

THE U.S. FOOD SUPPLY SERIES AND DIETARY GUIDANCE

INSIGHT 10

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Dietary guidance to improve the public health and well-being of Americans has been in place since early this century—a period similar to that covered by the U.S. food supply series. The translation of this dietary guidance into recommendations for a healthful diet and the successful implementation of these recommendations require that the consumer has greater access to affordable health-promoting foods. Thus, the quantity and nutrient composition of the foods available for consumption are vital to increasing the prevalence of healthy eating. Technological alterations, the designing of foods, and enrichment and fortification policy during this century have increased the variety of foods in the food supply as well as enhanced the health benefits associated with these foods.

The U.S. Department of Agriculture's Center for Nutrition Policy and Promotion monitors the U.S. food supply and periodically publishes the report *Nutrient Content of the U.S. Food Supply*. The most recent edition of this report was published in November 1997. Nutrient estimates from this analysis are used to monitor the potential of the food supply to meet the nutritional needs of Americans. Per capita food and nutrient estimates reflect changes in the diet over time and show results of fortification policies and the food industry's response to Federal dietary guidance.

Production Reflects Diet Changes

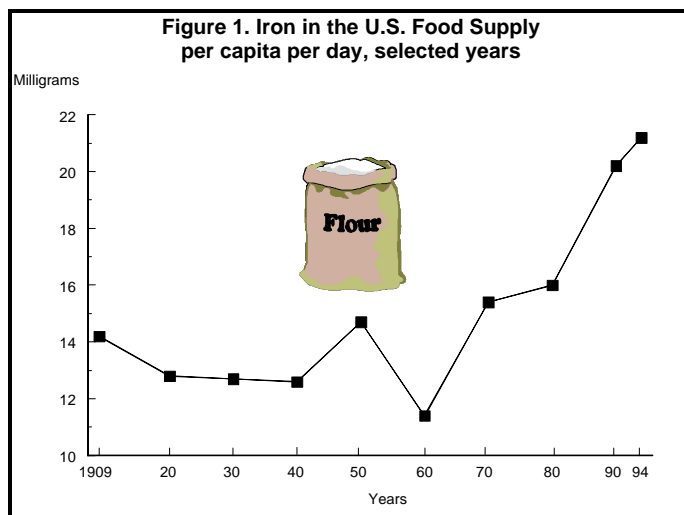
In 1994, all nutrients were at their highest per capita levels since 1970 except for cholesterol, saturated fatty acids, and vitamin B₁₂. Food energy reached an all-time high primarily as a result of more grains, sugars, and sweeteners. Elevated grain levels resulted in increased folate, phosphorus, magnesium, iron, copper, zinc, and potassium. Higher levels of thiamin, niacin, and riboflavin were related to increases in the amount of fortified flour. Larger quantities of fruits and vegetables accounted for higher levels of vitamins A and C, carotene, folate, and potassium. The lower level of vitamin B₁₂ in 1994 resulted from the decreased use of eggs and organ meats, and a lower saturated fat level resulted from the decline in use of whole milk and red meat. Calcium and phosphorus increases reflected greater cheese consumption. This mix of food shifted the major source of dietary fat from animal to plant products.

Changes in Fortification Policy Affects Food Supply

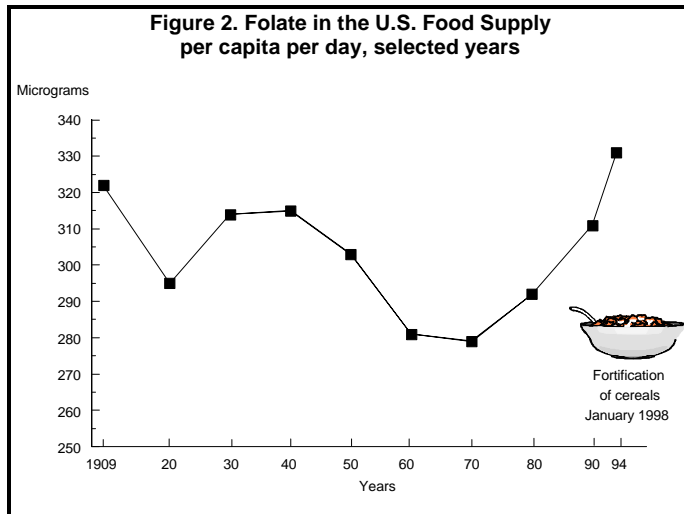
Fortification of the food supply has long been a nutrition policy tool to help meet people's nutrient needs. For example, Federal fortification policy calling for the addition of iron to flour beginning in the early 1940's has ensured that bread and other cereals products—including ready-to-eat cereals—are fortified with iron (Fig. 1). Now, on a per capita basis, the U.S. food supply has ample iron and Americans *overall* consume about one-third more iron than recommended.

Yet, fortification alone is not fail-safe for all. A fortification strategy naturally serves best those groups that consume sufficient amounts of the fortified foods, in this case bread and cereals products. Iron deficiency is the most prevalent nutrient deficiency in the United States because infants, adolescents, and women of child-bearing age with higher iron needs do not consume enough of these foods. For example, according to estimates from USDA's 1994 Continuing Survey of Food Intakes by Individuals (CSFII), women between the ages of 29 and 49 years consumed only 82 to 88 percent of their RDA for iron.

Fortification of cereal grain products and ready-to-eat cereals with folate began in January 1998. For nearly 10 years, studies have shown that infants born to females who take a dietary supplement containing folate have a lower incidence of neural tube defects. As a result, the U.S. Public Health Service recommended in 1992 that women of childbearing age consume 400 micrograms of folic acid daily. The 1994 food supply folate level of

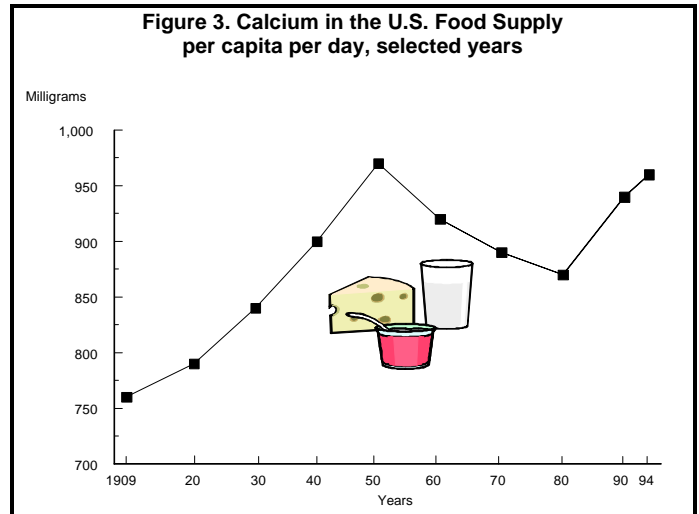


331 micrograms falls short of this recommendation (Fig. 2). Additionally, low folate blood levels in the general population have been linked to vascular disease. With the addition of folate to the food supply, it is anticipated that the food supply will support the Public Health Service recommendations for women of childbearing age and, in part, address the cardiovascular concerns of the general population. However, the National Academy of Sciences has recently issued DRI values which indicate that all of the recommended 400 micrograms must come from fortification or supplementation.



Turning to calcium, Figure 3 indicates that calcium availability increased steadily between 1909 and 1950, fell between 1950 and 1980, and has climbed since then. Calcium is essential to bone health. Adequate calcium intake contributes to healthy bone formation and maintenance. Because current calcium intake may not be adequate, the risk of osteoporosis is increased. In 1997, the Food and Nutrition Board of the Institute of Medicine published the first in a series of reports on DRI values, increasing the recommendations for calcium intake to 1,000 milligrams a day for all Americans over 8 years of age. Higher intake is recommended for individuals over the age of 50 and for children 9 to 18 years. Although not all DRI recommendations are final, the population-weighted average is 1,040 milligrams, which is above the 1994 per capita per day food supply level of 960 milligrams (Fig. 3). Therefore, recommendations could indicate a need to fortify the U.S. food supply to meet calcium requirements of all Americans.

The 1994 CSFII data show that Americans, on average, consumed less than the proposed DRI for calcium. Milk and milk products provide about three-fourths of the calcium in the food supply, but per capita consumption of dairy products has dropped over time. Inadequate calcium intake and the possibility of insufficient calcium in the food supply mean that policymakers and nutrition educators are challenged to design means, including nutrition education, to increase calcium intake of Americans.



Does the U.S. Food Supply Meet the Nutritional Needs of Americans?

While the current food supply meets most nutritional needs of Americans very well, analysis by the Center for Nutrition Policy and Promotion indicates that were Americans to increase their demand for fruits, vegetables, grain products, and lowfat foods recommended by the Food Guide Pyramid and the Dietary Guidelines, there might not be enough to go around. At least not today. Similarly, certain nutrients such as iron, folate, and calcium either are not consumed by all groups who need them the most (women) or are not sufficient in today's food supply. When shortfalls are considered, it is important to note that food supply estimates overstate available nutrient levels because it is difficult to account for cooking loss, plate waste, and spoilage.

What explains the current shortages of some nutrients and some foods? An improved understanding of nutrient requirements and the role of some dietary constituents in disease prevention in the 1990's has led experts to increase recommendations for some nutrients—notably folate and calcium—to levels greater than those provided in the 1994 food supply. Changes in recommendations for other nutrients may identify additional shortfalls in the food supply. Yet, the United States has the most adaptable agricultural production system in the world. Over the years, the food supply has changed in response to consumer demands and government policies. A key factor in improving the nutrient mix in the food supply is to educate consumers to demand nutritious products. U.S. agriculture has indeed the capacity to rapidly respond to meet these additional nutrient needs of Americans.

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