

## **Cost of Food at Home for a Week in Alaska Quarter 3: September 2005**

Up to three stores in each of 19 communities were surveyed during September of 2005 for the cost of a specific set of food and non-food items. The 104 food items selected were taken, with some modification, from the USDA Low-cost Food Plan which is itself based on a nationwide survey of eating habits of Americans, conducted in 1977-78. In addition, the costs of such items as water, propane and electricity were collected. All costs were adjusted to reflect local sales tax where applicable.

The estimated prices of unavailable food items in various communities were calculated as the expected cost as judged from the prices of all available items relative to the price of those items in Anchorage. The percent of foods unavailable in each community are shown in the survey.

Weekly food consumption rates for a family of 4, children 6 - 11 years, form the basis of the expressed food costs. All other costs are ratios of that cost as calculated from the USDA Cost of Food at Home survey issued September 2005. The cost for this family of 4 can be calculated from the table by summing the individual members. For smaller families such a sum would be too low and should be adjusted up by 20%, 10% or 5% for families of 1, 2 or 3 persons respectively. Similarly, the sum for larger families would be too high and downward adjustments of 5% and 10% are suggested for 6 and 7 or more member families. These adjustments reflect that some economies may be realized when preparing foods for larger families.

Rows 19 through 23 represent historical food costs. The

Anchorage column is a comparison of present to previous Anchorage costs. Similarly the U.S. Average column represents changes in U.S. average prices. A one (1) appearing in the Anchorage column indicates that the current Anchorage cost is 1% higher now than at that date. Therefore, rising food costs are indicated by positive values. The remaining columns are each community's cost relative to Anchorage at that date. For instance, a cell containing a one (1) indicates a community that was experiencing a food cost 1% higher than Anchorage at that date.

**Title:** Diet Patterns and Body Weight

**Authors:** Bret Luick<sup>1</sup> & Andrea Bersamin<sup>2</sup>

Identifying dietary patterns is a useful approach to studying diet-disease relationships in a population. From a public health perspective, it is often more valuable to look at overall dietary patterns than simply assessing individual nutrients. This brief discussion reviews studies employing association techniques collectively called 'factor analysis', to identify dietary patterns and their association with obesity in a number of settings.

Factor analysis was developed a little over 100 years ago but has only recently become popular in nutrition research, primarily as a result of improvements in computers and software. Factor analysis in nutrition research attempts to identify a small number of factors, or food patterns, that explain most of the variation observed in the population's eating habits. To demonstrate, factor analysis was used to discover eating patterns associated with obesity among women living in Hawaii (Maskarinec et al. 2000). The dietary patterns typifying the participants were characterized as meat consumers (processed meats, meats, fish, poultry, eggs, fats and oils and condiments), vegetable consumers (various vegetables), bean consumers (legumes, tofu and soy protein) and cold food consumers (fruit, fruit juice, cold cereals). The meat pattern was common among Hawaiians and the bean pattern common among Chinese and Japanese; with

the other two categories not having an ethnic relationship. Among the four diet types, only the meat pattern was associated with increased body mass index (BMI), a measure of obesity.

Newby et al. conducted a similar analysis among participants in a recent study in Baltimore, MD. In their analysis, five eating patterns emerged that were characterized as healthy, white-bread, alcohol, sweets and meat and potatoes. Their results indicated that subscribing to a meat and potatoes diet was associated with a greater rate of increase of BMI compared to the healthy diet (fruits, vegetables, high fiber cereals).

Lin et al. looked at diet patterns and body fat among Hispanics living in Massachusetts to see if acculturation influenced eating and obesity. Using a technique closely related to factor analysis (cluster analysis) they identified fruit and breakfast cereal, starchy vegetables, rice, whole milk and sweets as descriptive names for five prevalent diet types. In this study, the rice type diet was associated with the highest BMI. Interestingly, the diet with substantial amounts of whole milk was associated with a significantly lower (healthier) BMI. Using the same technique, Wirfalt et al. showed a higher risk for obesity among men consuming a diet characterized by refined grains, cake, etc. That is not to say rice, milk or cake, et cetera caused the differences in BMI, only that factor analysis identified dietary patterns where those foods were prominent, perhaps amount to 20 or 30% of total caloric intake.

Food patterns provide an ideal target for interventions and nutrition education campaigns. The current citations support the consumption of diets emphasizing fruits, fiber, and low and reduced fat dairy products and minimizing foods that are starchy and provide empty calories. Nutrient interactions are complex and not fully understood so an approach that addresses whole foods may be most effective in the long run. Obesity and diabetes are increasing in Alaska so attention to diet remains a pressing local concern.

## **References:**

**Lin, H., O. I. Bermudez and K. L. Tucker. Dietary Patterns of Hispanic Elders Are Associated with Acculturation and Obesity. J. Nutr. 2003;133(11):3651-3657.**

**Maskarinec, Gertraud, Rachel Novotny and Katsuya Tasaki. Dietary Patterns Are Associated with Body Mass Index In Multiethnic Women. J. Nutr. 2000;130:3068-3072.**

**Newby, P., D. Muller, J. Hallfrisch, N. Qiao, R. Andres, and K. L. Tucker. Dietary patterns and changes in body mass index and waist circumference in adults. Am. J. Clin. Nutr. 2003;77(6):1417-1425.**

**Wirfalt, E., B. Hedblad, B. Gullberg, I. Mattisson, C. Andren, U. Rosander, L. Janzon, and G. Berglund. Food Patterns and Components of the Metabolic Syndrome in Men and Women: A Cross-sectional Study within the Malmo Diet and Cancer Cohort. Am. J. Epidemiol. 2001;154(12):1150-1159.**

Submitted by:

Bret R. Luick  
Foods & Nutrition Specialist

<sup>1</sup>University of Alaska Fairbanks, <sup>2</sup>University of California, Davis