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# Low-Income California Food-Shopping Habits: A Study Based on Hispanic WIC Participant Surveys

Patricia Gradziel, James R. Matthews, and Mandeep Punia

A shopping-habits survey was completed at selected California WIC clinic sites. Although the survey was given to WIC program participants from all racial or ethnic groups, tests revealed that a representative sample was obtained only from members of the Hispanic population, who make up the largest ethnic group served by the California WIC Program. Consequently, the study presented herein is restricted to the shopping habits of Hispanic California WIC Program participants. This study identified the specific brand preferences of the WIC population for the cereals and juices offered by the California WIC Program and to find out if families with two or more people on WIC would be able to handle buying larger quantities of the same food in one shopping trip, thus allowing the program to issue fewer food instruments for the same quantity of food and decrease the number of transactions at the grocery store. An attempt was also made to assess the utilization of farmers' market coupons. The characteristics included in this study were family income, language preference, household size, and head-of-household education level. Results of this survey indicate capacities to obtain larger quantities of food on one shopping trip; clear preferences for specific brands of plastic-bottled, shelf-stable juices over frozen juices; and preferences for specific cereal brands and types. Additionally, the survey results suggest that pre-sliced processed American cheese may be an acceptable alternative to cheese in block form. These observations, together with reasons given for limited use of farmer's market assistance, suggest the possible presence of time-utility trade-offs in low-income California Hispanic shopping plans.

As California's population becomes more ethnically diverse, cultural backgrounds assume a more important role as factors in understanding food-consumer behavior here. The 700,000 Hispanic women and children who now participate in the California Women, Infants, and Children (WIC) Supplemental Nutrition Program constitute a major part of this ethnic diversity (ISIS 2002).

The federally funded WIC program, administered by the U.S. Department of Agriculture, provides food supplements, nutrition education, and other health- and human-assistance-program referrals to more than seven million at-risk, low-income women and their small children throughout the United States (Food Research Action Center 1991). The California WIC program serves 1.25 million participants per month, making it the largest WIC program in any state (ISIS 2002).

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Gradziel and Punia are senior nutrition consultants and Matthews is research program specialist, California Department of Health Services – WIC Branch.

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The California WIC program provides its participants with food instruments (also known as vouchers or checks) that are redeemable for specified food types at authorized grocery stores. These food instruments are issued to participants after their nutritional needs have been assessed or updated at WIC clinics. The USDA specifies in its regulations the food types and quantities that may be offered through the WIC program. Each state program then selects the brand of products based on their nutrition composition, cost, and availability. Within these guidelines, participants then make their selections based on personal preference. Therefore, California WIC clinics are places where low-income Hispanic grocery shoppers can be located for interviews about their food choices.

Food choices could reasonably be expected to be influenced by lifestyle considerations. There is evidence that many Hispanic WIC participants are busy people, with responsibilities in addition to caring for their children. Data from the Womens' Health Survey (CWHS 1997)<sup>1</sup>, indicate that nearly

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<sup>1</sup> Data were provided for use in this analysis by The California Women's Health Survey (CWHS) Group. The CWHS is coordinated by the California Department of Health Services in collaboration with the California Department of Mental Health, the California Department of Alcohol and Drug Programs, and California Medical Review, Incorporated. Funding for the survey was provided by the collaborators and

**Table 1. California WIC-Eligible Hispanic Women Who Participated in the Womens' Health Survey.**

1999	Total	Married	%Married	Employed	%Employed
Child in Last 5 Years	301	175	58.1	134	44.5
Prenatal	19	13	68.4	5	26.3
Total	320	188	58.8	139	43.4
2000	Total	Married	%Married	Employed	%Employed
Child in Last 5 Years	242	154	63.6	94	38.8
Prenatal	13	6	46.2	6	46.2
Total	255	160	62.7	100	39.2

Source: California Women's Health Survey (CWHS) Group.

40 percent of California Hispanic WIC-eligible women are employed (Table 1). Additionally, about 40 percent of these WIC-eligible women are single parents. It is likely that substantial numbers of these single-parent women assume full responsibility as heads-of-households.

### Objectives

This paper reports results and analysis of a shopping-habits questionnaire survey administered to California WIC participants. The survey was conducted at WIC clinic sites in selected locations throughout the state. The purpose of this survey was to gain understanding of WIC participant shopping habits: frequency, brand/flavor preferences, and quantities obtained on a typical shopping trip. This information will help the WIC program's food-delivery and food-product-review process for determining authorized foods. This analysis is limited to Hispanic participants, who make up the largest ethnic group served by the California WIC Program.

### Methodology

This survey was conducted in July 2001 through personal interviews by interviewers fluent in the interviewees' preferred language. A random survey of WIC participants throughout the whole state in this manner is not practical. Therefore, a clus-

ter-sampling methodology was used, where persons to be interviewed for the survey were drawn only from certain pre-selected WIC clinics. In order to help assure that these particular clinic sites accurately represent the California state WIC population as a group, the sites were pre-selected in an attempt to ascertain that various characteristics of their participants were proportionately similar to those of California WIC participants as a whole. These characteristics, as recorded in the ISIS database (2002) included family income, language preference, family size, and head-of-household education level. In 2001, Lanfranco et al. found these variables to be important determinants of food-purchase patterns, especially household size and head-of-household education level. Other research by Matthews (2001) has found family language preference, among other cultural characteristics, to be a significant determinant of shopping behavior.

From the pre-selected clinics, only the Hispanic participants were found to have the characteristics that closely fit their statewide populations. Consequently, this study will be limited to the Hispanic WIC population. Future administrations of this survey could be conducted at clinics that better represent members of other ethnic groups, according to these characteristics.

Table 2 shows the fit that was found between pre-selected clinic Hispanic participant characteristics and those Hispanic participant characteristics of the whole state. Survey participants were selected at random from those who visited the pre-selected clinics and were interviewed regardless of ethnicity, but only the responses from those who identified themselves as Hispanic are included in

by a grant from the California Wellness Foundation (1997). Analyses, findings, and conclusions described in this report are not necessarily endorsed by the CWHS Group.

**Table 2. California WIC Clinics to be Surveyed: Hispanic Participant Characteristics, July 2001.**

Characteristic	Statewide	Clinics to be Surveyed	Highest Sample Clinic Value	Lowest Sample Clinic Value
Percent preferring English Language	33.52%	32.81%	70.81%	16.20%
Percent from household of 5 or more	32.58%	32.35%	42.14%	24.21%
Percent High School Graduate	34.11%	33.32%	58.64%	24.88%
Average Monthly Income (\$)	1208	1236	1640	1031

Source: California WIC Program Integrated Statewide Information System (ISIS).

this paper. A total of 269 responses were collected from Hispanic participants. According to the formula

$$(1) \quad n = \frac{Z^2pq}{E^2}$$

where n = necessary sample size; Z = desired confidence level (1.96 was used for 95-percent-confidence level); p = probability of a positive response (5 is the most conservative value); q = probability of a non-positive response (1 - p); and E = margin of error, this sample size is large enough to project

results for the whole state with an approximate margin of error of ±5–6 percent for most questions. Margins of error are shown in Tables 3–5, next to the most common response to each question. This survey’s results revealed many very large majorities with the same choice, so that preferences were clear. Interviewee’s responses were weighted in accordance with the size of their clinics.

**Observations**

Tables 3–5 summarize the results of this survey.

**Table 3. Results from Surveyed Clinics: Shopping Trip Frequency and Mode of Transportation (Hispanic Respondents Only).**

How often do you shop for food?	(% of 269 responses/269 respondents)	
1 time per week	58.8	(error=5.9%)
2-3 times per week	15.6	
1 time per month	2.9	
2 times per month	18.6	
other	4.0	
How do you get to the store?	(% of 294 responses/269 respondents)	
own car	65.90	(error=5.7%)
walk	17.50	
bus	5.60	
cab	0.30	
friend’s car	9.70	
other	1.00	

Source: Shopping patterns survey. See Text.

*Frequency of Shopping Trips*

Table 3 shows that 74 percent of the respondents shop for food once per week. Close to 20 percent shop every other week or once per month. Given respondents' stated capabilities to purchase larger quantities than a single food instrument facilitates on one shopping trip (see Table 5), it is no surprise

to see that the automobile is the most popular mode of transportation to and from the store for shopping. Seventy-five percent of the respondents own or have access to automobiles, indicating the capability to purchase such relatively large quantities. However, 17 percent indicated that they walk to the store, at least occasionally. Since this question did permit multiple responses, it showed that many

**Table 4. Results from Surveyed Clinics: Who Buys What (Hispanic Respondents Only).**

What type of milk do you usually buy?	(% of 284 responses/269 respondents)
Whole	58.3 (error=5.9%)
2 percent	31.8
1 percent	5.7
Nonfat/Skim	4.2
Which flavors of frozen juices do you buy?	(% of 57 responses/28 respondents)
Apple	23.2
Grape	32.1
Orange	33.8 (error=17.5%)
Pineapple	11.8
What kind of cheese do you buy with your WIC checks?	(% of 315 responses/258 respondents)
Cheddar	15.3
Jack	31.7
Mozzarella	51.9 (error=6.1%)
Proc Am	1.2
What form of Juice do you buy with your WIC checks?	(% of 263 responses/263 respondents)
In plastic bottles	88.00 (error=3.9%)
Frozen	7.50
Some of each	4.50
If WIC allowed sliced processed American cheese from the refrigerated cheese section of the store, would you buy it?	(% of 269 responses/269 respondents)
Yes	70.1 (error=5.47%)
No	29.9
What flavors of juices in plastic containers do you buy?	(% of 545 responses/247 respondents)
Apple	39.9 (error=6.1%)
Grape	23.3
Orange	20.4
Pineapple	13.4
Vegetable	3.0

Source: Shopping patterns survey. See Text.

of the respondents who usually drive to the store may also walk at some times. Only 6.9 percent of the respondents selected other modes of transportation such as riding a bus or taking a cab, indicating that these are not highly preferred among the respondents.

*Preferred Foods*

Table 4 shows that whole milk is most popular, although the WIC program’s educational efforts to prevent childhood obesity might cause this preference to change to lower-fat milk in the future. Responses to other questions showed clear preferences for specific nationally known cereal brands and types. These cereal preferences are indicative of

strong national-brand recognition. Mozzarella and Jack cheese seem to be most preferred among Hispanics, with cheddar and processed American much less popular. However, most participants express a willingness to obtain pre-sliced processed American cheese if it is made available through the WIC program, possibly because of the added convenience. Because of cost considerations, the California WIC Program only allows blocks of cheese. Most grocery stores that have a deli will slice the cheese on the site for WIC participants who request it. However, this usually means standing in another line and taking more time.

Convenience considerations might be present in juice preferences as well. Shelf-stable juices in plastic containers are strongly preferred over fro-

**Table 5. Results from Surveyed Clinics: Who Buys How Much at a Time (Hispanic Respondents Only).**

How much milk do you buy at one time? (% of 273 responses/266 respondents)		
1 gallon	8.5	
1.5 gallon	7.0	
2 gallon	59.0	(error=5.9%)
3 gallon	12.9	
other	12.6	
If you were given 3 gallons of milk in one check, would you be able to buy this amount at one time? (only those from families with > 1 WIC participant; % of 137 responses/137 respondents)		
Yes	69.9	(error=7.7%)
No	30.1	
If you were given 7-8 of these plastic juice bottles on one check would you be able to buy this amount at one time? (only those from families with > 1WIC participant; % of 137 responses/137 respondents)		
Yes	59.4	(error=8.2%)
No	40.6	
If you were given 9 cans of frozen juices on one check, would you be able to buy this amount at one time? (only those from families with > 1 WIC participant; % of 137 responses/137 respondents)		
Yes	15.5	(error=6.1%)
No	84.5	
If you were given 72 ounces of cereal on one check, would you be able to buy this amount at one time? (only those from families with > 1 WIC participant; % of 137 responses/137 respondents)		
Yes	66.4	(error=7.9%)
No	33.6	

Source: Shopping patterns survey. See Text.

zen juices, which require time to thaw out and a personal container to store it in. As with cereals, there are clear preferences for specific nationally recognized brands of juices.

#### *Ability to Buy Larger Quantities of Food Per Food Instrument*

Table 5 shows purchase-quantity capabilities of 137 respondents (51 percent of the total respondents) from families with two or more members on WIC. A majority of them indicated the capability to purchase larger quantities of shelf-stable juices, cereals, and milk than are currently offered on a single food instrument. Of the 273 responses regardless of number of family members on WIC, 74 percent of the participants buy 2 gallons or less of milk per shopping trip, while only 26 percent buy more than 2 gallons. However, when we isolated families who had more than one participant on WIC, 70 percent of those respondents said they would be able to buy 3 gallons of milk using one food instrument. In the case of cereals, such larger-quantity purchases would allow some cereal boxes that are available in sizes between 36 ounces (the amount allowed on a single food instrument) and 72 ounces. However, of these 137 respondents, 30–40 percent said they would not obtain food items in the larger quantities. Access to automobiles and home storage capacity may be issues for this minority.

#### *Utilization of Farmers' Markets.*

California WIC participants at certain clinics are issued farmers' market vouchers in addition to their regularly allotted grocery store food vouchers. The WIC Farmers' Market Nutrition Program was added to the regular California WIC program in order to encourage participants to add more fresh fruits and vegetables, not currently part of the regularly provided WIC foods, to their diets. The questionnaire used for this study did have some supplemental questions about the respondent's use of the farmers' market, but not enough replied to these questions to give a sample of any statistical significance. However, it is known that statewide only about 50 percent of the California WIC Farmers' Market vouchers are actually redeemed (ISIS 2002). Given this knowledge, we might look at the 90 farmers' market responses to this questionnaire to

get some clue as to the reasons for the light usage of California WIC program farmers' market coupons. Respondents to this survey frequently indicated that they could not get to farmers' markets because of distance and transportation issues. Another common reason given for not using the farmers' markets was that the value of the vouchers (not more than ten dollars to a package) was not sufficient to justify going to the farmers' market, indicating a possible time and utility trade-off.

#### **Conclusions**

A group of California WIC clinic sites has been identified from which a representative sample of statewide Hispanic participants can be drawn.

Survey results from this sample show that Hispanic California WIC participants tend to shop for food at least once a week. Those with families that have two or more participants on WIC are willing and able to redeem food instruments with larger quantities of food on them by combining like foods on one food instrument.

There are clear preferences for shelf-stable juices in plastic bottles compared to frozen juices which require some home preparation. For the bottled juices, there are distinct specific brand preferences. A possible interest is also apparent in pre-sliced processed American cheese if made available through the WIC program. As is the case with juices, distinct brand preferences exist for cereals.

Distance and transportation issues are matters of concern with regard to use of farmers' markets. Locating these markets closer to lower-income neighborhoods where WIC participants might live could therefore increase WIC farmers' market sales.

Women's Health Survey data show that nearly forty percent of California Hispanic WIC eligible women are employed while they take care of their infants or small children, and forty percent of all such women are single parents (CWHS 1997).

These observations on shopping frequency, food type preferences, shopping-transportation issues, and participant household responsibilities, taken together, suggest the possible presence of time-utility trade-offs in low-income California Hispanic shopping plans. More research could be conducted to determine the extent of these trade-offs and the values that WIC consumers might place on convenience foods.

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