

Food Security
in the
Wisconsin WIC Population,
January, 2007

November, 2007

Nutrition & Physical Activity Section; WIC Program

Bureau of Community Health Promotion

Division of Public Health

Wisconsin Department of Health and Family Services

Food Insecurity in the Wisconsin WIC Population, 2007

Although the US is one of the wealthiest nations in the world, the disparity between rich and poor is also comparatively high¹. As a result, “food security,” or having enough food to sustain an active and healthy lifestyle, remains a primary concern within many US households. Only a minority of American families suffer from “food insecurity” during any given year. However, this problem affects nearly 13 million US households annually, including an estimated 200,000 households in Wisconsin²⁻³.

According to the United States Department of Agriculture (USDA), a household is considered “food secure” if, during the course of a year, all members of that household: 1) had ready access to foods that were safe and sufficient to satisfy their nutritional requirements and 2) were able to obtain these foods in socially acceptable ways (e.g., without stealing, using food pantries, or depleting emergency household food reserves). In contrast, in households with “low food security” (or “food insecurity”), access to safe, nutritious foods was limited or uncertain for at least one individual, at some point during the year. A subset of food insecure households are additionally categorized as having “very low food security” because one or more individuals actually reduced their food intake or changed their normal eating patterns during that year, due to a lack of money or other resources²⁻³.

In the US, food security is monitored annually by the USDA through the US Census Bureau’s Current Population Survey⁴. Based on recent results from this survey (2004-2006 combined years), more than 1 in 10 American households (11.3 %) now have low food security, while nearly 1 in 25 households (3.9 %) have very low food security, and these values are somewhat higher for households with children. The overall level of food insecurity in the US has increased in recent years²⁻³, reversing previously observed improvements in these values². Wisconsin fares somewhat better than this national average, with 8.9% of households reporting low food security and 2.7% of households reporting very low food security. However, based on recent reports, it’s unclear as to whether overall levels of food insecurity in Wisconsin are actually increasing² or stable³.

Because food insecurity is still a significant problem for Wisconsin families, and because food insecurity also has a negative impact on the health of individuals, a survey was conducted throughout the month of January, 2007, in the 70 Wisconsin projects of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). The purpose of this report is to describe the conduct of this survey and to present levels of food insecurity at the local and state levels for this large, convenience sample. Because this same survey was also conducted in Wisconsin WIC projects in 2002⁵, state and local values from that survey are included here for convenience. In addition, because 2007 survey responses were entered into the larger program database, more detailed information from this survey, such as food insecurity values by race/ethnicity, household income, etc., may be evaluated at some point in the future.

Impact of food insecurity on health

Household food insecurity represents a serious health threat to individuals living in affected households. Extreme levels of household food insecurity are likely to result in hunger in individuals. However, even when overt hunger is not present, children and adults living in food insecure households tend to consume diets that are comparatively lower in fruits and vegetables, as well as in overall variety and nutrient content⁶⁻⁸. In adults, nutritional inadequacies may also be apparent in blood tests, although children are often spared this consequence, due to efforts by adults to protect them from negative health effects⁶. Ironically, adult members of food insecure households (especially women) are also at increased risk of being overweight or obese^{6, 8, 9},

perhaps partly due to an increase in consumption of inexpensive foods that are also relatively high in sugar and fat⁸⁻⁹. Adult members of food insecure households also tend to have a greater risk of depression and chronic disease and poorer levels of overall health⁶⁻⁸. Compared with children from food secure households, those from food insecure households tend to have relatively poor levels of physical health and school achievement and higher levels of behavioral and emotional problems⁶. A few recent studies have also found a link in children and adolescents between food insecurity and overweight or at risk of overweight status.¹⁰

Because food insecurity can have a profound impact on the health and well being of individuals, it's not surprising that addressing this issue is considered a key aspect of one of Wisconsin's eleven current health priorities¹¹: ensuring "adequate and appropriate nutrition" throughout the state. Similarly, in recent years articles in both *American Family Physician*⁸ and the *Journal of the American Dietetic Association*⁶ have called for physicians and dietitians, respectively, to help counter this problem.

Food insecurity and WIC

As a federal preventive nutrition program, WIC serves as one of the buffers against food insecurity within communities. This program, which is funded by USDA and administered through the Division of Public Health, is intended to help ensure the healthy development and growth of infants and young children. Individuals eligible to receive WIC include pregnant and postpartum women, infants, and children under age of five who are found to be at increased nutritional risk. Because participants must also either have a family income at or below 185 percent of the US poverty level or be qualified to receive the Food Share Program, Medicaid, or the Wisconsin Works (W-2) Program¹²⁻¹³, individuals eligible to receive WIC are at considerably higher risk for household food insecurity, relative to the general population.

WIC benefits include food instruments (vouchers) for nutritious foods and nutrition education and referrals to other health services or social services, when appropriate. The available studies support the ability of WIC to improve the variety and quality of diets and health outcomes of its participants⁶. Nevertheless, because WIC is intended as a supplementary program, it cannot guarantee the nutritional adequacy of the diets of its participants. Other state, federal, or community programs (for example, the National School Lunch Program, the School Breakfast Program, the Food Share Program, local food pantries and emergency kitchens) are also required to effectively address this issue.^{6, 12, 14}

The primary purpose of the survey was to determine the level of low food security and very low food security in the households of individuals who visited the Wisconsin WIC Program for services in January, 2007. Values are provided for the entire state and by county of WIC service, WIC project, and county of household residence. In the past, results from this survey have been used to help determine resource allocation and education or referral procedures within local WIC projects and to provide information for local health departments or other organizations working to counteract this problem.

Measuring food security

Survey. The standard measure for household food security has been developed and tested through a collaborative effort between experts in the federal government, academic community, and private and non-profit sectors²⁻³. Although an 18-item version of the food security survey is optimal, the 6-item version works well when resources are limited or participant effort must be kept to a minimum. The short form is slightly less accurate for households with children, but it still correctly classifies food security status for the vast majority of households, including those with children.¹⁵ This six-question form was used in

both 2002 and 2007; however, a few minor changes have been made by USDA to the standard instrument since the previous survey¹⁶⁻¹⁷: Question wording has been modified slightly to clarify that changes are due to a lack of money. Question order was changed, to reflect increasing levels of severity of food insecurity. Also, for ease of self-administration, questions 3 and 4 were combined for participants but separated for analyses. (Questions are provided in Table 1.)

Recruitment. The survey was conducted, using the same basic strategy as that used in 2002. All participants who visited a WIC project during January were again invited to take the survey (one survey per household). Spanish and Hmong survey translations were also available. Participants again completed paper surveys and placed them into covered boxes. However, because surveys were subsequently entered into the WIC database, responses were no longer anonymous and were instead protected by standard WIC confidentiality policies. (This was also clearly described in the survey's introductory paragraph.) The majority of projects again simply recruited throughout the month of January. Exceptions included eight Milwaukee projects, which again limited recruitment to a two-week period, due to relatively high caseloads at these projects. In addition, in 2007, three projects chose to extend their recruitment periods, to improve the quality of their values. Several projects also contacted the State WIC Office to report one or more missed recruitment days. For these projects, comparable recruitment days were scheduled whenever possible. Statewide levels of state food insecurity were again determined after weighting households to reflect differences in recruitment periods at different locations.

Results

Participation. Based on the surveys entered into the WIC database, a total of 19,746 WIC households across the state were invited to participate. Of these, 162 families refused and an additional 2 families answered fewer than two questions, leaving a total of 19,582 surveys (99%) available for analysis.

Observed values for food security status. Table 1 presents the individual questions and shows the percentage of affirmative responses to each question for both 2007 and 2002. Table 2 provides food security prevalence values for both years, for the state and by county of WIC service. Tables 3 and 4 also present 2007 results by WIC project and by county of household residence, respectively. (No comparable tables are available from 2002.) Based on survey results (Table 2), in January 2007, the statewide prevalence of very low food security was 15%, compared with an observed value of 19% in 2002. However, in 2007, the statewide prevalence of food insecurity in general, or low food security, was 51%, compared with an observed value of 44% in 2002. Also of interest is the fact that, in 2007, the levels of affirmative responses to individual food insecurity questions were either similar to or higher than those offered in 2002 (Table 1). In summary, in 2007, affirmative responses to food insecurity questions were no less common than those given in 2002, but they were more widely distributed across families. This response pattern also translated into a lower observed level of very low food security but a higher observed overall level of low food security in 2007, relative to 2002.

Interpreting results. As noted previously, these estimates of food insecurity were obtained using methods that were as similar as possible to those employed in 2002, and great care was taken with respect to the use of valid instruments, standardization of procedures across sites, etc. However, because random sampling is not currently feasible for surveys within Wisconsin WIC projects, results may or may not be representative of the entire WIC population at any point in time and for any given location¹⁸. To help compensate for this potential limitation, a long recruitment period was used, so as to include a relatively high percentage of eligible WIC

households in the sample. In fact, at the state level, an estimated 28% of WIC families participated in the 2007 survey. However, it's possible that certain types of households may still be over- or under-represented, relative to their actual levels in the Wisconsin WIC population. Compared with statewide results, values obtained for individual counties or projects are based on much smaller numbers and are also more likely to be impacted by small changes, such as unanticipated deviations from the recruitment protocol, January scheduling anomalies, scheduling or participation changes across years, etc. In short, survey results offer one indication of food insecurity levels at a given time, in a particular location. However, results should not be interpreted without due consideration given to these potential sampling limitations, especially at the local level.

Discussion

Based on these results, the percentage of the sampled Wisconsin WIC families that reported experiencing very low food security, a level at which some individuals within the household are also likely to be experiencing hunger, was 15% in 2007, a value lower than the value of 19% observed in 2002. However, during this same time, the observed percentage of households that reported experiencing some level of food insecurity, low food security, increased from 44% to 51%. As noted, it's possible that the above-mentioned limitations in survey methods may have contributed to the observed changes between years. However, these observed changes suggest that, although the severity of food insecurity may be diminishing somewhat in Wisconsin WIC households, a larger percentage of families may also now be impacted by this problem. At the national level, based on results from the Current Population Survey, in 2006, an estimated 9% of WIC households had very low food security, while 37% had low food security³. Because such results are based on the long version of the survey and were administered by telephone, and to a randomly selected segment of the population, they are not entirely comparable with those presented here. Nevertheless, they do raise the question as to whether Wisconsin's WIC population may actually have a particularly high level of disadvantage with respect to food insecurity.

With respect to the observed decrease in very low food security between January, 2002 and January, 2007, it's possible that the shift from anonymous to confidential procedures may have caused some families to be less open in their reporting. However, if this were the case, we would also expect overall food insecurity levels to have decreased between 2002 and 2007, rather than increasing. It's also conceivable that observed values in overall food insecurity in Wisconsin WIC families may have increased during this time because more disadvantaged families are being appropriately referred to WIC. Nevertheless, based on the most recent available results from the US Census Bureau¹⁹, the percentage of all Wisconsin families with children under the age of five that are living in poverty increased from 12.3% in 2002 to 16.7% in 2004. Given these estimates, and the fact that, depending upon how recent years from the Current Population Survey are combined²⁻³, low food security (but not very low food security) may have also increased somewhat in the general Wisconsin population², it seems perhaps as likely that the changes reported here provide another indication of a trend toward increasing need throughout the state.

It should be reiterated, however, that stronger conclusions could have been drawn if representative methods had been used. As a result, different or additional survey procedures could potentially be considered in the future to address this limitation.

Acknowledgments

This report was made possible, due to the efforts of 19,582 participants, along with the staff of 70 WIC projects throughout Wisconsin. Those who played an additional role in planning, implementing, or reporting results included:

Patti Herrick, Wisconsin WIC Program
Connie Welch, Wisconsin WIC Program
Jerilyn Malliet, Wisconsin WIC Program
Deborah Grenier, Wisconsin WIC Program
Advisory Committee, Wisconsin WIC Program
Mark Nord, Economic Research Service, USDA
Eric Kaleida, CIBER, Inc.
Maomoua Vue, La Crosse County WIC Program
Rosamaria Martinez, 16th Street WIC Project, Milwaukee
Kelly Young, 16th Street WIC Project, Milwaukee
Judie Fedie, Chippewa County WIC Program
Linda Lee, La Crosse County WIC Program
Lori Miller, Buffalo-Pepin WIC Program
Eva Schulte, St. Mary's Hospital, Madison

This report as written by Janice Liebhart, with input from Patti Herrick and Connie Welch, Wisconsin WIC Program, Wisconsin Department of Health and Family Services

References

- ¹ Davies JB, Sandstrom S, Shorrocks A, Wolff EN. *The World Distribution of Household Wealth*. World Institute for Development Economics Research of the United Nations University. 2006; Available at: <http://www.wider.unu.edu/research/2006-2007/2006-2007-1/wider-wdhw-launch-5-12-2006/wider-wdhw-report-5-12-2006.pdf>. Accessed October 10, 2007.
- ² Nord M, Andrews M, Carlson S. *Household food security in the United States, 2005*. Economic Research Report Number 29. United States Department of Agriculture Economic Research Service. 2006; Available at: <http://www.ers.usda.gov/Publications/ERR29/ERR29.pdf>. Accessed July 26, 2007.
- ³ Nord M, Andrews M, Carlson S. *Household food security in the United States, 2006*. Economic Research Report Number 49. United States Department of Agriculture Economic Research Service. 2007; Available at: <http://www.ers.usda.gov/publications/err49/err49.pdf>. Accessed November 19, 2007.
- ⁴ US Census Bureau. *Current Population Survey*. Available at: <http://www.census.gov/cps/>. Accessed July 30, 2007.
- ⁵ Wisconsin WIC Association & Nutrition Section, Wisconsin Department of Health and Family Services. *Food security survey in the WIC population*. 2002; Available at: <http://www.uwex.edu/ces/wnep/files/02WICsrvy.pdf>. Accessed November 12, 2007.
- ⁶ American Dietetic Association. Position of the American Dietetic Association: Food insecurity and hunger in the United States. *Journal of the American Dietetic Association*. 2006; 106: 446-458.
- ⁷ Bronte-Tinkew, J. Zaslow, M., Capps, R., Horowitz, A. Food insecurity and overweight among infants and toddlers: New insights into a troubling linkage. *Child Trends Research Brief*. Publication #2007-20. 2007; Available at: [www.](http://www.childtrends.org/files/Child_Trends-2007_07_11_RB_FoodInsecurity.pdf)
http://www.childtrends.org/files/Child_Trends-2007_07_11_RB_FoodInsecurity.pdf. Accessed October, 12, 2007.
- ⁸ Holben, D. H., Myles, W. Food insecurity in the United States: Its effect on our patients. *American Family Physician*. 2004; 69(5): 1058-1063.
- ⁹ Wilde, P.E., Peterman, J. N. Individual weight change is associated with household food security status. *Journal of Nutrition*. 2006;136: 1395-1400.
- ¹⁰ Casey, P.H., Simpson, P.M., Gossett, J.M., Bogle, M.L., Champagne, C.M., Connell, C., Harsha, D., McCabe-Sellers, B., Robbins, J.M., Stuff, J.E., Weber, J. The association of child and household food insecurity with childhood overweight status. *Pediatrics*. 2006; 118:1406-1413. Available at: www.pediatrics.org. Accessed November, 7, 2006.
- ¹¹ Wisconsin Department of Health and Family Services, Division of Public Health. *Healthiest Wisconsin 2010: A Partnership Plan to Improve the Health of the Public*. 2001; Available at: <http://dhfs.wisconsin.gov/StateHealthPlan/shp-pdf/pph0276phip.pdf>. Accessed October, 10, 2007.
- ¹² Fox, M. K., Hamilton, W., Abt Associates Inc., Lin, B., eds. Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. *Effects of Food Assistance and Nutrition Programs on Nutrition and Health: Volume 3, Literature Review*. Food Assistance and Nutrition Research Report No. 19-3. 2004; Available at: <http://www.ers.usda.gov/publications/fanrr19-1/fanrr19-1.pdf>. Accessed July 30, 2007.
- ¹³ Department of Health and Family Services. Wisconsin WIC Program. Available at: <http://dhfs.wisconsin.gov/WIC/incomeguidelines.htm>. Accessed November 12, 2007.

- ¹⁴ University of Wisconsin-Extension. Wisconsin Food Security Project. Available at: <http://www.uwex.edu/ces/flp/cfs/index.cfm>. Accessed November 12, 2007.
- ¹⁵ Blumberg, S.J., Bialostosky, K., Hamilton, W.L., Briefel, R.R. The Effectiveness of a short form of the household food security scale. *American Journal of Public Health*. 1999; 89(8): 1231-1234.
- ¹⁶ Economic Research Service, United States Department of Agriculture. *U.S. household food security survey module: Six-item short form*. 2006. Available at: <http://www.ers.usda.gov/Briefing/FoodSecurity/surveytools/short2006.doc>. Accessed October 15, 2007.
- ¹⁷ Economic Research Service, United States Department of Agriculture. Food Security in the United States: Household Survey Tools. Available at: <http://www.ers.usda.gov/Briefing/FoodSecurity/surveytools.htm>. Accessed November 12, 2007.
- ¹⁸ Calogero, C. *Constructing samples for characterizing household food security and for monitoring and evaluating food security interventions: Theoretical concerns and practical guidelines*. Technical Report. International Food Policy Research Institute. 1999. Available at: <http://www.ifpri.org/themes/mp18/techguid/tg08.pdf>. Accessed July 24, 2007.
- ¹⁹ US Census Bureau. Small Area Income and Poverty Estimates. Available at: <http://www.census.gov/hhes/www/saipe/saipe.html>. Accessed October 19, 2007.

Table 1. Food Insecurity Prevalence and Percent Affirmative Responses to Individual Questions^a for Participating Wisconsin WIC Families in 2007 and 2002

Food Insecurity Prevalence	2007 (n=19582)	2002 (n=18248)
WIC households/families identified as having low food security (affirmative responses to two or more survey questions)	51%	44%
WIC households/families identified as having very low food security (affirmative responses to five or more survey questions)	15%	19%
Responses to Individual Survey Questions^a	Percent Affirmative	
1. The food we bought just didn't last, and we didn't have money to get more. Was that 1) often, 2) sometimes, or 3) never true for you in the last 12 months.	58% often/ sometimes	45% often/ sometimes
2. We couldn't afford to eat balanced meals. Was that 1) often, 2) sometimes, or 3) never true for you in the last 12 months.	47% often/ sometimes	42% often/ sometimes
3. In the last 12 months, did you, your family, or other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food?	35% Yes	30% Yes
4. How often did this happen... 1) almost every month, 2) some months but not every month, or 3) only in 1 or 2 months?	15% of those who answered Yes to #3 answered 1 or 2 (5% of all families)	21% of those who answered Yes to #3 answered 1 or 2 (6% of all families)
5. In the last 12 months, did you ever eat less than you felt you should because there wasn't enough food?	32% Yes	31% Yes
6. In the last 12 months, were you ever hungry, but didn't eat because you couldn't afford enough food?	20% Yes	18% Yes

^a Survey questions only constitute a valid measure of food insecurity when combined into an index.

^b The names, but not the meanings, of food insecurity categories have changed since 2002. Previously, households were classified as having food insecurity with or without hunger. These same cut-points are now used to classify households as with very low food security and low food security, respectively ¹⁶. Since 2002, questions were also reordered to reflect increasing need (as shown here), and question wording was changed slightly to clarify that experiences were due to a lack of money.¹⁷

Table 2. Percent of Participating WIC Households^a Reporting Low and Very Low Food Security by Tribe and County of WIC Service, 2007 and 2002

County of WIC Service	2007			2002		
	Households ^a	Low Food Security	Very Low Food Security	Households ^a	Low Food Security	Very Low Food Security
	n	%	%	n	%	%
Statewide	19582	51	15	18248	44	19
GLITC ^b	205	53	19	243	36	14
Menominee Tribe	192	36	11	167	40	10
Oneida Tribe ^b	185	54	17	138	45	19
Adams	71	37	13	48 ^c	31	13
Ashland	135	30	9	108	37	19
Barron	207	53	11	305	33	15
Bayfield	22 ^c	27	NR ^c	75	41	15
Brown	1293	58	16	1274	49	23
Buffalo	37 ^c	57	19	52	38	13
Burnett	97	48	21	92	49	15
Calumet	54	48	9	102	43	16
Chippewa	285	55	20	251	48	24
Clark	133	44	7	23 ^c	61	22
Columbia	187	56	24	103	37	10
Crawford	65	46	8	161	45	22
Dane	1208	58	18	627	49	21
Dodge	253	47	12	178	42	17
Door	83	35	13	100	32	9
Douglas	277	51	17	219	44	19
Dunn	171	54	17	158	35	13
Eau Claire	495	48	15	440	49	23
Florence	21 ^c	24	NR ^c	35 ^c	29	14
Fond du Lac	504	53	18	442	40	18
Forest	36 ^c	17	NR ^c	61	43	13
Grant	169	34	8	224	20	7
Green	122	49	19	23 ^c	43	NR ^c
Green Lake	71	45	14	45 ^c	44	13
Iowa	93	48	16	97	37	12
Iron	13 ^c	NR ^c	NR ^c	23 ^c	43	NR ^c
Jackson	64	52	13	78	49	19
Jefferson	225	54	12	278	45	20
Juneau	135	42	12	87	43	17
Kenosha	855	47	13	717	40	17
Kewaunee	69	45	10	55	33	13
La Crosse	335	51	17	377	48	19
Lafayette	23 ^c	30	NR ^c	27 ^c	37	NR ^c
Langlade	17 ^c	41	NR ^c	93	30	16
Lincoln	46 ^c	35	NR ^c	59	36	14
Manitowoc	364	46	17	226	42	15
Marathon	154	46	10	204	41	17
Marinette	262	42	16	179	38	15

County of WIC Service	2007			2002		
	Households ^a	Low Food Security	Very Low Food Security	Households ^a	Low Food Security	Very Low Food Security
	n	%	%	n	%	%
Marquette	26 ^c	69	19	43 ^c	53	21
Milwaukee	3468	50	14	4051	47	20
Monroe	185	47	19	165	36	16
Oconto	135	47	16	118	42	18
Oneida	150	43	18	132	39	15
Outagamie	668	60	19	509	50	21
Ozaukee	109	44	12	73	37	16
Pepin	19 ^c	26	NR ^c	25 ^c	24	NR ^c
Pierce	170	50	12	94	30	16
Polk	144	54	15	158	34	13
Portage	189	46	16	229	36	15
Price	92	41	14	103	29	11
Racine	603	44	10	521	37	14
Richland	82	46	13	80	38	13
Rock	243	60	19	377	41	16
Rusk	99	37	12	58	40	12
St.Croix	429	57	16	193	35	17
Sauk	289	54	17	240	38	17
Sawyer	58	29	NR ^c	69	55	25
Shawano	46 ^c	41	NR ^c	134	42	20
Sheboygan	509	58	17	235	40	18
Taylor	90	50	21	111	41	12
Trempealeau	126	40	10	254	36	17
Vernon	89	43	7	143	37	13
Vilas	59	42	12	65	37	14
Walworth	419	59	20	239	43	13
Washburn	114	45	16	85	32	11
Washington	262	47	13	273	53	25
Waukesha	561	56	15	239	43	21
Waupaca	120	53	14	155	46	19
Waushara	75	60	24	65	38	12
Winnebago	445	54	18	514	45	23
Wood	276	50	17	304	38	19

^a The number of households represents the number of (unduplicated) WIC families that visited a WIC project during the survey recruitment period and completed at least two survey questions.

^b The Great Lakes Inter-Tribal Council (GLITC) includes data from sites in Bayfield, Burnett, Forest, Jackson, Sauk, Sawyer, Shawano, Vilas, and Wood counties. The Oneida Tribe includes data from Brown and Outagamie counties.

^c Estimates of percent low food security and percent very low food security should only be considered minimally reliable if they are based on at least 50 households, although all available values are presented here for completeness. To protect confidentiality, cells containing fewer than five (0-4) households are not reported (NR).

Table 3. Percent of Participating Households^a Reporting Low and Very Low Food Security by WIC Project, 2007

WIC Project	Households ^a	Low Food Security	Very Low Food Security
	n	%	%
Statewide	19582	51	15
1	205	53	19
2	1293	58	16
3	192	36	11
4	283	44	11
5	561	56	15
7	263	46	13
8	172	55	19
9	277	51	17
10	90	50	21
11	668	60	19
12	185	54	17
13	217	43	10
14	504	53	18
15	855	47	13
16	335	51	17
17	189	46	16
18	64	52	13
19	83	35	13
20	171	54	17
21	206	40	12
22	495	48	15
23	285	55	20
24	185	47	19
25	92	41	14
26	126	40	10
27	445	54	18
28	207	53	11
29	419	59	20
30	59	42	12
31	429	57	16
32	187	56	24
33	100	50	13
34	110	55	18
35	902	51	11
36	431	52	14
37	225	54	12
38	243	60	19
39	56	46	14
40	530	44	11
42	262	42	16
43	46 ^b	41	NR ^b
44	509	58	17

WIC Project	Households ^a	Low Food Security	Very Low Food Security
	n	%	%
45	364	46	17
46	21 ^b	24	NR ^b
47	36 ^b	17	NR ^b
48	97	48	21
49	58	29	NR ^b
50	135	47	16
51	276	50	17
52	589	54	20
53	1208	58	18
56	89	43	7
57	289	54	17
58	114	45	16
59	99	37	12
60	133	44	7
61	69	45	10
62	371	46	12
63	885	47	15
65	120	53	14
66	54	48	9
67	253	47	12
68	170	50	12
69	144	54	15
71	169	34	8
72	170	28	7
73	122	49	19
74	73	44	7
75	168	45	16

^a The number of households represents the number of (unduplicated) WIC families that visited a WIC project during the survey recruitment period and completed at least two survey questions.

^b Estimates of percent low food security and percent very low food security should only be considered minimally reliable if they are based on at least 50 households, although all available values are presented here for completeness. To protect confidentiality, cells containing fewer than five (0-4) households are not reported (NR).

Table 4. Percent of Participating WIC Households^a Reporting Low and Very Low Food Security by County of Residence^b, 2007

County of Residence ^b	Households ^a	Low Food Security	Very Low Food Security
	n	%	%
Statewide	19582	51	15
Unknown county ^b	1	---	---
Adams	75	45	17
Ashland	122	36	11
Barron	208	51	11
Bayfield	64	31	8
Brown	1415	58	16
Buffalo	39 ^c	62	18
Burnett	90	47	19
Calumet	70	50	17
Chippewa	309	53	20
Clark	135	45	7
Columbia	181	56	25
Crawford	66	44	8
Dane	1198	58	19
Dodge	284	48	14
Door	81	35	12
Douglas	271	51	16
Dunn	189	54	19
Eau Claire	455	48	15
Florence	21 ^c	24	NR ^c
Fond du Lac	478	53	18
Forest	55	24	NR ^c
Grant	176	37	8
Green	113	48	17
Green Lake	62	44	11
Iowa	84	48	15
Iron	17 ^c	NR ^c	NR ^c
Jackson	67	52	15
Jefferson	204	56	14
Juneau	125	41	14
Kenosha	842	48	12
Kewaunee	67	43	10
LaCrosse	337	50	17
Lafayette	40 ^c	23	NR ^c
Langlade	21 ^c	33	NR ^c
Lincoln	42 ^c	31	NR ^c
Manitowoc	350	46	17
Marathon	171	49	12
Marinette	262	42	16
Marquette	33 ^c	64	24
Menominee	158	37	11
Milwaukee	3451	50	14

County of Residence ^b	Households ^a	Low Food Security	Very Low Food Security
	n	%	%
Monroe	196	47	17
Oconto	137	50	18
Oneida	144	44	17
Outagamie	686	59	18
Ozaukee	107	45	12
Pepin	24 ^c	38	NR ^c
Pierce	166	51	12
Polk	150	54	13
Portage	196	45	15
Price	79	42	18
Racine	626	44	12
Richland	70	44	13
Rock	258	60	19
Rusk	96	34	11
Saint Croix	413	58	16
Sauk	313	56	17
Sawyer	61	30	8
Shawano	127	39	12
Sheboygan	520	57	18
Taylor	85	47	18
Trempealeau	125	41	10
Vernon	91	46	7
Vilas	174	52	17
Walworth	425	59	20
Washburn	115	45	17
Washington	267	46	12
Waukesha	544	55	15
Waupaca	119	53	13
Waushara	81	57	19
Winnebago	479	53	18
Wood	279	51	18

^a The number of households represents the number of (unduplicated) WIC families that visited a WIC project during the survey recruitment period and completed at least two survey questions.

^b Physical address was used to establish county of residence. However, mailing address was used for 29 households that did not have an available physical address. For one household, neither type of information was available.

^c Estimates of percent low food security and percent very low food security should only be considered minimally reliable if they are based on at least 50 households, although all available values are presented here for completeness. To protect confidentiality, cells containing fewer than five (0-4) households are not reported (NR).