

## HEART OF THE MATTER

# The Future Cardiology Workforce

It is projected that we will need from 85,000 to 200,000 more physicians by 2020 to meet clinical needs. Unless prevention programs become more effective, we will require this increase to provide the primary care for patients with acute coronary syndrome arriving in our emergency departments. At the same time, projections indicate that there will also be a significant increase in chronic heart disease patients and in heart failure patients.

To serve these patients, we will need to increase the number of medical graduates. We cannot continue to outsource medical education by importing doctors from abroad. This resource is becoming more tenuous as third world countries become increasingly sophisticated and their medical care improves.

The output of medical graduates from American medical schools has changed very little over the last quarter century. This year, however, there has been a major increase of 2.3% in first-year class size, compared with 2006. The applicant pool has also increased by 8.2%, and its quality has improved. This year's applicant had the highest MCAT scores and grade point averages on record.

As a result of the anticipated increase in medical graduates, the Council on Graduate Medical Education is asking for an increase of 15% in residency and fellowship slots to accommodate the new graduates. To achieve this, Congress must lift the cap on Medicare general medical education funding.

Health planners, anticipating these new graduates, are trying to model graduate ed-

ucation to affect the future makeup of American medicine. In the past, they have been reluctant to allow further growth of specialties, yet there will be an increase need for specialists such as cardiologists particularly as the population ages. Some are advocating the shunting of more graduates into primary care and general practice. Others argue that the purchasers of health care should decide the medical training needs. If they have their way, the emphasis will be on the training of more specialists. It seems there is little appreciation of the role that cardiologists play in providing primary care for the thousands of patients

experiencing an acute MI every year.

At this time, it is appropriate to plan the future growth of cardiology and the makeup of its workforce. Over the past decade, there has been a gradual decrease in cardiology training programs and fellowship slots. However, there was an increase in training programs and fellowship slots from a low of 170 programs and 2,184 fellowship slots in 2004 to 177 programs and 2,334 fellowship slots this year. Associated with the increase in trainees, there had been an increase in interventional training from a plateau of 551 in 2001 to 630 in 2003.

The 35th Bethesda Conference report on the cardiology workforce crisis called attention to the pressing need for more cardiologists (*J. Am. Coll. Cardiol.* 2004;44:216). A previous Bethesda Conference, in 1993, suggested that in the age of managed care, there would be a decreased need for specialists in general and cardi-

ologists in particular. Those estimates were far off base and failed to anticipate the effect of new technology that occurred in interventional cardiology, which entirely changed how we treat ACS and its resultant workforce requirements.

The obvious answer to this anticipated shortage is to increase the number of training programs and fellowship positions. However, the major obstacle to increasing the number of fellowship positions is the Balanced Budget Act of 1997, which froze the number and the funding of postgraduate medical education positions. As a result, hospitals have been reluctant to support training programs without an increase in Medicare general medical education support. The number of applicants for training programs is sure to increase in the future as the medical graduate pool increases. Some have suggested modification of the duration of internal medicine training and the creation of shortened training for cardiologists interested exclusively in clinical cardiology. Another impediment to expanding the number of training programs has been the increase in administrative burdens placed on program directors as a result of added certification requirements. These increased requirements have dampened the enthusiasm of program directors to expand their programs. Nevertheless, it is imperative that cardiology deal with the increased workforce requirements and constructs an aggressive program to meet those needs. ■

DR. GOLDSTEIN, *medical editor of CARDIOLOGY NEWS, is professor of medicine at Wayne State University and division head, emeritus, of cardiovascular medicine at Henry Ford Hospital, Detroit.*



BY SIDNEY GOLDSTEIN, M.D.

## Renal, Metabolic Syndromes Raise Risk of PAD

COLORADO SPRINGS — Renal impairment in patients with metabolic syndrome is associated with dramatically increased likelihood of comorbid peripheral arterial disease, Sherrine Eid reported at a conference sponsored by the American Heart Association.

Her analysis of 4,023 participants aged 40 years and older in two National Health and Nutrition Examination Surveys showed the weighted prevalence of peripheral arterial disease (PAD) was 47% among those with metabolic syndrome plus impaired renal function as defined by a glomerular filtration rate (GFR) below 30 mL/min per 1.73 m<sup>2</sup>.

That translated into a 25-fold increased likelihood of having comorbid PAD, compared with that of normal-GFR individuals without metabolic syndrome, according to Ms. Eid of the Lehigh Valley Hospital and Health Network, Allentown, Pa.

An individual with metabolic syndrome and a mildly decreased GFR of 60-90 mL/min per 1.73 m<sup>2</sup> was three times more likely to have PAD than was one without metabolic syndrome and a normal GFR.

And a patient with a GFR below 30 mL/min per 1.73 m<sup>2</sup> but without metabolic syndrome was at 11-fold increased risk of having PAD, compared with an individual without metabolic syndrome and with a normal GFR, she said.

—Bruce Jancin

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