

## 33rd BETHESDA CONFERENCE

# Preventive Cardiology: How Can We Do Better? Introduction

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Historical medical recordings as early as 2500 BC referred to the practice of Prevention. References to the importance of prevention are found in the writings of Hippocrates and Osler, thus rendering the prevention concept important and certainly “not new” in the practice of medicine (1). Previous Bethesda Conferences 11 (1980) (2) and 27 (1995) (3) addressed Prevention of Cardiovascular Diseases; however, to date, Preventive Cardiology has yet to establish an appropriately strong position in the overall care of patients with cardiovascular disease (CVD).

“Bethesda Conference 33—Preventive Cardiology: How Can We Do Better?” evolved to address specific issues and provide precise recommendations to better implement the prevention of CVD, which is the number one cause of death and disability in the U.S. today. Five task forces of writers and participants with various expertise provided in-depth reports on numerous aspects of preventive cardiology. The following paragraphs cite salient points extracted and paraphrased from each task force.

The first task force addresses in finite detail the magnitude of the overall problem and the opportunities and challenges involved. Cardiovascular disease (CVD) is the leading cause of death and disability; it is increasing in prevalence in many regions of the world; and it includes all ethnic, racial, and gender groups. Risk factors that predispose to CVD have been identified, the modification or alteration of which can result in a significant decrease in morbidity and mortality for CVD. Risk factor categories now addressed are genetic (e.g., abnormal lipids), second level (e.g., endothelial dysfunction), and acute (e.g., plaque rupture perhaps related to nicotine). Obesity and diabetes are emerging as major risks and are increasing in prevalence in America. Primordial prevention (or prevention of risk factors) is being emphasized. These strategies address proper exercise and diet and should focus on early school years. A public health approach to CVD prevention is needed and may require public policy changes and aggressive marketing to the public. An ongoing perceived problem is that “sick care” may not mix well with preventive care.

The second task force considers the cost of prevention: can we afford it; can we afford not to do it? As emphasized, prevention guidelines should reflect economic impacts and value from a societal perspective. As such, a society with limited resources should determine which interventions have the most value. Cost-effectiveness analysis is the most often used approach for economic evaluation of a medical or health care strategy. In concert with this and a “fixed”

monetary allocation for health, policy makers want the greatest return on their investment. For example, studies of smoking cessation intervention suggest that cost per year of life saved is small compared with other interventions. In addition, assuming that sedentary behavior increases the risk of CVD by 1.9-fold, \$6.4 billion would be saved if all of America began to walk regularly. The prevention of death from one disease may not be a valuable outcome if overall life expectancy is not changed because of another significant illness. An obstacle in an investment in prevention is the public expectation that such an investment should pay for itself.

The third task force discusses “Getting Results: Who, Where, and How?” This component encourages the proposition that physician encounters with patients be broadened to include non-physician personnel and community resources. A combination of community programs, medical referrals and therapy, and mass media for screening and treatment will decrease risk factor levels and CVD. Industries have been supportive of prevention when and if their interests are in accord with national and local organizational guidelines to change knowledge, attitudes, beliefs, and behavior. Community programs involve three models: clinical, public health, and health promotion. Momentum and sustained interventions are crucial to the success with community programs. Case management is effective and involves a nurse in the clinical setting to coordinate the determination of the risk with the treatment plan to reduce risk. In this setting, the guidelines should include outcome assessment and quality assurance. Barriers to implementation of preventive cardiology in medical settings include economics, lack of interest in the patient, and lack of skill and/or motivation of the provider.

The fourth task force addresses adherence issues and behavioral changes and how to achieve a long-term solution. Evidence is presented supporting the involvement of other health care professionals (especially nurses) in treatment plans to improve effectiveness of preventive interventions and increase overall adherence. Brief provider intervention can have a positive effect on adherence. A critical time to target adherence strategies is the early phase of treatment, realizing that poor adherence is higher in those with three or more comorbidities. Awareness of how people reason is important in adherence. Consideration of the stages of change—pre-contemplation, contemplation, preparation, action, and maintenance—which reflect steps of any behavioral intervention process is important in the process.

Another important theoretical approach is the social cognitive theoretical model. Ecological frameworks recognize that human behavior is influenced by intrapersonal, interpersonal, institutional, and community factors as well as public policy.

The fifth task force discusses the role of the cardiovascular (CV) specialist in prevention—trainee to champion. Substantial data confirms that prevention is not taught in most medical schools and less than one-third of CV specialty training programs have formal preventive cardiology. Limited time, lack of curriculum integration, lack of trainee interest, and the focus on critical care are all barriers. A solution is to build prevention-related objectives into global medical curriculum reform with associated faculty development activity. Both cognitive and applied systems training are needed to prepare specialists to establish prevention programs. One problem is that CV specialists typically address the chief complaint and often leave prevention to the primary referral. Cardiovascular specialists must address primary prevention and risk factor control and should use a team approach. Physician advice is especially

helpful with diet and exercise. Use of evidence-based prompts and alerts can help guide adherence. In addition, health care system changes and informatics can be valuable in the process. A CV specialist should be a “champion” for prevention. Ideally, such a specialist should have clinical training with a Masters in public health and/or expertise in outcomes research.

In summary, the five task forces have addressed the major concerns in preventive cardiology. The recommendations and in-depth consensus discussions that follow will provide the reader with a thorough understanding of the issues that prevail today in this vastly important domain of health care.

## REFERENCES

1. Strauss MD. *Familiar Medical Quotations*. 1st edition. Boston, MA: Little, Brown and Company, 1968:1.
2. Eleventh Bethesda conference: prevention of coronary heart disease. September 27–28, 1980, Bethesda, Maryland. *Am J Cardiol* 1981;47:713–76.
3. Pasternak RC, Grundy SM, Levy D, Thompson PD. 27th Bethesda conference: matching the intensity of risk factor management with the hazard for coronary disease events. Task Force 3. Spectrum of risk factors for coronary heart disease. *J Am Coll Cardiol* 1996;27:978–90.

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## Summary Recommendations— Preventive Cardiology: How Can We Do Better?

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Cardiovascular disease (CVD) prevention can play a dynamic and important role in combating the leading cause of disability and death in America today. The summary recommendations that follow reflect the detailed and resourceful work of the writing groups and participants of the American College of Cardiology (ACC) 33rd Bethesda Conference—Preventive Cardiology: How Can We Do Better? These recommendations highlight the research, funding, policy, and clinical–educational changes needed to effectively implement preventive cardiology in the existing health care system of America.

### RESEARCH

- Support intensive research to determine which strategies are most effective in promoting healthy lifestyles and adherence to CVD prevention in the community, in health care organizations, by providers, and by patients in a variety of clinical care settings.
- Promote studies that translate efficacy research into effectiveness trials and community-based demonstration projects in ethnically, geographically, and economically diverse groups. These studies should examine the biases, selection problems, unrealistic intervention intensity, and sequence effects that result in study outcomes failing to translate into real-world outcomes.
- Give a higher priority to research into understanding the barriers associated with adherence to CVD prevention guidelines at the community, health care provider, and patient levels.
- Conduct studies of various risk-factor interventions, including the manner in which interventions should be sequenced with regard to the psychosocial state of the patient (e.g., stage of change and motivation).
- Gain increased understanding of the extent to which patient and provider beliefs, expectations, and preferences influence provider–patient communication.
- Place special focus on vulnerable groups, including the economically disadvantaged, the elderly, and ethnic minorities.
- Encourage the development and testing of creative, nontraditional ways to promote healthy life styles—such as social marketing.
- Study the efficacy of policy and legal changes in reducing CVD risk factors (e.g., tobacco taxes and mandated school-based physical education programs).
- Increase research regarding the cost-effectiveness of CVD prevention.
- Conduct further research to resolve measurement issues. This applies not only to measurement of medication-taking behavior but also to the ability to monitor and verify behavior in other areas such as smoking, diet, and physical activity.