ASSESSING CHRONIC DISEASE ALONG THE BORDER:

A COMMUNITY HEALTH SURVEY OF COLONIA NUEVO PROGRESO, AGUA PRIETA, SONORA, MEXICO

By

Kristen Elyse Grundy

A Thesis Submitted to The Honors College

In Partial Fulfillment of the Bachelor of Arts degree
With Honors in

Latin American Studies

THE UNIVERSITY OF ARIZONA

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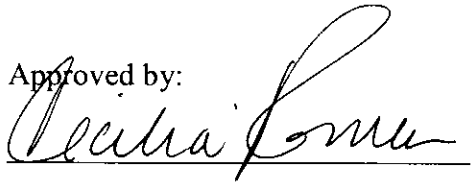

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STATEMENT BY AUTHOR

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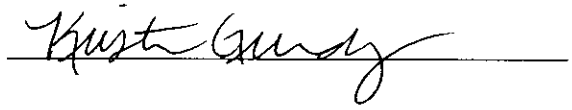
SIGNED: 

TABLE OF CONTENTS

ABSTRACT

The objective of this study is to identify risk factors for and assess the prevalence of non-communicable chronic disease in adults, 18 years of age and older, residing in Colonia Nuevo Progreso, a community located in Agua Prieta, Sonora, Mexico, a town bordering the southeastern portion of the state of Arizona.

A random cross-sectional study was conducted by trained, Spanish-speaking volunteers from the Flying Samaritans undergraduate club and the Mel and Enid Zuckerman College of Public Health at the University of Arizona. The study was conducted using a face-to-face questionnaire with adults 18 years of age and older. Study participants were selected from a stratified sample of residents of Colonia Nuevo Progreso, living within a one-quarter-mile radius of the Community Center Nueva Esperanza. The data collected included demographics, medical and family history of chronic disease, and health care information.

The results of this survey indicate a high prevalence of non-communicable chronic diseases associated with poor nutrition and physical activity. The diseases most commonly reported by survey participants were hypertension (52%), diabetes (40%), and heart attack (20%). It is essential to increase awareness of the community to the growing threat of a non-communicable chronic disease epidemic, and for community members to understand how lifestyle choices can put them at a greater risk for developing such diseases which may cause morbidity and premature mortality.

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

1.1 Introduction

1.1.1 U.S.-Mexico Border

The United States-Mexico border is more than 2,000 miles in length, with a width of almost 50 miles into each of the countries (Ruiz-Beltran). It is a socio-cultural complex region, resulting from deep globalization processes, financial inequalities, as well as from intense legal and illegal immigration across the border. Approximately 11.5 million people reside in the 42 U.S. counties and 39 Mexican municipalities located along the U.S-Mexico border, and 86 percent of those people reside in 14 pairs of "sister cities," metropolitan areas divided by the international border (Homedes).

Today the U.S.-Mexico border is the world's busiest with more than 400 million northbound crossings alone each year (McCarthy). This huge influx of immigrants, many from impoverished villages from Mexico's interior, has created a highly fluid population in the sister cities. Many families with members in both countries regularly travel back and forth, legally and illegally, to visit, work and shop. Such high traffic along the border has caused an economic boom, making some communities prosperous, yet in others poverty remains common.

Many Mexicans and Mexican-Americans living along the border live in *colonias*, small neighborhoods along the U.S.-Mexico border that are marked by poverty and poor living conditions. Economic development along the border has stimulated a series of problems including occupational injuries, communicable diseases, and illness due to lack of potable water and air pollution (Ruiz-Beltran). The U.S. Environmental Agency reported that more than 1 in 10 people living in the Mexico border cities do not have access to clean water. About 1 in 3 homes are not connected to sewage collection systems, and only about one-third of wastewater produced in Mexican border cities is treated before release. The American Medical Association has also characterized the U.S.-Mexico border as a fertile ground for the development of infectious disease. Hepatitis A seropositivity on the United States side of the border is three times the national rate, and almost twice the national rate on the Mexican side (Homedes). The rates of gastrointestinal disease and tuberculosis are also high, and immunization rates are low (McCarthy).

In addition to a high prevalence of illness and infectious disease caused by poverty in border communities, both the U.S. and Mexican health systems are characterized by large gaps in the health care coverage and accessibility. The disparities in terms of access and utilization of health services that are observed along the border are enormous.

1.1.2 United States Border with Mexico

On the U.S. side of the border, the population is primarily of Spanish origin, young, and poor. 35 percent of the population lives under the officially defined poverty level, yet it is estimated that the population grows three times faster than in the rest of the country (Homedes).

The U.S. health care system is predominantly financed through the private sector. Employment is the primary source of health care coverage. The two primary government health programs are Medicare, which insures about 13 percent of the population; and Medicaid, which insures about 12 percent of the U.S. population. The U.S. Military insures about 3.5 percent. In 2006, it was estimated that about 47 million Americans lacked health insurance, about 16 percent of the U.S. population (U.S. Census Bureau). The poor nearly doubled the percentage of the uninsured, and overall, Hispanics had the highest chance of being uninsured (Ruiz-Beltran).

In the United States, a lack of health insurance and a lack of permanent employment often restrict access to health care. Mexicans and Mexican-Americans living in this area commonly experience financial, cultural, and social barriers which prevent them from seeking a regular source of care. In addition, new immigrants are unable to access services because of fear of deportation, social stigma, and discrimination. Since this group utilizes health care services with far less frequency than other groups, it is understandable that Mexicans living in the United States also demonstrate a low rate of preventive services utilization in the absence of illness. However, they are twice more likely to use the hospital emergency room services than non-Hispanic white patients. Increasing hospital and provider fees and the over-use of specialty care has led to an increasing gap in health care services for Mexican and Mexican-American people.

1.1.3 Mexico Border with the United States

Even though in comparison to the rest of Mexico, the Mexican border population is more affluent and enjoys lower levels of unemployment due to the increased traffic and

trade with the United States, the health situation on the Mexican side of the U.S.-Mexico border is very similar to its northern counterpart. The Mexican border communities are growing rapidly with a flood of migrants, in some cities more than 100 new people a day (McCarthy). If the flow of migrants continues, the border population is expected to double by the year 2020 (Homedes). Such increases in population have overwhelmed the local governments to provide basic services to border communities.

Health care services in Mexico are a constitutional right, so health care coverage, theoretically, should cover the population universally. There are a variety of health care services available to Mexican citizens. The *Secretaría de Salud* (Ministry of Health) is in charge of providing health care services to all citizens of the country. The *Instituto Mexicano del Seguro Social* (IMSS, or Social Security) provides services for almost 46 percent of the population. The *Instituto de Seguridad Social para los Trabajadores del Estado* (ISSSTE, a social security system for state employees) covers almost 20 percent of the population. Other smaller systems cover almost 4 percent of the total population. PEMEX (oil industry) and SEDENA (Armed Forces) are examples of such small systems. Almost one-third of the population supplements this coverage by using private health services; however, this means that they must incur out-of-pocket expenses. A very small portion of the population unequally uses private health insurance. In 1997, it was estimated that only 2.4 percent of the population carried private health insurance (Ruiz-Beltran). Despite the Mexican government's attempt to allow access to health care services to all its citizens, funds are short and services are often limited. Only 8-to-10 percent of the population had no access to health services, mostly individuals residing in indigenous population zones and areas known as "poverty belts."

1.1.4 Globalization and the Epidemiological Transition

Multilateral organizations such as the International Monetary Fund (IMF), World Bank (WB), and World Trade Organization (WTO) have described globalization as a process characterized by the economic interdependence among nations created by increasing cross-border transactions of goods and services and of international capital flows (Homedes). The signing of the North American Free Trade Agreement (NAFTA) in 1994 signaled the beginning of an exponential increase of cross-border transactions of goods and services and of international capital flows between the United States, Mexico, and Canada, leading to growing U.S.-Mexican social and economic interdependence.

NAFTA and the movement for globalization have advocated for modernization, and development through economic growth, but globalization has also proven to be a movement that attempts to integrate developing nations into the Western socioeconomic and health care models. Globalization may apply to economic change, but it also has affected human diet and lifestyle across borders, changing the face of health and well-being in both developed and developing communities across the globe.

Until the latter part of the 19th century, the main causes of morbidity and mortality in all countries of the world have been epidemics of communicable diseases such as typhoid, cholera, smallpox, diphtheria, and influenza (Zimmet). Although some of these diseases remain epidemic in Third World countries, industrialization and progressive modernization of many communities have resulted in major improvements in housing, sanitation, water supply, and nutrition. The discovery and availability of antibiotics and vaccines have radically changed the profile of diseases, initially in developed countries, and later in many

developing countries. The modernizing effects of globalization have led to great improvements in public health, allowing for dramatic reductions in mortality from infectious disease. However, paradoxically, globalization has also caused devastating socioeconomic as well as health impacts on developing countries.

The great impact the Western way of life has had on developing countries has led to an epidemiological transition from a burden of infectious diseases to an epidemic of non-communicable diseases. There has been a remarkable increase in the prevalence of risk factors for non-communicable chronic diseases (NCCD) such as type II diabetes, cardiovascular disease, hypertension, and stroke. These diseases have become major contributors to morbidity and mortality along with certain cancers. In a report by the WHO, *Preventing Chronic Disease: A Vital Investment*, it was found that NCCD, dominated by diabetes, are causing double the deaths that are caused by infectious diseases, maternal/perinatal conditions, and malnutrition combined (Zimmmet). The International Diabetes Federation's Diabetes Atlas 2003 report predicted that the number of people with diabetes will almost double within just one generation, from the present 190 million to 335 million in 2025. Without action, 388 million people globally will die from chronic diseases like diabetes and heart disease in the next decade (Zimmet). The growing non-communicable disease burden has now become one of the major threats to human health in the 21st century.

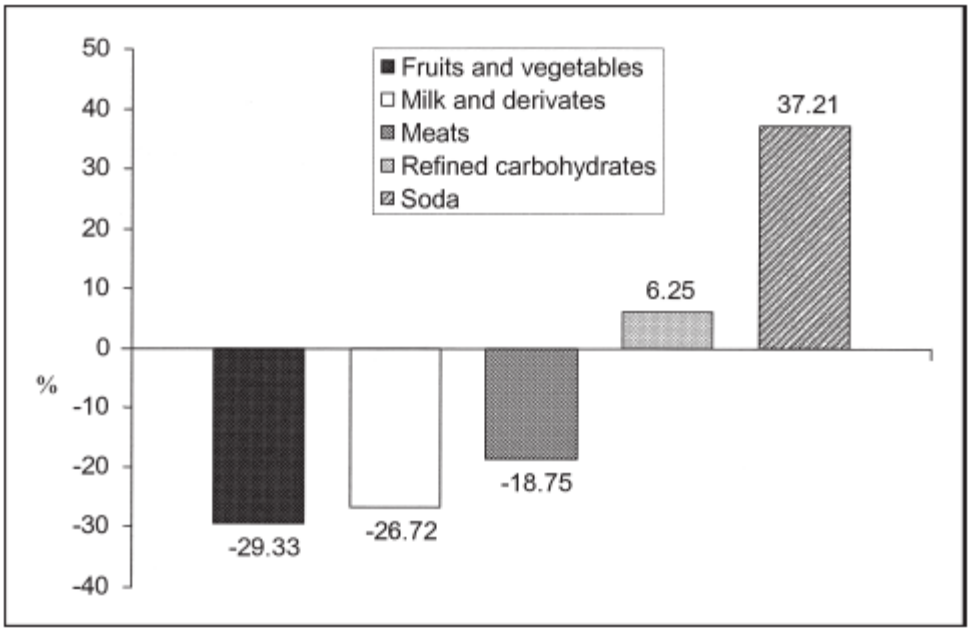
1.1.5 Non-Communicable Chronic Diseases along US-Mexico Border

Consequences of globalization, and especially NAFTA, have significantly contributed to an epidemiological transition in Mexico and along the U.S.-Mexico border. As a result of the rapid process of urbanization and economic growth, the U.S.-Mexico border

has experienced many technological changes and innovations. These changes have led to reduced physical activity in the working place and leisure. They have also caused changes in food patterns and dietary intake, with increased consumption of energy-dense processed foods with higher fat and refined carbohydrate content. As a result, Mexico has experienced a nutritional transition from high prevalence of undernutrition to predominance of diet-related non-communicable chronic diseases (NCCD), and consequently a shift from high infectious disease morbidity and mortality to a predominance of NCCD.

NCCD such as obesity, type II diabetes, and high blood pressure are becoming public health problems in Mexico and along the U.S.-Mexico border. On a national level, fat consumption has increased tremendously. From 1988 to 1999, the percentage of total energy from fat increased from 23.5 percent to 30.3 percent (Rivera). In the Rivera et al. study, the percentage increase in the relative contribution of fat to total energy was larger in the north and in Mexico City, the more urbanized and wealthier regions, than in the south, which is the poorer region. Mean quantities of food purchased in the households per adult equivalent between 1984 and 1998 show an increase in refined sugars (Figure 1). Food quantities purchased decline during this period for all groups studied (particularly fruits and vegetables), but purchases of refined carbohydrates and soda increased by 6.3 percent and 37.2 percent, respectively, in 1998 relative to 1984.

Figure 1. Changes in mean food purchases in 1998 relative to 1984 (%) by food group in Mexico (Rivera)



Parallel to the dietary changes that have occurred in Mexico, there has been an increase in the prevalence of overweight and obesity. The Mexican National Nutrition Surveys conducted in 1988 and 1999 demonstrated that the combined prevalence of overweight and obesity in women 18-49 years of age were 33.4 percent in 1988 and 59.6 percent in 1999, an increase of 78 percent relative to 1988 (Rivera).

The increase in the prevalence of overweight and obesity are reflected in the elevated mortality rate due to diet-related chronic diseases, such as acute myocardial infarction (heart attack), diabetes mellitus, hypertension, cirrhosis, and vascular cerebral disease (stroke). While heredity is a serious risk factor for NCCD, other modifiable risk factors account for a considerable proportion of the mortality increase. These modifiable risk factors include obesity, inadequate dietary intake (high energy, fat, cholesterol, and

carbohydrates intake with a reduction in consumption of fruits and vegetables), and physical inactivity.

Obesity, one of the leading risk factors for increased morbidity and mortality related to NCCD, has also been linked to socioeconomic status and education. Data from a national health survey conducted by the Mexican National Institute of Public Health on more than 45,000 adult males and females in 2000 found that the sum of overweight and obesity declines as socioeconomic conditions increase. Other risk factors for NCCD are also more frequent in low socioeconomic groups since it is presumed that those in high socioeconomic groups have more leisure time physical activity and smoke less, which reduces their risk of cardiovascular disease and cancer. A publication by Martorell et al. relating obesity with education level in five Latin American countries found that the prevalence of obesity is higher in less-educated women in the three countries with the highest GNP per capita (Mexico, DR, and Peru), while the prevalence of obesity is higher in more-educated women in the two countries with the lowest GNP (Haiti and Guatemala).

Lifestyle changes, such as the adoption of the high-calorie diet common in the U.S., have caused a large increase in chronic diseases, such as diabetes and heart disease throughout Latin America, in Mexico, and along the U.S.-Mexico border, where many Mexicans and Mexican-Americans reside. Currently, almost 70 percent of Mexican-American adults are overweight or obese (Rivera). Relative to other ethnic groups in the U.S., Mexican-Americans have the highest prevalence of overweight, and the second highest prevalence of obesity (after non-Hispanic blacks). The prevalence of type II diabetes among Mexican-Americans in the U.S. is three times that of the U.S. general population, and because of late diagnosis and poor control, Mexican-Americans also have higher rates of

diabetes-related morbidity and mortality. With increased travel, communication, and social and economic interdependence between sister cities along the U.S-Mexico border, communities just across the country line often mirror the horrible conditions of the Mexican and Mexican-American colonias to the north.

1.2 Hypothesis

A community health survey of Colonia Nuevo Progreso, a neighborhood in Agua Preita, Sonora, Mexico (the sister city of Douglas, Arizona, U.S.) will reveal a higher prevalence of risk factors for non-communicable chronic diseases than prevalence of infectious diseases, indicating an epidemiological transition that most likely results from a nutritional transition caused by the impact of globalization.

1.3 Objectives and Aims of Study

The purpose of this study was to conduct a basic health needs assessment of the community served by the Community Center Nueva Esperanza in Colonia Nuevo Progreso. This study is significant because it will provide a general profile of the prevalence and risk factors of chronic disease, as well as an understanding of the community's access to and utilization of medical services in the area. The results of this study will be used by individuals and organizations involved with the Community Center Nueva Esperanza to improve the health and social services that they provide to the community of Nuevo Progreso. These organizations include, but are not limited to, the Flying Samaritans Club at the University of Arizona, Frontera de Cristo Presbyterian Ministry, Naco Wellness Initiative, Community Center administrators, and community leaders of Agua Prieta.

CHAPTER TWO

MATERIALS AND METHODS

2.1 Introduction

Twenty-five residents of Colonia Nuevo Progreso, 18 years of age and older, were interviewed by trained volunteer surveyors using face-to-face interviews. Surveyors who elected to participate in the project without compensation were individuals from the Flying Samaritans undergraduate club and the Mel and Enid Zuckerman College of Public Health at the University of Arizona. The collection of data was supported by Frontera de Cristo, the Community Center Nueva Esperanza, and the community of Agua Prieta. No outside funding was necessary for the completion of this project.

2.2 Study Population

The targeted study participants were Spanish-speaking residents of the border community Colonia Nuevo Progreso of Agua Prieta, Sonora. According to the Instituto Nacional de Estadística, Geografía e Información (INEGI), the estimated total population of Agua Prieta in 2005 was 70,303 permanent residents. All survey participants were adults, 18 years of age or older, and a mix of men and women. In addition to being an adult, individuals eligible to participate in the survey had to be permanent residents of Colonia Nuevo Progreso in Agua Prieta, living within a one-quarter-mile radius of the Community Center Nueva

Esperanza, and of Mexican nationality. Participants were randomly selected, allowing for a diverse sample, representative of the local community.

2.3 Sample Size and Study Design

A cross-sectional survey was conducted in order to collect 25 interviews within a one-quarter-mile radius of the Community Center Nueva Esperanza. Interviewers worked in pairs to collect data. Households were randomly selected to participate in order to gain a general profile of the prevalence and risk factors of chronic disease, as well as an understanding of the community's access to and utilization of medical services in the area, specifically of those residents served by the health and social services offered by the Community Center Nueva Esperanza.

2.4 Subject Consent

Teams of interviewers traveled from Tucson to Colonia Nuevo Progreso to conduct the cross-sectional survey. Participants were randomly selected, and interviewed based on specific inclusion criteria (see section 2.5). Interviewers went door-to-door to the randomly selected households, and asked the head of the household (or other present adult) to participate anonymously in a face-to-face interview regarding the prevalence and risk factors of chronic disease in the community.

Potential participants were not notified prior to random selection. If a household was selected to participate, investigators approached the household to solicit participation in person. Once eligible participants were identified, the purpose of the project was explained and participants were assured anonymity for all answers they provided for the survey. The

interviewer made sure each participant understood the purpose of the project and how the collected data would be used before asking for verbal consent to proceed with the survey. No identifying information was collected, so participant consent was obtained verbally through a disclaimer.

2.5 Inclusion/Exclusion Criteria

Twenty-five residents of Colonia Nueva Progreso, Agua Prieta, Sonora were recruited into the study. All adult members, males and females 18 years of age or older; and permanent residents of the randomly selected housing unit within one-quarter-mile of the Community Center Nueva Esperanza were invited to participate. Only one adult was interviewed per household. Household was defined as individuals forming a family unit, supported by a common income and living permanently within the home.

2.6 Data Management and Statistical Method

All interviews were conducted orally, and data were recorded onto pre-coded forms and entered into Epi-Info, version 3.5.1, by the same data entry person, and analyzed by the same software. Statistical methods used included descriptive frequency distributions.

2.7 Questionnaire

The interviewer-administered questionnaire used in this survey was adapted from the investigative project entitled “Understanding the Health Issues of Farmworkers in the Douglas-Wilcox Region” by Principal Investigator Christina Trimmer.

CHAPTER THREE

RESULTS

3.1 Demographics and Population-Based Information

Of the 33 households visited, 25 of such visits resulted in completed surveys (76%). Of the 33 households visited, three households were unoccupied (9%), three households refused interview (9%), and two households did not have adults at home at the time of the visit (2%).

Of the 25 persons interviewed, males made up 20 percent (5) and females 80 percent (20) of the sample. The age of participants ranged from 18 to 63 years of age. The mean and median age of the study participants were 40.72 and 42 years, respectively. The average age of permanent residents according to the Agua Prieta census is 23 years (INEGI).

Sixty-four percent of the people surveyed said that they had lived in Colonia Nuevo Progreso for 20 years or less. Considering that the average age of respondents was about 41 years, this suggests that a relatively fluid population comprises the border community (Table 1). Twenty-eight percent of survey participants reported living in Colonia Nuevo Progreso for 10 years or less, suggesting a notable migrant population. Only four of the 25 participants surveyed (16%) said they had lived only in Colonia Nuevo Progreso. Twenty-one of the 25 participants surveyed had migrated to their current place of residence from a different location, either in the United States or elsewhere in Mexico (Table 2).

Table 1. Resident Inventory

Amount of Time Living in Colonia Nuevo Progreso	Frequency	Percent
1 year or less	2	8%
2-10 years	5	20%
11-20 years	9	36%
21-30 years	4	16%
31-40 years	2	8%
41 or more years	3	12%
Total	25	100%

Table 2. Migration Inventory

Place of Residence Prior to Colonia Nuevo Progreso	Frequency	Percent
Different Colonia, Agua Prieta	3	12%
Different City, Sonora	11	44%
Different State, Mexico	3	12%
Ejido	2	8%
Phoenix, Arizona, USA	2	8%
None	4	16%
Total	25	100%

3.2 Education

Of the participants surveyed, four percent of participants reported never having attended school. Forty-four percent of participants said that they had completed "*primaria no más*," meaning they only attended school between grades 1 and 6. Only 12 percent of survey participants reported completing high school, and only one of such participants pursued higher education (Table 3).

Table 3. Level of Education of population surveyed

Education level completed	Frequency	Percent
Kindergarten or Less	1	4%
Grades 1-3	2	8%
Grades 4-6	11	44%
Grades 7-8	5	20%
Grades 9-11	3	12%
Grade 12	2	8%
Greater than Grade 12	1	4%
Total	25	100%

In figures provided by the Dirección General de Epidemilogía (DGEI) 1997, the proportion of the population never having attended school is 9.13 percent for Mexico and 3.99 percent for the state of Sonora. The figures for high school instruction included completed and not completed high school and therefore are difficult to interpret. Those proportions are 27.88 percent for the nation and 35.72 percent for the state of Sonora (Rosales).

3.3 General Health Status and Family Medical History

About half (52%) of the survey participants reported that they considered their health to be excellent, very good, or good. Thirty-two percent said that they felt their health to be fair, and 16 percent said that they were in poor health (Table 4). All participants surveyed reported feeling satisfied or very satisfied with their lives.

Table 4. General Health Status

Current Health	Frequency	Percent
Excellent	1	4%
Very Good	2	8%
Good	10	40%
Fair	8	32%
Poor	4	16%
Total	25	100%

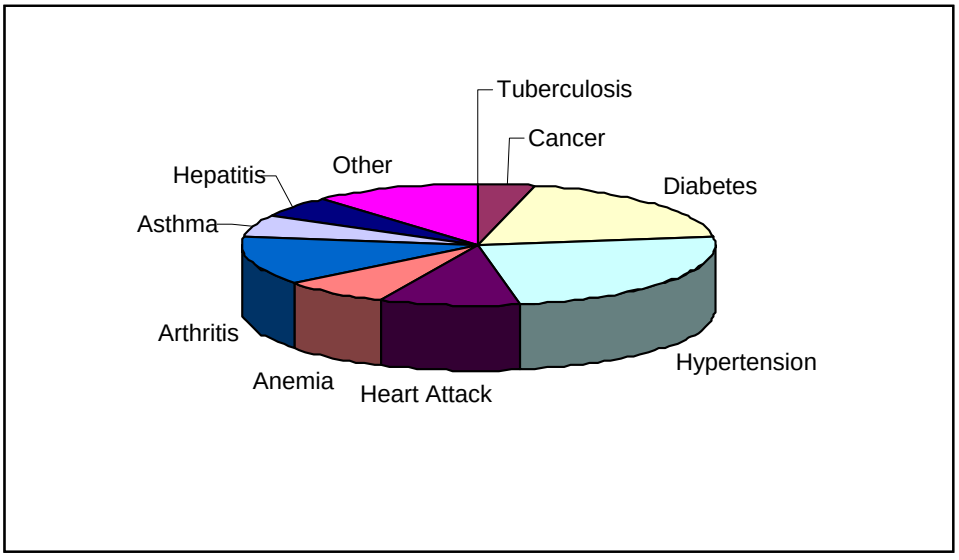
When asked whether a doctor had told them or a member of their family had been diagnosed with a chronic disease, 52 percent of survey participants reported diagnosis of hypertension. Diabetes and heart attack were reported with high prevalence (40 percent and 20 percent, respectively), which suggests that the diseases most prevalent in the community of Colonia Nuevo Progreso are non-communicable chronic diseases, most likely associated with diets high in fat and refined carbohydrate content (Table 5, Figure 2).

Table 5. History of Diagnosis of Chronic Disease

Reported Diagnosis of Individual or Individual's Family Member	Frequency	Percent
Anemia	4	16%
Arthritis	3	12%
Asthma	3	12%
Cancer	2	8%
Diabetes	10	40%
Heart Attack	5	20%
Hepatitis*	3	12%
Hypertension	13	52%
Tuberculosis	0	0%
Other	6	24%

*Only one individual reported a diagnosis of Hepatitis A (acute infection). For the other two cases of hepatitis, the type was unknown.

Figure 2. History of Diagnosis of Chronic Disease

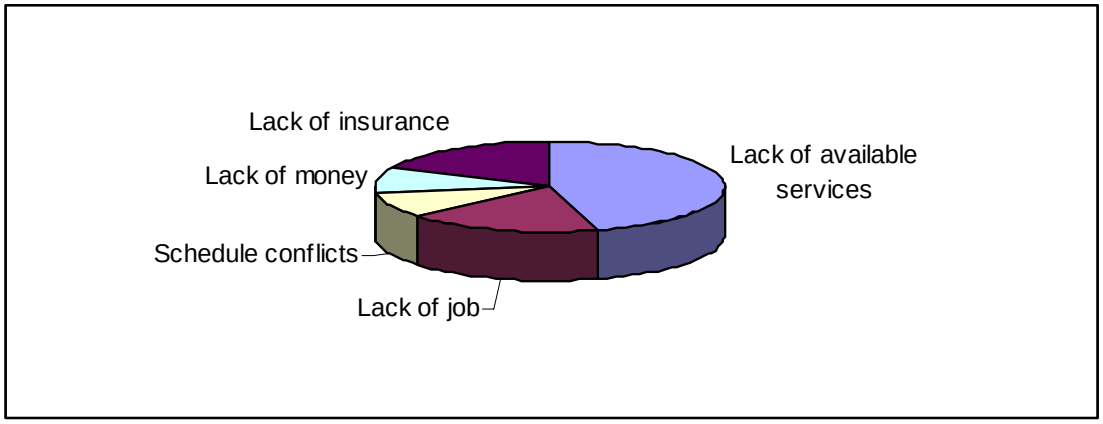


3.4 Access to Medical Services

When asked if they had any type of health coverage in Mexico, including social security, prepaid plans, or other government plans, 56 percent of survey participants reported that they had no health coverage. Of those that reported health coverage, 82 percent reported *Seguro Social* (Social Security, employer sponsored health benefits and subsidized by the federal government) and 18 percent reported *Seguro Popular* (Popular Insurance, a state government health care initiative which aims to provide social security benefits to underprivileged members of the population who receive no health care benefits by providing them with subsidies for medicine and medical care). Regardless of health coverage, all survey participants reported using a clinic, health center, private practice, or other location when they were sick or needed medical advice.

When asked, *En los últimos 12 meses, ¿hubo una ocasión en la cual usted o un miembro de su familia necesitó servicios médicos pero no los pudo obtener o acudir a los servicios?* (In the last 12 months, has there been an occasion in which you or a member of your family needed medical services but you were unable to obtain or acquire such services?), 40 percent of the survey participants responded *Sí* (Yes) (Figure 3).

Figure 3. Barriers to Access to Health Care Services when Needed



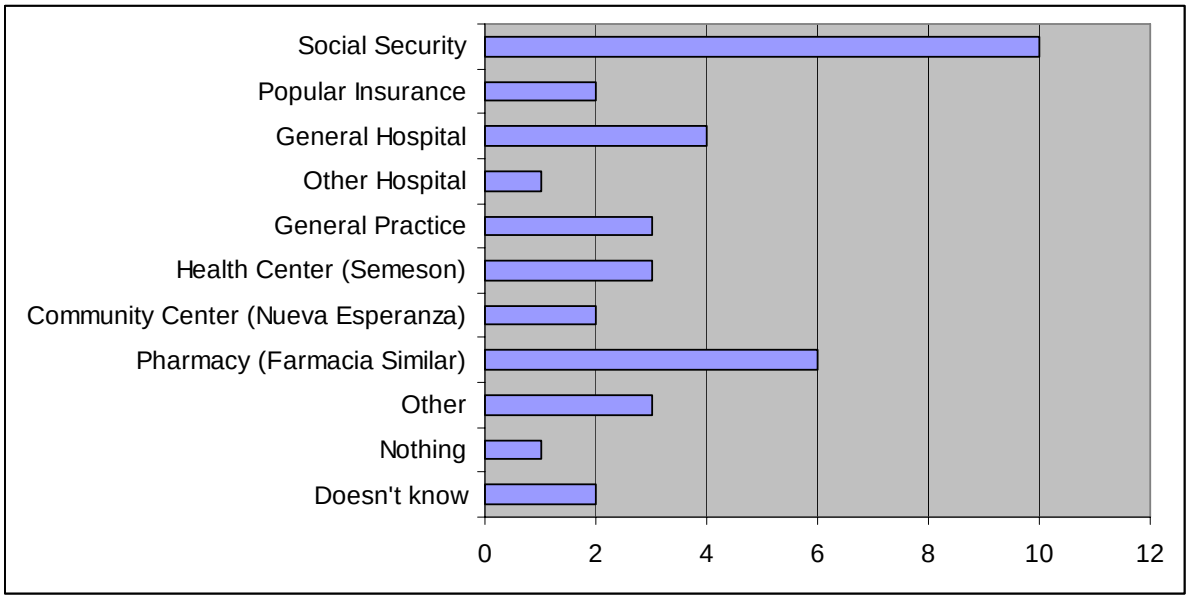
When asked about their work as a barrier to access to health care, 12 percent of participants responded that their work has not permitted them to see a doctor. Forty-eight percent of participants stated that they do not work. When asked about available transportation as a barrier to access to health care services, about 20 percent of participants stated that they do not have available transportation.

Most strikingly, when people were asked, *¿Se preocupa de cómo usted o su familia va a recibir servicios de salud?* (Are you worried about how you or your family will receive health services), 92 percent of participants responded *Sí*, and the remaining 8 percent responded *A veces* (Sometimes).

3.5 Utilization of Services

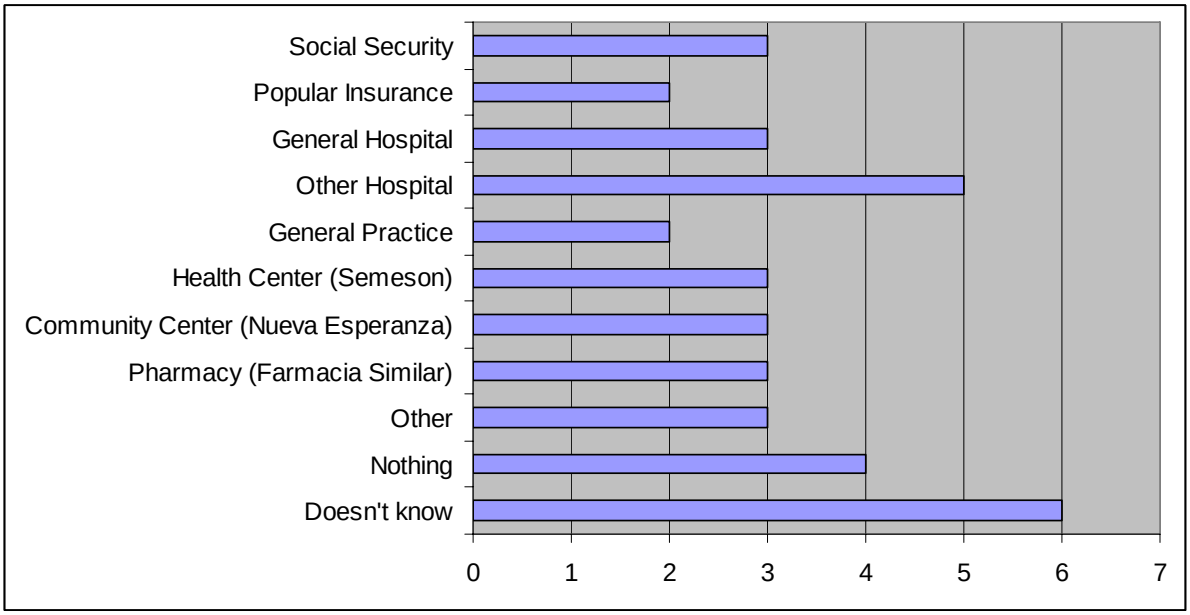
When discussing the survey participants' utilization of health care and social services in the community, the biggest issues to address were the current utilization of services, awareness of services available, desire to access unutilized services, and barriers to access to health care and social services. When asked about current utilization of health services in the community (Figure 4), 40 percent of survey participants stated that they relied on *Seguro Social*. Twenty-four percent of individuals (many of whom did not have *Seguro Social*) reported seeking medical consultation and medications at a local pharmacy (*Farmacia Similar* or "*los Similares*") rather than visit a general medical practice (12%).

Figure 4. What type of health and social services do you or your family members use?



When asked about other services in the community, more people answered that they didn't know rather than name another service they knew was available in the community, even if they had not previously used such services (Figure 5).

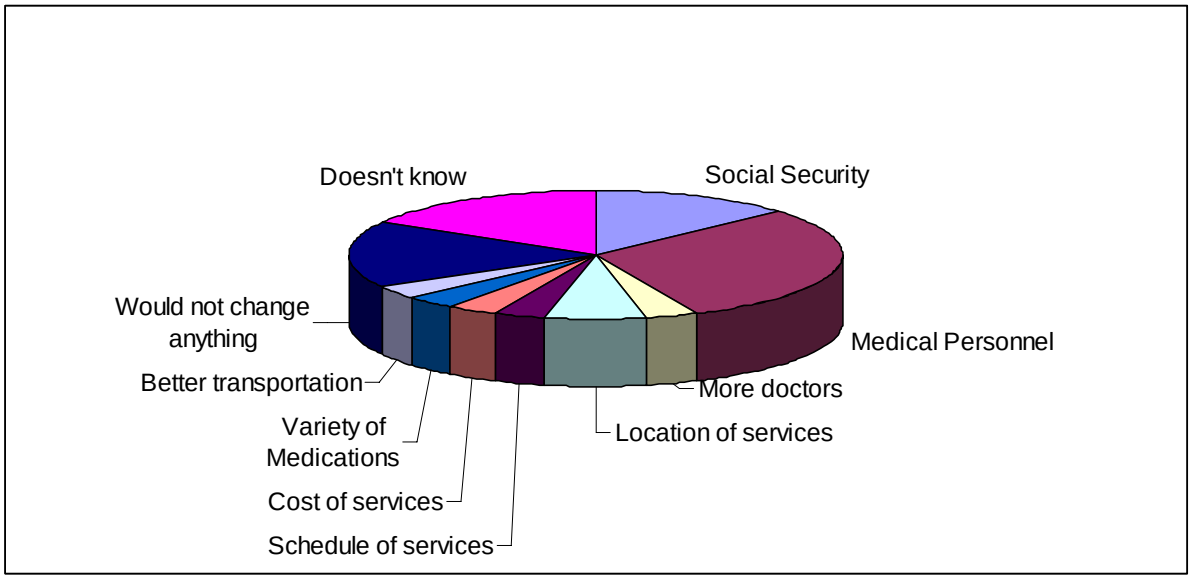
Figure 5. What type of health or social services do you know are available in the community even though you have not used them?



Interestingly, when asked about the availability of services used, most interview participants responded that rather than change the accessibility of doctors, they would rather change the medical personnel themselves ("*mejor servicio*," "*más buenos los medicos*"). Many commented on the negligence and inattentiveness of medical personnel ("*los medicos charlando y jugando*"), unreasonably long waiting time ("*esperamos toda la vida*") (Figure 6.)

Many other participants complained about the accessibility and availability of health services through their insurance (*Seguro Social*, *Seguro Popular*), reporting that many of the problems relating to the medical personnel, wait time, and accessibility of services are related to which health care facilities are accessible through their insurance.

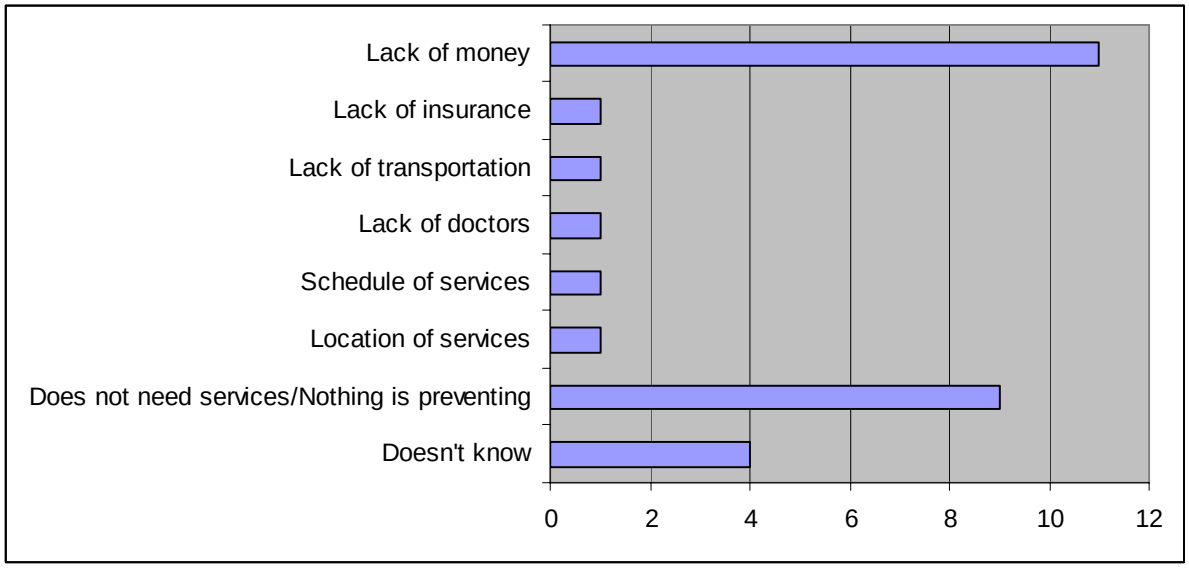
Figure 6. What would you change about the availability of services?



Many people seemed disappointed in the services that were available to them, and it was clear that if they could change or expand their health care services, survey participants would. However, when asked about the services that participants did not use and what was preventing them from using them, it was clear that there were some serious barriers to access to services. Even though 36 percent of survey participants reported not needing services or

that nothing was preventing them from using services, 44 percent of participants said that the biggest obstacle to overcome was a lack of money (Figure 7).

Figure 7. Barriers to Access Unused Health Services



When asked what health or social services would participants like to see in their community, 28 percent responded that they would like to see more doctors. Twenty-four percent wished that the health centers, hospitals, and pharmacies were located closer. Sixteen percent of respondents said that they wanted more clinics in the community, and 16 percent said they wanted more specialized medical services. Eight percent repeated that they would like to see better, more attentive doctors, and the same response was seen for both a desire to have Social Security and more services for children (Table 6).

Table 6. Desired Community Health and Social Services

Service	Frequency	Percent
Closer health center/hospital/pharmacy	6	24%
More clinics	4	16%
More doctors	7	28%
Specialized medical services	4	16%
Better, more attentive doctors	2	8%
Social Security	2	8%
Services for children	2	8%
More transportation	1	4%
Public Telephone	1	4%
Other	1	4%
Nothing	2	8%
Doesn't know	3	12%

When asked about the potential to use various health and social services if they were made available to participants, most responded positively to educational assistance programs (84%), Social Security (80%), a public health clinic (80%), DIF (60%), Ministry of Health (52%), and programs for drug and alcohol abuse (48%). Even though many of the survey participants noted that neither they nor their families use drugs or alcohol, they have observed that the high prevalence of drugs and alcohol abuse in the community is a major problem to address. Forty-four percent of participants also expressed a desire for mental health services. Most participants reported that neither they nor their spouse was a state

employee. For this reason, all but nine participants responded that they would not use ISSSTE or ISSSTESON as a health care resource (Table 7).

Table 7. Potential Utilized Services if Made Available

Service	Frequency	Percent
Social Security	20	80%
Ministry of Health	13	52%
ISSSTE	9	36%
ISSSTESON	9	36%
Public Health Clinic	20	80%
Mental Health Services	11	44%
Programs for drug or alcohol abuse	12	48%
Educational assistance programs	21	84%
DIF	15	60%
Other	1	4%

When asked to mention other health and social needs to be addressed in the community, participants expressed a concern for programs for children and childcare in the community, Social Security, medications, and emergency medical care. They also mentioned substance abuse and addiction and delinquent children as problems that need to be addressed. Community nutrition for children, poor public education; a lack of dentists and doctors, specialty clinics and children's clinics; and high crime rates were also listed as concerns in the community.

CHAPTER FOUR

DISCUSSION

4.1 Introduction

This survey was conceived as the result of interest expressed by the Flying Samaritans undergraduate club to learn more about the residents of the community served by the free monthly medical clinic it hosts in the Community Center Nueva Esperanza. The initiative was supported by the Mel and Enid Zuckerman College of Public Health at the University of Arizona, as well as community health leaders in Agua Prieta. These local leaders included Angel Valencia of Frontera de Cristo, the Community Center Liaison; Monchys, the Community Center Coordinator and Administrator; and Dr. César Torres, the Medical Director of the General Hospital in Agua Prieta. It was important to have the approval of local community leaders in order to facilitate the survey process.

The survey was designed because of a lack of data sources available that document the prevalence of and risk factors for chronic disease in the area. While general census data exist about the community of Agua Prieta, few if any studies have been conducted specifically in Colonia Nuevo Progreso. It was important to collect information specific to the residents of Colonia Nuevo Progreso in order to understand and better address the health needs of the community served by the Flying Samaritans clinic and the Community Center Nueva Esperanza.

Health-related investigative topics of interest were discussed with Angel and Monchys before designing the questionnaire in order to make sure that the questions were considered relevant by community members and they could benefit from the survey results. The questions for the community assessment tool were mostly adapted from the questionnaire used in "Understanding the Health Issues of Farmworkers in the Douglas-Wilcox Region" by Principal Investigator Christina Trimmer. The questions were adjusted to apply specifically to the community of Agua Prieta, Sonora, Mexico, based on the input received from community leaders.

4.2 Study Population

This survey confirmed that the border community of Agua Prieta, specifically the neighborhood of Colonia Nuevo Progreso, has a notable migrant population. Eighty-four percent of the participants surveyed reported living in a location other than their current place of residence in Colonia Nuevo Progreso. Forty-four percent of residents previously lived in a different city in the state of Sonora. Twelve percent reported living in a different state in Mexico. Sixty-four percent of people interviewed reported living in the community for 20 years or less. With a median survey participant age of 40 years, these results are indicative of a highly fluid population.

The population studied had a relatively low level of completed education. Fifty-six percent of survey participants said reported that their highest level of academic completion was sixth grade or less. Only 12 percent of the participants surveyed completed high school, and of those participants, only one person went on to higher education. According to a study published by Martorell et al., low levels of education in a country with

a relatively high GDP (i.e. Mexico), put individuals at risk for obesity and other risk factors associated with non-communicable chronic diseases.

4.3 Prevalence of Chronic Disease

The results of this survey indicate a high prevalence of non-communicable chronic diseases associated with poor nutrition and physical activity. The diseases most commonly reported by survey participants were hypertension (52%), diabetes (40%), and heart attack (20%). Twenty-four percent of people reported "Other," but none of the diseases mentioned were infectious diseases.

These findings support the theory of an epidemiological transition associated with the modernizing (Westernizing) effects of globalization. Increased social and economic interdependence between the United States and Mexico has had a significant impact on communities along the border. Increased job opportunities encourage people to migrate from Mexico's interior to the border communities. However, in addition to the economic growth, technological advances, and apparent affluence in the region, globalization has had a negative influence on the health and well-being of many border residents. The literature suggests that health care innovations, such as antibiotics and vaccinations, have decreased the burden of infectious disease, but the nutritional transition experienced has marked an increased burden (in fact, an epidemic) of non-communicable chronic diseases. It is clear that non-communicable chronic diseases are burdening the residents of Colonia Nuevo Progreso, but a further investigation needs to be conducted to target the source of such diseases. The literature suggests that the source is a decrease in physical activity, and an increase in the

consumption of energy-dense foods with high fat and refined carbohydrate content in the place of nutrient-rich foods such as fruits and vegetables.

4.4 Access to Health Care Services

It was clear in this survey that a lack of resources was one of the biggest barriers to health care services. Many people claimed that they had no job, so it was difficult for them to access services without insurance or a steady income to cover the cost of medical expenses.

However, even those with medical insurance (either through *Seguro Social* or *Seguro Popular*) expressed disappointment in the services that were provided in the community. They complained that *Seguro Social* needed restructuring and improvement because medical personnel had a poor work ethic and were chatty and inattentive. Residences stated that they were inconvenienced by limited hours of operations, and long waiting times in medical practices and clinics, which further restricted their access to health care services.

In addition to needing better health care providers and available services, community members expressed a concern for accessibility of emergency health care services. These concerns in addition to the expressed limitations to health care access made it very apparent that fewer people in the community sought preventive care when they were not sick than emergency care when they were very sick. This practice is not only detrimental to the overall health and well-being of community members, but it is also very costly.

Many community members also commented that there were many health and social needs in the community that needed to be addressed. However, at the same time they

were relatively unaware of services that are already available in the community that could help to address such needs.

4.5 Strengths of Study

The random household and participant selection approach allowed for unbiased data collection in the community. This approach allowed the investigative team to gain a general understanding (a snapshot) of the health status and needs of the community assessed.

The participants represented a good range of ages between 18 and 65 years. The mean age was 40 years, and the median age was 42 years. Having more middle-aged participants was important for understanding chronic disease prevalence and risk factors, because this is the age group that is most at risk for developing such diseases. Older participants also seemed to be more aware of chronic diseases that have affected their families.

4.6 Limitations of Study

One of the major limitations of the study was the fact that the survey interviews were conducted by non-residents. Even though these individuals were fluent in the Spanish language and adequately trained to conduct the survey in a tactful and professional manner, they were not knowledge of or well-known in the community that they surveyed. This unfamiliarity could have caused a barrier to honest, open, and thorough answers provided by survey participants.

Another limitation of the study was the limited number of surveys collected. A total of 25 surveys were collected. While the participants were randomly selected, there may

have been variations in the data collected that could have been negated by a greater participant pool. If this study was repeated, interviewers would return to the community to conduct interviews on multiple days during the week (instead of a single Saturday and Sunday, not in the same week). This would allow for a greater variety of participants available for interview. Interviewers found that there was a much higher proportion of female to male participation (4:1). This most likely had an affect on the data collected. For example, it may explain why 48 percent of respondents stated that they do not work.

One inconsistency that may have been a limitation to the study was the length of the interview conducted. While every interviewing team had the same training and same surveying instruments, one team of interviewers conducted 15-20 minute interviews when another team took 25-30 minutes to interview. This inconsistency most likely indicates a difference in how questions were asked and the depth of answers prompted.

Another limitation of this study may have been that the only indicator for prevalence of chronic disease was the participants' knowledge of family history and diagnosis. It is very possible that some participants may have been unaware of the diseases from which the family has suffered, and other diseases may have been prevalent but remained undiagnosed (heart disease is often a silent killer). It would have been more informational to have taken anthropometric measurements, vital statistics, and blood glucose screenings to assess the risk for non-communicable chronic diseases such as hypertension and diabetes. However, these methods would have required much more time and the procedures would have been much more invasive.

CHAPTER FIVE

CONCLUSIONS

5.1 Conclusions

- Study Population: The majority (84%) of the participants surveyed, 18 years of age or older and residents of Colonia Nuevo Progreso in Agua Prieta, Sonora, Mexico, reported that they had lived elsewhere prior to moving to their current place of residence. Sixty-four percent of the people surveyed said that they had lived in Colonia Nuevo Progreso for 20 years or less, suggesting that there is a significant migrant population that comprises the border community.
- Education: The majority of participants (56%) had completed no higher than a sixth grade education. Only 12 percent of the participants had completed high school, of which only one person went on to complete a degree of higher education. This low level of education puts individuals at risk for obesity as well as other risk factors for other non-communicable chronic diseases.
- General Health Status: The majority of participants (52%) reported that they believed their current health to be excellent, very good, or good. Thirty-two percent of participants said that their health was fair, and 16 percent reported poor health.

- Family History of Disease: Most survey participants reported a family history of diseases associated with poor diet and physical inactivity, namely hypertension (52%), diabetes (40%), and heart attack (20%). These results are indicative of a high prevalence of non-communicable chronic diseases. Fewer infectious diseases were reported. No one reported any previous diagnosis of tuberculosis, and only one person reported infection of hepatitis A (the type was unknown for the other two reported cases of hepatitis).
- Access to Medical Services: Fifty-six percent of survey participants reported that they had no health coverage. Of those that reported coverage, 82 percent reported having *Seguro Social*, and 18 percent reported having *Seguro Popular*. It seemed as though both having and not having insurance caused barriers to access to health care services. For those that had no insurance, lack of money was a large concern. For those that had insurance, the negligence and inattentiveness of medical providers and the inefficiency of health services were major obstacles to overcome. All survey participants expressed concern for how they and their families will receive health services.
- Utilization of Services: Forty percent of community members had access to services covered by *Seguro Social*, either through their personal or their spouse's employment. Twenty-four percent of individuals surveyed (many of whom expressed not having any type of health insurance) reported using services provided by the local pharmacies, especially those affiliated with *Farmacia Similar*. They said that the services provided at these pharmacies were more

accessible and attentive than those provided elsewhere (even in comparison to the services covered by *Seguro Social*).

5.2 Recommendations

The results from this survey can be used by many organizations and individuals that provide services to the community of Colonia Nuevo Progreso, Agua Prieta, Sonora, Mexico in order to learn more about the health risks for and prevalence of chronic disease in the area. It is essential to increase awareness of the community to the growing threat of a non-communicable chronic disease epidemic. It is important to understand how the lifestyle choices can put them at a greater risk for developing such diseases and causing morbidity and premature mortality.

In order to increase awareness of risk factors for non-communicable chronic diseases and promote healthy living strategies, a variety of programs need to be implemented:

- The Flying Samaritans undergraduate club and Frontera de Cristo can use the information collected in this survey to collaborate on ways to improve the health and social services offered at the Community Center Nueva Esperanza. In order to increase awareness of personal risk for non-communicable diseases, the Community Center and the Flying Samaritans clinics should offer to measure and keep record of community members' anthropometric measurements (i.e. body mass index), vital signs (i.e. blood pressure), and blood glucose levels. During the survey itself, participants were encouraged to seek preventive services, such as these, at the Flying Samaritans Clinic at the Community Center Nueva Esperanza.

In addition to assessing health risks for chronic disease, it is important to consider the health needs and priorities of the community members in order to appropriately and effectively serve its residents.

- A community-based prevention program, using local residents and community health leaders to contact at risk families within their communities, assess their health and social service needs, and connect them with available services. Similar "*promotora*" programs have been implemented elsewhere and have been met with success (Lujan). A program like this could be organized out of the Community Center Nueva Esperanza to increase chronic disease awareness and risk prevention among community members.
- The local government needs to become more aware of the health needs and chronic disease risks in border communities. They need to design programs that will define the public health problems that plague their communities and prioritize their solutions. The governments that offer health coverage through *Seguro Social* and *Seguro Popular* need to be made aware of the inefficiency and ineffectiveness of the services that they offer.
- Since there is such a heavy interdependence between the United States and Mexico, binational partnerships that involve multiple players need to be created in order to enhance the basic services in the region. A possible solution is to provide trans-boundary health coverage for all residents of the region regardless of linguistic, economic, and/or migratory status.

The prevention and control of non-communicable diseases is not entirely in the hands of individuals. Positive changes in diet and physical activity are not enough to stop an epidemic.

The medical community, public and social planners, private enterprise, economists, and politicians also need to do their part to look out for the best interest of their fellow community members, protecting their health and well-being and decreasing the risks for morbidity and premature mortality, thus protecting the community itself.

APPENDIX A

SURVEY INSTRUMENT

Questionnaire (Spanish):

Hola, mi nombre es _____, y trabajo con la Universidad de Arizona. Estamos haciendo una encuesta sobre los residentes de la Colonia Nuevo Progreso y la salud. Nuestro objetivo es obtener mas información acerca de cómo mejorar el acceso a los servicios sociales y servicios de salud para la comunidad. Queremos mejorar los servicios de salud que le ofrece la clínica de los Samaritanos Voladores en el Centro Comunitario Nueva Esperanza. La encuesta va a durar unos 30 a 45 minutos. ¿Usted tiene interés en participar en esta encuesta?

(Si la respuesta es "sí":)

¿Tiene usted 18 años o más de edad?

___ Sí (01) ___ No (02)

(Si la respuesta es "no", déle la gracias por su tiempo. Si la respuesta es "sí":)

¿Considera usted este lugar como su residencia principal?

___ Sí (01) ___ No (02)

(Si la respuesta es "no", déle la gracias por su tiempo. Si la respuesta es "sí":)

Quisiera hacerle unas cuantas preguntas que tomarán hasta 45 minutos de su tiempo. ¿Quisiera usted participar en este encuesta?

___ Sí (01) ___ No (02)

(Si la respuesta es "no" déle la gracias por su tiempo. Si la respuesta es sí, sigue con la limitación de responsabilidad)

==========

1. Número de identificación del documento _____

2. Nombre de quién condujo la entrevista (entrevistador(a))

_____

3. Fecha de la entrevista:_____

==========

[*Introducción del Entrevistador/a*:] El propósito de estas preguntas es para entender mejor cómo es la vida y la salud de los residentes de la comunidad que son servidos por la clínica de los Samaritanos Voladores en el Centro Comunitario Nueva Esperanza. Primero, nos gustaría saber alguna información acerca de usted y de su historial de residencia.

Sección A: Información del Residencia y Datos Personales
A1: ¿Considera usted este lugar como su residencia principal?
____Sí
____No
____Sin Respuesta

A2: ¿Por cuánto tiempo ha vivido usted en esta comunidad?

_____

A3: ¿Dónde vivía usted antes de llegar a esta comunidad y por cuánto tiempo vivía en cada lugar?

_____

_____

_____

_____

_____

A4: ¿Qué edad tiene usted? _____

A5: ¿Cuál es su sexo?
___ Masculino
___ Femenino

A6: ¿Cuántos años de escolaridad completó?
___ Nunca asistí a la escuela o solo a Kinder
___ Grados de 1 al 3
___ Grados de 4 al 6
___ Grados de 7 al 9
___ Grados de 9 al 11
___ Grado 12 o DEG (graduado de Preparatoria o h*igh school*)
___ Más que el grado 12

Sección B: Estado de Salud
[*Introducción del Entrevistador/a*:] Ahora le voy a hacer algunas preguntas acerca de su estado de salud.

B1. Diría usted que por lo general su estado de salud es:
***(Por favor lea todas las opciones*)**
1.___ Excelente
2.___ Muy bueno
3.___ Bueno
4.___ Regular
5.___ Malo
(*No lea estas opciones:*)
77.___ No sabe / No está seguro/a
99.___ Se niega a contestar

B2. ¿En términos generales, qué satisfecho/a está con su vida?
[Por favor lea:]
1.___ Muy satisfecho/a
2.___ Satisfecho/a
3.___ Insatisfecho/a
4.___ Muy insatisfecho/a
(No lea estas opciones:)
77.___ No sabe / No está seguro/a
99.___ Se niega a contestar

B3: *[Introducción del Entrevistador/a:*] Ahora le voy a hacer algunas preguntas acerca de las enfermedades que un doctor o médico le ha identificado. Si no está claro, por favor dígame. Todas sus respuestas son confidenciales.

[*Para cada enfermedad clínica, pregunte*:] **¿Alguna vez un médico le ha dicho que usted o algún miembro de su familia tiene/tuvo (_____)?**

B3a) **…. Tuberculosis**

___ Sí ___ No

B3b) …. ***Cáncer***

___ Sí ___ No ***Si respondió "sí,"*** ¿cuál tipo de cáncer? _____

B3c) **…. Diabetes**

___ Sí ___ No

B3d) **…. Hipertensión arterial/Presión alta**

___ Sí ___ No

B3e) **…. Ataque cardíaco/del corazón**

___ Sí ___ No

B3f) **…. Anemia**

___ Sí ___ No

B3g) **…. Artritis/Reumatismo**

___ Sí ___ No

B3h) **…. Asma**

___ Sí ___ No

B3i)**…. Hepatitis**

___ Sí ___ No ***Si respondió "sí,"*** ¿cuál tipo de hepatisis? _____

B3j)**…. Otra** _____

Sección C: Acceso a cuidados médicos

[*Introducción del Entrevistador/a*:] Las siguientes preguntas son acerca de su seguro médico y el cuidado de su salud.

C1. ¿Tiene algún tipo de cobertura médica en México, incluyendo seguro de salud, planes de prepagos, u otros planes gubernamentales?
1.___ Sí
2.___ No ***Si respondió "sí,"*** ¿cuál tipo de cobertura médica?_____
(*No lea estas opciones:*)
77.___ No sabe/No esta seguro
99.___ Se niega a contestar

C2. ¿Hay alguna clínica, centro de salud, médico particular, o algún otro lugar al cual usted acude cuando está enfermo/a o cuando necesita consejos acerca de su salud?
1.___ Sí
2.___ No
(*No lea estas opciones:*)
77.___ No sabe / No está seguro/a
99.___ Se niega a contestar

C3: ¿Ha podido ir al doctor en un tiempo que se le ajuste al horario del trabajo?
1. ___ Sí
2. ___ A veces
3. ___ No
4. ___ No trabaja
(*No lea estas opciones:*)
77.___ No sabe / No está seguro/a
99.___ Se niega a contestar

C4. En los últimos 12 meses, ¿hubo una ocasión en la cual usted o un miembro de su familia necesitó servicios médicos pero no los pudo obtener o acudir a los servicios?
1.___ Sí*
2.___ No *[Pase a C5]*
(*No lea estas opciones:*)
77.___ No sabe / No está seguro/a *[Pase a C5]*
99.___ Se niega a contestar *[Pase a C5]*

C4a* Si respondió "sí," por qué?

_____

_____

_____

_____

_____

_____

C5: ¿Hay transporte disponible para que usted y su familia vaya/an al médico?
1. ___ Sí
2. ___ A veces
3. ___ No
(*No lea estas opciones:*)
77.___ No sabe / No está seguro/a
99.___ Se niega a contestar

C6: ¿Se preocupa de cómo usted o su familia va a recibir servicios de salud?
1. ___ Sí
2. ___ A veces
3. ___ No
(*No lea estas opciones:*)
77.___ No sabe / No está seguro/a
99.___ Se niega a contestar

Sección D: Utilización de servicios

D1: ¿Qué tipo de servicios de salud y servicios sociales utiliza usted o los miembros de su familia?

_____

_____

_____

D2: ¿Qué tipo de servicios de salud y servicios sociales sabe usted que están disponibles en la comunidad, aunque usted no los haya utilizado?

_____

_____

_____

D3: Si usted pudiera cambiar cualquier cosa acerca de la disponibilidad de los servicios que utiliza, ¿qué cambiaría?

_____

_____

_____

_____

D4: Si existen servicios que usted no utiliza, ¿qué es lo que le impide utilizarlos?

_____

_____

_____

_____

_____

D5: ¿Cuales servicios de salud o servicios sociales le gustaría que hubiera en la comunidad?

_____

_____

_____

_____

D6: ¿Cuáles de los siguientes servicios de salud y servicios sociales utilizaría si estuvieran disponibles para usted? [*Lea las opciones. Marque todas las que correspondan*]

___ Seguro Social
___ Secretaría de Salud
___ DIF
___ ISSSTE
___ ISSSTESON
___ Clínica de la salud pública
___ Servicios de salud mental
___ Asistencia para dejar de utilizar las drogas o el alcohol
___ Asistencia escolar para los niños
___ Otro [*Explique*]: _____
___ Ninguno
___ No sabe
___ Sin respuesta

D7: ¿Qué necesidades tiene usted de los servicios de salud y de los servicios sociales que no se han llenado?

_____

_____

_____

_____

D8: ¿Hay algun otro problema de la salud o los servicios de salud en la comunidad que no hemos mencionado? Recuerde que nos gustaría entender mejor los problemas y desafíos de los residentes de esta comunidad.

_____

_____

_____

_____

_____

¡*Muchísimas gracias por su participación!*

[*Para el/la entrevistador/a solamente: ¿Había algunas secciones del cuestionario que usted cree que el participante no podía contestar o hubiera proveído información no muy confiable?*] [*Anote abajo*]

_____

_____

_____

_____

_____

_____

_____

[*Notas adicionales, si es necesario*]

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Los iniciales del entrevistador/a después de revisar el documento_____

Questionnaire (English):

Hello, my name is _____, and I work with the University of Arizona. We are doing a survey on the residents of the community Nuevo Progreso and health. Our objective is to obtain more information about how to improve the access to health services for the community. We would like to improve the health services offered by the Flying Samaritans clinic in the Nueva Esperanza Community Center. The survey will last between 30 and 45 minutes. Would you be interested in participating in this survey?

(If yes, continue)

Are you of 18 years of age or older?

___ Yes (01) ___ No (02)

(If the answer is “no”, tell them thank you for their time. If the answer is “yes”:)

Do you consider this as your primary place of residence?

___ Yes (01) ___ No (02)

(If the answer is “no”, tell them thank you for their time. If the answer is “yes”:)

I would like to ask you some questions that will take up to 45 minutes of your time. Would you like to participate in this survey?

___ Yes (01) ___ No (02)

(If the answer is “no”, tell them thank you for their time. If the answer is yes, continue with the disclaimer for survey participants)

==========

1. Document identification number: _____

2. Name of interviewer:

_____

3. Date of Interview: _____

==========

[*Introduction for Interviewer*:] The purpose of these questions is to better understand the lives and health of the residents of the community served by the Flying Samaritans clinic in the community center, Nueva Esperanza. First, we would like to ask some questions about you and your residencial history.

Section A: Residential and Personal Information

A1: Do you consider this place as your primary place of residence?
____Yes
____No
____No answer

A2: For how long have you lived in this community?
_____

A3: Where did you live before arriving in this community, and for how long did you live in each place?
_____
_____
_____
_____
_____

A4: How old are you? _____

A5: What is your sex?
___ Male
___ Female

A6: How many years of school have you completed?
___ I never attended school or only Kindergarten
___ Grades 1 through 3
___ Grades 4 through 6
___ Grades 7 through 8
___ Grades 9 through 11
___ Grade 12 or graduated high school
___ Beyond Grade 12

Section B: Present Health

[*Introduction for Interviewer*:] Now I will ask you some questions about your present health.

B1. In general, would you say your present health is:
***(Please read all options*)**
1.___ Excellent
2.___ Very good
3.___ Good
4.___ Alright
5.___ Bad
(*Do not read the following options:*)
77.___ Does not know / Not sure
99.___ Does not answer

B2. In general, are you satisfied with your life?
(Please read:)
1.___ Very satisfied
2.___ Satisfied
3.___ Unsatisfied
4.___ Very unsatisfied
(Do not read:)
77.___ Does not know / Not sure
99.___ Does not answer

B3: *[Introduction for Interviewer:*] Now I am going to ask some questions about illnesses for which you have been diagnosed by a doctor. Please tell me if something is unclear. All answers are confidential.

[*For every illness, ask*:] **Has a doctor told you that you or a member of your family had (_____)?**

B3a) **…. Tuberculosis**

___ Yes ___ No

B3b) …. ***Cancer***

___ Yes ___ No *If yes*, what type? _____

B3c) **…. Diabetes**

___ Yes ___ No

B3d) **…. Hypertension / High Blood Pressure**

___ Yes ___ No

B3e) **…. Heart Attack**

___ Yes ___ No

B3f) **…. Anemia**

___ Yes ___ No

B3g) **…. Arthritis**

___ Yes ___ No

B3h) **…. Asthma**

___ Yes ___ No

B3i)**…. Hepatitis**

___ Yes ___ No *If yes*, what type? _____

B3j)**.... Other** _____

Section C: Access to health care

[*Introduction for Interviewer*:] The following questions are about your health insurance and health care.

C1. Do you have any type of health coverage in Mexico, including social security, prepaid plans, or other government plans?
1.___ Yes
2.___ No
If yes, what type of health coverage? _____
(*Do not read these options:*)
77.___ Does not know / Not sure
99.___ Does not answer

C2. Do you use any clinic, health center, private practice, or other location when you are sick or when you need medical advice?
1.___ Yes
2.___ No
(*Do not read these options:*)
77.___ Does not know / Not sure
99.___ Does not answer

C3: Has your work schedule permitted you to see a doctor?
1. ___ Yes
2. ___ Sometimes
3. ___ No
4. ___ Does not work
(*Do not read these options:*)
77.___ Does not know / Not sure
99.___ Does not answer

C4. In the last 12 months, has there been an occasion in which you or a member of your family needed medical services but you were unable to obtain/acquire such services?
1.___ Yes*
2.___ No *[Skip to C5]*
(*Do not read these options:*)
77.___ Does not know / Not sure *[Skip to C5]*
99.___ Does not answer *[Skip to C5]*

C4a* If subject responded "Yes," why?

_____
_____
_____

C5: Is transportation available for you or your family to go to the doctor?
1. ___ Yes
2. ___ Sometimes
3. ___ No
(*Do not read these options:*)
77.___ Does not know / Not sure
99.___ Does not answer

C6: Are you worried about how you or your family will recieve health services?
1. ___ Yes
2. ___ Sometimes
3. ___ No
(*Do not read these options:*)
77.___ Does not know / Not sure
99.___ Does not answer

Section D: Use of services
D1: What type of health services and social services do you or your family members use?

_____
_____
_____

D2: What type of health or social services do you know are available in the community, even though you have not used them?

_____
_____
_____

D3: If you could change anything about the availability of the services you use, what would you change?

_____
_____
_____
_____

D4: If there are services that you do not use, what is preventing you from using them?

_____
_____
_____

D5: What health or social services would you like to see in your community?

_____
_____

D6: Which of the following health and social services would you use if they were made available to you?
(*Read the following options. Mark all that apply.)*

___ Seguro Social
___ Secretaría de Salud/Hospital General
___ DIF
___ ISSSTE
___ ISSSTESON
___ Public Health Clinic
___ Mental health services
___ Substance abuse counseling
___ Educational assistance programs
___ Other (*Explain*): _____
___ None
___ Does not know
___ No answer

D7: What other social and health needs do you have that were not mentioned?

_____
_____
_____
_____
_____

D8: Are there any other health or health care problems in the community that we have not mentioned? Remember that we would like to better understand the problems and challenges of the residents of this community.

_____
_____
_____
_____

Thank you very much for your participation!

(*For the interviewer only:Were there any sections of the survey in which you think the participant could not answer or provided unreliable information?)* [*Note below:*]

_____
_____
_____
_____
_____
_____

[*Additional notes, if necessary*]

_____
_____
_____
_____
_____
_____
_____

APPENDIX B

ASSESSMENT TOOLS

Survey Participant Recruitment Script:

Buenas tardes, Señores y Señoras,

Me llamo Kristen Grundy y soy estudiante de la Universidad de Arizona en Tucson. La razón por la que estoy aquí es porque me encuentro investigando los asuntos de salud de los residentes en la área acerca del Centro Comunitario Nueva Esperanza. Me gustartía obtener información sobre sus experiencias a través de una entrevista informal. Si usted decide participar en ua entrevista conmigo, sería completamente anónimo. No le voy a preguntar información que le indentificaría personalmente. Se puede terminar a la entrevista en cualquier momento. Le gustaría participar? (Esperaré una respuesta. Si está de acuerdo, seguiré con las preguntas). Buscaremos a un lugar privado dónde estará cómodo.

Good afternoon,

My name is Kristen Grundy and I am a student at the University of Arizona in Tucson. I am doing research about the health issues of residents that live near the Community Center Nueva Esperanza and am hoping to obtain information about your experiences through an informal interview. If you decide to participate in an interview, it will be completely anonymous. I will not ask you for any information that identifies you personally. You may end the interview at any time. Would you like to participate? (Wait for an answer. If yes, then proceed with script). Let's find a place where you will be comfortable and where we can have some privacy during our conversation.

Participant Disclaimer (Spanish):

CONSENTIMIENTO INFORMADO DEL SUJETO DE ENCUESTA

Título de Proyecto: Asesando las enfermedades crónicas de la frontera: Una encuesta comunitaria de la salud pública de la Colonia Nuevo Progreso de Agua Prieta, Sonora de México

Se le ha invitado a que participe voluntariamente en un estudio de investigación acerca de la salud de los residentes de la Colonia Nuevo Progreso que viven en el área del Centro Comunitario Nueva Esperanza. Esta encuesta es anónima, lo que significa que no se le preguntará información personal la cual le conecte con sus respuestas. Usted es elegible para participar porque usted se ha identificado como residente de la comunidad, vive al dentro de un radio de una media milla del centro comunitario y tiene o es mayor de 18 años de edad.

Si conviene participar, su participación consistirá en una encuesta de 30 a 45 minutos acerca del bienestar de los miembros de la comunidad y los servicios de salud que utilicen ellos. Adicionalmente, la encuesta le preguntará de los retos que existen para apoyar la salud de los jornaleros. La encuesta tomará lugar en su casa. Usted puede elegir no contestar a alguna o a todas las preguntas. Durante la entrevista se tomarán notas por escrito que le ayudarán al investigador del estudio a revisar lo que se dijo. Para mantener su anonimidad, ni su nombre, ni su dirección, o ninguna otra información personal aparecerá en esas notas.

Se le contestarán todas las preguntas que tenga y usted podrá retirarse del estudio en el momento que quiera. No existen riesgos conocidos para usted a causa de su participación y no se espera que usted obtenga beneficios directos por participar. No tiene que pagar y el único costo para usted es el tiempo que gaste y usted no recibirá compensación monetaria por su participación. El propósito de este estudio es utilizar nuestros resultados para guiar cambios positivos en la comunidad y en la política que pueden mejorar la salud de los campesinos.

Usted puede obtener más información acerca del estudio llamando a **Kristen Grundy al (520) 626-7083.** Si tiene alguna pregunta sobre sus derechos como participante de esta investigación, puede llamar a la oficina de *University Subjects Protection Program* al **(520) 626-6721 o peaje libremente a 1-866-278-1455.**

Al participar en esta entrevista(s), usted otorga su permiso para que los investigadores utilicen su información para los propósitos de este estudio de investigación.

Muchas gracias,

Kristen Grundy
Investigadora Principal

Participant Disclaimer (English):

SURVEY SUBJECT'S DISCLAIMER FORM

Title of Project: Assessing Chronic Disease Along the Border: A Community Health Survey of Colonia Nuevo Progreso, Agua Prieta, Sonora, Mexico

You are being invited to voluntarily participate in a research study about the health of community members living in the community Nuevo Progreso, near the Community Center Nueva Esperanza. This is an anonymous survey, which means that no personal information linking you to your responses will be asked. You are eligible to participate because you are a have identified yourself as a resident of the community, you live within a one-half-mile radius of the community center, and you are 18 years of age or older.

If you agree to participate, your participation will involve a 30-40 minute interview about your health and what type of health services you use. In addition, the survey will ask you about any encounters you may have had with health care providers. The interview will take place in your home. You may choose not to answer all or some of the questions. In order to maintain your anonymity, neither your name, nor your address, nor any other identifying information will be put on these materials. An investgator may return on another day to ask you the same questions, just to be sure that our information is accurate.

Any questions you have will be answered and you may withdraw from the study at any time. There are no known risks from your participation and no direct benefit from your participation is expected. There is no cost to you except for your time and you will not be compensated for your participation. The aim of this study is to use our results to improve the services offered to your community by the Flying Samaritans clinic by better understanding the health needs and concerns of your community.

You can obtain further information about the study by calling **Kristen Grundy at (520) 626-7083**. If you have questions concerning your rights as a research participant, you may call the **University of Arizona Human Subjects Protection Program at (520) 626-6721 or toll-free at 1-866-278-1455.**

By participating in the interview(s), you are giving permission for the investigators to use your information for research purposes.

Thank you,

Kristen Grundy
Principal Investigator

Participant Handout –
Health resources available in Agua Prieta:

Recursos de Salud, Agua Prieta, SON, MEX

Seguro Social

IMSS HOSPITAL GENERAL DE ZONA N0 12 AGUA PRIETA
Ubicación:
AV 13 Y AV 14 , AGUA PRIETA CENTRO , C.P 84200
Tel:6333381499

Hospitales, Sanatorios y Clínicas

ISSSTE CLINICA
Ubicación:
CLL 14 S/N , AGUA PRIETA CENTRO , C.P 84200
Tel:6333382440

ISSSTESON
Ubicación:
BLV BENITO JUAREZ 15 , CAÑON DE LA ANTENA , C.P 85400
Tel:6222227488

Clínica Gratis brindado por los Samaritanos Voladores
Ubicación:
CENTRO COMUNITARIO NUEVA ESPERANZA
CLL 19 a 20, AV 40 #1960, AGUA PRIETA
Tel:6333310932

Gobierno Municipal

DIF MUNICIPAL
Ubicación:
CLL 25 479 , EJIDAL , C.P 84259
Tel:6333384273

Participant Handout –
Flyer for free Flying Samaritans health clinic:

Los Samaritanos Voladores

Clínica GRATIS
Sábado, el 25 de abril
10:00 a 2:00

Centro Comunitario Nueva Esperanza
Entre Calles 19 y 20, Avenida 40, #1960
Colonia Nuevo Progreso, Agua Prieta, SON

Venga para medir el índice de masa corporeal (IMC), la glucosa sanguínea y los vitales

Household Inventory Log:

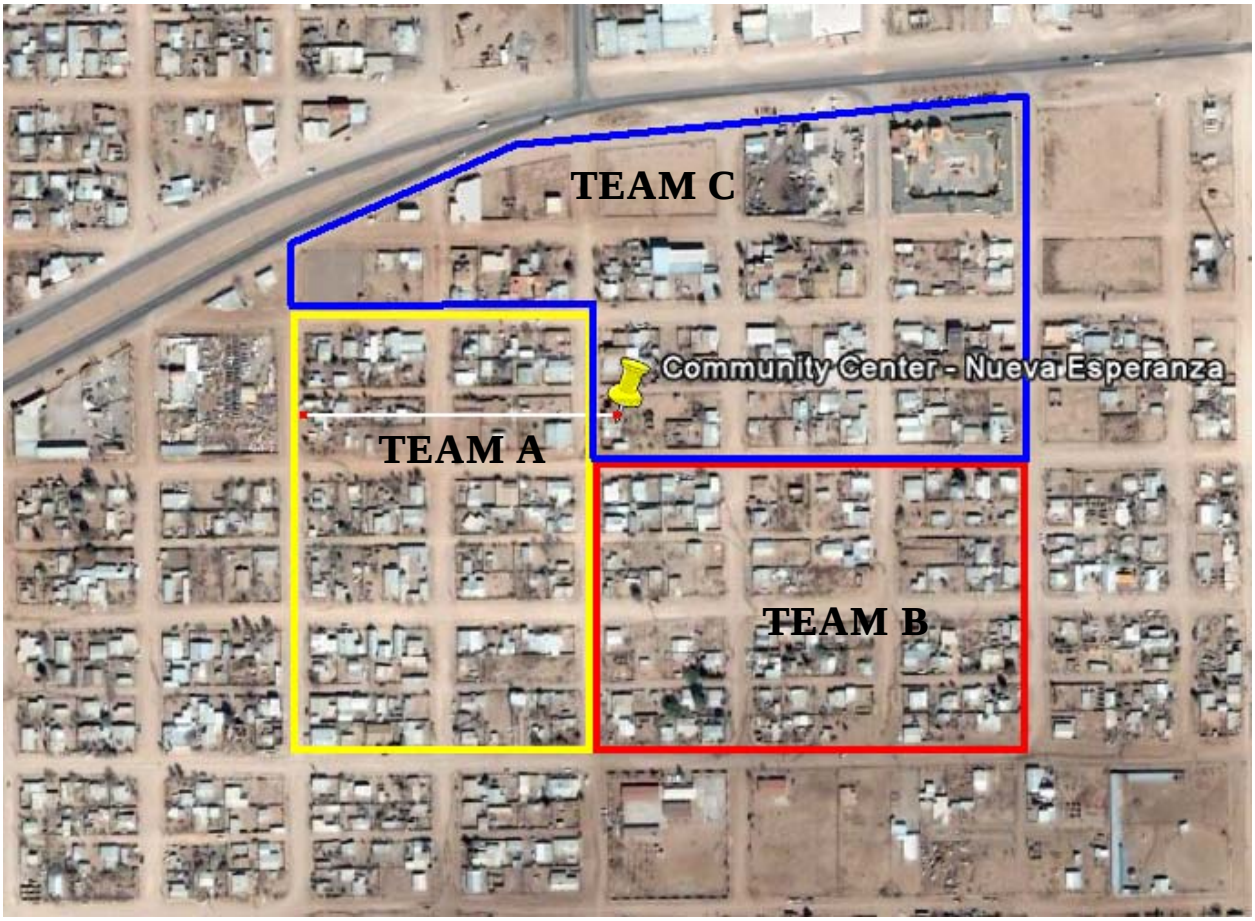
Form 3 LIST OF HOU[illegible]S TO INTERVIEW Communit[illegible]997

1. Interviewer _____ 2. Map _____ 3. Date _____

4. 5.

Order No.	Street Address or Description	6. DISPOSITION OF THE HOUSEHOLD						d. Adults in HH		e. ID#	f. Interview status		
		a. Unoccupied	b. Refused	c. household contact 1st visit	2nd visit	3rd visit	Yes	No	Record #	Comp.	Not Comp.	Date Appt.
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

Community Map:



APPENDIX C

INTERVIEW TRAINING MATERIALS

Training Session Powerpoint Slides:

Agua Prieta Community Health Survey

Training Session
April 17, 2009

Introduction

- Principal Investigator: Kristen Grundy
- Dual Degree Candidate:
  - BA – Latin American Studies
  - BS – Physiology
- President/Founder of Flying Samaritans Club
- Honors Thesis Project

- Contact Information:
  kgrundy@email.arizona.edu
  520-990-0126

Survey Project

- **Title:** "Assessing Chronic Disease Along the Border: A Communtiy Health Survey of Agua Prieta, Sonora, Mexico"
- **Research Question:** What is the prevalence of and risk factors for chronic disease in the community and what is the community's access to health care?
- **Purpose:** To conduct a basic health needs assessment of the community served by the Community Center Nueva Esperanza and the Flying Samaritans Health Clinic that will allow:
  - Flying Samaritans to improve its health services
  - Local health and community leaders in Agua Prieta to use for their own health initiatives
  - Increased community awareness of health services available
  - Participants to assess their personal risk for chronic disease

Approaches of Study

- Work in pairs to conduct survey
- Interview 25-30 individuals from homes adjacent to Community Center
- Eligible participants must be:
  - Men or women over age of 18
  - Residents of Colonia Nuevo Progreso
  - Mexican nationals

Role of Interviewer

- Collect information from respondents
- Consistent in interview approach
- Preserve confidentiality and privacy

General Skills

- Social Skills:
  - Courtesy, tact, polite assertiveness, careful listening
- Collecting Information:
  - Neutrality, knowledge of interviewing techniques, working understanding of research goals and materials

General Tasks

- Accurate communication of questions
- Maximize respondent's ability and willingness to answer
- Listen actively to determine what is relevant
- Probe to increase validity, clarity, and completeness of response

Interview Approach

- Gaining Respondent Participation:
  - Follow Script
- Gaining Respondent Acceptance:
  - Connect with respondent
  - Respondent should not feel threatened or uncomfortable by the interviewer
  - Respondent must fee assured that his/her identity and information will remain confidential
  - Stay positive, friendly, and polite

Maintain Neutrality

- Be careful of:
  - Tone of voice
  - Leading the respondent
  - Clarifying questions
  - Your actions, comments, and behaviors
- Make sure to:
  - Be an active listener with minimal reinforcement
  - Be casual
  - Be conversational
  - Be friendly
  - Be aware of what information you provide to respondent

Maintain Confidentiality

- Assure respondents that the information they provide will be treated confidentially:
  - No names are used
  - Interviewers do not discuss data
  - Interviewers do not conduct interviews with people they know
- Pledge of confidentiality
- Do not talk about substance of any interview

Interviewing Manners

- Do not raise your voice
- Be patient
- Do not verbally abuse the respondent
- Answer the respondent's questions about the survey as completely as possible
- Do not eat or drink while conducting an interview

Interviewing Recommendations

- Follow the wording and order of the questionnaire
- Do not skip questions
- Probe to stimulate discussion

Recording and Checking Questionnaire Results

- Record replies as they're made
- Record respondent's own words
- Write responses in Spanish
- No abbreviations
- Comment on unanswered questions
- Must be legible
- Double-check to make sure everything is complete

Common Errors

- Interviewer suggests correct answer
- Interviewer fails to distinguish between acceptable and unacceptable responses
- Replies are not recorded accurately
  - Incomplete
  - Distorted meaning
  - Illegible or incoherent
  - No reason given for non-reply to certain questions

Ending the Interview and Leaving the Respondent

- Remember to double-check survey for missed questions, incomplete answers, inconsistencies
- Respondent should feel the interview worthwhile
- Interviewer questions/doubts should be cleared up at time of interview
- Thank respondent for cooperation and time
- Suggest review of educational materials
- Distribute ticket for next week's clinic

Survey Materials

- For Interviewer:
  - Site Map
  - Script
  - Disclaimer
  - Assessment Tool
- For Respondent:
  - AP Services
  - Clinic Ticket
  - Educational Information Packet

Training Outline:

April 17, 2009

Interviewer Training:

Materials needed:

- Sign-in sheet
- Powerpoint presentation and copies for trainees
- Copies of script (English/Spanish)
- Copies of disclaimer (English/Spanish)
- Copies of questionnaire (English/Spanish)
- Example packets of participant handouts:
    - List of services available in AP
    - Tickets for BMI/glucose check at next community clinic
    - Chronic disease info packets

Training Outline:

I. Introduction:
   a. Introduce myself – Dual-degree, Honors Thesis
   b. Thesis: Assessing Chronic Disease Along the Border: A Community Health Survey of Agua Prieta, Sonora, Mexico
   c. Research question: What is the prevalence of and risk factors for chronic disease in the community served by the Flying Samaritans clinic (Colonia Nuevo Progreso, residences adjacent to the Centro Comunitario Nueva Esperanza), to be able to assess and address issues surrounding the community's access to health care
   d. Purpose of study: To conduct a basic health needs assessment of the community served by the Community Center Nueva Esperanza and the Flying Samaritans Health Clinic. Study results will give a general profile of the prevalence and risk factors for chronic disease in the area that the Flying Samaritans will use to improve the services it offers at its free community health clinics, in order to best address the health needs and priorities of the community. The study will also be shared with local health and community leaders in Agua Prieta to use for their own health initiatives within the community. This survey is also intended to increases community awareness of health services available, and to encourage survey participants to attend the monthly clinics offered by the Flying Samaritans where they can assess their personal risk for chronic disease.
   e. Approaches of study:
      i. Work in pairs to conduct a random cross-sectional survey of community

ii. Interview 25-30 individuals from randomly selected households marked in zones adjacent to the Community Center (see map)
iii. Participants: men and women over the age of 18, who are residents of Colonia Nuevo Progreso, and of Mexican nationality

II. Role of Interviewer
a. Role: to collect information from respondents
b. Important that we interview in the same way – critical to validity and integrity of entire project
c. Obligation to preserve respondent's confidentiality and privacy – privileged information that must be protected

III. General Skills
a. Social skills: courtesy, tact, polite assertiveness, careful listening
b. Collecting information: neutrality, knowledge of various interviewing techniques, a working understanding of the research goals and materials

IV. General Tasks
a. Accurate communication of questions
b. Maximizing the respondent's ability and willingness to answer
c. Listening actively to determine what is relevant
d. Probing to increase validity, clarity, and completeness of response

V. Interview Approach
a. Gaining respondent participation
i. Follow Script
1. Introduce yourself by name, state that you are a student at the University of Arizona, working with the College of Public Health and the Flying Samaritans (*Samaritanos Voladores*) Clinic
2. Clearly state the subject and purpose of the interview, stressing benefits that may be expected by the respondent
a. When mentioning the survey, use "*proyecto*" instead of "*encuesta*"
3. Inform the respondent how s/he was chosen
b. Gaining respondent acceptance
i. Must be able to connect with respondent
1. Must feel that the interview is about something that is important and that it is worth spending the time required
2. Relationship between interviewer and respondent must not cause incomplete or biased responses (i.e. "socially desirable responses")
ii. Respondent must not feel threatened or uncomfortable by the interview
1. Should feel completely free to express him/herself

2. Set the tone by making friendly conversation about the weather, their children, etc.
3. Once interview begins, you should keep conversation within the limits of the study in a friendly way

iii. Respondent must feel assured that his/her identity and information collected will remain confidential

iv. It may be difficult to gain acceptance. Be as positive, friendly, and polite as you can.

VI. Maintain neutrality

i. Each question must be posed in the same way to each of the participants to eliminate the risk of varied interpretations and skewed responses
   1. Interviewer should not affect perception of a question, nor the kind of answer that is given
   2. Interviewer should be a neutral medium through which questions and answers are transmitted
   3. Interviewer must be careful to avoid behavior, conscious or unconscious, spoken or unspoken, that could affect the way a respondent answers a question

ii. Be careful of:
   1. Tone of voice
      a. Convey a neutral or even tone
      b. Do not let personal feelings/opinions about a respondent's previous answer come through during questionnaire
   2. Leading the respondent into answering a question a certain way
      a. Easily done by tone of voice, emphasizing specific answers, using certain phrases when reading responses, or how the question is read
   3. Clarifying questions
      a. If respondent indicates s/he does not understand a question, DO NOT offer assistance
      b. Reread the question and/or responses
      c. If respondent still does not understand the question, or states that s/he doesn't understand a word in the question, reread the question once again and ask what the question means to her/him
      d. If repeating the question does not eliminate confusion, offer to reschedule the interview, and talk to field manager to obtain requested information

iii. Be careful of your actions, comments, and behaviors. Whatever you do, DO NOT:
   1. Express your own opinions
   2. State any unnecessary or overly enthusiastic reinforcements such as "great!"

3. Laugh
4. Joke
5. Tease in bad taste
6. Volunteer personal comments or experiences
7. Give hints or clues
8. Suggest an answer

iv. DO:
1. Be an active listener, but only give minimal neutral reinforcement, such as “okay,” “I see,” or even “uh-huh”
    a. Reinforcement is NOT agreement/disagreement with response, but rather that you approve of her/his behavior in role of respondent
    b. Do not in any way make the resopondent feel uncomfortable by being judgmental or make her/him feel like s/he should answer a question in a certain way, good or bad
2. Be casual
3. Be conversational
4. Be friendly

v. Information you can provide to respondent:
1. Do not go beyond the information in the survey to interpret the questions for the respondent
2. Key phrases:
    a. “This is all the information available to us”
    b. “We would like you to answer the questions in terms of the way it is state it. Could I read it again for you?”
    c. “I’m sorry I don’t have that information”

VII. Maintain confidentiality
a. Confidentiality is an important issue – we will not share information gained through the interview
b. Must assure respondents that the information they provide will be treated confidentially:
    i. No names are ever associated with the data
    ii. Interviewers do not discuss data with anyone not associated with the project
    iii. Interviewers are not allowed to conduct interviews with friends, relatives, or acquaintances
c. Success of survey depends on willingness of selected individuals to answer questions as candidly, completely, and accurately as possible
d. Exchange pledge of confidentiality for their willingness to participate in the survey and give us as accurate answers as they can
e. Do not talk about tell anyone the substance of any interview or part of an interview no matter how fascinating or interesting it was

VIII. Interviewing manners

a. Do not raise your voice, even if respondent raises voice at you
    i. Action can be interpreted negatively and may cause respondent to terminate interview
b. Be patient
    i. Do not let any type of frustration appear in your voice
    ii. Remain calm
    iii. Remember you are an uninvited guest in this situation
c. Do not verbally abuse the respondent
    i. If respondents take out personal problems on interviewer, do not return the abuse
    ii. Tell respondent you can reschedule the interview at another more convenient time
d. Answer the respondent's questions about the survey as completely as possible
    i. The more the respondent knows and understands about a survey, the more likely s/he will be willing to participate in the study
    ii. Frequent questions:
        1. How was I selected?
        2. What is the purpose of this study?
        3. What if I don't want to answer a particular question?
        4. How will the information in this study be used?
        5. How can I be sure that my privacy will be protected?
        6. What if I don't want to do this survey with this interviewer?
        7. Who's paying for this study?
        8. How can I be sure about what the interviewer has told me?
        9. Why should I participate?
    iii. Interviewer should have knowledge of the survey purpose and design, but if a respondent has a question you cannot answer, you can always tell them "I'm not sure about that, but I can find out for you"
e. Do not eat or drink while conducting an interview

IX. Interviewing recommendations
a. Follow the wording and order of the questionnaire
    i. Data should be collected in a uniform manner for all respondents
b. Do not skip questions
    i. Ask all questions listed in the questionnaire, even you have already discussed the answer in a previous question
c. Discussion of the respondent may be stimulated by probing
    i. Technique used by interviewers to encourage respondent to explore a subject in more detail, for example when the answer may be inadequate and requires interviewer to seek additional information
    ii. Probing encourages the respondent to enlarge on an answer, clarify, or explain the reasons behind the answer
        1. Techniques that appear to be as a natural and casual part of a conversation that may be used to stimulate a fuller and clearer response:

a. Making brief assertions of understanding by saying such things as “uh-huh,” “I see,” or “yes” in an encouraging tone of voice indicates that interviewer heard the response and is interested/expects more
b. An expectant pause accompanied by a head nod or inquisitive look
c. Question may be repeated
d. Neutral questions: “What did you mean?” or “I’m not sure I understand what you have in mind”

X. Recording and Checking the Results
   a. Replies should be recorded at the time they are made
   b. For open-ended questions, the respondent’s own words must be recorded
      i. In answers are partial, unclear, or inconsistent with other information, probing techniques may be used to clarify, but the interviewer must not make her/his own interpretation of what the respondent is saying
   c. Write responses that are given in Spanish in Spanish to avoid translation errors
   d. Avoid using abbreviations
   e. Questions for which a reply was not obtained must be accounted for
      i. Respondent refused to answer
      ii. Interviewer decided not to ask the question and gave a reason
      iii. Interviewer forgot to ask the question
      iv. Interviewer asked the question but did not record the answer
   f. Recorded replies must be legible
   g. After concluding the interview, ask the respondent to wait just a moment so you can check if the questionnaire is complete
      i. Make sure all questions are answered
      ii. Reread your notes to make sure they make sense and thoroughly answer the questions

XI. Common Errors
   a. Interviewer suggests the correct answer rather than accurately recording the respondent’s reply
   b. Interviewer may fail to distinguish between acceptable and unacceptable responses. The interviewer must be aware that respondents may give special meaning to certain words
   c. Replies may not be recorded accurately:
      i. Recording of replies may be incomplete
      ii. The meaning of the reply may be distorted
      iii. Writing may be illegible or abbreviations may not be understood
      iv. No reason given for non-reply to certain questions

XII. Ending the Interview and Leaving the Respondent
   a. Before closing the interview, remember to check the survey for missed questions, incomplete answers, and inconsistencies

b. Respondent should feel that her/his time was well spent and the interview worthwhile
c. Any questions or doubts about the interview should be cleared up at the time of interview
d. Thank her/him warmly for her/his cooperation and time
e. Suggest that participant looks over the educational materials (diabetes, cardiovascular disease, depression, nutrition, and physical activity)
f. Give them a ticket to have their vitals, BMI, blood glucose evaluated at next Flying Samaritans Clinic

XIII. Review materials
a. Site Map
i. Random selection
b. Script
c. Disclaimer
d. Assessment Tool

XIV. Distribute materials for households:
a. List of services available in AP community
b. Ticket for BMI/glucose check at next community clinic

XV. Logistics
a. Appropriate Dress – long pants, closed-toed shoes, no T-shirts/tank tops
b. DON'T FORGET YOUR PASSPORT!!!
c. Bring snacks and water
d. Sack lunch or money
e. Carpool Arrangements – Mexican Auto Insurance?
f. Rendezvous:
i. 6:30am – College of Public Health, Zone 1 Parking Lot
ii. Head to Border by 3pm
iii. Back in Tucson around 7pm
g. Contact Info

XVI. Preparation:
a. Driving Directions
b. Folders – 3 teams to complete 10 surveys each
i. Zoned Map – 1 per team
ii. Copies of Household Inventory – 1 per team
iii. Copies of Script – 1 per team
iv. Copies of Disclaimer – 10 per team
v. Copies of Survey – 10 per team
vi. Copies of List of Resources – 10 per team
vii. Copies of Clinic Flyers – 12 per team
c. Pens – 2 per team

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