

## Perspectives

## Advanced Heart Failure and Transplant Cardiology: A Subspecialty is Born

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### ABSTRACT

Recently, the American Board of Medical Specialties approved a proposal from the American Board of Internal Medicine for establishing the secondary subspecialty of Advanced Heart Failure and Transplant Cardiology. This step represents culmination of a process that began 4 years ago, through advocacy by the Heart Failure Society of America. It represents an essential step to ensure quality of care by specialists in a field that has grown up de facto amid rapid expansion both of the population of patients with heart failure and of diagnostic and therapeutic options for their management. The vast majority of care for most patients with heart failure will continue to be provided by general internists and cardiologists. Certification in Advanced Heart Failure and Transplant Cardiology will require a high degree of competency in all aspects of heart failure care, including technical proficiencies required to manage patients undergoing heart transplant and device implants. These specialists will play a key role in delivering the highest quality of complex care in the most cost-effective manner. In the years to come, the specialty must adapt to the ongoing rapid expansion of evidence-based knowledge in this field to continue to provide the highest level of care and the best outcomes to patients with heart failure. (*J Cardiac Fail* 2009;15:98–100)

**Key Words:** Heart failure, training.

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On these pages and elsewhere in 2004, we published “Heart Failure Training: A Call for an Integrative, Patient-Focused Approach to an Emerging Cardiology Subspecialty.”<sup>1,2</sup> In September 2008, the American Board of Medical Specialties approved a proposal by the American Board of Internal Medicine (ABIM), originating within the Heart Failure Society of America (HFSA) and endorsed by the American College of Cardiology (ACC), to implement the secondary subspecialty of Advanced Heart Failure

and Transplant Cardiology. First and foremost, this action represents an essential advance for patients with heart failure and their families. When a patient with advanced heart failure is referred for additional expertise, he or she will know that the expert consultant has been rigorously trained and has proficiencies in well-defined areas that are required for providing state-of-the-art health care in this rapidly advancing field.

With our aging population and improved survival after myocardial infarction, heart failure prevalence and associated morbid and fatal event rates have continued to climb. At the same time, we have seen major advances in diagnosis and treatment, which have converted the diagnosis of heart failure from that of an extremely high mortality rate to one of a guarded prognosis and protracted course, but often with the opportunity for improved functional status and sometimes with the complete resolution of structural abnormalities, signs, and symptoms with proper treatment. Therapeutic options for patients with advanced heart failure, including heart transplant and ventricular assist devices (VADs), have become increasingly complex, requiring substantial technical proficiency. As a result, a subspecialty has

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arisen de facto, with more than 40 cardiology programs in the United States providing training in the area of advanced heart failure and a growing number of individual cardiologists throughout the country offering a varying spectrum of expertise.

Over the past 4 years, the need for specialty certification and the nature of the necessary practitioner competencies have been discussed and vetted among leadership and organizations representing cardiologists, general internists, and physicians at large. Through this process, a broad consensus has developed, with several recurring points of emphasis: (1) the appropriateness of continued principal management of most heart failure patients by general internists and cardiologists; (2) the need for an advanced heart failure specialty to be positioned within the ABIM as a secondary subspecialty of cardiology; and (3) the need to incorporate into the training of these new specialists a number of required proficiencies in evaluation and management services as well as a growing array of technical competencies.

For the majority of patients with heart failure, excellent and adequate care can be provided by general internists or cardiologists, without subspecialized heart failure training. Heart failure specialists will never be available in sufficient numbers to provide the majority of care to the estimated 5 million Americans who carry this primary diagnosis, nor is such specialization needed for this purpose. During the course of their training, general internists and cardiologists gain substantial experience in managing the gamut of medical issues presented by patients with heart failure. Clinical practice guidelines, offered by both the HFSA, and jointly by the ACC and American Heart Association, provide clinicians with roadmaps for care, based on available evidence and expert opinion. Numerous opportunities exist for continued education in this area, including programs offered by the HFSA, practice improvement modules offered by the ABIM, and heart failure educational opportunities provided by the American College of Physicians. Heart failure specialists will likely be called on to provide consultation in many of these patients and to be available for additional care if and when the patient's condition advances and more specialized services are needed. Furthermore, specialists in Advanced Heart Failure and Transplant Cardiology will be well-suited to provide guidance in the conduct of disease management services, geared toward improving outcomes across populations of heart failure patients.

Certification in Advanced Heart Failure and Transplant is most appropriately positioned as a secondary subspecialty of cardiology. When patients are referred to a specialist in advanced heart failure, they require confidence that that individual possesses a high level of competency in areas such as ischemic heart disease, cardiac arrhythmia, valvular disease, cardiac diagnostic techniques, and cardiovascular pharmacology, which is achievable only through accredited subspecialty training in cardiology. This point is not to detract from the appropriately increasing role

and special competencies that many internists and family medicine specialists are gaining in heart failure management. Both the HFSA and ABIM will continue to foster development of these competencies through educational programs, self-assessment tools, and certificate programs.

Training in Advanced Heart Failure and Transplant Cardiology requires extensive exposure to the entire spectrum of patients with heart failure. Importantly, training programs must also enable technical competencies that are beyond the scope of general cardiology training. Among these proficiencies is evaluation of prospective patients for heart transplant and for an expanding array of electrophysiologic and hemodynamic support devices and complex percutaneous and surgical procedures. Proficiencies are also required in interrogation and management of devices following implant and in both early and late postoperative management of patients undergoing heart transplant, device implant, or other complex procedures. It will be possible for programs that are not transplant and VAD centers to offer training by forming collaborative relationships with programs that are accredited to deliver these services. We believe that such collaborations will be attractive to transplant/VAD programs because of the opportunities they will afford in establishing patient referral lines. Training for the Advanced Heart Failure specialist must adapt, going forward, to the ongoing evolution in novel devices and interventional procedures that will enter clinical practice as a result of current and future clinical investigations.

But technical competency is not nearly enough. We must train our specialists to exercise judgment in deploying complex interventions, both to provide the highest quality of care to the individual patient and to play a key role in addressing our nation's burgeoning health care costs. With heart failure representing the largest Medicare cost-driver among all diagnoses, we must elevate our focus on cost-efficacy to the highest priority level in our training programs and in our practice. Specialists in Advanced Heart Failure and Transplant Cardiology will be uniquely positioned to provide needed direction in cost-effective use of expensive resources; in advancing the practice of sensible and compassionate end-of-life care; and in developing data-driven, system-wide approaches to heart failure management. Organizations such as the ACC, the American Heart Association, and the various cardiovascular subspecialty organizations have led the way among medical professional and advocacy organizations in guiding our advancement toward quality and cost-effectiveness in medical practice and have worked hard to provide clinicians with the tools to accomplish these goals. A focus on these efforts, directed to improving clinical outcomes while reducing excess utilization of health care resources will command special emphasis in our training programs and certification requirements for Advanced Heart Failure and Transplant Cardiology.

Yes, there will be an examination. Together with documented training experience and proficiency, it will

**Table 1.** Clinical Experience (Inpatient and Outpatient) and Proficiencies to Be Required for Eligibility for Secondary Subspecialty Certification in Advanced Heart Failure and Transplant Cardiology

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Heart failure with dilated or nondilated LV
New onset heart failure
Acute decompensation of chronic heart failure
Heart failure in a geriatric population
Heart failure associated with cancer chemotherapy
Heart failure patients who are pregnant or recently postpartum
Heart failure and congenital heart disease
Heart failure in patients from diverse ethnic groups, with attention to specific diagnostic and therapeutic issues within these groups
Heart failure in men and women
Pulmonary hypertension
Heart failure pre- and postcardiac and noncardiac surgery
Inherited forms of cardiomyopathy
Hypertrophic cardiomyopathies
Infiltrative and inflammatory cardiomyopathies
Heart failure and arrhythmias
Heart failure in patients with other organs transplanted
Evaluation of patients for cardiac transplant or mechanical assist devices
Care of patients who have undergone cardiac transplant
Care of patients with mechanical assist devices
Evaluation of patients for ICDs and for CRT
Device interrogation and interpretation in patients with implanted ICD or ICD-CRT devices
Endomyocardial biopsies

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CRT, cardiac resynchronization therapy; ICD, implantable cardiac defibrillator; LV, left ventricle.

represent a component of the methodology used to verify each of the competencies described previously (Table 1). It is not presently planned to include competencies in device insertion, although it is anticipated that pathways will emerge for certifying competencies in the implant of select devices, as well. For the first 5 years, documentation of a high level and high quality of recent practice in the area of advanced heart failure and transplant will qualify Board-certified cardiologists to sit for the examination. Thereafter, qualification for the examination will require successful completion of a 1-year accredited training program, after completion of training in cardiology. Trainees can fully benefit from training in Advanced Heart Failure only after they have achieved all competencies required for board certification in cardiology. Although program accreditation procedures are not yet in place for the new specialty, the Accreditation Council for Graduate Medical Education is

expected to become the accrediting body for programs in Advanced Heart Failure and Transplant Cardiology, just as it is for programs providing training in other ABIM-certified primary and secondary subspecialties.

In the coming years and decades, certification requirements will need to adapt to the expected rapid advancement in the heart failure field. Ongoing basic mechanistic discovery and ongoing technologic advances will likely translate into a new wave of therapeutic pharmacologic and device options. Cell-based and gene-based research may yield radically new treatment approaches. Advances in genomics, proteomics, metabolomics, and molecular imaging may lead to extraordinary new diagnostic strategies and drive us toward a far more personalized approach to heart failure management. Training programs and certification criteria in heart failure will need to keep pace with these advances and, importantly, will need to equip the practitioner in Advanced Heart Failure and Transplant Cardiology with the insights needed to selectively and strategically deploy these diagnostic and therapeutic options in the most cost-effective manner.

Advanced Heart Failure and Transplant Cardiology is unique among the cardiovascular secondary subspecialties because of its principal focus on a disease state. Although this newly codified subspecialty contains a significant component of technical competency, its principal focus is the patient with heart failure. Given the growing burden of heart failure on our health care system and on individual patients, and given the current, long-overdue emphasis on quality of care, patient outcomes, and cost-effectiveness, there is no better time to launch this newest of medical specialties.

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