

JAMES THOMAS, MD, EDITOR

Preventive cardiology: Whose job is it? Who will pay for it? What is the best strategy?

DANIEL LEVY, MD, AND DENNIS L. SPRECHER, MD

IN COMING YEARS, cardiologists will provide more primary and secondary preventive services, and perform fewer high-tech interventions. A number of factors are promoting this trend: new studies are providing solid evidence that prevention works, new drugs are making it easier to decrease LDL cholesterol levels, and managed health care is striving to reduce costs.

But whose “turf” is prevention—cardiologists, internists, or nurse practitioners? How will cardiologists be retrained in prevention? How will they be paid for providing low-tech, time-intensive preventive services? And now that drugs such as the statins show their efficacy in reducing mortality, what is the role of more difficult prevention strategies such as diet and exercise?

In this month’s Cardiology Dialogue, Daniel Levy, MD (Medical Director, Framingham Heart Study) explores these issues with Dennis L. Sprecher, MD (Head, Cleveland Clinic Section of Preventive Cardiology). Other Cleveland Clinic cardi-

ologists taking part in the discussion were Eric J. Topol, MD (Chairman, Department of Cardiology), Fredric J. Pashkow, MD (Medical Director, Cardiac Health Improvement and Rehabilitation Program), and Michael S. Lauer, MD (Staff Cardiologist, Section of Heart Failure and Heart Transplantation).

PREVENTION AND THE TRANSFORMATION OF CARDIOLOGY

DR. LEVY: Cardiology must reinvent itself to keep pace with changes in the marketplace. Invasive cardiologists completing training programs are finding it increasingly difficult to find jobs, and the number of catheterizations and invasive procedures is projected to decrease. The job market is only going to get worse if these trends continue as expected.

The American College of Cardiology (ACC) Task Force on Prevention has recommended that cardiologists be pivotal figures in the community and coordinate primary and secondary prevention programs. It also recommended that cardiology residents receive more training in prevention.¹ I know of no training program that actually fulfills these requirements as yet.

Cardiologists do a good job keeping pace with medical developments, at least insofar as new procedures and highly reimbursed activities are concerned. In the arena of interventional cardiology, the advances have been tremendous. But cardiologists do not do a good job in other areas where we should be lending our expertise.

■ This series is based on the Cleveland Clinic Heart Center’s “Controversies in Cardiology” conferences, at which a visiting clinician-professor and a Cleveland Clinic Heart Center clinician give contrasting perspectives on the application of a current technology or the management of a cardiologic disease.

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but you can get them to walk one hundred miles for a T-shirt.”*

— FREDRIC J. PASHKOW, MD, CLEVELAND CLINIC

For example, even though we now have good evidence that aggressive lipid lowering can stabilize or reverse atherosclerotic plaques and prevent coronary events and deaths, cardiologists are only marginally proficient in secondary prevention, and relatively uninvolved in primary prevention. Even now, patients still fall through the cracks, undergoing invasive cardiac procedures without receiving any follow-up preventive care. I am concerned that we are training fellows who are experts in echocardiography, electrophysiology, and invasive procedures, but we are not teaching them the fundamentals of clinical practice.

DR. SPRECHER: Although cardiology training programs do not yet meet the ACC requirements in preventive services, I believe cardiology will be up to the challenge of transforming itself to a prevention-based discipline, because we have the incentive to change.

Kotter² described why things change, and why attempts to change things often fail. One of the requirements for successful change is that the vision be easy to understand and appeal to the customer. The vision has to be communicated well, and people have to believe in it. These concepts apply to the transformation of cardiology.

WHOSE TURF IS PREVENTION?

DR. SPRECHER: In any managed-care or capitated system, it will be in the physician's interest to minimize the number of events in the patient population. We believe preventive interventions work. But who should provide them: the cardiologist, the family practitioner, the general internist, or the endocrinologist? Family practitioners are going to see prevention as in their purview. Right now, everyone thinks someone else is doing it. And so the patient is simply not getting treated at all. Ultimately, the structure of reimbursement will affect who does what.

The team approach to prevention

DR. SPRECHER: Do cardiologists want to treat lipid disorders, cigarette smoking, and other risk

factors themselves, or do we need to send our patients to a multidisciplinary center? Either way, physicians must be empowered to do the secondary prevention easily without having to memorize every treatment algorithm. A multidisciplinary risk-reduction clinic is possible, but the cardiologist has to be very involved in it.

DR. LEVY: Cardiologists do need a multifactorial risk-factor reduction program they can refer patients to. We cannot send them to separate clinics for hypertension, lipids, and smoking. We have to play a role in coordinating and creating the services necessary to meet the needs of patients with a complex set of problems.

DR. PASHKOW: I'm not so sure the clinical model will work in prevention. No matter how nice or conveniently located the prevention clinic is, we may have to go where the people are—into their homes, into where they eat, into the shopping malls—and try to develop prevention strategies that are much more consumer-oriented. Such a strategy would look much more like a consumer product than a clinical model. Compliance is key. People will not walk 1 mile to save their lives, but you can get them to walk 100 miles for a T-shirt. So to sell health we have to give them T-shirts, we have to give them coupons, we have to do the same type of things that marketing groups think of to get people to consume trashburgers and cigarettes.

THE ISSUE OF REIMBURSEMENT

DR. PASHKOW: Right now, we really do not have to worry about the turf issue, because there is no money in prevention. Over the last decade, cardiac rehabilitation has embraced a multifactorial integration of secondary risk-factor modification into the rehabilitation model. But even the most successful cardiac rehabilitation programs see only 15% of the patients who have acute problems.

DR. LEVY: Yes, the real issue is money. That is why cardiology has not paid much attention to pri-

mary and secondary prevention as part of its training programs, nor in its practice habits. Physicians receive little reimbursement for prevention and it takes a lot of time. But what has been proven to benefit patients more than these preventive efforts? One aspirin every other day reduced heart attack risk by 47% in the Physician's Health Study.³ In other studies, lipid-lowering therapy reduced mortality by approximately 30% after infarction.⁴ These are greater than the benefits that have been demonstrated for thrombolysis, bypass surgery, or beta blockers or ACE inhibitors after infarction.

DR. TOPOL: In a study comparing cardiologists, internists, and family practitioners on use of aspirin, cardiologists did a lot better than any other group.⁵ Yes, cardiologists underprescribe aspirin and lipid-lowering therapy. But the primary-care physicians did worse. Maybe it is a money issue. As for changing the way cardiologists think, improving the fellowship training is great for the small number of cardiology fellows, but most established cardiologists are never going to get re-educated. As for incentives, rather than giving people T-shirts, why isn't the cost of the care incentivized? Why do insurance companies not charge less for persons who get their risk factors under control?

DR. LEVY: Stokes⁶ advocated that very thing in an editorial 12 years ago. It would make financial sense, but the insurance companies wanted no part of it. They do not want to issue policies that cost more.

For a long time the nature of reimbursement made it far more beneficial to train cardiologists to do interventional procedures, echocardiograms, and exercise thallium tests than to practice prevention. Cardiologists and their hospitals were reimbursed for these procedures, and they did not have to spend much time deciding on a case-by-case basis whether these treatments were necessary, beneficial, or cost-effective. But simple, preventive strategies are not adequately reimbursed, so the incentive is not there.

Will managed care incentivize prevention?

DR. LEVY: Managed care may change the situation, because it may be more cost-effective to prevent heart disease than to treat it. However, the cost-efficacy of prevention is very difficult to assess. Until we had studies such as 4S⁴ and West of Scotland,⁷ there was little evidence that prevention pro-

grams could translate into a dollar benefit.

The problem with letting managed care dictate how medicine should be practiced is that they will decide who will practice it. If it is up to managed care networks, it will not be cardiologists or internists who perform prevention activities, it will be nurse case-managers. Cardiology must seize the opportunity to play the leadership role in prevention. Everyone needing secondary prevention should see a cardiologist. And because cardiologists must serve that role in secondary prevention, it is only natural that they should assume a key role in primary prevention as well. If cardiologists do not become more involved in prevention, a lot of interventional cardiologists will soon be out of jobs. They are either going to be practicing prevention, or they are going to be driving taxis.

PATIENT NONCOMPLIANCE, PHYSICIAN CYNICISM

DR. TOPOL: Managed care may indeed transform preventive cardiology, but much of the explosion of interest in preventive cardiology is because of a family of magic pills, ie, the statins. They are easy to use, for both the patient and physician. They work. The other preventive cardiology approaches, such as smoking cessation, dietary therapy, and exercise, require a lot of time, and patients do not comply with them very well.

For example, many of us spend a good part of our life talking to patients about stopping smoking and living a healthier life, yet get nowhere. I do not know if the problem with lack of prevention is so much about money as it is about patient noncompliance and the resulting physician cynicism. Cigarette cessation programs do not work very well, and smoking kills a lot more people than the lipid disorders. If there is no magic pill, how are we going to improve patient compliance? And why has there not been a national program that rewards patients for being compliant?

AFTER THE STATINS, DOES DIET STILL MATTER?

DR. LEVY: Today we have drugs that can lower LDL cholesterol by 25% to 35%, with no side effects in most cases. It was very different 10 or 15 years ago, when we prescribed a lot of niacin and resins, which are much harder to use. Our new drugs are vastly more effective, easier to prescribe, and less fraught with side effects. They lower lipids to a

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— DANIEL LEVY, MD, FRAMINGHAM HEART STUDY

much greater extent, and they have been proven effective both in primary and in secondary prevention to reduce recurrent MI and even mortality.

So my attitude on diet therapy is changing. In many patients, I am ready to proceed directly to drug treatment. Physicians do not know much about nutrition and diet therapy, they do not have time to talk about it, they do not get reimbursed for teaching it. In addition, patient compliance is often poor, most patients can only lower their lipid levels by 5% to 10%, and, unfortunately, the recidivism rate is quite high.

In MI patients with a total cholesterol of 235 mg/dL, an HDL cholesterol of 35 mg/dL, and an LDL cholesterol of 175 or 180 mg/dL (which is a very common MI profile), few patients will come close to the LDL cholesterol goal of 100 mg/dL through dietary measures alone. Why delay implementing a strategy that has been proven to reduce morbid and fatal consequences and why alienate the patient by torturing him or her with diet for several months prior to initiating inevitable drug treatment? Start that statin or the niacin-plus-resin regimen, using adjunctive dietary therapy. When we are not going to achieve treatment goals with diet alone, we should not fool ourselves by pursuing it for 6 weeks or 6 months or 6 years as is often done with post-infarction patients. Such a delay in aggressively treating such patients pharmacologically only results in harm to the patients.

DR. SPRECHER: I am not quite as pessimistic about diet therapy. Although people's diets are difficult to change, I do think people can make changes. The question is whether diet therapy is too costly given the compliance problems and lack of reimbursement. However, I do believe diet counseling must be made available to patients. Drastic diets can substantially reduce the LDL cholesterol value, although few people comply with them. Nevertheless, some people respond well to modest dietary changes. In one of our large epidemiologic studies in Cincinnati, we found that 10% to 15% of people got marked benefits in lipid levels from modest Step I, low-cholesterol,

low-fat changes in their diets,⁸ consistent with other reports.⁹ I agree about the use of niacin. Ten percent of all patients on niacin develop some sort of liver abnormality. It is a very cheap drug, but very expensive in the long term because a lot of patients come back with problems and side effects. The resins, which are an older class of drugs, are starting to find good opportunities as a conjoint drug with the newer drugs. It may be cheaper, instead of doubling the statin dosage, to add a little bit of resin and actually get a far more beneficial change.

DR. LAUER: I am also moving toward just going ahead and giving patients simvastatin after a heart attack. I talk to them about diet too, but I know that the drug will do the job.

TOWARD A POPULATION-BASED STRATEGY

DR. LAUER: In addition to treating individual patients, we should also think about the entire population. If we can shift just slightly the bell-shaped curve of mean LDL values in persons who do not have coronary disease, we would have an enormous impact on the number of heart attacks in this society.

Also, most patients are part of a family, and we shouldn't think only about the patient's diet, we should think about his or her family too. If we could improve the whole family's diet, by even a little, maybe in the long term we could significantly reduce vascular disease.

DR. LEVY: We actually have made a population-wide impact on changing cholesterol levels. The third National Health and Nutrition Survey showed that by 1991, cholesterol levels had declined by 12 mg/dL in men and 17 mg/dL in women from what they were in the early 1960s,¹⁰ and fewer people now have hypercholesterolemia.¹¹

DR. LAUER: Do you see patient awareness as playing any part in driving a shift to prevention? Every day, patients say to me, “I have been reading about

this study in Scotland or in Scandinavia; what is the story behind this, doc?"

DR. SPRECHER: Consumers have been an enormous driving force in transforming treatments. I have always been supportive of public promotional efforts.

DR. PASHKOW: Sometimes public awareness has a negative side. Patients also hear the nay-sayers in the media, they hear about the negative studies, the studies that are incomplete or do not really answer the questions. For example, there is a myth that cholesterol-lowering drugs do something to your brain. Some people accept the prescription slip with no intention of taking the drug. People have some very strange misconceptions that can create great obstacles and resistance to prevention, which we must overcome.

REFERENCES

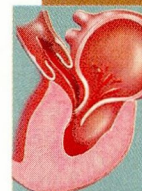
1. Sullivan JM, Frohlich ED, Lewis RP, Pasternak RC. Guidelines for training in adult cardiovascular medicine. Core Cardiology Training Symposium (COCATS). Task Force 10: training in preventive cardiovascular medicine. *JACC* 1995; 25:1-34.
2. Kotter JP. Leading change: why transformation efforts fail. *Harvard Business Review* 1995; 73:59-67.
3. Steering Committee of the Physicians' Health Study Research Group. Final report on the aspirin component of the ongoing Physicians' Health Study. *N Engl J Med* 1989; 321:129-135.
4. Scandinavian Simvastatin Survival Study Group. Randomized trial of cholesterol lowering in 4444 patients with coronary heart disease: the Scandinavian Simvastatin Survival Study (4S). *Lancet* 1994; 344:1383-1389.
5. Ayanian JZ, Hauptman PJ, Guadagnoli E, Antman EM, Pashos CL, McNeil BJ. Knowledge and practices of generalist and specialist physicians regarding drug therapy for acute myocardial infarction. *N Engl J Med* 1994; 331:1136-1142.
6. Stokes J 3d. Why not rate health and life insurance premiums by risks? *N Engl J Med* 1983; 308:393-395.
7. Shepherd J, Cobbe SM, Ford I, et al. Prevention of coronary heart disease with pravastatin in men with hypercholesterolemia. *N Engl J Med* 1995; 333:1301-1307.
8. Sprecher DL, Harris BV, Goldberg AC, et al. Efficacy of psyllium in reducing serum cholesterol levels in hypercholesterolemic patients on high- or low-fat diets. *Ann Intern Med* 1993; 119:545-554.
9. Denke MA, Grundy SM. Individual responses to a cholesterol-lowering diet in 50 men with modest hypercholesterolemia. *Arch Intern Med* 1994; 154:317-325.
10. Johnson CL, Rifkind BM, Sempos CT, et al. Declining serum total cholesterol levels among US adults. The National Health and Nutrition Examination Surveys. *JAMA* 1993; 269:3002-3008.
11. Sempos CT, Cleeman JI, Carroll MD, et al. Prevalence of high blood cholesterol among US adults. An update based on guidelines from the second report of the National Cholesterol Education Program Adult Treatment Panel. *JAMA* 1993; 269:3009-3014.

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