


December 2006

Assessment of Client Satisfaction in Six Urban WIC Clinics

Follow this and additional works at: <https://digitalcommons.unf.edu/fphr>

 Part of the [Public Health Commons](#), and the [Social and Behavioral Sciences Commons](#)

Recommended Citation

(2006) "Assessment of Client Satisfaction in Six Urban WIC Clinics," *Florida Public Health Review*: Vol. 3 , Article 5.
Available at: <https://digitalcommons.unf.edu/fphr/vol3/iss1/5>

This Research Article is brought to you for free and open access by the Brooks College of Health at UNF Digital Commons. It has been accepted for inclusion in Florida Public Health Review by an authorized administrator of UNF Digital Commons. For more information, please contact [Digital Projects](#).

© December 2006 All Rights Reserved

Assessment of Client Satisfaction in Six Urban WIC Clinics

Catherine Christie, PhD, RD, LD/N, FADA
Julia A. Watkins, PhD, MPH
Anita (Toni) Martin, MPH, RD, LD/N
Helen Jackson, PhD, RD, LD/N
Judy E. Perkin, DrPH, RD, CHES
Jacquie Fraser, PhD

Abstract

Customer service is a measure of support and courtesy provided to individuals who patronize an organization, and is a factor vital to the success of any business. Programs that strive to meet critical needs of at risk populations, such as the Special Supplementation Nutrition Program for Women, Infants, and Children (WIC), may also benefit from assessment of client satisfaction. The purpose of the study was to examine factors related to customer satisfaction in Duval County Florida WIC clinics and identify potential barriers to participation through a two-year project initiated by the health department and the state university. The study examined appointment wait time, duration of appointment, the preferred time of day and day of the week for appointment scheduling, and customer service practices in WIC clinics from the perspective of WIC participants. Results suggest that most WIC participants served by the Duval County Health Department were satisfied; however, three areas exist for improvement. The most salient issue reported by clients was duration of appointment wait time, continued improved customer service, and to a lesser extent improvement in the physical environment. Clients provided suggestions for improvement related to each of these areas.

Florida Public Health Review, 2006; 3:35-42

Introduction

Customer service, defined as the measure of support and courtesy provided to individuals who patronize an organization, is vital to the success of any business (Chance & Green, 2001b). Programs that strive to meet critical needs of at risk populations, such as the Special Supplementation Nutrition Program for Women, Infants, and Children (WIC), may also benefit from assessment of client satisfaction. Green, Harrison, Henderson, and Lenihan (1998) reported a positive association between WIC employee satisfaction and WIC client satisfaction and increased WIC participation was associated with higher employee and client satisfaction.

The Special Supplementation Nutrition Program for Women, Infants, and Children (WIC), was established in 1972 by an amendment to the Child Nutrition Act of 1966, and is administered by the Food and Nutrition Services (FNS) of the U.S. Department of Agriculture (USDA). WIC provides services for low-income pregnant and postpartum women, infants, and children up to the age of five years. The services provided include supplementation of approved food items and infant formula, nutrition education and counseling as well as access to other health care and social services. The primary goal of WIC is to improve the nutritional status of participants who have been identified at nutritional risk (U.S. Department of Agriculture, Food and Nutrition Services, 2006a; McKinney, 2004). Identifying barriers to the use of WIC services and initiating solutions to those barriers is imperative if

potential clients are to be solicited for the program and present clients are to be retained.

The outcomes of WIC's services are widely recognized to be crucial in the attainment or maintenance of health for women, children, and infants. Currently, WIC serves 24% of children ages one to four, 35% of pregnant and postpartum women, and 50% of infants in the United States (McKinney, 2004). WIC services are significantly associated with a reduction in the incidence of low infant birth weight, fetal and infant mortality, future healthcare costs (Kowaleski-Jones & Duncan, 2002; Chance & Green, 2001a). WIC services are also significantly associated with and increased nutritional care, growth and development of children among single and non-single mothers (Chatterji & Brooks-Gunn, 2004; Chance & Green, 2001b), breast feeding initiation and duration among single and non-single mothers (Chatterji & Brooks-Gunn, 2004), reduction in blood lead levels in children (Zierold & Anderson, 2004), and access to dental care service, hence, improving oral health (Lee, Rozier, Norton, Kotch, & Vann, 2004).

Because participation in WIC often represents the entry point into the public health system, increased WIC client participation through improved customer service positively affects the future health of women, infants, and children (Oliveira, Racine, Olmsted, Ghelfi, 2002). The results of studies conducted by FNS and other non-government entities have shown that WIC is one of the nations most successful and cost-effective nutrition intervention programs. WIC protects or

improves the health/nutritional status of low-income women, infants and children (U.S. Department of Agriculture, Food and Nutrition Services, 2005).

Despite the positive benefits correlated with WIC participation, enrollment and retention of eligible WIC participants especially children, has not been satisfactory (Woelfel, Abusabha, Pruzek, Stratton, Chen, & Edmunds, 2004; Rosenburg, Alperen, & Chiasson, 2003). Nationally since 2000, the proportion of the eligible population that participates in WIC has held steady at about 57% (U.S. Department of Agriculture, Food and Nutrition Services, 2006b). In Florida, WIC is administered by the Florida Department of Health, Bureau of WIC and Nutrition Services in which 53.1% of the eligible client population participated in WIC in Duval County in 2004 (U.S. Department of Agriculture, Food and Nutrition Services, 2004). Within this population, the racial and ethnic breakdown was 35.5% Caucasian, 55.5% African American, and 9.0% other which included Hispanic, American Indian, and Asian (U.S. Department of Agriculture, Food and Nutrition Services, 2004).

Low participation rates in the WIC program by eligible women and children is of primary concern because eligibility for WIC services by definition includes a population possessing a greater risk for nutrition-related morbidity and mortality. Women and children within this high-risk population are particularly in need of the specific nutritional guidance provided by the WIC program. Lack of WIC participation further jeopardizes WIC funding as governmental agencies may use a reduced participation rate to reduce WIC benefits or funding (Conrey, Frongillo, Dollahite, & Griffin, 2003).

Several studies have been completed to evaluate factors associated with lack of WIC participation and withdrawal. Factors associated with participant withdrawal from the WIC program include: inconvenient hours of operation, long waits for clinic services and obtaining appointments, difficulties enrolling in the program, challenges to recertify children and reschedule appointments, transportation difficulties, confusion about WIC's eligibility criteria, fear of being humiliated, negative perceptions of WIC due to problems experienced by friends and family, lack of knowledge of products and services, and lastly, poor customer services by WIC employees (Woelfel et al., 2004; Rosenburg et al., 2003; Nestor, McKenzie, Hasan, AbuSabha, & Achterberg, 2001).

Removing the barriers to participation in WIC programs is certainly important but has

additional more wide-ranging implications. Bryant et al (2001) found that some women who had not previously enrolled for WIC services had not done so based on reports of problems encountered by friends and relatives as WIC recipients. These non-enrollees felt that the shame and discourteous treatment experienced by others was worth foregoing potential WIC participation benefits.

Purpose of the Study

The purpose of the study was to examine factors related to customer satisfaction in Duval County Florida WIC clinics and identify potential barriers to participation through a two-year project initiated by the health department and the state university. The study examined appointment wait time, duration of appointment, the preferred time of day and day of the week for appointment scheduling, and customer service practices in WIC clinics from the perspective of WIC participants.

Methods

Procedures

Following IRB approval from the University and the Florida Department of Health, survey research was conducted to obtain cross-sectional data from a convenience sample of 961 pregnant or postpartum WIC clients. Data were obtained from clients agreeing to participate. The study was explained and oral informed consent obtained. As part of the informed consent, participants were told that their decision to participate and their answers to the questions would not affect the services they were receiving at the program. A single unique code number was generated for each participant. Names were not used. Surveys were administered by dietetic interns from four different dietetic internship programs in Duval County during client appointments at six WIC sites throughout the county during the time period 2002-2004.

Sampling

Of the 14,452 eligible individuals, a convenience sample of 961 was surveyed. Six different WIC sites in Duval County Florida were accessed to recruit participants for the study. Table 1 presents the frequency and distribution for total number of WIC clients, study clients recruited, and response rate for each WIC site and the overall total. The sites selected for the study represented all WIC sites in Duval County during the study time period that met with clients daily.

Table 1. Frequency and Distributions of Sites for Recruitment of Study Subjects (n = 961)

WIC Site	Clients	Sample		Response Rate
	(n)	(n)	(%)	(%)
A	3093	347	36.1	11.22
B	1969	94	9.8	4.77
C	1649	132	13.7	8.00
D	3673	128	13.3	3.48
E	2678	145	15.1	5.41
F	1390	115	12.0	8.27
Total	14452	961	100	6.65

Sample Characteristics

The mean age of the sample was 26.89 ± 7.79 and among age categories the majority (75.9%) of participants was between eighteen and thirty years of age as illustrated in Table 2. Over half (55.7%) of WIC clients reported their current WIC appointment

was for their child, and (57.9%) preferred their appointments to be scheduled from 8-12 a.m. The preferred day of the week for an appointment was distributed fairly evenly throughout the week with Saturday being most preferred by respondents to schedule their appointment (23.3%).

Table 2. Frequency and Distributions of Client Characteristics (n = 881)

Characteristic	(n)	(%)
Age (Years)		
18- 21	229	26.0
22-25	257	29.2
26-30	182	20.7
> 30	213	24.2
Reason for Appointment		
Client	148	16.0
Client's child	517	55.7
Client and child	263	28.3
Preferred Time of the Day for Appointment		
7-8 AM	84	9.5
8-12 AM	513	57.9
12-1 PM	60	6.8
1-4 PM	158	17.8
4-6 PM	39	4.4
6-7 PM	32	3.6
Preferred Day of the Week for Appointment		
Monday	136	17.8
Tuesday	120	15.7
Wednesday	112	14.6
Thursday	79	10.3
Friday	140	18.3
Saturday	178	23.3

Instrumentation

A 20-item survey instrument was developed and consisted of 19 closed-ended questions and one open ended question to collect both quantitative and qualitative information. The survey was designed to collect data related to the following: WIC client age, history of WIC participation, and satisfaction with multiple aspects of WIC site services, and client suggestions on how to improve WIC services.

Measurement of Satisfaction

WIC client satisfaction with service provided was measured by asking respondents ‘how would you rate the service you received today?’ for each of the following WIC site personnel: interview clerk, nutritionist/nutrition educator, and the issuance clerk. A 4-point Likert scale was used to rate service provided as either ‘excellent’ = 4; ‘good’ = 3; ‘fair’ = 2; and ‘poor’ = 1.

Data Analysis

The data were entered and examined for outliers and data entry errors in the SPSS 13.0 statistical software package. To describe the sample on measures of appointment wait time, duration, and preferred day for appointment scheduling analyses were performed using frequency distributions. Satisfaction was measured using means and standard

deviations. For the open-ended responses qualitative analysis was performed using repeating ideas which were extrapolated from the data to compile major themes.

Results

The purpose of the study was to measure WIC client satisfaction with appointment wait time, duration of appointment and customer service. Additionally the preferred time of day and day of the week for appointment scheduling was measured. The following is a summary of the study findings related to the total sample (n = 961).

Descriptive Analysis

Appointment Wait Time and Duration

The results indicated that over half (53.2%) the sample reported that their appointments were on time without any waiting time for their appointment, while 30.4% waited less than 30 minutes, and 16.4% had to wait more than 30 minutes after their appointment time as presented in table 3. Greater than three-quarters of the sample responded that they were satisfied with the duration of their appointment which included the time spent waiting for their appointment and the time spent during their appointment.

Table 3. Frequency and Distribution of Appointment Duration and Wait Time (n = 566)*

Variable	(n)	(%)
Wait time ¹		
No wait	301	53.2
< 30 minutes	172	30.4
> 30 minutes	93	16.4
Duration of Appointment ²		
< 30 minutes	184	52.4
30 minutes - 1 hour	105	29.9
> 1 hour	62	17.7
Satisfaction with duration of appointment		
Acceptable	708	79.7
Too long	166	18.7
Too short	14	1.6

*Includes only respondents who responded ‘yes’ to did you have an appointment today?

¹Wait time = difference between scheduled time of appointment and time seen.

²Duration of Appointment = difference between scheduled time of appointment and time appointment completed

Client Satisfaction

Participants were asked to rate their satisfaction with services delivered during their current appointment. Ratings were collected to assess client satisfaction in services provided by the interview clerk, nutritionist/nutrition educator, and the issuance clerk. Mean satisfaction ratings for services from all staff was 3.44 (SD = 0.65),

categorically the nutritionist/nutrition educator received the highest satisfaction ratings followed by the interview and issuance clerk as found in Table 4. The majority of respondents rated staff attitudes as either ‘acceptable’, “pleasant and friendly” or “helpful” independent of the staff member being rated.

Table 4. WIC Client Satisfaction with Service by Staff Type (n = 931)

Satisfaction Rating	Interview Clerk		Nutritionist/Nutrition Educator		Issuance Clerk	
	(mean)	(sd)	(mean)	(sd)	(mean)	(sd)
Service Delivery	3.38	0.77	3.54	0.66	3.44	0.71
	(n)	(%)	(n)	(%)	(n)	(%)
Attitude						
Degrading	6	0.8	5	0.7	3	0.4
Rude	11	1.4	5	0.7	17	2.1
OK (Acceptable)	149	18.9	90	12.1	152	18.8
Pleasant/Friendly	409	51.8	395	53.0	454	56.3
Helpful	214	27.1	250	33.6	181	22.4
N/A	53	5.5	70	7.3	31	3.2

Satisfaction measures are calculated means on scale of 1-4 with 1 = poor; 5 = excellent.

Qualitative Analysis Open-Ended Responses

The survey method produced 564 open-ended responses (76.24% of the 430 respondents) to the question “Please share any thoughts you have as to how WIC services could be improved?” The following is a discussion of the results which can also be found in Table 5.

Repeating ideas were compiled and suggestions were categorized by general themes which represent 83% (n = 468) of suggestions. The themes that emerged include appointment scheduling, appointment wait time, staff attitudes, overall experience, and facility environment / location. Approximately one-fourth of clients commented on issues related to appointments and of these suggestions with the majority indicating dissatisfaction with regard to amount of time waiting to be seen for their appointment (88.7%) and the total time spent for an appointment (96.0%). This

dissatisfaction was indicated by two suggestions “When you have an appointment, the time it should take to receive your vouchers should not take so long,” and “The wait time needs to be shorter, 2-3 hours is too long.”

Thirty percent of the suggestions collected addressed staff attitudes (n = 138 suggestions) of which 52.9% indicated satisfaction and 46.4% reflected dissatisfaction as represented by the following suggestions, “The service was excellent. I was informed about the program and given information to read”. “The staff here is wonderful”, “I feel the employees are very rude and not friendly as all,” and “The staff at this location needs better attitudes.” Thirty-one percent of suggestions addressed overall services with 82.4% reflecting satisfaction, and 12.2% being neutral and 2.0% unsatisfied.

Table 5. Frequency Distribution of WIC Client Satisfaction Suggestions by Themes and Repeating Ideas

Theme: <i>Repeating Ideas</i>	Satisfied (n = 217)		Neutral (n = 20)		Unsatisfied (n = 231)		Total Sample (n = 468)	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Adherence to Appointment Schedule	11	10.4%	1	0.9%	94	88.7%	106	22.6%
Appointment time in-out	1	4.0%	0	0.0%	24	96.0%	25	5.3%
Staff Attitude: <i>Courteous, Friendly, Helpful, Respectful, Caring, Nice</i>	64	46.4%	1	0.7%	73	52.9%	138	29.5%
Staff: <i>Knowledgeable, informative</i>	9	69.2%	0	0.0%	4	30.8%	13	2.8%
Facilities: <i>clean, roomy, comfortable</i>	1	4.8%	0	0.0%	20	95.2%	21	4.5%
Facility location: <i>convenient</i>	1	20.0%	0	0.0%	4	80.0%	5	1.1%
Other site suggestions	3	25.0%	0	0.0%	9	75.0%	12	2.6%
Overall Service: <i>adequate, good, helpful, appreciative, satisfied, pleasant</i>	127	85.8%	18	12.2%	3	2.0%	148	31.6%

Discussion

The current study examined the satisfaction of WIC clients receiving services provided by the Duval County Health Department through a questionnaire that was completed by clients who received services during the years 2002 through 2004. With a convenience sample, it is possible that significant bias may exist in the survey results. For example, it is possible that clients who were more satisfied with WIC services agreed to complete the survey in greater proportion than did clients who were less satisfied. Despite the potential for low generalizability of results to the greater Duval County WIC enrollees, measurement of the quality of services through client satisfaction surveys is a commonly employed method and provides salient information to improve the quality of services.

When supplying open-ended suggestions to improve services, it was apparent that client satisfaction with appointment wait time and duration was low as 88.7% (wait time) and 96.0% (appointment duration) of participants responded negatively. On the closed ended questions to assess appointment wait and duration time, participants reported higher levels of satisfaction as 79.7% responded that the duration of their current appointment was acceptable and over half of respondents indicated that they did not wait for their appointment and the duration of their current appointment was less than 30 minutes. These conflicting findings between quantitative and open-ended responses may be in part due to individuals that are dissatisfied with services were more likely to provide suggestions for improvement than individuals that were satisfied. Long waits for clinic services have been identified in previous research as a factor associated with lower service usage and dissatisfaction (Woelfel et al., 2004, Rosenberg et al., 2003).

Quality customer service by WIC employees (Woelfel et al., 2004; Rosenberg et al., 2003; Nestor, McKenzie, Hasan, AbuSabha & Achterberg, 2001) have been cited as a significant factor in client satisfaction. The results of the current study indicated that respondents had a moderate level of satisfaction with staff services as 69.2% of respondent suggestions indicated that staff was “knowledgeable and informative”, and when rating individual staff members specifically, i.e., their interview clerk, nutritionist/nutrition educator and/or issuance clerk, high mean satisfaction ratings were reported (3.38, 3.54, and 3.44 respectively). In addition, staff attitudes significantly influences client satisfaction as previous findings report that WIC clients have greater levels of satisfaction with their WIC program

experience when they interact with courteous, pleasant and caring WIC staff (Oliveira, Racine, Olmsted, Ghelfi, 2002). The findings of the current study indicated when clients provided suggestions regarding staff attitudes, there were low levels of satisfaction and only 46.4% of suggestions were positive. However, over half of participants rated the interview clerk, nutritionist/nutrition educator and issuance clerk as being ‘pleasant and friendly’ and less than approximately one percent reported staff as being degrading or rude. Therefore, within the current sample of WIC clients, a high level of satisfaction exists with regard to staff services and attitudes. This is supported by a study in New York (Woelfel et al., 2004) which reported that few of the participants had problems with WIC staff, such as cultural insensitivity, or negative treatment. Serpa and Rojas (2002) reported that determined satisfaction was correlated with the perception that staff was helpful, courteous, and friendly, and whether the staff seemed to be skilled, experienced, and well trained.

The results of this study suggest that the majority of the convenience sample of WIC participants served by the Duval County Health Department is satisfied; however, based on the results, three areas exist for improvement. The most salient issue reported by clients was duration of appointment wait time, continued improved customer service, and to a lesser extent improvement in the physical environment. Clients provided suggestions for improvement related to each of these areas such as “when the appointments are scheduled, the center should adhere to the schedule. This was time spent away from my job to be at my appointment on time. I arrived at 8:45 and left at 10:35. I was seen at 9:37.” “My nutrition educator was not very helpful or understanding to my child’s needs and requirements. She was not well trained and very non-sympathetic,” , “A bigger office with more employees would be a lot better for everyone,” and “The WIC clinics need a bigger waiting area, as well as toys and a TV for kids.”

Within these particular areas of interest, strategies to improve the service require attention. The greatest opportunity to improve client satisfaction is to decrease waiting time for appointments, which was stated to be sometimes up to 2 to 3 hours. This has multiple effects in that the longer a client waits, the more crowded the rooms become which may contribute to congestion and increased noise, leading to complaints and further increasing client dissatisfaction. Therefore, the reason(s) for the long wait time needs to be identified and addressed accordingly. For example, additional staff may be needed to increase the speed of services.

On-going staff training may be beneficial especially in the offices where there is high turnover. Team training is often helpful, as delays in time could simply be resulting from overlapping services being done and lack of communication. There may also be a need to change the structure of services provided at the appointments to make them more time efficient. For example, one client stated that, "It would be nice to be able to do everything at one time instead of having to go back for one thing (like weighing) and then wait again for the next step (see the nutritionists)." Another participant suggested, "It would be nice if the information could be entered online so the paperwork could possibly go faster for new WIC participants."

The Food Nutrition Services is working to implement a WIC Electronic Benefits Transfer (EBT) system so that WIC benefits can be delivered via a magnetic stripe card instead of the conventional vouchers or checks which may address some of the concerns related to long waiting times and may serve to increase the number of clients using WIC (U.S. Department of Agriculture, Food and Nutrition Services, 2005). However, this option will need to be analyzed at the state level to determine the feasibility of implementation and operating WIC EBT in Florida.

The survey findings also indicated that 23.3% of respondents preferred hours on Saturday. Expanding office hours to include Saturday may increase satisfaction in this subset of clients and decrease crowded waiting rooms as well as decrease the amount of clients taking time off from work to attend their WIC appointments.

Finally, when addressing the need for improved customer service, improving staff customer service training may be the most valuable asset considering there is often a frequent turnover with WIC staff. In addition, WIC employees reach high points of stress during working hours which often leads to feelings of frustration and being overwhelmed. WIC employees may be experiencing overall dissatisfaction with their job, whether it is due to lack of advancement opportunity, redundancy, or supervision issues. Therefore, completing employee satisfaction surveys may be beneficial as studies have shown that employee job satisfaction rates correlated to program participation rates (Nestor, et al., 2001; Chance & Green, 2001).

Limitations

The current study is limited by a convenience sample therefore lessening the generalizability of the results to the greater WIC client population. Self-selection may bias the findings as individuals agreeing to participate may be different than individuals that did not. However, the current

study was descriptive in nature and not designed to make statistical comparisons or inferences. The information compiled will provide important and salient information related to customer service at six WIC sites in Duval County.

References

- Serpa, F., & Rojas, L. (2002). Quality of Services: Important Aspects to be Considered. American Academy of Medical Administrators Executive Online, (Spring). Retrieved July 22, 2006 from <http://www.aameda.org/MemberServices/Exec/Articles/spg02/spg02QualitySvcserpa.pdf>
- Bryant, C., Lindenberger, J., Brown, C., & Kent, E. (2001). A social marketing approach to increasing enrollment in a public health program: A case study of the Texas WIC program. *Human Organization*, 60(3), 234-246.
- Chance, K. G., & Green, C. G. (2001a). The effect of employee job satisfaction on program participation rates in the Virginia WIC program (special supplemental nutrition program for women, infants, and children). *Journal of Public Health Management and Practice [NLM - MEDLINE]*, 7(1), 10-20.
- Chance, K. G., & Green, C. G. (2001b). The impact of customer focus on program participation rates in the Virginia WIC program (special supplemental nutrition program for women, infants, and children). *Journal of Public Health Management and Practice [NLM - MEDLINE]*, 7(1), 1-9.
- Chatterji, P., & Brooks-Gunn, J. (2004). WIC participation, breastfeeding practices, and well-child care among unmarried, low-income mothers. *American Journal of Public Health*, 94(8), 1324-1327.
- Conrey, E. J., Frongillo, E. A., Dollahite, J. S., & Griffin, M. R. (2003). Integrated program enhancements increased utilization of farmers' market nutrition program. *The Journal of Nutrition*, 133(6), 1841-1844.
- Green, C. G., Harrison, M., Henderson, K., & Lenihan, A. (1998). Total quality management in the delivery of public health services: A focus on North Carolina WIC programs. *Journal of Public Health Management and Practice*, 4(5), 72-81.
- Kowaleski-Jones, L., & Duncan, G. J. (2002). Effects of participation in the WIC program on birth weight: Evidence from the national longitudinal survey of youth. *American Journal of Public Health*, 92(5), 799-804.
- Lee, J. Y., Rozier, R. G., Norton, E. C., Kotch, J. B., & Vann, W. F., Jr. (2004). Effects of WIC

participation on children's use of oral health services. *American Journal of Public Health*, 94(5), 772-777.

McKinney, S. (2004). Improving WIC usage: Office procedures, food package, and nutrition education. *Journal of the American Dietetic Association*, 104(5), 743-745.

National Research Council (2001) Estimating Eligibility and Participation for the WIC

Program: Phase I Report. Committee on National Statistics, Division of Behavioral and

Social Sciences and Education. Michele Ver Ploeg and David M. Betson (Eds.), Washington, DC: National Academy Press.

Nestor, B., McKenzie, J., Hasan, N., AbuSabha, R., & Achterberg, C. (2001). Client satisfaction with the nutrition education component of the California WIC program. *Journal of Nutrition Education*, 33(2), 8394.

Oliveira, V., E., Racine, J., Olmsted, & L. Ghelfi. (2002). The WIC Program: Background, Trends, and Issues, USDA, ERS, FANRR-27, September.

Rosenberg, T. J., Alperen, J. K., & Chiasson, M. A. (2003). Why do WIC participants fail to pick up their checks? An urban study in the wake of welfare reform. *American Journal of Public Health*, 93(3), 477-481.

U.S. Department of Agriculture, Food and Nutrition Service (2004). WIC Data System, Duval County Health Department, Retrieved July 25, 2006.

U.S. Department of Agriculture, Food and Nutrition Service (2005). WIC Program. USDA Food and Nutrition Service WIC Program Web site. Retrieved July 20, 2006 from <http://www.fns.usda.gov/wic/>

U.S. Department of Agriculture, Food and Nutrition Service (2006a). WIC Program Fact Sheet.

Retrieved July 20, 2006 from <http://www.fns.usda.gov/wic/WIC-Fact-Sheet.pdf>

U.S. Department of Agriculture, Food and Nutrition Service (2006b). WIC Participation and Program Characteristics: Executive Summary. Retrieved July 20, 2006 from <http://www.fns.usda.gov/oane/MENU/Published/WIC/FILES/PC2004Summary.pdf>

Woelfel, M. L., Abusabha, R., Pruzek, R., Stratton, H., Chen, S. G., & Edmunds, L. S. (2004). Barriers to the use of WIC services. *Journal of the American Dietetic Association*, 104(5), 736-743.

Zierold, K. M., & Anderson, H. (2004). Trends in blood lead levels among children enrolled in the special supplemental nutrition program for women, infants, and children from 1996 to 2000. *American Journal of Public Health*, 94(9), 1513-1515.

Catherine Christie (corresponding author) is Assistant Professor, Department of Public Health, University of North Florida, Jacksonville, FL cchristi@unf.edu. Julia A. Watkins is Assistant Professor. Department of Public Health, University of North Florida, Jacksonville, FL. Anita (Toni) Martin is with the Duval County Health Department, Jacksonville, FL. Helen Jackson is with the Duval County Health Department, Jacksonville, FL. Judy E. Perkin is Professor and Chair, Department of Public Health, University of North Florida, Jacksonville, FL. Jacquie Fraser is Adjunct Professor, Armstrong Atlantic State University, Savannah, GA. Copyright 2006 by the *Florida Public Health Review*.