

Work to do in preventive cardiology

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The cardiovascular disease epidemic has challenged the medical community since Anitschkow and Chalатов established cholesterol's role in causing atherosclerosis (1). Advances in unraveling the pathogenesis of the disease have been impressive. The concept of a risk factor—which served to establish a research model in the investigation of chronic diseases—has been a giant step in clinical scientific inquiry.

In parallel, randomized clinical trials have demonstrated that interventions on the causal risk factors can favorably modify the course of the disease. Although the cardiovascular disease epidemic has declined steadily since the late 20th century (2), most agree that the knowledge gained of the genesis and treatment of the underlying causes of this disease has not been effectively translated into clinical practice.

The 33rd Bethesda Conference, "Preventive Cardiology: How Can We Do Better?" addressed the magnitude of the problem, discussed the costs of implementing recommendations, detailed the specific targets and strategies for intervention, and specified the role of the general and preventive cardiologists as leaders in this effort. The conference provided a superb analysis of the complexity involved in changing the individual and mass determinants of this global epidemic. The detailed recommendations can be found in the published document, including research, funding, policy, and clinical-educational objectives (3). We emphasize herein those recommendations in funding and policy that deserve special attention. Although research and clinical education are of paramount importance, it seems obvious that these cannot be effectively implemented without appropriate funding and public policy change.

FUNDING RECOMMENDATIONS

- a) Reimburse preventive cardiology services for physicians and other health care providers, increasing the payment for the allied health provider, to motivate physicians to set up programs that are revenue generating (rather than cost-neutral or revenue losing).
- b) Utilize quality improvement indicators of adherence to preventive care, with financial incentives that reward providers and institutions that implement effective prevention programs.
- c) Support faculty innovation in the improvement of prevention education.
- d) Reduce the gap between the reimbursement of technical/procedural and cognitive cardiovascular services provided by physicians.

- e) Fund community health care initiatives, projects, and programs.
- f) Reinstall reimbursement for cardiac rehabilitation/secondary prevention programs at fee schedules that existed prior to the year 2000 cutbacks related to the ambulatory payment classification initiative.
- g) Fund preventive cardiology applied training sponsored by the Centers for Disease Control and Prevention, the National Heart, Lung, and Blood Institute, the American Heart Association, and the American College of Cardiology as additional training after a cardiovascular fellowship and/or as a summer 2-week applied course, similar to the annual course in cardiovascular epidemiology offered by the American Heart Association/National Heart, Lung, and Blood Institute.

POLICY RECOMMENDATIONS

- a) Implement preventive interventions that are economically attractive compared with other current and widely accepted health care choices.
- b) Integrate a public health infrastructure with health care services.
- c) Encourage employers and insurers to provide incentives for healthy lifestyles and participation in health-promotion programs.
- d) Foster healthy lifestyles and behaviors in schools: provide greater education in prevention and nutrition in schools and promote daily physical activity, healthy nutrition, and a smoke-free environment.
- e) Change policy to reduce sodium content in food by 5% per year; label the nutritional content in the menus of national restaurants; and limit junk food sales in schools.
- f) Eliminate opportunities for exposure to secondhand smoke.
- g) Initiate social marketing for the value of a prevention-oriented lifestyle.
- h) Foster collaboration between city planners and public health staff in the design of work, school, shopping, and recreation areas compatible with greater physical activity.

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In order to implement these recommendations, certain issues must be considered.

ISSUES IN IMPLEMENTATION

A focus on unhealthy lifestyle behaviors of whole societies

As clinicians, we are most familiar with the modification of individual physiologic risk factors, particularly hypertension and dyslipidemia, in individuals at high risk or with clinical manifestations of cardiovascular disease, the so-called “high-risk” limb of prevention. In this effort, there has been outstanding progress but still only partial success. It was also important to demonstrate scientifically the pathogenic cascade that leads to atherosclerosis. The extraordinary publicity and diffusion of this aspect of the prevention of this epidemic has overshadowed the most definitive and radical approach: community or “population”-based interventions. The success of the North Karelia Project (4) and the Franklin (Maine) Cardiovascular Health Program (5) in decreasing cardiovascular mortality is less well known. The current and interrelated trend of increasing obesity, physical inactivity, and diabetes in developed and developing nations mandates a reevaluation of our strategy for cardiovascular disease prevention. Although the high-risk preventive effort fits naturally in our medical ethos, physicians need to reach over current boundaries to integrate efforts with other community leaders for a concerted approach in the change for a healthier lifestyle. Specific examples of such an effort are under way in “CardioVision 2020,” a community program in Olmsted County, Minnesota, initiated by a group of Mayo Clinic cardiologists interested in promoting healthier nutrition, greater physical activity, and awareness of the risk factors that lead to atherosclerosis and its complications (6).

The “Joneses effect”

Without doubt, human behavior is shaped in most part to fit within the social or standard norm prevalent at the time. This fact has important consequences in the adoption of societal trends in behavioral patterns since, after all, “We want to keep up with the Joneses” (7). How do the major changes in mass behavior occur? According to Geoffrey Rose, these changes can happen in relation to *opportunity* (car instead of bicycle), *price* (low-priced fast food and television sets), *convenience* (greater availability of fast-food chain stores), *fashion* (current Western attitude against plumpness in women), and *pressures* (of manufacturers and advertisers vs those of health educators) (8). It is clear that socioeconomic status is a major determinant of the individual response to these factors, but in general, each member of a society benefits or is harmed by the group mean level of the behavior in question, ac-

ording to his or her position in the “Gaussian” distribution of such behavior (8). The fundamental premise of the community approach in prevention is that when the whole distribution of the behavior/risk factor moves, all the members of that society benefit. The best way to initiate and potentiate the “snowball” effect in the general adoption of healthier lifestyle patterns is a significant challenge that is well addressed in the Bethesda Conference (3).

Leadership

As experts in the diagnosis, treatment, and prevention of cardiovascular disease, cardiologists should take the lead in the multilateral effort that is needed to halt this global epidemic. We have the scientific, moral, and ethical credibility and strength to accomplish this noble goal. Achieving the appropriate balance in the high-risk and population strategies in cardiovascular disease prevention remains a formidable task. We are hopeful that with coordinated efforts such as those described in the 33rd Bethesda Conference (9), we are getting closer to substantially decreasing the burden of atherosclerotic cardiovascular disease.

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