

Food Distribution Program on Indian Reservations

The Food Distribution Program on Indian Reservations (FDPIR) provides monthly supplemental food packages to low-income households living on Indian reservations and to eligible American Indian households living in approved areas near reservations. Household eligibility to participate in the FDPIR is based on the Federal income and asset requirements used in the Food Stamp Program (FSP).

Research literature focusing specifically on the FDPIR is very sparse. The few FDPIR-specific papers and reports identified through the literature search describe the role of the FDPIR in the food supply on American Indian reservations. No scientific research has evaluated the impact of the program on nutrition- and health-related outcomes.

Program Overview

The FDPIR was authorized under the Food Stamp Act of 1977.¹⁵⁴ In establishing the FDPIR, Congress cited concerns that the FSP might not adequately meet the food assistance needs of low-income American Indian households living on or near reservations (Usher et al., 1990). The primary concern was that the remote location of many reservations made it difficult for American Indian households to participate in the FSP. In many instances, the distance between the reservation and the local FSP offices was substantial and/or food stores where FSP coupons could be redeemed were scarce or far away. Thus, the FDPIR was designed to provide an alternative to the FSP for low-income American Indian households living on or near reservations.

Income eligibility for the FDPIR is based on federally defined income eligibility requirements used in the FSP. However, the FDPIR does not impose FSP requirements

related to employment and training or time limits for able-bodied adults without dependents (ABAWDs). All households residing on Indian reservations are eligible to participate in the program if they meet income and resource standards. Households living in approved areas near reservations or in Oklahoma are eligible to participate if at least one member of the household is a member of a federally recognized tribe.¹⁵⁵

Households are individually certified by local offices and are recertified periodically at intervals not to exceed 1 year. Eligible households may choose to receive either FDPIR benefits or food stamps, but not both. Participating households receive a monthly food package weighing between 50 and 75 pounds. In FY 1998, FDPIR food packages were updated in response to an extensive review conducted the prior year. This review was recommended by the Commodity Improvement Council (CIC), which was established by the U.S. Department of Agriculture (USDA) to address concerns about the quality of foods offered in the FDPIR. A primary concern was the high fat content of food packages (Dillinger et al., 1999; Smith, et al., 1996, 1993; USDA, Food and Nutrition Service (FNS), 1995). Concerns were also raised about the lack of fresh produce and fresh or frozen meats and poultry (Dillinger et al., 1999) and about levels of sodium and sugar (USDA/FNS, 1995).

The updated food packages added several new products, including low-sodium and low-fat foods and frozen, cut-up chicken. Changes were designed to make food packages easier to use and more compatible with the preferences and nutritional needs of American Indians. The fat content of food packages was reduced, relative to total energy content, and servings of vegetables and grains were increased (USDA/FNS, 2002).

In FY 2003, more than 70 different food items were offered, including canned beef, poultry, and fish; canned fruits, vegetables, and juices; dried fruits; dehydrated potatoes; canned soups; canned spaghetti sauce; packaged macaroni and cheese and other types

¹⁵⁴Earlier versions of commodity distribution programs on Indian reservations were included in the 1949 and 1963 Agriculture Acts, as well as the 1973 Agriculture and Consumer Protection Act. The Federal Government has provided limited supplies of food in various forms to American Indians since the time when most Indians living east of the Mississippi River were forcibly removed to reservations in the West and Midwest. At one point, the food distribution programs served U.S. territories in the Pacific Islands as well as Indian reservations. Most of the Pacific Island sites were phased out during the 1980s and 1990s, as the islands converted from U.S. territories to commonwealths (U.S. Department of Agriculture (USDA), Food and Nutrition Service (FNS), 2003a).

¹⁵⁵In Oklahoma, which has few reservations, low-income households that include at least one American Indian and reside in designated areas (including some urban areas) may participate in the FDPIR (USDA/FNS, 2003b).

of pasta; cereals, rice and other grains; cheese; egg mix; peanuts; peanut butter; low-fat refried beans; and nonfat-dry and evaporated milks (USDA/FNS, 2003b). Staples, such as flour, cornmeal, bakery mix, corn syrup, vegetable oil, and shortening were also offered. Frozen ground beef and chicken and/or fresh produce were also available to most programs that have facilities to store and handle these foods.¹⁵⁶

In addition to providing food, the FDPIR makes printed materials available to participants, such as guidance on how to use FDPIR foods as part of a healthy diet, commodity fact sheets that provide storage and preparation tips, nutrition information and recipes, and a “Nutrition Facts” booklet that lists the ingredients and nutrient composition of available commodities (USDA/FNS, 2003b). Sponsoring agencies can also apply for additional Federal funding to be used specifically for nutrition education.

The FDPIR is administered at the State and local levels by State agencies and Indian Tribal Organizations (ITOs). USDA provides food and administrative funding to the State agencies and ITOs, which are then responsible for program operations, including food storage and distribution, eligibility certification, and nutrition education. In FY 2003, the FDPIR was administered by 98 ITOs and 5 State agencies and provided benefits to approximately 243 American Indian tribes (USDA/FNS, 2003b). In FY 2002, approximately 110,000 individuals participated in the program each month, at an annual cost of \$69 million (USDA/FNS, 2003c).

Research Review

Research focusing specifically on the FDPIR is sparse and there have been no impact evaluations of the program. One nationally representative study of the FDPIR has been completed (Usher et al., 1990). The primary objectives of that study, which was based on data collected in 1989, were to describe program operations, describe sociodemographic characteristics of FDPIR households, identify dietary needs and preferences of low-income American Indians and examine how the FDPIR addresses those needs, and compare availability and acceptability of the FDPIR versus the FSP in providing food assistance. Other available literature generally describes the role of the FDPIR in the food supply on Indian reservations, characteristics of the diets of specific subgroups of American Indians,

¹⁵⁶Even when offered, some families are not able to use fresh or frozen foods because they do not have refrigerators (Ballew et al., 1997).

and/or special nutrition and health challenges facing American Indians. Major themes from the available literature are briefly summarized below.

Characteristics of FDPIR Households

In the only nationally representative study of the FDPIR, Usher and his colleagues (1990) found that FDPIR households were very poor. Nearly 1 in 10 FDPIR households reported having no income. More than one-third had gross incomes that were equivalent to or less than 50 percent of the 1989 Federal poverty level. Only one in five households had incomes above the poverty level.

About half of all FDPIR households included children. Almost one-quarter (23 percent) of FDPIR households were single adults living alone. Compared with the general population of low-income households, more FDPIR households included one or more elderly people and fewer FDPIR households were single-parent, female-headed households. Roughly 40 percent of all FDPIR households included an elderly person compared with 16 percent of low-income households in the general population. Single-parent, female-headed households accounted for roughly 9 percent of all FDPIR households compared with 47 percent of low-income households in general. Researchers documented a strong tendency for households that were receiving Aid to Families with Dependent Children (AFDC) benefits to participate in the FSP rather than the FDPIR.

Usher et al. found that most FDPIR households had adequate food storage and preparation facilities. However some FDPIR households lacked at least one of five basic facilities: 20 percent did not have hot running water, 15 percent had no indoor running water, 9 percent did not have a refrigerator, 6 percent did not have a stove or other cooking facility, and 7 percent had no electricity. All of these conditions were much more frequent in the Western Region than in other regions. Three-quarters of the households that lacked running water and 90 percent or more of the households without refrigerators or electricity lived in the Western Region.¹⁵⁷

Importance of the FDPIR in the Food Supply on Reservations

Many American Indian families may depend on the monthly FDPIR food packages as their primary source

¹⁵⁷Refers to one of FNS's seven regions. The Western Region includes Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, and Washington (and ITOs operating in those States). In 1989, about 30 percent of all local FDPIR programs were located in the Western Region.

of food. In its 1990 review of food assistance programs on four Indian reservations, the General Accounting Office (GAO) noted that, for many Indians, the food assistance programs “constitute their primary and long-term food supply because of persistent unemployment on the reservations” (GAO, 1990).

In 1993, numerous tribal officials from reservations in the West and Northwest testified at a Senate hearing on “Barriers to Participation in Food Stamp and Other Nutrition Programs of the Department of Agriculture by People Residing on Indian Lands.” The officials indicated that the American Indian residents on their reservations relied on the FDPIR as their primary source of food (U.S. Senate Committee on Indian Affairs and Senate Committee on Nutrition and Forestry, 1993).

In his testimony at the joint hearing, Mr. John Yellow Bird Steele, President of the Oglala Sioux Tribal council, testified that “the USDA food distribution programs, all of them, are very much needed on Pine Ridge Reservation. They are viewed not as subsistence. They are viewed as a primary source of food.” Similar views were expressed by virtually every person who testified at this hearing, representing Indian tribes, reservations and trust lands, and organizations that served American Indians.

Wolfe and Sanjur (1988) studied the diets and food and nutrient intakes of 107 women attending food distributions on the Navajo reservation. They found that commodity foods contributed 43 percent of total energy intake and close to 50 percent of all nutrients examined, except vitamins A and C. Although mean nutrient intakes were found to be below the RDA for energy, calcium, iron, vitamin A, vitamin C, and phosphorus, the pattern of vitamin and mineral intakes was similar to that of women in the general population. Moreover, the percentages of energy derived from fat, carbohydrates, and protein in the diets of these low-income Navajo women were closer to those recommended in the *Dietary Guidelines* than were the percentages in the diets of women in the Nation as a whole. The authors concluded that:

The relative adequacy of the women’s diet, despite their very low income levels, was associated with substantial use of foods provided by the Food Distribution Program. Except for vitamins A and C, commodity foods were the source of approximately 50 percent of nutrient intakes. Thus, this program appeared to make an important nutritional contribution to the contemporary Navajo diet.

Research has provided some evidence that the importance of the FDPIR as a component of the nutrition safety net has increased on some reservations in recent years. Davis et al. (2002) found that FDPIR caseloads increased on the Northern Cheyenne reservation in Montana, while enrollment in the FSP declined.¹⁵⁸ The authors report that many factors contributed to this shift. One was lack of transportation (access to a vehicle and/or money for gas) to shop off the reservation, where prices are lower. In addition, work requirements were seen as a disincentive because of high unemployment rates and a perception that finding even a minimum wage job would result in a loss of benefits for the household.

Characteristics of the Diets of American Indians

A number of reports and journal articles have assessed the quality of the diets of American Indians, with no regard to presence or absence of FDPIR (although, as noted in the 1993 Senate hearings, one can safely assume that FDPIR foods play an important role in the diets of most American Indians living on or near reservations). Several conclusions appear repeatedly in the literature. Most of the studies summarized here are based on data that were collected before the changes in FDPIR food packages. However, findings from the few more recent studies that are available are consistent with findings from earlier research.

The general finding is that the high prevalence of protein, calorie, and vitamin and/or mineral deficiencies reported by researchers during the 1960s has been significantly reduced (Van Duzen et al., 1976). Inadequate intake of key nutrients remains a problem, especially for vulnerable age groups, such as children, women of child-bearing age, and the elderly (Ballew et al., 1997). However, concerns about nutrient intakes of American Indians largely reflect those of the overall population. For example, many are concerned that the diets of many American Indians living on or near reservations are too low in variety (number and types of different foods consumed), fruits, and vegetables and too high in fat (relative to food energy), highly sweetened and salted foods, and heavily sweetened drinks (Cole et al., 2001; deGonzague et al., 1999; Harnack et al., 1999;

¹⁵⁸For the Nation as a whole, participation in the FDPIR has not increased. Since FY 1999, average monthly participation has declined from 129,000 participants per month to 110,000 participants per month (FY 2002). (USDA/FNS, 2003c).

Story et al., 1998a, 1998b; Ballew et al., 1997; Vaughan et al., 1997; Campos-Outcalt et al., 1995; Brown and Brenton, 1994; Jackson, 1993; Teufel and Dufour, 1990; Wolfe and Sanjur, 1988).

In addition, several researchers (Vaughan et al., 1997; Calloway and Gibbs, 1976) observed preferences among American Indians for fried foods, including fry bread, fried potatoes, and fried meats. These foods are typically fried in lard, commodity shortening, or butter rather than vegetable oils (Wolfe and Sanjur, 1988). In addition, commodity cheese has been a significant source of fat and sodium for some groups of American Indians (Vaughan et al., 1997; Wolfe and Sanjur, 1988).

Researchers at USDA's Center for Nutrition Policy and Promotion (CNPP) studied the diets of the small subsample of American Indians (including Alaska Natives) included in the 1994-96 Continuing Survey of Food Intakes by Individuals (CSFII). Although the sample was small (n=107), results indicate that American Indians' overall scores on the Healthy Eating Index (HEI) were not significantly different from the rest of the U.S. population (Basiotis et al., 1999). In addition, the prevalence of food insecurity/food insufficiency and hunger among American Indians was similar to that of other minority groups in the U.S. population (Basiotis et al., 1999).

In recent years, research has focused increasingly on traditional foods and traditional food resources (such as cultivating small home gardens, harvesting wild foods, and hunting rabbits, deer, and other game) as a means of improving the diets, food security, and/or self-sufficiency of American Indians (Lopez et al., 2002; Grant et al., 2000; deGonzague et al., 1999). Lopez and his colleagues (2002) recommended that FDPIR programs be allowed to purchase locally, with an emphasis on healthful traditional foods, up to 10 percent of the foods they distribute.

Research has provided some evidence that traditional diets may reduce metabolic risk factors for diabetes and cardiovascular disease—for example, blood levels of glucose, lipids (fats), and insulin (Murphy et al., 1995; Gittelsohn, et al., 1998; Swinburn et al., 1991; McMurry et al., 1991). In addition, a study that followed a group of Pima Indians over a 6-year period, found that, among women, individuals who consumed an “Anglo” diet were more likely to develop diabetes than those who consumed a traditional diet or a mixed diet (Williams et al., 2001).

Specific Nutrition and Health Concerns Among American Indians

The increasing prevalence of obesity, particularly among children, is a major health concern for the entire U.S. population. However, the problem is particularly troubling in the American Indian population because of the high prevalence of other health problems for which obesity is a serious risk factor. These include, but are not limited to, diabetes, coronary heart disease, and hypertension. The particular histories and geographic and economic situations of most Indian reservations include numerous factors that encourage patterns of diet, food consumption, and inactivity that are highly conducive to adiposity and the onset of obesity (Story et al., 1998a; Vaughan et al., 1997; Campos-Outcalt et al., 1995).

Story et al. (1998a) note similarities between the observed emergence of obesity and associated health problems among American Indians and patterns that have been observed in developing countries. As a result of relatively rapid shifts to high-fat diets and sedentary lifestyles, American Indians as well as several populations and minority groups in Africa, Asia, and Latin America have begun to manifest an increased prevalence of type 2 diabetes, which is linked to obesity. Popkin (1994) describes this phenomenon as the “nutrition transition” that causes both under- and over-nutrition to occur and coexist in low-income countries.

Brown and Brenton (1994) describe the rapid emergence of diabetes among American Indians since the 1940s. Burrows and her associates (2000) describe an increase of 29 percent over 7 years (from 1990 to 1997) in the prevalence of American Indians and Alaskan Natives with diagnosed diabetes. Over the same period, the increase observed for the general U.S. population was 14 percent (Burrows et al., 2000). According to the Centers for Disease Control and Prevention (1998), the age-adjusted prevalence of physician-diagnosed diabetes among American Indians and Alaskan Natives is 2.8 times greater than the prevalence among non-Hispanic Whites.

Members of the Pima tribe are reported to have the highest known diabetes rate of any population in the world. However, Campos-Outcalt et al. (1995) found the prevalence of diabetes among the Pasqua Yaqui tribe in Tucson, AZ, to be as high as that of the Pima. Lopez et al. (2002) reported similar statistics for the Tohono O'odham Nation (formerly known as the Papago

Nation). One of every two Pimas over age 35 has diabetes, compared with 1 in 25 in the overall U.S. population (Brown and Brenton, 1994). The rate of gestational diabetes among American Indians is also among the highest in the world (Brown and Brenton, 1994).

Summary

None of the literature examined for this review specifically evaluated the influence of FDPIR on nutrition and health outcomes of participants. The available literature provides largely descriptive information about the program and the individuals it serves. Anecdotal evidence suggests that the FDPIR supplies a substantial part of the dietary intake of many American Indians living on or near reservations.

Available data on food and nutrient consumption patterns of American Indians indicate that American Indians consume diets that are high in fat and limited in variety. These shortcomings are not significantly different from those observed in the population as a whole. However, the increased prevalence of nutrition-related health problems among American Indians—namely obesity, diabetes, hypertension, and related health conditions—calls for a heightened level of concern.

Recent work completed under the auspices of USDA's Economic Research Service's small grants program (Davis et al., 2002; Lopez et al., 2002; Grant et al., 2000) has contributed to a better understanding of the role of food assistance programs in the lives of American Indians. These exploratory studies should continue and researchers should begin to explore the impact of the FDPIR (and other food and nutrition assistance programs) on the nutrition and health characteristics of FDPIR participants.

A rigorous evaluation of the health- and nutrition-related impacts of the FDPIR may be difficult to implement. The penetration of the program (as well as the alternative FSP) on Indian reservations is likely to make identifying an appropriate control/comparison group difficult. Still, a better understanding of the program's impact on participants' lives is important because (1) this population is at such high nutritional risk and (2) their dependence on the FDPIR makes them uniquely vulnerable to program effects, both positive and negative. At a minimum, studies of the contribution of FDPIR foods to American Indians' diets should be updated to reflect currently available food packages.

References

- Ballew, C., L.L. White, K.F. Strauss, et al. 1997. "Intake of Nutrients and Food Sources of Nutrients Among the Navajo: Findings from the Navajo Health and Nutrition Survey," *Journal of Nutrition* 27(supplement):2085s-93s.
- Basiotis, P., M. Lino, and R. Anand. 1999. "The Diet Quality of American Indians: Evidence from the Continuing Survey of Food Intake by Individuals," *Nutrition Insights* 12(March 1999).
- Brown, A.C., and B. Brenton. 1994. "Dietary Survey of Hopi Native American Elementary Students," *Journal of the American Dietetic Association* 94(5):517-22.
- Burrows, N.R., L.S. Geiss, M.M. Engelgau, and K.J. Acton. 2000. "Prevalence of Diabetes Among Native Americans and Alaska Natives, 1990-1997: An Increasing Burden," *Diabetes Care* 23(12):1786-90.
- Calloway, D.H., and J.C. Gibbs. 1976. "Food Patterns and Food Assistance Programs in the Cocopah Community," *Ecology of Food and Nutrition* 5(4):183-96.
- Campos-Outcalt, D., J. Ellis, M. Aickin, et al. 1995. "Prevalence of Cardiovascular Disease Risk Factors in a Southwestern Native American Tribe," *Public Health Reports* 110:742-48.
- Centers for Disease Control and Prevention. 1998. "Prevalence of Diagnosed Diabetes Among American Indians/Alaskan Natives: United States, 1996," *Morbidity and Mortality Weekly Report* 47:901-04.
- Cole, S.M., N.I. Teufel-Shone, C.K. Ritenbaugh, et al. 2001. "Dietary Intake and Food Patterns of Zuni Adolescents," *Journal of the American Dietetic Association* 101(7):802-06.
- Davis, J., R. Hiwalker, C. Ward, et al. 2002. "Is the Food Stamp Program an Adequate Safety Net for American Indian Reservations? The Northern Cheyenne Case," in A. Vandeman (ed.), *Food Assistance and Nutrition Research Small Grants Program: Executive Summaries of 2000 Research Grants*. FANRR-20. USDA, Economic Research Service.
- deGonzague, B., O. Receveur, D. Wedll, et al. 1999. "Dietary Intake and Body Mass Index of Adults in Two Ojibwe Communities," *Journal of the American Dietetic Association* 99(6):710-16.
- Dillinger, T.L., S.C. Jett, M. J. Macri, and L.E. Grivetti. 1999. "Feast or Famine: Supplemental Food Programs and Their Impacts on Two American Indian Communities in California," *International Journal of Food Science and Nutrition* 50(3):173-87.
- Gittelsohn, J., M.S. Wolever, S.B. Harris, et al. 1998. "Specific Patterns of Food Consumption and Preparation are Associated with Diabetes and Obesity in a Native American Community," *Journal of Nutrition* 128:541-47.
- Grant, R.C., M. Arcand, C. Plumage, and M.G White, Jr. 2000. "Federal Food Programs, Traditional Foods, and the Gros Ventre and Assiniboine Nations of the Fort Belknap Indian Reservation," in A. Vandeman (ed.), *Food Assistance and Nutrition Research Small Grants Program: Executive Summaries of 1998 Research Grants*. FANRR-10. USDA, Economic Research Service.
- Harnack, L., M. Story, and B.H. Rock. 1999. "Diet and Physical Activity Patterns of Lakota Indian Adults," *Journal of the American Dietetic Association* 99(7):829-35.
- Jackson, Y. 1993. "Height, Weight, and Body Mass Index of American Indian Schoolchildren," *Journal of the American Dietetic Association* 93(10):1136-40.
- Lopez, D., T. Reader, and P. Buseck. 2002. *Community Attitudes Toward Traditional Tohono O'odham Foods*. Sells, AZ: Tohono O'odham Community Action and Tohono O'odham Community College.
- McMurry, M.P., M.T. Cerqueira, S.L. Connor, and W.E. Connor. 1991. "Changes in Lipid and Lipoprotein Levels and Body Weight in Tarahumara Indians after Consumption of an Affluent Diet," *New England Journal of Medicine* 325:1704-08.
- Murphy, N.J., C.D. Schraer, M.C. Thiele, et al. 1995. "Dietary Change and Obesity Associated with Glucose Intolerance in Alaska Natives," *Journal of the American Dietetic Association* 95:676-82.

- Popkin, B.M. 1994. "The Nutrition Transition in Low-income Countries: An Emerging Crisis," *Nutrition Review* 52:285-98.
- Smith, C.J., R.G. Nelson, S.A. Hardy et al. 1996. "Survey of the Diet of Pima Indians Using Quantitative Food Frequency Assessment and 24-hour Recall: The Diabetic Renal Study." *Journal of the American Dietetic Association* 96:778-84.
- Smith, C.J., E.M. Manahan, and S.G. Pablo. 1993. "Food Habit and Cultural Changes Among the Pima Indians." In Joe, J.R. and R.S. Young (Eds.) *Diabetes as a Disease of Civilization*. Berlin, New York: Mouton de Gruyter.
- Story, M., D. Neumark-Sztainer, M.D. Resnick, et al. 1998a. "Psychosocial Factors and Health Behaviors Associated with Inadequate Fruit and Vegetable Intake among American-Indian and Alaska-Native Adolescents." *Journal of Nutrition Education* 30(2):100-06.
- Story, M., K.F. Strauss, E. Zephier, et al. 1998b. "Nutritional Concerns in American Indians and Alaska Natives: Transitions and Future Directions," *Journal of the American Dietetic Association* 98(2):170-76.
- Swinburn, B.A., V. L. Boyce, R.N. Bergman, et al. 1991. "Deterioration in Carbohydrate Metabolism and Lipoprotein Changes Induced by Modern, High-fat Diet in Pima Indians and Caucasians," *Journal of Clinical Endocrinology and Metabolism* 73:156-65.
- Teufel, N. I. and D. Dufour. 1990. "Patterns of Food Use and Nutrient Intake of Obese and Non-obese Hualapai Indian Women of Arizona," *Journal of the American Dietetic Association* 90(9):1229-35.
- U.S. Department of Agriculture, Food and Nutrition Service. 2003a. Footnote on table "Costs of Food Distribution Programs," Available: [http://www.fns.usda.gov/pd/fd\\$sum.htm](http://www.fns.usda.gov/pd/fd$sum.htm). Accessed April 2003.
- U.S. Department of Agriculture, Food and Nutrition Service. 2003b. "Food Distribution Programs: FAQs About FDPIR." Available: <http://www.fns.usda.gov/fdd/programs/fdpir/fdpir-faqs.htm>. Accessed June 2003.
- U.S. Department of Agriculture, Food and Nutrition Service. 2003c. Program data. Available: <http://www.fns.usda.gov/pd>. Accessed April 2003.
- U.S. Department of Agriculture, Food and Nutrition Service. 2002. "Nutrition Program Facts: The Food Distribution Program on Indian Reservations." Available: <http://www.fns.usda.gov/fdd/programs/fdpir/pdpirfaq.htm>. Accessed March 2002.
- U.S. Department of Agriculture, Food and Nutrition Service. 1995. *Improving USDA Commodities: 1995 Tri-Agency Commodity Specification Review Report*. USDA, Food and Nutrition Service.
- U.S. General Accounting Office. 1990. *Food Assistance Programs: Recipient and Expert Views on Food Assistance at Four Indian Reservations: Report to Congressional Requesters*.
- U.S. Senate Committee on Indian Affairs and Senate Committee on Nutrition and Forestry. 1993. *Barriers to Participation in the Food Stamp Program and Other Programs of the Department of Agriculture by People Residing on Indian Lands: Joint Hearing Before the Committee on Indian Affairs, United States Senate, and the Committee on Agriculture, United States One Hundred Third Congress, First Session*.
- Usher, C.L. D.S. Shanklin, and J.B. Wildfire. 1990. *Evaluation of the Food Distribution Program on Indian Reservations (FDPIR). Volume I. Final Report*. USDA, Food and Nutrition Service.
- Van Duzen, J., J.P. Carter, and R. Vander Zwagg. 1976. "Protein and Calorie Malnutrition among Preschool Navajo Indian Children, a Follow-up." *American Journal of Clinical Nutrition* 29(6):657-62.
- Vaughan, L.A., D.C. Benyshek, and J.F. Martin. 1997. "Food Acquisition Habits, Nutrient Intakes, and Anthropometric Data of Havasupai Adults," *Journal of the American Dietetic Association* 97(11):1275-82.
- Williams, D.E., W.C. Knowler, C.J. Smith, et al. 2001. "The Effect of Indian or Anglo Dietary Preference on the Incidence of Diabetes in Pima Indians," *Diabetes Care* 24(5):811-16.
- Wolfe, W.S., and D. Sanjur. 1988. "Contemporary Diet and Body Weight of Navajo Women Receiving Food Assistance: An Ethnographic and Nutritional Investigation," *Journal of the American Dietetic Association* 88:822-27.