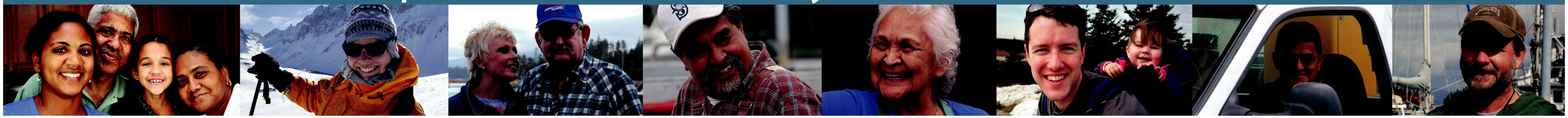
Food Insecurity in Alaska

Public health implications of food insecurity

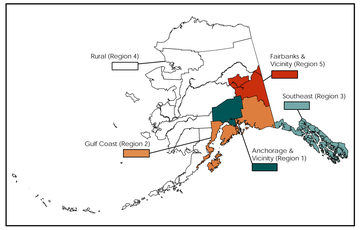


Background:

Food insecurity is a significant and growing problem in Alaska. For the 2004-2006 period, Alaska ranked 15th in the nation in overall food insecurity with 12.6% of the population having food access problems without reduced food intake. The state ranked 9th in the nation for very low food insecurity with 5.1% of its population having reduced food intake and disrupted eating patterns. The objectives of this analysis are to provide detailed information for social service programs to appropriately target the food insecure and document the public health implications of food insecurity for policy makers.

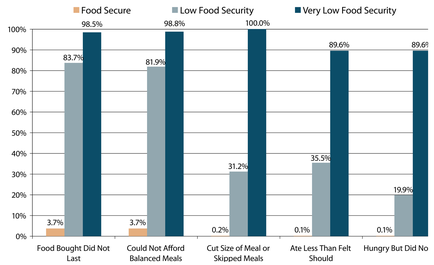
Methods:

The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing random-digit-dial survey of non-institutionalized adults aged 18 years and older that is conducted in all 50 states, the District of Columbia and US territories. All BRFSS questionnaires and the BRFSS methods and weighting procedure are available on the Centers for Disease Control and Prevention website (www.cdc.gov/brfss). In Alaska, a stratified sampling plan was used and sample drawn from 5 regions defined by combinations of census areas and boroughs.



The US Household Food Security Survey Module: Six-Item Short Form was used to determine food security status in 2006. Three items were assigned a score of 1 if answered "yes" and the remaining three were assigned a score of 1 if the event occurred to any extent. A summary score of 0 – 1 indicated high or marginal food security, a score of 2 – 4 indicated low food security and a score of 5 – 6 indicated very low food security. For the current analysis, respondents with a score of 2 or greater were considered food insecure.

Figure 1: Positive Responses by Food Security Status, 2006 Alaska BRFSS



The BRFSS data were weighted to represent the distribution of Alaskan adults by sex, age and region. Prevalence and 95% confidence interval of food security were calculated using the SPSS Complex Samples module.

Results:

Food insecurity was significantly (α=0.05) more likely to occur in adults who:

- were American Indian/Alaska Natives (19.0%).
- lived in the rural region (21.8%).
- had incomes less than $50,000 or less than 200% poverty threshold.
- never attended college.
- were either unemployed (21.7%) or unable to work (36.2%).

Table 1: Food Insecurity by Demographics, 2006 Alaska BRFSS

	n	Wt. %	95% CI	Food Insecure Population Num.	% of Total
Gender					
Male	95	10%	8% - 13%	24,770	49%
Female	133	12%	9% - 14%	26,291	52%
Age					
18-44	129	13%	11% - 17%	33,498	66%
45-64	82	8%	6% - 11%	14,110	28%
65+	13	7%	4% - 13%	3,083	6%
Race (Preferred)					
White	111	9%	7% - 11%	29,760	58%
American Indian / Alaska Native	92	19%	15% - 24%	13,772	27%
Other/Unknown/Refused/Missing	25	14%	8% - 23%	7,529	15%
Region					
Anchorage and Vicinity	49	10%	7% - 13%	24,993	49%
Gulf Coast	40	11%	8% - 15%	5,926	12%
Southeast	31	7%	5% - 11%	3,883	8%
Rural	68	22%	17% - 28%	10,265	20%
Fairbanks and Vicinity	40	9%	9% - 13%	5,993	12%
Income					
< $25,000	111	26%	20% - 33%	19,883	45%
$25 - 49,999	59	16%	11% - 22%	17,270	39%
$50,000 +	27	3%	2% - 5%	7,086	16%
Poverty (Assessed at upper income range)					
Poor (<100% Poverty Threshold)	52	33%	23% - 45%	10,024	23%
Near Poor (100-199% Poverty Threshold)	71	22%	16% - 29%	14,329	32%
Middle/High (200+ Poverty Threshold)	74	6%	4% - 8%	19,886	45%
Education					
Less than High School	39	26%	16% - 38%	8,679	17%
High School or GED	94	14%	11% - 19%	21,134	41%
Some College or Higher	94	7%	6% - 9%	21,245	42%
Employment Status					
Employed	128	10%	7% - 12%	30,031	59%
Unemployed	35	22%	14% - 32%	7,245	14%
Not in Work Force	32	8%	5% - 12%	8,047	16%
Unable to Work	29	36%	23% - 52%	5,226	10%
Marital Status					
Couple (Married or Unmarried)	103	9%	7% - 11%	28,542	56%
Formerly Married (Widowed, Divorced, Separated)	69	15%	11% - 20%	10,803	21%
Never Married	55	23%	16% - 31%	11,475	23%

In contrast to the demographic subsets with highest prevalence, the majority of food insecure adults were:

- female,
- aged 18-44,
- white,
- lived in urban areas,
- had incomes either greater the $25,000 or above 100% of the poverty threshold,
- completed at least high school,
- were employed, and
- had domestic partners.

Segments of the population with lower prevalence tended to be much larger which results in the above, possibly unexpected, profile of the majority of adults who are food insecure.

Unfavorable health situations are uniformly associated with significantly higher rates of food insecurity. The majority of adults with food insecurity had access to health care (65.8%) and could always afford to see a doctor (51.3%) which may be showing the effect of Medicaid and other economically based assistance programs.

Table 2: Food Insecurity by Health Assessment Variables, 2006 Alaska BRFSS

	n	Wt. %	95% CI	Food Insecure Population Num.	% of Total
Have Any Kind of Health Plan					
Yes	158	9%	7% - 11%	33,260	66%
No	67	21%	15% - 28%	17,283	34%
Time When Could Not Afford to See Doctor					
Yes	107	36%	28% - 43%	24,771	49%
No	119	7%	5% - 8%	26,114	51%
Activity Limitations Due to Health Problem					
Yes	91	17%	13% - 22%	16,451	33%
No	134	9%	7% - 11%	33,652	67%
Activity Limitations 7+ Days					
Yes	57	20%	15% - 28%	8,963	18%
No	170	10%	8% - 12%	41,948	82%
Depression					
None	90	7%	5% - 9%	21,580	49%
Mild	51	19%	14% - 26%	11,630	26%
Moderate to Severe	55	40%	29% - 51%	10,807	25%
Disability Present					
Yes	93	16%	13% - 21%	16,714	33%
No	132	9%	7% - 11%	33,389	67%
Emotional Support Obtained					
Always or Usually	109	7%	6% - 10%	26,784	53%
Sometimes / Rarely / Never	114	26%	20% - 32%	23,592	47%
General Health					
Excellent/Very Good	63	6%	4% - 8%	15,826	31%
Good	76	14%	10% - 19%	19,242	38%
Fair/Poor	87	27%	21% - 34%	15,780	31%
Life Satisfaction					
Very Satisfied or Satisfied	187	10%	8% - 12%	44,028	87%
Dissatisfied or Very Dissatisfied	35	32%	21% - 45%	6,360	13%
Mental Health Not Good 7+ Days					
Yes	77	23%	17% - 30%	15,621	31%
No	143	9%	7% - 11%	34,186	69%
Physical Health Not Good 7+ Days					
Yes	81	25%	19% - 33%	17,383	35%
No	136	8%	6% - 10%	32,071	65%
Special Equipment Required Due to Health Problem					
Yes	29	20%	12% - 31%	6,170	12%
No	198	10%	8% - 12%	44,819	88%

Food insecurity occurs more frequently with doctor-diagnosed conditions than among adults in general. Significantly higher food insecurity prevalence was shown for all conditions but asthma, diabetes, and stroke in this sample of Alaskan adults.

Table 3: Food Insecurity by Chronic Conditions, 2006 Alaska BRFSS

	n	Wt. %	95% CI	Food Insecure Population Num.	% of Total
Anxiety Disorder					
Yes	55	20%	15% - 27%	10,737	21%
No	170	10%	8% - 12%	39,362	79%
Asthma					
Yes	55	17%	12% - 23%	11,278	22%
No	173	10%	8% - 12%	39,783	78%
Depressive Disorder					
Yes	85	24%	19% - 30%	18,739	37%
No	141	9%	7% - 11%	32,116	63%
Diabetes					
Yes	25	15%	9% - 23%	4,064	8%
No	203	11%	9% - 13%	46,996	92%
Heart Attack					
Yes	18	27%	14% - 46%	4,235	8%
No	209	10%	9% - 12%	46,718	92%
Heart Disease (Angina or CHD)					
Yes	17	6%	12% - 34%	3,081	21%
No	207	10%	8% - 12%	45,951	94%
Stroke					
Yes	12	18%	8% - 34%	1,992	4%
No	214	11%	9% - 13%	48,783	96%
Cardio/Cerebrovascular Event (Heart Attack, Heart Disease, or Stroke)					
Yes	25	23%	13% - 38%	5,460	11%
No	203	10%	8% - 12%	45,571	89%

Conclusions:

Food insecurity is an economic problem with public health implications. Food is a commodity which must be purchased and therefore can be in competition with other necessities in the household budget such as housing, energy, clothing, and health care. Unemployment and other employment-related problems, followed by low-paying jobs, high housing costs, poverty, medical or health costs, substance abuse, high utility costs, mental health problems, homelessness, reduced public benefits, and high child-care costs have been linked with food insecurity. The demographics of the food insecure differ depending upon the perspective of those with highest prevalence versus the most populous subgroup.

Programs such as the Women, Infants, and Children (WIC), Commodity Supplemental Food Programs (CSFP), and Medicaid may protect the most vulnerable populations by providing increased access to food and healthcare but leave a large segment of economically disadvantaged individuals at continued risk.

Food insecurity is an issue of public health concern due to its association with a number of negative health outcomes. Food insecurity can result in physical impairment (illness or fatigue), psychological issues caused by lack of food, and domestic disruption of food acquisition and management. There is interplay of food insecurity and poor weight status as individuals compensate their diminished means to obtain food through reliance on a few basic foods and reducing variety in their diets with the result that meals may not always be balanced and nutritious. The risks to youth from food insecurity are profound and extend beyond poor health to include decreased cognitive performance and academic achievement as well as increased behavioral and psychosocial problems.

The food security module provides an evidence-based surveillance tool but it lacks an evaluation component. The food security module lacks a question on use of emergency food sources (such as food banks, pantries, and soup kitchens) or assistance programs (such as Food Stamps, Commodity Supplemental Food Programs, and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)). It is therefore not possible to know how many individuals and households were food secure as a result of food contributions from emergency sources or government assistance programs. The extent of unmet nutritional needs by those currently using private and government assistance and those unaware or ineligible for these services is unknown.

The economic and nutritional wellbeing of Alaskans are important measures of a successful public health system. Suitable employment opportunities, affordable food and housing, and ready access to health care should be state priorities. In the interim, emergency food agencies such as the Food Bank of Alaska and "safety net" programs such as WIC deserve increased support in meeting the nutritional needs of Alaskans at risk for food insecurity.

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