Symposium: Innovative Teaching Strategies for Training Physicians in Clinical Nutrition: The Nutrition Academic Award (NAA) Medical Schools

Teaching Nutrition Skills to Primary Care Practitioners[1,2]

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ABSTRACT Primary care physicians have the potential to decrease morbidity and mortality for many chronic diseases if they provide effective nutrition counseling. Given the time constraints of primary care practice, nutrition counseling needs to be brief, be part of an organized office system and refer appropriate patients to qualified nutrition professionals to be effective. This paper reviews a system of primary care nutrition counseling using the 5A's of patient-centered counseling, the elements necessary to develop an office-based system and some successful tools developed by nutrition researchers for the primary care setting to be used in an office-based system. J. Nutr. 133: 563S–566S, 2003.

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Nutrition-related diseases such as coronary heart disease, stroke, hypertension, diabetes mellitus and certain cancers are the leading causes of morbidity and mortality in the United States and most developed western societies. It has been estimated that between 300,000 to 800,000 deaths per year could be prevented in the United States, if Americans followed national dietary recommendations (1). Most Americans have a primary care physician whom they see on average at least once every 2 y. Office visits to primary care physicians' offices could be an effective method to provide nutrition assessment and counseling and impact on the morbidity and mortality of these leading causes of death. Noting this fact, the Healthy People 2010 Health Objectives and the U.S. Preventive Services Task Force have enumerated specific nutrition counseling recommendations for primary care physicians (2,3). In addition, specific clinical guidelines regarding hypertension, hypercholesterolemia and diabetes mellitus contain specific nutrition counseling recommendations (4–7).

Primary care physicians are receptive to this idea, with 72% considering it their responsibility to perform nutrition counseling (8). However, the frequency and time spent in nutrition counseling by primary care physicians suggest that this responsibility turns into effective action much less commonly. Nonacute visits to primary care include nutrition counseling only 30–42% of the time and primary care physicians perform nutrition counseling at visits for cardiovascular disease, hypertension and diabetes mellitus only 25–45% of the time (2,9). The time spent in nutrition counseling in primary care is usually less than 5 min per patient, with the average time being 1 min (9,10). This counseling needs to be understood in the context of an average office visit lasting 10–16 min (11).

Thus nutrition counseling in the primary care office setting needs to be performed more frequently, although it is unlikely that it will be done unless it can be accomplished in a short period of time.

Several investigators have enumerated the barriers to effective preventive counseling by primary care physicians (12,13). Applied to nutrition counseling, these include the following:

1. Uncertainty of the effectiveness of nutrition counseling
2. Inadequate skills in providing nutrition counseling
3. Lack of financial incentives
4. Lack of systematic, organized approach within the practice

The effectiveness of nutrition counseling in changing dietary habits in primary care settings is well documented in numerous clinical trials (14–20). Most studies did not use primary care physicians as the sole source of the nutrition counseling but rather used a combination of health educators, nurses or dieticians and self-help materials and an office-based organized approach to nutrition counseling (21). Physicians

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can gain the skills necessary to perform effective nutrition counseling. By use of a 5A's behavioral approach—Address the agenda, Assess, Advise, Assist, Arrange Follow-up—primary care physicians have demonstrated that they can be trained and can effectively help patients lower blood cholesterol through dietary counseling and an office-based systems approach (14,22,23). The purpose of this paper is to discuss how to develop an effective office-based system regarding nutrition counseling in a primary care setting and to share some effective tools used in office-based nutrition counseling projects.

Office-based systems

Several large trials have been performed using the concept of organizing primary care practices around improving preventive services utilization, with nutrition counseling being one of the prevention services offered (14,24).

The Health Education and Research Trial (HEART) Project was a multicenter randomized trial that tested methods to improve primary care practice systems for heart disease prevention in 45 primary care practices in the Midwest (24). The investigators found that certain practices were able to adopt an office systems approach more effectively than others. Using cross-case analysis, they identified eight factors that influenced which practices were able to develop effective office-based systems (25). These factors included effective leadership; priority setting for preventive services; joint planning by physicians, staff, and office administration; cooperation and teamwork; acquisition of resources for preventive services; increased support and ownership for the planning and implementation process; accomplishment of office systems improvements; and personal changes of physicians or staff (e.g., changing diet, losing weight).

Major influences that hindered office system improvements included patient load, turmoil related to reorganization, lack of widespread office routines, hospital-affiliated practice, poor communication and fragmentation within a clinic.

From this and other prevention projects, the Agency for Healthcare Research and Quality (AHQR) developed a workbook on organizing an office system for delivering preventive services, Putting Prevention into Practice (PPIP), which is available at http://www.ahrq.gov/ppip/manual (26).

Applying these principles of organizing an office system to nutrition, the following eight-step approach can be utilized.

Step 1. Develop a written policy for nutrition counseling, targeting patients with specific diagnoses or types of office visits—diabetes mellitus, obesity, hyperlipidemia, hypertension, prenatal care, health maintenance exams.

Step 2. Perform chart audits to determine baseline rates of nutrition counseling for selected conditions.

Step 3. Develop a written plan outlining each person's role and responsibility in the office system to implement nutrition counseling effectively.

Step 4. Find a champion. Choose a well-respected and influential office staff member who will be the coordinator of nutrition counseling within the office.

Step 5. Develop or adapt tools to implement nutrition counseling—a screening tool to assess eating habits; algorithms or guidelines outlining nutrition guidelines for specific diagnoses; patient education materials.

Step 6. Set a start date.

Step 7. Meet frequently to assess how things are going and modify the plan as necessary.

Step 8. Resurvey charts and reassess periodically. Revise goals and plans as necessary.

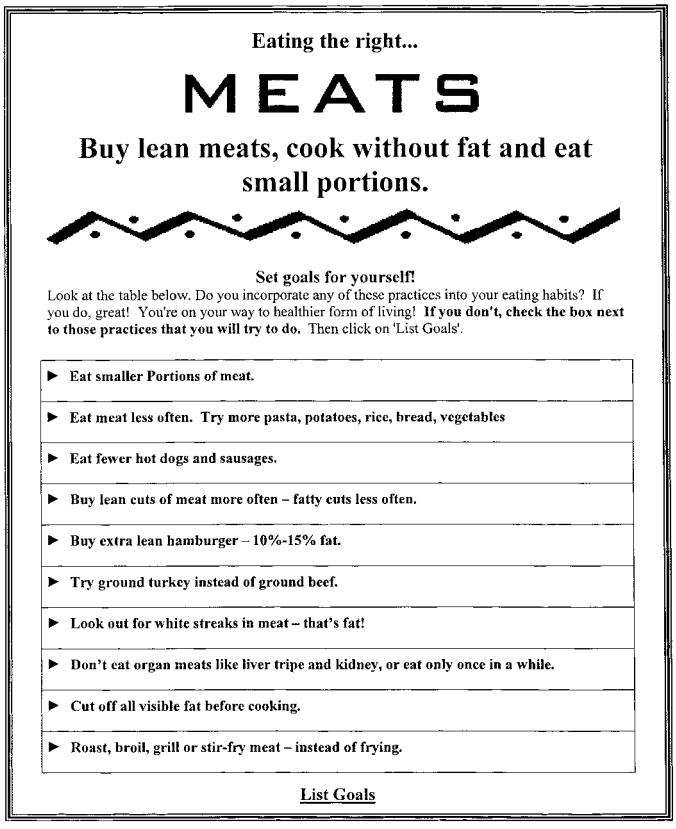
Once a system that identifies patients in need of nutrition counseling is in place, physicians and staff need to have skills training and tools to effectively counsel patients. A physician-delivered nutrition counseling algorithm has been shown to be effective in primary care settings (14). This approach includes five steps:

1. *Address the agenda.* "What you eat is very important for your health or for the management of your (diabetes, high cholesterol, etc.). I recommend that we review your eating habits and try to make some improvements."
2. *Assess.* Patient's motivation, past diet experience and current diet.
3. *Advise.* "Based on your health risks and current diet, I recommend that we focus on _____ (high fat intake, excess calories, inadequate intake of fruits and vegetables)."
4. *Assist.* Negotiate a plan including two or three simple and specific dietary and physical activity goals, addressing possible barriers and ways to handle them. Determine whether the patient needs additional information or help; refer to dietician as needed.
5. *Arrange frequent follow-up*, either by phone contact, email or return visit.

Nutrition counseling tools

Several tools have been developed and successfully used by primary care practitioners to facilitate the establishment of a system of nutrition counseling.

Chronic disease vital sign stamp. Investigators have demonstrated that using a vital sign stamp that includes smoking status has increased smoking cessation counseling and in-


Eating the right...

MEATS

Buy lean meats, cook without fat and eat small portions.

Set goals for yourself!

Look at the table below. Do you incorporate any of these practices into your eating habits? If you do, great! You're on your way to healthier form of living! **If you don't, check the box next to those practices that you will try to do.** Then click on 'List Goals'.

- ► Eat smaller Portions of meat.
- ► Eat meat less often. Try more pasta, potatoes, rice, bread, vegetables
- ► Eat fewer hot dogs and sausages.
- ► Buy lean cuts of meat more often – fatty cuts less often.
- ► Buy extra lean hamburger – 10%-15% fat.
- ► Try ground turkey instead of ground beef.
- ► Look out for white streaks in meat – that's fat!
- ► Don't eat organ meats like liver tripe and kidney, or eat only once in a while.
- ► Cut off all visible fat before cooking.
- ► Roast, broil, grill or stir-fry meat – instead of frying.

List Goals

FIGURE 1 Dietary recommendations for the Meats category: list of goals.

Meats to Choose!

BETTER CHOICES Lean red meats with little visible fat, such as:		EAT LESS Meat with a lot of visible fat such as:	
Extra lean ground beef (no more than 10-15% fat)	Chuck arm roast	Ribs or short ribs	Blade roast
London broil	Top loin	Prime rib	Corned beef
Top or tip round	Rump roast	Regular or lean hamburger	Salami
Filet mignon	Tenderloin	Rib-eye steak	Organ meats/brain, kidney, liver, tongue
Bottom round	Tri-tip roast	Club steak	Hot dogs
Shank	Sirloin	Porterhouse steak	
Eye of round	Ground round or sirloin		
Arm pot roast	Lean roast beef		
Flank steak			
Veal:		**Veal:**	
All, except breast and sausage		Breast, Veal sausage	
Pork:		**Pork:**	
Boneless Ham	Loin chops and roast	Bacon	Arm picnic
Tenderloin	Top loin	Sausage	Blade steaks
Leg/whole, rump, shank	Sirloin chops	Ribs and spareribs	Tripe
Center loin	Canadian bacon	Ground Pork	Salt pork
		Ham patties	
Lamb:		**Lamb:**	
Loin	Whole leg	Rib roast	Shoulder blade chop
Loin chop	Leg, shank and sirloin	Ground lamb	Whole shoulder
Foreshank			
Other:			
Goat	Rabbit		
Venison			

FIGURE 2 Dietary recommendations for the Meats category: list of meat choices.

creased smoking cessation rates (27). It has been suggested that a vital sign stamp including height, weight, waist circumference, body mass index, blood pressure, physical activity and smoking status might improve the identification of patients at risk for nutrition-related diseases and foster more frequent nutrition counseling.

Rate Your Plate. This semiquantitative food frequency questionnaire directs a patient to record his/her eating patterns, and provides an assessment of the nutritional quality of the food choices. This tool has been validated and shown to be an effective part of a program to lower patient's cholesterol in primary care practice, worksites and other community settings (28). Several different versions are available by contacting Dr. Gans or in the appendixes of the reference cited (28). A password-protected interactive version of Rate Your Plate is also available at the Brown University Nutrition Academic Award website http://biomed.brown.edu/courses/nutrition/login.html. To increase efficiency, patients can fill out the questionnaire before the office visit, in the waiting or in the examining room. Providers can be trained to interpret the questionnaire, praise the patient for positive food choices, help the patient determine which nutrition issues are most problematic (Column A) and determine whether the patient would like to change these eating habits. The Let's Eat kit contains a companion set of recommendations for each Rate Your Plate food category, which was developed to encourage brief nutritional counseling (29). **Figure 1** and **Figure 2** are examples of the dietary recommendations for the Meats category. Mutually acceptable goal setting is performed and a nutrition prescription is given.

This tool is also available online at the above web address or by contacting Dr. Gans.

Rapid Eating and Activity Assessment for Patients (REAP). This is a similar tool, developed by the Nutrition Academic Awardees to evaluate and counsel for healthy eating. It is described in a companion paper in this supplement (30).

Heart Disease Prevention (HDP) system. A series of heart disease prevention tools for primary care practices is available from the HEART trial (24) at http://www.fammed.wisc.edu/research/heart/.

For nutrition counseling, several of the tools found under the Patient Education heading are applicable. Low Fat, Low Cholesterol Eating Guidelines (**Fig. 3***A, B*) is an example of the two-page format used for patient handouts on this website. These patient education materials were designed to be simple enough that they could be used by practice staff with minimal nutrition training, could be easily copied when supplies ran low and could be reviewed with the patient in the short time frame of the office visit. Additional nutrition topics are also available, including eating out, weight loss and exercise.

In summary, it is our belief that primary care physicians can provide effective nutrition counseling if they *1*) receive appropriate training, *2*) are given effective tools, *3*) operate in an organized office system that involves all practice staff and focuses on prevention and disease management and *4*) collab-

MAKING CHANGES IN EATING HABITS:

Moderation: try to make small, gradual changes. Instead of eliminating desserts completely, cut your usual portion in half.

Substitution: try the many new low-fat and non-fat versions of your favorites. For example, salad dressings, mayonnaise, cottage cheese, and sour cream are all now available in non-fat forms.

Be honest with yourself: think about changes that are realistic for you. If you love potato chips, you may not be able to give them up entirely, but you might be able to limit your use to once per week.

Start small, think big:
Start with one meal, one snack time, or one problem food, and make changes there first. Your first success will encourage you to keep making more improvements in the way you eat.

Problem Foods, Meals, or Snacks:	Changes I will Try:

Return Visit: _____ (date)

Eating Out the Low-Fat Way

Americans eat between one-third and one-half of their meals away from home. The more often you eat out, the more closely you should watch your choices and portions Here are some suggestions to help you:

- Carefully select your restaurant. Don't hesitate to ask for information about menu items and make requests for changes in preparation methods.
- Broth (not creamed) soups, green salads, or tomato juice are great appetizers.
- Request salad dressing on the side, then dip your fork in the dressing before spearing your salad. You'll have the full taste of the dressing while using only a fraction of the "usual" amount.
- Choose seafood, chicken, or non-fried lean meats. Order small portions of meat (about 3-4 ounces) or ask your server to package the extra for take-home.
- Order a baked potato and control the amount of topping you use. Add variety to your meal by choosing rice or pasta instead of potato.
- Rolls and plain crackers are lower in fat than croissants. Ask your server to remove the butter (and temptation!).
- Anticipate that drinking alcohol will increase your appetite and lower your will power! Try starting off with a glass of ice water instead.
- If the dinner is scheduled for later than usual, have a snack at home, so you'll be pleasantly hungry instead of "starved". It will be easier to stick with your low-fat choices.

FIGURE 3 Low fat, low cholesterol eating guidelines. (*A*) Making changes in eating habits diary; (*B*) Eating out the low fat way.

orate with and refer to qualified nutrition health professionals such as registered dieticians. This effective nutrition counseling could have important health benefits for the U.S. population. Innovative ways to promote this strategy are needed. One proposal is to discount health insurance premiums for patients adopting healthy eating habits and lifestyles and thus providing an incentive for patients to seek nutrition counseling from their primary care providers (31). As part of this initiative, health insurers need to reimburse primary care physicians for providing nutrition counseling at the same level as office visits for acute medical problems.

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