

**V(A). Planned Program (Summary)**

**Program # 3**

**1. Name of the Planned Program**

Diabetes Education

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
724	Healthy Lifestyle	100%		0%	
	<b>Total</b>	100%		0%	

**V(C). Planned Program (Inputs)**

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	18.0	0.0	0.0	0.0
Actual	13.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
187516	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
187516	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1267238	0	0	0

**V(D). Planned Program (Activity)**

1. Brief description of the Activity

Partner with local health care professionals to provide a 5 9-lesson nutrition and self-care education classes using the Do Well, Be Well with Diabetes curriculum and 4 class series using the Cooking Well with Diabetes cooking school series. Partner with leaders in Hispanic communities such as priests, preachers, promotoras, and other Hispanic organizations to provide *¡Si, Yo Puedo Controlar Mi Diabetes!* 6 classes each with novelas (Spanish curriculum with lessons, handouts, food cards, recipes in Spanish

with nutritive value of each recipe). After the pilot testing of the Hispanic class series for low-literacy, *¡Si, Yo Puedo Controlar Mi Diabetes!* is being offered in additional counties. In addition, an adaptation for other low-literacy populations such as a segment of the African-American population will be created, pilot-tested and adapted for future use.

**2. Brief description of the target audience**

The target audience is all people with type 2 Diabetes who need training to learn nutrition and self-care management skills such as eating more healthfully (limiting carbohydrate intake, cutting fat and sodium and increasing fiber in meal plan), increasing physical activity, taking prescribed medications, checking their blood glucose levels, and regularly visiting their health care providers. Now that the Hispanic under-served audience has been targeted with a culturally-sensitive program and pilot tested, the African-American audience will be targeted in future years.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Plan</b>	20000	50000	500	0
<b>Actual</b>	16050	30329	121	0

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2010  
 Plan: 0  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2010	Extension	Research	Total
<b>Plan</b>	0	0	
<b>Actual</b>	2	0	2

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- # of group educational sessions conducted.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2010	1250	1314

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	# of participants who report improved before meals blood glucose levels after attending 4 of the 5 Do Well, Be Well with Diabetes and 3 of 4 Cooking Well with Diabetes classes.
2	# of individuals who complete the first diabetes series of 5 lessons.
3	Number of nurses trained on diabetes education.
4	¡Si, Yo Puedo, Yo Puedo Controlar Mí Diabetes! (Yo Puedo) is a six-week diabetes self-management education program for low literate, Spanish-speaking Hispanic/Latinos.

## **Outcome #1**

### **1. Outcome Measures**

# of participants who report improved before meals blood glucose levels after attending 4 of the 5 Do Well, Be Well with Diabetes and 3 of 4 Cooking Well with Diabetes classes.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	1100	1961

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Diabetes is growing health problem in Texas. Poor diabetes management leads to increased health-care costs. People with diabetes who maintain their blood glucose, blood pressure, and cholesterol numbers within recommended ranges can keep their costs, health risks, quality of life, and productivity very close to those without the disease. Currently, however, only 7 percent of people with diabetes are at the recommended levels.

#### **What has been done**

County agents are trained to organize local health professionals to help plan, market, and provide the Nutrition/Self-care and Diabetes Cooking class series. The program's primary goal is to improve blood glucose management.

#### **Results**

At the beginning of Nutrition/Self-care classes, the average blood glucose before meals reported by participants (634 reporting) was 134 mg/dL, decreasing to 121 mg/dL at 5 weeks (554). In diabetes cooking classes, the self-reported average hemoglobin A1C was 7.1.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
724	Healthy Lifestyle

## **Outcome #2**

### **1. Outcome Measures**

# of individuals who complete the first diabetes series of 5 lessons.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	750	1329

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Diabetes nutrition/self-care classes are not available in many communities across the state. Percentages of Texas populations with diabetes range from about 6 to 10.5 percent.

#### **What has been done**

Trained County Agents work through local health coalitions to provide class curriculum consistent with the American Diabetes Standards of Care to plan, implement and conduct the 5 week class series.

#### **Results**

925 (68 percent) participants reported having no previous diabetes classes. Some 593 (43 percent) reported receiving no meal plan from their doctor. At the beginning of classes, 43% (589) rated their ability to control their diabetes as good to excellent; this rating increased to 87% (777) by the last class.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
724	Healthy Lifestyle

**Outcome #3**

**1. Outcome Measures**

Number of nurses trained on diabetes education.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2010	75	75

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

75 + Wesley nurses were trained by Extension nutrition/health specialists and serve underserved portions of Texas to help extend the diabetes education in nutrition and self-care and assist agents.

**What has been done**

Helping clientele to know how to keep their blood glucose levels in control.

**Results**

When agents live in some of these counties served by Wesley nurses, they are able to conduct this and cooking well with diabetes because these health professionals which give their services provide the health care professionals needed to conduct these programs in those underserved areas. Wesley nurses are helping clientele to have better blood glucose control as well.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
724	Healthy Lifestyle

## **Outcome #4**

### **1. Outcome Measures**

¡Si, Yo Puedo, Yo Puedo Controlar Mí Diabetes! (Yo Puedo) is a six-week diabetes self-management education program for low literate, Spanish-speaking Hispanic/Latinos.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	{No Data Entered}	144

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Texas Hispanic/Latinos over the age of 18 are disproportionately affected by diabetes prevalence (12.3 percent) than their White, non-Hispanic counterparts (8.5 percent). 1 In 2005, mortality rates were more than double among Texas Hispanic/Latinos (52 per 100,000) than Whites, non-Hispanics (21 per 100,000).1 Medically under-served Texas Hispanic/Latinos are adversely impacted by diabetes. Among persons with diabetes, a higher proportion of Hispanic/Latinos (32.5 percent) could not see a doctor in the last 12 month due to cost compared to Whites (16.5 percent).

#### **What has been done**

Proper management is critical to minimize the potential negative effects of diabetes. Self-management education is the cornerstone for diabetic care and vital for blood glucose control. Recognizing the need for a culturally-relevant type 2 diabetes self-management education targeting Texas Hispanic/Latinos Yo Puedo was developed to address this gap in health programming.

#### **Results**

Pilot testing for intervention group (n=84) and control (n=60) for the Hispanic initiative was conducted in Hidalgo and Starr Counties.

Key Findings were that Yo Puedo can do as follows: increase diabetes management self-confidence; improve diabetes self-care behaviors; help participants maintain good blood glucose control; and is an effective diabetes community-based self-management education.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
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724 Healthy Lifestyle

### **V(H). Planned Program (External Factors)**

#### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

#### **Brief Explanation**

Any of the above factors could influence whether a class attendee improves their management of type 2 diabetes. For example, if Medicare or Medicaid improved reimbursement for private or group instruction by health professionals, our class participants might choose that option over our classes. Also, if there were better reimbursement for more and better medicines or care by skilled health care professionals such as endocrinologists, certified diabetes educators, dietitians, or pharmacists, people might choose these options instead of our classes or even show greater improvement in blood glucose management when attending our classes. If the economy worsens, people might not be able to afford adequate medicines or supplies such as food glucose strips which is already a problem for the under-served population and those on fixed incomes.

### **V(I). Planned Program (Evaluation Studies and Data Collection)**

#### **1. Evaluation Studies Planned**

- Before-After (before and after program)

### **Evaluation Results**

**The Do Well, Be Well (DWBW) program's primary goal is to improve blood glucose management. In nutrition/self care management results were:**

- In 2010, 1,367 people with diabetes registered for classes; 891 (53 percent) completed the five-week series and the Wrap-Up or post-test. The classes were provided in 77 counties.
- The average age of participants was 62 years. 127 (9 percent) were African American; 274 (20 percent) were Hispanic/Latino; 23 (2 percent) Native American; 908 (67 percent) Caucasian, and 22 percent classified as other.
- At the beginning of classes, the average blood glucose before meals

reported by participants (634 reporting) was 134 mg/dL, decreasing to 121 mg/dL at 5 weeks (554).

- At the beginning of classes, 43% (589) rated their ability to control their diabetes as good to excellent; this rating increased to 87% (777) by the last class.

**Qualitative Results from Nutrition/Self Care:**

- "I haven't really taken my diabetes serious enough; however, attending these classes makes me realize the seriousness of managing my diabetes."

- "These have been the best classes. I've learned more in these classes than I have in 15 years since being diagnosed."

- "...My husband and I have both lost weight, reduced our A1c, and improved our lipids. Working on portions, reducing carbohydrates, and moving more is a direct result of the classes we have attended. We thank you for the support, knowledge, and experience of the leaders of the classes of both Do Well, Be Well and Cooking Well with Diabetes."

- "After taking the class, my A1c was within range for the first time since I was diagnosed with diabetes."

**In 2010, the following additional surveys were completed by diabetic individuals enrolled in the diabetes cooking classes (CWWD):**

**In diabetes cooking classes, these results were:** 608 registration pretest, 461 wrap-up posttest, and 226 follow-up surveys.

- When asked about the type of meal plan they followed on the : 608 registration pretest surveys, some 8.7 percent (49) answered diabetes food exchanges; carbohydrate counting, 20.6 percent (115); plate method, 6.4 percent (36); 6.8 percent (38) other meal plans; and 48.2 percent (269) receiving no meal plan at all.

- The 2010 wrap-up evaluations (461) revealed that 83.5 percent (366) could recognize starchy vegetables; at least 91.5 percent (411) knew how to make foods taste sweeter by adding vanilla; and 95 percent (436) knew which cooking method would not reduce the fat content of the food. Many other food preparation techniques were learned during the Cooking Well lessons.**Qualitative Results from Cooking Well with Diabetes:**

- "With all that my wife and I have learned in both Do Well, Be Well with Diabetes and Cooking Well with Diabetes, my hemoglobin A1C has gone from 13.7 in February to 6.0 in June. I still do not exercise enough, but the diet and medications have both lowered my A1C as well as my cholesterol."

- "Know how to count carbs easily and effectively. Learned to apply the plate method, and to modify recipes effectively. I'd done all of these before, but was not effective or able to apply. Now I truly understand and can use things I'd learned, but not put them into practice. Have wonderful resources at hand to refer to where others were complicated and unclear."

- "I have had lower blood glucose results and continued my weight loss. Have been told my complexion is changed and that I look better. I believe it is due to healthier eating habits. Reading food labels!"

- " I learned more about starchy and non-starchy foods, carbohydrates and how they affect my blood glucose. I also learned how to count carbohydrates and about using the plate method to control how much that I eat."

**In Yo Puedo, these are key findings in pilot study in 2010:**

- increases diabetes management self-confidence.
- improve diabetes self-care behaviors.

- helps participants maintain good blood glucose control, and
- is effective diabetes self-management education that can be implemented in community-based settings.

### Key Items of Evaluation

These diabetes series have all been created using the American Diabetes Association's Standards of Practice plus knowledge of educational theories for health education which have shown results in helping persons with diabetes understand nutrition and self-care education so that they can practice behaviors which lead to blood glucose control. With the rising diabetes national problem, it would behoove the NIFA-USDA to provide these programs nationally to help fight and control this devastating disease. What is unique is that all this data is collected online directly from each participant's test results and at end of each year we have exact data to help us see the strengths and weaknesses of our educational diabetes programming.

#### **National recognition in 2010 were:**

2010 American Association of Diabetes Educators Annual Conference, San Antonio, Poster Presentation on the Yo Puedo Hispanic Model for Low Literacy, Purcell, Boggess (Poster selected as first place).

2010 American Dietetic Association Poster Presentation on Creative Diabetes Education via Cooking Well with Diabetes (Bielamowicz, Pope, Rice), Journal of the American Dietetic Association, September 2010 Supplement 2--Abstracts Volume 110, Number 10, p A-42. Annual Food and Nutrition Conference & Expo Abstracts. Boston, MASS. Annual Conference, Boston, MASS

2010 Analysis of the Cooking Well with Diabetes Data from 2005-2009 used in a national peer reviewed journal article submitted in Jan, 2011 (Bielamowicz, Pope, Rice)

2010 and submitted January, 2011:

Bielamowicz, M.C.K., Pope, P. and Rice, C.A. 2011. *Creative Community Diabetes Education Motivates Texans with Type 2 Diabetes to Do Well with Diabetes Control.* Journal of American Association of Diabetes Educators -- The Diabetes Educator (submitted, pending approval).