

Improvements are needed in hospital diets to meet dietary guidelines for health promotion and disease prevention

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An overwhelming body of research supports the relationship of dietary patterns containing excessive energy, fat, saturated fat, cholesterol, and salt (but inadequate fiber) to an increased risk for coronary heart disease, certain cancers, diabetes, stroke, and other highly prevalent chronic diseases (1-3). In 1989, on the basis of such research, the National Research Council proposed dietary guidelines for promoting health and reducing risk factors for chronic disease. These guidelines were to reduce dietary fat intake to an average of 30% of energy or less, saturated fat intake to 10% of energy or less, and cholesterol to 300 mg/day or less; to eat at least 5 servings of fruits and vegetables and 6 servings of grains daily; to limit total intake of salt to 6 g/day; and to maintain a calcium intake of at least 800 mg/day (1). These recommendations were quite similar to those published previously by the US Public Health Service (2).

In 1990, the National Research Council guidelines were incorporated directly into national nutritional objectives for health promotion and disease prevention as components of the Healthy People 2000 initiative (3). Additional nutritional objectives in this initiative called for more informative nutrition labeling on packaged foods, an increase in the proportion of institutional foodservice operations that offer low-fat food choices consistent with the Dietary Guidelines for Americans (4), and an increase in the proportion of primary care providers who provide nutrition counseling or nutrition referrals to patients (3).

This last objective emphasizes the important role of health care personnel in encouraging patients and the general public to improve dietary intake. Many health care providers work in hospitals. In recognition of the need for hospitals to provide patients with adequate energy and nutrients, and to prevent nutrient deficiencies among hospitalized patients, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) requires hospital menus to be supervised by a qualified dietitian (5) and to meet dietary intake standards equivalent to the Recommended Dietary Allowances (RDAs) (6). Neither the RDAs nor the JCAHO guidelines, however, address dietary standards for prevention of diet-related chronic diseases, which are far more prevalent among Americans than deficiency conditions. In this era of increasing federal and public interest in health promotion and disease prevention, we believe teaching hospitals should be setting more appropriate nutrition standards for the meals they serve to patients—standards that meet dietary guidelines for prevention of chronic disease as well as for prevention of nutrient deficiencies.

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DEFINING THE PROBLEM

We were interested in discovering whether the “default” house diets of university hospitals in the United States, that is, diets given in the absence of any specific request by physician or patient, reflected current dietary guidelines and whether hospital menus provided informative nutrition labeling or any other information that might advise patients about reducing dietary risk factors for chronic diseases. We surveyed dietary department directors of all hospitals that were members of the University Hospital Consortium at the survey time. The consortium is an organization that facilitates the sharing of information among academic health centers throughout the United States. We selected this consortium because it includes many of the most prominent academic institutions in the country—institutions that might be expected to be at the forefront of health care delivery systems. Of the 65 foodservice directors in consortium hospitals, 59 (91%) responded to our survey (7).

We analyzed the default menus from these hospitals for energy and nutrient composition using a computerized nutrient analysis program (N-Squared Nutritionist IV, version 3.0, 1994, N-Squared Computing, Silverton, Ore). The Table displays the results. These data indicate that although the house diets of virtually all teaching hospitals met at least 1 dietary recommendation, and nearly half the hospitals met the majority of objectives, few met all (7). Indeed, the menus of only 4 hospitals met all of the Healthy People 2000 dietary objectives. The default menus of some hospitals tended to be higher (sometimes much higher) in total fat, saturated fat, cholesterol, and sodium than US Public Health Service recommends.

Although most menus offered more than the minimum recommended servings of fruit, vegetables, and grains, the content of dietary fiber in these servings met recommendations of the National Cancer Institute (8) in only about half the hospitals, most probably because juices counted as fruit servings. In addition, only about half of the dietary departments supplied patients with menus that included information on which to base informed decisions about healthful dietary choices. Even so, these results are better than those of Israeli investigators who reported that none of that country's university hospitals served diets that met dietary goals of the American Heart Association (9).

Our study was based on a computerized analysis of default menus; it did not analyze foods actually consumed by patients. Despite this limitation, we believe patients will have an easier time selecting healthful diets from menus that meet dietary guidelines, and that there is considerable room for improvement in the nutritional quality of hospital diets. We also think this situation presents excellent opportunities for hospital-based dietitians to take leadership roles in overcoming barriers to provision of improved diets to patients, roles that are well within the standards of practice for clinical dietary managers (10).

HOSPITAL BARRIERS TO HEALTHFUL DIETS

The hospital setting itself may establish barriers to provision of better menus and to patient consumption of more healthful diets. We have observed barriers such as those summarized in

Table
Nutrition analysis of house diets at university hospitals^a

	Median amount provided		Recommended daily intake	Hospitals meeting recommendation	
	Per day	Range		No.	%
Energy (kcal)	2,492	1,837-3,000
% of energy from fat	29	20.0-40.0	<30	35	61
% of energy from saturated fat	9.9	5.6-14.3	<10	30	53
Cholesterol (mg)	494	145-1,002	<300	11	19
Sodium (mg)	6,095	2,117-9,838	<6,000	26	46
Calcium (mg)	1,132	603-1,550	>800	52	91
Fruit and vegetable servings (no.)	6.3	2.9-10.1	>5	50	88
Grain servings (no.)	12.6	2.0-17.4	>6	53	93
Dietary fiber (g)	16.2	6.0-31.0	>20	28	49

^aMenus provided by 57 hospital dietary departments (average of 3 days).

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the Figure. A principal reason for noncompliance of hospital diets with dietary guidelines is the focus of physicians and hospitals on treatment of illness rather than its prevention. Patients are in hospitals because they are ill, and treatment issues take precedence over prevention in the immediate crisis. Short hospital stays, now increasingly the norm, leave even less time for patient education.

The nonspecific requirements of JCAHO and state regulatory agencies constitute another barrier. Typically, regulations require only that hospital menus be supervised by a qualified dietitian and that they meet "standards for nutritional care" (5) as well as the RDAs (6). Such stipulations focus on prevention of nutrient deficiencies but do not address prevention of chronic diseases or health promotion.

Our observations suggest that physicians and hospital directors may be insufficiently supportive of or involved with the work of dietetics professionals in attempting to improve hospital menus. Often physicians are uncomfortable dealing with dietary issues as a result of their lack of training in nutrition (11-13). Although many physicians believe dietary modification is important for their patients, they report feeling ill-prepared to counsel patients about dietary behaviors (14). Here is yet another reason why increased emphasis on nutrition during undergraduate medical education is essential; it could well result in greater physician support for the work of dietitians, especially as practical resources are available to support such efforts (15).

It is possible that some dietary directors might assume that diets higher in fat, cholesterol, and salt taste better than more healthful diets and continue to serve them to encourage hospitalized patients, who often consume substantially less energy and nutrients than required (16-21), to increase their dietary intake and improve their satisfaction with their hospital stay. Taste and health are perfectly compatible, as indicated by the plethora of gourmet cookbooks that provide delicious recipes that meet current dietary recommendations (22,23). Such cookbooks also demonstrate how to use standard culinary techniques to improve flavor without adding fat and to make foods visually appealing (24). Substituting more healthful items for foods high in fat, saturated fat, salt, and cholesterol, and offering a greater variety of well-prepared grains and vegetables, should be a useful first step in improving the dietary intake of all but the most seriously ill patients.

Some of our colleagues have insisted that instituting more healthful menus will raise the costs of hospital stays. At least some evidence argues otherwise. A British study (25), for example, has demonstrated the feasibility and relative ease of

introducing more healthful diets to patients in a small community hospital. This diet was found to be just as inexpensive and acceptable to patients and staff as the previous diet; it was achieved simply by altering the ingredients and methods of food preparation used. Reducing the number of meal choices is another alternative, because diets that meet standard recommendations are appropriate for treatment of most disease conditions as well as for the general health of the public (1,2).

We frequently hear concerns from colleagues that it is extremely difficult to design menus that consistently meet the RDAs and the US Dietary Guidelines (26). Colleagues tell us that patients are too ill to eat; staff cannot be "retrained"; and menus that include more fruits and vegetables and less fat are too expensive, too tasteless, and not worth the trouble. Although we acknowledge these difficulties, we are impressed that nutritionally modified items have been judged acceptable by consumers in restaurants (27) and worksite cafeterias (28), which suggests that modified hospital meals might also be acceptable, especially if care is taken with presentation (29). Some dietary directors in hospitals have set an example by improving their menus at no increase in cost and accomplishing this feat by recruiting well-trained chefs, using better ingredients, improving flavor with lemon juice and herbs, and limiting the number of menu options offered to patients (30).

RECOMMENDATIONS FOR ACTION

Hospitals are optimally positioned in the health care system to provide preventive services, including dietary guidance, to patients. In many respects, a period of hospitalization constitutes a critical stage of rehabilitation during which patients may be especially receptive to recommended lifestyle changes and are motivated by an immediate recollection of the acute event that led to their admission. Research indicates that many patients value healthful food during convalescence. At least 1 study has reported that a substantial proportion of discharged patients, most of whom believed hospital diets to be nutritious, identified food as an important factor in their choice of hospital (31). Studies indicate that it is possible to improve the nutrient intake of patients with cardiac disease, for example, during the rehabilitation period (32). Thus, hospitalization can provide a unique window of opportunity for dietitians and physicians to educate patients about dietary choices to improve health. Nutrition support is well known to improve the prognosis and quality of life of hospitalized patients (33), and it seems likely that improved diets could serve a similar function in reducing risk factors for chronic diseases. Our observations suggest that hospitalization provides a teaching opportunity for which hos-

- Focus on disease treatment rather than prevention
- Regulatory limitations of Joint Commission on Accreditation of Healthcare Organizations and states
- Lack of nutrition training among physicians
- Concerns that healthful foods do not taste good
- Concerns about meeting patients' tastes and expectations
- Concerns that healthful diets cost more
- Pessimistic staff attitudes: "It just can't be done."

Barriers to improvement of hospital diets

pital dietitians are ideally suited and even more ideally positioned (10).

Dietitians and physicians, working together, can successfully address many of the barriers that may impede provision of more healthful—and better tasting—diets to hospitalized patients by taking action at several levels. We recommend that

- JCAHO and state guidelines be expanded to include standards for prevention of risk factors for chronic disease as well as of nutrient deficiencies;
- dietary directors continue to develop recipes and menus consistent with dietary guidelines for health promotion and disease prevention;
- dietary directors work with professional chefs to improve the sensory qualities of foods served to patients;
- foodservice staff be trained in purchasing, preparing, and serving meals lower in fat and higher in fruits, vegetables, grains;
- hospital staff explore options for improving meals without raising costs (eg, similar menus for patients and staff, limited menu choices, bulk orders, and other appropriate options);
- hospital directors establish dietary improvement as a priority and support efforts of the dietary staff to do so;
- dietary staff develop and disseminate patient educational materials based on the Dietary Guidelines (4) and the Food Guide Pyramid (34) that are appropriate for the specific patient population;
- members of the dietary services as well as the nursing, medical, pharmacy, and administrative staff establish a formal committee to evaluate hospital diets, review educational materials, and report to the medical board on a regular basis;
- the US Public Health Service revise national nutritional objectives for Healthy People 2010 to put greater emphasis on the need for hospitals to provide meals that adhere to dietary guidelines;
- researchers conduct investigations to determine how best to develop and implement menus that meet dietary recommendations, are enjoyed by patients, and raise no extra hospital costs.

Although hospital diets continue to evolve, there is still much room for improvement to meet national dietary guidelines for prevention of chronic disease and prevention of nutrient deficiencies. Nutrition professionals, physicians, nurses, and hospital administrators, together with patients, must practice what they preach if they are to successfully overcome barriers to more healthful hospital diets.

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