Summary of Cardiovascular Health Conference

The current chaotic healthcare environment blocks improvements in the care of people with cardiovascular disease, said Robert Brook, MD, ScD, professor of medicine at the University of California at Los Angeles and director of the Health Sciences Program for the RAND Corporation.

“We are clinically practicing in a chaotic environment where some are getting treatment they don’t need and others aren’t getting the treatment they do need,” said Brook during the first session of Cardiovascular Health: Coming Together for the 21st Century: A National Conference. To buttress his argument, he pointed to the following findings:

- A national study showed that only 35% of smokers were advised by their physicians to quit smoking, and a second stated that only 65% of adults had had their blood cholesterol measured in the past 5 years.
- Only 41% of fee-for-service patients and 54% of HMO patients had their hypertension controlled in a study of 4 group practices in Massachusetts.
- In a study of Medicare patients, 17% of coronary angiographies were deemed inappropriate, as were 14% of coronary artery bypass surgeries.
- A study of 5 California hospitals showed that 25% of those who needed a cardiac revascularization procedure were not offered one, but at the same time, hospitals were performing such procedures on people who did not need them.
- Similarly, another study of California hospitals found unnecessary coronary angiographies and other surgeries were being performed. In that study, Brook said, 50% of those individuals who met the necessary criteria for a coronary angiography did not receive one because there was no effective system to see that they received one, he said. Forty percent of high-risk candidates for heart attack did not receive aspirin during their first 2 days in the hospital, 30% did not receive thrombolytics, 30% did not receive heparin, and 24% did not receive nitroglycerin.

“This is an example of chaos,” said Brook. “You could do an epidemiological study on the appropriateness of cardiovascular procedures, and we did...in New York State. You could divide these procedures into 3 categories: things that meet the definition of necessary, things that are appropriate but not necessary, and things that are less than appropriate. You can add them across for bypass surgery, angioplasty, and angiography. What you find is there is a large percentage of procedures we could do without and still meet the definition of necessary. In eliminating the unnecessary services, funding could be redistributed to provide services to those who are not receiving them now.”

Improving the quality of care rendered to patients hospitalized for heart disease is both possible and would improve overall cardiovascular disease-related mortality rates, said Brook.

A study of 400 hospitals randomly selected from across the United States showed that there was a 6% difference in outcome when the hospitals were grouped according to the best quality of care rendered. “What caused the difference is a function of doctors’ knowledge and actions, nurses’ knowledge and action, diagnostic methods, and ICU use,” Brook said. “These differences represent a 40% difference in death rate. It’s safe to say that this variation may represent 50,000 to 100,000 excess deaths a year.”

The approaches to solving these problems could vary, he said. In a cost approach, hypertension would be treated with the cheapest possible medications in only those people at high risk. “If they express dissatisfaction, suggest that another system might work better for them,” he said.

The “health-model approach” would involve a positive system in which doctors would be provided with a list of all patients with hypertension, and these patients would be treated with effective drugs that have the fewest side effects and the best results. The healthcare team would assess the patient’s motivation and use the results to ensure complete compliance and follow-up, said Brook.

“What we need is a change in the contract between physicians and patients,” he said. “We need to get more information from the patients on a routine basis to find out what we do that works or what we do that doesn’t work.”

He would also like to see quality indicators for cardiovascular diseases that include yearly reports on the proportion of science being implemented and developed, with financial incentives to increase the likelihood and rapidity with which such science is being used.

“We need a system where hospitals all have the same quality of care. We have a system now that puts people at risk based on where they live. Which way will we go?” Brook asked.

“We need to develop, in the next few years, a better knowledge about the proportion of science that is implemented, and we need to have real-time, useful data about quality so that we can practice better medicine and guarantee to all Americans that they get necessary care when they need it and that the care that they get is of a high level of quality.”

Adding her voice to that of Brook was Martha Hill, PhD, RN, president of the American Heart Association. She addressed troubling trends in hypertension. The recent report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure showed disturbing trends in detection and control of hypertension. In that report, committee members found that three fourths of people with high blood pressure do not have it controlled. Only one fourth of those who know they have high blood pressure have it under control. Another one fourth of those who know of their hypertension are taking medication but do not have their hypertension under control. One half are not on medication at all.
Medication is not the only answer, said Hill. It is not enough to know what medications are useful in treating hypertension, she said. You have to know how to convince patients that it is necessary and in their best interest to take the medication.

“The background is that managing hypertension is very complex,” she said. “The factors that have to be considered are biologic, psychological, and social. If we do not look at this broadly and comprehensively, we will not improve the situation.”

Such factors are both patient related, including such things as keeping appointments and making lifestyle changes, and related to healthcare professions and the healthcare system. “To look exclusively at the issue of which drug is prescribed is only one piece of a very large, complex series of decisions that have to be made and actions that have to be taken,” Hill said.

The patient-related factors are complex and sociological. Consider where patients live, she said. Do they have homes or sufficient money to buy medications? Are they on prescription plans or do they have health insurance at all? Do they have a healthcare provider who can provide education about the need for hypertension control that fits in with the patient’s beliefs and needs?

The system itself has to adapt, Hill said. Many managed care plans have rules about how often a patient can have a prescription refilled. That can interfere with the needs of a patient who must travel and has to have prescriptions refilled ahead of time, she said.

Patients and physicians often have to be convinced that controlling hypertension or any other chronic condition is important, she said. “If providers don’t believe there is benefit, no wonder we are seeing some of the control rates we have,” she said.

Popular culture is another barrier, said Henry W. Blackburn, MD, Mayo Professor of Public Health (Emeritus), Division of Epidemiology at the University of Minnesota in Minneapolis. “[A] cultural backlash in North America exists, as does New Ageism, which distorts health behaviors and commercializes food, tobacco, fitness, and aging,” said Blackburn. As the message about the dangers of cigarettes and high-fat diets emerges, naysayers arise, warning that such “puritanical” advice seeks to destroy pleasure.

“We see these hedonists come to the fore. They label professionals health Nazis and are hindering our way of life in the backlash against health promotion,” he said. The message is further garbled by the changing message that further confuses a public seeking legitimate health advice, said Blackburn.

“Junk science is a term now being used to derogate frivolous research claims but also legitimate study results. Prevention researchers are referred to as ‘turkeys’ on the Web site ‘Junkman’s Hall of Shame.’ It lists many of us epidemiologists in this country. Like Nixon’s hit list, you haven’t arrived till you make the list!”

“I don’t mean to exaggerate, but this kind of source is dangerous to science. It is symbolic of [the] backlash against effective health promotion.”

In other presentations at the 3-day conference, Margo Halm, RN, and Sue Penque, RN, found that women arriving at the hospital with myocardial infarction were more likely to have nonspecific signs and symptoms. In women, back pain, loss of appetite, and paroxysmal sleeplessness were seen more often than in men. Halm and Penque, in their study at United Hospital in St Paul, Minn, also found that women were more likely to deny the possibility that they were having a heart attack. Women, on average, waited 5.3 hours before going to the hospital, whereas men waited 4.2 hours.

Men were more likely to undergo revascularization by PTCA and CABG than women, they said. For example, 19% of women underwent PTCA compared with 33% of men. Eight percent of women received bypass procedures compared with 11% of men. Twenty-three percent of men received thrombolytics compared with only 16% of women. Sixty-five percent of men and 40% of women received intravenous nitroglycerin; 76% of men received intravenous heparin compared with 40% of women.

The study, although small (51 women and 47 men), has implications for clinical practice, said Halm. Accurate cardiac assessment is crucial, and doctors should expect to see nonspecific signs and symptoms from their female patients, she said. A larger study is needed, she said, but this one does point to the need to communicate better with women and healthcare providers about women’s risk of heart disease.

“There is indeed an enduring half-truth that heart disease is a man’s disease,” said Millicent Higgins, MD, Professor of Epidemiology and Internal Medicine Emeritus at the University of Michigan School of Public Health. In fact, she said, more women in the United States are suffering from heart disease than men: 30 million women and 28 million men. Half a million women die of heart disease in the United States annually, compared with just slightly more than 450,000 men.

Then why has heart disease in men garnered more interest than heart disease in women? “In men, cardiovascular disease happened more suddenly and more often in middle age. In other words, more dramatically,” said Higgins. With more than half of all women’s deaths resulting from cardiovascular disease, it may be surprising to learn that as late as 1994, the Reader’s Digest cover story was “Is Your Husband Headed for a Heart Attack?” she said. “Clearly, in many minds, cardiovascular health is still a man’s issue,” she said. Yet >70% of all women have at least 1 risk factor for cardiovascular disease, she said.

Physical inactivity is a major risk factor for heart disease, said JoAnn Manson, MD, of Brigham and Women’s Hospital in Boston, Mass. “Sedentary lifestyles double the risk of heart disease,” she said. “We need to get the doctors and health maintenance organizations behind this issue to the point where they are helping to increase people’s fitness levels.”

“I think we need to work not only at the individual level but also at the community level,” said Manson. “We need to make physical activity more accessible to certain segments of the population, including socioeconomically disadvantaged groups.”

Early studies indicate that homocysteine places people at increased risk of heart disease and that folate consumption can reduce homocysteine levels and thus the risk, said
Manson. However, she said, it will be 3 to 4 years before there is conclusive evidence of this.

“At the present time, we recommend the 400 μg per day of folate found in most multivitamins. But the major sources of folates and vitamin B₆ are fruits and vegetables. It comes down to eating more fruits and vegetables,” she said.

Antioxidants also may be important in the prevention of heart disease, said Daniel Steinberg, MD, Professor of Medicine at the University of California at San Diego. “I don’t think antioxidants are ready for prime time, but everyone else in the United States seems to think so,” he said. The probability is good that antioxidants will slow the progression of cardiovascular disease, said Steinberg, who is leading studies in that field. “But we still don’t have enough evidence at the clinical level to allow firm recommendations to be made about what patients should do.”

Equally tantalizing are reports indicating that some bacteria, particularly Chlamydia pneumoniae, may play a role in heart attacks, said Peter Libby, MD, of Harvard University Medical School and Brigham and Women’s Hospital in Boston. He theorized that researchers looking for the cause of some myocardial infarctions should take their cue from ulcer researchers who found the Helicobacter pylori bacteria to be the cause of most peptic ulcers. H pylori and C pneumoniae both cause infections that do not immediately cause problems, he said.

Currently, studies are centering on the question of whether patients who have had heart attacks and who carry the bacteria could be helped by antibiotic treatment, said Libby. “We want to know if it will reduce the probability of a second heart attack.” But he warns that such studies are crucial to understanding the nature of the threat of such bacterial infections.

The easy solution probably will not be found, said Steinberg. “As much as we would like an easy solution, the public will have to mind its p’s and q’s,” he said. “They will have to follow recommendations for a healthy lifestyle.”

But even that might not be as easy as it seems, said Ronald M. Krauss, MD, senior scientist at Lawrence Berkeley National Laboratory in California. He and his colleagues have found that extremely low-fat diets can have a negative effect on a small portion of the population. Krauss explains that even when individuals follow low-fat diets, the level of LDL in their blood varies widely among individuals.

Genetics plays a role, he said, with specific variants, including those affecting apolipoproteins E, A-IV, and B. His group studied the response to reduced-fat diets in individuals with a common, genetically influenced metabolic profile characterized by a predominance of small, dense LDL particles (subclass phenotype B). This profile is associated with a 3-fold increased risk for coronary artery disease, said Krauss. It is found in one third of men, 15% to 20% of postmenopausal women, and 5% of children and premenopausal women.

Among 105 healthy men consuming a high-fat (46% of calories from fat) diet, improvements in LDL and other lipoprotein risk measures on an isocaloric reduced-fat (24% of calories from fat) diet were significantly greater in the 18 men with phenotype B than in the majority of men with predominantly larger LDL particles (phenotype A). Moreover, among phenotype A subjects, there was a shift from larger to smaller LDL, resulting in conversion to phenotype B in 36 men. These results have been confirmed in a second study of 133 men.

Krauss wants to see more studies done of the effects of such low-fat diets. “What we are really saying is that we ought to be very careful in extending our guidelines well below what we currently advocate for the general population,” he said.

Although the last 50 years of the current millennium have seen tremendous strides in the treatment of heart disease, questions remain unanswered—questions that will take >50 years in the next millennium to answer.

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