

ucts in any material respect. The Mail Order Consumer Protection Amendments of 1983 enhance the effectiveness of the false representation statute and are designed to address the problems of repeat offenders and “fly by night” promoters who advertise a product, take orders, receive payments, and change addresses without delivering any merchandise (Nelson 1984). This new legislation gives the USPS authority to purchase and test without delay any products or services sold through the mail. The 1983 amendments also authorize the USPS to issue cease-and-desist orders. Such actions, however, are limited by the validity of the address given by the manufacturer. A growing number of promoters are advertising toll-free telephone numbers and then delivering products using private parcel delivery services that are not under the USPS jurisdiction (Debrosse 1984).

Upon showing probable cause that a scheme violates the false representation statute, Federal district courts can order the Postal Service to detain mail. Apparent violations of the postal fraud and misrepresentation statutes are investigated by the Postal Inspection Service. Suspected criminal violations are referred to the appropriate U.S. attorney.

Federal Trade Commission Authority. The FTC’s authority to act against deceptive food, drug, or other health claims derives from sections 5 and 12 of the Federal Trade Commission Act. Section 5 of the Act identifies unlawful, unfair, and deceptive acts and practices in or affecting commerce. Section 12 of the Act specifically prohibits the use of false advertisements regarding food, drugs, devices, or cosmetics. The Commission can act under one or both sections to halt certain food, drug, or other health care acts or practices.

Deceptive as well as fraudulent food, drug, and health care advertising claims that induce people to purchase ineffective cures and nostrums are important areas of FTC enforcement activity (Crawford 1984). A special effort has been instituted to monitor claims for health care products, many of which may fit into the fraud category. The FTC has implemented special programs to monitor the advertising of some types of fraudulent products in tabloid publications and health magazines directed toward nontraditional disease treatments. The FTC also monitors radio and television networks and major newspapers and magazines to identify targets for Commission action. Such targets are also identified through ongoing contacts with other State and Federal officials and private groups.

Key Issues

- Health Consequences of Fraud
- Economic Consequences of Fraud

Purveyors of nutrition fraud capitalize on people's desire to be healthy and on the lack of certainty in many areas of nutrition and health. Although the public may be injured by deceptive food claims, there are no reliable statistics on the extent of health and nutrition fraud in this country (Young 1984).

Health Consequences of Fraud

Nutrition fraud may lead to deleterious health consequences, caused by the failure to seek legitimate medical care, by potentially toxic components of foods and products, by nutrient toxicities and deficiencies, by diversion of monies from essential treatments, and by interference with sound nutrition education.

Failure to Seek Legitimate Medical Care

Public health and safety can be jeopardized by false promises that divert or deter individuals from pursuing sound forms of medical treatment or that encourage them to abandon beneficial therapy for a disease (McBean and Speckmann 1974). Fraud may encourage people to reject legitimate medical advice and to practice inappropriate self-medication that is less likely to be helpful, and more likely to be directly harmful, than medical technology based on a sound understanding of human biology and nutrition.

The FDA's annual reports document numerous instances of fraud-induced failure to obtain appropriate health care (Young 1985). Because early detection and treatment improve the prognosis for many illnesses, unproven "nutritional" therapies may unnecessarily delay beneficial intervention (Brown 1984). Some diet regimens recommended by health faddists to treat cancer, for example, are so nutritionally deficient or toxic that adherence to them has caused death or serious illness (U.S. Congress 1984b). Although evidence is increasing that a proper diet may reduce the risk of developing some forms of cancer, no diet or supplement can yet be guaranteed to protect against—or to treat—these conditions.

Promotions of foods designed to treat various disorders are often targeted to vulnerable populations (U.S. Congress 1984a). The use of these food

products accomplishes little besides increasing the market share of the company making the fraudulent claims.

Potentially Toxic Food Components

Public injury can occur when foods and unproven remedies are toxic. Just because a substance occurs naturally in food does not mean that it is necessarily safe (Herbert and Barrett 1981). Many of the chemicals known to be present in herbs, for example, have never been tested for safety (Larkin 1983). Some plant foods contain potentially unsafe, pharmacologically active ingredients such as aflatoxin, one of the most potent carcinogens known. Few buyers are aware of the harmful components in these products (Anonymous 1979).

There has been a substantial increase in the use of herbal products (Siegel 1976) that may contain pharmacologically active ingredients that can possibly produce undesirable effects such as an increase in blood pressure (Brody 1978). Occasional poisonings and clinical intoxications are reported after the use of herbal tea products (Huxtable 1980; Siegel 1976; Larkin 1983). Ginseng, one of the most popular herbs in the United States, has been reported to produce estrogen-like effects in some people (Siegel 1979; Greenspan 1983). From present evidence, it cannot be concluded that all herbal products can be consumed safely over extended periods of time (Larkin 1983).

Potentially harmful ingredients have been identified in samples of other food supplements, such as an estrogenic hormone in commercial alfalfa tablets (Elakovich and Hampton 1984), arsenic in kelp tablets (Walkiw and Douglas 1975), and cadmium in dolomite (Boulos et al. 1983). Potentially toxic amounts of lead in bonemeal and dolomite have caused the FDA to caution against use of these products, particularly by pregnant women and young children (FDA 1982).

Nutrient Toxicities and Deficiencies

Frauds and fads may induce nutrient toxicities or deficiencies (Henderson 1974). Many people take vitamins as self-medication for the prevention or treatment of health problems (Levy and Schucker 1987). An estimated 40 percent of U.S. adults consume vitamins, minerals, and/or miscellaneous dietary components as supplements. The use of these products varies with such demographic factors as geographic region, education, income, and race. Women are more frequent consumers than men. Intake ranges widely, extending up to 10 to 50 times the Recommended Dietary Allowance

(RDA) for individual nutrients (Stewart et al. 1985). Data from the National Health and Nutrition Examination Survey suggest that individuals with better nutritional intake patterns are the predominant users of supplements. Thus, supplement users may not be the individuals most in need of them (Shank and Wilkening 1986).

Nutrient supplements are usually safe in amounts corresponding to the RDA, but the RDA's are already set to provide maximum benefit consistent with safety. Thus, there is no reason to think that larger doses will improve health in already healthy people, and excess intake can be harmful. Megadose intakes (often defined as 10 or more times recommended levels) can have seriously harmful effects (Rudman and Williams 1983; Herbert 1980; Dubick and Rucker 1983a). The toxicity of high dosages of vitamins A and D is well established (DiPalma and Ritchie 1977). Although water-soluble vitamins are relatively nontoxic, some of them also are reported to produce toxic effects at high doses (Alhadeff, Gualtieri, and Lipton 1984). Because the margin is narrow between a safe and a toxic dose of most trace elements, excessive supplementation with these substances may be particularly hazardous.

Excessively restrictive dietary practices can also induce serious medical problems or even death. Popular weight reduction products, for example, provide very low daily calorie intakes (Newmark and Williamson 1983b). Because such products have been associated with the deaths of some young women, the FDA now requires warnings on labels to alert consumers of the potential of such products (FDA 1984).

Many popular diets are potentially harmful because they eliminate food groups or severely limit food variety (Council on Foods and Nutrition 1973; Barrett 1981; Willis 1982). Examples include the Atkins, Stillman, and other weight reduction diets that drastically reduce carbohydrate intake and the Beverly Hills Diet, which advocates excessive fruit consumption. Fad diets seldom produce long-lasting weight control (Newmark and Williamson 1983a). Highly restricted diets, such as the more extreme forms of Zen macrobiotics, have led to nutritional deficiencies, starvation, and even death in a few individuals (Council on Foods and Nutrition 1971; Newmark and Williamson 1983a). Such diets also have been associated with retarded fetal development and childhood growth or other nutritional problems in young children (Dwyer et al. 1983).

Interference With Sound Nutrition Education

Commercial interests have capitalized on a heightened public awareness of nutrition and health issues, but much of the public cannot evaluate the validity of available weight reduction schemes, supplements, and services (White and Selvey 1982). Self-appointed health and nutrition advisors have expressed distrust of proven public health measures such as fluoridation and pasteurization and, instead, have promoted treatment alternatives that are not supported by accepted medical practice (Jarvis 1983). The public also may be misled by extravagant claims of health benefits from the use of certain foods or nutrient supplements (Council on Scientific Affairs 1979; White and Selvey 1982).

Economic Consequences of Fraud

Impact on Consumers

People experience economic injury when purported remedies and cures do not work, are untrue, or are greatly exaggerated or when purchased products are not needed. Fraudulent products are known to be extremely profitable for those who sell them. A 1984 report by the Subcommittee on Health and Long-Term Care of the Select Committee on Aging, for example, stated:

. . . the practice of quackery . . . now invades nearly every aspect of our lives, and, at points, attracts adherents with . . . a keen sense of the vulnerability of potential customers, the limitations of the law and the profitability of exploiting both. Quackery has become big business. Twenty-five years ago, quackery was said to cost \$1–2 billion a year. Today, it probably totals at least \$10 billion (U.S. Congress 1984b).

This estimate is probably conservative because it does not include the sales of weight reduction pills and diet cures, which alone are estimated to cost \$5 to \$6 billion yearly (Halamandaris 1984).

Many fraudulent products and services can be very costly yet are promoted as having nutritional or health benefits that have not been substantiated in the scientific literature (Meister 1984; Dubick and Rucker 1983a, 1983b; Herbert 1980; Larkin 1984; Anonymous 1985). Examples include:

- Superoxide dismutase (SOD) and nucleic acids (RNA and DNA) as antiaging remedies.
- Bee pollen as a source of youth and health and as an energy pill for athletes.

- Lecithin in combination with vinegar, kelp, and vitamin B₆ for the prevention and cure of heart disease and as a diet aid.
- Spirulina and glucomannan as diet aids.
- Ginseng as a panacea for many ailments.
- Alfalfa tablets for treatment of arthritis.
- Aloe vera for treatment of an array of unrelated medical conditions.
- Para-aminobenzoic acid (PABA) as an essential or curative nutrient.
- Pangamic acid, the so-called vitamin B₁₅, as an essential nutrient.
- Hair analysis for determination of nutritional status.
- Oral chelation products as treatment for heart disease.

The public incurs other costs because many products labeled as “natural” or “organic” sell for higher prices than their “regular” counterparts, although their special benefits are not generally demonstrable (Gourdine, Traiger, and Cohen 1983). “Natural” vitamins, for example, often sell at twice the price of synthetic products even though they are chemically identical. In some such products labeled as “natural,” only a minor fraction of the vitamin is actually derived from natural sources (Seneker 1979; FDA 1979).

Although many food supplements are of unproven benefit, the food supplement industry has expanded rapidly over the past several years (Stewart et al. 1985). Consumer spending for the entire nutritional supplement market—which includes nonprescription vitamins, minerals, and other products—was estimated to approach \$2.7 billion for 1983, an increase of 5.3 percent over the 1982 sales volume (Ehrlich 1985).

Impact on Responsible Industry

Nutrition fraud can also have an adverse economic impact on responsible members of the food industry. The false claims made by food faddists and promoters of fraudulent products cause confusion in the minds of consumers and may result in a distrust of the regular food supply and its products—a distrust that may paradoxically increase the frequency and severity of poor nutritional practices and food quackery. Although regulatory agencies are responsible for maintaining a fair marketing environment, the cost of combatting fraudulent activities often exceeds the available regulatory resources.

Summary

In summary, nutrition fraud in its various forms is prevalent in this country. Health professionals and other authorities consider it to be a significant public health problem, as well as one that can affect economic well-being. Furthermore, the use of sophisticated communication marketing techniques has substantially increased public exposure to nutrition fraud.

Implications for Public Health Policy

Dietary Guidance

General Public

Running counter to—and sometimes capitalizing on—legitimate gains in scientific understanding of the relationships between diet and health, food faddism and nutrition fraud are increasingly prevalent in the United States. Although most of the adverse consequences of this trend are economic, fraud can cause significant health consequences to individuals as a result of direct toxicity and as a result of failure to seek appropriate medical care or to engage in genuinely healthful dietary practices. Cooperative educational efforts by Government, health professionals, and the private sector, including the news media, are needed to expose emerging fads and frauds before they are widely accepted. One approach to this end is general public education to reinforce the basic principles of sound nutrition as stated in the *Dietary Guidelines for Americans*. Another approach is to direct the public to responsible sources of nutrition information.

Special Populations

Special efforts should be directed toward older persons, who are the target of much nutrition fraud. Cooperative educational efforts by Government and the private sector, such as current collaborations of the FDA with the Pharmaceutical Advertising Council and the Council of Better Business Bureaus, can provide effective support for Government enforcement programs. People with chronic debilitating illnesses—such as cancer, coronary heart disease, arthritis, or Alzheimer's disease—may be especially susceptible to fads and frauds, and health providers should be informed about the most common schemes in each area and should be involved in the effort to forewarn patients.

Nutrition Programs and Services

Food Labels

Food labels should contain information about nutrient content that is provided in a straightforward, effective, and efficient way. Should a health-claims-approved program be implemented, claims for a particular product should be presented in a manner that is most informative, scientifically sound, and not misleading to consumers.

Food Services

Education provided in the context of food services should emphasize general principles of sound nutrition for the general public and inform people about the nature of and problems associated with common nutritional frauds and fads.

Food Products

The FDA is charged with ensuring that misleading claims about foods are not presented to the public and that specific foods are not promoted as therapeutic or preventive agents unless there is adequate documentation to support such claims. Continued support for, and vigilance by, the FDA is important in this regard. A cornerstone of this effort is close coordination of regulation and enforcement activities of the various agencies at the Federal, State, and local levels through coalitions developed against nutrition fraud.

Research and Surveillance

Research and surveillance issues of special priority related to the issue of food fads and frauds should include investigations into:

- Frequency and type of fraudulent claims and harmful effects.
- Establishment of safe levels of essential nutrients as well as other components in food.
- The personal and behavioral factors that enhance response to certain unscientific claims and ways to counter them.
- The level of use of vitamin, mineral, and food components that may induce nutrient toxicities or deficiencies by the general public.

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