Family Physicians' Cholesterol Testing and Treatment

In this issue of the *JABFP* Eaton et al[1] describe differences in self-reported cholesterol testing, counseling, and treatment among US medical specialists in 1991. Data from the National Ambulatory Medical Care Survey (NAMCS)[2] showed that family physicians (23.5 percent) and cardiologists (13.1 percent) reported performing cholesterol testing much less often during annual health examinations than did general internists (43.5 percent). Combining all age groups, female patients had cholesterol testing done three times more often by general internists than by family physicians. For patients between the ages of 18 and 44 years, family physicians reported measuring cholesterol levels in women much less often than men. For men aged between 45 and 64 years, all 3 specialty groups measured cholesterol levels in only about 25 percent of the annual visits.

All three specialty groups in the NAMCS reported similar rates of cholesterol counseling. Family physicians (13.4 percent) listed lipid medications for their patients less often than general internists (25.1 percent) and cardiologists (28.4 percent). For patients with coronary heart disease and hypercholesterolemia, family physicians (64.4 percent) reported doing more cholesterol-reduction counseling than general internists (47.1 percent) and cardiologists (35.9 percent, but they prescribed the least lipid-lowering medications (13.9 percent versus. 62.5 percent and 34.7 percent, respectively).

What are family physicians to think of these findings? As the disheartened boy who confronted Shoeless Joe Jackson about his role in the 1919 Black Sox baseball scandal, one's first reaction tends to be, "Say it ain't so!" As the authors point out, their methodology estimates only a portion of these physicians' overall cholesterol-related care in 1991, and it might misrepresent any true differences between family physicians, general internists, and cardiologists. Focusing only on annual examinations excludes all cholesterol care done during periodic follow-up visits for chronic illness and during acute illness visits. Most family physicians do considerable cholesterol testing and treatment during these visits. Much cholesterol testing is done through laboratory-only visits initiated by the patient or the physician.

Eaton et al refrained from interpreting the reported cholesterol-testing behavior. Numerous factors influence the desired frequency of cholesterol testing for individual patients. For example, although the National Cholesterol Education Program (NCEP) guidelines[3] recommend routine cholesterol testing every 5 years, it makes little sense to test repeatedly those who clearly have healthy levels of low-density lipoprotein (LDL) and high-density lipoprotein (HDL) cholesterol and triglycerides. It does seem likely, however, that family physicians failed to screen young and middle-aged women adequately for hypercholesterolemia, and that all three specialties failed to test adequately cholesterol levels in 45- to 64-year-old men in 1991.

At first glance, the most striking result was the low rate of reported lipid medication treatment for patients with coronary heart disease. This finding, however, must be interpreted in light of the timing of the study. Not until 1993 did the second report of the NCEP[4] recommend aggressive treatment with lipid medications to lower LDL-cholesterol below 100 mg/dL for patients with coronary heart disease. The most convincing evidence in support of lipid medication treatment did not emerge until 1994 to 1996, when the publication of the Scandanavian Simvastatin Survival Study (4S),[5] West of Scotland,[6] and Cholesterol and Recurrent Events (CARE)[7] studies showed the preventive value of simvastatin and pravastatin.

Based on the explosive growth in pharmaceutical sales of statins, it is clear that prescribing practices for lipid medications have changed considerably since 1991. With respect to the differential treatment rate between specialties in 1991, it is unclear how reliably the list of medications recorded during each encounter included the medications prescribed by other care providers. It is likely that some lipid medications prescribed by cardiologists and general internists were not recorded during patients' annual examinations with their family physicians. Subspecialists must assume their pa-

Submitted 21 January 1998.
From the Baylor Family Practice Center, Baylor College of Medicine, Houston, Tex. Address reprint requests to Michael Crouch, MD, Baylor Family Practice Center, Baylor College of Medicine, 5510 Greenbriar, Houston, TX 77005.

tients take medications prescribed by other physicians, but family physicians sometimes lose sight of this possibility and fail to elicit this information.

What proportion of patients with hypercholesterolemia should be treated with lipid medication? The answer depends on one's beliefs and assumptions about the benefits and risks of long-term treatment with lipid medication. Some evidence-based advocates emphasize the undemonstrated benefit and potential harm involved in diagnosing and treating hypercholesterolemia in large segments of the population. Froom et al[8] acknowledge the effectiveness of lipid medication for primary prevention of coronary heart disease only in high-risk middle-aged men, where it has been found to be reasonably cost-effective.[9] Stein and McBride[10] argue for generalizing the accumulated primary prevention evidence to high-risk women and the elderly. The evidence is much stronger regarding the cost-effectiveness of simvastatin and pravastatin for secondary prevention for patients with coronary heart disease and baseline LDL-cholesterol levels above 125 mg/dL.[11] This evidence has also been gathered predominantly from middle-aged men. Despite 83.7 percent of the participants in the 4S and CARE studies being men with an average baseline age of 59 years, cholesterol critics seem less inclined to contest the logic of generalizing secondary prevention results to women with coronary heart disease.

The NAMCS did not gather information on specific medications. When two large outcome studies with closely similar subjects (4S and CARE) are compared, simvastatin was found to outperform pravastatin by reducing all-cause mortality in addition to cardiovascular morbidity and mortality. The newest hydroxymethylglutaryl coenzyme A (HMG-CoA) reductase inhibitor, atorvastatin, has the best efficacy for lowering severely elevated LDL-cholesterol and triglyceride levels.[12] Atorvastatin lacks outcomes data showing that the benefit and relative safety of coronary heart disease prevention are drug class effects applicable to all statins. Accordingly, clinicians have been advised to prescribe atorvastatin only for severe hypercholesterolemia not responsive to established medications.[12] Clinicians who prescribe atorvastatin more widely appear to make the logical (but perhaps invalid) assumptions of benefit and safety in the absence of direct proof.

Family physicians probably have improved their cholesterol testing and treatment practices since 1991. It seems likely that there is still considerable room for improvement toward the ideal goal of diagnosing and effectively treating hypercholesterolemia in patients who are at increased risk for morbidity and mortality from coronary heart disese and who wish to be medicated.[10]

One probable obstacle to more effective cholesterol testing in women is the well-woman examination, which often transpires as a gynecologic-oncologic examination with little or no attention to heart disease prevention. This visit type might be better approached under the alternative *International Classification of Diseases, 9th Revision, Clinical Modification*[13] (ICD-9-CM) rubric of "Well Person Exam."

In the past decade we have gained tremendous knowledge about the prevention of heart disease. We have not yet applied this knowledge effectively with many of our patients. We need even more scientific information to better guide our future decisions about which patients to treat with lipid medication (especially women and elderly without known coronary heart disease) and about the optimal timing for beginning preventive therapy in younger adults.

Michael A. Crouch, MD, MSPH
Houston, Tex.

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