higher than 500 mg/dL. When I had seen this as an EMT, we diagnosed a hypertensive emergency or a glycemic emergency and transported these individuals to the hospital. It was impactful to me that these patients went about their daily lives with high blood pressure and that they were medicated. They received free hypertension or diabetes medications from the groups that came yet still had blood pressure and glucose scores that were out of control. This seemed to be a problem with many of the patients. This was a problem not only for the patients but also for ILAC because there were many times I had to convert the triage room into an emergency room to treat a patient with uncontrolled hypertension or blood glucose. It

disrupted patient flow and wasted resources. After several occurrences, it became apparent that there was a formidable problem with regards to hypertension and diabetes control in the population.

Although it was clear that there was a problem with hypertension and diabetes control, it was not clear why this was the case. The patients had steady access to the medication they needed and were mostly arriving at ILAC for medical care every three to six months for monitoring. The leaders of ILAC stated that this should be enough to control hypertension and diabetes. One thing I noticed, however, was that ILAC did not have a patient education operation. I began to think that low health literacy may be contributing to the problem. I had one specific experience in May of 2016 that supported my belief. I had a patient with a systolic blood pressure of 223 mmHg and was tasked with treating her. While I had the opportunity, I began to ask her questions. I saw that she had brought a small plastic bag with hydrochlorothiazide to show the physicians the medication she was taking. When I asked her how often she was taking the medication, she stated that she took it each time she had a headache because it was a pill that was supposed to cure headaches. When I asked her why she had hypertension, she stated that it was because she had gotten in an argument with her neighbor and that God was punishing her. I began to ask these questions to every patient and these themes continued to come up. The patients seemed to not know why they had hypertension or how to take their medication and this was causing a lack of agency among the population. Furthermore, I was not the only one to notice these issues. During the debriefing meeting after the trip in May of 2016, a strong discussion broke out between a couple of the volunteers and the physicians. The volunteers were arguing for better patient education and the physicians were arguing that there simply was not enough time. Both sides were correct.

I also conducted informal interviews with key physician gatekeepers on our staff. During these interviews, it became apparent that the physicians knew there was a problem with health literacy, yet did not know how to approach it.

In conclusion, all of these experiences led me to generate the following hypothesis: hypertension and diabetes are uncontrolled in the population due to low health literacy among patients and the best time to intervene is during a period where the patients are waiting. This hypothesis led me to designing a formative analysis of the hypertension and diabetes understanding in the population with specific focus on knowledge gaps and misinformation.

Formative Analysis

The formative analysis can be broken into two parts: Pilot Survey and Survey Implementation. The purpose of the pilot survey was twofold: (a) to confirm, objectively, that knowledge gaps and misinformation were prevalent and to convey these findings to the ILAC and Malta leadership to motivate action; and (b) to pilot a survey of patient understanding.

Pilot Survey

The results of the pilot survey were prepared and sent to the ILAC and Malta leadership in August of 2017. This document has been included in the appendix and will be summarized below.

In May of 2017, we recruited 20 patients using convenience sampling. After censoring two patients due to dementia, we consented 18 patients and administered the questionnaire. The pertinent data from the pilot survey is summarized in Table 1. The prevalence of previously diagnosed hypertension and diabetes among the sample was 66.67 % and 22.22% respectively.

Additionally, of the patients with previously diagnosed hypertension, 75% had Stage II Hypertension – defined as a systolic blood pressure of greater than or equal to 140 mmHg by the American College of Cardiology and the American Heart Association Task Force on Clinical Practice Guidelines (Whelton, R. M. Carey et al. 2017). Also, of those patients with previously diagnosed diabetes, 75% had higher-than-optimal fasting glucose – defined as a fasting glucose of greater than or equal to 130 mg/dL by the American Diabetes Association (American Diabetes Association 2018).

Table 1: HTN and DM status of patients after survey piloting (n=18)

Status	**n (%)**
Previous HTN Diagnosis	12 (66.67 %)
Previous DM Diagnosis	4 (22.22%)
Stage II Hypertensives	9 (75%)
Higher-Than-Optimal Blood Glucose	3 (75%)

The hypertension score was derived from seven equally weighted questions and the diabetes score was derived from nine equally weighted questions. These questions were collected from the review of the literature focused on health literacy assessment tools. The data are presented in Table 2 presented below. The mean hypertension understanding score was 3.39 out of 7 – 48.43% – while the mean diabetes understanding score was 5.78 out of 9 – 64.22%. Using these data, I was able to convince the leadership that there was not only a problem with hypertension and diabetes control but also that there was a problem with health literacy that might be contributing to the problem.

Table 2: Understanding scores from pilot survey (n=18)	
Understanding Score	**n correct (%)**
Hypertension (Total Possible Score = 7)	3.39 (48.43%)
Diabetes (Total Possible Score = 9)	5.78 (64.22%)

Although I did collect data that convinced decision makers to move forward with the project, I also used this portion of the project as a pilot for the more robust survey I would be completing next. To begin, I decided that this survey took too long to administer because it was holding up the patient flow in such a way that physicians were left with empty rooms for extended periods of time. If this survey was to be successful, it would need to be shorter. Also, I figured out that many of the questions involved in the hypertension and diabetes scores were redundant or did not make much sense in the Dominican dialect. This led me to have to explain each question in many different ways. This information was noted and applied to the next round of survey development and administration.

In conclusion, this report displayed that there was indeed uncontrolled hypertension and diabetes among medicated patients and that there was low health literacy in the population. This report also convinced the leadership of ILAC and Malta to fully endorse the patient education program and served as a pilot for the more robust survey implementation.

Survey Implementation

The data for the 29 respondents are summarized in Table 3 below. The prevalence of previously diagnosed hypertension and diabetes was 51.72 % and 10.34% respectively. Additionally, of the patients with previously diagnosed hypertension, 73.33% had Type II

Hypertension – as defined by the American College of Cardiology and the American Heart Association Task Force on Clinical Practice Guidelines (P. K. Whelton, R. M. Carey et al. 2017). Also, of those patients with previously diagnosed diabetes, 33.33% had higher-than-optimal fasting glucose – as defined by the American Diabetes Association (American Diabetes Association 2018). These data points indicate that hypertensive and diabetic patients are not adequately controlling their blood pressure although they have steady access to free medication.

Table 3: HTN and DM status of patients after survey implementation (n=29)

Status	**n (%)**
Previous HTN Diagnosis	15 (51.72%)
Previous DM Diagnosis	3 (10.34%)
Stage II Hypertensives	11 (73.33%)
Higher-Than-Opitmal Blood Glucose	1 (33.33%)

Furthermore, after analyzing the execution and results from the pilot survey, the number of questions that comprised the hypertension understanding score was maintained and the number of questions that comprised the diabetes understanding score was reduced from nine to six. This was done because the questions in the diabetes understanding score were redundant and poorly phrased for patient understanding. The data are presented in Table 4 below. The mean hypertension understanding score was 4.48 out of 7 (64%) and the mean diabetes understanding score was 3.69 out of 6 (61.5%). These outcomes indicate that there is poor patient understanding in the population as it pertains to hypertension and diabetes.

Table 4: Understanding scores from survey implementation (n=29)	
Understanding Score	**n correct (%)**
Hypertension (Total Possible Score = 7)	4.48 (64%)
Diabetes (Total Possible Score = 6)	3.69 (61.5%)

While administering the survey, I also took note of the content areas of the incorrect answers that patients gave to address the misinformation in the community. This information was collected and analyzed to make sure that the curriculum addressed these concepts and provided accurate information. Additionally, there was an open-ended question at the end of the survey that addressed any specific concepts that the participant wanted to learn about hypertension and diabetes. This analysis was valuable in constructing the curriculum. The most prevalent pieces of misinformation in the population as it pertained to hypertension were that people had no agency with regards to controlling their hypertension, hypertension is caused by exercise, and that hypertension is caused by arguments with neighbors or sinning. These concepts were noted and addressed during curriculum development.

Curriculum Development

The curriculum was developed from the already existing curriculum named "Su corazon, su vida." Building on the exercise, hypertension, diabetes, and diet portions of "Su corazon, su vida" curriculum, I decided to focus the updated version on hypertension with some diabetes knowledge added throughout. I was originally going to create a curriculum focused on addressing both hypertension and diabetes understanding but decided to focus on hypertension – the disease with higher prevalence in the population - when I realized how long the curriculum would be if it focused on both.

The curriculum for the SSP was written in Spanish and designed to have nine Sections: Introduction, Blood Pressure Information, Hypertension Causes, Effects of Hypertension, Hypertension Treatment Overview, Hypertension Medications, Exercise, Diet, and Conclusion. The purpose of the curriculum is to teach patients that there are three main behaviors they should be completing to control their blood pressure. This information was encompassed in the Spanish acronym MED. M stands for "medicina" and "medico" and emphasizes that patients should be taking their medication each day and that they should be seeing a physician regularly. E stands for "ejercicio" and emphasizes the importance of exercise and the different ways that patients can be exercising. D stands for "dieta" and emphasizes the importance of a balanced diet in hypertension control. The delivery of the MED acronym was meant to provide patients with an easy way to remember that they have agency when it comes to controlling their hypertension.

Additionally, this curriculum was built to be interactive. After consulting with cooperadores and physician leaders, I decided that there should be no more than ten participants in each session to foster discussion between the participants. Also, I wanted a cooperador to teach with me to encourage buy-in from the participants.

Curriculum Piloting

The curriculum was piloted in February of 2018. Five sessions were held over two days with a total of 50 participants. The results of the actual pilot involved evaluating the feasibility of the curriculum and the logistics associated with applying it in practice. To begin, the cooperador that runs patient check-in was tasked with recruiting patients with a prior diagnosis of hypertension for the classes. This was done in only one three sessions. When the cooperador was asked why he did not do it for all the sessions, he stated that it was important information that

everybody needed to know. Even when he was briefed as the confounding considerations that led to the decision to recruit only hypertensive patients, he continued to try to add non-hypertensive patients to the classes. This is something that needs to be addressed moving forward with implementation.

Each session was about 25 minutes – not all sessions were timed – and the same cooperador assisted with all sessions. Prior to teaching the curriculum, I trained the cooperador for thirty minutes as to how to complete the pre and post analyses, the topics included in the curriculum, and clarified any questions they had.

The recruitment of the patients went smoothly and was completed during lulls in patient registration. It did not add any time to the registration experience, but it did add work for the cooperador registering the patients. The cooperador worked diligently to recruit patients, but this is most likely not a sustainable model. There needs to be a concrete recruitment process in place if this is to be sustainable.

Anecdotally, there was more conversation amongst patients in classes comprised of purely hypertensive patients as opposed to those with both hypertensive and non-hypertensive patients. Hypertensive patients seemed more comfortable offering their experiences among other hypertensive patients and remained quiet when surrounded by non-hypertensive patients. There seemed to be much shaming coming from the non-hypertensive patients which seemed to make the hypertensive patients uncomfortable. The non-hypertensive patients would begin to brag about their healthy behaviors and would say it in a way that made the hypertensive patients visibly uncomfortable.

Overall, the participants were focused and listening intently during the class. They asked questions that demonstrated that they were listening and discussed amongst each other readily.

Additionally, the cooperador had a better understanding of the contexts in which these patients lived and was able to capitalize on it by offering important insights throughout.

There was also much buy-in from the Malta and ILAC administration. I was constantly responding to questions from both groups as to the happenings of the project. They were legitimately interested and mentioned that they were excited about the project.

During curriculum piloting, I became aware that overall, the curriculum was functional with maintaining the attention of the class. It was also evident that the patients were following the curriculum based on the questions that they asked and the discussions that were had amongst participants. The pilot was important because it displayed those concepts were explained adequately and those that were not. These lessons have been distilled and will be used to edit the curriculum for implementation in May of 2018.

Evaluation

Although this project was focused on building a hypertension curriculum, focus was also placed on the evaluation of patient understanding following curriculum piloting. Pre and post assessments were implemented to determine whether there was a significant change in understanding once curriculum implementation was complete.

Among 50 participants, the prevalence of previously diagnosed hypertension and diabetes was 76% and 24% respectively. Additionally, of the patients with previously diagnosed hypertension, 50% had uncontrolled blood pressure – as defined by a systolic blood pressure of greater than or equal to 140 mmHg. Also, of those patients with previously diagnosed diabetes, 75% had higher-than-optimal fasting glucose – as defined by a fasting glucose of greater than or

equal to 130 mg/dL. These data points indicate that hypertensive and diabetic patients are not adequately controlling their blood pressure although they have steady access to free medication.

Table 5: Demographic information from the pre-post assessment (n=50)	
Variable	**Statistic**
Previously Diagnosed Hypertension	
Yes	38 (76%)
No	12 (24%)
Previously Diagnosed Diabetes	
Yes	12 (24%)
No	37 (74%)
Doesn't Know	1 (2%)
Stage II Hypertensives	19 (50%)
Higher-Than-Optimal Blood Glucose	9 (75%)
Age, mean (Std. Dev.)	58.98 (14.75)
Sex	
Male	14 (28%)
Female	3.6 (28%)
First Language	
Spanish	50 (100%)
Creole	0 (100%)
Educational Level	
None	3 (6%)
Primary (1-4)	21 (42%)
Primary (5-8)	14 (28%)
Secondary	10 (20%)
Superior	2 (4%)

Systolic Blood Pressure, mean (Std. Dev.)	148.4 (31.6)
Diastolic Blood Pressure, mean (Std. Dev.)	83 (12.6)
Random Blood Glucose, mean (Std. Dev.)	120.7 (49.9)

During administration of the pre and post assessments, it became evident that the diabetes understanding questions had one question that was repeated. For this reason, there were only five questions included for diabetes. Additionally, the already existing hypertension score was reduced from seven questions to six questions due to redundancy. Hypertension pre-post assessment data are presented in Table 6 below. The mean hypertension understanding pre-assessment score was 3.02 (2.50, 3.55) out of 6 – or 50.33% (41.67%, 59.17%) in terms of percentage. The mean hypertension understanding post-assessment score was 5.05 (4.69, 5.40) out of 6 – or 84.17% (78.17%, 90%) in terms of percentage. A paired T-Test was conducted to discern whether there was a significant difference between diabetes understanding from pre-assessment to post assessment. The average difference among participants was 1.98 (1.39, 2.15) out of 6 – or 33% (23.17%, 35.83%) in terms of percentage. This indicates a significant difference in hypertension understanding from pre-assessment to post-assessment as the 95% confidence intervals do not overlap and the p value is less than 0.0001.

Diabetes pre-post assessment data are presented in Table 6 below. The mean diabetes understanding pre-assessment score was 3.1 (2.70, 3.62) out of 5 – or 63.2% (54%, 72.4%) in terms of percentage. The mean diabetes understanding post-assessment score was 3.88 (3.51, 4.25) out of 5 – or 77.6% (70.2%, 85%) in terms of percentage. A paired T-Test was conducted to discern whether there was a significant difference between diabetes understanding from pre-assessment to post assessment. The average difference among participants was 0.68 (0.220, 1.16)

out of 5– or 13.6% (4%, 23.2%) in terms of percentage. This indicates a significant difference in diabetes understanding from pre-assessment to post-assessment as the 95% confidence intervals do not overlap and the p value is 0.0065.

Table 6: Analysis of Pre-Post assessment scores and their differences (n=50)				
Score	**Pre-Assessment (95% CI)**	**Post-Assessment (95% CI)**	**Difference (95% CI)**	**p-value**
Hypertension magnitude change	3.02 (2.50, 3.55)	5.05 (4.69, 5.40)	1.98 (1.39, 2.15)	<.0001
Hypertension Percent Change	50.33 (41.67, 59.17)	84.17 (78.17, 90)	33 (23.17, 35.83)	<.0001
Diabetes Magnitude Change	3.16 (2.70, 3.62)	3.88 (3.51, 4.25)	0.68 (.20, 1.16)	0.0065
Diabetes Percent Change	63.2 (54.0, 72.4)	77.6 (70.2, 85.0)	13.6 (4.0, 23.2)	0.0065

Additionally, it was decided a priori that the main indicator of agency was in the question asking whether medication is the only way to control high blood pressure. In the pre-assessment, 70% of patients answered "True" while in the post-assessment, 32% responded "True." This shows that there was an overall increase in agency among the population as it pertains to hypertension control because the patients no longer see medication – something they associate as controlled by medical professionals – as the only approach to controlling their hypertension.

Table 7: Pre-Post assessment of question indicating agency within the population		
Answer	**Pre-Test, N (%)**	**Post Test, N (%)**
Incorrect	35 (70%)	16 (32%)
Correct	15 (30%)	34 (68%)

DISCUSSION

Overview

This discussion section will be organized much like the results section. I will list each section of the project, analyze the data recorded, the conclusions drawn, the lessons learned, and the limitations. Because much of the data collected was indeed anecdotal and the outcome of the project was not an analysis but rather a curriculum, the discussion will be geared toward how each section related to curriculum development and implementation.

Problem Discovery

Prior to joining the Malta team, I had never been to ILAC and had never worked in Dominican Republic. This portion of the project involved getting to know ILAC's context, politics, operations, logistics, and personnel. This section was the beginning of the project that led to all the subsequent steps. If it had not been for this portion of the project, then the rest of the project would not have materialized.

Truthfully, this portion of the project was completed without a purpose and without a conscious understanding that the information collected would lead to the development of this project. It was not until careful reading of old journal entries and consideration of other anecdotal data that it became evident that this was actually an important part of the project. It was like the foundation on which the rest of the project could stand.

The data collected from this portion of the project is in the form of journal entries and personal experience. My major findings were the following: the discovery of an issue with

hypertension and diabetes control in the patient population and the understanding that health literacy in the population seemed low. Secondary findings were the following: an understanding of how ILAC operates, an understanding of the interaction between Malta and ILAC, a familiarization with the patient population, the discovery of an issue with hypertension and diabetes control, and the development of a general feeling of comfort in the setting.

The uncontrolled status of hypertension and diabetes was discovered due to the contrast between blood pressure and glucose numbers in the patient population in Dominican Republic as compared to my patients on the ambulance in Miami and Pittsburgh in the United States. The specific finding that alerted me to the issue was the seemingly constant stream of previously diagnosed and medicated hypertension patients with systolic blood pressure scores above 180 mmHg. If these patients had never seen a physician, had not been previously diagnosed with hypertension, or had not been taking hypertensive medication, then this would not have seemed like such a large issue. These patients were taking medicine and still had blood pressure that were highly out of control. It seemed to be the same situation with the diabetic patients. This led me to designing the survey that would analyze the prevalence of medicated hypertension and diabetes patients that had their respective disease out of control.

The second main finding was the seemingly low health literacy and hypertension/diabetes understanding in the patient population. After seeing so much uncontrolled hypertension and diabetes, I began to formulate hypotheses as to why this was occurring. My main hypothesis was that there was low understanding of hypertension and diabetes in the patient population. I therefore began to ask each hypertension and diabetes patients questions about their respective diseases. The three questions that seemed to yield the most valuable information were the following: (1) “What causes high blood pressure/diabetes?” (2) “How can we help you control

your blood pressure/glucose?" and (3) "When/why are you taking that medication?" – in reference to their antihypertensive medication. The patient answers to these questions displayed a lack of understanding about hypertension and diabetes and a lack of agency with regards to controlling the hypertension and diabetes. The patients seemed to think that blood pressure and blood glucose were things that they had absolutely no control over. They also did not know what causes hypertension and diabetes. Also, once the patient was diagnosed with hypertension or diabetes, they did not seem to have much information about lifestyle changes that they could undertake or explanations about how their drugs worked or how they should be taking them. One specific woman told me that her hypertensive medication was for headaches and that it was therefore to be taken each time she had a headache. This led me to the conclusion that the patients had never really been given adequate information that would allow them to deal with their hypertension or diabetes in an effective way.

Additionally, this section of the project was important because it allowed me to figure out ILAC's operations and allowed me to build a relationship with Malta and ILAC staff as well as with the patient population. Knowledge of ILAC's operations was important because it allowed me to understand that the triage bottleneck was a good time to intervene if that was something I wanted to accomplish. Gaining trust allowed buy-in from both the staff and the patients. Although I was not conscious about the problem discovery phase as it was occurring, it became the foundation of the entire project once I reflected on it.

Formative Analysis

After completing Problem Discovery, the two hypotheses were formulated: (1) Among previously diagnosed hypertension and diabetes patients, the majority are out of control and (2) hypertension and diabetes understanding among the population is low. The main findings of this portion of the project was that the two aforementioned hypotheses were supported and the discovery of colloquialisms, misinformation, and knowledge gaps present in the patient population.

To begin, the proportion of uncontrolled hypertension patients during survey piloting and survey implementation was 75% and 73.33% respectively. Additionally, the proportion of higher-than-optimal blood glucose diabetic patients during the same time periods was 75% and 33.33% respectively. Although the sample size and recruitment methods used to arrive at these proportions do not provide enough rigor to provide an accurate representation of the entire patient population, they were helpful in quickly understanding whether my anecdotal findings were supported by data. It can therefore be ascertained that hypertensive patients were indeed out of control as it pertained to their blood pressure and diabetics were higher-than-optimal as it pertained to their blood sugar.

Furthermore, hypertension understanding percentages during survey piloting and survey implementation were 48.43% and 64% respectively. Additionally, the diabetes understanding percentages during the same time periods were 64.22% and 61.5% respectively. One of the limitations of this portion of the project was that I had not decided upon a threshold to denote the gradient of health literacy understanding. Although this was not decided a priori and the rigor of

the surveys was not high, it can be extrapolated that many patients struggle with hypertension and diabetes understanding in the patient population.

Although we were able to ascertain a quick cross-sectional understanding of patient health literacy, this was not the main purpose of the surveys. The main purpose of the surveys was to arrive at the knowledge gaps, misinformation, and colloquialisms in the population and they pertain to hypertension and diabetes. The surveys were successful in extracting this information and this information was applied during curriculum development. The main findings of the surveys were that patients had a low sense of agency as it pertains to hypertension and diabetes. Basically, patients did not think that they had the ability to control their hypertension and diabetes and this continued to be reiterated in the data. Additionally, patients did not know the causes and effects of these diseases which led to bad lifestyle choices. This was the most effective data collected from the surveys.

The data from this portion of the experiment were used to explain the importance of health literacy among the patient population to key decision makers and gatekeepers. This was highly effective because data had never been collected about the patient population before. There was also an incident that led to higher buy-in from ILAC and Malta staff. In February of 2017, one of the ILAC's cleaning staff unfortunately passed away during normal clinic hours. She died of a flash pulmonary edema brought upon by lack of compliance with her medication. The ILAC staff seemed to think that this was due to lack of understanding on her part about her disease and her medication. The coupling of this unfortunate situation with the data collected in this portion of the experiment allowed for buy-in across all sectors of leadership.

Curriculum Development

Prior to this project, ILAC and Malta never had a formal way to teach patients about their diseases in clinic. The main outcome of this portion of the project was the development of a curriculum focused on hypertension to be implemented in the patient-flow bottleneck generated prior to triage. I was able to distill the information collected in the formative analysis and to apply it with the purpose of tailoring the "Su corazon, su vida" curriculum to the population. The "Su corazon, su vida" curriculum was used because it was already in use among the cooperadores. There is a train-the-trainer pilot program in the ILAC health system focused on teaching medical students to teach cooperadores about health using this curriculum.

During curriculum development, it became apparent that I had to focus on one disease instead of on both due to high information volume and lecture time. I wanted to keep the lecture around 20 minutes and creating a curriculum focused on fully addressing hypertension and diabetes would have yielded a nearly 40-minute lecture. I decided to focus on hypertension because it had a higher prevalence in the patient population. Although the curriculum was focused on addressing hypertension, information about diabetes was included where there was an overlap with hypertension.

The curriculum was built to be taught by me and a cooperador to a group of about ten patients. The cooperador was included to ensure that the principles were being reiterated by a person with local knowledge. Curriculum development progressed readily due to the ease of use of the "Su corazon, su vida" curriculum and to the information generated from the formative analysis.

Curriculum Piloting

Neither ILAC nor Malta had taught patients about hypertension while they were present on the campus. The purpose of this portion of the project was to pilot feasibility, sustainability, and overall patient reaction to the curriculum. Overall, the curriculum was well received by the patients. Attention was maintained and patients demonstrated interest through the questions they asked.

To begin, recruitment of patients for the class was a point that could be improved. Recruitment of patients was completed by the cooperador in charge of patient registration and flow. They were instructed to recruit only hypertensive patients of any age group. The cooperador accomplished this for three out of the five patient groups. When asked why, he stated that all patients need to learn the information and that it should not be delivered only to hypertensive patients. It is also suspected that the cooperador did not recruit hypertensive patients each time because it was more difficult and time consuming to do so. Additionally, the task of recruitment was added onto an already time-consuming job. There needs to be a more sustainable and effective way to complete recruitment for the patients. It is not known at this time point what the best recruitment factor is, but this is a challenge that we are working on. One physician recommended that the patients be referred to the education program with a prescription after they had seen a physician. This would be effective because only the high need patients would learn from the curriculum. It is flawed, however, because there would selection bias in which patients are chosen to learn and the patients would be tired after spending an entire day at ILAC. It has been concluded that the curriculum should be implemented before triage, but it is still questionable what recruitment tactic should be employed.

In continuation, during those classes that were filled exclusively with hypertensive patients, there was a comfortable environment in the classroom that fosters much discussion between patients. Patients were offering their own anecdotes and experiences with hypertension and some practices that have helped them through the years. During those classes that were filled with both hypertensive and non-hypertensive patients, this was not the case. Many of the non-hypertensive patients reacted judgmentally toward the hypertensive patients for their disease and lifestyle choices. Many times, the non-hypertensive patients took it upon themselves to lecture the hypertensive students in the class about how their decisions were wrong. This caused an uncomfortable environment among patients and discouraged participation and sharing. If this curriculum is to be successful, it has to be stratified by hypertension status. There should be one curriculum geared toward hypertensive patients – the existing curriculum – and second curriculum geared toward non-hypertensive patients. These two groups cannot be mixed because of the risk of judgement and lack of participation.

Additionally, having a cooperador involved in the teaching of the curriculum was highly valuable. They were able to tailor the curriculum even more to the patients by adding anecdotes and suggestions that were even more specific to the contexts in which the patients live. Moving forward, cooperadores should be consulted to tailor the curriculum even further and to clarify and solidify their roles in the curriculum.

Furthermore, having me teach the class was effective. The patients listened and were respectful throughout. However, this is not a sustainable model and more work should be done in understanding exactly who the best person to lead the course should be. The curriculum should be piloted with Dominican medical students, just cooperadores, and other personnel moving forward to understand which group the patients would learn from most effectively.

Moving forward, there is an ideal image for what the patient education program at ILAC can look like in the next couple of years. This image would function as follows. There would be an established recruitment method for patients that would benefit from the curriculum. This task would be accomplished by a person with no other tasks than this one. Then, the patients will be moved to the teaching area and they will learn for 20 minutes from whichever combination of personnel that it is deemed they learn most effectively from. After the class, the patients will then wait in a triage room with a monitor that is playing a video that solidifies the concepts that they learned in class. Finally, when the patients sit with the physician for their consultation, the physician must discuss the same points taught in class and solidified on the screens. In this manner, the patients are learning concepts in class, refreshing their new knowledge from videos in the waiting room, and solidifying their knowledge with a physician. This would allow for a solidified front coming from ILAC and Malta displaying that patient education is a priority and that it is just as important in healthcare as traditional treatments. Much work needs to be done to arrive at this ideal situation and Malta has plans to make it work.

Evaluation

A quasi-experimental pre-post design was created to evaluate the effectiveness of the curriculum. The patients completed a pre-assessment and a post-assessment and the difference was examined for significance. The pre-assessment was administered by me and a cooperador before entering the classroom while the post-assessment was administered by nurses after

completion of triage. One issue that arose was that the cooperador admitted to not being able to write at the end of the fifth section. They had therefore only filled out the true/false questions. In the analysis, many of the observations had to be thrown out for this reason.

There was a significant increase between the pre-assessment and post-assessment scores for both hypertension and diabetes understanding – p-value <.0001 and = .0065 respectively. Therefore, there was an overall increase in hypertension and diabetes understanding and comprehension correlated with the implementation of the curriculum. More work needs to be done to understand how far the retention of this information goes. Additionally, work needs to be done to see if the increase of understanding correlated with changes in lifestyle and changes in blood pressure or glucose levels. The current outcome is positive because it displays that the curriculum is understood by the students.

Moving forward, the program will fully be implemented into ILAC's daily operations in May of 2018. It will be taught by a Dominican medical student and a cooperador. Although we showed that the curriculum makes a significant difference in understanding for both hypertension and diabetes, ILAC must solidify the logistics associated with the program. Recruitment for the class must occur simultaneously with regular patient check-in procedures. During the pilot, the check-in was completed first and recruitment was completed after. This causes too much confusion and adds a significant strain on the cooperador's duties. When recruitment is incorporated into the check-in procedure, the sustainability of the program will be made more realistic. After this program has been enhanced with regards to logistics and operations, ILAC should branch out of hypertension and diabetes curricula and add classes about different diseases present in the population. Furthermore, since the infrastructure for patient education will have been created, ILAC should also branch out into different types of education such as cooking,

exercise classes, etc. In this way, the “Corazones sanos” curriculum will increase patient understanding while the other classes will work to drive patient behavior change by teaching them actual techniques for chronic disease control. If ILAC solidifies the patient education infrastructure and incorporates classes that work to drive behavior change, there should be an improvement in the hypertension and diabetes status of the patient population.

References

American Diabetes Association. (2018). Checking Your Blood Glucose. Retrieved from http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/checking-your-blood-glucose.html

"Bottleneck." *Merriam-Webster.com*, Merriam-Webster, www.merriamwebster.com/dictionary/curric ulum. Accessed 16 Apr. 2018.

"Curriculum." *Merriam-Webster.com*, Merriam-Webster, www.merriamwebster.com/dictionary/curric ulum. Accessed 16 Apr. 2018.

The Editors of Encyclopaedia Britannica. (2013). Santiago de los Caballeros. In Encyclopaedia Brittanica: Encyclopaedia Britannica, inc.

National Institutes of Health. (2008). Su corazon, su vida. In. Bethesda, Maryland.

Mision Ilac. (2018). Mision ILAC. Retrieved from http://ilac.org.do/?page_id=96

P. K. Whelton, R. M. Carey, W. S. Aronow, D. E. Casey, Jr., K. J. Collins, C. Dennison Himmelfarb, . . . J. T. Wright, Jr. (2017). 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. J Am Coll Cardiol. doi:10.1016/j.jacc.2017.11.006

"Triage." *Merriam-Webster.com*, Merriam-Webster, www.merriamwebster.com/dictionary/curric ulum. Accessed 16 Apr. 2018.

APPENDIX A: “CORAZONES SANOS” PILOT CURRICULUM

Corazones Sanos

Pilot Study: February 2018
Operativo de Malta
Trip 3

Sección 1: Introducción

Introducción: Hoy vamos a hablar de causas, efectos, y tratamientos para dos enfermedades que son problemáticos en la comunidad. Estas enfermedades son la presión alta y la diabetes.

Pregunta: Haber, levante la mano si usted conoce a alguien que tiene cualquier de los dos o si conoce a alguien que tiene cualquier de los dos.

Declaración: Como bien saben ustedes, la presión alta y la diabetes es un gran problema en la comunidad.

Sección 2: ¿Qué es la presión alta?

Pregunta: ¿Alguien me puede explicar lo que es la presión arterial [presión]?

-respuestas de la clase-

Respuesta: La presión arterial es simplemente la fuerza que hace la sangre contra las paredes de sus arterias. Una arteria es un tubo por donde pasa la sangre.

-enseñar pulso a clase-

-escribir presión en la pizarra (120/80)-

Explicación: Estos dos números significan la presión. El numero superior es la presión cuando late [aprieta] el corazón [enseñar con puño]. El numero debajo es la presión cuando relaja el corazón [enseñar con puño].

-Mostrar que se dice <<120 sobre 80>>-

Pregunta: ¿Alguien me puede explicar lo que es la presión arterial [presión] alta?

-respuestas de la clase-

Respuesta: Presión alta ocurre cuando la fuerza que hace la sangre en arterias [tubos fuertes de sangre] esta muy alta. La presión alta es muy peligrosa.

-¿Alguien tiene alguna pregunta?-

Sección 3: Causas de presión alta

Pregunta: ¿Alguien me puede explicar las causas de la presión alta? [pregunta de otra manera si no entienden]

-respuestas de la clase-

Respuesta: La presión alta es causada por dos tipos de factores: (1) las que no se pueden controlar y (2) las que si se pueden controlar.

A. Genes – es decir, si sus padres tienen o tenían presión alta
B. Dieta – sal, alcohol, azúcar
C. Falta de ejercicio
D. Gordura – estar sobrepeso

Explicación: No por "coger pique," no por "mala sangre," no cuando hace calor afuera, no cuando uno hace ejercicio.

A. por genes, mala dieta, falta de ejercicio, y estar sobrepeso

-¿Alguien tiene alguna pregunta?-

Sección 4: Efectos de presión alta

Pregunta: ¿Cómo se siente uno cuando tiene la presión alta?

-Respuesta de la clase-

Respuesta: La presión alta puede ser muy cayada o puede ser muy ruidosa. Hay casos de presión alta donde la persona no siente ninguna diferencia hasta que le da un derrame o un ataque de corazón.

Explicación: Aunque la persona no se siente diferente, vivir con presión alta es muy peligroso por razones que les voy a decir en un momento.

Síntomas:

A. Dolores de cabeza
B. Visión borrosa
C. Vértigo
D. Que le falta el aire

Pregunta: ¿Que le puede pasar a uno si tiene presión alta?

-Respuesta de la clase-

Respuesta: Si alguien tiene presión alta, le suben las chances de que le ocurran algunas cosas malas:

A. Derrame – ataque de cerebro
B. Infarto – ataque de corazón
C. Problemas en los riñones
D. Se puede quedar siego

-Escribir complicaciones en pizarra en nivel alto-

Pregunta: ¿alguien sabe lo que es un derrame?

-Respuesta de la clase-

Respuesta: cuando la sangre y el oxigeno no puede llegar al cerebro

Pregunta: ¿alguien conoce a alguien que le ha dado un derrame o un infarto?

-Mostrar (120/80) en la pizarra-

Explicación: Esta es la presión normal. Se dice <<120 sobre 80>> Se dice que alguien tiene la presión alta si tiene el número superior más alto que 130.

-Estudiantes miran en su papel a su número-

Declaración: Si los números en su papel están más altos que estos números, usted tiene la presión muy alta y corre el riesgo de derrame, infarto, problemas en los riñones, y ceguera.

-¿Alguien tiene alguna pregunta?-

Sección 5: Tratamiento

Declaración: Aunque si es peligroso, hay cosas que podemos hacer para bajar nuestra presión.

Pregunta: ¿alguien sabe algunas de estas cosas?

-respuesta de la clase-

Respuesta: Estas cosas son:

A. Medicina y consultar con su cooperador(a) y el medico frecuentemente
B. Ejercicio
C. Dieta

Sección 6: Medicina/Medico

Declaración: hay bastantes medicinas que se pueden tomar para controlar su presión alta.

Pregunta: ¿alguien me puede decir el nombre de una de estas medicinas?

-respuesta de la clase-

Respuesta: algunos de ustedes pueden estar tomando:

A. Hidroclorotiazida [hidro]
B. Atenolol, Carvedilol, Metoprolol
C. Lisinopril, Benazepril, Enalapril

Declaración: si un médico le ha dicho que tiene que tomar alguna o varias de estas medicinas, se las tiene que tomar cada día de Dios sin falta.

Explicación: si no se las toman cada día, esto es lo que pasa.

-Actividad de gráfico y efectos de medicina-
-¿Alguien tiene alguna pregunta?-

Declaración: también, es importante notar que hay posibilidad de sentirse un poquito malo cuando esta tomando algunas de estas medicinas. Esto es normal y no es una alergia. Es mejor sentirse un poco mal que sufrir un derrame o un ataque de corazón.

Explicación: ahora, si usted se siente muy mal como si se está desmayando o está vomitando, le tiene que decir a un médico o a su cooperador. ¡Por eso están ahí!

Declaración: Esta es una de las razones por la que necesita consultar con su cooperador y su medico con alta frecuencia. Ellos le pueden cambiar las medicinas si le están haciendo daño.

Declaración: otra razón es que necesitamos ver como le va con las medicinas. Si su presión todavía esta muy alta con todas las medicinas, le vamos a tener que cambiar las medicinas.

-Enseñar en pizarra como tomar medicina incorrecta hace daño-

Explicación: Algunos pacientes me han preguntado si pensar de la presión alta le puede subir la presión. Esto no es cierto. Pensar de la presión alta lo ayuda a uno porque lo hace pensar conscientemente en como cambiar dieta, como hacer mas ejercicio, y como tomar las medicinas en una manera efectiva.

Conclusión: tiene que tomar su medicina cada día y tiene que consultar con su cooperador y su medico con alta frecuencia. Esa es la letra 'M' de 'MED'

-¿Alguien tiene alguna pregunta?-

Sección 7: Ejercicio

Declaración: En una encuesta, notamos que solo 3 de cada 10 pacientes de ILAC reportan hacer ejercicio normalmente. Este es un número muy bajo.

Explicación: este ejercicio no tiene que ser muy formal.

Pregunta: ¿Cuáles son los beneficios de hacer ejercicio?

-respuesta de la clase-

Respuesta: Beneficios:

A. Fortaleza corazón y pulmones
B. Huesos, músculos, y coyunturas saludables
C. Bajar de peso
D. Dormir mejor
E. Menos ansiedad y estrés
F. Ayuda con diabetes
G. Baja presión alta

Declaración: mantener un peso sano es importante para bajar la presión alta

Declaración: Ustedes pueden hacer el ejercicio necesario si solamente caminan rápidamente 30 minutos cada día. Esto se puede hacer con sus hijos o con sus vecinos. [Deportes, bailar]. ¡Si ustedes bailan 'de cabeza,' puede ayudar con la presión!
Explicación: esto es importante para sus hijos porque la presión empieza a subir durante la juventud si los niños no hacen ejercicio cada día.

-¿Alguien tiene alguna pregunta?-

Sección 8: Dieta

Declaración: en la misma encuesta, notamos que 2 de cada 10 pacientes de ILAC reporta tomar alcohol y 1 de cada 10 pacientes de ILAC reporta fumar.

Explicación: si toma menos y para de fumar, la presión se le puede bajar.

Declaración: En la misma encuesta, notamos que 8 de cada 10 pacientes de ILAC reporta tomar café. Ahora, esto normalmente no fuera algo malo, pero nosotros como latinos hacemos algo que no deberemos hacer. ¡Le ponemos demasiada azúcar a nuestros cafecitos!

-Actividad de azúcar en café-

Pregunta: ¿quién aquí le encanta tomarse el cafecito bien dulce?

-respuesta de la clase-

Pregunta a un estudiante: ¿Como se llama usted? ¿Cuánta azúcar le pone a un café normalmente?

-respuesta de estudiante-

Pregunta a el estudiante: ¿y cuantos cafecitos se toma al día?

-respuesta de estudiante-

-llenar vaso de azúcar-

-sacar vaso de azúcar recomendado por día-

Declaración: este vaso representa el azúcar que le pone [nombre de estudiante] a sus cafecitos en un día. ¡Este vaso representa la cantidad de azúcar que se debería de estar comiendo en un día entero!

Declaración: Así como el azúcar puede hacer daño, también lo puede hacer el sodio [la sal].

Explicación: si usted consume la mitad de la sal que consume hoy en día, se le puede bajar la presión

Maneras de bajar la sal que come:

A. Menos sal cuando cocina
B. Menos sal en la mesa cuando come
C. Menos Salami
D. Menos papitas fritas

Declaración: finalmente, les he dicho las cosas que le pueden hacer daño (azúcar, sal, alcohol, fumar) pero no he dicho mucho sobre las cosas que son buenas para nosotros. Estas cosas son vegetales y frutas.

Explicación: yo sé que frutas y vegetales no son las comidas más económicas y que no se comen con la frecuencia que se come la bandera. Pero, si ustedes se comen vegetales o frutas en cada uno de sus comidas, se le puede bajar la presión

Pregunta: En conclusión, ¿Cómo se puede cambiar la dieta para mejorar la presión alta?

-respuesta de la clase-

Respuesta: Dieta:

A. Parar de fumar y tomar alcohol
B. Menos azúcar
C. Menos sal
D. Mas frutas y vegetales

Sugerencias de comida:

A. Frutas y vegetales (banano, brócoli, coliflor, repollo, lechuga, pepino, zanahoria)
B. Pollo o pescado [en vez de salami, salchicha]
C. Ejemplo: En vez de comer salami con espagueti, cómase pollo con lechuga como ensalada

---

Sección 9: Conclusión

Declaración: En conclusión, hemos hablado sobre tres cosas que les pueden ayudar con la presión alta

Pregunta: ¿Cuales son estas tres cosas?

-respuesta de la clase

Respuesta: (1) Medicina/Medico, (2) Ejercicio, (3) Dieta

Declaración: Esto escribe “MED” como médico.

Pregunta: alguien me puede explicar lo que significa ‘M.’ Deme ejemplos de como cumplir con esta letra.

-respuesta de la clase

Pregunta: alguien me puede explicar lo que significa 'E.' Deme ejemplos de cómo cumplir con esta letra.

-respuesta de la clase

Pregunta: alguien me puede explicar lo que significa 'D.' Deme ejemplos de cómo cumplir con esta letra.

-respuesta de la clase

En Conclusión: Conclusión

A. Causas
    a. Genes
    b. Estar Sobrepeso
    c. Dieta – alcohol/fumar, sal, azúcar, no comer vegetales/frutas
    d. Falta de ejercicio
B. Síntomas
    a. Nada
    b. Dolores de cabeza
    c. Visión borrosa
    d. Vértigo
    e. Falta de aire
C. Efectos
    a. Derrames
    b. Ataque de corazón
    c. Problemas de los riñones
    d. Ceguera
D. Tratamientos (MED)
    a. Medicina/Medico
    b. Ejercicio – caminar 30 minutos al día
        i. Mantener un peso sano
    c. Dieta – cortar azúcar, cortar sal, más vegetales/frutas, menos alcohol/fumar

Declaración: si ustedes hacen esto cada día, se les va a bajar la presión y podría ser que un día, puedan parar de tomar esas medicinas.

Declaración: tomen sus medicinas cada día, hagan ejercicio, y coman sano para vivir una vida más llena y más sana.

-¿Alguien tiene alguna pregunta?-

FIN

APPENDIX B: PRE-POST ANALYSIS

PEGATINA
ID Chart:

Nombre:

Fecha de Nacimiento:

Cooperador(a):

PRE-ASSESSMENT

Presión: _____/_____

Glucosa: _____

PARTE A. INFORMACIÓN DEMOGRÁFICA		
1	**¿Un médico le ha dicho que tiene presión alta?**	☐Si ☐No ☐No Se
2	**¿Un médico le ha dicho que tiene diabetes?**	☐Si ☐No ☐No Se
3	**Sexo**	☐ Varón ☐ Mujer
4	**Idioma Principal**	☐ Español ☐ Criollo ☐ Otro (_____)
5	**¿Cuál es su nivel de educación?**	☐Sin Educación ☐Primaria(1-4) ☐Primaria(5-8) ☐Secundaria ☐Superior ☐Otro_____
PARTE C. ENTENDIMIENTO DE PRESIÓN ARTERIAL		
6	**¿Si alguien no mantiene su presión a un nivel normal o recomendable, que le pasa?**	
7	**¿Cuáles son los síntomas asociados con la presión alta? ¿Como se siente uno?**	
8	**¿Cuáles factores causan la presión alta?**	
9	**C/F: Las medicinas son la única manera de controlar la presión alta.**	☐Cierto ☐Falso ☐No Se
10	**C/F: Lo que come uno interacciona con la presión arterial.**	☐Cierto ☐Falso ☐No Se
11	**C/F: El ejercicio interacciona con la presión arterial.**	☐Cierto ☐Falso ☐No Se
PARTE D. ENTENDIMIENTO DE DIABETES		
12	**¿Si alguien no mantiene el azúcar en su sangre a un nivel recomendable, que le pasa?**	
13	**¿Cuáles son los síntomas asociados con diabetes? ¿Cómo se siente uno?**	
14	**¿Cuáles factores causan la diabetes?**	
15	**C/F: Lo que come uno interacciona con diabetes.**	☐Cierto ☐Falso ☐No Se
16	**C/F: El ejercicio interacciona con diabetes.**	☐Cierto ☐Falso ☐No Se
17	**C/F: Lo que come uno interacciona con diabetes.**	☐Cierto ☐Falso ☐No Se

POST-ASSESSMENT

PARTE A. ENTENDIMIENTO DE PRESIÓN ARTERIAL		
1	**¿Si alguien no mantiene su presión a un nivel normal o recomendable, que le pasa?**	
2	**¿Cuáles son los síntomas asociados con la presión alta? ¿Como se siente uno?**	
3	**¿Cuáles factores causan la presión alta?**	
4	**C/F: Las medicinas son la única manera de controlar la presión alta.**	☐Cierto ☐Falso ☐No Se
5	**C/F: Lo que come uno interacciona con la presión arterial.**	☐Cierto ☐Falso ☐No Se
6	**C/F: El ejercicio interacciona con la presión arterial.**	☐Cierto ☐Falso ☐No Se
PARTE B. ENTENDIMIENTO DE DIABETES		
7	**¿Si alguien no mantiene el azúcar en su sangre a un nivel recomendable, que le pasa?**	
8	**¿Cuáles son los síntomas asociados con diabetes? ¿Cómo se siente uno?**	
9	**¿Cuáles factores causan la diabetes?**	

10	**C/F: Lo que come uno interacciona con diabetes.**	☐Cierto	☐Falso	☐No Se
11	**C/F: El ejercicio interacciona con diabetes.**	☐Cierto	☐Falso	☐No Se
12	**C/F: Lo que come uno interacciona con diabetes.**	☐Cierto	☐Falso	☐No Se

APPENDIX C: FORMATIVE ANALYSIS SURVEY

PEGATINA
ID Chart:

Nombre:

Fecha de Nacimiento:

Cooperador(a):

PARTE A. INFORMACIÓN DEMOGRÁFICA		
1	**Sexo**	☐ Varón ☐ Mujer
2	**Idioma Principal**	☐ Español ☐ Criollo ☐ Otro (_____)
3	**¿Cuál es su nivel de educación?**	☐Sin Educación ☐Primaria(1-4) ☐Primaria(5-8) ☐Secundaria ☐S
4	**¿Cuánto tiempo le tomo llegar a ILAC?**	☐ horas ☐ minutos
5	**¿Cómo llegó a ILAC?**	
PARTE B. INFORMACIÓN GENERAL		
6	**Altura y Peso**	☐ Pulgadas ☐ Libras
7	**A. ¿Usted toma o tomaba alcohol?** **B. ¿Usted fuma o fumaba?** **C. ¿Usted toma café?**	Toma: ☐Si ☐No ☐Socialmente ☐hace _____ años/meses Fuma: ☐Si ☐No ☐Socialmente ☐hace _____ años/meses Café: ☐Si ☐No tazas al día_____
8	**¿Cuáles comidas típicamente desayuna? (especifique)**	
9	**¿Cuáles comidas típicamente almuerza? (especifique)**	
10	**¿Cuáles comidas típicamente cena? (especifique)**	
11	**¿Usted hace ejercicio recreacional?**	☐Si ☐No
12	**¿Qué tipo de ejercicio hace?**	☐ Levantar Pesas ☐Trotar ☐Caminar ☐Nadar ☐Bicicleta ☐Deportes ☐Otro _____
PARTE C. PRESIÓN ALTA Y DIABETES		
13	**¿Un médico le ha dicho que tiene presión alta?**	☐Si ☐No ☐No Se
14	**¿Un médico le ha dicho que tiene diabetes?**	☐Si ☐No ☐No Se
PARTE D. INFORMACIÓN MEDICA		
15	**Prueba de glucosa y presión arterial**	**Glucosa:** ☐ **Presión Arterial:** ☐ /
PARTE E. ENTENDIMIENTO DE PRESIÓN ARTERIAL		
16	**¿Si alguien no mantiene su presión a un nivel recomendable, que pasa?**	
17	**¿Cuáles son los síntomas asociados con la presión alta?**	
18	**¿Cuáles factores causan la presión alta?**	
19	**C/F: Las medicinas son la única manera de curar la presión alta.**	☐Cierto ☐Falso ☐No Se
20	**C/F: Lo que come uno interacciona con la presión arterial.**	☐Cierto ☐Falso ☐No Se
21	**C/F: El ejercicio interacciona con la presión arterial.**	☐Cierto ☐Falso ☐No Se
22	**C/F: La presión alta se puede curar.**	☐Cierto ☐Falso ☐No Se
PARTE F. ÚNICAMENTE PARA PACIENTES DIAGNOSTICADOS CON PRESIÓN ARTERIAL ALTA		
23	**¿Está tomando medicina para su presión alta?**	☐Si ☐No ☐No Se
24	**¿Se ha tomado la medicina de presión alta hoy?**	☐Si ☐No ☐No Se
25	**¿Se le ha terminado la medicina de presión alta?**	☐Si ☐No ☐No Se
26	**¿Con cuanta frecuencia se chequea la presión arterial?**	☐Diario ☐Varias veces/semana ☐Semanal ☐varias veces/mes ☐mensual ☐varias veces/año ☐anual ☐nunca ☐Otro_____
27	**¿Cómo se examina la presión arterial?**	☐En Casa ☐Clínica ☐Oficina de Doctor ☐Otro _____

28	**¿Con cuanta frecuencia piensa usted en cómo controlar su presión alta?**	☐Diario ☐Varias veces/semana ☐Semanal ☐varias veces/mes ☐mensual ☐varias veces/año ☐anual ☐nunca ☐Otro_____
PARTE G. ENTENDIMIENTO DE DIABETES		
29	**¿Si alguien no mantiene el azúcar en su sangre a un nivel recomendable, que pasa?**	
30	**¿Cuáles son los síntomas asociados con diabetes?**	
31	**¿Cuáles factores causan la diabetes?**	
32	**C/F: Lo que come uno interacciona con diabetes.**	☐Cierto ☐Falso ☐No Se
33	**C/F: El ejercicio interacciona con diabetes.**	☐Cierto ☐Falso ☐No Se
34	**¿Cuáles comidas afectan el azúcar en la sangre?**	
PARTE H. ÚNICAMENTE PARA PACIENTES DIAGNOSTICADOS CON DIABETES		
35	**¿Está tomando medicina para su diabetes?**	☐Si ☐No ☐No Se
36	**¿Se ha tomado la medicina de diabetes hoy?**	☐Si ☐No ☐No Se
37	**¿Se le ha terminado la medicina de diabetes?**	☐Si ☐No ☐No Se
38	**¿Qué tipo de diabetes tiene usted?**	☐1 ☐2 ☐No Se
39	**¿Con cuanta frecuencia piensa usted en cómo controlar los niveles de azúcar en su sangre?**	☐Diario ☐Varias veces/semana ☐Semanal ☐varias veces/mes ☐mensual ☐varias veces/año ☐anual ☐nunca ☐Otro_____
40	**¿Con cuanta frecuencia se chequea el nivel de azúcar en su sangre?**	☐Diario ☐Varias veces/semana ☐Semanal ☐varias veces/mes ☐mensual ☐varias veces/año ☐anual ☐nunca ☐Otro_____
41	**¿Cómo se examina el nivel de azúcar en su sangre?**	☐En Casa ☐Clínica ☐Oficina de Doctor ☐Otro _____
PARTE I. CONCLUSIÓN		
42	**¿La presión alta es un problema en las personas adentro de su comunidad?**	☐Si ☐No ☐No Se
43	**¿La diabetes es un problema en las personas adentro de su comunidad?**	☐Si ☐No ☐No Se
44	**¿Le interesaría tomar una clase sobre la salud con tópicos incluyendo presión alta y diabetes?**	☐Si ☐No ☐No Se
45	**¿Qué otra información le interesa recibir?**	

APPENDIX D: FORMATIVE ANALYSIS PILOT SURVEY

Nombre: _____
Fecha de Nacimiento: _____
Cooperadora: _____
Sexo: M/F

	PARTE A. INFORMA	
1	**Idioma Principal**	☐ Español ☐ Cr
2	**¿En qué región vive?**	☐0 ☐1 ☐2 ☐3 ☐
3	**¿En cuál pueblo o ciudad vive?**	
4	**¿Cuál es su nivel de educación?**	☐Sin Educación ☐Primaria(1-4) ☐Primaria(5-8) ☐Secundaria ☐Superior ☐Otro_____
5	**Trabajo**	☐Sin Trabajo ☐Tiempo Parcial ☐Tiempo Completo ☐Rechaza Contestar
6	**¿Cuál es su trabajo?**	
7	**Estado civil**	☐Soltero ☐Casado ☐Viudo(a) ☐Divorciado(a) ☐Otro_____
8	**¿Cuánto tiempo le tomo llegar a ILAC?**	☐ horas ☐ minutos
9	**¿Cómo llegó a ILAC?**	
	PARTE B. INFORMACIÓN GENERAL	
10	**Altura y Peso**	☐ ☐ Pies/Metros ☐ Libras/Kilogramos
11	**D. ¿Usted toma o tomaba alcohol?** **E. ¿Usted fuma o fumaba?** **F. ¿Usted toma café?** **G. ¿Usted usa drogas recreacionales?**	Toma: ☐Si ☐No ☐Socialmente ☐hace _____ años/meses Fuma: ☐Si ☐No ☐Socialmente ☐hace _____ años/meses Café: ☐Si ☐No tazas al día_____ Drogas: ☐Si ☐No especifique_____
12	**¿Hay un lugar que usted normalmente va cuando está enfermo(a) o cuando necesita consejos médicos?**	☐Si ☐No ☐hay más que un lugar ☐no se ☐otro_____
13	**¿Qué tipo de lugar visita con más frecuencia?**	☐ILAC ☐Clínica de Gobierno ☐Oficina de Doctor ☐Sala de emergencias ☐Hospital ☐No se ☐Otro_____
14	**¿Con cuanta frecuencia se comunica con su cooperadora?**	☐Diario ☐Varias veces/semana ☐Semanal ☐varias veces/mes ☐mensual ☐varias veces/año ☐anual ☐nunca ☐Otro_____
15	**¿Usted siente que su cooperador(a) está disponible cuando lo(a) necesita?**	☐Si ☐No
16	**¿Cuáles comidas típicamente desayuna? (especifique)**	
17	**¿Cuáles comidas típicamente almuerza? (especifique)**	
18	**¿Cuáles comidas típicamente cena? (especifique)**	
19	**¿Usted hace ejercicio recreacional?**	☐Si ☐No
20	**¿Qué tipo de ejercicio hace?**	☐ Levantar Pesas ☐Trotar ☐Caminar ☐Nadar ☐Bicicleta ☐Deportes ☐Otro _____
	PARTE C. PRESIÓN ALTA Y DIABETES	
21	**¿Un médico le ha dicho que tiene presión alta?**	☐Si ☐No ☐No Se
22	**¿Un médico le ha dicho que tiene diabetes?**	☐Si ☐No ☐No Se

(PARTE II: llenar después de triage)

	PARTE C. INFORMACIÓN MEDICA	
23	**Prueba de glucosa y presión arterial**	**Glucosa:** ☐ **Presión Arterial:** ☐ /
24	**Historia medica**	☐Enfermedad Cardiaca ☐Problemas de Sangrado ☐Asma ☐Enfisema ☐VIH ☐Hepatitis ☐Golpe ☐Tuberculosis ☐Cáncer_____ ☐Infarto ☐Derrame ☐Depresión ☐Colesterol Alto ☐Cirugías _____ ☐Reflujo ☐Otro_____
25	**Síntomas**	

PARTE D. MEDICAMENTOS

Nombre Medicamento y dosis (carpeta)	¿Porque toma medicamento? (verbal)	¿Cuándo toma este medicamento? (verbal)

PARTE E. ENTENDIMIENTO DE PRESIÓN ARTERIAL

26	**¿Si alguien no mantiene su presión a un nivel recomendable, que pasa?**	
27	**¿Cuáles son los síntomas asociados con la presión alta?**	
28	**¿Cuáles factores causan la presión alta?**	
29	**C/F: Las medicinas son la única manera de curar la presión alta.**	☐Cierto ☐Falso ☐No Se
30	**C/F: Lo que come uno afecta a la presión arterial.**	☐Cierto ☐Falso ☐No Se
31	**C/F: El ejercicio afecta la presión arterial.**	☐Cierto ☐Falso ☐No Se
32	**C/F: La presión alta se puede curar.**	☐Cierto ☐Falso ☐No Se

PARTE F. ÚNICAMENTE PARA PACIENTES DIAGNOSTICADOS CON PRESIÓN ARTERIAL ALTA

33	**¿Con cuanta frecuencia se chequea la presión arterial?**	☐Diario ☐Varias veces/semana ☐Semanal ☐varias veces/mes ☐mensual ☐varias veces/año ☐anual ☐nunca ☐Otro_____
34	**¿Cómo se examina la presión arterial?**	☐En Casa ☐Clínica ☐Oficina de Doctor ☐Otro _____
35	**¿Con cuanta frecuencia piensa usted en cómo controlar su presión alta?**	☐Diario ☐Varias veces/semana ☐Semanal ☐varias veces/mes ☐mensual ☐varias veces/año ☐anual ☐nunca ☐Otro_____

PARTE G. ENTENDIMIENTO DE DIABETES

36	**C/F: Diabetes tipo I se puede curar**	☐Cierto ☐Falso ☐No Se
37	**C/F: Diabetes tipo II se puede curar**	☐Cierto ☐Falso ☐No Se
38	**¿Si alguien no mantiene el azúcar en su sangre a un nivel recomendable, que pasa?**	
39	**¿Cuáles son los síntomas asociados con diabetes?**	
40	**C/F: Tener azúcar baja es peor que tener azúcar alta.**	☐Cierto ☐Falso ☐No Se
41	**C/F: tener azúcar alta es peor que tener azúcar baja.**	☐Cierto ☐Falso ☐No Se
42	**¿Cuáles factores causan la diabetes?**	
43	**C/F: las medicinas son la única manera de controlar diabetes**	☐Cierto ☐Falso ☐No Se
44	**C/F: Diabetes se puede curar**	☐Cierto ☐Falso ☐No Se
45	**C/F: Lo que come uno interacciona con diabetes.**	☐Cierto ☐Falso ☐No Se
46	**C/F: El ejercicio interacciona con diabetes.**	☐Cierto ☐Falso ☐No Se
47	**¿Cuáles comidas afectan el azúcar en la sangre?**	

PARTE H. ÚNICAMENTE PARA PACIENTES DIAGNOSTICADOS CON DIABETES

47	**¿Qué tipo de diabetes tiene usted?**	☐1 ☐2 ☐No Se
48	**¿Con cuanta frecuencia piensa usted en cómo controlar los niveles de azúcar en su sangre?**	☐Diario ☐Varias veces/semana ☐Semanal ☐varias veces/mes ☐mensual ☐varias veces/año ☐anual ☐nunca ☐Otro_____
49	**¿Con cuanta frecuencia se chequea el nivel de azúcar en su sangre?**	☐Diario ☐Varias veces/semana ☐Semanal ☐varias veces/mes ☐mensual ☐varias veces/año ☐anual ☐nunca ☐Otro_____
50	**¿Cómo se examina el nivel de azúcar en su sangre?**	☐En Casa ☐Clínica ☐Oficina de Doctor ☐Otro _____

PARTE I. CONCLUSIÓN

51	**¿Le interesaría si nosotros le diéramos más información sobre la presión alta?**	☐Si ☐No ☐No Se
52	**¿Le interesaría si nosotros le diéramos más información sobre la diabetes?**	☐Si ☐No ☐No Se

53	**¿La presión alta es un problema en las personas adentro de su comunidad?**	☐Si ☐No ☐No Se
54	**¿La diabetes es un problema en las personas adentro de su comunidad?**	☐Si ☐No ☐No Se
55	**¿Le interesaría recibir un panfleto escrito con más información sobre la presión alta?**	☐Si ☐No ☐No Se
56	**¿Le interesaría recibir un panfleto escrito con más información sobre la diabetes?**	☐Si ☐No ☐No Se
57	**¿Le interesaría tomar una clase sobre la salud con tópicos incluyendo presión alta y diabetes?**	☐Si ☐No ☐No Se
58	**¿Qué otra información le interesa recibir?**	
59	**¿Le interesaría tomar esta clase en ILAC o adonde vive usted?**	☐ILAC ☐Pueblo ☐Ninguno
60	**¿Cuál es un lugar central adonde vive usted adonde podríamos tener esta clase?**	
61	**¿Puede leer la oración?**	☐Si ☐No ☐Con dificultad
62	**¿Comprende la oración?**	☐Si ☐No