Early Prevention of Diabetes & Improved Access to Health Care:

The Feasibility of Addressing Healthy Border 2010 Objectives with

Community Coalitions in Colonias in South Texas

Final Report

Report to:
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Re: Early Prevention of Diabetes & Improved Access to Health Care
DSHS Contract No. 7097097093D-2007, Attachment No. 01
DSHS Purchase Order No. 0000319865
Contractor: TX A&M University System Health Science Center
DSHS Program: Office of Border Health
Term: August 01, 2006 THRU December 31, 2006

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Community Coalitions in Colonias in South Texas

Final Report, February 14, 2007

Executive Summary

This project addressed Healthy Border 2010 objectives in the areas of diabetes and access to health care. Specifically, we examined the feasibility of engaging in early prevention of diabetes through community-based planning to enhance physical activity and/or nutrition in colonias. We also improved access to health care for colonia residents through health education and referrals. These activities link to Healthy Border 2010 areas and objectives and to the Strategic Plan for the Prevention of Obesity in Texas: 2005-2010.

Our project team included promotoras who recruited colonia residents to participate in this project. Those who participated in planning the intervention were 6 to 10 women representing that number of families in one colonia, including about 40 people. Attendance at planning meetings fluctuated, but no family dropped out of the project. Furthermore, the participants expressed enthusiasm about the possibility of a project, and they requested that it include information and activities involving both physical activity and nutrition.

For the risk assessment phase of the project, the promotoras recruited 30 adults to respond to an interview and have their body mass index measured. The nutritional risk assessment dealt with how frequently they ate fruits and vegetables. We found that they eat fruits and vegetables a little more than twice a day (2.1 times daily on average for fruits and vegetables combined, for 29 respondents). In addition, their rice intake is well less than once a day (0.38 times daily on average), and they eat beans almost once daily (0.98 times daily). On the basis of these reports, the respondents have quite low intake of fruits and vegetables, in contrast to the recommended 7 to 10 times per day. Their physical activity levels also are low. Of the 9 participants with remunerated work, only 22% engage in vigorous physical activity on the job. Of all participants, when not at work, more than half engage in walking 3 days/week on average. Only 13% engage in vigorous physical activity during their leisure time, on an average of 3.25 days/week. Of the 30 respondents in the risk assessment, 90% have BMIs $\geq$ 25. That includes 86% of the women participants and 100% of the men. Therefore, participants with the genetic background to develop type 2 diabetes have a significant behavioral risk factors for developing type 2 diabetes.

The colonia residents participated in developing a plan for an intervention. They decided to form a group that would engage in walking, beginning at 6 p.m. each night, and that would include women plus those family members who decided to accompany them. The project team also will schedule nutrition classes for the group members.

We are pleased to report that the planning phase of this project proved feasible and we look forward to the implementation phase.

Re: Early Prevention of Diabetes & Improved Access to Health Care, Term: August 01, 2006 THRU December 31, 2006
DSHS Contract No. 7097097093D-2007, Attachment No. 01; DSHS P.O. No. 0000319865, Office of Border Health
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The purpose of this project was to address Healthy Border 2010 objectives in the areas of diabetes and access to health care. Specifically, we examined the feasibility of engaging in early prevention of diabetes through community-based planning to enhance physical activity and/or nutrition in colonias. We also improved access to health care for colonia residents through health education and referrals.

This project addressed the following Healthy Border 2010 areas and objectives:

- Diabetes – reduce both the mortality rate of diabetes and the need for hospitalization;
- Access to Health Care – ensure access to primary care or basic health care services. (Healthy Border 2010:vii).

Furthermore, in relation to diminishing risk factors for diabetes, the project addressed the Strategic Plan for the Prevention of Obesity in Texas: 2005-2010 regarding the following goals (TDSHS 2006:35):

- Goal 1: Increase awareness of obesity as a public-health issue that impacts the quality of life of families.
- Goal 2: Mobilize families, schools, and communities to create opportunities to choose lifestyles that promote healthy weight.
- Goal 3: Promote policies and environmental changes that support healthful eating habits and physical activity.
- Goal 4: Monitor obesity rates and related behaviors and health conditions for planning evaluation and dissemination activities.

The plan for the project is shown in Appendix 1, Scope of Work. We carried out the following activities:

Process of Colonia Recruitment

We examined the feasibility of partnering with social networks in colonias. By working with promotoras familiar with the colonia networks, project team members opened the door to participation in this project. First, two promotoras visited colonias to explain the project and see who was interested in participating. A number of colonias are interested in participating in such a project. The promotoras recruited 30 participants. Although it had been anticipated that the 30 would be divided among four colonias, the promotoras found it more effective to recruit them from two colonias. The remaining colonias will be incorporated into the project in Phase 2 of the project.

Weekly group meetings were scheduled with colonia residents, and they discussed options of a physical activity or nutrition program. They would like to have both. They are enthusiastic about the idea of a program that will lower their risks of developing diabetes, heart disease, and cancer. They specifically requested:

a. As part of the program, they would like to have checking of cholesterol levels, blood sugar levels, and blood pressure. Some people commented that it is expensive to go to a clinic to get these measures checked. If we are to do the checking as part of our program, they would like it to be at night, with a meeting starting at 7 p.m., so that their spouses can participate.

They would like to have the apparatus for checking blood pressure and blood sugar right there in the colonia. They would like it to be handled similarly to the first-aid kit; that is, one person could have it in their house, and various people could use it when they wanted to.

One participant said, "If I feel dizzy, I would like to be able to check my blood pressure. I would like to know whether I need to go to the doctor."

b. They would like to have aerobics. One of the people who spoke up about this thinks that you need exercise machines, such as treadmills, to participate in aerobics.

In another colonia, we have participated in delivering a program in aerobics with a colonia resident as aerobics instructor. She is enthusiastic, creative, and pretty knowledgeable. In that colonia, one resident also has a videotape with dance music and a group of men and women doing aerobics, instructing the audience in doing various steps. The women colonia residents have used both resources to increase their physical activity, although they say that having an instructor makes them exercise harder.

c. Some are interested in losing weight and one requested a diet book. She probably is not aware of the approach of eating better balanced meals, rather than dieting per se.

We have several recipes for healthful plates, and we can share these with the group. Also, we can request a visit from a nutritionist to discuss ideas about how to lose weight and be healthy through improved nutrition.

d. An additional concern is the large number of colds that people are getting. They would like something to prevent colds (*gripa)*. They mentioned vaccinations, like a flu vaccination, and vitamins.

Process of Risk Assessment

Second, the promotoras and project team carried out a needs assessment regarding behavioral risk factors for diabetes. It is known that the prevalence of diabetes is high in colonia populations; however, the risk factors that lead to this high prevalence have not been specified.

Instruments and Methods of Risk Assessment

The project team reviewed several approaches to identifying risk factors. Instruments reviewed were:

1) Monterey County Behavioral Risk Factor Survey – IMPACTO II - 2000 (in English and Spanish; validated). It was developed on the basis of the Behavioral Risk Factor instrument developed by the Centers for Disease Control.

2) Comportamientos de Riesgo para Enfermedades Crónicas, 18 a 65 años. (Marzo del 2005) Secretaria de Salud, Subsecretaria de Prevención y Promoción de la Salud, Dirección General de Epidemiología y Comisión de Salud Fronteriza México-Estados Unidos.

Behavioral Risk Factors for Chronic Diseases, 18 to 65 years of age. (March 2005) Secretary of Health, Subsecretary of Prevention and Health Promotion, General Director of Epidemiology and U.S.-Mexico Border Health Commission

Reasons for using this instrument are as follows. It is available in Spanish. Second, because it is set up as a telephone questionnaire, it is more useful for a face-to-face interview than a written questionnaire would be. Because some colonia residents have low literacy levels, and many are not used to dealing with questionnaires, a face-to-face instrument is preferable. Third, this instrument is being used widely in the border region, providing a basis for comparison with other border populations. Finally, although the questionnaire is relatively long, colonia residents find it easy to answer and straightforward.

The instrument elicits data on the frequency of consuming various foods. We have more confidence in recall data on food frequency than on the amount of food that someone ate. Furthermore, the analysis of amounts of food eaten is much more laborious and therefore, much more costly, than the analysis of food frequency. In this project, therefore, we are not attempting to work on amounts of food consumed but instead focus on the variety of food eaten on a typical day or in a typical week.

We found an aspect of the food frequency questions problematic and developed a way to solve the problem. Normally, a food frequency questionnaire asks how often during a typical week a person eats a specific food, or how often during the past week someone ate it. In the case of the Secretary of Health questionnaire, however, the questions asked for frequency per day, week, month, or year. Our approach to this issue is to code items eaten less often than once a week as zero, as though they are not eaten. Our decision rests on the fact that we seek information about typical, routine patterns of eating, not an exact inventory of all foods eaten during a year.

We refined some of the items for the use in Spanish of limited-income people in South Texas. The project team carried out this work and narrowed the instrument to focus on risk factors for diabetes and patterns of physical activity and nutrition. The results document needs for intervention, assist in orienting the specific approach of the intervention, and provide pre-intervention baseline data.

3) Cuestionario Internacional de Actividad Física (IPAC). (Noviembre del 2002) Formato Telefónico Largo—Últimos 7 Dias. *International Questionnaire on Physical Activity. (November, 2002) Long Telephone Interview Format—the Last 7 Days.*
(Source: Los Cuestionarios Internacionales de Actividad Física (IPAQ, por sus siglas en inglés); Booth, M.L. (2000) Assessment of Physical Activity: An International Perspective. Research Quarterly for Exercise and Sport, 71 (2): s114-20; www.ipaq.ki.se).

The module on physical activity comes from this questionnaire. The reasons for choosing this instrument were that it was available in Spanish, in a format designed for face-to-face interviews, and it has been successful in data collection with some populations in Mexico, although it has not been pretested with border populations. Dr. Nelda Mier, who has expertise in physical activity surveys, recommended it after a thorough review of other instruments available in Spanish or English.

The IPAC interviews began their development in Geneva, Switzerland, in 1998 and have been tested in 14 sites in 12 countries, with extensive attention to their reliability and validity. They are designed for international comparison, which makes them useful for our more international region of Texas.

We pretested items from both the long and short IPAC interview formats. Pretesting led to changes in the instrument, based on project participants' reactions and interviewers' observations. The changes and observations were as follows:

- Some of the questions were too long and needed to be broken up into two sentences, one giving instructions and the other posing the question.
- Participants commented that the question, "Time spent commuting or traveling by car, bus, etc., in a seated position" should have a response rounded to hours, not expressed in minutes. Several questions ask to note time in hours and minutes. Some participants did not think it was necessary to denote minutes, but others felt it was fine. It was left in the survey for those that might answer in minutes.
- Participants suggested changing specific phrases or words to make the questions easier to understand. The phrase "trabajo pago o no pago" was changed to "trabajo pagado o no pagado," the word "desplazo" was changed to "traslado," the phrase "no caminatas" was changed to "no camine."
- Clarification of "actividad vigorosa" and "actividad moderada" was necessary throughout the survey. The question and examples of these activities were repeated as necessary.
- Question 8 (Part 2) includes the word "tranvía" when discussing motor vehicles. The group did not reach a consensus about what this word meant. It was interpreted in various ways and the participants suggested omitting this word. The participants understood the question with the remaining examples of motor vehicles.
- Question 26 required clarification for some people about the time spent sitting during the day. Interviewers clarify that question by specifying that it only includes time spent awake.
- General comments:
    - The words such as "usualmente" and "nuevamente" were used quite often throughout the survey in asking the questions or giving instructions. The suggestion was made to omit these words in several places because it made the questions too long to the listener when

the investigator read the question. Sometimes it was so long that they asked the interviewer to repeat the question.

- Several questions were also considered long because the instruction was read together with the questions. The suggestion was made to list instructions prior to the question to make the question istelf clearer to the individual answering. (i.e. question 4, 14, 16, 18, 22, and 24).
- A few people mentioned that they walked or rode a bike sometimes, but had not done so in the past 7 days that we asked about because of the weather. They thought we should ask the question in general so they would be able to answer.

For the purpose of this project, we have adopted the long questionnaire. It was noted that the shorter version had vaguer questions, which made them more difficult to answer.

This instrument was designed to pilot test the intervention. When and if the instrument is applied to a larger population, it would be practical to use it with a sample of that population to gather baseline and post-intervention data. This is an important consideration in view of the length of the instrument. In addition, it is important to note that the information elicited with the instrument comes from self report, resulting in potentially biased data.

Body Mass Index Assessment

In contrast to the above instrument that we developed, which elicits data from project participants, we also collected data on height and weight to calculate body mass index (BMI). This effort was planned to allow us to examine the feasibility of assessing changes in BMI.

The advantage of these measurements is that they do not depend on self-report. In addition, because the project aims to enhance patterns of physical activity and/or food intake, a hoped-for outcome is to improve BMIs in those who are overweight.

Risk Assessment Results

Description of the Participants

Most participants are middle-aged females with at least a primary school education. Specifically, the average age of the participants is 43 years; almost three quarters are women. All participants are Hispanic. Nearly all have completed primary school, and more than one quarter have completed high school. Only 10% have less than a primary school education. All participants responded to the questionnaire in Spanish, and among immigrants, 83% speak only Spanish, while 8% speak some English, and another 8% speak both Spanish and English equally. If this information is used as a proxy variable for acculturation, we would conclude that their acculturation to the United States is relatively weak.

Behavioral Risk Factors

The behavioral risk factors that we examined were fruit and vegetable intake and patterns of physical activity. The ideal intake of fruit and vegetables would be 7 to 9 servings per day, total. The ideal pattern of physical activity would be the equivalent of walking for at least half an hour daily at a vigorous pace, so fast that it is not possible to talk while walking. Our survey provides a general picture of eating and physical activity behaviors. We chose to elicit food frequency data because self-report makes it very difficult to quantify amounts of various foods that are eaten, and the analysis of dietary composition is much more laborious and therefore, much more costly than the analysis of food frequency data.

Table 2 (item 3) provides a summary of information about behavioral risk factors for diabetes. The participants in this project eat fruits and vegetables insufficiently. According to the reported food frequency data, they eat fruits and vegetables, with the total for the two categories of food combined, a little more than twice a day (2.1 times daily on average). In addition, their rice intake is well less than once a day (0.38 times daily on average), and they eat beans almost once daily (0.98 times daily). On the basis of these reports, the respondents have quite low intake of fruits and vegetables.

They engage in insufficient efforts at physical activity. Note that of the 9 participants with remunerated work, only 22% engage in vigorous physical activity on the job. Of all the participants, when not at work, more than half engage in walking 3 days/week on average. Only 13% engage in vigorous physical activity during their leisure time, on an average of 3.25 days/week.

The nutrition and physical activity data therefore indicate that the behavioral risk factors for diabetes and other chronic diseases are substantial in this population.

Body Mass Index

The entire group of participants in this project includes 30 people, of whom 90% have BMIs $\geq$ 25. That includes 86% of the women participants and 100% of the men (Table 1, item 4).

This measure alone indicates that 90% of colonia residents have significant risks of health problems that could be lowered through enhanced patterns of physical activity and nutrition. For those with the genetic background to develop type 2 diabetes, the high BMI is a significant factor increasing their risk of developing the disease. The 90% with a high BMI all have significantly increased the risk of circulatory system diseases and cancer.

Therefore, on the basis of BMI alone, a participatory intervention program to improve patterns of physical activity and nutrition is warranted.

Table 1. Deliverables of this project.

Measure in the evaluation	Number of participants	Attrition of participants
1) Participation in project activities		
Attending meetings for planning program	6 to 10 people	fluctuation
Needs assessment (diabetes risk factors)	30	
Needs assessment (BMI)	30	
Referrals for medical care & screening & fliers distributed	239	
Completed program plan on diabetes risk factors	10 wives/mothers	fluctuation
2) Needs assessment (30 respondents unless noted otherwise)		
Sociodemographic data		
Age	43 ± 16	
Gender	Males, 27%	Females, 73%
Ethnicity	100% Hispanic	
Education, grades completed in school		
No schooling or only attended kindergarten	10%	
Primary school (1st - 6th grades)	40%	
Junior high school (7th - 9th grades)	20%	
High school (10th - 12th grades)	27%	
Some college or technical school	3%	
College graduate	0%	
Refused to answer	0%	
Language facility		
Answered questionnaire in Spanish	100%	
Acculturation (for immigrants, proxy variable)		
Language spoken at home		
Spanish only	83%	
More Spanish than English	8%	
Both Spanish & English equally	8%	
Only English	0%	
3) Behavioral risk factors for diabetes	average times eaten/day	
A.. Nutrition/dietary intake		
Food frequency: times/day		
fruits and vegetables (29 respondents)	2.1	
rice	0.38	
beans	0.98	
B. Physical activity		
Activity at work (for the 9 people reporting that they have remunerated work)		
Walking (5 people, ave. 4.2 days/wk.)	56%	
Moderate physical activity (does not include walking; 5 people, ave. 4 days/wk.)	56%	

Vigorous physical activity (4 people, ave. 4.4 days/wk.)	22%
Activity in leisure time	
Walking (16 people, ave. 3 days/wk.)	16%
Moderate physical activity (does not include walking; 5 people, ave. 3.4 days/wk.)	17%
Vigorous physical activity (4 people, ave. 3.25 days/wk.)	13%
4) Objective data, risk factor for diabetes	
BMI > 25, all participants	90%
Women	86%
Men	100%

Summary on Risk Factors

According to the survey and measurements of BMI, the participants have substantial risk factors for developing type 2 diabetes, given a genetic propensity for the disease, and for other chronic disease such as circulatory system disorders and cancer. Intake of fruit and vegetables is quite low, as are physical activity levels. Although colonia life in many ways discourages people from increasing physical activity because of the lack of sidewalks, parks, and household space for exercising, the participants are eager to take part in a program to increase their physical activity. Similarly, with limited budgets, cooking equipment, and cooking fuel, participants may find it difficult to improve their eating habits. Nonetheless, the residents are eager to improve their health and prevent chronic disease.

Increasing Access to Medical Care

The project connected colonia residents with immediate needs for medical care to appropriate community and private healthcare providers. We also provided general information about health resources in the county to colonia residents through information given directly by the promotoras and with fliers that they distributed.

During the course of delivering the monthly reports, the program team received a request from the Office of Border Health to include the GIS (Geographic Information Systems) address for the colonias where information was provided for access to medical care. At that point, we began to keep records of the referrals that linked colonia names to referral points and reasons for the referrals, as shown in the table below. The total number of people directly contacted and provided with information about access to medical care, including screening tests, was 239 (Table 2).

Through providing information to colonia residents, this project provided health education to improve health literacy. In addition to providing benefits to colonia residents and contributing to the Healthy Border 2010 goals, this aspect of the project was required for ethical reasons. It would be unethical to carry out a project with a population who has poor access to medical care if we did not make every effort to refer those in need to healthcare providers.

Table 2. Increasing access to medical care, August through December, 2006

Month	Referred to	*Colonia* & GIS Address		Numbers Adults	Children
Aug.	Nuestra Clinica del Valle	*Colonia OT*		1	
		N 26˚ 12.713	W 98˚ 24.333		
Aug.	Planned Parenthood	*South Tower Estates*		6	
	- Pap smear	N 26˚ 08.889	W 98˚ 06.626		
Aug.	Hidalgo Co. Health Dept. Clinic - Donna	*Tierra Bella*		1	
	- Pap smear	N 26˚ 07.747	W 98˚ 03.119		
Aug.	Hidalgo Co. Indigent Healthcare Program	*Pantera*		6	10
		N 26˚ 09.199	W 98˚ 07.040		
Aug.	Su Clinica Familiar	*Whitewings #2*		1	
	- uterine problemas	N 26˚ 09.823	W 98˚ 06.030		
Aug.	CHUD (Tx A&M colonias program)	*varias colonias*		10	
	- Diabetic retinopathy exam				
Sept.	Well Woman Clinic - Pap smear	*varias colonias*		7	
Sept.	Health Fair, Pharr	*varias colonias*		60	
	- Information on diabetes				
Sept.	Valley Transit: transportation to eye exam			1	
Oct.	Hidalgo County Indigent Program	*Sanchez Ranch*		4	
		N 26˚ 05.835	W 98˚ 13.517		
Oct.	UTPA Off. of Border Health (Triny Soto)	*Sanchez Ranch*		1	
		N 26˚ 05.835	W 98˚ 13.517		
Oct.	El Milagro Clinic	*Sanchez Ranch*		1	
		N 26˚ 05.835	W 98˚ 13.517		
Nov.	Planned Parenthood	*Carlos Acres*		3	
		N 26˚ 13.571	W 98˚ 24.900		
Nov.	Hidalgo County Indigent Program	*Sanchez Ranch*		1	
		N 26˚ 05.835	W 98˚ 13.517		
Nov.	UTPA Program-Triny Soto	*Sanchez Ranch*			2
		N 26˚ 05.835	W 98˚ 13.517		
Nov.	Well Woman Clinic	*Carlos Acres*		1	
		N 26˚ 13.571	W 98˚ 24.900		
Nov.	El Milagro Clinic	*Sanchez Ranch*		1	
		N 26˚ 05.835	W 98˚ 13.517		

Dec.	Nuestra Clinica del Valle	*Sanchez Ranch*		18	0
	- Information on Health Programs	N 26˚ 05.835	W 98˚ 13.517		
		Pantera		12	0
		N 26˚ 09.199	W 98˚ 07.040		
		Rancho Blanco		10	0
		N 26˚ 08.973	W 098˚ 07.350		
Dec.	El Milagro Clinic	*Sanchez Ranch*		18	0
	- Information on Health Programs	N 26˚ 05.835	W 98˚ 13.517		
		Pantera		12	0
		N 26˚ 09.199	W 98˚ 07.040		
		Rancho Blanco		10	0
		N 26˚ 08.973	W 098˚ 07.350		
Dec.	Univ. Texas Med. Branch	*Sanchez Ranch*		18	0
	- Information on Health Programs	N 26˚ 05.835	W 98˚ 13.517		
		Pantera		12	0
		N 26˚ 09.199	W 98˚ 07.040		
		Rancho Blanco		10	0
		N 26˚ 08.973	W 098˚ 07.350		
Dec.	Planned Parenthood – Pap smear	*Sanchez Ranch*		2	0
		N 26˚ 05.835	W 98˚ 13.517		

Total direct referrals 239

Feasibility of Engaging in Planning Early Prevention of Diabetes with Community Partnerships

This project examined the feasibility of engaging in planning early prevention of diabetes with community partnerships through working with the social network members to design physical activity programs and/or nutrition programs focused on families and their social networks. The interventions were to target risk factors for diabetes and shall take place in the colonia neighborhoods.

Limiting factors in the planning process were several, at different levels.

1) We met with people in colonias that lacked a community center; therefore, we needed to meet with them at their homes. The process of organizing such a meeting was developed by the promotoras, and involved planning a time for the meeting within the following few days, developing a list of those who accept the invitation to attend, and calling the morning of the meeting to confirm that the meeting would occur. This process is laborious, but it seems to be the best way to ensure that a meeting takes place.

2) Regarding ideas about physical activity, people are interested in aerobics and other kinds of activity that they have seen on TV or learned about otherwise. The limitations in the colonias, however, largely revolve around space and transportation. In the colonias, there are often empty

lots that could be used to make space for physical activity; however, the lots would have to be cleaned, i.e., mowed, cleared of any garbage and junk, and probably, leveled. In the case of areas with access to a community center, it would be easier to locate space for physical activity, and if the center were air conditioned, it would be that much more attractive.

People lack the transportation to go to the schools to take advantage of playgrounds; in addition, women seem somewhat reluctant to leave home. They are worried about thieves.

Observations of groups in colonias reveal that aerobics, when a carport is available, or walking groups are the main two options for women to get exercise. Aerobics is regarded as a women's activity, and men have jokingly expressed reluctance to engage in it. Walking is not acceptable in areas where it is not safe, or where the Border Patrol tends to cruise to pick up people to find out whether they have documents.

Consultation over what physical activity to do is thus somewhat limited because of these realities.

3) Given a choice of physical activity or nutrition classes, people say they want both. This is consistent across colonias and age groups.

4) Colonia residents seek other health information. They gladly provide blood samples for measuring blood glucose. They are also interested in their cholesterol levels, and many have heard of HDLs and LDLs. They also want to know their blood pressure. It is commendable that they seek this information, and access to it also motivates colonia residents to participate in health projects.

5) See also the principles of working with colonia residents below.

Formative Assessment of the Feasibility of the Project.

Formative evaluation of the project:

a) Participation of community partners generally has been impressive. Even during the coldest days of the winter, community partners have met regularly once a week to discuss the project.
b) Community partners are responsive to the project plan to collect before and after data with questionnaires and measurements of height and weight.
c) The community partners also were fully cooperative in planning a program involving physical activity and nutrition. Their participation tended to be brief and to the point, without long-winded discussion.
d) Similarly, the community partners wanted to begin implementing the plan immediately.

On the basis of intensive interaction during meetings in several colonias of different sizes, a number of principles were developed. The list of principles was begun in October and was updated monthly.

These are principles for researchers and public health staff who are working with colonia communities in participatory projects, meaning that community members are to be involved in designing and implementing the project at each step.

Table 3. Participatory project principles involving colonia residents

1. Meetings with colonia residents, mechanics:

   a. Decide on a principal meeting time and stick to it. Additional meetings can be added, but the major decisions should be made at the main meeting time. Colonia residents lead busy lives, they work on different shifts, and they may not have the flexibility of middle class people to change their schedules.

   b. If men are to participate in the project, the main meeting time should be at night to take advantage of the availability of those who work days. For such meetings, child care needs to be arranged if there is to be any sort of presentation where it is important for the parents to hear clearly what is being said.

   c. Child care is best provided adjacent to the meeting, so that parents will know immediately if there is any problem with their children.

   d. Meetings with women only are best held in the mornings at 11 a.m. during the school year. Children return from school around 3 p.m. and their mothers want to have time to get ready beforehand; thus the early afternoon generally is not a good time for a meeting. At such meetings with women, their preschool children are likely to be present. Meetings scheduled for 2 p.m. generally are canceled by the colonia residents, even after they agree to them in the first place. The reason is the press of events during the day. Other meeting times: 10 a.m. is sometimes too early because some women are still bathing and preparing their young children for the day; 12:30 p.m. seems to be possible for women in some colonias.

   When school is not in session, women have less flexibility and less time for meetings because of their responsibilities in child care.

   e. Family activities on Saturday afternoons have been suggested by a number of colonia residents. Their reasons are that most men are off work by then, children are not in school, and most women also could free time at that point.

   f. It is advisable to circulate a flier with the times for the meetings listed, perhaps in calendar format as with school children, since colonia residents are used to that form of communication.

   g. When a project gathers data, it is best to do so when a complete week is available, and to plan to do so early in the week. Then any additional people who miss the meeting where data are collected can be contacted and ideally, data can be collected from them as well on a later day in the same week.

2. Participation levels

a. Families will come and go from any project over the course of several weeks. It is important to allow people to join a project if they want to. Such a principle engenders good rapport and allows more colonia residents to gain some benefit from a project, even if they do not participate throughout the project period. Therefore, each project session should be self-contained to some degree. That is, it should be possible for people to participate in a session and get something out of it even if they have not attended earlier sessions.

b. Typically, husbands attend meetings less often than wives. They need encouragement to attend meetings, and it is important that an activity such as aerobics not become the focus of an intervention if men are to be included. Aerobics is considered a women's activity by most male colonia residents.

c. It is possible in a 12 week intervention to achieve an attendance level of 70% at meetings on the part of a few families. An attendance level of 50% is a more achievable goal.

3. Community support for an intervention

a. Colonia residents are motivated to attend and participate by the availability of blood sugar and cholesterol readings. They want to know their test results, what is the desirable level, and what their results signify. (Do their results warrant a trip to the doctor, or are they within normal, healthy limits?)

b. Colonia residents find a 10- to 12-week intervention doable. On the basis of the experience of one large colonia, it would be possible to continue an intervention for a longer period. It is possible that a trailing off of the intervention would be successful in encouraging participants to sustain new patterns of physical activity and nutrition.

4. Oral and written materials

a. Oral materials are welcome at meetings, and colonia residents find that meetings are times to chat among themselves, identify common problems, and sometimes, find common solutions.

b. Meetings provide useful occasions for people to voice their ideas about health and to find out whether nutritionists or physical activity specialists concur with those ideas, or have other ways to think about health issues.

Some ideas that have come up at community meetings of colonia residents are: that it is good to skip meals in order to lose weight, that eating a lot of salt will help you to lose weight, that exercise in the morning is more healthful than in the afternoon, and that some people cannot do some kinds of exercise (perhaps there is an absence of the idea of gaining strength through increasing exercise levels; it is not yet clear).

c. Written materials are also useful for residents. Recipes are valued in the case of nutrition interventions.

d. Nutritional and physical activity information in simple language and without a great deal of technical detail is useful. It is best to avoid trying to teach the same way as in the classroom in the university, but key concepts can be taught effectively.

e. Colonia residents also want to know the reasons for various suggestions. They wish to reason about their health habits, not just follow orders from experts.

Generally, many lessons were learned in the formative evaluation of this project. Women are available for participation if they are approached by someone in whom they have confidence, whom they have known for some period of time, and who is working with programs that have brought them immediate, tangible benefits. In this regard, the First-Aid Kit Project provided an excellent basis for recruiting participants in this program.

Plan for a Program in Physical Activity and Nutrition to be Initiated in Phase 2

The principal physical activity in this program will be walking. Women in the group will gather beginning at 6 p.m. and family members may join them. A small group will gather and pick up others as they pass their houses. At the end of the walk, people will drop off as they reach their houses. Additional physical activities will be made available by the project team to see what else appeals to colonia residents.

The nutrition classes will be scheduled with Texas A&M Extension instructors, either those of Hidalgo County or those from the District 12 Extension Office in Weslaco. Additional resources may be available from the Universidad Tecnológico de Monterrey, which has a nutrition program that has occasionally sent nutrition students who were completing their degrees to give lessons in the lower Rio Grande Valley and from nursing and dietetics programs at South Texas College and the University of Texas-Pan American.

Relationship to Healthy Border 2010 Areas and Objectives

This project links to the Healthy Border 2010 areas and objectives in the following ways:

- Diabetes: The longterm project goal is to reduce both the mortality rate of diabetes and the need for hospitalization, because the project developed steps to design an intervention for early reduction of risk factors for diabetes. The project is oriented mainly toward the general population, to increase physical activity and/or improve nutrition to bring about improved health and reduced body mass index. In this way, the project addresses and plans to reduce, in the general colonia population, the major behavioral risk factors leading to diabetes.
- Access to Health Care: The project has provided referrals for medical care and distribution of information on clinics orally and through fliers help to meet the goal of improving access to health care.

Relationship to the Strategic Plan for the Prevention of Obesity in Texas: 2005-2010

In relation to the Strategic Plan for the Prevention of Obesity in Texas: 2005-2010, the project addresses the goals as follows:

- Goal 1: Increase awareness of obesity as a public-health issue that impacts the quality of life of families.
  The project addresses this goal through examining the feasibility of working with a community coalition to plan an intervention to reduce diabetes risk factors. That is, the project staff has informed the colonia residents of the links of physical activity and nutrition to risk of diabetes. This was a necessary step before planning an intervention.

- Goal 2: Mobilize families, schools, and communities to create opportunities to choose lifestyles that promote healthy weight.

  The project addresses this goal by working with families and communities, i.e., with the social networks in the colonias, to examine the feasibility of designing an intervention that will encompass lifestyles that promote healthy weight. For example, the Latino 5-A-Day recipe book may be feasible to use with the communities. It may be feasible to show that buying foods such as soda, cookies, and candy are more expensive than fresh fruits and vegetables available at flea markets and roadside stands.

- Goal 3: Promote policies and environmental changes that support healthful eating habits and physical activity.

  The project addresses this goal through examining the feasibility of working with community members to seek ways to bring about positive community-level changes in physical activity, eating patterns, and perceptions of healthy weight for height in children and adults.

- Goal 4: Monitor obesity rates and related behaviors and health conditions for planning evaluation and dissemination activities.

  The project addresses this goal through examining the feasibility of using the instruments noted above to assess behavioral risk factors for obesity and to assess prevalence of excess BMI. The results will be used as a baseline needs assessment that can be revisited periodically during the implementation of the intervention, in Phase 2 of this project.

Conclusions

Generally, the program is moving along well. The colonia residents are enthusiastic about participating and they have volunteered ideas quite freely regarding their own assessment of their needs. They are aware of chronic health issues and seem to have a good general orientation about them, but they need

better information. They want access to screening for blood sugar levels, cholesterol, other blood lipids, and blood pressure. They desire both physical activity and nutrition programs to decrease their risk of chronic disease. On the other hand, they face constraints in regard to enhancing their nutrition and physical activity levels. This project is designed to take those constraints into account in designing a culturally and economically appropriate intervention.

Appendix 1. Attachment No. 1: Scope of Work

DOCUMENT NO.7097097093D-2007
ATTACHMENT NO. 01
PURCHASE ORDER NO. 0000319865

CONTRACTOR: Texas A&M Univ. System Health Science Center

DSHS PROGRAM: Office of Border Health

TERM: August 01, 2006 THRU: December 31, 2006

SECTION I. SCOPE OF WORK**:**

Contractor shall address the Early Prevention of Diabetes & Improved Access to Health Care: The Feasibility of Addressing Healthy Border 2010 Objectives with Community Coalitions in Colonias in South Texas.

CONTRACTOR shall address Healthy Border 2010 objectives in the areas of diabetes and access to health care. Specifically, the agency shall examine the feasibility of engaging in early prevention of diabetes through community-based planning to enhance physical activity and/or nutrition in colonias. The agency shall also improve access to health care for colonia residents through health education and referrals. This project includes the following Healthy Border 2010 areas and objectives:

- Diabetes – reduce both the mortality rate of diabetes and the need for hospitalization;
- Access to Health Care – ensure access to primary care or basic health care services. (Healthy Border 2010:vii).

Furthermore, in relation to diminishing risk factors for diabetes, the project addresses the Strategic Plan for the Prevention of Obesity in Texas: 2005-2010 regarding the following goals (TDSHS 2006:35):

- Goal 1: Increase awareness of obesity as a public-health issue that impacts the quality of life of families.
- Goal 2: Mobilize families, schools, and communities to create opportunities to choose lifestyles that promote healthy weight.
- Goal 3: Promote policies and environmental changes that support healthful eating habits and physical activity.
- Goal 4: Monitor obesity rates and related behaviors and health conditions for planning evaluation and dissemination activities.

CONTRACTOR shall carry out the following activities, listed here in priority order:

1. Examine the feasibility of partnering with social networks in colonias. By working with promotoras familiar with the colonia networks, project team members will open the door to participation in this project.

Schedule

- Month 1: promotoras will visit colonias to explain the project and see which colonias are interested in participating.
- Months 2-4: continue to visit colonias and recruit new participants as needed. Expected number of participants to be recruited: 30.

2. Carry out a needs assessment regarding behavioral risk factors for diabetes. It is known that the prevalence of diabetes is high in colonia populations; however, the risk factors that lead to this high prevalence have not been specified. To identify these risk factors, the assessment instrument will draw items from the lengthy IMPACTO II, provided in English and Spanish and validated by the Monterey County (California) Health Department (see Appendix B). It is based on the Behavioral Risk Factor instrument developed by the Centers for Disease Control.

Some of the items have been refined for the usage in Spanish of limited-income people in South Texas; other items will need such refinement. The project team will carry out this work and narrow the instrument to focus on risk factors for diabetes with a focus on physical activity and nutrition. The results will document needs for intervention, assist in orienting the specific approach of the intervention, and provide pre-intervention baseline data.

Schedule

- Month 1: pilot test and refine the instrument
- Months 2-3: apply the instrument. Expected number of participants, 30 from four of the 33 social networks active in our current project.

3. Make a related needs assessment of body mass index (BMI) based on height and weight measurements. This effort will allow us to examine the feasibility of assessing changes in BMI.

Schedule

- Months 2-3: measure height and weight of colonia residents. Expected number of participants, 30. (Note: Controls are not included in this project because it is a feasibility exploration or pilot project; however, a larger project needs to include controls to test whether the intervention is successful in promoting more healthy measures of BMI.

4. Increase access to medical care. The project will link those with immediate needs for medical care to appropriate community and private healthcare providers. The project will

also inform colonia residents in general of the availability of healthcare. This aspect of the project will involve health education to improve health literacy. In addition to providing benefits to colonia residents and contributing to the Healthy Border 2010 goals, this aspect of the project is required because of ethical reasons. It would be unethical to carry out a project with a population who have poor access to medical care if we did not make every effort to refer those in need to healthcare providers.

Schedule

- Months 1-4: refer those with immediate medical needs to the clinics and inform other colonia residents of the availability of clinic services orally and with fliers.
  Expected number of referrals: 120. Expected number of fliers to be distributed: 500.

5. Examine the feasibility of engaging in planning early prevention of diabetes with community partnerships through working with the social network members to design physical activity programs and/or nutrition programs focused on families and their social networks. The interventions shall target risk factors for diabetes and shall take place in the colonia neighborhoods.

Schedule

- Month 1: invite social networks to participate in the project.
- Months 2-4: planning with community partnerships.
  Expected number of participants, 30.

6. Evaluation shall be a formative assessment of the feasibility of the project. The elements of the project to be evaluated will be:

a) Participation of community partners: number of participants and duration in project.

b) Response to needs assessments: number of respondents and number willing to have measurements taken of height and weight.

c) Participation of community partners in planning a program involving physical activity and/or nutrition: number of participants, number who discontinued their participation, and whether the plan is completed.

d) Response of community partners to the concept of implementing the plan.

Schedule

- Months1-4: Count participants and track their continuing involvement in all project activities. Complete a table showing number of participants and rates of attrition.
- Month 4: Complete a written plan with community partners about a program in physical activity and/or nutrition to be initiated in Phase 2 of the project to begin in October, 2006.
  Expected number of participants, 30.

CONTRACTOR shall submit a final report that is a formative evaluation to measure the feasibility of the methods in this project. The evaluation will include but not be limited to a database or Excel spreadsheet providing information on rates of participation in project activities and pilot study data on needs assessments and referrals. The agency shall provide the program design for physical activity and/or nutrition enhancement. The agency shall submit the final report to DSHS within forty-five (45) days of the end of the contract period. The report will include:

Table 2. Deliverables of this project.

Measure in the evaluation	Number of participants	Attrition of participants
1) Participation in project activities		
Attending meetings for planning program	x	x
Needs assessment (diabetes risk factors)	x	
Needs assessment (BMI)	x	
Referrals for medical care	x	
Distribution of information on clinics (measured as no. of fliers delivered)	x	
Completed program plan on diabetes risk factors	x	x
2) Needs assessment - pilot project results on 30 people:		
Sociodemographic data		
Age	mean & standard deviation	
Gender	percentages male and female	
Ethnicity	percentages Hispanic, Anglo, other(s)	
Education, grades completed in school	mean & standard deviation	
Language facility	% speaking Spanish, English	
Acculturation (for immigrants)	Acculturation scale scores (mean & standard deviation)	
3) Behavioral risk factors for diabetes, %, for 30 people:		
A. Nutrition/dietary intake		
Food frequency: times/week		
fruits and vegetables	means & standard deviations	
fast food	means & standard deviations	
fried food	means & standard deviations	
sweets	means & standard deviations	
B. Physical activity: intensity & duration		
Activity at work	means & standard deviations	
Activity in leisure time	means & standard deviations	
4) Objective data, risk factor for diabetes of BMI > 25, for 30 people		
Women	percentage	
Men	percentage	

This report will link to the Healthy Border 2010 areas and objectives in the following ways:

- Diabetes: 1-4 in Table 2 involve steps with the goals of reducing both the mortality rate of diabetes and the need for hospitalization, because they encompass steps in designing an intervention for early reduction of risk factors for diabetes. That is, the project is oriented mainly toward the general population, to increase physical activity and/or improve nutrition to bring about improved health and reduced body mass index. In this way, the project will address and plan to reduce, in the general colonia population, the major behavioral risk factors leading to diabetes.
- Access to Health Care: result 1, specifically referrals for medical care and distribution of information on clinics orally and through fliers, has the goal of improving access to health care.

In relation to the Strategic Plan for the Prevention of Obesity in Texas: 2005-2010, the project will address the goals as follows:

- Goal 1: Increase awareness of obesity as a public-health issue that impacts the quality of life of families.
  The project will address this goal through examining the feasibility of working with a community coalition to plan an intervention to reduce diabetes risk factors. That is, the project staff will inform the colonia residents of the links of physical activity and nutrition to risk of diabetes. This will be a necessary step before planning an intervention.

- Goal 2: Mobilize families, schools, and communities to create opportunities to choose lifestyles that promote healthy weight.

  The project will address this goal by working with families and communities, i.e., with the social networks in the colonias, to examine the feasibility of designing an intervention that will encompass lifestyles that promote healthy weight. For example, the Latino 5-A-Day recipe book may be feasible to use with the communities. It may be feasible to show that buying foods such as soda, cookies, and candy are more expensive than fresh fruits and vegetables available at flea markets and roadside stands.

- Goal 3: Promote policies and environmental changes that support healthful eating habits and physical activity.

  The project will address this goal through examining the feasibility of working with community members to seek ways to bring about positive community-level changes in physical activity, eating patterns, and perceptions of healthy weight for height in children and adults.

- Goal 4: Monitor obesity rates and related behaviors and health conditions for planning evaluation and dissemination activities.

  The project will address this goal through examining the feasibility of using the instruments noted above to assess behavioral risk factors for obesity and to assess prevalence of excess BMI. The results will be used as a baseline needs assessment that can be revisited periodically during the

implementation of the intervention, in a following project.

DSHS shall upon request from the CONTRACTOR, provide guidance and consultation regarding diabetes prevention, colonia health, working with community coalitions, related issues, and the project scope and budget.

CONTRACTOR shall submit reports and invoices to DSHS according to the following schedule:

August—report due September 15, 2006
September—report due October 15, 2006
October—report due November 15, 2006
November—report due December 15, 2006
December—report due January 15, 2007
Final report—due February 15, 2007

Monthly reports shall detail activities and milestone accomplishments during the month.
Final report will evaluate the feasibility of a project involving a community coalition to reduce diabetes risk factors and improve access to health care in South Texas colonias. Final report shall include but not limited to a database or Excel spreadsheet providing
results from the project: rates of community participation, results of needs assessments, and evaluation of project feasibility.

SECTION II. SPECIAL PROVISIONS:

None.

SECTION III. BUDGET:

Monthly Reports (5@$2,000 ea)……..$10,000
Final Report (1@$4,000 ea)…….. 4,000

Total expenditures for this contract not to exceed $14,000.00

Appendix 2. Risk assessment instrument for this project

COMPORTAMIENTOS Y SU SALUD

18 AÑOS Y MAYOR

For the project,
Early Prevention of Diabetes & Improved Access to Health Care:
The Feasibility of Addressing Healthy Border 2010 Objectives
with Community Coalitions in South Texas

Directed by Dr. Ann V. Millard, South Texas Center,
Texas A&M School of Rural Public Health
Sponsored by Dr. Marta Fournier, Office of Border Health,
State Department of Health Services, Texas

Project Team: Ann V. Millard, Ph.D., Esmeralda Sanchez, B.A.,
Bonny Medina, C.C.H.W., and Ester S. Carbajal, C.H.W.

27 Noviembre 2006

Adaptada de la
SECRETARIA DE SALUD
SUBSECRETARIA DE PREVENCIÓN Y PROMOCIÓN DE LA SALUD
DIRECCIÓN GENERAL DE EPIDEMIOLOGÍA
COMISIÓN DE SALUD FRONTERIZA MÉXICO-ESTADOS UNIDOS

y Los Cuestionarios Internacionales de Actividad Física (IPAQ, por sus siglas en inglés); Booth, M.L. (2000). Assessment of Physical Activity: An International Perspective. Research Quarterly for Exercise and Sport, 71 (2): s114-20; www.ipaq.ki.se.

Re: Early Prevention of Diabetes & Improved Access to Health Care, Term: August 01, 2006 THRU December 31, 2006
DSHS Contract No. 7097097093D-2007, Attachment No. 01; DSHS P.O. No. 0000319865, Office of Border Health
Contractor: TX A&M University System Health Science Center

Introducción

Buenos días (tardes)

Soy personal de la Universidad de Texas A&M, Escuela de Salúd Publica Rural. Mi nombre es_____. Estamos realizando un estudio para conocer los hábitos de salud de la población como son: sus actividades físicas, nutrición, y diferentes actividades de prevención de enfermedades crónicas que realiza la población.

En el cuestionario no existen respuestas correctas o incorrectas; si alguna pregunta le causa incomodidad, tiene la libertad de NO CONTESTARLA, sin embargo, para nosotros es de gran utilidad que responda la mayor cantidad de preguntas posibles.

Absolutamente todas sus respuestas son confidenciales y ninguna persona puede ser identificada a través de este cuestionario, ya que los resultados se presentarán en forma de resumen por lo tanto, no es necesario registrar su nombre.

De antemano, agradecemos su participación y cooperación

Instrucciones para el entrevistador

Lea cada una de las preguntas el entrevistado asegurándose de que las entienda correctamente y encierre en un círculo cada una de las respuestas. Cuando el entrevistado le conteste, es necesario que verifique que la respuesta marcada sea la indicada. Cuando se encuentre con preguntas que no sean aplicables, las preguntas siguientes se le indicarán con notas y pases para saltar a las preguntas subsiguientes.

Nombre del entrevistador:_____

Hora de inicio de la entrevista: ___ ___ **Hora de término de la entrevista**: ___ ___

C O N T E N I D O

10/31/06, Antecedentes de esta encuesta

La mayoría de estas preguntas vienen de la Encuesta, Comportamientos de Riesgo para Enfermedades Crónicas, 18 a 65 años. (Marzo del 2005) Secretaria de Salud, Subsecretaria de Prevención y Promoción de la Salud, Dirección General de Epidemiología y Comisión de Salud Fronteriza México-Estados Unidos.

El módulo sobre actividad física es Cuestionario Internacional de Actividad Física (IPAQ). (Noviembre del 2002) Formato Telefónico Largo—Últimos 7 Dias. (See Booth, M.L. (2000). Assessment of Physical Activity: An International Perspective. Research Quarterly for Exercise

and Sport, 71 (2): s114-20; www.ipaq.ki.se.)

Información del respondiente

Nombre _____

Teléfono _____

Nombre de la colonia _____

Dirección _____
(calle) (ciudad)

¿Cuánto tiempo tiene de vivir en esta colonia? _____

Módulo 1: Discapacidades

1.1 ¿Tiene usted ahora algún problema de salud que requiera el uso de equipos especiales tales como bastón, silla de ruedas, cama o teléfono especial? Incluye uso ocasional o en circunstancias especiales. (4.1)

1. Si
2. No
7. No sabe/ No está seguro
9. No responde

Módulo 2: Diabetes mellitas

2.1 ¿Alguna vez le ha dicho un doctor que usted tiene diabetes? (7.3)

1. Sí
3. No (go to question 7.24)
4. No, dijo que tenía pre-diabetes o que estaba al límite
7. No sabe / no esta seguro
9. No responde

2.2 ¿Qué edad tenía cuando le dijo que usted tenía diabetes? (7.4)

__ __ Edad en años
7. No sabe/ no está seguro
9. No responde

SOLAMENTE MUJERES:

2.3 ¿El doctor le dijo que tuvo Diabetes solamente durante el embarazo y no en otro tiempo? (7.5)

1. Si
2. No
7. No sabe/ no está segura
9. Se niega a contestar

2.4 ¿Cuál de las siguientes opciones cree que pueden retardar la presencia de la diabetes? Conteste todas las opciones que apliquen (7.24)

1. Actividad física
2. Nutrición
3. Medicina
7. No sabe/ no está seguro
9. Se niega a contestar

2.5 ¿Usted cree que la diabetes puede ser curada? (7.25)

1. Si
2. No
7. No sabe/ no responde
9. Se niega a contestar

2.6 ¿Tienen o tuvieron su padre, su madre o sus hermanos biológicos diabetes? (7.26)

1. Si
2. No
7. No sabe/ no está seguro
9. Se niega a contestar

Módulo 3: Alimentación

Las siguientes preguntas son acerca de los alimentos que usualmente come o bebe. Por favor dígame que tan frecuente usted come o bebe cada uno, por ejemplo, dos veces a la semana, tres veces al mes, y así sucesivamente. Recuerde, yo solamente estoy interesado en la comida que usted come. Incluye toda la comida que come en casa y fuera de ella.

1. ¿Qué tan seguido consume los siguientes alimentos? Indique el **número de raciones**, solamente conteste **una opción por pregunta**. Para todas las otras opciones, cheque el cuadro apropiado. (2)

1.a. Jugos frescos de frutas como por ejemplo naranja, uva o tomate? (2.a)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.b. Jugos: enlatados y frescos (2.b)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.c. Sodas (coca cola, bebidas no dieteticas, etc.) (2.c)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.d. Bebidas de dieta, sodas o agua mineral (2.d)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.e. Fruta fresca (no incluye jugos) (2.e)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.f. Nopal, cactus (2.f)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.g. Vegetales frescos, ensaladas (2.g)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro

g. Se niega

1.h. Papas (no incluye papas a la francesa, papas fritas, papas chips) (2.h)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.i. Zanahorias (2.h)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.j. Frijoles, lentejas, garbanzos (2.j)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.k. Harina de avena y otros cereales (2.k)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.l. Arroz (2.l)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.m. Otros vegetales cocinados (2.m)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.n. Sopas con pasta o sopas enlatadas (2.n)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.o. Carnes rojas (2.o)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.p. Carne de cerdo, pancita, chorizo de puerco (2.p)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.q. Carnes frías, jamón (2.q)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.r. Pollo, pavo y otras aves (2.r)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega
h. No sabe/ no está seguro
i. Se niega

1.s. Pescado, ceviche, atún y otros mariscos (2.s)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.t. Huevos (2.t)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.u. Tortillas de harina (2.u)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.v. Pan dulce, roles o pan bimbo (pan de barra) (2.v)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.w. Tortillas de maíz (2.w)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

1.x. Agua embotellada (incluye agua del WaterMill, etc.) (2.x)

a. __ __Día
b. __ __Semana
c. __ __Mes
d. __ __Año
e. __ __Nunca
f. No sabe/ no está seguro
g. Se niega

2. ¿Qué tipo de aceite o grasa para cocinar usa usualmente? (3)

a. Aceite vegetal o margarina
b. Manteca de cerdo, tocino
c. Otro
f. No sabe/ no está seguro
g. Se niega a contestar

Modulo 4: Actividad Física
Estas preguntas se referirán acerca del tiempo que usted utilizó siendo físicamente activo(a) en los **últimos 7 días**. Por favor responda cada pregunta aún si usted no se considera una persona activa. Por favor piense en aquellas actividades que usted hace como parte del trabajo, en el jardín y en la casa, para ir de un sitio a otro, y en su tiempo libre de descanso, ejercicio o deporte.

Piense acerca de todas aquellas actividades **vigorosas** y **moderadas** que usted realizó en los **últimos 7 días**.

Actividades **vigorosas** son las que requieren un esfuerzo físico fuerte y le hacen respirar mucho más fuerte que lo normal.

Actividades **moderadas** son aquellas que requieren un esfuerzo físico moderado y le hace respirar algo más fuerte que lo normal.

Parte 1: Actividad física relacionada con el trabajo

La primera sección es relacionada con su trabajo. Esto incluye trabajos con salario, agrícola, trabajo voluntario, clases, y cualquier otra clase de trabajo no pagado que usted hizo fuera de su casa. **No incluya trabajo no pagado que usted hizo en su casa, tal como limpiar la casa, trabajo en el jardín, mantenimiento general, y el cuidado de su familia**. Estas actividades serán preguntadas en la parte 3.

1. ¿Tiene usted actualmente un trabajo o hace algún trabajo no pagado fuera de su casa?

☐ Sí

☐ No → Pase a la PARTE 2: TRANSPORTE

Las siguientes preguntas se refieren a todas las actividades físicas que usted hizo en los últimos 7 días como parte de su trabajo pagado o no pagado. **Esto no incluye ir y venir del trabajo.**

Durante los últimos 7 días…

2. ¿Cuántos días realizó usted actividades físicas vigorosas (levantar objetos pesados, excavar, construcción pesada, o subir escaleras) como parte de su trabajo?

Piense solamente en esas actividades que usted hizo por lo menos 10 minutos continuos.

_____ días por semana

☐ Ninguna actividad física vigorosa relacionada con el trabajo → Pase a la pregunta 4

☐ No sabe/No está seguro(a)

3. ¿Cuánto tiempo en total le toma realizar actividades físicas vigorosas en uno de esos días que las realiza como parte de su trabajo?

_____ horas por día _____ minutos por día

☐ No sabe/No está seguro(a)

Piense solamente en esas actividades que usted hizo por lo menos 10 minutos continuos.

Durante los últimos 7 días…

4. ¿Cuántos días hizo Usted actividades físicas moderadas como cargar cosas ligeras como parte de su trabajo? Por favor no incluya caminar.

_____ días por semana

☐ No actividad física moderada relacionada con el trabajo → Pase a la pregunta 6

5. ¿Cuánto tiempo en total le toma realizar actividades físicas moderadas en uno de esos días que las realiza como parte de su trabajo?

_____ horas por día _____ minutos por día

☐

No sabe/No está seguro(a)

Durante los últimos 7 días…

6. Durante los últimos 7 días, ¿Cuántos días caminó usted por lo menos 10 minutos seguidos como parte de su trabajo? Por favor no incluya ninguna caminata que usted hizo para trasladarse de o a su trabajo.

_____ días por semana

☐ Ninguna caminata relacionada con trabajo → Pase a la PARTE 2:

7. ¿Cuánto tiempo en total pasó generalmente caminado en uno de esos días como parte de su trabajo?

_____ horas por día _____ minutos por día

☐ No sabe/No está seguro(a)

Parte 2: Actividad física relacionada con transporte

Estas preguntas se refieren a la forma como usted se ha trasladado de un lugar a otro, incluyendo lugares como el trabajo, las tiendas, el cine, entre otros.

Durante los últimos 7 días…

8. ¿Cuántos días viajó usted en un vehículo de motor como un tren, autobús, automóvil, u otra clase de vehículo de motor?

_____ días por semana

☐ No viajó en vehículo de motor → Pase a la pregunta 10

9. ¿Cuánto tiempo gastó usted en uno de esos días viajando en un tren, autobús, automóvil, u otra clase de vehículo de motor?

_____ horas por día _____ minutos por día

☐ No sabe/No está seguro(a)

Ahora piense únicamente acerca de montar en bicicleta o caminatas que usted hizo para trasladarse a o del trabajo, haciendo mandados, o para ir de un lugar a otro.

Durante los últimos 7 días…

10. ¿Cuántos días montó usted en bicicleta por al menos 10 minutos continuos para ir de un lugar a otro?

_____ días por semana

☐ No montó en bicicleta de un sitio a otro → Pase a la pregunta 12

11. Usualmente, ¿Cuánto tiempo gastó usted en uno de esos días montando en bicicleta de un lugar a otro?

_____ horas por día

_____ minutos por día

☐ No sabe/No está seguro(a)

12. Durante los últimos 7 días, ¿Cuántos días caminó usted por al menos 10 minutos continuos para ir de un sitio a otro?

_____ días por semana

☐ No camine de un sitio a otro → Pase a la PARTE 3: TRABAJO DE LA CASA, MANTENIMIENTO DE LA CASA, Y CUIDADO DE LA FAMILIA

13. Usualmente, ¿Cuánto tiempo gastó usted en uno de esos días caminando de un sitio a otro?

_____ horas por día _____ minutos por día

☐ No sabe/No está seguro(a)

Parte 3: Trabajo de la casa, mantenimiento de la casa, y cuidado de la familia

Esta sección se refiere a algunas actividades físicas que usted hizo en los últimos 7 días en y alrededor de su casa tal como como arreglo de la casa, jardinería, trabajo en el césped, trabajo general de mantenimiento, y el cuidado de su familia.

Durante los últimos 7 días…

14. Piense únicamente acerca de esas actividades físicas que hizo por lo menos 10 minutos continuos.¿Cuántos días hizo usted actividades físicas vigorosas tal como levantar objetos pesados, cortar madera, palear nieve, o excavar en el jardín o patio?

_____ días por semana

☐ Ninguna actividad física vigorosa en el jardín o patio → Pase a la pregun

15. ¿Cuánto tiempo dedica usted en uno de esos días haciendo actividades físicas vigorosas en el jardín o patio?

_____ horas por día _____ minutos por día

☐ No sabe/No está seguro(a)

16. Nuevamente, piense únicamente acerca de esas actividades físicas que hizo por lo menos 10 minutos continuos. Durante los últimos 7 días, ¿Cuántos días hizo usted actividades físicas moderadas tal como cargar objetos livianos, barrer, lavar ventanas, y rastrillar en el jardín o patio?

_____ días por semana

☐ Ninguna actvidad física moderada en el jardín o patio → Pase a la pregunta 18

17. Usualmente, ¿Cuánto tiempo dedica usted en uno de esos días haciendo actividades físicas moderadas en el jardín o patio?

_____ horas por día _____ minutos por día

☐ No sabe/No está seguro(a)

Piense únicamente acerca de esas actividades físicas que hizo por lo menos 10 minutos continuos.

Durante los últimos 7 días…

18. ¿Cuántos días hizo usted actividades físicas moderadas tal como cargar objetos livianos, lavar ventanas, estregar pisos y barrer dentro de su casa?

_____ días por semana

☐ Ninguna actvidad física moderada dentro de la casa → Pase a la PARTE 4: ACTIVIDADES FíSICAS DE RECREACIÓN, DEPORTE Y TIEMPO LIBRE

19. Usualmente, ¿Cuánto tiempo dedica usted en uno de esos días haciendo actividades físicas moderadas dentro de su casa?

_____ horas por día _____ minutos por día

☐ No sabe/No está seguro(a)

Parte 4: Actividades física de recreación, deporte y tiempo

Esta sección se refiere a todas aquellas actividades físicas que usted hizo en los últimos 7 días únicamente por recreación, deporte, ejercicio o placer. Por favor no incluya ninguna de las actividades que ya haya mencionado.

20. Sin contar cualquier caminata que ya haya usted mencionado, durante los últimos 7 días, ¿Cuántos días caminó usted por lo menos 10 minutos continuos en su tiempo libre?

_____ días por semana

☐ Ninguna caminata en tiempo libre → Pase a la pregunta 22

21. Usualmente, ¿Cuánto tiempo gastó usted en uno de esos días caminando en su tiempo libre?

_____ horas por día _____ minutos por día

☐ No sabe/No está seguro(a)

Piense únicamente acerca de esas actividades físicas que hizo por lo menos 10 minutos continuos. Durante los últimos 7 días,

22. ¿Cuántos días hizo usted actividades físicas vigorosas tal como aeróbicos, correr, pedalear rápido en bicicleta, o nadar rápido en su tiempo libre?

_____ días por semana

☐ Ninguna actividad física vigorosa en tiempo libre → Pase a la pregunta 24

23. Usualmente, ¿Cuánto tiempo dedica usted en uno de esos días haciendo actividades físicas vigorosas en su tiempo libre?

_____ horas por día _____ minutos por día

☐ No sabe/No está seguro(a)

Nuevamente, piense únicamente acerca de esas actividades físicas que hizo por lo menos 10 minutos continuos.

Durante los últimos 7 días…

24. ¿Cuántos días hizo usted actividades físicas moderadas tal como pedalear en bicicleta a paso regular, nadar a paso regular, jugar dobles de tenis, en su tiempo libre?

_____ días por semana

☐ Ninguna actvidad física moderada en tiempo libre → Pase a la PARTE 5: TIEMPO DEDICADO A ESTAR SENTADO(A)

25. Usualmente, ¿Cuánto tiempo dedica usted en uno de esos días haciendo actividades físicas moderadas en su tiempo libre?

_____ horas por día

_____ minutos por día

☐ No sabe/No está seguro(a)

Parte 5: Tiempo dedicado a estar sentado(a)

Las últimas preguntas se refieren al tiempo que usted permanence sentado(a) en el trabajo, la casa, estudiando, y en su tiempo libre. Esto incluye tiempo sentado(a) en un escritorio, visitando amigos(as), leyendo o permanecer sentado(a) o acostado(a) mirando television. No incluya el tiempo que permanence sentado(a) en un vehículo de motor que ya haya mencionado anteriormente.

Durante los últimos 7 días…

26. ¿Cuánto tiempo permaneció sentado(a) en un día en la semana?

_____ horas por día _____ minutos por día

☐ No sabe/No está seguro(a)

27. ¿Cuánto tiempo permaneció sentado(a) en un día del fin de semana?

_____ horas por día _____ minutos por día

☐ No sabe/No está seguro(a)

Módulo 5: Acceso y utilización de los servicios de salud

5.1 ¿Tiene algún tipo de cobertura de atención de la salud, incluyendo seguro de salud, planes prepagados, o seguros de salud del gobierno, como Medicare o Seguro Popular? (2.1)

1 Sí
2 No
7 No sabe/ no está seguro(a)
9 Se niega a contestar

5.2 En los últimos 12 meses ¿hubo algún momento en que necesitó atención médica pero no la pudo obtener debido al costo? (2.4)

1. Sí
2. No
7. No sabe/ no está seguro(a)
9. Se niega a contestar

Módulo 6: Datos demográficos

6.1. Sólo pregunte si es necesario. (1)

1. Hombre
2. Mujer

6.2. ¿Cuántos años tiene? (2)

__ __ Edad en años cumplidos
7. No sabe/ no está seguro(a)
9. Se niega a contestar

6.3. ¿Cuál es el grado o año escolar más alto que terminó? (4)

1. Nunca fue a la escuela o sólo fue al jardín de niños
2. Primaria
3. Secundaria
4. Preparatoria
5. Algunos estudios en universidad o escuela técnica
6. Graduado de la universidad
9. Se niega a contestar

6.4. ¿Actualmente usted? (5)

1. Es empleado asalariado
2. Trabaja por cuenta propia
3. Ha estado desempleado por más de 1 año
4. Ha estado desempleado por menos de 1 año
5. Es ama de casa
6. Es estudiante
7. Está jubilado
8. No puede trabajar
9. Se niega a contestar

6.5 Aproximadamente, ¿cuánto pesa sin zapatos? (6)
Redondee las fracciones al número siguiente

__ __ __ __ peso (*libras/kilogramos)*

7. No sabe/ no está seguro(a)
9. Se niega a contestar

6.6. Aproximadamente, ¿cuánto mide sin zapatos? (7)
Redondee las fracciones al número anterior

__ __/ __ __ Estatura *(pies/pulgadas/metros/centímetros)*

7 No sabe/no está seguro(a)
9 Se niega

Nota para entrevistador: Anote lo que dice la persona, clarifique el país si no indican en su respuesta y marque la respuesta apropiada.

6.7. ¿En donde empezo la escuela? _____

1. México
2. Estados Unidos
3. Otro **(especifique pais)**_____
7. No sabe/ no está seguro
9. Se niega

6.8. ¿Qué lenguaje habla usualmente en casa? (12)

1 Solamente español
2 Más español que inglés
3 Ambos, español e ingles por igual
4 Más ingles que español
5 Solamente inglés
6 Lengua indígena
7 Otro
8 No sabe/ no está seguro
9. Se niega

6.9. ¿Usted lee ingles? (13)

1. Sí
2. No
7. No sabe/ no está seguro(a)
9. Se niega

6.10. ¿Usted lee español? (14)

1. Sí
2. No
7. No sabe/ no está seguro(a)
9. Se niega

Esa fue mi última pregunta. Cada una de las respuestas serán analizadas para proporcionarnos información acerca de los hábitos de salud de la población que vive a lo largo de la frontera México-Estados Unidos. Muchas gracias por su tiempo y su cooperación.