



Huesos Fuertes, Familia Saludable

Strong Bones, Healthy Family



Evaluation Summary

Introduction

California Project LEAN (Leaders Encouraging Activity and Nutrition) (CPL) developed the *Huesos Fuertes, Familia Saludable (Strong Bones, Healthy Family)* intervention to address bone health among Latino women and their families. A social marketing approach was used to develop and implement the project, which began in 2000 and ended in 2006 in the following communities: Escondido, Fresno, San Bernardino, and Santa Ana. The intervention was developed based on formative research, which included a literature review, key informant interviews, focus groups, and an environmental scan of bone health campaigns. Some of the key findings from the formative research that guided the development of the intervention included:

- Prevalence of osteoporosis among Mexican-American women is 16%
- Mexican American adult females are approximately 200-300 milligrams short of the Dietary Reference Intake for calcium, equivalent to about one 8-oz. glass of milk.
- Less acculturated Mexican-American mothers are the gatekeepers for their family's health and are highly motivated to improve their family's health.
- The biggest barrier to drinking 1% low-fat milk reported by Latino mothers from focus groups was taste of 1% low-fat milk, and the perception that it was watered down and less nutritious.

All the intervention materials were developed in Spanish and were field tested with the target audience. The materials included radio/TV commercials, a brochure, and a four-lesson curriculum. The *Huesos Fuertes, Familia Saludable* targeted low-income Latino mothers with school-aged children with the primary behavioral objective of increasing their consumption of 1% (low-fat) milk by one extra 8-ounce serving each day. The intervention utilized two strategies:

- 1) The marketing component used paid Spanish-language radio and television commercials (30 and 60 second spots), community events and grocery store demonstrations to motivate Latino families to drink more 1% milk and increase their consumption of other calcium rich foods. This component was evaluated via intercept surveys.
- 2) The promotora component used promotoras (community health workers) to conduct classes with family members, friends, neighbors, and other Latino women in their communities. CPL developed a four-lesson promotora curriculum that covered topics such as bone health, osteoporosis, sources of calcium, physical activity, and overcoming barriers. This component was evaluated via matched pre and post self-administered surveys. The marketing component was also aimed at promotora class participants.

Methods

The target audience for this intervention included milk consuming, low-income, predominantly Spanish-speaking Latino mothers between the ages of 18 and 55. Data collection was conducted in two ways. To evaluate behavior change as a result of exposure to the marketing component alone, intercept surveys were collected from members of the general target audience (as defined above). Local contractors identified areas predominantly frequented by members of the target audience, and during the month before the campaign began, interviewers were posted at these locations and randomly interviewed those who appeared to qualify. A set of screening questions were asked to qualify survey participants. After the campaign ended each year (4 – 6 months later), interviewers returned to these same locations to collect post campaign surveys in the same manner. The pre and post campaign surveys were then compared to determine whether the responses had changed. Data were analyzed to determine whether any changes in responses were due to exposure to the campaign.

Promotora participants were also surveyed during the intervention. Before the start of Session One and at the conclusion of Session Four, promotora class participants were asked to complete a survey similar to the marketing intercept survey. These surveys were then matched with the same pre survey, and compared to the person's post survey. Statistical analyses were used to determine whether any changes observed were due to participation in the promotora classes.

Intercept surveys and promotora surveys were collected in 2001 (pilot year), 2002, 2003, and 2004 (promotora survey only), and in 2005 and 2006, a customer satisfaction survey was collected from participants attending the promotora classes.

Results

Overall, the *Huesos Fuertes, Familia Saludable* project demonstrated positive evaluation results not only in achieving the behavioral objective, but also in increasing consumption of 1% low-fat milk and reducing whole milk consumption throughout the intervention years. This report highlights overall evaluation results from 2001 – 2004 plus qualitative feedback from class participants in 2005 and 2006.

Did the amount of milk consumed change?

Results from the intercept surveys (measuring those exposed only to the marketing components, not the classes) collected from 2001-2003 showed no significant difference in the number of glasses of milk reported consumed at pre vs. post. Table 1 shows data from the 2003 intercept survey.

Table 1
 “How many glasses of milk (8-oz.) did you consume yesterday?”
 All Regions Combined
 2003

Survey Time	N	Mean Number Glasses of Milk	Standard Deviation	Mean Difference
April 2003	827	1.85	1.18	.05875
September 2003	871	1.91	1.26	

t-score = .993, p = .321

However, there was a significant difference in the amount of milk that promotora class participants reported consuming after attending the four classes during each of the intervention years (2002-2004). Table 2 shows data from the 2004 promotora survey.

Table 2
 “How many glasses of milk (8-oz.) did you consume yesterday?”
 All Regions Combined
 2004

Survey Time	N	Mean Number Glasses of Milk	Standard Deviation	Mean Difference
Pre	451	1.53	.94	.8742
Post	451	2.40	.94	

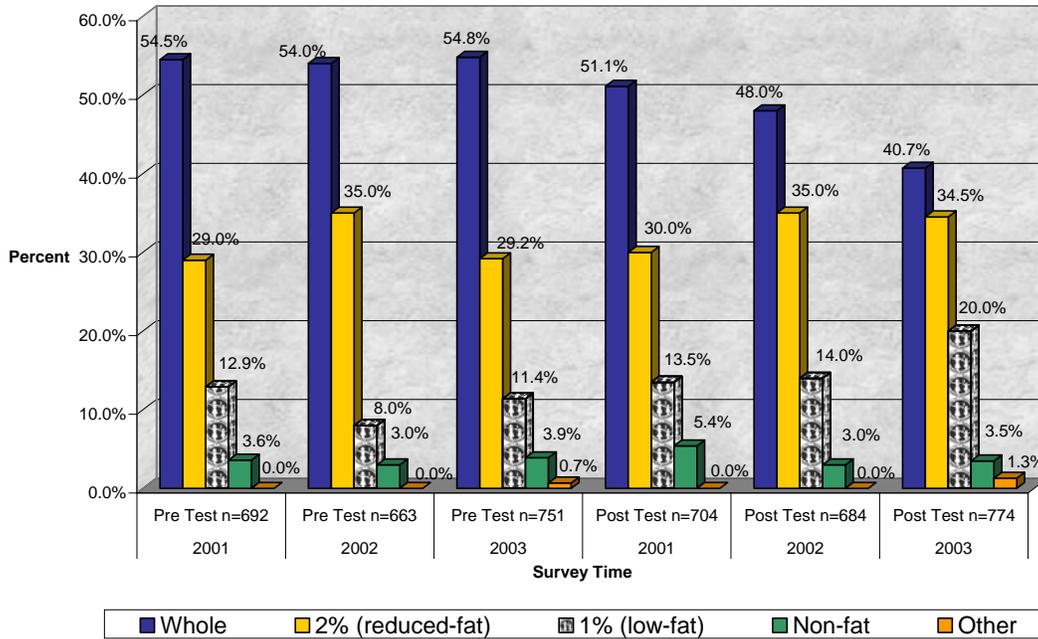
t-score = 19.625, p = .000

Did the type of milk consumed change?

There was a significant difference in the distribution of the type of milk consumed by individuals who responded yes to the question that asked about the amount of milk consumed both in the intercept-survey (marketing-only) and the promotora survey each campaign year from 2002-2004 (Figure 1). Note for the intercept survey, there was no significant difference noted in the pilot year 2001. Additionally, the intercept survey was not conducted in 2004.

Figure 1

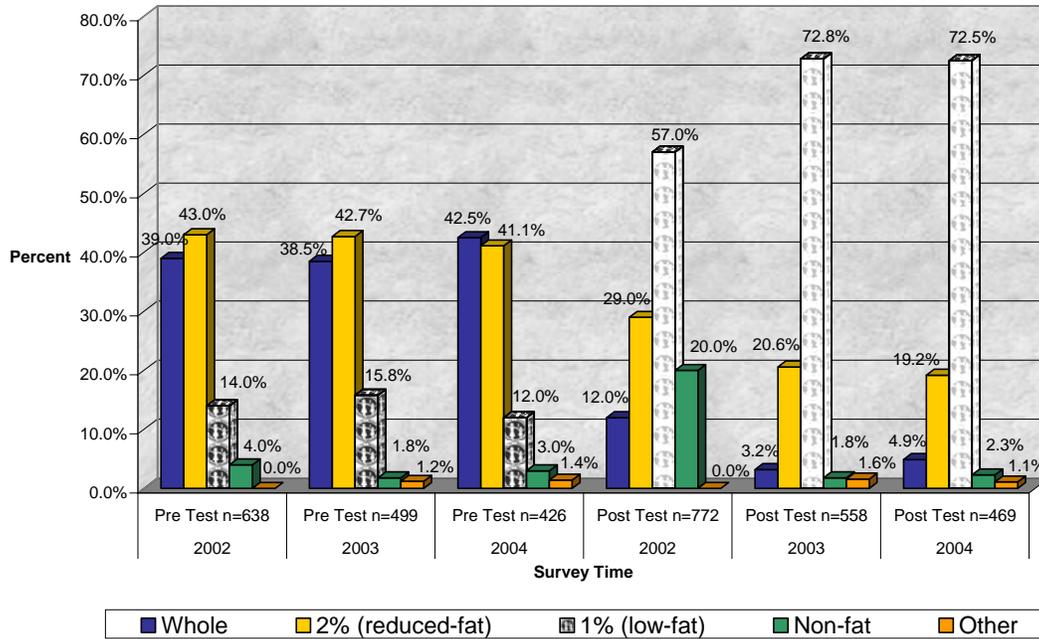
California Bone Health Campaign - Intercept Survey
 Type of Milk Consumed Yesterday (Q1a)
 Multi-Year Pre/Post Comparison 2001, 2002, and 2003



The promotora survey respondents showed the greatest increase in the distribution of the type of milk consumed with 2003 and 2004 showing the greatest change in 1% milk consumption at pre vs. post (57.0% and 60.5% respectively), as well as a significant drop in whole milk consumption.

Figure 2

California Bone Health Campaign - Promotora Survey
 Type of Milk Consumed Yesterday (Q1a)
 Multi-Year Pre/Post Comparison 2002, 2003, and 2004



Is the taste of 1% milk acceptable to you?

Formative research data from the target audience revealed that the taste of 1% milk was a barrier to consuming it instead of whole milk. In 2004, participants who participated in the promotora classes were asked their opinion about the taste of 1% milk. Significantly more participants found the taste of 1% milk acceptable at post test.

Table 3
 "The taste of 1% milk is acceptable to you."
 Response Choices 1 (Agree) or 0 (Disagree)
 All Regions Combined
 2004

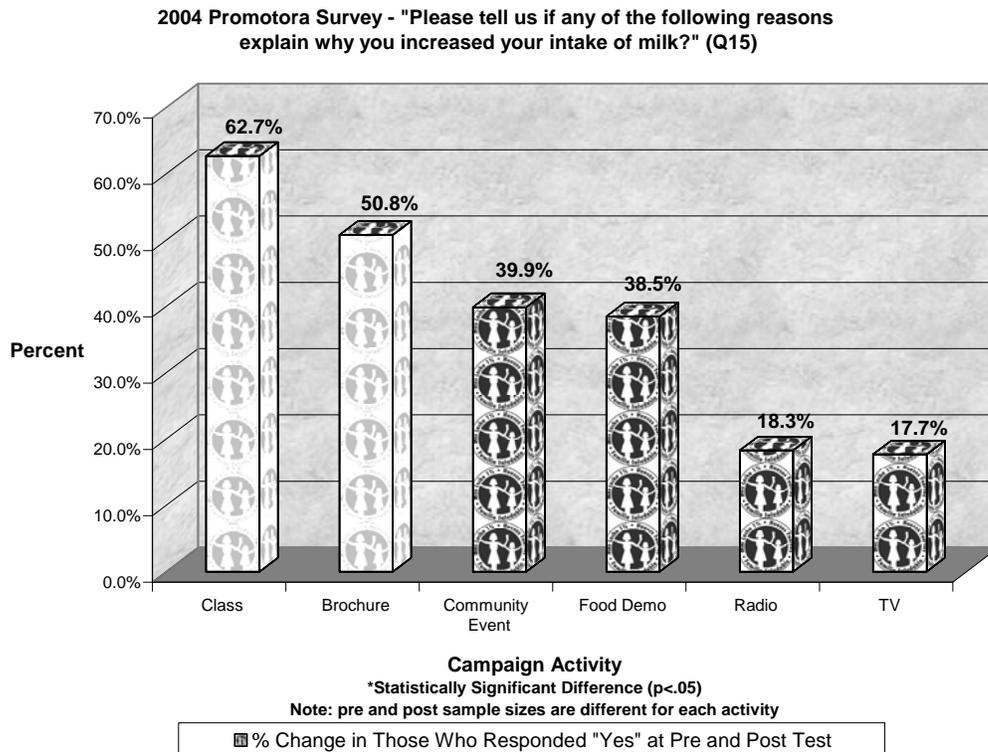
Pre % Agree (n)	Post % Agree (n)	% Change	Chi-Square	df	p value
44.3% (222)	88.8% (454)	44.5%	226.223	1	.000*

*Significant at p<.05

Did the campaign components have an impact on efforts to consume more milk?

Participants who reported recently making an effort to consume more milk were asked to identify whether any specific campaign components could explain why they made this effort during the 2004 intervention. Figure 3 shows that attending the *Huesos Fuertes, Familia Saludable (Strong Bones, Healthy Family)* class, the campaign brochure, attending a community event, or participating in grocery store food demonstrations appeared to have had the greatest impact on efforts to increase intake of milk.

Figure 3



Did recognition of the campaign name and logo change?

Class participants were asked whether they had recently heard any information about the *Huesos Fuertes, Familia Saludable (Strong Bones, Healthy Family)* campaign or seen the campaign logo in 2004. Responses are detailed in Table 4. There was a significant increase in the number of participants who reported they had heard information about the campaign or seen the campaign logo.

Table 4
Recognition of Campaign Name and Logo
All Regions Combined
2004

Question	Pre % Yes (n)	Post % Yes (n)	% Change	Chi-Square	df	p value
Q11 Have you recently heard any information about the <i>Strong Bones, Healthy Family</i> campaign?	34.1% (172)	96.7% (493)	62.6%	440.238	1	.000*
Q12 Have you recently seen this logo? 	28.1% (141)	94.7% (479)	66.5%	470.786	1	.000*

*Significant at p<.05

Participants who said they had heard about the campaign or seen the logo were also asked to identify from where they recognized it. These responses are detailed in Table 5. Community events, grocery store demonstrations, and brochures had the greatest impact on recognition of the campaign name and/or logo.

Table 5
Q13 "Please tell us where you saw this logo or heard information about the *Strong Bones, Healthy Family* campaign."
All Regions Combined
2004

Activity	Pre % Yes (n)	Post % Yes (n)	% Change	Chi-Square	df	p value
Community Event	39.1% (34)	72.4% (142)	33.3%	28.532	1	.000*
Grocery Store Demo	51.1% (47)	82.2% (222)	31.1%	34.844	1	.000*
Brochure	63.7% (65)	94.7% (358)	31.0%	73.685	1	.000*
Family/Friend	41.9% (36)	69.1% (125)	27.2%	18.018	1	.000*
Church Event/Activity	23.5% (20)	37.8% (56)	14.3%	5.029	1	.025*
TV	78.0% (110)	83.4% (246)	5.4%	1.840	1	.175
Newspaper	17.3% (13)	21.0% (25)	3.7%	.394	1	.530
Radio	59.8% (64)	60.5% (101)	0.7%	.012	1	.913

*Significant at p<.05

Qualitative Feedback from Promotora Class Participants

Promotora class participants were asked a series of open-ended questions at the end of the fourth class to understand what they liked most about the promotora sessions and what changes they had made as a result of participating in the program. The respondents clearly valued the participatory hands-on approach of the classes. What they liked best about the program fell into three general categories: dietary skills and information, exercise skills, and information about osteoporosis and how to prevent it. The majority of the respondents also self-reported that they were able to make positive changes in eating or physical activity as a result of the four bone health educational sessions they attended. The predominant change mentioned was a switch from whole milk to 1% low-fat milk, as well as drinking and serving more milk to family members. Other common responses were including more exercise in daily activities, eating healthier, adding more calcium-rich foods and fruits and vegetables.

Discussion

Evaluation results from *Huesos Fuertes, Familia Saludable (Strong Bones, Healthy Family)* intervention were consistent each year and demonstrated that a comprehensive intervention, in particular the use of promotora-led classes had the biggest impact on increasing, milk consumption and switching to 1% low-fat milk. While the intercept surveys respondents who were exposed only to the marketing component of the intervention did not show an *increase* in milk consumption, they did show a statistically significant difference in the distribution of the *type* of milk consumed.

The promotora model is commonly used to effectively reach underserved or hard-to-reach populations through peer education and provide health information in a culturally sensitive manner. The use of promotoras proved to be effective with low-income Spanish-speaking Latino women in communicating the behavioral objective of daily adding an extra serving of 1% low-fat milk, and creating awareness of bone health and osteoporosis prevention. It is not clear if the promotora classes alone had an impact on the evaluation results, since the class participants were potentially exposed to the community events, retail food demonstrations, and radio commercials. The promotora classes did show the biggest change for influencing the increased consumption of milk.

While there was an increase in the awareness of the intervention as a result of the community events, retail food demonstrations, and the educational brochure, program staff learned anecdotally that the radio commercials and radio remotes at local events added credibility to the presence of the intervention. Overall, the success of the *Huesos Fuertes, Familia Saludable (Strong Bones, Healthy Family)* was due in part to utilizing a social marketing approach in the development, implementation, and evaluation of this project. This allowed program planners to take the needs and perspectives of the target audience into consideration at every key juncture in the campaign.