

WISCONSIN

FOOD SECURITY SURVEY
IN THE
WIC POPULATION

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Wisconsin WIC Association
and
Nutrition Section, WIC Program
Bureau of Family and Community Health
Wisconsin Division of Public Health
Department of Health and Family Services

Food Security Survey in the WIC Population

Introduction

Adequate and appropriate nutrition is one of the eleven health priorities identified in the state health plan *Healthiest Wisconsin 2010: A Partnership Plan to Improve the Health of the Public*.¹ Adequate nutrition refers to food security and appropriate nutrition refers to foods that promote overall good health. Although there is a sufficient supply of food in the United States and Wisconsin, people in some households lack access to enough food to meet their basic needs. Food security means that Wisconsin residents have access at all times to nutritious and safe foods; food insecurity means they have limited or uncertain availability to nutritious or safe foods. Hunger is the mental and physical condition that comes from not eating enough food.²

There is concern about increased food insecurity in the families served by the Wisconsin Supplemental Nutrition Program for Women, Infants, and Children (WIC). The WIC population represents families living at or below 185 percent of the federal poverty level or who are on Medicaid. The program serves over 182,000 people per year (over 90,000 families), which represents approximately 40 percent of all Wisconsin pregnant women who give birth annually and nearly 40 percent of all Wisconsin children younger than five years.³

In January 2001, the Wisconsin WIC Association and the Wisconsin Division of Public Health (DPH), Bureau of Family and Community Health (BFCH), Nutrition Section conducted a food security survey in 16 counties with WIC programs. The results were tabulated by state and region. In January 2002, the survey was conducted statewide with the results tabulated by state and county or tribe. The Division of Health Care Financing, Bureau of Health Information (BHI) assisted with the sampling procedures and the survey analysis. This report presents background information on food security and a description of the survey design, analysis, and results.

Background

Food insecurity and hunger are increasing in Wisconsin. The U.S. Census Bureau conducts an annual survey of food security as part of its Current Population Survey. In 1995, 6.4 percent of Wisconsin households were food insecure. By 1998, the percentage of food insecure households increased to 7.2 percent with 2.4 percent of the households experiencing food insecurity with hunger.⁴ The Food Research and Action Center provides an explanation of this population based survey:

Households classified as food insecure with hunger are those in which adults have decreased the quality and quantity of food they consume because of lack of money to the point where they are likely to be hungry on a frequent basis, or in which children's intake has been reduced due to lack of family financial resources, to the point that children are likely to be hungry on a regular basis and adult's food intake is severely reduced.

Even when hunger is not present, adults in households determined to be food insecure by the survey are so limited in resources to buy food that they are running out of food, or reducing the quality of food their family eats, or feeding their children unbalanced diets, or skipping meals so their children can eat, or taking certain other serious steps to adjust to their economic problems that threaten the adequacy of the family's diet.⁴

There are many health-related consequences from hunger and food insecurity. Research shows that even moderate undernutrition, the type seen most frequently in the United States, can have lasting effects on the cognitive development of children. The primary factor associated with poor nutritional status in this country is poverty, the inadequacy of family resources.⁵

- Pregnant women who are undernourished are more likely to have low birthweight babies.
- Undernutrition, along with other environmental factors associated with poverty, can result in permanently retarded physical growth, brain development, and cognitive functioning.
- Poor children who attend school hungry perform significantly below their non-hungry peers on standardized tests.

In addition, newer research indicates that, contrary to what might be expected, the prevalence of obesity among women increases as food insecurity increases. Possible explanations for this include a "famine-feast" cycle of eating (overeating when food is plentiful, e.g., when food stamps and WIC checks are available, followed by a short period of involuntary food restriction); lack of access to large grocery stores (thus, limited access to nutrient dense foods such as fresh fruits and vegetables) and easy access to high fat foods at small, local convenience stores; and other factors such as eating patterns or family medical history.⁶

Survey Design

The six questions used in the survey were recommended by the Centers for Disease Control and Prevention (CDC).⁷ Extensive research was conducted to validate and standardize questions in order to accurately classify degrees of food security in the general population. The original 18-item scale, from which the six questions were derived, represented collaborative work between public and private institutions. While use of the six questions was effective in identifying food insecurity and hunger, data are also presented showing responses to the individual questions.⁸ Taken individually, the survey questions might not serve as measures of food insecurity or food insecurity with hunger.

The University of Wisconsin Testing and Evaluation Center designed the self-administered, computer-scannable survey instrument. The survey was translated to Spanish, Hmong, and Russian.

Implementation and Survey Analysis

Wisconsin WIC Program local staff administered the survey. All families visiting WIC clinics during January 2002 were asked to complete the survey. In Milwaukee County, the survey was conducted for two weeks rather than the entire month. The questionnaire was given to 18,649 participants at the WIC clinics with each household represented by one survey. Of these, 18,248 completed at least two questions and were included as respondents. The remaining 401 households were counted as refusals, resulting in a response rate of 98 percent. The completed surveys were sent to the University of Wisconsin, Madison-Testing and Evaluation Center for scanning. The Bureau of Health Information analyzed the data. Because of the shorter survey period in Milwaukee County, those households received a weighting factor of two for computation of the statewide results.

Results

The following data are a summary of the Wisconsin survey results. Results by state are presented in Table 1, and by county and tribe in Table 2.

- **44 percent of the WIC families (sample size of 18,248) surveyed were identified as food insecure (affirmative responses to two or more of the survey questions).**
- **19 percent of the WIC families (sample size of 18,248) surveyed were identified as food insecure with hunger (affirmative responses to five or more of the survey questions).**

Note: The families with food insecurity and families with food insecurity and hunger are not mutually exclusive groups. Of households with food insecurity (two or more affirmative responses), 43 percent gave responses that indicated hunger as well (five or more affirmative responses).

The responses to individual questions included the following:

- 30 percent answered yes to the question, “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 to buy food?”
- Of the households reporting skipping/reducing meals in the last 12 months (that is, an affirmative response to the first question), 71 percent did so almost every month or some but not every month. Among all households, the proportion that skipped meals or reduced the size of meals almost every or some months was 21 percent.
- 31 percent answered yes to the question, “In the last 12 months, did you ever eat less than you felt you should because there wasn’t enough money to buy food?”
- 18 percent answered yes to the question, “In the last 12 months, were you ever hungry, but didn’t eat because you couldn’t afford enough food?”
- 45 percent indicated that the food they bought just didn’t last and they didn’t have money to buy more foods.
- 42 percent indicated they couldn’t afford to eat balanced meals.

Follow-up

Healthiest Wisconsin 2010: An Implementation Plan to Improve the Health of the Public was developed by public health partners of the Wisconsin Turning Point Initiative. This plan will be published in the summer of 2002. It brings together Wisconsin's traditional and non-traditional public health partners to address issues and to implement interventions related to the health priority for adequate and appropriate Nutrition. Food security and hunger are some of the issues and interventions that are addressed. The DPH Nutrition Section and the Wisconsin WIC Association are active partners in this process. The implementation plan includes periodic monitoring of food insecurity and hunger in the WIC population.

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**Table 1. Household Food Security Survey
Wisconsin WIC Program, 2002**

Results of Survey (sample size of 18,248)	Percent
WIC households/families identified as food insecure (affirmative responses to two or more of the survey questions; percentages include those identified as WIC households with hunger).	44%
WIC households/families identified as food insecure with hunger (affirmative responses to five or more of the survey questions).	19%
Summary of Survey Questions*	
1. 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?	30% yes
2. How often did this happen...1) almost every month, 2) some months but not every month, or 3) only in 1 or 2 months?	21% responded with 1 or 2
3. In the last 12 months, did you ever eat less than you felt you should because there wasn't enough food?	31% yes
4. In the last 12 months, were you ever hungry, but didn't eat because you couldn't afford enough food?	18% yes
5. 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.	45% often / sometimes
6. 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.	42% often / sometimes

***The survey is intended to collect information with a focus on hunger and food insecurity. The validity for the individual questions that contribute to the indices is unknown.**

Source of data: Wisconsin Division of Public Health, Department of Health and Family Services: *Food Security Survey in the WIC Population, 2002.*

**Table 2. Food Insecurity and Hunger among WIC Households
by Tribe and County, 2002**

County/Tribe	Respondents	Food Insecure		Food Insecure with Hunger	
	(Number)	Percent	Confidence Interval ¹	Percent	Confidence Interval ¹
Statewide	18,248	44	43 – 45	19	18 - 20
GLITC ²	243	36	30 – 42	14	10 – 19
Memoninee Tribe	167	40	32 – 47	10	5 – 14
Oneida Tribe ³	138	45	37 – 53	19	12 – 25
Adams	48	31	18 – 44	13	3 – 22
Ashland	108	37	28 – 46	19	11 – 26
Barron	305	33	28 – 38	15	11 – 19
Bayfield	75	41	30 – 52	15	7 – 23
Brown	1,274	49	46 – 52	23	20 – 25
Buffalo	52	38	25 – 52	13	4 – 23
Burnett	92	49	39 – 59	15	8 – 23
Calumet	102	43	34 – 53	16	9 – 23
Chippewa	251	48	42 – 54	24	19 – 29
Clark	23	61	41 – 81	22	5 – 39
Crawford	161	45	37 – 52	22	15 – 28
Columbia	103	37	28 – 46	10	4 – 15
Dane	627	49	45 – 53	21	18 – 25
Dodge	178	42	34 – 49	17	12 – 23
Door	100	32	23 – 41	9	3 – 15
Douglas	219	44	37 – 50	19	14 – 24
Dunn	158	35	28 – 43	13	7 – 18
Eau Claire	440	49	45 – 54	23	19 – 26
Florence	35	29	14 – 44	14	3 – 26
Fond du Lac	442	40	36 – 45	18	15 – 22
Forest	61	43	30 – 55	13	5 – 22
Grant	224	20	15 – 25	7	3 – 10
Green	23	43	23 – 64	13	0 – 27
Green Lake	45	44	30 – 59	13	3 – 23
Iowa	97	37	27 – 47	12	6 – 19
Iron	23	43	23 – 64	17	2 – 33
Jackson	78	49	38 – 60	19	10 – 28
Jefferson	278	45	39 – 51	20	15 – 24
Juneau	87	43	32 – 53	17	9 – 25
Kenosha	717	40	36 – 44	17	14 – 19
Kewaunee	55	33	20 – 45	13	4 – 22
La Crosse	377	48	43 – 53	19	15 – 22
Lafayette	27	37	19 - 55	11	0 – 23
Langlade	93	30	21 – 39	16	9 – 24
Lincoln	59	36	23 – 48	14	5 – 22
Manitowoc	226	42	36 – 49	15	11 – 20
Marathon	204	41	34 – 48	17	12 – 22

County/Tribe	Respondents	Food Insecure		Food Insecure with Hunger	
	(Number)	Percent	Confidence Interval ¹	Percent	Confidence Interval ¹
Marinette	179	38	31 – 45	15	10 – 20
Marquette	43	53	38 – 69	21	8 – 34
Milwaukee	4,051	47	46 – 49	20	19 – 22
Monroe	165	36	29 – 44	16	11 – 22
Oconto	118	42	33 – 50	18	11 – 25
Oneida	132	39	30 – 47	15	9 – 21
Outagamie	509	50	45 – 54	21	18 – 25
Ozaukee	73	37	26 – 48	16	8 – 25
Pepin	25	24	7 – 41	8	0 – 19
Pierce	94	30	21 – 39	16	9 – 23
Polk	158	34	27 – 42	13	8 – 19
Portage	229	36	30 – 42	15	10 – 19
Price	103	29	20 – 38	11	5 – 17
Racine	521	37	33 – 41	14	11 – 17
Richland	80	38	27 – 48	13	5 – 20
Rock	377	41	36 – 46	16	12 – 20
Rusk	58	40	27 – 52	12	4 – 20
St. Croix	193	35	28 – 42	17	11 – 22
Sauk	240	38	32 – 34	17	12 – 21
Sawyer	69	55	43 – 67	25	14 – 35
Shawano	134	42	33 – 50	20	13 – 27
Sheboygan	235	40	34 – 46	18	13 – 23
Taylor	111	41	31 – 50	12	6 – 18
Trempealeau	254	36	30 – 42	17	12 – 22
Vernon	143	37	29 – 45	13	8 – 19
Vilas	65	37	25 – 49	14	5 – 22
Walworth	239	43	37 – 49	13	8 – 17
Washburn	85	32	22 – 42	11	4 – 17
Washington	273	53	47 – 59	25	20 – 30
Waukesha	239	43	36 – 49	21	15 – 26
Waupaca	155	46	39 – 54	19	13 – 25
Waushara	65	38	27 – 50	12	4 – 20
Winnebago	514	45	41 – 49	23	19 – 26
Wood	304	38	33 – 44	19	14 – 23

¹ The lower and upper limits of the confidence interval indicate that the percentage will lie within the limits 95 percent of the time.

² Great Lakes Inter-Tribal Council (GLITC). GLITC includes data from sites in Bayfield, Burnett, Forest, Jackson, Sauk, Sawyer, Shawano, Vilas, and Wood counties.

³ Oneida Tribe includes data from Brown and Outagamie counties.

Source of data: Wisconsin Division of Public Health, Department of Health and Family Services: *Food Security Survey in the WIC Population, 2002.*