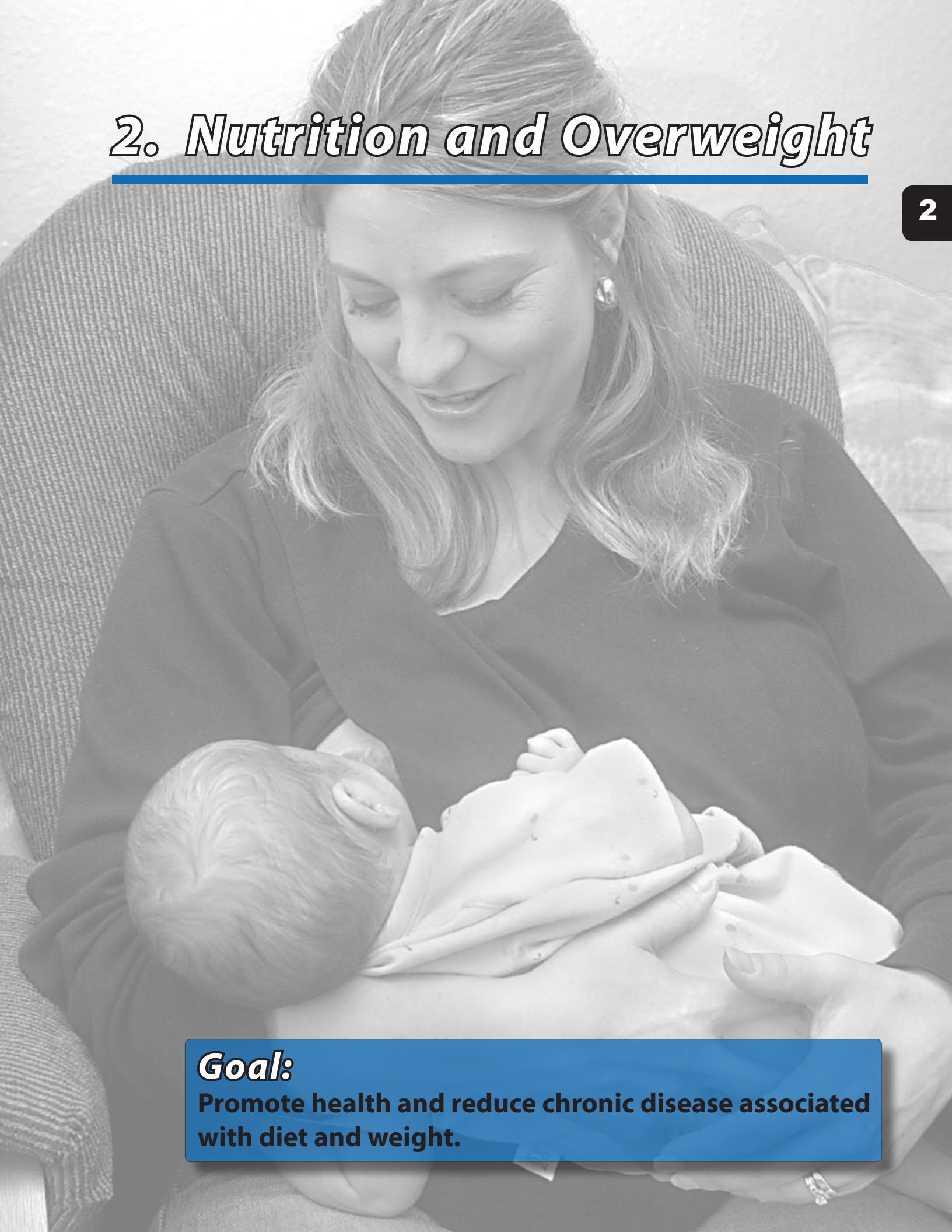
2. Nutrition and Overweight



Goal:
Promote health and reduce chronic disease associated with diet and weight.

Health Goal for the Year 2010: Promote health and reduce chronic disease associated with diet and weight.					
	Indicator	**Alaska Data Source**	**U.S. Baseline**	**Alaska Baseline**	**Alaska Target Year 2010**
1	Reduce the prevalence of overweight and obesity among Alaskan adults.				
1a	Adults who meet criteria for overweight (percent of persons aged 18 years and older with body mass index of 25.0 - 29.9 kg/m^2)	BRFSS	37% (1999)	41% (1999)	30%
	Alaska Native	BRFSS		35% (1999)	30%
1b	Adults who meet criteria for obesity (percent of persons aged 18 years and older with body mass index $\geq$ 30kg/m^2)	BRFSS	20% (1999)	20% (1999)	18%
	Alaska Native	BRFSS		30% (1999)	18%
2	Reduce the prevalence of overweight among Alaskan children and adolescents.				
2a	Low-income children at risk for overweight (percent of children aged less than 5 years served by WIC with weight-for-height $\geq$85th percentile and <95th percentile based on CDC standard population)	PedNSS	9% (1997)	12% (1994)	10%
2b	Low-income children who meet criteria for overweight (percent of children aged less than 5 years served by WIC with weight-for-height $\geq$95th percentile based on CDC standard population)	PedNSS	11% (1999)	13.9% (2000)	10%
2c	Adolescents at risk for overweight (percent of high school students grades 9-12 with body mass index $\geq 85^{th}$ percentile and $<95^{th}$ percentile, based on age-sex specific NHANES 1)	YRBS	18% (boys) 14% (girls) (1999)	17% (boys) 14% (girls) (1999)	12% (both sexes)
2d	Adolescents who meet criteria for overweight (percent of high school students grades 9-12 with body mass index $\geq 95^{th}$ percentile, based on age-sex specific NHANES 1)	YRBS	10% (1999)	7% (1999) 9.1% (AK Native 1999)	5%
3	Reduce growth retardation among Alaskan children (percent of children aged less than 5 years served by WIC with height for age below 5^{th} percentile).	PedNSS	8% (1997)	6.6% (2000)	5%
4	Increase consumption of fruit and vegetables among Alaskans.				
4a	Adults (percent of persons aged 18 years and older who consume at least 5 daily servings of fruits and vegetable)	BRFSS	24% (1998)	23% (1998)	30%
	Alaska Native	BRFSS		18% (1998)	30%
4b	Adolescents (percent of high school students grades 9-12 who consume at least 5 daily servings of fruits and vegetables)	YRBS	24% (boys) 25% (girls) (1999)	26% (boys) 25% (girls) (1999)	30% (both sexes)

Health Goal for the Year 2010: Promote health and reduce chronic disease associated with diet and weight.					
	Indicator	**Alaska Data Source**	**U.S. Baseline**	**Alaska Baseline**	**Alaska Target Year 2010**
5	Reduce anemia among Alaskan children and pregnant women.				
5a	Low-income children (percent of children aged less than 5 years served by WIC who have hemoglobin or hematocrit below 5th percentile of CDC population). Note: see reference below for cutpoints[1]	PedNSS	18% (1997)	18.2% (2000)	15%
5b	Low-income pregnant and post-partum women (percent of pregnant women and post-partum women served by WIC who have hemoglobin or hematocrit below 5th percentile of CDC population) Note: see reference below for cutpoints[1]	PNSS	29% (1996)[2]	29% (1996)	20%
6	Increase food security among Alaskan households and in so doing reduce hunger (percent of households that never lacked access to enough food to meet basic needs in past year).	USDA FANR Report	88% (1995 - Census, Dept. of Commerce)	92% (1999)	94%

[1]Centers for Disease Control and Prevention: Recommendations to Prevent and Control Iron Deficiency in the United States. MMWR 1998; 47 :No. RR-3

[2]Pregnant females in their third trimester who were anemic (hemoglobin <11.0 g/dL)

BMI - Body Mass Index=weight (kg)/(height (meters))[2]

BRFSS - Alaska Behavioral Risk Factor Surveillance System. All U.S. BRFSS data are age-adjusted to the 2000 population; the Alaska BRFSS data have not been age adjusted, so direct comparisons are not advised. See Technical Notes.

CDC - Centers for Disease Control and Prevention

WIC - Women, Infants and Children

PedNSS - Pediatric Nutrition Surveillance System

NHANES - National Health and Nutrition Examination Survey

YRBS - Alaska Youth Risk Behavior Survey. Alaska sample for 1999 did not include Anchorage. High school data for 1999 are weighted and representative of the state student population excluding Anchorage.

PNSS - Pregnancy Nutrition Surveillance System

USDA - United States Department of Agriculture

FANR - Food Assistance and Nutrition Research

Overview

Nutrition is essential for growth and development, health, and well being. Good nutrition should start early in life with breastfeeding and continue through life with the development of healthful eating habits. Diet and nutrition play an important role in the development or prevention of four of the top 10 leading causes of death in Alaska and the United States: cancer, coronary heart disease (CHD), stroke, and type 2 diabetes.[1] Other major chronic diseases, such as osteoporosis and gastrointestinal disorders, are also associated with the typical American diet that has too few fruits, vegetables, grains and beans, and too much saturated fat.

The 2000 Dietary Guidelines for Americans[2] recommend that to stay healthy people aged 2 years and older should:

- Aim for a healthy weight
- Be physically active each day
- Let the pyramid guide food choices
- Choose a variety of grains daily especially whole grains
- Choose a variety of fruits and vegetables daily
- Keep food safe to eat
- Choose a diet that is low in saturated fat and cholesterol and moderate in total fat
- Choose beverages and foods to moderate intake of sugars
- Choose and prepare foods with less salt
- If alcoholic beverages are consumed, do so in moderation.

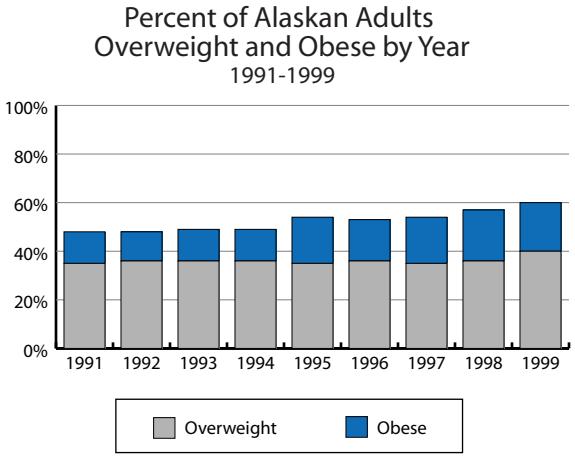
In general, excesses and imbalances of some food components in the diet have replaced once commonplace nutrient deficiencies. There has been an alarming increase in the number of overweight and obese persons. Many diseases are associated with overweight and obesity. People who are overweight or obese are at increased risk for high blood pressure, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, respiratory problems, and some types of cancer. The health outcomes related to these diseases, however, often can be improved through weight loss or, at a minimum, no further weight gain.

Issues and Trends in Alaska

Overweight and Obesity

Overweight and obesity affect a large proportion of the Alaska population. According to Alaska Behavioral Risk Factor Surveillance System (BRFSS) data, over the last decade, the percent of overweight adults (body mass index greater than 25 and less than 30) age 18 and older has increased from 35 percent in 1991 to 40 percent in 1999. Obesity (body mass index greater than 30) increased from 13 percent to 20 percent in the same interval (see Figure 2-1). This trend is consistent with national data that shows increases in the prevalence of both overweight and obesity.

Figure 2-1



Overweight: Body mass index of greater than 25 and less than 30
Obese: Body mass index greater than or equal to 30

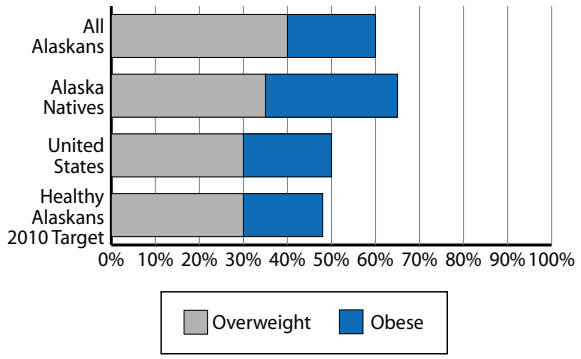
Source: Behavioral Risk Factor Surveillance System (BRFSS)

Alaska Natives were more likely than other Alaskans to be obese, but less likely to be overweight. In the 1999 BRFSS survey, 65 percent of Alaska Natives reported that they were overweight or obese, compared to 60 percent of all Alaskans (Figure 2-2).

A similar increase in overweight also has been observed in low-income boys and girls under the age of five. The Pediatric Nutrition Surveillance System (PedNSS) data showed 12 percent of Alaskan children with weights greater than the 95 percentile (1994) compared to 9 percent of children nationally (1997).[3]

Figure 2-2

Percent of Alaskan Adults Overweight and Obese (All and Alaska Native) 1999 Baselines and 2010 Goals



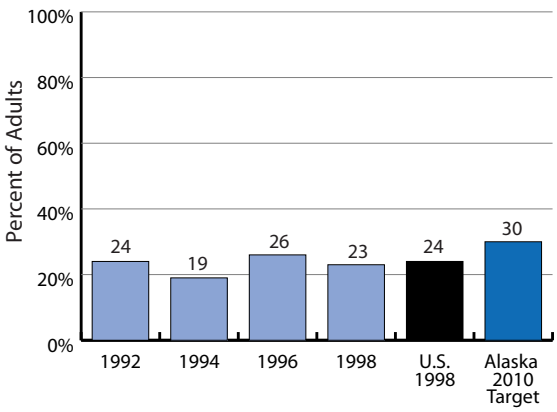
Source: Behavioral Risk Factor Surveillance System (BRFSS)

Fruits, Vegetables, and Fiber

Dietary patterns with higher intakes of vegetables, fruits, and grains are associated with a variety of health benefits, including a decreased risk for heart disease, diabetes, and some types of cancer. BRFSS survey results for 1998 indicate that only 24 percent of Alaskan adults over 18 years consumed 5 or more daily servings of fruits and vegetables, equal to the national average of 24 percent[4] (Figure 2-3). Intakes of fruits and vegetables for Alaska Native adults and adults living in rural areas are consistently lower than such intakes for the rest of the Alaskan population. Rural Alaskan food costs and availability are impacted by geographical location, sales tax, extreme weather conditions, storage requirements and shipping costs. These variables limit the availability and acceptability of fruits and vegetables. On the other hand, prepackaged foods, such as chips, soda pop and candy are easily shipped to small rural grocery stores and are widely available.

Figure 2-3

Percent of Alaskan Adults Eating "Five a Day"
Selected Years 1992-1998



Source: Bureau of Risk factor Surveillance System (BRFSS)

The percentage of Alaskan adults (age 18+) who consume 5 or more daily servings of fruits and vegetables increased over the decade, peaking in 1996 at 26 percent. However, this remains below the Healthy Alaskans 2000 goal of 30 percent.

Iron deficiency anemia

Although over consumption of nutrients contributes to the majority of Alaska's nutrition related chronic diseases, certain nutrient deficiencies still exist. Iron deficiency anemia in children may cause developmental delays and behavioral disturbances. In pregnant women, iron deficiency anemia may increase the risk for a pre-term delivery and delivering a low birth weight baby.[5] The slight declining national trend of iron deficiency anemia in young children and pregnant women in their third trimester has not been observed among some minority populations, specifically African Americans and Native Americans. In Alaska, Women, Infants and Children (WIC) clinics with predominantly Alaska Natives participants exhibited higher rates of iron deficiency anemia than WIC clinics with predominantly white participants.[6]

The goal of reducing iron deficiency in low-income children served by WIC has been met. However, the goal of reducing iron deficiency among Alaska Native children receiving WIC to 15 percent remains unmet.

Iron deficiency anemia has been a chronic problem for many years in Alaska. Improvements that have been seen nationally have not been seen in many parts of Alaska. Recent renewed interest and research in iron deficiency anemia and its association with *Helicobacter pylori* infection may produce effective new interventions.[7]

Nutrition Services and Food Security

In 1998 about 80 percent of potentially eligible Alaskans participated in WIC. As of 1997 only 67 percent potentially eligible Alaskans participated in Food Stamp programs. Alaska does not have access to data identifying intake of meals and snacks of all school

children. The Alaska Department of Education and Early Development (DEED) administers the National School Lunch Program, School Breakfast Program, Adult and Child Care Food Program and Summer Food Service Programs. These entitlement programs are targeted to low income areas and do not limit the number of children served. The United States Department of Agriculture (USDA) has established standards requiring schools to plan menus that meet the Dietary Guidelines for Americans. When a school chooses to participate in these programs, all students in the school, including low-income youths, receive access to the program's nutritious meals. In the state of Alaska the NSLP is offered in 78 percent of the schools and 85 percent of the school districts. However, the best measurement of program operation is the number of meals served (Table 2.1). Therefore, the Alaska DEED goal is to increase the number of meals served under these programs by 1 percent per year.

Table 2-1

Number of meals served daily to children attending schools, school districts, agencies and childcare facilities in Alaska, 1999

National School Lunch Program (NSLP)	At Schools: 47,530 At Agencies: 441 (1999)
National School Breakfast Program (NSBP)	At Schools: 8,927 At Agencies: 277
Adult and Child Care Food Program (ACCFP)	6,519
Summer Food Service Program (SFSP)	2,060

Source: United States Department of Agriculture Food and Nutrition Services, Alaska Data

The health of the senior population is a growing concern in Alaska. From 1996-1999, the population of Alaskans age 60 and older increased 13 percent. For 1999-2010, projections state that Alaska will see a 76 percent increase in the population of seniors 65 and older. The Alaska Coalition on Aging, Nutrition, Transportation, and Support Services program funds non-profit agencies with federal Older Americans Act dollars to provide congregate and home delivered meals to seniors in 110 communities throughout Alaska. The current rate of funding for this program is not keeping pace with the growing senior population. The goal of the Alaska Coalition on Aging is to maintain the current level of meals served based on the projected rate of growth and the limited federal funding. The Alaska Department of Education and Early Development also serves meals to seniors through the Adult Day Care Program (Table 2.2). The goal of the Alaska DEED is to increase the number of meals served under this program by 1 percent per year.

Table 2-2

Meals for Elderly in Alaska, 1999

Number of senior adults age 60 and older receiving Adult Day Care (ADC) meals through the Alaska Department of Education and Early Development.	32,494
Congregate Meals (CM) served through the Alaska Commission on Aging.	290,435
Home Delivered Meals (HDM) served through the Alaska Commission on Aging.	288,154

Source: United States Department of Agriculture Food and Nutrition Services, Alaska Data

About 70 percent of Alaska's Women, Infants and Children (WIC) participants are in the top three of the seven health priority groups served by WIC, indicating that the program is reaching those with the highest medical and nutritional risks. During the past decade, WIC participation increased 156 percent, reaching an all-time high of 24,500 participants in the month of November 1999. This is a statewide average, with some areas serving 100 percent of "potential eligibles" per the 1990 census and some areas serving less than 60 percent. The Alaska target of 85 percent reflects caseload outreach efforts being targeted in areas of the state with lower WIC enrollments.

Breastfeeding

Breastfeeding initiation rates in Alaska, according to the Alaska Pregnancy Risk Assessment Monitoring System (PRAMS), increased between 1993 to 1998 from 83.3 percent to 87.8 percent.[8] According to the Ross Mothers Survey (RMS), Ross Products Division, Abbott Laboratories, Alaska has the highest breastfeeding initiation rate in the country, 88.5 percent. It increased between 1993 to 2000 from 76.7 percent to 88.5 percent. In 2000, the RMS reports Alaska's breastfeeding duration at 6 months at 50.2 percent, meeting the Healthy Alaskans 2000 goal rate of more than 50 percent. The American Academy of Pediatrics recommends that "Breastfeeding continue for at least 12 months, and thereafter for as long as mutually desired."[9] Breastfeeding indicators and targets are addressed in *Chapter 16: Maternal, Infant and Child Health*.

Current Resources and Strategies

Overweight and Obesity

Achieving the Healthy Alaskans 2010 targets for reducing overweight and obesity in adults will be difficult. Overweight and obesity are influenced by inherited, metabolic, behavioral, environmental, cultural, and socioeconomic factors. Weight management is difficult for most people and weight loss must be gradual to be healthy and maintained over the long term. Very little research has been conducted on the causes of obesity and treatment in specific minority populations, especially children. It is important for clinicians to set realistic weight goals for maximum health that take into account cultural heritage and individual caloric needs.

Overweight and obesity significantly contribute to morbidity and mortality in Alaska. Concerted efforts to address nutrition and physical activity must happen to reverse this trend. Interventions must also be age and culturally appropriate to address the needs of two high-risk groups, children and Alaska Natives.

Fruits, Vegetables, and Fiber

The State of Alaska Department of Health and Social Services established a chronic disease nutrition program in 1993. A master's level registered dietitian staffs the program. In 1995, the Eat Smart Alaska coalition was formed with public and private partners dedicated to enhancing healthful eating patterns among Alaskans. The Eat Smart Alaska coalition also works closely with the cardiovascular disease (CVD) prevention group, Take Heart Alaska. Future plans include developing projects addressing nutrition and physical activity for CVD and obesity prevention.

In 1995, the chronic disease nutrition program became licensed by the National Cancer Institute to administer the 5 A Day for Better Health Program in Alaska. A recent grant from the National Cancer Institute and Centers for Disease Control (CDC) targets the special needs in rural Alaska with a campaign promoting canned and frozen fruits and vegetables and subsistence berries and greens. Although slight improvements have been seen, more effort must be made to significantly change current eating habits, especially in rural areas.

Iron deficiency anemia

The Iron Deficiency Anemia Prevention Project began in 1999 in response to a study of iron deficiency anemia conducted by the CDC in Hooper Bay.[10] A multidisciplinary group representing statewide agencies, the CDC, Yukon Kuskokwim Health Corporation, and independent anemia researchers met to address the issue and pursue an intervention project. The task force is working to coordinate data collection, design new protocols for anemia identification and treatment, develop new nutrition assessment tools, implement a new iron-fortified beverage in the WIC food package, and develop a social marketing campaign.

Nutrition Services and Food Security

Nutrition services, such as individual counseling with nutrition specialists and consultations by health care providers with such specialists, are important in the prevention and treatment of nutrition related health problems. The demand for trained nutrition professionals within Alaska far exceeds the supply. In 1995 the University of Alaska Anchorage began an Approved Pre-Professional Practice Program (AP4). This program is the only means to becoming a registered dietitian in Alaska. Since the program's inception, 22 interns have graduated with 75 percent becoming employed as Registered Dietitians (RD) in Alaska. Future plans are exploring setting up traditional dietetic internships with Native Health Corporations to fill needed positions in rural areas.

Other new innovative programs have helped to fill the need for nutrition practitioners. The Alaska WIC Program (AKWIC) Competent Professional Authority (CPA) Training Program prepares paraprofessionals to assume duties in remote and urban WIC clinics to alleviate the shortage of WIC certifiers. These CPAs are able to deliver basic WIC services for eligible clients and to refer identified high-risk clients to the Registered Dietitian.

Nutrition services specifically for the Alaska Native population are provided through the Alaska Native Medical Center and regional health corporations throughout the state. Specific grants have been received for nutrition improvement projects completed on a regional basis which have focused on reducing soft drink consumption, encouraging gathering and consumption of traditional subsistence foods, teaching food safety, and providing diabetes and heart disease risk reduction information.

In the last decade the Alaska WIC Program has expanded throughout the state, nearly tripling the number of persons served and nearly doubling the number of WIC clinics. The number of WIC vendors has increased from less than 150 to over 220 in the last ten years. Most of the new vendors are in small rural communities, a significant boost to their economies. In 1999 Alaska was successful in gaining federal approval to substitute canned pink salmon for some other WIC foods, the only change the USDA has approved in the 25 year history of the program.

Future plans for WIC include outreach to eligible persons in areas of the state with lower WIC enrollments, expansion of the breastfeeding peer counselor program, expanded nutrition education activities, opening WIC clinics on the military bases in Anchorage and on Prince of Wales Island, advocacy for additional improvements in the types of WIC foods approved by the federal government, such as the addition of fruits and vegetables, and increased integration of WIC with other public health programs, including Public Health Nursing, Immunizations, family planning, and domestic violence prevention and intervention.

The Alaska Food Stamp Program helps low-income families maintain adequate nutrition by providing benefits that can be used to purchase food items at most grocery stores. The program underwent significant changes in the 1990s. The caseload grew from about 9,500 households in 1990 to over 18,000 in 1996. With the passage of welfare reform changes in 1996, the caseload has declined to about 14,000 participating households. Over 40 percent of benefits go to residents of rural communities. Special rules for Alaska provide for substantially higher food stamp benefits for rural communities and permit households in rural areas to buy subsistence hunting and fishing gear with food stamps. No other state has adjusted benefits for rural areas. Approximately 46 percent of participating households are white, 40 percent are Alaska Native, African Americans about 6 percent, Asians and Pacific Islanders about 3.5 percent and Hispanics about 3 percent.

Data Issues and Needs

The majority of the Healthy People 2010 nutrition objectives cannot be monitored in Alaska due to lack of available data. The Behavioral Risk Factor Surveillance System (BRFSS) provides the only population based food consumption data for Alaska. No state level data on grain, total fat, saturated fat, sodium and calcium intakes is available for adults, adolescents, or children. No data is available on heights and weights of school children. State data is not available on nutrition education and weight management programs at worksites and physician office visits that include counseling or education related to diet and nutrition.

Specific population studies are needed for more information on dietary intake patterns. Studies that compare different ethnic groups and urban and bush residents would be particularly useful.

Extensive research on environmental contaminants in subsistence food and their impact on Alaska Natives is in progress in several regions of the state.

Related Focus Areas

A variety of objectives in other *Healthy Alaskans* chapters are linked to objectives in *Nutrition and Overweight*.

- *Physical Activity*
- *Oral Health*
- *Food Safety*
- *Maternal Child Health*
- *Arthritis*
- *Heart Disease and Stroke*
- *Cancer*
- *Diabetes*

Nutrition and physical activity objectives are closely related. *Physical Activity* indicators, such as increasing physical activity, will decrease overweight and obesity in adults and children. In *Oral Health* the objective of reducing the loss of teeth, dental decay, and caries is linked to nutrition because the loss of all teeth at advanced age can make it difficult for individuals to adapt to dentures and can contribute to poor nutrition. Diets low in processed sugars reduce the risk of dental decay.

A safe food supply enables people to choose a varied and well-balanced diet. Nutrition plays an extremely important role during pregnancy. Good nutrition, with an adequate intake of folic acid, before conception and early in pregnancy reduces the risk of neural tube defects. Breastfeeding newborns and infants provides optimal nutrition for growth and development and decreases the risks of infectious disease and sudden infant death syndrome. Good nutrition can decrease the prevalence of osteoporosis, heart disease, cancer, and diabetes.

Endnotes

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School Health and Nutrition Alaska Department of Education & Early Development	www.educ.state.ak.us/tls/schoolhealth/nutrition.html
Alaska WIC	www.hss.state.ak.us/dph/mcfh/WIC/
State of Alaska Dept.. of Fish & Game, Division of Subsistence	www.state.ak.us/local/akpages/FISH.GAME/subsist/subhome.htm
Alaska Traditional Diet Project	www.atsdr.cdc.gov/alaska/
Alaska Traditional Knowledge and Native Foods Database	www.nativeknowledge.org/start.htm
Recommendations for Fish Consumption in Alaska, 2001	www.epi.hss.state.ak.us/bulletins/docs/b2001_06.htm

National

Obesity Education Initiative National Heart, Lung, and Blood Institute	www.nhlbi.nih.gov/about/oei/index.htm
Food, Culture, and Nutrition	www.eatethnic.com/resources.htm
USDA: Food and Nutrtion Resources	www.fns.usda.gov/fns/
Links to Nutrition Web Sites	www.eatright.org/healthorg.html
Surgeon General's Call to Action Obesity	www.surgeongeneral.gov/topics/obesity/

Chapter Notes