Summary of Task Force Recommendations to Address the Growing Shortage of Cardiologists

John Hirshfeld, Jr, MD, FACC, W. Bruce Fye, MD, MA, MACC

The nation’s growing shortage of cardiologists, if not addressed, will adversely affect the care of patients with cardiovascular diseases. The shortage will impair patient access to cardiovascular specialty care (that has proven benefits in terms of timely diagnosis, appropriate treatment, and enhanced outcomes). Cardiovascular research programs will suffer because many academic cardiologists will be expected to devote more time to patient care.

Over the past two years, the American College of Cardiology (ACC) Task Force on Workforce studied several aspects of the nation’s growing shortage of cardiologists. This final section summarizes the recommendations of eight working groups and the participants in the 35th Bethesda Conference. The strategies to accomplish these goals are discussed in the following text, and an outline of specific recommendations is at the end of this paper. Each working group report includes more detail about the rationale for its recommendations and suggestions for implementing them. For the purposes of this brief summary, the task force’s recommendations fall into two broad categories: 1) how to increase the number of cardiologists, and 2) how to enhance the efficiency of cardiologists and the care teams they lead.

**HOW TO INCREASE THE NUMBER OF CARDIOLOGISTS**

Increase the capacity of U.S. cardiovascular training programs. The most obvious solution to the growing shortage is to produce more cardiologists by increasing the number of trainees. In particular, there is a need for general clinical and preventive cardiologists as emphasized by several of the working groups. It is important to emphasize that effective disease prevention (both primary and secondary) is a cornerstone of improved public health. Studies have demonstrated that cardiovascular specialists are particularly effective at implementing known disease-prevention strategies. Two complementary actions would increase the supply of general clinical cardiologists: 1) expand the number of first-year training slots, and 2) reduce the time it takes to complete an internal medicine residency and a general cardiology fellowship. Working Groups 1 and 8 provide useful background and justifications for these recommendations.

Theoretically, the annual output of new cardiovascular specialists is linked closely to the number of first-year trainees. The current minimum time between medical school graduation and completion of a general cardiology fellowship is six years. The ACC Task Force agrees with the recommendation of Working Group 8 that the time required to become a board-eligible general clinical cardiologist should be reduced from six to five years.

A significant percentage of cardiology trainees will want to practice a cardiology subspecialty. Working Group 8 proposes a comprehensive approach to identifying the various types of cardiovascular subspecialists according to their training and the focus of their practice. As cardiology and its subspecialties continue to evolve, it will be important to modify training curricula so we produce cardiologists whose knowledge and skills meet the demand for high-quality and cost-effective cardiovascular care. Training program capacity is a precious resource, and it is imperative that training be efficient and effective.

The ACC Cardiology Training Program Directors Survey revealed that there is a surplus of qualified candidates for the nation’s 173 training programs. Despite an adequate number of applicants, about 7.5% of the nation’s Accreditation Council for Graduate Medical Education (ACGME)-approved general cardiology fellowship positions were not filled as of March 31, 2004 (1). This is mainly because several training programs do not have sufficient funds to support a full complement of trainees. This unused capacity is problematic as our nation’s cardiovascular disease burden continues to grow. Thus, along with seeking an increase in the number of ACGME-approved general cardiology training positions, it is imperative that we identify additional funds to support the training of more cardiologists. In addition to advocating for an increase in graduate medical education (GME) funds provided as part of Medicare reimbursement to teaching hospitals, it is important to seek other sources of financial support. Potential sources include managed care organizations, health insurance companies, industry, private cardiovascular practices, and philanthropic organizations. Outcome studies demonstrate the value of cardiovascular specialty care, and many of these entities would benefit (as would patients) if the growing need for cardiovascular specialists was met (2–8).

Pilot programs should also be developed that would permit experienced internists, who would like to be formally trained to function as general clinical and preventive cardiologists, to apply for positions in selected cardiology training programs.

**Improve recruitment to the specialty of cardiovascular medicine.** Currently, the number of qualified applicants exceeds the number of ACGME-approved and -funded cardiology training positions in the U.S. Although this is encouraging, we must seek to maintain and enhance practitioner quality by attracting the most talented physicians to the cardiovascular field. This process begins by making...
potential candidates aware of cardiology’s many attractions. Recruitment activities should start with interested high school and college students, but they should focus on medical students and internal medicine residents. Academic cardiology divisions play a vital role in these efforts, but local practitioner cardiologists should be encouraged to participate in programs that reveal the broad spectrum of career opportunities in cardiology. The ACC (and its chapters), the American Heart Association (AHA), and other cardiovascular organizations should also contribute to this long-term recruiting effort.

Currently, international medical graduates (IMGs) constitute an important component of the cardiovascular workforce. The immigration, training, and certification systems should be monitored to ensure they do not become insurmountable barriers that would significantly restrict the entry of appropriately qualified and skilled IMGs into U.S. training programs and practice. As the demographics of our nation and of medical students evolve, it is important for cardiology to recruit more women and underrepresented minorities. We must encourage and support efforts to help all cardiologists achieve a better work-life balance, thus reflecting larger social trends that contemporary medical graduates consider as they evaluate specialty choices.

Encourage cardiologists to remain active in practice (or academics). The total number of cardiovascular practitioners is also affected by the exit rate from active practice. Cardiology is a demanding specialty because of the urgency and seriousness of many cardiovascular problems. There are, however, many opportunities within cardiology to develop a career that focuses on noninvasive diagnosis, outpatient practice, and prevention. These opportunities may appeal especially to younger cardiologists seeking a more controllable lifestyle and older cardiologists contemplating retirement because they no longer want to perform invasive procedures or participate in night or weekend “call.” It is important that cardiologists have access to career paths that permit them to work at a level that reflects their professional interests and personal goals as they contribute to the care of a growing population of patients with cardiovascular disease.

ENHANCING THE EFFICIENCY OF CARDIOLOGISTS AND THE CARE TEAMS THEY LEAD

If a cardiologist is able to practice more efficiently, he or she will be able to deliver care to more patients. Thus, one important component of our effort to assure patients adequate access to cardiovascular specialty care is to increase efficiency and emphasize teamwork.

Promote the cardiovascular care team approach. The past decade has seen a dramatic increase in the number and types of non-physician clinicians employed by cardiologists and institutions. Supervised by a cardiovascular specialist, these cardiac care teams include nurses, physician assistants, and other types of health care professionals whose careers focus on patients with cardiovascular disease. Designed to increase efficiency, the team care model can also enhance outcomes by assigning specific responsibilities to the health care professional whose training, experience, and interests best match the needs of a patient at a certain point in time.

The ACC formally acknowledged the value of team care when it created the Cardiac Care Associate membership category. The continuing education and training of all members of the cardiovascular care team should be fostered. This includes recruitment of qualified individuals to enter these fields and the development of curricula and programs to deliver education and training. The ACC and other cardiovascular societies should sponsor continuing education programs that are of interest and value to all members of the cardiovascular care team.

Improve cardiovascular practice organization. Although there is no standard model for a cardiovascular practice, the single-specialty group is the most popular private practice arrangement. Academic cardiology practices resemble more closely the multispecialty group practice model. The ACC should collect, collate, and share information on cardiovascular practice models with its members in order to inform them of models of care that might enhance the efficiency and effectiveness of the care they deliver.

Improve and standardize cardiovascular information systems. More than ever, effective information systems are now vital to medical practice. State-of-the-art cardiovascular practice requires rapid access to a wide range of information and different types of data. Currently, cardiovascular information systems are evolving; operational systems are heterogeneous and of variable effectiveness. The development of standardized performance criteria including uniform data elements and reporting tools would enhance the effectiveness of cardiovascular information systems. Many technologies are developing rapidly that will enhance communication of medical information among cardiologists, their patients, and other health care professionals.

The ACC, together with the AHA and other organizations, has created a series of evidence-based guidelines to help clinicians make informed decisions as they care for individual patients. It is important that these guidelines be applied appropriately in practice. Current information technology has the potential to enhance practitioner communication, to foster the guideline application, and to monitor other aspects of cardiovascular care for appropriateness and consistency. Cardiovascular specialty societies should promote the adoption of such technology to enhance patient care.

RECOMMENDATIONS

1. Increase the Number of Cardiologists
   a. Increase Training Capacity and Trainee Quality
      • Increase the number of cardiology training positions
2. Improve Practitioner Efficiency, Productivity, and Satisfaction

a. Promote the Cardiovascular Care Team Approach
   - Identify best practices with respect to cardiologist-led team care
   - Promote successful cardiology care team models
   - Facilitate the training of non-physician clinician care team members
      ○ Develop a standard curriculum to train nurses and physician assistants to become non-physician clinicians in a cardiology care team
      ○ Develop continuing medical education (CME) curricula designed for all members of the cardiology care team
   - Encourage long-term collaborative care that thoughtfully integrates primary and specialty care and assures access to cardiovascular specialists

b. Improve Cardiovascular Practice Organization
   - Disseminate information about efficient practice organization models

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c. Use Technology to Enhance Patient Care and Facilitate CME
   - Develop and implement cardiovascular information management systems
   - Develop performance criteria for cardiovascular information systems
   - Expand the use of telemedicine
   - Evaluate the use of the Internet and e-mail as tools to increase communication and enhance efficiency

d. Enhance the Job-Matching Process
   - Each cardiology fellow should be assigned to a mentor who can help each trainee consider job opportunities
   - The ACC should continue to enhance its valuable electronic ACC Cardiology Careers available at www.acc.org
   - Trainees should be made aware of the broad spectrum of cardiology careers that exist
   - The ACC’s annual scientific session and ACC chapter meetings are excellent opportunities for trainees to meet cardiologists or representatives of groups that are seeking cardiovascular specialists
RECOMMENDATIONS REFERENCES


