A PROPOSAL FOR THE FORMATION OF THE AMERICAN BOARD OF CARDIOVASCULAR MEDICINE

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This Application and the materials included therein are provided solely for review by the American Board of Medical Specialties in connection with its consideration of whether to grant approval to the American Board of Cardiovascular Medicine as a new medical specialty board. This Application and the materials included therein are the confidential and proprietary information of the American Board of Cardiovascular Medicine.

SECTION 1: **EXECUTIVE SUMMARY**

The American College of Cardiology (ACC), the American Heart Association (AHA), Heart Failure Society of America (HFSA), Heart Rhythm Society (HRS), and Society for Cardiovascular Angiography & Interventions (SCAI) respectfully submit this application to establish a new, independent Cardiovascular Board: the American Board of Cardiovascular Medicine (ABCVM). Outlined herein is a detailed approach to building and sustaining the ABCVM that satisfies all requirements as outlined by the American Board of Medical Specialties (ABMS) for approval of new examining boards. The application is organized into specific sections as described below.

Achieving and maintaining clinical competence in the practice of cardiovascular medicine is fundamental to providing appropriate, high-value health care, and is part of the ethical and professional duties of cardiologists in their responsibility to patients and the public. In meeting this responsibility, it is essential to recognize the practice of Cardiovascular Medicine as a distinct specialty of medicine, independent of Internal Medicine, with its own well-defined scientific and clinical knowledge, its own unique patient base, its own areas of subspecialization, and its own separately defined training pathways.

Section 2: The Case for an Independent Certifying Board for Cardiovascular Medicine demonstrates Cardiovascular Medicine as a distinct and well-defined field of medical practice serving a defined patient population. This section also describes the clear scope of practice for Cardiovascular Medicine as well as the vast cardiovascular training network in the United States and the development of specialized systems of care to ensure the highest quality and best possible patient outcomes for the public good.

Section 3: Operational Plan explains the ABCVM's governance structure and details a business plan demonstrating the ability to organize the ABCVM as a fiscally responsible and financially solvent certifying Board. The content of the field is also outlined in this section as well as the requirements for and evaluation of initial and continuing certification programs, and recertification opportunities.

A host of expertise in evidence-based care approaches, development of clinical competency statements, clinical registries, implementation of new technologies and therapeutics, and the redesigning of team-based, multidisciplinary care, coupled with relevant competencies in innovative assessment along with learning and evaluation techniques, comprise the collective capabilities of the coalition of partner societies to be tapped by the ABCVM. These capabilities

and the novel approaches they employ are all well aligned with the published set of contemporary ABMS standards that promote an integrated and comprehensive approach to a cardiovascular physician's continuing professional development.

Section 4: Additional Capabilities describes various capabilities that offer a depth of expertise and leadership capacity in cardiovascular medicine. Also described are the competencies that can enhance the certification experience via streamlined technology and enriched relationships between certifying boards and medical specialty societies.

Section 5: Envisioning the Future shares a hopeful picture for the continued relevance of board certification in medicine by combining innovative thinking with an established framework for excellence. Sustaining competence in today's practice of Cardiovascular Medicine spans far beyond the attainment of clinical knowledge to address the whole professional who regularly demonstrates skills in team-based care, patient-provider communications, and equitable health care practice. The broad view of professionalism proposed by the ABCVM best serves patients, families, and communities.

The document appendices in Sections 7 through 11 provide additional detail related to the main body of the document. Section 7 summarizes the information required in Sections III and VI of the ABMS policy on Admission of New Medical Specialty Boards to Membership in The American Board of Medical Specialties.[2] To be recommended for approval by the ABMS Advisory Body on Specialty Board Development, a new medical specialty board must demonstrate that each requirement has been satisfied. Table ES.1 cross-references each requirement with the section(s) in the application where it is addressed.

Careful consideration also has been made for addressing both the ABMS Standards for Initial Certification[3] and the new ABMS Standards for Continuing Certification[4] in proposing the ABCVM. For ease of reference, Tables ES.2 and ES.3 cross-reference these standards with sections in the application where each is addressed.

Now is the time to "change the conversation" and enable an independent Cardiovascular Board with a philosophy and purpose that emphasizes competency-based, meaningful certification experiences. This is possible through the building of programs that emphasize supportive assessment and lifelong learning focused on sustaining excellence, building professional trust, and harnessing innovation. The ABCVM is poised to achieve these outcomes.

Table ES.1

Cross-Reference of New Board Requirements Addressed in Application

Criterion	Section in Application
ABMS Requirement III.1. Primary Composition of Diplomates	**Executive Summary** **Section 2.2. Cardiovascular Medicine is a Distinct Medical Specialty** **Section 3.4. Certification Requirements** **Section 7.2. Proposed Objectives and Functions of the Board**
ABMS Requirement III.2. Board Objectives, Functions, Core Competencies and Scope of Practice	**Section 2. The Case For an Independent Certifying Board For Cardiovascular Medicine** **Section 3.3. Content of the Field** **Section 9. Appendix C – Advanced Training Statements, Lifelong Learning Statements and Competencies in Cardiology** **Section 10. Appendix D – Guideline Statements in the Field of Cardiology** **Section 11. Appendix E – Current ABIM Cardiology Blueprint**
ABMS Requirement III.3. Serving Patient and Public Interests and Diplomate Needs	**Section 2. The Case For an Independent Certifying Board For Cardiovascular Medicine**
ABMS Requirement III.4. Training and Evaluation Methods Supporting ABMS Standards	**Section 3.4. Certification Requirements** **Section 3.5. Evaluation Plan** **Cross-referenced in Table ES.2 ABMS Initial Certification Standards Considered in Application** **Cross-referenced in Table ES.3 ABMS Continuous Certification Standards Considered in Application**
ABMS Requirement III.5. Training Needed to Meet Requirements For Certification and Distinctness of Training	**Section 2.4. Training is Distinct From Other Boards** **Section 3.4.1. Initial Certification Requirements**
ABMS Requirement III.6. Validation of Requirements For Initial and Continuous Certification	**Section 3.3. Content of the Field** **Section 3.4. Certification Requirements** **Section 3.5. Evaluation Plan** **Cross-referenced in Table ES.2 ABMS Initial Certification Standards Considered in Application** **Cross-referenced in Table ES.3 ABMS Continuous Certification Standards Considered in Application**

Table ES.1 (continued)

Criterion	Section in Application
ABMS Requirement III.7. ACGME Training and Residency Requirements	**Section 3.3. Content of the Field** **Section 3.4.1. Initial Certification Requirements** **Section 7.7. Institutions Providing Training** **Section 9. Appendix C – Advanced Training Statements, Lifelong Learning Statements and Competencies in Cardiology**
ABMS Requirement III.8 Accommodation of Individuals Completing GME Requirements Prior to Establishment of ACGME-accredited Programs	**Section 3.4.1. Initial Certification Requirements** **Section 3.5.1. Initial Certification Evaluation Requirements** **Section 7.9. Initial Certification Application Process** **Section 7.10. Provisions For Physicians Without Examination or Accredited Training**
ABMS Requirement III.9 Evidence of Broad Support From the Field	**Section 7.3.2. American College of Cardiology** **Section 7.3.3. American Heart Association** **Section 7.3.4. Heart Failure Society of America** **Section 7.3.5. Heart Rhythm Society** **Section 7.3.6. Society for Cardiovascular Angiography & Intervention** **http://www.cvboard.org**
ABMS Requirement III.10 Training Program Data	**Section 7.7. Institutions Providing Training**
ABMS Requirement III.11 Proposed Board Name and Officials	**Section 7.1. Name of the Proposed Specialty Board** *Names and Credentials of Officers and Executives Pending (Section 7.5.1. and 7.5.2.)*
ABMS Requirement III.12 Operational Plan	**Section 3. Operational Plan** **Section 3.2. Business Plan** **Section 3.5.4. Initial and Continuing Certification Programs Audit Plan** **Section 7.2. Proposed Objectives & Functions of the Board** **Section 7.5. Board Organization** *Names and Credentials of Officers and Executives Pending (Section 7.5.1.)*
ABMS Requirement III.13 Constitution and Bylaws	**Section 7.6.2. Proposed Bylaws**

Table ES.1 (continued)

Criterion	Section in Application
ABMS Requirement III.14 Articles of Incorporation	**Section 7.6.1. Proposed Articles of Incorporation**
ABMS Requirement III.15 Application For Initial and Continuing Certification	**Section 3.4.1. Initial Certification Requirements** **Section 3.4.2. Continuous Certification Requirements** **Section 3.5.2. Continuous Certification Evaluation Plan** **Section 7.10. Initial Certification Application Process** Note that the continuing certification process will be ongoing in 5-year cycles after a diplomate becomes certified.
ABMS Requirement III.16 Application Fee	**Submitted with application**
ABMS Requirement VI.1 Proposed Changes to Core Content, Competencies, and Blueprints	**Section 3.3. Content of the Field** **Section 3.4. Certification Requirements** *Supplemental Material as Necessary Pending*
ABMS Requirement VI.2 Impacts to Currently Practicing Diplomates	**Section 3.4.1. Initial Certification Requirements** **Section 3.4.2. Continuing Certification Requirements** **Section 4.4. Physician-Focused Study and Remedial Tools** **Section 4.6. Transition Planning**
ABMS Requirement VI.3 Evolution of Cardiology to a Field Distinct From Internal Medicine	**Section 2. The Case For an Independent Certifying Board For Cardiovascular Medicine**
ABMS Requirement VI.4 Evidence of Dialogue With Parent Specialty Board	**Section 7.4. Dialogue and Response from Parent Board**
ABMS Requirement VI.5 Process For Subspecialties Under Multiple Boards	**The cardiology certificates to be offered by ABCVM are all currently offered exclusively through ABIM.**

Table ES.2

ABMS Initial Certification Standards Considered in Application

ABMS Standard	Section in Application Addressing Standard
GS-1. The Member Board must incorporate all six ABMS/ACGME Core Competencies.	**Section 2.3.1. Cardiovascular Medicine Has Rigorously Defined Competencies** **Section 9. Appendix C – Advanced Training Statements, Lifelong Learning Statements and Competencies in Cardiology**
GS-2. The Member Board and the training programs in a specialty share responsibility for assessing a candidate's suitability for certification.	**Section 2.3. There is a Clear Scope of Practice & Standards of Competence** **Section 3.5.1. Initial Certification Evaluation Plan** **Section 9. Appendix C – Advanced Training Statements, Lifelong Learning Statements and Competencies in Cardiology**
GS-3. The Member Board must determine eligibility criteria, including the expiration date for the Board Eligible period.	**Section 2.3.2. The New Board Has a Vision For Evaluating Expertise** **Section 3.4.1. Initial Certification Requirements** **Section 3.5.1. Initial Certification Evaluation Plan**
GS-4. The Member Board will work to maintain the value of Initial Certification to the Public and profession through systematic efforts to evaluate and improve the initial certification program to reflect advances in medical practice and assessment methodology.	**Section 3.3.4. Nonclinical Competencies** **Section 3.5.3. Evaluation of Professional Standing** **Section 3.5.4. Initial and Continuing Certification Programs Audit Plan**
PPS-1. The Member Board will work identify and convey that Board's professionalism expectations to its candidates or Initial Certification.	**Section 3.5.3. Evaluation of Professional Standing** **Section 4.6. Transition Planning (Policies and Process)**
PPS-2. Each ABMS Member Board will have a process in place to consider the circumstances of an action taken against a candidate's license by a State Medical Board or other determination of unprofessional conduct by an appropriate authority and to respond appropriately.	**Section 3.5.3. Evaluation of Professional Standing** **Section 4.6. Transition Planning (see Committees: Disciplinary Sanctions and Appeals Committee)**

Table ES.2 (continued)

ABMS Standard	Section in Application Addressing Standard
ET-1. The Member Board will establish requirements for training and document that candidates have met these requirements prior to awarding a certification. Training requirements should address duration and quality by total training time for specialties and subspecialties. Programs must be accredited by the ACGME.	**Section 2.4. Training is Distinct From Other Boards** **Section 3.4.1. Initial Certification Requirements** **Section 7.7. Institutions Providing Training** **Section 9. Appendix C – Advanced Training Statements, Lifelong Learning Statements and Competencies in Cardiology**
ET-2. The Member Board may choose to recognize alternate pathways to Initial Certification.	**Section 3.4.1. Initial Certification Requirements**
KJS-1. The Member Board must assess candidates' mastery of the core knowledge, judgment, and skills in the specialty.	**Section 3.5.1. Initial Certification Evaluation Plan**
KJS-2. Examination procedures should reflect accepted educational standards for test design, development, administration, reliability, validity, fidelity, scoring, and reporting.	**Section 3.5.1. Initial Certification Evaluation Plan** **Section 4.1. Integrity and Psychometric Expertise** **Section 4.2. Analysis and Reporting Expertise**
KJS-3. Test administrations should be conducted in a manner that ensures that 1) the identified test-taker is, in fact, the person who is taking the test; 2) materials and other assistance used during the examination are limited to those provided or approved by the ABMS Member Board; 3) actual test content is protected and secure; and 4) information about test content is not shared by examinees, examiners, or anyone else associated with the examination unless specifically approved by the Member Board. Policies and procedures consistent with the Americans with Disabilities Act should be in place to evaluate candidates' requests for accommodations in test administration.	**Section 4.3. Testing Technology, Data Tracking, Security & Accommodations** **Section 4.3.1. Initial Certification**

Table ES.3

ABMS Continuing Certification Standards Consideration in Application

ABMS Standard	Section in Application Addressing Standard
1. Program Goals Member Boards must define goals for their continuing certification program that address the overarching themes in the Introduction and each of the subsequent standards in this document.	**Section 2. The Case For An Independent Certifying Board For Cardiovascular Medicine**
2. Requirements for Continuing Certification Member Boards must define the requirements and deadlines for each component of their integrated continuing certification program.	**Section 3.4. Certification Requirements**
3. Assessment of Certification Status Member Boards must determine at intervals no longer than five years whether a diplomate is meeting continuing certification requirements to retain each certificate.	**Section 3.4. Certification Requirements**
4. Transparent Display of Certification History Member Boards must publicly display and clearly report a diplomate's certification status and certification history for each certificate held. Member Boards must change a diplomate's certificate(s) status if any requirements (either a performance or participation requirement) in their continuing certification program are not met. Changes in the status of a certificate must be publicly displayed, including any disciplinary status. Member Boards must use common categories for reporting the status of certificates, with such categories being defined, used, and publicly displayed in the same way.	**Section 3.4.2. Continuous Certification Requirements** **Section 3.5.2. Continuous Certification Evaluation Plan**
5. Opportunities to Address Performance or Participation Deficits Member Boards must provide diplomates with opportunities to address performance or participation deficits prior to the loss of a certificate. Fair and sufficient warning, determined by each Member Board, must be communicated that a certificate might be at risk.	**Section 3.5.2. Continuous Certification Evaluation Plan**
6. Regaining Certification Member Boards must define a process for regaining certification if the loss of certification resulted from not meeting a participation or performance standard.	**Section 3.4.3. Recertification Requirements**
7. Program Evaluation Member Boards must continually evaluate and improve their continuing certification program using appropriate data that include feedback from diplomates and other stakeholders.	**Section 3.5.4. Initial and Continuing Certification Programs Audit Plan**
8. Holders of Multiple Certificates Member Boards must streamline requirements for diplomates who hold multiple certificates, to minimize duplication of effort and cost.	**Section 3.4.2. Continuous Certification Requirements**

Table ES.3 (continued)

ABMS Standard	Section in Application Addressing Standard
9. Diplomates Holding Non-time-limited Certificate Member Boards must have a process by which non-time-limited certificate holders can participate in continuing certification without jeopardizing their certification status.	**Section 3.4.2. Continuous Certification Requirements**
10. Review of Professional Standing a. Primary Source Verification of unrestricted licensure must occur annually. b. In addition, Member Boards must have a mechanism to identify and review information regarding licensure in every state in which the diplomate holds a medical license. c. Any actions by other authorities that signal a violation of the Member Board's professionalism policies that become known by a board must also be reviewed.	**Section 3.5.3. Evaluation of Professional Standing**
11. Responding to Issues Relating to Professional Standing and Conduct Member Boards must have policies on professional standing and conduct that define the process for reviewing and taking action on the information that reflects a violation of professional norms. Policies should be communicated to diplomates and available on Member Board websites.	**Section 3.5.3. Evaluation of Professional Standing**
12. Program Content and Relevance Member Boards' continuing certification programs must balance core content in the specialty with practice-specific content relevant to diplomates.	**Section 2. The Case For an Independent Certifying Board For Cardiovascular Medicine** **Section 3.3.1. Core Content and Clinical Competencies** **Section 3.3.3. Blueprints of Cardiovascular Medicine and Subspecialties**
13. Assessments of Knowledge, Judgment, and Skills Member Boards must assess whether diplomates have the knowledge, clinical judgment, and skills to practice safely and effectively in the specialty. Member Boards must offer assessment options that have a formative emphasis and that assist diplomates in learning key clinical advances in the specialty.	**Section 3.4. Certification Requirements**
14. Use of Assessment Results in Certification Decisions Member Boards' continuing certification assessments must meet psychometric and security standards to support making consequential, summative decisions regarding certification status.	**Section 3.5.2. Continuous Certification Evaluation Plan** **Section 4.1. Integrity and Psychometric Expertise** **Section 4.2. Analysis & Reporting Expertise**

Table ES.3 (continued)

ABMS Standard	Section in Application Addressing Standard
15. Diplomate Feedback from Assessments Member Board assessments must provide personalized feedback that enhances learning for diplomates.	**Section 3.4.2. Continuous Certification Requirements**
16. Sharing Aggregated Data to Address Specialty-based Gaps Member Boards must analyze performance data from their continuing certification program to identify any specialty-based gaps. Aggregated identified gaps should be shared with essential stakeholders, including diplomates, for the development of learning opportunities.	**Section 4.3. Testing Technology, Data Tracking, Security & Accommodations** **Section 4.3.2. Continuous Certification**
17. Lifelong Professional Development a. Member Boards' continuing certification programs must reflect principles of Continuing Professional Development (CPD) with an emphasis on clinically oriented, highly relevant content. b. Continuing certification should increase a diplomates' knowledge, skills and abilities that result in the provision of safe, high-quality care to patients. c. CPD activities must be of high quality and free of commercial bias. d. Member Boards should work with stake holders to help diplomates identify relevant, high-quality activities and report completion with minimal administrative burden.	**Section 3.4.2. Continuous Certification Requirements** **Section 3.5.2. Continuous Certification Evaluation Plan** **Section 4.1. Integrity and Psychometric Expertise**
18. Quality Agenda In collaboration with stakeholder organizations, Member Boards must facilitate the process for developing an agenda for improving the quality of care in their specialties. One area of emphasis must involve eliminating health care disparities.	**Section 3.4.2. Continuous Certification Requirements** **Section 3.5.2. Continuous Certification Evaluation Plan**
19. Engagement in Improving Health and Health Care Member Board continuing certification programs must commit to helping the medical profession improve health and health care.	**Section 3.4.2. Continuous Certification Requirements**

SECTION 2:
THE CASE FOR AN INDEPENDENT CERTIFYING BOARD FOR CARDIOVASCULAR MEDICINE

2.1. THE GOAL IS CONTINUOUS CLINICAL EXCELLENCE

Continuous clinical excellence – it's time to change the conversation from episodic knowledge testing to ongoing evaluation and support of clinical competence. Ensuring that cardiologists achieve clinical competence in cardiovascular training and then maintain competence throughout their career is fundamental to providing appropriate, high-value health care, and critical for the ethical and professional duties of cardiovascular professionals. Patients and the public expect their physicians to have the ability to deliver high-quality care and should require that there are standards in place to assure continuous competence. In defining professional competence, the 2020 AHA/ACC Consensus Conference on Professionalism and Ethics states:[5]

To maintain competence, physicians must be committed to lifelong learning and be responsible for maintaining the medical knowledge and clinical and team skills necessary for the provision of quality care. More broadly, the profession must strive to see that all its members are competent and must ensure that appropriate mechanisms are available for physicians to accomplish this goal.

Achieving a cardiovascular board certification is a rigorous process underpinned by the completion of formal, standardized training via a robust national network of cardiovascular fellowship programs, following completion of training and certification in Internal Medicine.[6] Presently, initial certification in Cardiovascular Medicine is achieved via a "high-stakes," timed examination covering the entire body of cardiovascular knowledge. "Passing the boards" is an important professional milestone indicating a physician's mastery of that standard body of knowledge. Maintenance of a cardiovascular specialty certification, in its present form, is similarly accomplished by episodic knowledge testing. Implied throughout this cycle of standardized knowledge testing is that maintaining certification indicates clinical competence.

Clinical competence requires knowledge, but with a broader focus than knowledge certification alone. True clinical competence in medicine requires both formal and experiential knowledge. Formal knowledge is the didactic content of medical science; it comes to learners through teaching via textbooks, journals, lectures, and peer-to-peer learning, and it is typically measured through standardized testing. Experiential knowledge, by contrast, is "know-how," which is the combination of informed intuition, technical skills, interpretive skills, interpersonal skills, and

implicit or tacit knowledge that comes from acquired clinical experience.[7] Clinical competence requires the dynamic, synergistic intersection between these two forms of knowledge. It is the successful application and integration of acquired knowledge, practical experience, critical thinking, and complex decision-making to solve clinical problems.

Certification and assessment of competence fall under the purview of the American Medical Association (AMA) and its ABMS. There are currently 24 ABMS certifying boards, with the ABIM being the largest and broadest in conferring certifications in 20 specialty and subspecialty disciplines. Since 1941, Cardiovascular Medicine has been a part of the ABIM and, early on, this position made sense. However, over the years, Cardiovascular Medicine has evolved dramatically to encompass unique diagnostic and therapeutic technologies, care pathways, evidence-based guidelines, integrated systems of care, nonclinical competencies, and requirements for highly differentiated training to care for increasingly diverse populations of patients along the entire arc of their life, from prenatal to the end of life. This outgrowth from a subspecialty of Internal Medicine to a separate and distinct medical specialty, with its own subspecialties and evolving sub-subspecialities, has made the natural fit within Internal Medicine less and less appropriate, and less relevant over time.

Continuous clinical excellence for the delivery of the best care to cardiovascular patients demands a uniquely specialized and novel approach for achieving and maintaining competence. Accordingly, it is time for the field of Cardiovascular Medicine to be governed by a separate and distinct certifying body that meets the unique needs of today's cardiovascular professionals and their patients. It is time to change the paradigm for Cardiovascular Medicine, currently the largest Internal Medicine subspecialty in the United States, by building a new Board that abides by these guiding principles:

- Directed by an ultimate responsibility to the public.
- Focused on patients at the center of all decisions.
- Affirmed by professionalism, equity, and well-being.
- Driven by continuous learning, not continuous testing.
- Centered on relevance to real-world practice.
- Aligned with cardiovascular subspecialization and team-based care.
- Supportive of both established and innovative educational methods and assets.
- Accountable for nonclinical competencies necessary for effective team-based care.
- Committed to sustained value for cardiovascular professionals and their patients.

New certifying Boards are recommended for approval by the ABMS Advisory Body on Specialty Board Development. To be recommended for approval, the applicant specialty board must demonstrate satisfactory adherence to a list of twelve requirements as listed in Section III of the policy concerning the content of the application. Since this applicant specialty board is requesting to transition from oversight within an existing ABMS subspecialty to a distinct primary board,

the additional requirements listed in Section VI of the policy must also be addressed.[2] Additionally, an overarching responsibility of all certifying Boards should be to establish a spirit and interest in innovation, inclusivity, and collaboration.

The balance of Section 2 outlines the case for Cardiovascular Medicine currently meeting these requirements, thus its readiness to form an independent certifying board. The new Board will focus on meaningful formative assessment, practice-specific competence, supportive closure of learning gaps, quality improvement, nonclinical knowledge, and continuous updating of knowledge and skills—all of which are best designed by cardiologists for cardiologists.

2.2. CARDIOVASCULAR MEDICINE IS A DISTINCT MEDICAL SPECIALTY

The field of Cardiovascular Medicine has evolved from its start as a small subspecialty of Internal Medicine to a large, distinct, and complex specialty with its own subspecialties. First, Cardiology is a large discipline whose clinicians treat patients with specific medical conditions requiring competence in applying highly specialized knowledge and skills that are differentiated from Internal Medicine. Second, the practice of Cardiology has become highly technical with unique diagnostics and treatments. Dedicated therapeutic regimens, from prevention to intervention, have developed for cardiovascular patient care and unique management protocols have evolved to ensure relevant quality care. As such, many cardiology departments across the country have become separate operational, financial, administrative, and educational units within hospitals, academic health centers, and health systems. Third, high-quality, patient-centered cardiovascular care now requires extensive and distinctive knowledge of cardiovascular diseases, interpretive skills for cardiovascular-specific imaging, and proficiency in cardiovascular diagnostic and therapeutic procedures. Supporting evidence is outlined below.

2.2.1. Cardiovascular Medicine is Distinct From Internal Medicine With Unique, Dedicated Postgraduate Training

Cardiology and cardiovascular subspecialties account for the largest number of valid ABIM certifications: more than 29,000 in the United States in general cardiology alone and more than 40,000 with all cardiovascular subspecialties included.[8] More than 60% of practicing cardiologists have an additional subspecialty certification beyond general cardiology. Additionally, cardiovascular certification requires a minimum of 3 years of dedicated postgraduate clinical training in knowledge and procedural skills that is not part of Internal Medicine practice or training. For instance, cardiologists have extensive training, and many even acquire diagnostic certifications, in the use of cardiovascular imaging (echocardiography, nuclear cardiology, cardiac computer tomography [CT], cardiac magnetic resonance imaging [MRI], etc.) that is distinct from general imaging training encountered in Internal Medicine. In some cardiovascular subdisciplines, there is substantial overlap with the specialized fields of radiology and surgery.

Cardiologists spend considerable time in training learning procedural skills, often requiring 1–3 years of additional post-fellowship training, including areas such as cardiac catheterization, cardiac rhythm

management device implantation, and arrhythmia ablation procedures. Interventional cardiologists increasingly work side-by-side with cardiovascular surgeons and perform similar invasive procedures, including coronary revascularization, ventricular mechanical support, left atrial appendage occlusion, and cardiac valve implantation. Cardiac electrophysiologists (EPs) additionally master a broad array of surgical- and catheter-based skills, and minimally invasive cardiac arrhythmia procedures. These are just a few examples, among many, which highlight the very specific and distinct training and skillsets required for cardiology practice.

While Internal Medicine provides a foundation for the future practice of Cardiovascular Medicine, much like medical school provides a foundation for Internal Medicine, the bulk of knowledge and procedural skills used by cardiologists is distinct from Internal Medicine training. The acquisition of cardiovascular procedural skills is more analogous to practical, case-based experiential surgical training.

Additional details regarding unique cardiovascular training are outlined in *Section 2.4: "Training Is Distinct from Other Boards."*

2.2.2. Cardiovascular Medicine Comprises Specific Subspecialties With Multiple Certifications Offered

Cardiologists work across a broad spectrum of diseases and conditions, including coronary artery disease, heart failure, arrhythmias, valvular heart disease, congenital heart defects, and much more. Each condition requires a deep understanding of the pathophysiology, diagnostic methods, and appropriate treatment options. As a result, several distinct subspecialties within Cardiovascular Medicine have evolved. Currently, board certifications are offered in general cardiology and the four subspecialities listed below. Each area requires initial certification in general cardiology plus 1–3 years of additional dedicated training in a well-defined and distinct set of knowledge and procedural skills:

- General Cardiology
- Subspecialties:
  - Interventional Cardiology (IC)
  - Clinical Cardiac Electrophysiology (CCEP)
  - Advanced Heart Failure and Transplant Cardiology (AHFTC)
  - Adult Congenital Heart Disease (ACHD)

Cardiology is a constantly evolving specialty. In addition to these five areas within cardiology, there are other areas, such as cardiovascular imaging and vascular medicine to name a few, that have dedicated assessment programs for initial certification and maintenance of certification (MOC) offered through other boards. The past decade has seen the emergence of several new subspecialities, including cardio-oncology, which focuses on cardiovascular care for patients with cancer; cardio-obstetrics, which provides specialized care for women with cardiovascular disease or who have a risk of pregnancy-related complications; interventional heart failure; cardiometabolic programs; cardiovascular genetics; structural heart disease; and many others.

Indeed, there is a trend toward "hyper-subspecialization" in cardiovascular training, with more than one-half of trainees now seeking additional subspecialty training after their general cardiology fellowships.[9] Consider ACHD. Today, the number of ACHD patients is greater than the number of general pediatric patients needing cardiac care, which was unheard of only a few decades ago, and is due to numerous groundbreaking advances in the field allowing many of these patients an extended life expectancy.[10] In 2012, the importance of this highly specialized discipline was recognized with the creation of the subspecialty certification for ACHD.[11] The large number of subspecialties within cardiology continues to grow and differentiates it as its own distinct field of medicine.

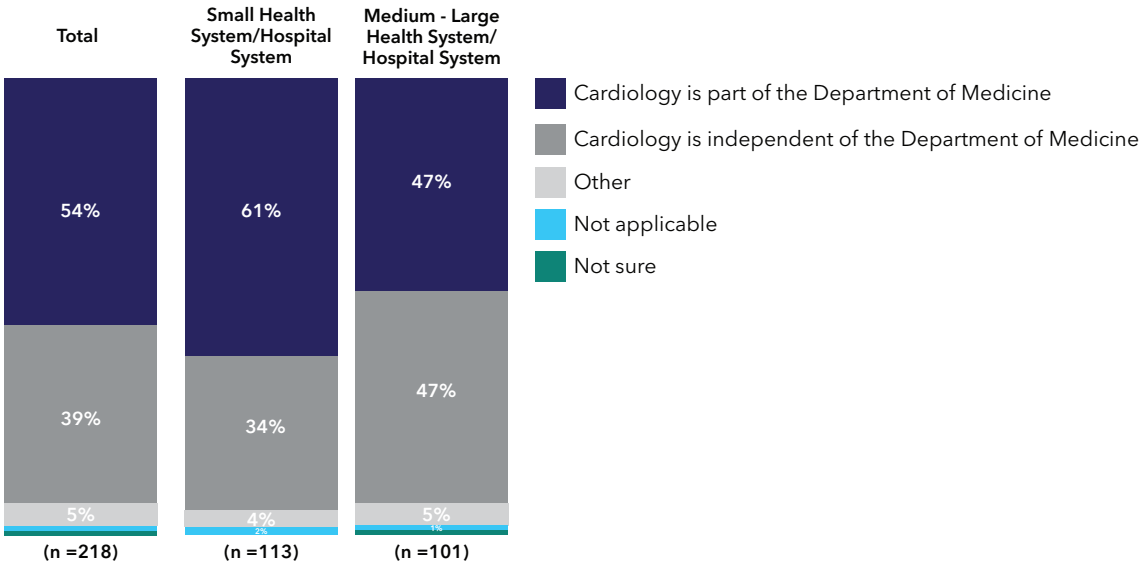
2.2.3. Departments of Cardiovascular Medicine Are Increasingly Separated From Internal Medicine

Another indication that Cardiovascular Medicine is a distinct specialty from Internal Medicine is a practical one. Cardiology departments across the United States are separating from Internal Medicine departments in academic medical centers and health systems. In fact, in many heart and vascular institutes or centers, Cardiovascular Medicine is often grouped and aligned with specialists in cardiothoracic surgery and vascular surgery rather than with Internal Medicine, further emphasizing the distinctness of the field. This includes separation from Internal Medicine regarding finances, administrative duties, academic affiliations, operations, and hospital and clinic geography. An ACC survey of 218 cardiology programs in 2022 found more than one-third of Cardiovascular Medicine departments operated separately from Internal Medicine; nearly half of those in medium-to-large institutions were separate (Figure 2.1).[12] Operationally, most academic and integrated health systems are organized into specific cardiovascular service lines encompassing all aspects of cardiovascular care, separate from Internal Medicine and its other medical subspecialties.

Figure 2.1

Is Department of Cardiology Part of or Independent of Department of Medicine?

- Overall, for slightly more than half of respondents surveyed from hospitals or health/hospital systems, the Department of Cardiology is part of the Department of Medicine (54%), while for nearly two-fifths Cardiology is independent of the Department of Medicine (39%).
- For those in medium to large systems, the split is equal (47%/47%). However, for small systems, Cardiology is more likely to be part of the Department of Medicine (61% vs 34%).



Q: Is the Department/Division/Section of Cardiology part of the Department of Medicine at your institution, or is the Department/Division/Section of Cardiology independent of the Department of Medicine? (n=218)

2.2.4. Cardiovascular Medicine Has Become Highly Technical With Specialized Diagnostics and Dedicated Therapeutic Regimens

Since the ABIM first recognized Cardiology as a subspecialty in 1941, the field has grown exponentially. It has matured from one in which the physical exam and electrocardiogram (ECG) were the primary tools in the armamentarium to evaluate and diagnose cardiovascular patients into a highly technical, highly specialized field with great advances in patient outcomes and substantially improved population-level cardiovascular morbidity and mortality. Multimodality imaging (echocardiography, CT, MRI, positron emission tomography); interventional cardiology (stents, valves, implantable sensors, peripheral vascular interventions); EP (intracardiac recordings, pacemakers, defibrillators, cardiac ablation); and heart failure (transplantation, left ventricular assist devices, remote pressure monitors), together with minimally invasive surgical procedures

and dozens of drug classes developed in the past 30 years have transformed the cardiovascular disease domain. Cardiology is situated at the nexus of the most advanced technologies, most expensive techniques, conditions most sensitive to changing lifestyles and demographics, and the deepest scientific understandings.[13]

Additionally, there are dedicated clinical practice proficiencies related to the field with their own separate knowledge base, procedures, diagnostics, and training, including:

- Acute coronary syndromes
- Atherosclerosis
- Cardiac arrhythmias
- Cardiac rehabilitation
- Cardio-oncology
- Cardiogenic shock
- Cerebrovascular disease
- Congenital heart disease in adults
- Coronary heart disease
- Coronary revascularization
- Critical care cardiology
- Diabetes and cardiovascular disease
- Electrocardiography
- Endocrine disorders and cardiovascular disease
- Exercise and sports cardiology
- Genetic cardiovascular diseases
- Heart failure
- Heart transplantation and mechanical assistance
- Hypertension
- Hypotension and syncope
- Lipid disorders
- Myo-pericardial disease
- Noninvasive cardiac imaging
- Pediatric cardiology
- Percutaneous interventions
- Peri-pregnancy cardiovascular disease and maternal health
- Peripheral artery disease
- Prevention of cardiovascular disease
- Pulmonary hypertension
- Renal disease and cardiovascular disease
- Valvular heart and aortic disease

Advancements in the field of Cardiology can be compared to Moore's Law of Acceleration, which states that the number of transistors on a microchip doubles every 2 years. Instead of transistors, however, there are novel drugs, procedures, and preventive approaches advancing the field in an evolutionary

fashion with the rate of information doubling every 2 months. Indeed, Cardiovascular Medicine has been responsible for numerous advances in medicine over the past 50 years, including:[14]

- **Echocardiography:** The process for assessing cardiac structures with ultrasound began in the 1960s and has since blossomed into a mature field capable of extremely detailed definition of the heart and great vessels using real-time 2D and 3D, with tissue characterization and global longitudinal strain analysis. Echocardiography is even utilized to diagnose congenital abnormalities in the developing fetus. This imaging technique has become integral to the practice of Cardiology and a thorough understanding of it has become a core component of cardiovascular training.[15]
- **Cardiac CT and MRI:** These imaging techniques were developed in the 1970s and were soon applied to Cardiovascular Medicine. Coronary CT angiography can now produce images that rival the accuracy of conventional invasive coronary angiography as well as characterize plaque directly. Cardiac MRI can provide detailed images of the myocardium and help to diagnose numerous conditions, including hypertrophic cardiomyopathy, infiltrative cardiomyopathies, ischemic heart disease, congenital disease, and arrhythmogenic right ventricular cardiomyopathy. Assessment of myocardial scarring with MRI has become a valuable tool for predicting ventricular arrhythmias. Multimodality imaging with these techniques has become a distinct subspecialty within Cardiovascular Medicine and all cardiovascular trainees now learn the basic elements of these imaging techniques and their clinical uses.[16-17]
- **Cardiac catheterization and coronary angiography:** The discovery that a catheter could be safely placed within the heart to allow the physician to record pressures and flows at rest and during exercise marked the first time normal and abnormal cardiac physiology could be defined in living humans.[18] Since then, IC techniques such as percutaneous coronary interventions have been integrated with coronary angiography to treat coronary artery disease. In fact, coronary angioplasty/stenting is now one of the most commonly performed medical procedures in the world.[14] Today, coronary angiography is also combined with intravascular imaging (IVUS, OCT) and physiologic flow measurements (FFR, iFR, DFR) to enhance decision making regarding revascularization and treatment.
- **Transcatheter valve and structural heart disease intervention:** The development of surgical aortic valve replacement (SAVR) in the 1950–60s was a major advancement in the treatment of rheumatic and nonrheumatic valvular heart disease, a disease with a high rate of progression to heart failure and death. Over the past 20 years, transcatheter aortic valve intervention (TAVI) has rapidly progressed, allowing a stenotic aortic valve to be treated through a femoral catheter by a cardiovascular interventional specialist working in conjunction with a cardiac surgeon with less time, less morbidity, and much shorter recovery than surgery. Today, more aortic valves are replaced by cardiologists using TAVI than by SAVR. The procedure typically requires an additional 1–2 years of training after IC training.[19,20] Transcatheter techniques and devices have now been developed to treat all four cardiac valves and can correct several intracardiac and extracardiac congenital vascular anomalies.
- **Heart transplantation and mechanical ventricular support:** The first human heart transplant was performed in 1967, launching the cardiac subspecialty of Advanced Heart Failure and Transplantation. In 2021, there was a record 3,817 heart transplants in the United States,

the tenth consecutive year in which heart transplants set new records.[21] Advancements in biomedical engineering have allowed for the development and routine use of implantable and transcatheter mechanical pumps that temporarily or permanently support failing hearts, either as interim support to repair or transplantation, or as stand-alone destination therapy. The success of this field has been made possible by the parallel development of a distinct subspeciality of cardiologists devoted to their care, working side-by-side with cardiovascular surgeons and teams of allied professionals.

- **Cardiac rhythm management devices:** The first durable permanent cardiac pacemaker was surgically implanted in 1960 and the procedure has since prolonged and enhanced the lives of millions of patients with sinus node dysfunction and atrioventricular block. Recent technological developments have led to leadless pacemakers implanted by a femoral approach and direct pacing of the ventricular conduction system. Many pacemakers are implanted by cardiologists who learn the skill in general cardiology and/or CCEP training.[22,23] The first implantable cardioverter defibrillator (ICD) was implanted in 1980 and resulted in a revolution in the treatment of cardiovascular diseases with a high risk of sudden arrhythmic death. The earliest ICDs were implanted by cardiac surgeons using open chest approaches. Rapid technological advances have allowed them to be placed with minimally invasive techniques like placing a pacemaker. An entirely subcutaneous ICD is now available for selected patients. Almost all ICDs are now implanted by cardiologists who receive specialized training in implantation, programming, and management of ICDs during CCEP fellowship.[24,25] Other implantable devices can record cardiac rhythms for up to 3 years and some can "resynchronize" failing hearts to improve symptoms, reduce hospital admission, and decrease mortality in patients with heart failure.
- **Catheter ablation of arrhythmias:** Surgical transection of an accessory pathway in a young patient with Wolff-Parkinson-White Syndrome was first reported in 1968 by a surgeon working in close collaboration with clinical cardiologists who used techniques to map the location of the pathway. By the 1980s cardiac EPs developed catheter-based techniques allowing permanent ablation of numerous types of cardiac arrhythmias (including atrial, atrioventricular nodal, and ventricular arrhythmias) in several hours with same-day discharge. Learning these advanced techniques requires 2 years of dedicated training in a CCEP fellowship after training in general cardiovascular medicine.[23]
- **Additional advancements** include, among others:
  - The use of new therapies to regulate cholesterol, involving monoclonal antibody fragments and short interfering mRNA sequences.
  - Targeted drug therapies to reverse amyloidosis and hypertrophic heart disease.
  - New interventional techniques to disrupt coronary calcium and traverse chronically occluded arteries.
  - The use of wearable and implantable monitors and the application of artificial intelligence (AI) through remote patient monitoring to improve outcomes in heart failure patients.
  - Prenatal imaging and interventions to detect and treat congenital heart abnormalities.

The rapid acceleration of innovation and advances in Cardiovascular Medicine since 1941 has transformed the field of Cardiovascular Medicine and increasingly requires unique skills and training that are markedly different from those in Internal Medicine to practice effectively.

2.2.5. Patient-Centered Care in Cardiology Requires Extensive Knowledge of Diseases and Systems

In addition to the new techniques, diagnostics, and therapeutic regimens, Cardiovascular Medicine requires individualized, patient-centered care based on a person's age, sex, race/ethnicity, and interaction with their environment as well as the interdependence of all organ systems. Cardiology focuses specifically on understanding the structure, function, and diseases of the cardiovascular system, a complex network of blood vessels, the heart, and associated structures, but also important interactions with the peripheral, autonomic, and central nervous systems as well as the endocrine system, hematopoietic system, immune system, pulmonary system, renal-urologic systems, and even the gastrointestinal system. Given this complexity, it requires specialized knowledge and expertise to effectively diagnose and manage cardiovascular risk factors and diseases that also may interact with other seemingly separate systems.

Cardiology is also moving quickly to precision, patient-centric therapies, based on genetic predisposition, data from sensors/monitors, and other sophisticated tools that allow individualized, mechanistically directed care. Due to the complexity of disease, diagnosis, and management, care of the cardiovascular patient requires the cardiovascular specialist to work in a true team-based approach, bringing together the specific skills and training of other allied health professionals (including nurses, advanced practice professionals, cardiovascular technologists, cardiovascular pharmacists, exercise physiologists and rehabilitation specialists) to coordinate care that ensures optimal outcomes. The cardiovascular specialist must serve as the coordinator, manager, and leader of the care team to deliver safe, effective, high-value care. These aspects of team-based, systems-based, multidisciplinary care require unique professionalism, communication, and management skills that are increasingly important in the management of complex patients. Specifically:

- **Age:** Cardiac conditions often manifest differently across different age groups. Cardiologists must consider age-specific risk factors, physiological changes, and appropriate diagnostic and treatment approaches when managing cardiac conditions in patients of different age groups.[27]
- **Sex:** There are notable differences in the presentation, risk factors, and treatment response for certain cardiac conditions between men and women. For instance, women may experience symptoms that differ from men during a myocardial infarction and are more susceptible to less common causes such as spontaneous coronary dissection. They also have unique considerations during pregnancy-related cardiac conditions. [28]
- **Race/ethnicity:** Disparities in cardiovascular outcomes are well known. Black adults have higher rates of risk factors for cardiovascular disease and are more than twice as likely to die from cardiovascular disease as white adults.[29] There are other disparities seen in several ethnic groups, including Hispanics, Asians, and Native Americans.

- **Organ system:** The cardiovascular system interacts with, supports, and is impacted by various other organ systems in the body, which requires that cardiologists rely on the foundations of their preliminary Internal Medicine training to effectively treat the extra-cardiac manifestations and influences of systemic diseases. This necessitates that cardiovascular specialists collaborate with specialists from other medical and surgical disciplines to form interdisciplinary teams. For instance, cancer survivors face an increased risk of cardiovascular disease, both as a result of their treatments and higher rates of other cardiovascular risk factors (obesity, diabetes, hypertension, tobacco use, etc.) than patients who have not had cancer.[30,31] Another example is "diabesity," the health effects (primarily cardiovascular) of the twin epidemics of diabetes and obesity on the population, which requires a close collaborative relationship between cardiology, endocrinology, and primary care.[32] Systemic inflammation has been recognized as a significant cardiovascular risk factor and is likely a common pathway linking many conditions, such as psoriasis, systemic lupus erythematosus, HIV disease, and others, to atherothrombotic disease. Beyond other medical subspecialties, cardiovascular specialists routinely "co-manage" patients with cardiovascular disease undergoing general, urological, gynecological, orthopedic, and neurosurgical procedures.

Like managing new techniques and therapeutics, understanding the nuances of patient-centered factors is critical to providing the best, evidence-based care for patients in a coordinated, holistic way that also addresses the social determinants of health.

2.2.6. Cardiovascular Medicine Has Developed Specialized Systems to Ensure Quality Care

In addition to highly technical approaches, therapies, and patient-centered care, Cardiovascular Medicine has created unique systems and standards that support multidisciplinary, coordinated, team-based care, including clinical guidelines, expert consensus decision pathways, appropriate use criteria, performance measures, registries, and scientific statements.

Clinical practice guidelines and clinical guidance documents developed by cardiovascular societies set the evidenced-based standard of care and best practice in cardiovascular care. The ACC, AHA, HFSA, HRS, SCAI, and other subspecialty cardiovascular professional societies produce clinical guidance instruments collaboratively and, where appropriate, independently. These clinical guidance tools are continually developed and revised as new research results emerge and more evidence accrues on real-life outcomes from numerous registries in the field. In addition to providing specific best practice advice for cardiac conditions, these guidelines also cite the level of evidence driving the recommendations and set performance standards across the spectrum of cardiovascular practice. Great effort is taken to prevent bias or influence from industry and other outside forces. Additionally, data from cardiovascular clinical registries enables Cardiovascular Medicine to continually update best practices, ensure continuous process improvement, reduce variation in outcomes, improve the quality of care, and lower health care costs.[13]

Clearly, Cardiology has rapidly and extensively evolved since 1941 and has become a distinct field of medicine unique for its expanding spectrum of practice (prenatal to end of life),

rapid acceleration of innovations in diagnostic and therapeutic technologies, application of digital health tools, and use of precision, targeted therapeutics. Cardiology has defined areas of knowledge and training, and this is reflected in the delivery of cardiovascular care at an organizational and administrative level. Nearly half of medium- to large-sized health systems are organized into separate divisions or departments of Cardiovascular Medicine distinct from Internal Medicine. The same distinction has been seen in about one-third of academic medicine programs. The practice of Cardiology is highly technical with numerous advancements in treatments, devices, diagnostics, and therapies, which require specialized knowledge of patient populations to inform guideline-driven care. Additionally, the field has developed unique systems to ensure quality care for these populations, employing clinical guidelines, expert consensus decision pathways, appropriate use criteria, performance measures, registries, and scientific statements to assist with translating evidence into clinical practice.

2.3. THERE IS A CLEAR SCOPE OF PRACTICE AND STANDARDS OF COMPETENCE

Cardiovascular Medicine has a clearly defined scope of practice and standards of competence which have been set by rigorous scientific processes and experts in the specialty. Based on these standards, the paradigm of achieving and maintaining certification should be transformed to one of assessing and maintaining competence in a way that is supportive, informative, and constructive to diplomates as well as current with emerging information. The overarching goal of a new cardiovascular certifying Board is to ensure that cardiologists are delivering high-quality, evidence-based care for all cardiovascular patients by identifying and closing their own critical knowledge gaps in a way that is relevant, formative, and optimizes patient outcomes.

2.3.1. Cardiovascular Medicine Has Rigorously Defined Competencies

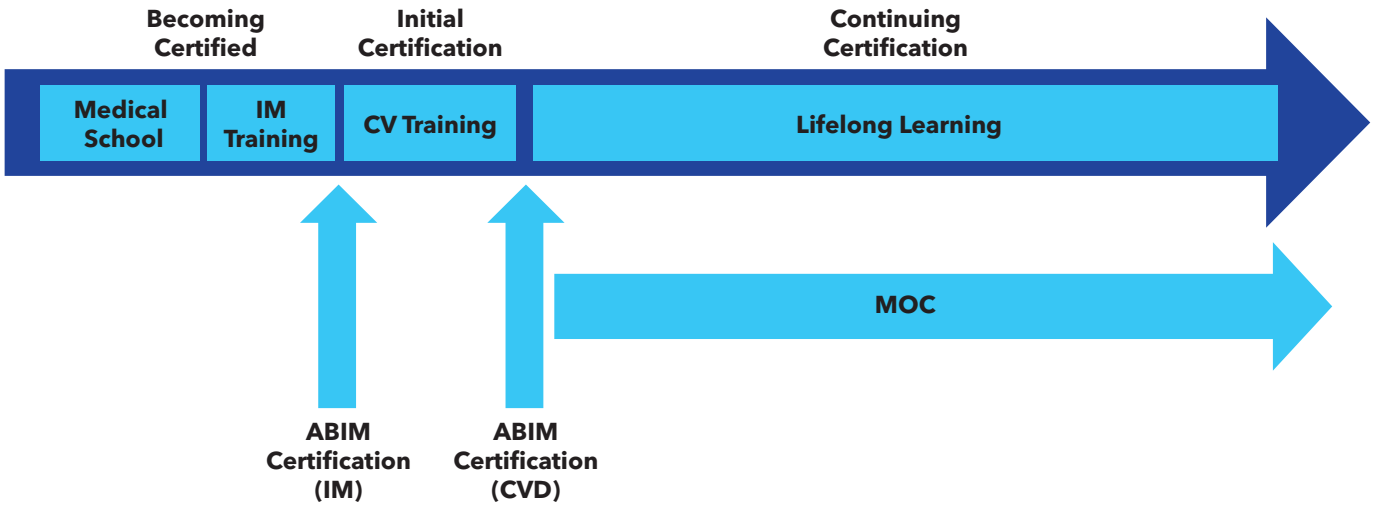
Cardiovascular professional societies develop and maintain competency statements that are used comprehensively by the entire cardiovascular community in both training and practice settings. These training and lifelong learning cardiovascular competency documents address the six ABMS/ACGME competency domains: Patient Care, Medical Knowledge, Professionalism, Interpersonal and Communication Skills, Practice-Based Learning and Improvement, and Systems-Based Practice. These competency statements set the standards for what is expected of a trainee and of a practicing cardiologist within all areas of Cardiovascular Medicine. Importantly, these competency statements are “living documents” that are updated accordingly. During training, they serve as a competency guide for trainees and program directors and are embedded in a curriculum reference known as COCATS (ACC Core Cardiology Training Symposium), which is further detailed in Section 2.4. In practice, they set knowledge and practice standards for what is expected of cardiovascular professionals across the country. Each competency statement set, whether focused on training or in-practice environments, has been clearly defined through a rigorous, peer-reviewed process by leaders of the specific specialty.

2.3.2. The New Board Has a Vision For Evaluating Expertise

Until now, clinical competence in cardiology following graduate medical education training and initial Board certification has largely been measured by MOC programs, typically focused on achieving passing scores on high-stakes assessments of knowledge (Figure 2.2). It is time to change the conversation from maintenance of certification to maintaining competency via continuous certification; from continuous testing to continuous learning by understanding and closing knowledge gaps and focusing on quality and performance improvement.[33]

Figure 2.2

Present Cardiovascular Certification Paradigm



The present cardiovascular certification paradigm includes American Board of Internal Medicine (ABIM) certification examinations in internal medicine (IM) and cardiovascular disease (CVD). Lifelong learning includes multisource education with periodic assessments for maintenance of certification (MOC), including the 10-year examination, the ABIM-American College of Cardiology Collaborative Maintenance Pathway, and the ABIM Longitudinal Knowledge Assessment. Figure courtesy of Dr. Jeffrey Kuvin.

The new Board's vision for certification is that it should be a comprehensive, integrated, and continuous assessment and learning experience. Initial certification should focus on assessment and application of knowledge gained from training that is representative of the practice of Cardiology. Maintaining continuous competence via certification should be tailored and relevant to what cardiovascular clinicians do in daily real-world practice in a supportive environment focused on learning and filling knowledge gaps.

The new Board would be committed to:

- Initial certification that is comprehensive, covering all required competencies (including ECG and cardiovascular imaging interpretation).
- Supporting continuous certification that increasingly emphasizes the knowledge and skills specific to an individual cardiovascular physician's area of daily practice.
- Measuring competency according to both clinical and nonclinical standards.
- Maintaining and reinforcing standards of professionalism and ethics.
- Building continuous certification requirements that allow credit for experiences within a physician's practice environment (experiential knowledge) through a lifelong learning structure, which includes:
  - Strategically aligning with cardiovascular societies to develop programs for diplomates that satisfy continuous certification requirements.
  - Maintaining an automated credit management system that accepts, stores, and reports credits earned in the pursuit of competency-based activities for continuous certification.
  - Sharing collated, de-identified assessment data and practice trends whenever possible to inform knowledge and skills required of a competent cardiologist.
  - Assimilating best practices for health equity into initial and continuous board certification requirements.

The new Board will establish a single standard of evaluation for initial certification as well as one for maintaining competence through its continuing certification for all diplomates. For initial certification, the Board will translate ABMS standards for initial certification into specific eligibility and passing requirements that are assessed via secured, psychometrically validated initial certification examinations in general cardiology and the specified cardiovascular subspecialties. Blueprints upon which to base exam questions will be built in collaboration with the relevant affiliated cardiovascular medical specialty societies. For maintenance of competence, the new Board will translate ABMS standards for continuing certification into specific programmatic requirements with required time frames for demonstrating ongoing competence. The focus of continuous certification programs will be to identify, document, and fill knowledge gaps in a supportive, practice-specific fashion.

The new Board will also develop a standard protocol for evaluating competency-based continuous certification and making summative decisions, based on evidence submitted to a diplomate's individual data portfolio over a 5-year cycle. The Board will maintain an automated system that tracks diplomate progress against a set of annual targets for reasonable progress and flags those records for individuals who are not keeping pace with the target standards. Individuals with flagged records will be given the opportunity to remediate by being informed of and prompted to address any deficiencies, but without a change to their certification status.

Every 5 years, a comprehensive evaluation will be made of all diplomate portfolios to evaluate whether all requirements have been met for that cycle. Those records showing satisfactory

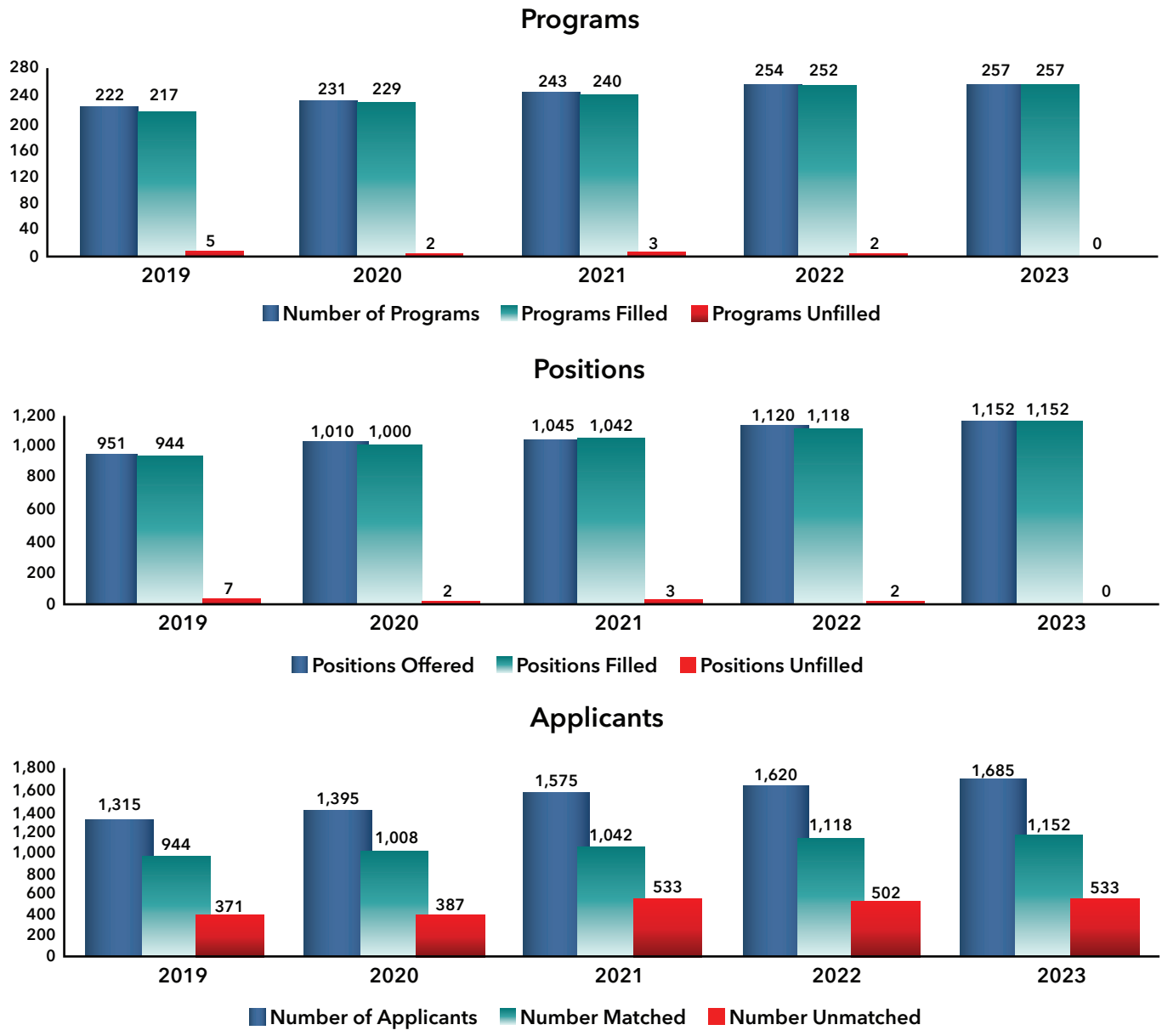
completion of all requirements will be passed through as maintaining their certification/ competence; those records with incomplete data or performing below established standards will be identified for an additional manual portfolio evaluation. Evaluation may lead to requirements for completing additional or remedial work within a prespecified time frame to provide more evidence of competence; failure to complete required remedial work within a prescribed grace period will eventually result in loss of certification. The process is designed to be supportive and formative to help diplomates demonstrate ongoing competence, but with consequences if diplomates, despite remediation, fail to meet rigorous, well-defined and published requirements set by the Board.

2.4. TRAINING IS DISTINCT FROM OTHER BOARDS

Cardiovascular training programs and respective program curricula are ACGME-approved, well-established, and well-defined. Notably, cardiovascular fellowship programs have seen significant growth over the past 5 years (Figure 2.3). There were 222 programs in 2017; by 2023, there were 257, an increase of 15%. The number of positions available grew 21% from 2019 to 2023 to a total of 1,152 positions. Applications over that time increased 28% to a total of 1,685 applications in 2023.[23] Thus, cardiology fellowship training remains highly competitive.

Figure 2.3

Cardiovascular Disease Match Data



Source: National Resident Matching Program, Results and Data: Specialties Matching Service 2023. Appointment Year. National Resident Matching Program, Washington, DC. 2023.

Cardiology fellowship involves rigorous years of training with acquisition of expansive areas of knowledge and skills included in both general cardiology and the subspecialty fellowships. While Cardiology training has and will continue to have its foundation in the concepts of Internal Medicine, much of the field has grown away from Internal Medicine, now comprising other essential concepts in specialty areas that are markedly distinct from Internal Medicine training. The ACGME recognizes this distinction and has updated its program requirements for graduate medical education. Beginning on July 1, 2024, sponsoring institutions are no longer required to establish their cardiovascular disease fellowship program within a department of Internal Medicine or an administrative unit whose primary mission is the advancement of Internal Medicine subspecialty education and patient care.[35]

The current field of Cardiology includes principles from numerous other disciplines, including vascular surgery, cardiothoracic surgery, pediatrics, neurology, critical care, obstetrics, radiology, anesthesiology, emergency medicine, and genetics/genomics, and involves cognitive as well as technical training. As such, Cardiology training aligns with other specialties in structure and operation but is distinct in content and curricula.

The length of time for training in ACGME Cardiology fellowships currently includes:

- Internal Medicine: completion of 3 years of training and certification
- General Cardiology fellowship: 36 months
- Interventional Cardiology: 12 months beyond General Cardiology (with options for further training in structural, peripheral vascular and complex interventions)
- Clinical Cardiac Electrophysiology: 24 months beyond General Cardiology
- Advanced Heart Failure and Transplant Cardiology:12 months beyond General Cardiology
- Adult Congenital Heart Disease: 24 months beyond General Cardiology

The clinical requirements for each of these specialties are detailed in the COCATS documents (Table 2.1).[36] These requirements are methodically developed by a diverse group of experts with extensive knowledge in both Cardiology and education with oversight from the ACC's Competency Management Committee to ensure standardization and quality across the documents. The COCATS documents have been updated four times since their initial development in 1994. COCATS 4 (4th update) is currently in effect. Like COCATS documents, subspecialty Advanced Training Statements[37,38] have been created that provide standardization for each ACGME-accredited subspecialty training program.

Table 2.1

COCATS 4 Task Force Definitions For Level I, II and III Training Across 15 Subspecialties of Cardiology

	Level I - Goal of Training		Level II - Goal of Training		Level III - Goal of Training	
	Minimum Requirements*	Selected Skills	Minimum Requirements*	Selected Advanced Skills	Minimum Requirements*	Selected Advanced Skills
Ambulatory, Consultative, Longitudinal Care	Competent consultant cardiologist		Non-invasive cardiologist with selected advanced procedural skills		---	
	Continuity clinic ≥ 40 weeks/year	Manage chronic cardiac conditions		Diagnostic cardiac catheterization Pericardiocentesis		
Preventive Cardiovascular Medicine	Competent consultant cardiologist		---		No level III - additional non-ACGME accredited training is common for directors of a clinical service or research	
	1 month prevention 6-12 months general clinical cardiology					
Electrocardiography, Ambulatory Electrocardiography, and Exercise Testing			---		---	
	≥ 3000 ECGs	High-quality 12-lead ECG interpretation Interpret ambulatory ECG monitoring Interpret exercise stress test				
Multimodality Imaging	Recognize appropriate use of cardiac imaging modalities		---		Direct an imaging center, train others, advanced cardiovascular imaging research	
		Expertise in at least two imaging modalities			Additional training	***
Echocardiography	Basic comptency in performing and viewing TTE		Independent interpretation of echocardiography studies		Complex studies, echo research, direct academic echocardiography lab, train others.	
	3 months Interpret 150 Perform 75	Integrate basic TTE images in clincial practice	6 months Interpret 300 Perform 150 NBE Exam	TEE Stress echocardiography 3D echocardiography Complex valve disease Peridocardial disease/ constriction Quantitative hemodynamics Cardio masses/ endocarditis Contrast echocardiography	9 months Interpret 450 Perform 300	Intra-operative TEE Interpret ACHD studies
Nuclear Cardiology	Conservant with the field of nuclear cardiology		Practice clinical nuclear cardiology - providing supervision and interpretation of studies		Academic career, direct clinical nuclear lab	
	2 months 100 studies	Integrate nuclear studies in patient care	4 months 300 studies 700 hours perform 30 studies CBNC exam	Radiation safety Image acquisition and reconstruction MPI (SPECT, PET) Radionuclide angiography	Additional training	SPECT/CT; PET/ CT Cardiac innervation, first pass, and planar studies
Cardiovascular CT	Understand principles, indications, and technical limitations of CCT		Perform and interpret CCT independently		Direct a CC lab, train others in CCT, and conduct advanced imaging research	
	15 at scanner Interpret 50	Integrate CCT in patient care	80 at scanner Interpret 250 CBCCT exam	Image acquistion and processing Non-cardiac findings	Additional training	CT/SPECT CT/PET

Table 2.1 (continued)

	Level I - Goal of Training		Level II - Goal of Training		Level III - Goal of Training	
	Minimum Requirements*	Selected Skills	Minimum Requirements*	Selected Advanced Skills	Minimum Requirements*	Selected Advanced Skills
Cardiovascular MRI			Perform and interpret CMR independently		Direct a CMR laboratory, train others in CMR	
	1 month 25 cases	Interpret LGE Integrate CMR in patient care	3 months Interpret 150 Acquire 50 CBMR exam	CMR physics LV and RV function Aortic disease Myocardial masses Pericardial disease ACHD Stress CMR	Additional training	Peripheral artery MRI
Vascular Medicine	Integrating knowledge of vascular disease in care of patients		Interpret noninvasive diagnostic tests; managing peripheral vascular diseases		Direct a vascular laboratory, train others, conduct advanced research	
		Perform and interpret ABI	500 studies PVI examination	Perform and interpret non-invasive vascular lab studies: segmental blood pressure measurements Pulse volume recordings, doppler waveforms, treadmill vascular exercise test Evaluate lymphedema	Additional training	Diagnose arterial compression syndromes Manage chronic venous insufficiency Manage lower extremity wounds Manage lymphedema Manage Raynaud's phenomenon, other temperature related disorders Manage arteriopathies related to connective tissue disease Recommend appropriate procedure for peripheral and visceral aneurysm
Cardiac Catheterization			Perform diagnostic cardiac catheterization		Practice interventional cardiology	
	4 months 100 diagnostic 50 angiography 25 hemodynamics	Pre-procedural evaluation Venous and arterial access Hemostasis Right heart catheterization Post-procedure care	6 months 300 diagnostic 100 peripheral	Endomycardial biopsy Pericardiocentesis Diagnostic left heart catheterization Emergent IABP placement Diagnostic peripheral angiography	Advanced fellowship ABIM exam	PCI Peripheral, carotid, and structural heart interventions Insert and manage peripheral LV support devices
Arrhythmia Diagnosis and Management, Cardiac Pacing, and Electrophysiology	Arrhythmia management in standard clinical practice		Advanced non-invasive arrhythmia management, including pacemaker placement		Practice clincial electrophysiology	
	2 months 5 temporary pacemakers 20 cardioversions	Cardioversion Defibrillation Temporary pacemaker Medically manage atrial and ventricular arrhythmias Refer for device therapy and catheter ablation	6 months 100 CIED interrogations 25 remote interrogations 40 pacemaker implantations	Tilt-table testing Placement and surveillance of pacemakers and loop recorders ICD programming	Advanced fellowship ABIM exam	ICD and biventricular device placement Invasive EP testing Ablation therapy Intracardiac echocardiography

Table 2.1 (continued)

	Level I - Goal of Training		Level II - Goal of Training		Level III - Goal of Training	
	Minimum Requirements*	Selected Skills	Minimum Requirements*	Selected Advanced Skills	Minimum Requirements*	Selected Advanced Skills
Heart Failure	Diagnosis and management of heart failure		Advanced clinical care of heart failure		Comprehensive management of patients with severe and rare forms of heart failure	
	2 months		Focused general cardiology training pathway	Interpret and implement CPET results Longitudinal management of severe heart failure, including home inotrope support Screen for eligilibity for advanced therapies	Advanced fellowship ABIM exam	Manage patients on MCS Interpret imaging in uncommon forms of heart failure Full evaluation for candidacy and selection of advanced therapies Manage patients undergoing cardiac transplantation
Critical Care Cardiology	Manage patients in a critical care cardiology environment		---		Specialize in critical care cardiology in a leadership and/or research position	
	8 weeks	PA catheter placement Hypothermia protocol Shock management			Critical care fellowship	Emergent IABP placement Endotracheal intubation
Care of Adult Patients with Congential Heart Disease	Understand guidelines, manage patients with repaired ACHD		---		Clinically manage complex ACHD, teach others, conduct advanced research, direct an ACHD program	
	Didactics	Provide activity level recommendations in simple ACHD Recognize Eisenmenger physiology			Advanced fellowship ABIM exam	Interpret echocardiograms in ACHD Interpret hemodynamic and angiographic data in ACHD Appropriately recommend operative management of ACHD and sequealae Medical management of all forms of ACHD
Cardiovascular Research and Scholarly Activity	Critically interpret literature as it applies to clinical cardiology care		---		Career in scientific investigation	
	6-12 months	Literature review Ethical conduct			Advanced degree encouraged	

The COCATS and Advanced Training documents have significantly influenced the current ACGME requirements and standards. These documents remain the primary benchmark for assessment and competency across all ACGME-accredited programs, as well as non-ACGME accredited programs. These align with the current organization of ACGME core competencies in conjunction with the Cardiology community; in addition, professional societies have developed specialty-specific milestones.[39] These milestones will continue to be utilized for cardiology training. The required processes for evaluating program performance and detailing curriculum changes through the Program Evaluation Committee, the annual program evaluation, as well annual surveys for fellows and faculty are critical for the ongoing assessment of training.

Several professional groups offer resources to the cardiovascular community that provide support to training programs. This includes groups and councils dedicated to cardiology program directors, as well as multiple online resources, including curricula, evaluations, and other resources for program administrators. HRS offers an In-Service Exam for CCEP training programs to assess both the programs and the trainees. An In-Training Exam (ITE) has been developed by the ACC, in conjunction with National Board of Medical Examiners (NBME), which is administered annually by more than 90% of training programs in the country. The ITE provides programs and trainees ongoing assessment of knowledge gaps and confidentially reports information to both the program and the trainee regarding competencies that need further study. The ITE has been demonstrated to correlate positively with ABIM cardiovascular disease initial certification examination passing scores.[40] Multiple professional medical societies offer unique professional development opportunities, leadership courses, and certificates that allow trainees to further develop nonclinical competencies.

Regular evaluation of trainees, bidirectional feedback between trainee and trainer, and systematic assessment of training programs both internally and externally, ensure a continuous quality improvement process, and is required by the ACGME. A robust national system of evaluation is already in place encompassing initial accreditation as well as ongoing maintenance of accreditation with oversight from local GME offices. Evaluation comprises an assessment of program performance and detailing training program curriculum changes through the Program Evaluation Committee, the annual program evaluation, and annual surveys for fellows and faculty. This system will remain in place for training programs affiliated with the new Board.

Cardiovascular fellowship programs will continue to apply to ACGME for both initial certification as well as for ongoing evaluation of quality and safety. The ACGME conducts a Clinical Learning Environment Review at each GME site, which entails a detailed observation of each GME program and will continue to include Cardiology programs. Cardiology faculty and trainees will also continue to anonymously review their own programs through the annual ACGME survey.

The new Board envisions that, in the short term, ACGME-accredited training for the five boarded Cardiology subspecialties will not substantially change. As is the case now, there will be a potential pathway to Board certification for qualified international medical graduates who are full-time U.S. or Canadian faculty, have up-to-date U.S. immigration status, and wish to achieve Board Certification in Cardiology and/or a subspecialty as a candidate for special consideration.

In the future, the Board will collaborate with ACGME to develop innovative training pathways that would expedite the path to specialization and subspecialization within Cardiology. This process will be essential to address broader emerging workforce issues.

2.5. THERE IS BROAD PROFESSIONAL SUPPORT FOR A NEW BOARD

The "House of Cardiology" continues to provide strong and unwavering support for a new Cardiovascular Board. An inter-societal coalition has been formed to develop the new Board's conceptual framework, governance, scope, content, and structure, which enables collaboration and strengthens the vision that has been outlined. These organizations, which represent most cardiovascular specialists in the United States and which are involved in supporting certification and MOC, are represented in the current coalition:

- American College of Cardiology
- American Heart Association
- Heart Rhythm Society (CCEP)
- Society for Cardiovascular Angiography & Intervention (IC)
- Heart Failure Society of America (AHFTC)

Content-focused subspecialty professional societies, including those engaged in cardiovascular imaging, vascular medicine, and others, currently do not have recognized certifications within the ABIM cardiovascular certifying process. The cardiovascular societies representing these subspecialties are being engaged by the above organizations in the development of training requirements, competence statements, and other standards of the profession. Collectively, these organizations support developing a sustainable, independent cardiovascular certifying board that will benefit cardiovascular professionals, their patients, and the public at large. Societies that represent the current areas of ABIM cardiovascular certification (as listed above), will form the official inaugural affiliations as medical specialty societies working with the new Board. Other organizations may affiliate in the future as the new Board matures and broadens its scope in offering additional cardiovascular certifications in growing subspecialties of Cardiovascular Medicine.

2.6. THE CASE FOR AN INDEPENDENT BOARD IS STRONG

Cardiology has clearly evolved into its own distinct medical specialty, separate from Internal Medicine, one which requires extensive knowledge and training specific to the human cardiovascular system. Cardiology continues to lead the way in guideline-driven care, competency statements and standards, clinical data registries, integration of innovative technologies and therapeutics, treatment of diverse patient populations, and the continued evolution of team-based, patient-centered, multidisciplinary care.

One of the fundamental responsibilities of a certifying body is to ensure that initial and continuing certification are based on demonstrable competence to meet the responsibility to patients

and the public. For too long, the focus of demonstrating competency has been on knowledge testing through high-stakes exams rather than emphasizing continuous assessment and targeted learning to sustain competency. The vision for the new Cardiovascular Board is one that focuses on competency that validates certification, rather than test-centered certification alone, and learning that is continuous and supportive, rather than episodic and punitive. The new Board will help diplomates identify and close critical knowledge gaps in relevant, practice-specific ways.

Cardiology, like most of medicine, is facing unprecedented times with an aging, sicker patient population, high health care cost inflation, burdensome and wasteful bureaucracy, widening health care disparities, and an aging and shrinking workforce, among many other issues. A Board focused on Cardiovascular Medicine will help bring cardiologists together around the concept of sustaining professional excellence through a Board that understands the knowledge, skills, and attitudes (KSAs) required to take care of cardiovascular patients effectively as well as continuously improve the profession. To form a new Board takes time, effort, and discipline. To develop improvements in the Board over time will take innovation, creativity, and spirit. The "House of Cardiology" is certainly up to the task.

It is timely and appropriate to form an independent certifying Board for Cardiovascular Medicine that will allow for a more focused evaluation of knowledge and skills, ensuring that cardiologists have the necessary expertise to provide high-quality care to patients. This will require innovation, technology, resources, and the sustained diligence of the cardiovascular community. The entire "House of Cardiology" is dedicated to this challenge as it strives to deliver the best possible care to its patients. Now is the time to "change the conversation" to enable a new philosophy emphasizing competency-based continuous certification through supportive lifelong learning that is focused on rewarding personal performance or quality improvement, building professional trust, and harnessing innovation to offer novel, formative competence programs that lead to excellence in cardiovascular patient care and outcomes.

SECTION 3: **OPERATIONAL PLAN**

The American Board of Cardiovascular Medicine's Operational Plan outlines the following elements, which are required in Section IV G of the ABMS Essentials for Approval of Examining Boards in Medical Specialties:

- **Governance:** A plan for effective governance that will ensure representation of appropriate organizations and Board members with sufficient expertise and stature for the effective operation of the board
- **Business Plan:** The financial support for a valid, objective program of candidate and diplomate evaluation, as well as other necessary activities in graduate education including projected candidates and diplomates and associated fees for services.
- **Content of the Field:** The core content/competencies and scope of practice, based on a detailed analysis of the professional area, including present and future public needs.
- **Requirements For Certification:** The plan for development and validation of the requirements for initial certification, continuous certification, and recertification, along with an outline of and rationale for the qualifications to be required of applicants for certification.
- **Evaluation Plan:** A detailed plan for evaluation of individual candidates for initial certification and diplomates for MOC.

3.1. GOVERNANCE STRUCTURE

The ABCVM will initially offer and manage certifications in General Cardiology, Interventional Cardiology, Clinical Cardiac Electrophysiology, Advanced Heart Failure and Transplant Cardiology, and Adult Congenital Heart Disease. A representative Board comprising members appointed from the coalition of Cardiovascular Medicine societies will provide the requisite expertise and stature for the effective operation of the Board.

The Board of Directors will consist of 15 directors as follows:

- 4 individuals with competencies in General Cardiology, filled by 2 representatives of the ACC and 2 representatives of the AHA.
- 2 individuals with competencies in Interventional Cardiology, filled by 2 representatives of SCAI.
- 2 individuals with competencies in Heart Failure, filled by 2 representatives of the HFSA.

- 2 individuals with competencies in Cardiac Electrophysiology, filled by 2 representatives of the HRS.
- 1 individual with competency in Adult Congenital Heart Disease.
- 4 at-large members, who shall fulfill certain competencies determined by the Board of Directors, which may include expertise in:
  - Cardiovascular team care
  - Cardiovascular education and lifelong learning
  - Advocacy, with a focus on health care issues
  - Patient perspective
  - Technology and innovation relevant to competency assessment
  - Other relevant areas, as defined by the Board.

With the exception of at-large members, ABCVM directors will have extensive clinical expertise in Cardiovascular Medicine. They should be specialists with extensive years of practice experience and in-depth knowledge of the latest advancements, diagnostic techniques, treatment options, and guidelines within the field. Comprehensive understanding of the content areas covered by the certification exams offered also is crucial. Board member expertise should comprise a deep knowledge of the core concepts, subfields, and evolving trends within Cardiovascular Medicine.

Directors will each serve a single, 4-year term. However, initial director terms will be staggered to ensure continuity of knowledge and institutional memory. Thus, consideration will be given to some directors with slightly shorter or longer terms early in the life of the Board. As additional certificates are approved and offered by the Board, the number and composition of directors may be expanded to include representation from additional subspecialty organizations. Section 7.6.2 proposes bylaws of the ABCVM, including the election of directors and fulfilling vacancies on the ABCVM Board of Directors.

The ABCVM Board of Directors will serve as a centralized authority, strategically guiding the mission of the ABCVM, establishing policies, approving bylaws changes, determining the formation or sunsetting of advisory or operating committees, and overseeing the finances of the organization.

Committees, once formed, will practice decentralized decision-making under the centralized authority of the directors. Advisory committees will at the request of the directors study specific issues and develop recommendations in a focused, small group structure. Advisory committee members will be appointed by the Board of Directors. Operating committees will perform such tasks as evaluating and approving society-hosted CME activities to qualify as remedial learning opportunities, establishing exam blueprints, writing and reviewing exam questions, making determinations about the certification status of diplomates, and so on. Operating committees will nominate and approve their own committee members.

The CEO and staff will be responsible for carrying out the Board's day-to-day operations, including administrative management of committees and other ABCVM activities, and executing those activities against the budget. The CEO will report directly to the Board of Directors.

3.2. BUSINESS PLAN

The following business plan and financial projections have been developed based on discussions with other ABMS Boards, review of relevant market trends for cardiovascular services, future workforce deficits and challenges, and a thorough assessment of the required capital investment to start and sustain a valid, objective Board that will oversee Cardiovascular Medicine. The initial monetary investment is projected to be $8.2 million and will be funded by founding medical societies as a no- or low-interest loan to be fully repaid over a period of 5 years. Commitment has been secured to fund the entire initial investment. There will be a strict firewall between the level of start-up funding by a partner society and any influence on the level of representation appointed by that society on the Board of Directors.

Operationally, the Board will be solvent in its first year, generating an estimated $1.9 million in cash flow. The average annual gross revenues over the first 10 years are projected to range from $9.3 to $10.1 million, while expenses will range from $7.2 to $8.7 million. A goal of the ABCVM will be to maintain a steady and sustainable state of funding that will support research and development to innovate competency-based requirements, while repaying the initial investment loan provided by sponsor societies. A limited capital reserve will also be built with transparency to diplomates, societies, and the public about its amount and intended use.

3.2.1. Revenue: Total Addressable Market and Fees

Revenue Source Overview

The ABCVM will initially derive revenues from three sources:

- **Initial Certification Exam Fees:** Fees earned from diplomates taking their initial board certification exams.
- **Technology and Diplomate Support Fee:** Yearly fees submitted by diplomates to support the advanced tracking and reporting technology and other elements of diplomate support maintained by the Board. This Board's technology will automate uploads of continuous certification credits from society activities, provide diplomate access to personalized, real-time dashboards showing progress towards continuous certification requirements, and support automated system checks for credit deficiencies in diplomate records, among other technical aids.
- **Annual Portfolio Sponsor Organization Fees:** Portfolio sponsor organization fees earned annually from external organizations (i.e., medical specialty societies that are not part of the ABCVM founding coalition, health care institutions, etc.) that have been approved by the Board to deliver competency-based continuous certification programs for diplomates. Cardiovascular societies that are founding members of the ABCVM coalition will not be charged annual portfolio sponsor fees for delivering their approved competency-based continuous certification programs. ABCVM coalition societies may also contract directly with other portfolio sponsor organizations and collaborate to offer specialty-specific content.

Educational and remedial assessment and programming that is hosted by partner societies and other external organizations to help fulfill the Board's continuous certification requirements will not be a revenue source for the ABCVM.

Diplomate Market Size and Growth Assumptions

The business plan leverages a variety of sources to inform the market size of diplomates from 2023 to 2034.

In May 2023, according to the ABIM, Cardiovascular Medicine (i.e., general cardiology) comprised 29,398 of their total active Internal Medicine certificates.[8] Additional certificates in the cardiovascular subspecialities total 11,465, but do not necessarily represent unique individuals because many physicians maintain multiple certificates. Since the general Cardiovascular Medicine certificates are held by unique diplomates, the number 29,398 represents 92% of the total practicing cardiovascular physicians as estimated by the ACC and MedAxiom.[41]

For more than a decade there have been growing concerns about the annual net reduction in cardiologists in the U.S. physician workforce. While there are numerous causes contributing to the deficit, there are two key factors: 1) the aging of the existing cardiologist population, with approximately 27% over the age of 61,[42] and 2) an inadequate number of cardiologists entering the workforce through fellowships.[41] Given these two factors the business plan projects a 5% annual attrition rate and an annual growth rate ranging from 0.025% to 1.5% of new entrants across cardiovascular disease and the four subspecialty certificates. The total estimated market size of diplomates for cardiovascular disease and its subspecialties from 2023 to 2034 is detailed in Table 3.1.

Table 3.1

Number of Diplomates Based on Workforce Trends

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Cardiovascular Disease	29,398	28,963	28,565	28,203	27,876	27,580	27,316	27,082	26,877	26,699	26,547	26,421
Adult Congential Heart Disease	474	478	478	482	482	485	485	489	489	492	492	495
Clinical Cardiac Electrophysiology	2,996	3,023	3,051	3,079	3,106	3,134	3,162	3,190	3,218	3,246	3,274	3,302
Interventional Cardiology	6,554	6,612	6,673	6,737	6,803	6,871	6,941	7,014	7,090	7,167	7,247	7,329
Advanced Heart Failure and Transplant Cardiology	1,441	1,551	1,551	1,657	1,657	1,757	1,757	1,853	1,853	1,945	1,945	2,032

Initial Certification Revenues

Initial certification revenues will contribute an average of 47% of the annual revenue to the Board and will range from $4.1 million in the first year to $5.0 million in the tenth year. It is projected that there will be an average of 1,748 initial certifications annually over a 10-year period. This average accounts for biannual ACHD and AHFTC certification exams. Certification exams will have a flat fee of $2,599 and will incur a 5% price increase after 5 years. The projected number of initial exam participants across the five current certification types and their corresponding annual revenues are outlined in the table below. All revenue projections are based on the projected number of diplomates from workforce trends. For the purposes of the financial model, the first year (Y1) uses the projected diplomate counts in 2025 to arrive at initial certification exam participants.

Table 3.2

Initial Certification Exam Participants and Revenues

	Growth	2023	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Cardiovascular Disease	1.50%	1,035	1,066	1,082	1,099	1,115	1,132	1,149	1,166	1,183	1,201	1,219
Adult Congenital Heart Disease	0.25%	29	29	-	29	-	29	-	29	-	29	-
Clinical Cardiac Electrophysiology	0.75%	121	123	124	125	126	127	127	128	129	130	131
Interventional Cardiology	1.50%	334	344	349	354	360	365	371	376	382	388	393
Advanced Heart Failure and Transplant Cardiology	0.25%	-	-	192	-	193	-	193	-	194	-	194
Projected Revenue ($M)			**$ 4.06**	**$ 4.54**	**$ 4.17**	**$ 4.66**	**$ 4.29**	**$ 4.78**	**$ 4.41**	**$ 4.90**	**$ 4.54**	**$ 5.03**

Technology and Diplomate Support Fee Revenues

Diplomates who participate in the competency-based continuous certification program will have access to convenient and efficient web-based technologies which will allow for the management and tracking of their certification, accessing their continuous certification portfolio requirements, understanding areas of knowledge strength, and knowledge gaps to address. This dashboard will also link diplomates to applicable, approved education for closing their learning gaps identified during assessment. To access these digital resources, a technology and diplomate support fee of $150 will be charged to diplomates each year for the first certification being maintained in cardiovascular disease and $99 each year for each additional subspecialty certification being maintained. Initial certification exam participants will not pay the annual fee in the year of their initial certification exam. The projected diplomate numbers and the annual revenue associated

with the technology and diplomate support fee are outlined in Table 3.3 below. For purposes of the financial model, Y1 is assumed as 2025 and all counts exclude diplomates' initial testing year.

Table 3.3

Technology and Diplomate Support Fee Participants and Revenues

	2023	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Cardiovascular Disease	29,398	27,499	27,121	26,777	26,465	26,185	25,933	25,711	25,515	25,346	25,202
Adult Congenital Heart Disease	474	478	482	482	485	485	489	489	492	492	495
Clinical Cardiac Electrophysiology	2,996	2,928	2,955	2,982	3,008	3,035	3,062	3,089	3,116	3,144	3,171
Interventional Cardiology	6,554	6,329	6,388	6,448	6,511	6,576	6,644	6,713	6,785	6,860	6,936
Advanced Heart Failure and Transplant Cardiology	1,441	1,551	1,551	1,657	1,657	1,757	1,757	1,853	1,853	1,945	1,945
Projected Revenue ($M)		**$ 5.24**	**$ 5.19**	**$ 5.16**	**$ 5.12**	**$ 5.10**	**$ 5.07**	**$ 5.05**	**$ 5.03**	**$ 5.03**	**$ 5.02**

Annual Portfolio Sponsor Organization Fees

Specialty medical societies have the unique ability to understand their members' learning needs and address their interests. Similarly, many health care institutions and other non-partner organizations can provide high-quality, CME that addresses learning gaps and keeps cardiovascular professionals up to date.

A goal of the ABCVM is to approve the delivery of a wide variety of educational assessments and learning opportunities, offering its diplomates flexibility, choice, and convenience in pursuing competency-based continuous certification. Therefore, approval as a Portfolio Sponsor Organization will be offered to organizations that may not be part of the ABCVM founding coalition. Portfolio Sponsor Organizations will be authorized to deliver relevant and appropriate educational content that meets ABCVM continuous certification program requirements.

A portfolio program evaluation and approval process will be developed to ensure that proposed activities are consistent with quality expectations. Portfolio Sponsor Organizations will pay an annual fee of $3,000 to offer their approved programs and activities. Cardiovascular societies that are founding partners of the ABCVM coalition will not be charged annual portfolio sponsor fees for delivering their approved competency-based continuous certification programs.
The financial projections assume that 10 organizations will eventually become portfolio sponsors

in the first 10 years of the Board's operations, five of which will be ABCVM founding coalition societies and, thus, will not incur the annual fee.

Table 3.4

Portfolio Sponsor Fee Participants & Revenues

	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Number of Paying Portfolio Sponsors	0	0	0	1	1	2	3	4	4	5
Projected Revenue	**$ -**	**$ -**	**$ -**	**$ 3,000**	**$ 3,000**	**$ 6,000**	**$ 9,000**	**$ 12,000**	**$ 12,000**	**$ 15,000**

3.2.2. Expenses: Initial Capital Investment and Annual Expenditures

Initial Capital Investment

Following an analysis of similar specialty medical boards and understanding their operating budgets, reserves for innovation as well as competency evaluation research and development, an estimate for the initial capital required for the ABCVM was developed. The total capital investment is estimated to be $8.15 million.

Operational expenses before the launch of the ABCVM include the following categories:

- **General and Administrative:** Business/legal registrations, outside consultants, legal reserves, liability insurance, external accounting, occupancy, office space lease down payment, annual lease payment, office equipment and furnishings, and Board of Director travel, in-person meetings, and marketing costs.
- **Personnel:** The salaries and benefits of executive positions and staff to oversee the initiation and ongoing operations of the ABCVM.
- **Content Development:** Development of five certification exams including honoraria for question writers and editors, review meetings, psychometrics and standard setting, copy editing, product development, and royalty/permission fees. Public- and private-facing diplomate certification status portal configurations are included.
- **Platform Development:** Costs associated with the hardware/software development and maintenance of the diplomate dashboard.

The operational expense estimate for each category is outlined in the table below. The estimate assumes that some resources will be provided via shared services with societies to help offset the initial costs.

Table 3.5

Allocation of Initial ABCVM Expenses Prior to Year 1 Operations

Category	Expense	% of Total
Annual Content Development	$ 3.91	48%
Personnel (12 FTEs)	$ 2.70	33%
General & Administrative	$ 1.13	14%
Platform Development	$ 0.41	5%
Projected Expense ($M)	**$ 8.15**	**100%**

The largest percentage of the initial funding outlay, approximately 48%, will be spent on content development, which includes the creation of initial certification exams for general cardiology and four subspecialty certificates plus database and integration infrastructure development (e.g., public- and private-facing diplomate certification status portals). Twelve FTEs will be required during the pre-revenue period, nine of whom will be populated under shared services agreements from one or more of the partner societies. This minimizes launch expenses for the Board.

Annual Board Expenses

Once the launch requirements have been satisfied, content development costs will decrease to approximately 12% of expenses annually. The largest expense category will shift to personnel supporting the organization and ABCVM staffing will grow to 23 FTEs, with the largest increase of experts in psychometricians, product managers, and IT/software developers.

Table 3.6

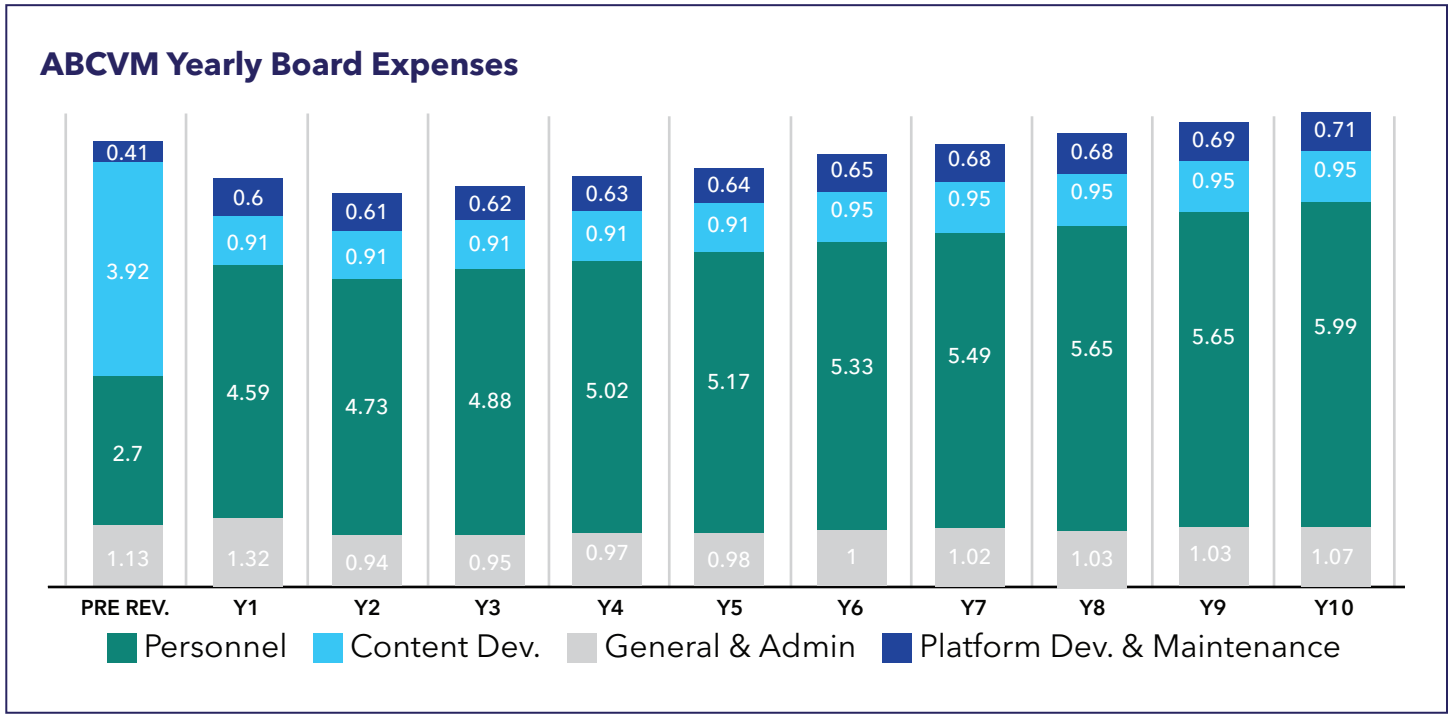
Allocation of ABCVM Expenses in Years 1-10

Category	Expense	% of Total
Personnel (23 FTEs)	$ 5.27	67%
General & Administrative	$ 1.03	13%
Annual Content Development	$ 0.93	12%
Platform Maintenance	$ 0.65	8%
Projected Expense ($M)	**$ 7.89**	**100%**

Personnel expenses over the 10-year period are estimated to average $5.27 million annually, comprising executive leadership, psychometrics, certification product management, application software development, technology and database security, administrative/call center support, and other critical positions to run the Board.

The following figure illustrates the trends on operating expenses over 10 years for administrative, personnel, content development, and platform development and maintenance categories.

Figure 3.1



3.2.3. Financial Summary

A primary tenet of the ABCVM is to maintain financial transparency to its diplomates, partner societies, and the public. As such, the ABCVM business plan is purposefully structured as a lean operation instead of a highly profitable venture. However, although the proposed new Board will maintain financially solvency and transparency, it will also be committed to innovation. This business plan supports this vision.

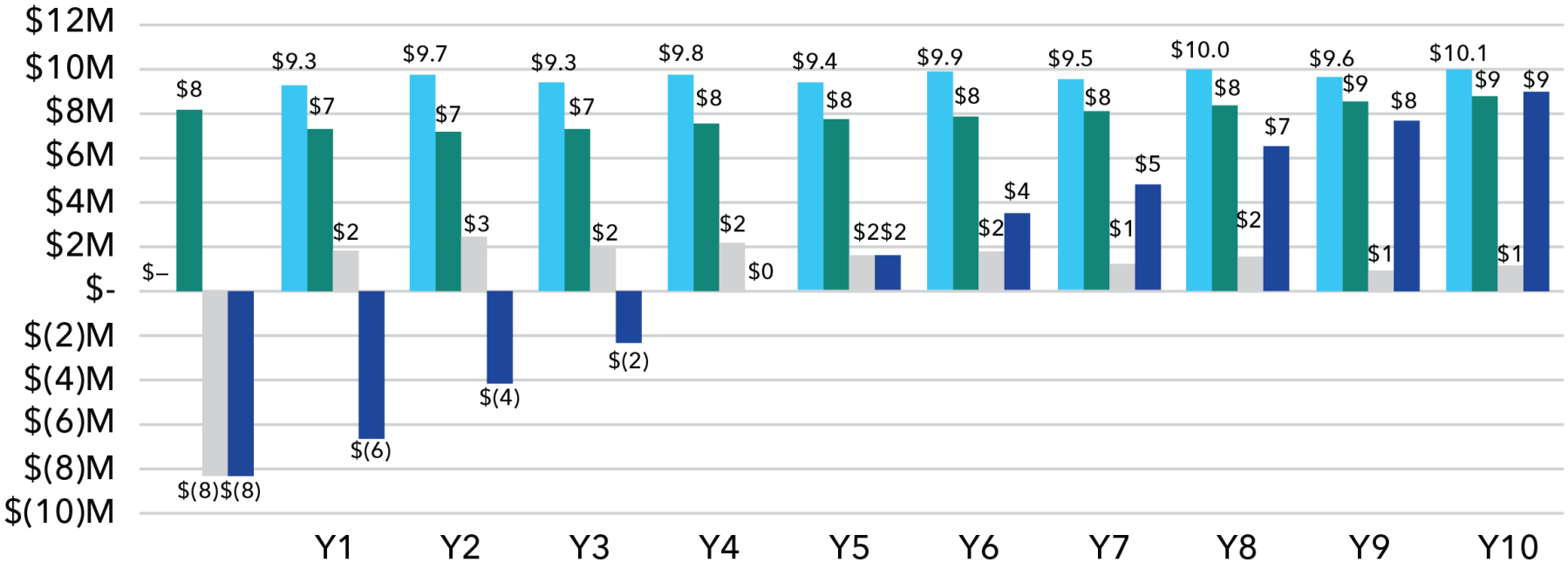
The revenue and expenditures outlined herein are structured to uphold a high standard of excellence and promote ongoing innovation, by supporting programs that offer diplomates flexible, convenient, and relevant choices for pursuing continuous certification. The new Board's intention is to maintain a healthy and financially stable outlook, while providing direct value to cardiovascular professionals that positively impacts the patients they serve.

The average annual gross revenues over the first 10 years are projected to range from $9.3 to $10.1 million, while expenses will range from $7.2 to $8.7 million. In Year 1, ABCVM is projected to generate a net operating margin of $1.9 million and will it immediately begin the process of repaying the capital investments from one or more founding societies. ABCVM will also reinvest a portion of its annual operating margin to build a reasonable capital reserve that funds innovation, research and development, technology upgrades, and reinvestment in its diplomates. Levels of capital reserve and decisions on expenditures will be managed directly by the ABCVM Board of Directors, governed by the bylaws of the organization.

The following two figures summarize the 10-year financial projection, including the allocation of reserves and capital payback.

Figure 3.2

ABCVM Financial Projection Y1-10



	Initial Outlay	1	2	3	4	5	6	7	8	9	10
Incremental Revenue	$-	$9,302,612	$9,736,764	$9,337,925	$9,788,235	$9,399,559	$9,862,237	$9,960,346	$9,960,346	$9,589,904	$10,075,301
Estimated Total OPEX	$8,153,000	$7,433,750	$7,196,343	$7,363,813	$7,536,307	$7,713,976	$7,936,976	$8,125,465	$8,319,609	$8,519,577	$8,725,544
Net (gains/ loss)	$(8,153,000)	$1,868,862	$2,540,421	$1,974,113	$2,251,927	$1,685,582	$1,925,261	$1,360,534	$1,640,738	$1,070,327	$1,349,757
Cash Flow (Cumulative)	($8,153,000)	($6,484,138)	($4,043,717)	($2,169,604)	$32,323	$1,667,906	$3,593,167	$4,953,701	$6,594,439	$7,664,766	$9,014,523

(Annual Technology Diplomate Fee Set at $150 for CVD and $99 each Subspeciality)

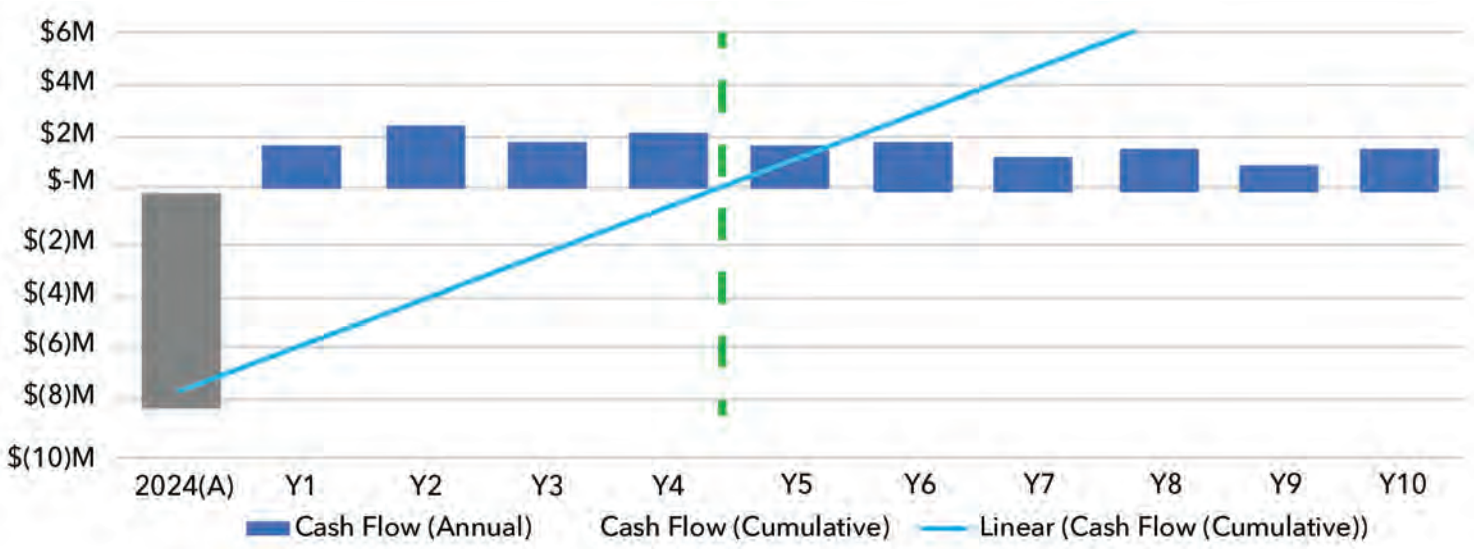
Figure 3.3

ABCVM Capital Investment Payback Timeline

	Initial Outlay										
	2024 (A)	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Revenues	$-	$9,302,612	$9,736,764	$9,337,925	$9,788,235	$9,399,559	$9,862,237	$9,960,346	$9,960,346	$9,589,904	$10,075,301
Expenses	$-	$7,433,750	$7,196,343	$7,363,813	$7,536,307	$7,713,976	$7,936,976	$8,125,465	$8,319,609	$8,519,577	$8,725,544
Operating Margin	$-	$1,868,862	$2,540,421	$1,974,113	$2,251,927	$1,685,582	$1,925,261	$1,360,534	$1,640,738	$1,070,327	$1,349,757
Capital Investment & Reserve Contribution*	$8,153,000	$200,000	$100,000	$100,000	$50,000	$-	$-	$-	$-	$-	$-
Cash Flow (Annual)	$(8,153,000)	$1,668,862	$2,440,421	$1,874,113	$2,201,927	$1,635,582	$1,925,261	$1,360,534	$1,640,738	$1,070,327	$1,349,757
Cash Flow (Cumulative)	$(8,153,000)	$(6,484,138)	$(4,043,717)	$(2,169,604)	$32,323	$1,667,906	$3,593,167	$4,953,701	$6,594,439	$7,664,766	$9,014,523

Discount Rate	NPV
4%	$5,787,288
8%	$3,728,897
12%	$1,801,781

IRR	**18%**
Est. Payback Period **	**5 Years**



*Assumes Re-Investment of Operating Profits to build $500k Capital Reserve Base by end of Year 5.
**Estimated payback period is dependant on the strategic and operational decisions of the ABCVM Board

3.3. CONTENT OF THE FIELD

3.3.1. Core Content and Clinical Competencies

The fundamental KSAs that cardiovascular disease specialists should demonstrate to ensure high-quality care and best possible patient outcomes are well-defined by the work of Cardiovascular Medicine societies and the regulatory bodies that guide medical education, training, and practice in the field.

For decades, the cardiovascular community has played a central role in defining the knowledge, experiences, skills, and behaviors expected of adult clinical cardiologists during fellowship training,[36] as well as throughout their lifelong career through published Advanced Training Statements, Lifelong Learning Statements, and Competencies in Cardiology (See Table 3.7 below and Appendix C). These documents are organized under the six domains promulgated by ACGME and ABMS and endorsed by the ABIM. Many hospital systems now use the six-domain structure as part of medical staff privileging, professional competence assessments, and peer review.

Recommendations in these statements are based on available evidence and, where evidence is lacking, reflect expert opinion. The writing committees for these statements reflect the diversity of clinical cardiology, and typically include content experts, general cardiology and sub-subspecialty training program directors, practicing cardiologists, and early-career representatives. All documents are subject to rigorous peer review. Recommendations are intended to guide the assessment of the competence of cardiovascular care providers beginning independent practice as well as those undergoing periodic review to help ensure that competence is maintained.

Table 3.7

Initial Certification and Lifelong Learning Statements & Competencies

Competencies For General Cardiology & Subspecialty Advanced Training Statements for Initial Certification		Lifelong Learning Statements & Competencies for Maintenance Of Competency
2023 ACC/AHA/SCAI Advanced Training Statement on Interventional Cardiology (Coronary, Peripheral Vascular, and Structural Heart Interventions)	2017 ACC/AHA/HFSA/ ISHLT/ACP Advanced Training Statement on Advanced Heart Failure and Transplant Cardiology	2020 ACC/HFSA/ISHLT Lifelong Learning Statement for Advanced Heart Failure and Transplant Cardiology Specialists
2021 ACC/AHA/SVM/ACP Advanced Training Statement on Vascular Medicine	2015 ACC/AHA/HRS Advanced Training Statement on Clinical Cardiac Electrophysiology	2017 ACC/HRS Lifelong Learning Statement for Clinical Cardiac Electrophysiology Specialists
2020 ACC Clinical Competencies for Nurse Practitioners and Physician Assistants in Adult Cardiovascular Medicine	2015 SPCTPD/ACC/AAP/AHA Training Guidelines for Pediatric Cardiology Fellowship Programs	2016 ACC Lifelong Learning Competencies for General Cardiologists
2019 ACC/AHA/ASE Advanced Training Statement on Echocardiography	ACC 2015 Core Cardiovascular Training Statement (COCATS 4)	

3.3.2. Job Task Analysis

A Job Task Analysis (JTA) using cardiovascular medicine competencies and advanced training statements is a structured process to ensure the field's standards remain current and provide a clear blueprint for evaluating performance in Cardiology. Completed by subject matter experts, the JTA requires cardiologists to determine the relative importance and frequency of each task to discern activities that might be performed more frequently or have a greater impact on patient outcomes. When possible, ratings of tasks should be conducted in the context of the usual course of practice such as pathophysiology, assessment, diagnosis, treatment, and epidemiology. The findings of the study are further reviewed by independent board-certified subject matter experts, experienced cardiologists, educators, and other stakeholders to validate the identified tasks and associated competencies. A JTA results in the development of a comprehensive blueprint to inform content specifications for testing, ensuring that professionals meet the established standards, support effective training, and enhance patient care. The blueprint framework should be periodically reviewed and updated to reflect changes in medical practices, technologies, and patient needs.

The ABCVM will collaborate with the coalition of cardiovascular medicine specialty societies to use the COCATS, Advanced Training Statements, and Lifelong Learning Competencies as overarching guides for conducting JTAs in General Cardiovascular Medicine, IC, CCEP, AHFTC, and ACHD. JTAs will be conducted every 3 to 5 years to ensure their accuracy and relevance.

3.3.3. Blueprints of Cardiovascular Medicine and Subspecialties

JTAs will underpin the development of content blueprints for Cardiovascular Medicine. Blueprints are critical in the development of certification programs and supporting education programs. The ABCVM will review all blueprints annually to validate their relevance and accuracy.

A blueprint comprises an overview of the associated JTA followed by a blueprint specification. The overview section summarizes the description and purpose of the JTA, identifying oversight, purpose, methodology, and outcomes, and including study distribution, response rates, and any limitations and recommendations. The blueprint specification identifies the importance and frequency of each task mapped to competencies. The structure of the blueprint specification provides an overview of major clinical pathways, followed by topics and subtopics of the tasks.

Blueprints convey the content to be addressed in respective pathways, topics, and subtopics as a percentage of the overall blueprint specification.

Table 3.8

Blueprint Depiciting Overall Clincial Pathways by Percentages

MEDICAL CONTENT CATEGORY	Target %
Arrhythmias	**15%**
Coronary Artery Disease	**21.5%**
Heart Failure and Cardiomyopathy	**19%**
Valvular Disease	**15%**
Cogenital Heart Disease	**3%**
Vascular Diseases	**5%**
Systemic Hypertension and Hypotension	**8.5%**
Pulmonary Circulation Disorders	**3%**
Systemic Disorders Affecting the Circulatory System	**7%**
Total	**100%**

Source: American Board of Internal Medicine

Table 3.9

Blueprint Depicting Clinical Pathway Topic and Subtopics by Course of Practice

✓ **High Importance:** At least 88% of questions will address topics and tasks with this designation	⁄ **Medium Importance:** No more than 12% of questions will address topics and tasks with this designation.	✗ **Low Importance:** No questions will address topics and tasks with this designation.

LF – **Low Frequency:** No more than 18% of questions will address topics with this designation, regardless of task or importance

ARRYTHMIAS *(15% of exam)*	Diagnosis	Testing	Treatment/ Core Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
ATRIOVENTRICULAR CONDUCTION DISEASE *(<2% of exam)*					
Atrioventricular block, 1st degree	✓	✓	⁄	⁄	⁄
Atrioventricular block, 2nd degree	✓	✓	✓	✓	⁄
Atrioventricular block, complete	✓	✓	✓	✓	⁄
Left bundle branch block	✓	✓	✓	✓	⁄
Right bundle branch block	✓	✓	✓	⁄	⁄
Left anterior fasciular block	⁄	⁄	⁄	⁄	⁄
Left posterior fasciular block **LF**	⁄	⁄	⁄	⁄	⁄
SINUS NODE DYSFUNCTION *(<2% of exam)*					
Sinus bradycardia	✓	✓	✓	✓	⁄
Sinus pauses	✓	✓	✓	⁄	⁄
Bradycardia-tachycardia syndrome	✓	✓	✓	✓	⁄
SUPRAVENTRICULAR ARRHYTHMIAS *(2% of exam)*					
Atrioventricular nodal reeentrant tachycardia	✓	✓	✓	✓	⁄
Pre-excitation syndromes (including Wolff-Parkinson-White) **LF**	✓	✓	✓	✓	⁄
Atrioventricular reciprocating tachycardia **LF**	⁄	⁄	✓	⁄	⁄

Source: American Board of Internal Medicine

Existing Blueprints in Cardiovascular Medicine

Blueprints for Cardiovascular Medicine currently exist for Cardiovascular Disease, IC, CCEP, AHFTC, and ACHD. These blueprints have been used by the ABIM for both initial certification and MOC. A list of links to ABIM's general cardiovascular medicine blueprints is available in Appendix E.

Several cardiovascular societies have modified ABIM's blueprints to address the depth and breadth of their respective subspecialties more accurately. HRS offers a self-assessment for core CCEP knowledge with associated educational programming. This, and all HRS programs and products, are linked to the CCEP Educational Framework that identifies 292 clinical competencies. Modified blueprints are currently in use for delivering the ACC's ITE as well as delivering the Collaborative Maintenance Pathway (CMP) program, a partnership between the ACC and the ABIM offering an option for cardiologists maintaining their certification in Cardiovascular Disease, IC, CCEP, and/or AHFTC. The CMP provides case-based question assessment with linked educational programming. CMP program content for subspecialty disciplines is created through partnerships between the ACC and the coalition of cardiovascular medicine specialty societies.

3.3.4. Nonclinical Competencies

Nonclinical competencies complement the clinical expertise of cardiovascular professionals and contribute to a comprehensive view of professionalism and patient-centered care, and they are necessary to optimize team-based care. They focus on effective communication, teamwork, and ethical joint clinical decision-making, ensuring that the medical care provided is not only technically proficient and efficient, but also compassionate and respectful of patients' needs and values.

The ABCVM will collaborate with its partner societies to identify nonclinical competencies reflecting standards for physicians. Nonclinical topics may include cultural competency, health equity, patient-centered care, team-based care, critical thinking and problem-solving, health information management, leadership and management skills, patient education, quality improvement and patient safety, cost-effectiveness of cardiovascular care, and clinician well-being, among other possible topics. Outlines of nonclinical competencies or their precursors already exist in the cardiovascular medical specialty society community as listed in the Table below.

Table 3.10

Nonclinical Competencies

Organization	Clinical Competency	Nonclinical Competency	Quality Improvement	Physician Professionalism
American College of Cardiology (ACC)	Competence, Training, Guidelines & Consensus Documents	Clinician Well-Being CV Summit Health Equity Faculty Development	Quality Programs & Quality Improvement for Institutions	2020 American Heart Association and American College of Cardiology Consensus Conference on Professionalism and Ethics: A Consensus Conference Report (ahajournals.org)
American Heart Association (AHA)	Clinical Documents		Quality Improvement Tools	
Society of Catheterization and Intervention (SCAI)	Clinical Documents	Business of Medicine Critical Conversations Professional Development Women in Innovation	Quality Improvement Tools	
Heart Rhythm Society (HRS)	Clinical Documents	Digital Health Health Information Technology Health Policy	Quality Improvement	
Heart Failure Society of America (HFSA)	Clinical Documents & Guidelines			

3.4. CERTIFICATION REQUIREMENTS

The ABCVM will grant certification to physicians who meet eligibility and evaluation criteria in the following specialty and subspecialties:

- Cardiovascular Disease
- Interventional Cardiology (IC)
- Clinical Cardiac Electrophysiology (CCEP)
- Advanced Heart Failure and Transplant Cardiology (AHFTC)
- Adult Congenital Heart Disease (ACHD)

The Board will also establish policies and procedures for the administration of initial and continuous certification programs that are aligned with ABMS standards. The following section outlines the proposed requirements for initial certification, continuous certification, and recertification.

3.4.1. Initial Certification Requirements

Below is an overview of the initial certification requirements for candidates and their experience.

Eligibility and the Candidate Experience

For the immediate future, the ABCVM will retain the eligibility requirements and processes for initial certification in Cardiovascular Medicine that are currently in use by the ABIM. To be eligible for attempting an initial Cardiovascular Medicine certification, candidates must first successfully complete a certification in Internal Medicine through the ABIM. This requirement is expected to be sustained at this time. Candidates will then need to complete a fellowship training program in Cardiology and/or its subspecialties as they do now. Fellowship training must be accredited by the ACGME, the Royal College of Physicians and Surgeons of Canada, or the College des medecins du Quebec. No credit will be granted toward certification for training completed outside of an accredited U.S. or Canadian program. Candidates who satisfactorily complete all requirements for certification in General Cardiology or a cardiovascular subspecialty will become eligible to register for an initial certification exam.

The ABCVM will continue the current practice of integrating eligibility data collection with existing external systems.

- Data will be pulled in from ACGME's Accreditation Data System and verified by training program directors; candidates will not have to upload any documentation.
- Centralized licensure information collected by ABMS or ACGME will be used to validate state licensure information; candidates will not have to upload any documentation.

Eligible candidates may register for an initial certification exam, which is offered once per year, currently at a secured testing center. Candidates will receive results eight weeks later. Candidates who receive a passing score will be conferred a Board certification by the ABCVM. Listed below is the full set of requirements to be considered certified in cardiovascular disease or a cardiovascular disease subspecialty.

Requirements For Initial Certification in Cardiovascular Disease

To be considered Certified in Cardiovascular Disease, a physician must:

- Be certified in Internal Medicine
- Complete requisite graduate medical education fellowship training
- Demonstrate clinical competence
- Meet licensure and procedural requirements
- Pass an initial certification examination

Requirements For Initial Certification in a Subspecialty of Cardiovascular Disease

To be considered Certified in AHFTC, ACHD, EP, or IC, a cardiologist must:

- Be certified in Cardiovascular Disease
- Complete requisite graduate medical education fellowship training
- Demonstrate clinical competence
- Meet licensure and procedural requirements
- Pass an initial subspecialty certification examination

3.4.2. Continuous Certification Requirements

Once certified, diplomates must continually maintain their competency to sustain their certification for the duration of their careers. Thus, ABCVM diplomates will be required to enter successive, continuous 5-year cycles of building a portfolio of evidence documenting they are maintaining competency consistent with the ABMS published standards for continuous certification.

Portfolios of evidence may be built in several ways. The ABCVM Continuous Certification requirements will support all approved society-sponsored programs focused on identifying and closing knowledge gaps while offering support and flexibility to diplomates. Diplomates may choose to upload appropriate data that satisfies requirements to their portfolio themselves; however, a benefit of joining a society-sponsored program will be that the society will upload their continuous certification data. The Board will leverage technology to facilitate data transfer from societies, automated annual and 5-year summative portfolio reviews, and will offer individualized diplomate dashboards for real-time portfolio status reporting.

The required portfolio of evidence for physicians is outlined below.

Continuous Certification: Portfolio Requirements For Each Five-Year Cycle For Each Certificate (also see Requirements for Holders of Multiple Certificates)

- Maintenance of state licensure
- Engagement in a process to regularly identify and close clinical knowledge gaps
- Participation in lifelong learning by:
  - Earning 20 applicable* clinical CME credits yearly
    **The expectation is that the CME credits documented in a portfolio represent AMA Category I credits from learning experiences addressing topics identified as clinical knowledge gaps. If no knowledge gaps are identified, the CME credits may be from learning that addresses any topic in cardiovascular medicine.*
  - Earning 5 nonclinical CME credits yearly
- Attestation of participation in a Performance or Quality Improvement project (once during each 5-year cycle)

- Procedural Requirements for ICs
  - ICs must submit an online Form Attesting Interventional Cardiology Practice, verifying their performance as primary operator, co-operator or supervisor of 100 interventional procedures during the 2-year documentation period (consistent with the ACCF/AHA/SCAI 2013 Update of the Clinical Competence Statement on Coronary Artery Interventional Procedures).
  - ICs unable to meet this requirement may complete a Procedural Log attesting to 25 consecutive procedures, including outcomes, completed as primary operator as a pathway to completing the MOC procedural attestation requirement.
  - ICs unable to complete either of the above in a clinical setting may demonstrate competence by completing a Board-approved program in a simulation center or environment.

Requirements For Holders of Multiple Certificates

The ABCVM recognizes that many of its diplomates hold multiple certificates. To ease their administrative burden, the Board will allow the majority of its continuous certification requirements to count towards satisfying the requirements for all active certificates. For example, meeting the following requirements for one certificate satisfies those requirements for all certificates:

- State licensure
- 20 applicable* clinical CME credits
  **The expectation is that the CME credits documented in a portfolio represent AMA Category I credits from learning experiences addressing topics identified as clinical knowledge gaps. If no knowledge gaps are identified, the CME credits may be from learning that addresses any topic in cardiovascular medicine.*
- 5 nonclinical CME credits
- Participation in performance improvement or quality improvement

The one requirement that a multi-certificate holder must complete for each certificate being maintained is the annual identification and closure of clinical knowledge gaps.

Process For Diplomates Holding Non-Time-Limited Certificates

Beginning in 2024, the ABIM, which currently certifies diplomates in the field of Cardiovascular Medicine, will move all non–time-limited certificate holders into one of two states depending on whether they have met their MOC requirements:

- Certified, *Participating in MOC*
- Certified, *Not Participating in MOC*

The ABCVM will transfer all diplomates holding Non–Time-Limited Certificates into the beginning of a 5-year continuous certification cycle. These diplomates will be tracked and evaluated as all other diplomates, with annual portfolio progress checks and a 5-year summative portfolio review. Non–time-limited certificate holders who fail to meet MOC requirements will never be moved into a state of "Not Certified." The lowest state of certification attainable for them is Certified, *Not Participating in MOC*.

Continuing Professional Development

The competency-based continuous certification program of the ABCVM will reflect principles of Continuing Professional Development and emphasizes clinically oriented, highly relevant content. Below are the ABMS Standards outlined for Lifelong Professional Development and how the ABCVM will align with these standards.

Table 3.11

Alignment With Continuing Professional Development Standards

Continuing Professional Development Standard	How ABCVM Will Meet the Standard
Continuing certification should increase a diplomates' knowledge, skills and abilities that result in the provision of safe, high-quality care to patients.	ABCVM's Continuous Certification program will require diplomates to: • Identify and close their knowledge gaps on a regular basis. • Demonstrate a commitment to lifelong learning by earning CME credits each year. • Participate in a quality/performance improvement project once every five years. All of these activities are designed to increase a diplomates' knowledge, skills and abilities, all of which contribute to safe and high-quality patient care.
Continuing Professional Development activities must be of high quality and free of commercial bias. CME provided must offer AMA Category I credits.	• The ABCVM will support cardiovascular societies by evaluating and approving competency-based continuous certification programs that societies host that are relevant to diplomates. • Organizations such as these have broad and deep experience producing unbiased education that adheres to the high standards of quality outlined by the ACCME. Designed to prevent commercial bias, these standards exist to include requirements for 1) preventing commercial supporters from controlling educational content and 2) a robust and transparent process for obtaining faculty disclosure and identifying/resolving conflicts of interest. • The Board will minimize diplomates' administrative burden by building and maintaining a technological infrastructure to seamlessly import diplomate data from societies (automated) or from individual diplomates. • Diplomates may also choose to upload appropriate data that satisfies requirements to their portfolio themselves, without participating in an ABCVM approved society-hosted program. Appropriate data will be defined by the ABCVM and posted for diplomate access. For example, one criterion will be that the CME credits documented in a portfolio represent AMA Category I credits from learning experiences addressing topics identified as clinical knowledge gaps. If no knowledge gaps are identified, then the CME credits may be from learning that addresses any topic in cardiovascular medicine.
Member Boards should work with stakeholders to help diplomates identify relevant, high-quality activities and report completion with minimal administrative burden.	

3.4.3. Recertification Requirements

The ABCVM will provide options for physicians who have previously held a certification that has lapsed to regain that certification. Application must be made to the ABCVM to determine eligibility for a recertification and applications will be evaluated by the ABCVM Board of Directors, or their designated Board committee. Under specific circumstances, a physician may be granted an opportunity to regain a certification by completing those competency-based continuous certification requirements that were missing at the point of a 5-year summative portfolio review. Granting this option will be highly dependent on the duration and extent of the lapse. If those circumstances do not apply, formerly certified physicians will have options for regaining certification, such as:

- Re-taking an initial certification exam
- Re-entering a new MOC cycle and re-gaining certification over a 5-year period (these individuals would be listed as "Not Certified" during the entire five years)
- Taking 18 months to complete the full initial certification exam (three segments; one segment every six months)

3.5. EVALUATION PLAN

The purpose of the ABCVM's evaluation process for initial certification and continuing certification is to ensure the highest standards of competence and professionalism for physicians. The evaluation process will ensure physicians stay current with advances in their specialty, demonstrate ongoing competence, and engage in activities that improve patient care. Initial certification will leverage best practices in testing and content development to ensure candidates are being tested on the latest cardiovascular competencies and practices. Continuous certification evaluations will ensure that diplomates are advancing their knowledge by closing key knowledge gaps, while ensuring relevance and flexibility, strengthening nonclinical competencies, and increasing outcomes through quality and performance improvement initiatives.

3.5.1. Initial Certification Evaluation Plan

The ABCVM will use a comprehensive process for evaluating initial board certification in Cardiovascular Medicine to ensure that candidates have the necessary KSAs to practice Cardiology at a high standard. The process confirms candidates 1) met credentialing and Board requirements for initial certification, and 2) passed the initial certification examination.

Evaluation of Credentialing and Board Requirements For Initial Certification in Cardiovascular Medicine

The process begins with ensuring candidates meet eligibility requirements as outlined in Section 3.4.1 for participating in initial certification. Only those candidates who meet the requirements can participate in initial certification examinations.

To ensure real-time monitoring of candidates' eligibility, the ABCVM will use secure, integrated systems. Candidates will be able to review their status through a physician portal. Additionally, milestones and reminders will be provided. The system will be designed in such a way that physicians only gain access to participating in the initial certification examination after their profile shows they meet all eligibility credentialing and the aforementioned Board requirements. Once the requirements are met, candidates may proceed with participating in the initial certification examination.

Evaluation of Initial Certification Examinations

Initial certification examinations are based on Cardiovascular Medicine blueprint specifications identified from an associated JTA, which is built using distilled data from multiple sources. The goal throughout the process is to create a fair, reliable, and valid assessment that accurately reflects candidates' knowledge and clinical reasoning abilities in Cardiovascular Medicine and its subspecialties. The involvement of subject matter experts, rigorous review processes, and statistical analyses all contribute to the overall quality of the examination.

Following an initial certification exam administration, psychometric item analyses, key validation, and quality control measures, as listed in Table 3.12, are performed in accordance with industry standards outlined in the literature. Data forensic analysis also can be used to detect any anomalies in test performance data.

Table 3.12

Initial Certification Exam Evaluation Quality Control Measures

Item Analysis, Key Validation, and other Quality Control Measures
✔ Check that the administration conditions are followed properly.
✔ Check that the answer key is correctly specified.
✔ Check that the items appear as intended.
✔ Check that the equating procedures specified are followed correctly.
✔ Equate new test forms and items, pre-equating design will be used.
✔ Check that the score distribution and score statistics are consistent with previous data.
✔ Compute standardized scores using parameters and conversion tables to compute the scale, percentile, or standardized score to be reported.
✔ Check that the correct conversion table or equation is used with the operational scoring.
✔ Check that examinee data is stored in a secure database.
✔ Conduct item analysis prior to equating.
✔ Conduct test security checks.
✔ Compute final raw scores after problematic items are removed.
✔ Document entire scoring process.

Issuance of Initial Certification

The ABCVM shall issue Initial Certification to candidates who:

1. Successfully meet all the Board's credentialing and other requirements of certification, and
2. Successfully pass the initial certification examination or initial certification examination in the respective cardiovascular subspecialty.

Once the requisite analyses are complete, validated, and verified, a score report will be communicated with candidates through their physician portal. A sample score report is shown in Appendix B. This certification is a recognition of their expertise in the field and their ability to provide high-quality patient care.

3.5.2. Continuous Certification Evaluation Plan

The Board will review each Diplomate's portfolio annually as a progress check to help them stay on track. Every 5 years a summative decision will be made about their certification status. Additionally, a personalized continuous certification dashboard will be available so all diplomates can monitor their progress at any given time. The dashboard will let diplomates know if they are on track with completing continuous certification requirements, or if they are behind suggested progress targets. This allows diplomates ample time to address an item before the 5-year cycle is complete.

Annual Review

To evaluate competency-based continuous certification, portfolios will be reviewed annually to help diplomates stay on track. An automated review will be conducted by the Board's tracking system, supplemented by a manual review of selected records as outlined below.

- The Board's tracking system will perform an annual check of portfolios against progress targets to help diplomates stay on track.
- Portfolios that are missing or behind in completing requirements according to the annual established target will be flagged.
- Flags will trigger a notification to diplomates so they can take steps to complete the missing requirements.
- Each year, a small percentage of all records will be randomly selected for a manual audit to ensure the tracking technology is functioning properly.

Five-Year Summative Review

All portfolios will undergo a summative review every 5 years to ensure that all continuous certification requirements, as outlined in the figure below, are being met. Requirements 1 and 5 must be met to be listed as Certified. Requirements 2, 3, and 4, comprise a total of 16 different elements within the portfolio that must be completed within a 5-year period.

Table 3.13

The Five Continuous Certification Requirements

1. Maintenance of state licensure
2. Engagement in a yearly process to identify and close clinical knowledge gaps
3. Participation in lifelong learning as identified by:
   - Earning 20 clinical CME credits yearly
   - Earning 5 nonclinical CME credits yearly
4. Participation in Performance Improvement (once during each five-year cycle)
5. Procedural requirements for Interventional Cardiologists

Diplomates with portfolios that are meeting all requirements will retain the status of *Certified, Participating in MOC*. Diplomates with portfolios falling into this status will automatically enter a new 5-year cycle of continuous certification activities.

Portfolios with missing requirements and/or incomplete data will be flagged by the tracking system and scheduled for a manual review. The manual review will determine the extent of the deficits and what, if any, additional or remedial work will be required to provide evidence of competency-based continuous certification work related to the certificate being assessed. A specific time frame for completing any additional required work will also be set and communicated to the diplomate associated with the record being reviewed. During the additional requirements period, the diplomate's status will be listed as *Certified, MOC Overdue*. Diplomates who complete the required work within the time frame will have their status automatically updated to *Certified, Participating in MOC*.

Diplomates who fail to complete the required remedial work in the designated time frame will be moved into a status of *Not Certified*. The table below outlines the potential scenarios for a diplomate and the status of their certification.

The ABCVM will establish a Portfolio Review and Credentialing Committee to perform the manual reviews described above.

Table 3.14

Diplomate Status Scenarios as a Result of a Five-Year Review

	5-Year Evaluation of Portfolio	Status
1	**Meets all** requirements	**Certified** **Participating in MOC**
2	**Missing 3 or fewer** requirements (~80%)	**Certified** **MOC Overdue** Has **one year** to make up the missing requirements. May be offered digital coaching.
3	**Missing 4 or more** requirements (~75%)	**Certified** **MOC Overdue** Has **one year** to take a comprehensive Knowledge Gap Assessment & demonstrate closure of all knowledge gaps. May be offered digital coaching and additional requirements.
4	**Failed to make up requirements** within the 1-yr time limit provided during Delinquency	**Certified** **Not Participating in MOC**
5	**Failed to make up requirements** 2 months after being listed as Not Maintaining Competence	**Not Certified**
6	**Failed to maintain state licensure**	**Not Certified** Will be restored to *Participating in MOC* status as soon as licensure is reinstated as long as all other requirements are met.
7	**Failure to meet IV procedural requirements**	**Not Certified** Candidate must consult with the Review Board for a path back to certification.

Handling Exceptions

The ABCVM Portfolio Review and Credentialing Committee will also evaluate special situations and make decisions about when exceptions may be made to the above requirements. Exceptions may be granted for circumstances that impact a diplomate's ability to perform regular duties for an extended period, such as:

- A medical issue for the diplomate or the diplomate's immediate family
- Family leave
- Military service
- Natural disasters/forces of nature

Requests for exceptions must be submitted in writing to the Portfolio Review and Credentialing Committee. Decisions made by the Portfolio Review and Credentialing Committee will be the final decision of the ABCVM.

The Portfolio Review and Credentialing Committee will also review cases in which an Interventional Cardiologist fails to meet procedural requirements. In these cases, the Portfolio Review and Credentialing Committee will review the diplomate's individual circumstances and recommend a pathway back to Certified status.

3.5.3. Evaluation of Professional Standing

Satisfactory professional standing is a requirement for initial certification and maintaining competence. The Board will require each diplomate to maintain a valid medical license as a condition of being listed as Certified and will verify licensure each year as part of the annual portfolio review. To stay abreast of any licensure changes that occur between annual reviews, the Board will rely on ABMS' Disciplinary Action Notification Service reports.

A physician with a restricted, suspended, revoked, or surrendered license in any jurisdiction is not eligible to be certified or admitted to a certification exam. ABCVM will suspend or revoke the Board Certification of any diplomate who has a license that is suspended, revoked, surrendered, or restricted to prohibit the practice of clinical medicine in one jurisdiction when the diplomate has no valid license in another jurisdiction.

In addition to requiring that diplomates maintain licensure, the Board will also establish *Guidelines for Professionalism and Personal Conduct* and appoint a Disciplinary Sanctions and Appeals Committee to review all cases of alleged violation of the guidelines. All currently certified diplomates will be subject to these guidelines and expected to adhere to them.

ABCVM will review any alleged personal conduct violation as soon as the allegation is brought to its attention. Once reviewed, the Board retains the right to revoke certification in the event a diplomate is found to be noncompliant with the guidelines. ABCVM recognizes that there may be special circumstances in which certain actions against the medical license of a physician should not result in withdrawal of certification. Special circumstances maybe considered on appeal at the sole discretion of the Disciplinary Sanctions and Appeals Committee.

It is the responsibility of the physician to ensure that the ABCVM has current information about any action that may have been taken against the physician or any limitation that has been placed on the physician's medical license, with the expectation that this information will be provided to the ABCVM within 60 days of the infraction; failing to do so will be considered a violation of the Guidelines for Professionalism and Personal Conduct and will be referred to the Disciplinary Sanctions and Appeals Committee.

3.5.4. Initial and Continuing Certification Programs Audit Plan

The ABCVM will establish comprehensive and rigorous processes to ensure the highest standards of competence and professionalism. The Board will provide objective, fair, and standardized processes to:

- Ensure consistent application of policies and procedures
- Detect needed corrective measures
- Identify opportunities for improvement

Key components of both initial and continuous certification will be reviewed. Table 3.15 below provides a list of program areas and the audit and evaluation goals. Audits will be conducted biannually unless otherwise indicated and may be performed by internal or external groups as appropriate.

Table 3.15

ABCVM Initial and Continuing Certification Components and Audit Goals

Program Area	Goal of Audit/Evaluation
Policy Review	Verify consistent implementation of certification policies and/or recommend necessary updates for the Board's consideration.
Application Processing	Ensure applications are reviewed in a fair and timely manner consistent with policies.
Examination Development	Verify consistent implementation of exam development policies and procedures including job task analysis, item development and review, form assembly and review, standard setting, and technical review.
Examination Administration	Evaluate exam administration policies and procedures including proctoring and testing environment quality, and participant feedback. Conducted with each administration.
Item Analysis and Scoring	Analyze examination items to ensure scores are the result of fair and unbiased process and testing. Conducted with each administration.
Document Management	Ensure documents and records are developed, kept, and disposed of in accordance with Record Retention Policy.
Published Information	Verify that published documents are accurate and current.
Security	Ensure the Board and vendors consistently implement required security practices to keep confidential exam information secure.
Confidentiality	Verify confidential information is handled appropriately .
Conflict of Interest	Verify that those who are subject the Policy on Conflict of Interest have current, signed agreements on file.
Complaints, Disciplinary Actions, & Appeals	Ensure that complaints and appeals are reviewed and processed in accordance with Board policy and that disciplinary actions are carried out fairly and consistently.
Training	Confirm that Board members received orientation and necessary training.
Support Service Standards	The Board will establish and monitor standards for customer service.
Vendor Monitoring	The Board will monitor vendors performing work against the agreed scope of work.

Additionally, the Board will seek regular feedback from diplomates and other stakeholders to assist with evaluating its programs and processes. On an annual basis, the Board will assess the candidate/diplomate experience, the value of the program to diplomates, and whether diplomates are meeting the Board's objectives. Feedback from other certification stakeholders, such as professional societies, hospitals and health systems, patients, and the public will also be considered.

SECTION 4:
ADDITIONAL CAPABILITIES

In addition to the requirements outlined in the current version of Essentials for Approval of Examining Boards in Medical Specialties, the ABCVM will employ additional capabilities to assure the Board is serving its diplomates and their patients in the best possible manner.

4.1. INTEGRITY AND PSYCHOMETRIC EXPERTISE

The ABCVM will leverage specialized capabilities and psychometric expertise to ensure the quality, fairness, and validity of the certification process. Below are some key capabilities and psychometric expertise that will be applied by the ABCVM.

4.1.1 Integrity

A strong sense of ethics and professionalism is necessary to maintain the integrity of the exam development process and to uphold high standards of fairness and equity. Effective collaboration among Board members and staff, and standards for professionalism among all ABCVM committee members will promote a well-rounded perspective and help in identifying potential biases, content gaps, and improvements in the exams and support services offered by the Board. A Conflict of Interest, Professionalism, and Ethics Policy will be developed for all Board Directors, question writers, and other committee members. There are multi-society statements published by coalition partners on professionalism and ethics that will serve as a foundation for drafting this policy.[5]

4.1.2 Psychometric Expertise

ABCVM will possess capabilities and psychometric expertise for maintaining the credibility of the certification process, upholding high standards of medical practice, and ultimately ensuring that certified cardiovascular specialists are well-prepared to provide quality care to patients.

Item Development Skills and Cognitive Level Analysis

The ability to craft high-quality, clinically relevant, and unbiased exam questions for initial certification is crucial. Questions should also challenge candidates' understanding of concepts, clinical reasoning, and their ability to apply knowledge to practical scenarios.

Item writing will be conducted by qualified and trained subject matter experts specializing in each respective field for which a certification is offered. Their training will follow the standard practices for writing test questions as outlined by the NBME.[44] The training will cover developing multiple-choice questions (MCQs) and designing questions that assess various cognitive levels from basic factual recall to higher-order thinking skills that require analysis and synthesis. Item writers will also be trained to avoid technical flaws in item construction (e.g., using vague terms, "none of the above," and nonparallel options) and test-wise flaws (e.g., grammatical cues, absolute terms, clang clues, and convergence).

To complete the training, item writers will submit at least two written questions to item writing specialists. These specialists will review and provide feedback to question developers, and ultimately determine if the newly trained item writer is competent to develop questions for ABCVM initial certification exams and receive item writing assignments. Item writing assignments will be made based on the blueprint specification appropriate for the exam being constructed.

Item Review and Bias Awareness

Draft items will undergo a thorough review process by a group of cardiovascular, board-certified content experts. This review will ensure that questions are accurate, relevant, and aligned with the intended content and difficulty level. Reviewers will be attuned to potential bias in questions related to ethnicity, gender, cultural background, or other factors. Feedback will then be provided to item writers for revisions.

Questions will each be evaluated to determine the cognitive level targeted, such as recall of facts, application of concepts, analysis of data, or synthesis of information. This analysis will help ensure a balanced distribution of cognitive demands across each initial certification exam. All items will undergo a final review to ensure they align with the content specification blueprint, accurately assess the material, and are free from any errors or biases.

Exam Assembly, Quality Assurance and Exam Administration Acumen

The Board will employ professionals skilled in the intricacies of the test development process. These professionals will have knowledge in blueprint specifications and item writing to effectively create representative examination forms that align to the requisite KSAs as outlined in the blueprints.

Experts will be attuned to the blueprint's topical weighting and question distribution and enemy-item concerns as well as the cognitive load of question items. Before an exam is administered, quality assurance processes will be conducted to identify any technical issues and to ensure the exam functions as intended.

ABCVM will also harness expertise in administering examinations. These professionals will ensure examinations are administered to all candidates in a controlled and secure environment under the same standardized testing conditions.

4.2. ANALYSIS AND REPORTING EXPERTISE

A critical requirement of any certifying Board is to hold expertise in and initiate processes for rigorously constructing assessment tools, employing measurement instruments, and leveraging formalized models to assure the accuracy, validity, and reliability of the testing items that will be used in demonstrating a level of knowledge mastery across a specified field of medicine. The coalition of medical specialty societies has robust and relevant expertise in these areas and will support the ABCVM in applying the psychometric science of how tests and testing items are developed, delivered, and scored.

Analysis Expertise

The ABCVM will employ various psychometric analyses to evaluate the validity, reliability, and fairness of initial certification examinations in accordance with best practices.[43] These analyses help ensure that exams accurately measure candidates' knowledge and skills, maintain consistency across different administrations, and remain free from bias. The Board will use experts in conducting key psychometric analyses with competency in:

- Item Analysis and Psychometric Statistics
- Reliability Analysis
- Validity Analysis
- Standard Setting

Item Analysis and Psychometric Statistics

Psychometrics experts will conduct item analysis (i.e., item difficulty and item discrimination) to examine the performance of individual test items for identifying items that are too easy, too difficult, or have low discrimination (i.e., items that do not differentiate between high- and low-performing candidates). Continuous item review and revision processes will be implemented based on psychometric analyses. Items that show poor performance or bias may be revised or removed from exams to maintain the exam's quality and fairness.

Statistical expert analysis also will be used to calculate performance statistics for each exam item to determine anomalies (known as key validation); ensure the fairness of exams based on gender, ethnicity (Item DIF analysis); compare negative and positive values (Mantel-Haenszel statistic); monitor performance stability (drift analysis), and conduct score distribution analysis (to identify any anomalies such as clustering of scores). Collectively, these and other analyses will aid in refining exams by identifying questions that may need to be reviewed, revised, or replaced.

Reliability Analysis

Psychometrics experts will also perform reliability analysis to measure the consistency and stability of exam scores across different administrations. Common measures of reliability include Cronbach's alpha, split-half reliability, and inter-rater reliability (if applicable). Higher levels of reliability indicate that exam results are consistent and not due to random fluctuations.

Validity Analysis

Validity will be assessed, examining the extent to which an exam measures what it is intended to measure. Different types of validity evidence (content, criterion-related, construct, and predictive validity) will be collected to support the validity of an exam. This will involve comparing exam scores with external criteria or established standards.

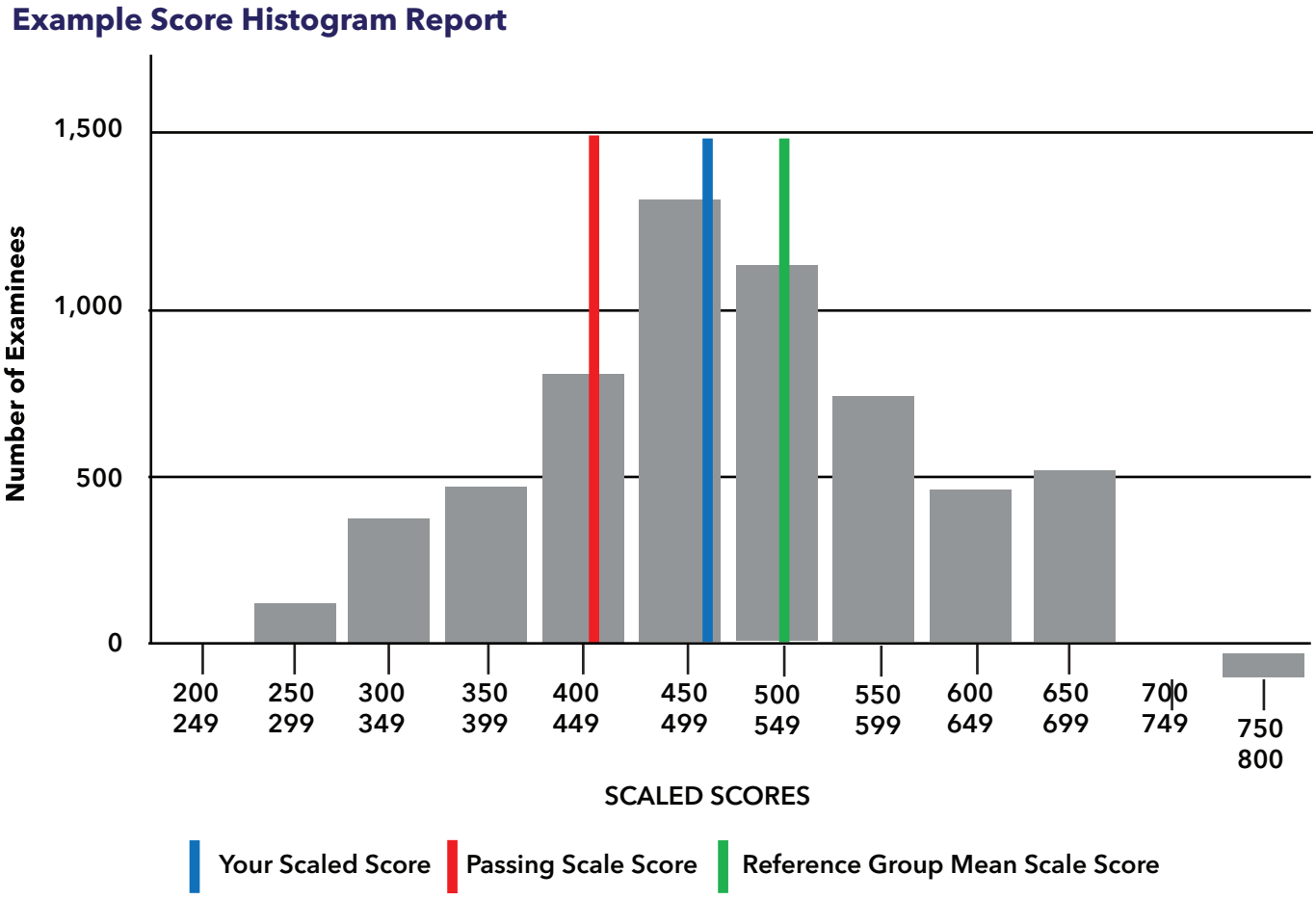
Standard Setting

The ABCVM will use experts proficient in setting passing standards for exams. This involves determining the level of knowledge and skills required to pass an exam and ensuring the standards are both valid and defensible. The passing score for each exam will be determined using standard setting methods such as the Modified Angoff method or the Bookmark method. Cardiovascular board-certified professionals knowledgeable of conducting standard setting will serve as expert judges for estimating the minimum level of performance required to pass an exam.

Reporting Expertise

The ABCVM will employ experts skilled in the use of various psychometric calibration models and scoring processes, including Item Response Theory (IRT) and Continuous Performance Task (CPT), Rasch Model and the modified Angoff.[45] The Board will also customize the score report for each initial examination offered. The score report, accessible from the candidate's secured physician portal, will contain relevant information, including pass/not pass notifications, a histogram depicting their score, the passing score, and the mean score on each exam attempted. An example score report histogram is shown in Figure 4.1 below. See Appendix B for a full example of an initial certification score report.

Figure 4.1



The score report for an initial certification will also guide physicians by providing an overview of the clinical pathways, topics, testing points, and course of practice for questions missed on the examination. This feedback will serve as a study guide which physicians can use to refresh their knowledge.

By harnessing the depth of psychometric expertise described above, the exams offered by the ABCVM will be rooted in ethics and integrity. The ABCVM can ensure that all initial certification exams are fair, valid, reliable, and reflective of the knowledge and skills required to practice Cardiovascular Medicine at the highest levels.

4.3. TESTING TECHNOLOGY, DATA TRACKING, SECURITY AND ACCOMMODATIONS

To provide a seamless process for both initial and continuous certification, the Board will maintain technology solutions that are managed both in-house and through third-party partnerships. These solutions will ensure secure testing administration, data tracking, and secure management of both content and candidate information. The Board will provide web-based services for candidates and diplomates via the official website and portal for initial certification registration, certification status, and continuous certification tracking.

4.3.1. Initial Certification

Testing Technology

The Board aims to provide secure and industry-leading technologies for item development and assessment administration. To maintain standardized procedures for initial certification in the short term, the Board will use third-party testing solutions (Pearson, Prometric, etc.) and exams will be hosted and proctored live at testing centers. Over time, it will consider secured, alternative solutions that would allow for remote testing.

Data Tracking

The Board will track eligibility, registration, and overall status throughout the candidate's initial certification process. Web services will be incorporated to ease the burden of candidate documentation for eligibility, including confirming satisfactory completion of training and validating state licensure. Upon completion of an initial certification exam, the Board will securely maintain assessment data for evaluation and reporting.

Security

The Board will adhere to industry-standard protocols to ensure end-to-end protection for assessment development and delivery. It is important that during the development of test items and delivery of exams that the content is protected. This is essential to providing valid assessments with sound test results. Some of these security measures will include the following:

- Item Development
  - Reduced item exposure during test assembly.
  - Items stored in a secure database environment.
  - Least privilege access for staff with multifactor authentication.
  - Item banks that provide equivalent forms and/or items to replace exams or questions that are compromised.
- Assessment Administration and Delivery
  - Secure process for registration, scheduling, access to assessment, gathering of results, and communicating results, including policies to prevent release of diplomate data to third parties and procedures to protect diplomate personal/demographic data.

  - Secure computers at testing centers that are managed and monitored by personnel.
  - Timed examinations for minimum exposure during administration.
  - Monitoring participant behavior during exams with live proctoring and AI.
  - Verifying participant identification, enforcing identification confirmation protocols.
- Data Forensics
  - Exams and exam scores subjected to security analysis after administration for cheating detection.
  - Continuous monitoring of assets to mitigate risks.
  - Detection and prevention of misconduct.
  - Identifying threats and irregularities during and after exam administration.
  - Web monitoring for item exposure with routine reports that include findings and recommendations.

Accommodation for Test Takers With Disabilities

It will be the policy of the ABCVM to comply with the Americans with Disabilities Act (ADA) and offer reasonable testing accommodations to persons with qualifying disabilities. Consistent with the ADA, ABCVM will make feasible and appropriate modifications to its examination procedures for candidates with documented disabilities, provided that the modification does not fundamentally alter the measurement of KSAs the exam is intended to assess and is not unduly burdensome.

Accommodations are made to ensure that examination results reflect each candidate's clinical knowledge or medical judgment, rather than the candidate's sensory, manual or psychological skills, except where those skills are factors that a given examination is designed to measure.

To qualify for a testing accommodation under the ADA, a candidate must demonstrate a qualifying disability that necessitates the provision of a testing accommodation.

A disability is defined by the ADA as a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment.

ABCVM will consider requests for all forms of accommodation. The following is a list of Common Testing Accommodations that if requested and, where appropriate, will be granted by ABCVM:

- Additional testing time
- Large-font exam materials

This is not an all-inclusive list of possible testing accommodations, and ABCVM will consider the full range of available accommodations to assist candidates with disabilities.

All requests for accommodation will be kept confidential by ABCVM and the requests and all information submitted therewith will not be disclosed to any third party without the express written consent of the candidate.

4.3.2. Continuous Certification

Diplomates who participate in continuous certification will take advantage of web-based technologies that help track their certification and lifelong learning. The Board will provide services via the secure diplomate portal that will allow for management and tracking of their continuous certification program data. This includes options for enrolling in a society-hosted, competency-based continuous certification program, viewing their continuous certification portfolio requirements, and viewing their current certification status.

Transfer of diplomate data from societies to the ABCVM will be handled via application programming interfaces developed by the Board. These web services will allow cardiovascular societies to push continuous certification program-related data to the individual portfolios of diplomates in the system. Data transfer will be automated and allow for real-time tracking of competency-based continuous certification requirements as they are completed. An option also will be available for diplomates to enter data on their own for fulfilling continuous certification requirements should they opt not to participate in a society-based program.

Assessment Technology

Through partnerships with medical specialty societies, diplomates will be able to participate in lifelong learning that helps maintain their knowledge and skills while meeting their competency-based continuous certification requirements. The Board will collect completion data pertaining to these requirements and track progress on portfolio requirements of work for annual review. This annual review is automated and will flag a portfolio record that is not meeting the annual requirement targets. Diplomates will be able to view their status at any time and take steps to complete any missing requirements or resolve deficit data.

Data Tracking

The Board will manage and track continuous certification program compliance via web services. Medical societies that provide continuous certification-related education can leverage Board web services to automate the transfer of completion data. Board managed web services will allow for the transfer of these types of data:

- Knowledge gap assessment data
- Completed lifelong learning and CME credit requirements
- Performance or quality improvement activity attestations
- Re-assessment data demonstrating knowledge gap closure

Data Sharing

Tracking performance data from continuous certification assessments delivered by individual society partners will allow the Board to share collated, de-identified assessment data and practice trends back with the coalition societies to inform knowledge and skills gaps that will enable supportive, adaptive learning to assist with closing gaps.

Security

Diplomate information regarding initial and continuous certification will be managed and stored securely within the system. The Board will enforce strong data security policies, reducing the exposure of data stored as well as intellectual property and management interfaces within the system. Multifactor authentication will be used for access, as well as least privilege access models for ABCVM staff. Due to the sensitivity of the information being managed, data security must be implemented across all processes and systems. This includes data shared between partner cardiovascular societies, external partners, internal diplomate data, and data accessed by the diplomate via the Board website and diplomate portal.

Accommodation For Assessment Takers With Disabilities

Partner societies offering knowledge- or skills-gap identification assessments will be expected to comply with the Americans with Disabilities Act and offer reasonable testing accommodations to persons with qualifying disabilities.

4.4. PHYSICIAN-FOCUSED STUDY AND REMEDIAL TOOLS

A fundamental underpinning of the ABCVM is the belief that lifelong learning is essential to continuous competence and the practice of medicine. As such, the Board's proposed competency-based continuous certification program will encourage diplomates to regularly identify knowledge gaps and close them through educational study and remediation tools. The Board recognizes, however, that its core competency is not to educate or remediate, but to set requirements and maintain a process for confirming those requirements are able to be fulfilled. To ensure that diplomates have access to robust, relevant, and high-quality educational materials, the Board will work closely with its partner medical societies, relying on their core capabilities in developing and delivering education that is tailored to a diplomate's needs.

The Board anticipates these societies will design competency-based continuous certification programs incorporating study and remediation in a variety of different formats, allowing diplomates to seamlessly earn credit for activities they are already doing, such as participating in annual meetings, self-assessment programs, webinars, simulation exercises, reading journal articles, and participating in quality and/or performance improvement programs. An option will exist for diplomates to enter their own data directly to the Board if they choose not to participate in a society-hosted continuous certification program. However, self-reported data will be subject to the same requirements and standards for demonstrating competency within their individual data portfolio.

The Board will invite societies to become a Portfolio Sponsor by submitting their competency-based continuous certification programs for review. The Board will endorse those programs meeting a set of established standards for approved continuous certification activities.

4.5. DEDICATION TO IMPROVING HEALTH AND HEALTH CARE

The ABCVM is committed to improving health and health care. As such, quality improvement and the elimination of health care disparities will be woven into both its processes and its programs. Specifically, the Board plans to:

- **Promote Quality Improvement:** Require each diplomate to attest to participating in a performance improvement (PI) or quality improvement (QI) activity at least once every 5 years. This requirement will be able to be fulfilled by a diplomate's participation through PI or QI programs offered by hospitals, institutions, societies, and other organizations. The goal of this requirement is to contribute to individually and collectively raising the bar for quality health care.
- **Hire and Recruit Diverse Staff and Volunteers:** Emphasize diversity among its Board of Directors, staff, question writers/reviewers, and other committee members by seeking the involvement of individuals under-represented by gender and/or race, physical ability, age, or socioeconomic status, practice location (e.g., urban, rural, or frontier practice), or employment structure (independent, employed, etc.) among other factors.
- **Encourage Diplomates to Stay Informed on Health Equity:** Require question writers to write questions highlighting data demonstrating inequities in care. Exposure to these questions will encourage diplomates to stay informed about disparities and keep health equity top of mind as they practice.
- **Emphasize the Importance of Nonclinical Competencies:** Require question writers to write questions that focus on nonclinical competencies such as professionalism, provider/patient communications, ethical practice patterns, etc., which are an important part of the whole physician's mindset of competent practice.

4.6. TRANSITION PLANNING

The ABCVM will be formed as independent 501(c)(6) organization via a filing with the District of Columbia. Transition planning in the months that follow approval of a potential new Board will be critical and will comprise very intentional, organized, and coordinated processes for setting up and beginning Board operations as detailed below.

Governance, Staffing, and Legal Process

Once the ABCVM business entity has been incorporated, a representative Board of Directors will be convened, comprising 15 members. See "Governance Structure" for more detail.

The first responsibility of the ABCVM Board of Directors will be to approve the bylaws of the new organization, followed by forming a nominating committee to identify candidates for the open ACHD and at-large seats on the Board of Directors and for officer positions. The Board of Directors will also hire a CEO, who will hire the ABCVM staff, determine day-to-day operating procedures and bring forward for Board of Directors' approval an initial operating budget, including any recommendations for shared services, licenses, consultant agreements, and/or intellectual property purchases.

The Board of Directors will determine an appropriate timeline for the completion of initial activities and examination development that will dictate when the ABCVM can begin the management of candidates and diplomates and offer its first certification exams. An agreement on the timing of the transition for data, processes, and exams will be made between the ABIM and the ABCVM so that a seamless transition of responsibilities will occur, and the continuity of the initial and continuous certification processes is maintained.

Policies and Processes

The ABCVM Board of Directors will determine the policies and processes needed to fulfill its obligations and for the effective operation of the Board. A partial list of policies to be developed includes but is not limited to:

Policies and Procedures For Certification

- General Policies
  - ABCVM's Evaluations and Judgements
  - Board Eligibility and Training Considerations (including reporting requirements)
  - Certification Status (including reporting requirements)
  - General Cardiology and Subspecialty Policies
- Special Considerations
  - Research Pathway
  - J-1 Visas
  - International Medical Students
- Certification Requirements for General Cardiology and the Subspecialties
- Guidelines for Professionalism and Personal Conduct
- Graduates of American Osteopathic Association (AOA) accredited training programs

Operating Policies and Procedures:

- Conflict of Interest, Professionalism, and Ethics Policy for Directors, Question Writers, Committee Members
- Personnel Policies:
  - Diversity, Equity, and Inclusion Policy
  - Recruitment and Employment Policy
  - Harassment and Violence Policy
  - Workplace Safety and Health Policy
  - Compensation and Benefits Policy
  - Performance Review Policy
  - Workplace Safety Policy
  - Equal Opportunity Policy
  - Employee Code of Conduct Policy
  - Ethics Policy
  - Travel Policy

- IT Policies
  - Confidentiality, Data Protection and Trade Secrets Policy

Committees

The ABCVM Board of Directors will determine the list of advisory and operating committees to convene, determine their reporting structure, and populate those committees with individuals possessing the appropriate competencies. A partial list of committees to establish includes:

Board Advisory Committees

- Finance and Audit Committee
- Nominating Committee
- Technology, Innovation, and Improvement Committee

ABCVM Operating Committees

- Portfolio Review and Credentialing Committee
- Certification Standards and Requirements Committee
  - For each specialty and subspecialty:
    - Question Writing Committee
    - Blueprint and Exam Writing Committee
    - Standard Setting Committee
- Disciplinary Sanctions and Appeals Committee
- Cardiovascular Community Engagement Committee
  - Conducts Diplomate, Institution, and Patient User Panels and Focus Groups

Existing Candidate and Diplomate Status

The ABCVM will honor the existing status of all eligible candidates and diplomates currently affiliated with the ABIM. Candidates eligible for initial certification will enter a certification cycle allowing them to sit for an exam within the first full year of the ABCVM's operation. Section 3.4.1 (Initial Certification Requirements) outlines the specific eligibility criteria for candidates, including the requirement to obtain an initial certification in Internal Medicine prior to sitting for a cardiology board exam.

Diplomates currently participating in any of the MOC programs approved by ABIM will be entered into the 5-year continuous certification program, beginning at year 1. Because the process is continuous and data will be collected on an ongoing basis, it is possible to evaluate a diplomate's status at any time, however, the process outlined herein requires a summative evaluation no later than every 5 years in the cycle, and this will be honored.

See Section 3.4.3 (Recertification Requirements) outlines the process and options for individuals who desire regain a previously held certification.

Candidate and Diplomate Data

The ABCVM will collect and store candidate and diplomate data to carry out the Board's responsibilities and perform its certification services. Data elements will comprise individual demographics, historical certification tracking information, eligibility and certification status, diplomate credits towards continuous certification, exam score reports, and other critical information items.

All data collected and managed by the ABCVM will be highly secured and considered confidential except when public reporting is expressly required and reporting to oversight agencies and credentialing and licensure verification organizations. For example, ABCVM will consider the certification or recertification status of its candidates and diplomates to be public information. ABCVM also will provide a diplomate's Board Certification status, MOC status, and personal identifying information, including mailing address, email address and last four digits of a diplomate's Social Security number, to the Federation of State Medical Boards (FSMB), the ABMS (which publishes The Official ABMS Directory of Board-Certified Medical Specialists), and to other credential and licensure verification organizations.

Existing candidate and diplomate data will need to be transferred from the ABIM to the ABCVM and a detailed plan for data transition will be developed should the formation of the ABCVM be approved. A partial list of data elements to be captured de novo or transferred to the ABCVM is shown below.

<u>Diplomate Demographics</u>

- Date of Birth
- Gender
- Last Name
- First Name
- Middle Name
- Phone number
  - Business
  - Home
  - Mobile
- Address, City, State
- Email
- Preferred Communication preference
  - Postal mail
  - Email
  - Text
- Birth Country

- Geographic Region (i.e., West, Midwest, South, Northeast, Canada/Other)
- ABIM ID (with equivalency to ABCVM ID)

Certification Data and Exam History

- Certification letter PDF provided by ABIM
- All ABIM Certifications Held
  - Internal Medicine
  - Cardiovascular Disease
  - Interventional Cardiology
  - Clinical Cardiac Electrophysiology
  - Advanced Heart Failure and Transplant Cardiology
  - Adult Congenital Heart Disease
- For all certifications held:
  - Dates of Initial Certification
  - Current certified status
    - Certified
    - Not Certified
    - Certified, Participating in MOC
    - Certified, Not Participating in MOC
    - Certified, in Grace Period
- Enrolled MOC Option
  - 10-year
  - CMP
  - Longitudinal Knowledge Assessment (LKA)
  - None
- MOC Assessment Due Dates For Every Certification Held
- ADA Accommodations (Y/N)
  - Nature of ADA Accommodation
  - Documentation to support ADA Accommodation
- Historical ABIM Data
  - MOC Points earned in current cycle
  - Attestation info for diplomates with IC cert
  - Part IV MOC Points Earned in the Last 4 Years
- Standard Setting Data
  - EXAM_YR = first attempt for meeting assessment requirement toward the latest certification (initial or MOC)
  - SCORE_QUARTILE = quartile of the score from the first attempt of exam for earning latest certification.
  - INIT_QUARTILE = first attempt for initial certification percentile scores based on three groups: <25, 25-74, 75+ (if needed)
  - IMG Status – USMS, IMG

State Licenses and Other External Data

- Record of disciplinary actions
- Record of any certification or license being revoked or suspended
- Documentation to support the above

Communications and Public Relations

A robust communications and public relations plan will be implemented to keep cardiovascular professionals and other relevant stakeholders updated on the plans and activities of the new Board. Messaging will be targeted to various audiences including, but not limited to:

- Current ABIM board-certified cardiologists
- Cardiologists overall (certified or not)
- Cardiology Training Program Directors and their Trainees
- Other Cardiology subspecialty societies not directly involved in the new Board
- Affiliated certifying, credit granting, and/or regulatory organizations (ACCME, ACGME, NBMS, FSMB, etc.)
- Payors
- Hospitals and Health Care Institutions

Trade media will also be used for more general information as appropriate, particularly in distinguishing new approaches to the continuing certification process. Public relations will begin soon after an approval being granted and will be sustained throughout the several months leading up to the official launch of the new Board.

SECTION 5:
ENVISIONING THE FUTURE

The American Board of Medical Specialties has made a bold and forward-thinking move by releasing its Standards for Continuing Certification, a set of requirements for continuing certification programs to which all ABMS member boards must adhere by January 2024. These standards promote the design of integrated, specialty-specific programs that support a diplomate's continuing professional development towards improving the quality, safety, and value of health care and ensuring the highest level of patient care.

The ABMS standards outline the minimum expectations required all its member boards. However, quality, excellence, and value should never be achieved by simply striving to meet expectations. Rather, exceeding expectations should be the goal. This is particularly important as the value of certification faces challenges from a vocal segment of the medical community. Future-facing Boards that consistently demonstrate relevance and value to their constituents—the provider, the patient, and the public—must exceed expectations on many levels.

Enhanced Technology For Efficiency and Convenience

Technology continues to transform health care, with advancements in communication, automation, and clinical support. The ability to connect with patients, systems, and colleagues instantly and the use of automation to streamline processes allows organizations to operate more efficiently than ever before. It is a foregone conclusion that certifying boards must harness technology as well.

The new Board will own and maintain advanced technology that boosts data transfer between affiliated cardiovascular societies, the ABMS, and other relevant organizations. Application Programming Interfaces will be shared with societies to allow digital transfer of credits earned towards maintaining continuous certification. Sophisticated data management systems will strengthen real-time reporting with credit tracking dashboards offering diplomates a streamlined, efficient, and convenient experience in monitoring their progress on continuous certification goals. Automation of previously manual processes will modernize data and credit management, creating the ability to flag diplomate records that show deficits continuous certification requirements. The new Board will be committed to using technology as a powerful tool in creating efficiency and offering convenience to its diplomates and affiliated societies.

Professionalism Beyond Clinical Knowledge Assessment

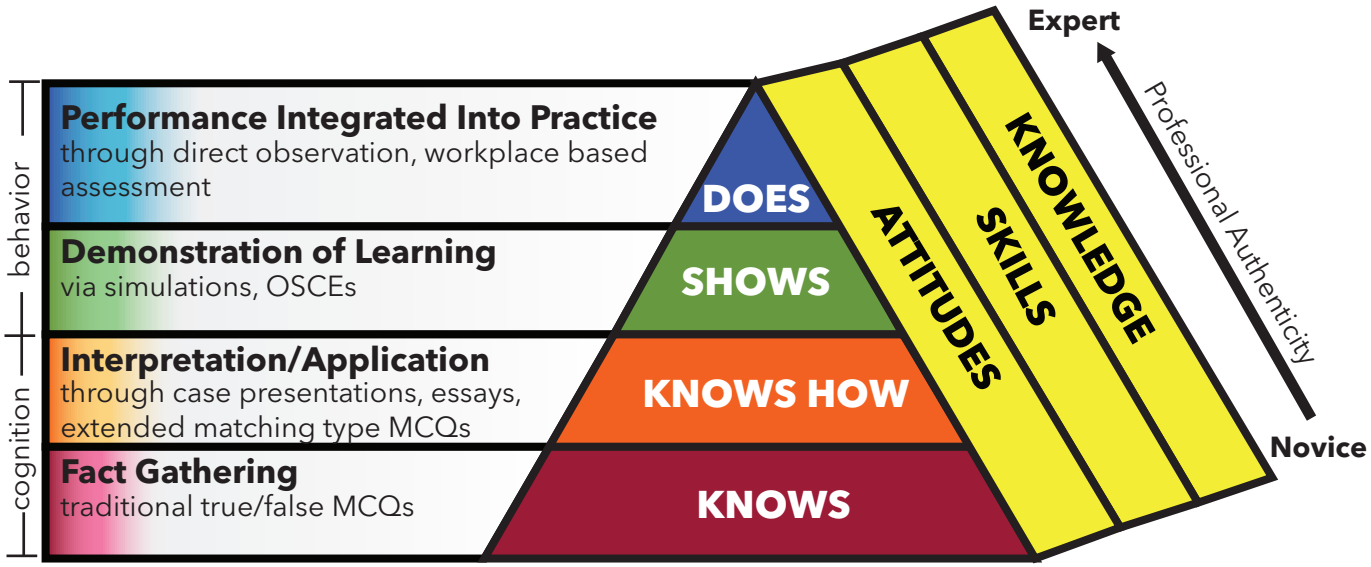
Foundational to the competency-based continuous certification process, and part of the ABMS Standards for Continuing Certification, is the assessment and learning to demonstrate that diplomates possess the knowledge, judgement, and skills for providing safe and effective patient care. Most boards have focused solely on the assessment of clinical knowledge, using patient case scenarios formatted as standardized, multiple-choice questions.

Pedagogical methods recognize that today's learners, including cardiologists, are embedded in a much different world than before, often in highly specialized areas of practice, with ample opportunities to access competence in a broader way. In addition to medical knowledge, clinicians today need to understand how to best access information, synthesize material, navigate systems, manage care teams, master nonclinical competencies, and use point-of-care applications to make bedside decisions rather than recalling facts that may or may not have relevance to their area(s) of practice. It no longer seems relevant to assess competence with only static, knowledge-based questions. Rather, an updated approach is needed to re-evaluate some of the fundamental precepts of clinician competence assessment and to maximize clinician efficiency and effectiveness while demonstrating a commitment to excellence in patient care. The future value of certifying boards as perceived by providers, patients, and the public will be in embracing new approaches for demonstrating competence.

In 1990, psychologist George Miller proposed a framework (see Figure 5.1) for assessing clinical competence. At the lowest level of the pyramid is knowledge (knows), followed by competence (knows how), performance (shows how), and action (does). At best, an assessment built only on answering multiple choice questions is a demonstration of the lower levels of competence. However, it is only in the "DOES" triangle that the physician truly performs, thus future assessment of competency must strive to reach this highest level of activity.

Figure 5.1

Miller's Prism of Clinical Competence (aka Miller's Pryamid)
It is the only in the "does" triangle that the doctor truly performs



Based on work by Miller GE. The Assessment of Clinical Skills/Competence/Performance: Acad. Med. 1990; 65(9); 63-67

Adapted by Drs. R. Mehay & R. Burns, UK (Jan 2009)

The work of developing novel forms of competency assessment and learning is already being carried out within the coalition of cardiovascular societies proposing the new Board. Hands-on and virtual simulations, augmented reality, Objective Structured Clinical Examinations (OSCEs), peer-to-peer problem solving activities, and think-aloud protocols with real or simulated AI-directed practice are just some of the learning tools that are being considered and should be employed in the future to assess clinical competence. If implemented appropriately, these are rich, rewarding, and valuable experiences for physicians.

Boards should strive to incorporate credits for learning activities already taking place in clinical settings such as grand rounds and journal clubs. There exists a wealth of opportunities to assess and learn beyond the multiple-choice question. Many of these opportunities should give physicians continuous certification credit for what they are already routinely doing in everyday practice.

Additionally, certifying boards have an opportunity to incorporate requirements into the competency-based certification process that address nonclinical competencies, and give credit for learning that encompasses other aspects of professionalism, such as participating in diversity, equity, and inclusion activities at the local setting or learning to navigate and implement

health equity practices with patients. Certifying boards should be supporting the use of unique competence assessment tools in specific areas of practice and promoting innovative methods of demonstrating physician competence in communication, quality, empathy, and wellness.

Augmenting Human Work With Machine Learning Systems

There has been much attention paid recently to the potential of AI and the use of generative-AI programs to collate, curate, and generate content. Overall, AI can help automate and streamline the content curation and organization process, potentially making it faster and more accurate. The potential use of AI by certifying boards is nascent; however, future-focused certifying boards must practice constant vigilance for new tools and techniques that streamline content discovery and generation. At the very least, boards should be investigating the use of augmented intelligence systems where AI technologies assist people in doing their jobs and organizations in running efficiently. This is a frontier yet to be fully discovered, but ripe for exploration by progressive boards.

Constant Vigilance For New Ways to Serve Stakeholders

Science, medicine, assessment, and learning continue to evolve in new and exciting ways. Innovation is happening every day in the physician-patient interface (e.g., telemedicine, remote patient monitoring, etc.). Advances in adult learning continue to push the boundaries of how physician competence can be assessed and then strengthened through new techniques and modalities for learning. Certifying boards must sustain their value to stakeholders by constantly evaluating their programs and services to assure that they are offering the best and most reliable experiences and incorporating innovation into their strategic vision.

Critical to building and sustaining stakeholder trust is the notion that a certifying Board seeks out and listens to advice from its diplomates and affiliated societies, then balances that feedback with its responsibility to uphold high standards for initial and continuous certification. The new Board will engage in a philosophy of collaboration and openness to new ideas, new ways of supporting assessment and learning, and new mechanisms for engaging its stakeholders in fulfilling the Board's vision for success by working together towards common goals.

Novel Approaches to Training and Professional Journeys

The field of Cardiovascular Medicine has evolved tremendously over the past few decades; however, training paradigms are largely unchanged. While many other specialties have moved to more streamlined approaches to training (vascular and cardiothoracic surgery), Cardiology has remained stagnant. A new Board would allow a fresh look at initial certification, including the KSAs of trainees. Working with the ACGME and other constituencies, this is a chance to modernize, and possibly shorten, the training that leads up to initial certification with likely positive effects on the present workforce crisis and the lack of diversity in the field.

Another opportunity for the new Board is to support, not disenfranchise, those who wish to change their Cardiology career paths. It not uncommon for cardiologists to take on or sunset parts of their practice and continuous certification should support this. For example, given the physical nature of

IC and EP, some cardiologists might want to "hang up their lead" and spend more time taking care of patients in the clinic or the hospital. Continuous certification should be seamless and supportive.

Embracing the Future is Key

These and other elements of the future paint a hopeful picture for the continued relevance of board certification. The ABMS has set the standards for excellence to ensure that public health and patient needs are addressed through a rigorous system of assessment and learning for competency-based, continuous certification. It is the responsibility of certifying Boards and their affiliated stakeholders to collaborate in upholding these standards by developing special capabilities and novel programs to demonstrate the relevance, value, and usefulness of board certification.

SECTION 6: **CONCLUSION**

The ACC, AHA, HFSA, HRS and SCAI appreciate the opportunity to submit this application to establish a new, independent Cardiovascular Board: the American Board of Cardiovascular Medicine.

The ABMS has established a more holistic approach to continuous professional development with a renewed focus on professionalism, lifelong learning, and practice improvement. They are placing an emphasis on formative and summative assessments that are relevant to practice by identifying knowledge deficits and improvement opportunities. In addition, the ABMS recognizes the importance of self-regulation and multiple organizational responsibility, including certifying boards working closely with professional medical societies, to ensure the highest possible care.

The ABCVM will enable ABMS to achieve this holistic methodology, resulting in benefits for patients and cardiologists. Evidence has been provided in this application demonstrating that Cardiovascular Medicine is its own distinct medical specialty and that it continues to lead the way in novel care approaches, provision of clinical competency statements, clinical registries, implementation of new technologies and therapeutics, and redesigning of team-based, multidisciplinary care. Now is the right time for a new, independent Cardiovascular Medicine Board to innovate the initial and continuous certification of cardiologists, while aligning with rigorous standards and measuring the clinical competence of candidates and diplomates. Forming this Board will require collaboration, innovation, technology, and resources. The "House of Cardiology" is up to this task and can leverage its experience and unique understanding of the specialty to deliver an evolved, contemporary, and relevant approach that meets the needs of our patients and profession.

SECTION 7 (APPENDIX A): **ADDITIONAL REQUIRED CONTENT FOR APPLICATIONS**

This section contains additional information required for the application as outlined in Section III of the ABMS Policy on Admission of New Medical Specialty Boards to Membership in The American Board of Medical Specialties.

7.1. NAME OF THE PROPOSED SPECIALTY BOARD

The name of the proposed Specialty Board is the American Board of Cardiovascular Medicine (ABCVM).

7.2. PROPOSED OBJECTIVES AND FUNCTIONS OF THE BOARD

The ABCVM will have a primary objective to promote excellence in medical care for cardiovascular patients along the entire arc of their life, from prenatal to the end of life. ABCVM certification will provide a standard of excellence by which the public can select cardiovascular subspecialists.

The ABCVM will initially award certificates in the following specialty and subspecialty areas:

- Cardiovascular Medicine (General Cardiology)
- Interventional Cardiology
- Clinical Cardiac Electrophysiology
- Advanced Heart Failure and Transplant Cardiology
- Adult Congenital Heart Disease

The ABCVM also will set requirements for maintaining continuous certification for each of the areas listed above and collaborate with its partner societies to offer competency-based assessments and lifelong learning programs to help satisfy these requirements.

The ABCVM will abide by these guiding principles:

- Directed by an ultimate responsibility to the public.
- Focused on patients at the center of all decisions.

- Affirmed by professionalism, equity, and well-being.
- Driven by continuous learning, not continuous testing.
- Centered on relevance to real-world practice.
- Aligned with cardiovascular subspecialization and team-based care.
- Supportive of both established and innovative educational methods and assets.
- Accountable for nonclinical competencies necessary for effective team-based care.
- Committed to sustained value for cardiovascular professionals and their patients.

7.3. SPONSORING ORGANIZATIONS

7.3.1. Sponsor Overview

The "House of Cardiology" offers unwavering support for forming the American Board of Cardiovascular Medicine. An inter-society coalition has been formed in developing the new Board's conceptual framework, governance, scope, content, and structure, which enables collaboration and strengthens the vision that has been outlined. This coalition also shares equal partnership in the submission of this application.

About the American College of Cardiology

The American College of Cardiology (ACC) is the global leader in transforming cardiovascular care and improving heart health for all. As the preeminent source of professional medical education for the entire cardiovascular care team since 1949, ACC credentials cardiovascular professionals in more than 140 countries who meet stringent qualifications and leads in the formation of health policy, standards and guidelines. Through its world-renowned family of JACC Journals, NCDR registries, ACC Accreditation Services, global network of Member Sections, CardioSmart patient resources and more, the College is committed to ensuring a world where science, knowledge and innovation optimize patient care and outcomes. For more information, visit ACC.org.

About the American Heart Association

The American Heart Association is a relentless force for a world of longer, healthier lives for all and includes the American Stroke Association. We are dedicated to ensuring equitable health in all communities. Through collaboration with numerous organizations, and powered by millions of volunteers, we fund innovative research, advocate for the public's health and share lifesaving resources. The Dallas-based organization has been a leading source of health information for nearly a century. For more information, visit heart.org.

About the Heart Failure Society of America

The Heart Failure Society of America, Inc. (HFSA) represents the first organized effort by heart failure experts from the Americas to provide a forum for all those interested in heart function, heart failure, and congestive heart failure research and patient care. The mission of HFSA is to provide

a platform to improve and expand heart failure care through collaboration, education, innovation, research, and advocacy. HFSA members include physicians, scientists, nurses, nurse practitioners, pharmacists, trainees, other workers and patients. For more information, visit HFSA.org.

About the Heart Rhythm Society

The Heart Rhythm Society is the international leader in science, education, and advocacy for cardiac arrhythmia professionals and patients and the primary information resource on heart rhythm disorders. Its mission is to improve the care of patients by promoting research, education, and optimal health care policies and standards. Incorporated in 1979 and based in Washington, D.C., it has a membership of more than 8,200 heart rhythm professionals from 94 countries. For more information, visit HRSonline.org.

About the Society for Cardiovascular Angiography & Interventions

The Society for Cardiovascular Angiography & Interventions (SCAI) is a nonprofit professional association with nearly 4,500 members representing interventional cardiologists and cardiac catheterization teams in the United States. SCAI promotes excellence in interventional cardiovascular medicine for both adults and children through education, representation, and the advancement of quality standards to enhance patient care. For more information, visit SCAI.org.

Letters of support are included in the following sections. Other cardiovascular societies may be engaged in the future, as the need arises for new expertise and/or new certificates in current or emerging fields of subspecialization.

7.3.2. American College of Cardiology

AMERICAN COLLEGE of CARDIOLOGY

Heart House
2400 N St. NW, Washington, DC 20037
1-202-375-6000 | 1-800-253-4636 | Fax: 1-202-375-6842
ACC.org

Nov. 15, 2023

Dear Leadership of the American Board of Medical Specialties,

On behalf of the American College of Cardiology, we are writing in support of the application to create an independent board of cardiovascular medicine.

Cardiology has evolved as a distinct specialty with its own set of subspecialties and training pathways that require a unique set of knowledge, skills and competencies necessary to sustain professional excellence and effectively care for cardiovascular patients. As such, the current mechanism for board certification has become increasingly less appropriate and less relevant for cardiovascular clinicians.

We, along with the American Heart Association, Heart Rhythm Society, Heart Failure Society of America and the Society for Cardiovascular Angiography and Interventions, firmly believe that now is the right time to create a new board that will be truly be representative of the cardiovascular community and will allow for a greater and more precise focus on the needs of cardiovascular physicians and their patients.

As a long-time advocate of attaining and sustaining clinical cardiovascular competence given its fundamental importance to providing appropriate, high-value health care, the ACC feels strongly that cardiologists have a personal, professional, ethical and public responsibility to stay up to date in their areas of practice, starting with self-identifying their own knowledge gaps and closing them in a formative, constructive way.

Patients and the public should have confidence that their physicians are demonstrating clinical competence no matter where they are in their career. As proposed, the new cardiovascular board of medicine would replace the current process with a transparent and continuous certification and competence approach that directly meets these expectations.

7.3.3. American Heart Association

November 17, 2023

American Board of Medical Specialties
353 North Clark Street
Suite 1400
Chicago, IL 60654

Dear Leadership of the American Board of Medical Specialties:

It is with pleasure that I write this letter of support from the American Heart Association (AHA) for the House of Cardiology consortium's proposal to create a new American Board of Cardiovascular Medicine (ABCVM) specifically to certify cardiovascular physicians. The consortium's proposal aligns with the AHA's mission "to be a relentless force for a world of longer, healthier lives" and with the AHA's role as an advocate for the highest standards of medical ethics and professionalism, as noted in the 2020 AHA/ACC Consensus Conference on Professionalism and Ethics[1].

The AHA is the nation's oldest and largest voluntary organization dedicated to fighting heart disease and stroke, with over 35 million volunteers, supporters and donors, including thousands of member physicians, healthcare professionals, and research scientists from institutions across the United States and worldwide. We've invested more than $5 billion in research, making us the largest not-for-profit funding source for cardiovascular and cerebrovascular disease research next to the federal government. Through this research, the AHA seeks to bring science to life, ensuring that medical discoveries are broadly implemented to improve the health of all people throughout their life course.

In addition to its role as a funder and catalyst for research, the AHA

[1] Benjamin, IJ, Valentine CM, Oetgen WJ, et al. 2020 AHA/ACC Consensus Conference Report on Professionalism and Ethics. Circulation. 2021;143(25):1037-1058

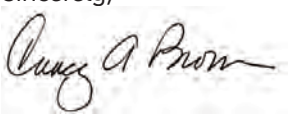
National Center | 7272 Greenville Avenue | Dallas, TX 75231

collaborates with the American College of Cardiology (ACC) and other societies to distill scientific knowledge into evidence-based clinical practice guidelines for cardiovascular care. These clinical practice guidelines become a tool for physicians to ensure that every person can receive health care informed by the best available science. Furthermore, these guidelines serve as a foundation for the certification, recognition, and quality improvement programs that the AHA engages in with approximately 2,600 hospitals across the United States, meaning nearly 80% of people have access to these quality care initiatives.

Cardiovascular medicine has become increasingly specialized, requiring many years of dedicated study and training. As science has advanced, so has the specialized knowledge needed by physicians, leading to the continued progression of training requirements, certifications, and cardiovascular specialties. The practice of cardiovascular medicine continues to evolve with opportunities to improve team-based care, remove barriers to quality care, address the drivers of health disparities, and enhance physician well-being. There are also recognized opportunities for improvement and modernization of certification methods and educational content to ensure that maintenance of professional competence is effective and relevant to cardiovascular physicians' specialties while minimizing unnecessary burdens.

Accordingly, the AHA enthusiastically joins the consortium applying to the American Board of Medical Specialties (ABMS) to establish a standalone medical board dedicated to cardiovascular medicine. This comprehensive proposal harnesses the necessary knowledge, skills, and standards required for professional competence and the provision of effective, high-quality cardiovascular care.

Sincerely,



Nancy A. Brown
Chief Executive Officer

7.3.4. Heart Failure Society of America

HFSA
HEART FAILURE SOCIETY OF AMERICA

500 N Washington Street #10009, Rockville, Maryland 20849
301.312.8635

November 16, 2023

TO: The Leadership of the American Board of Medical Specialties

We are writing to express the support of the Heart Failure Society Board of Directors for the creation of the new American Board of Cardiovascular Medicine.

We have been working with our partner organizations (the American College of Cardiology, the American Heart Association, the Heart Rhythm Society, and the Society for Cardiovascular Angiography & Interventions) on the development of this proposal and feel that having a board dedicated to cardiovascular medicine will help to improve the practice of cardiology and lead to better care for cardiovascular patients.

Cardiovascular medicine has changed significantly since becoming part of the American Board of Internal Medicine in 1941. It is now a distinct medical specialty, separate from the field of internal medicine, requiring its own set of knowledge, skills and competencies to sustain professional excellence and care for cardiovascular patients effectively.

This new Board will allow a greater focus on the needs of cardiovascular physicians and their patients and will focus on continuous competency and allow room for innovation. The new Board will be patient and physician centric, relevant to scope of practice, time and cost efficient, and formative, not punitive.

We appreciate the consideration of the leadership of the American Board of Medical Specialties for this application.

Sincerely,

James C. Fang, MD
President
Heart Failure Society of America

John Barnes
CEO
Heart Failure Society of America

7.3.5. Heart Rhythm Society

Heart Rhythm Society

Our Mission
To improve the care of patients by promoting research, education, and optimal health care policies and standards.

November 30, 2023

American Board of Medical Specialties
353 North Clark Street
Suite 1400
Chicago, IL 60654

Dear American Board of Medical Specialties,

The Heart Rhythm Society (HRS) is driven by a simple but noble vision of ending death and suffering due to heart rhythm disorders, and a mission to improve the care of patients by promoting research, education, and optimal health care policies and standards. HRS stands with the House of Cardiology in support of forming the American Board of Cardiovascular Medicine.

Cardiology has evolved into a distinct medical specialty requiring extensive knowledge and training specific to the prevention, diagnosis and treatment of cardiovascular disease, which is separate from the field of internal medicine. HRS members feel strongly that the American Board of Internal Medicine (ABIM) no longer adequately meets the unique needs of cardiac electrophysiology (EP) physicians and our patients.

Heart arrhythmias continue to rise in the United States due to increased rates of concomitant heart disease and an aging population. The most common arrhythmia is atrial fibrillation (AF), which is expected to increase from 6 million to 16 million by 2050. Arrhythmias are causally related to stroke and in 2019 more than 180,000 death certificates mentioned AF.

EP is a specialty requiring advanced, highly specialized knowledge and skills that are distinctly different from other areas within cardiology. EP physicians are trained to care for patients with arrhythmias and their use of appropriate medical and procedural management reduces arrhythmia-related mortality and improves the patient's overall quality of life. The field of EP is quite dynamic as EP physicians are introduced to a steady stream of innovations – new procedures and emerging technologies – that have the potential to improve patient outcomes and save lives.

It is imperative that EP physicians stay current on the latest advancements to benefit our patients. To that end, it is time for a competency-based approach to continuous certification and lifelong learning. The current timed, high-stakes performance exams in the continuous certification process should instead be a process focused on learning assessments to identify gaps in current knowledge or skills and recommend continuous medical education resources and activities to close those gaps.

Our heart rhythm physicians (and patients) deserve a better maintenance of certification process. HRS unequivocally believes a new American Board of Cardiology will improve the care of our patients and save lives.

Thank you for your time and consideration.

Kind regards,

Jodie L. Hurwitz, MD, FHRS
President, Heart Rhythm Society

Patricia Blake, FASAE, CAE
CEO, Heart Rhythm Society

1325 G Street NW, Suite 500, Washington, D.C. 20005 | 202.464.3400 | HRSonline.org

7.3.6. Society for Cardiovascular Angiography & Intervention

SCAI
Society for Cardiovascular Angiography & Interventions

January 4, 2024

Dear Leadership of the American Board of Medical Specialties,

On behalf of the Board of Trustees and members of the Society for Cardiovascular Angiography & Interventions (SCAI), I am proud to support the application for creation of a new independent board of cardiovascular medicine committed to a streamlined, transparent and accountable process of initial and ongoing certification.

In partnering with the American College of Cardiology (ACC), American Heart Association (AHA), Heart Rhythm Society (HRS) and Heart Failure Society (HFSA), we are collectively recognizing the evolution of cardiology in medicine, and the need for a distinct certification recognizing the specific requirements of cardiologists and unique specialties within cardiology. Having an independent board of cardiovascular medicine under ABMS will allow focus on clinical competencies and continuous knowledge that will provide the best patient care.

The Society for Cardiovascular Angiography & Interventions (SCAI) is the leading nonprofit medical society representing invasive and interventional cardiology. Founded in 1978, SCAI's mission is to lead the global interventional cardiovascular community through education, advocacy, research, and quality patient care. For more than 40 years, SCAI has personified professional excellence and innovation globally, fostering a trusted community of more than 4,500 members dedicated to medical advancement and lifesaving care for adults and children with cardiovascular disease.

ABMS remains the only authority universally recognized by the public, regulators and payers for ongoing physician certification in the U.S. For this reason, we hope that you will seriously consider and accept our partnership request for a new board of cardiovascular medicine to be established under the authority of ABMS.

Sincerely,

George D. Dangas, MD, MSCAI
President

1100 17th Street, NW, Suite 400 • Washington, DC 20036-4628 • www.scai.org

7.4. DIALOGUE AND RESPONSE FROM PARENT BOARD

The parent board of the subspecialty applicant is the ABIM. Per the new ABMS requirements, a letter documenting the dates of multiple conversations with a request to respond has been submitted to ABIM. The contents of that letter is shown below.

January 11, 2024

Rajeev Jain, MD, FACP, FASGE, AGAF
Chair, Board of Directors
American Board of Internal Medicine
511 Walnut Street, Suite 1700
Philadelphia, PA 19106

Dear Dr. Jain,

As you are aware, a consortium of cardiovascular societies comprising the American College of Cardiology (ACC), American Heart Association (AHA), Heart Failure Society of America (HFSA), Heart Rhythm Society (HRS), and Society for Cardiovascular Angiography & Interventions (SCAI) has come together to apply to the American Board of Medical Specialties (ABMS) requesting the creation of an independent American Board of Cardiovascular Medicine. These societies reflect the current cardiovascular subspecialties for which ABIM offers a certification.

Driving this decision is the dramatic evolution of cardiovascular (CV) medicine from a nascent subspeciality within internal medicine in the early 1940s to today's distinct, diverse, and complex discipline. CV medicine now encompasses unique patient populations, CV specific biomarker, genetic, and imaging-based diagnostics, unique pharmacology, highly specialized CV procedural, diagnostic, and therapeutic inventions, evidence-based guidelines and care pathways, non-clinical competencies, integrated systems of care, team-based care, and dedicated training pathways, including highly differentiated training to care for increasingly diverse populations of patients along the entire arc of their life, from prenatal to the end of life. In addition, advances in CV medicine have given rise to new subspecialties of cardiology such as cardio-oncology, cardio-obstetrics, geriatric cardiology, and cardio-metabolic medicine, among others. Since our announcement of the decision to submit an application for a new board, there has been overwhelming support across the cardiology community, and beyond, including support and contributions from other professional societies without their own ABIM-sanctioned CV certificates.

The application for a new board of cardiovascular medicine is guided by a recently released *"ABMS Policy on Admission of New Medical Specialty Boards to Membership in The American Board of Medical Specialties"*. This policy outlines updated requirements to be demonstrated by an applicant for forming a new certifying board, including a requirement that the subspecialty board applicant demonstrate evidence of dialogue with the existing parent specialty board regarding its support/non-support for this evolution. Thus, we are requesting your assistance with meeting this requirement as well your collaboration with information and data exchange should an independent certifying board be approved. Please submit your official response to us by **February 23, 2024**, addressing these items:

1

1. Your acknowledgement of multiple conversations and communications between our organizations and ABIM within the past three years to mutually understand the CV community's future vision and strategic plans, discuss the evolution of cardiology to a distinct field of medicine, and alert ABIM's leadership to the CV coalition's intent to apply for forming an independent ABMS member certifying board for cardiovascular medicine. For your convenience we have included with this letter a historical list of communications related to the above.

2. Your statement of support/non-support for the evolution to an independent board with accompanying rationale for your comments.

3. If the new cardiovascular board is approved, your commitment to collaborating with the new board and/or its coalition societies for the timely and efficient transfer of candidate and diplomate data (historical and current) for all individuals seeking initial and/or continuing certification, or recertification, in cardiovascular medicine as well as any other data pertinent to the successful management of cardiovascular board certification candidates and diplomates. Note that the new board application affirms the continued initial requirement for CV specialists to have completed IM certification.

We remain grateful for our longstanding relationship with the ABIM and look forward to future collaborations as an independent ABMS member board.

Sincerely,

B. Hadley Wilson, MD, FACC, President, ACC
Joseph C. Wu, MD, PhD, FAHA, President, AHA
James C. Fang, MD, FHFSA, President, HFSA
Jodie L. Hurwitz, MD, FHRS, President, HRS
George D. Dangas, MD, PhD, MSCAI, President, SCAI

CC:
Yul D. Ejnes, MD, MACP, Immediate Past Chair, Board of Directors, ABIM
Robert O. Roswell, MD, Chair-Elect, Board of Directors, ABIM
Richard J. Baron, MD, President & CEO, ABIM
Cathleen C. Gates, CEO, ACC
Nancy Brown, CEO, AHA
John D. Barnes, CEO, HFSA
Pat Blake, CEO, HRS
Francesca M. Dea, CEO, SCAI

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Historical Listing of Communications with ACC, ABIM, and ABMS

Leadership Key:

American College of Cardiology
B. Hadley Wilson, MD, FACC, ACC President 2023-24
Cathleen Biga, MSN, FACC, Vice President 2024-25
Edward T.A. Fry, MD, MACC, ACC President 2022-23
Dipti N. Itchhaporia, MD, MACC, ACC President 2021-22
Athena Poppas, MD, MACC, ACC President 2020-21
Jeffrey T. Kuvin, MD, FACC, ACC Trustee
Cathleen C. Gates, Chief Executive Officer
Richard Kovacs, MD, MACC, Chief Medical Officer
Lisa M. Hix, Executive Vice President, General Counsel
Janice B. Sibley, MS, MA, Executive Vice President
Joyce Donnellan, MSN, Division Vice President, Education
Kathleen Donnelly-Bensalah, PhD, Senior Director, Professional Standards and Innovative Education Design
Kristen Doermann, Director, Digital Products

American Heart Association
Joseph C. Wu, MD, PhD, FAHA, President
Nancy Brown, Chief Executive Officer
Mariell Jessup, MD, FAHA, FACC, Chief Science and Medical Officer
Lewis Kinard, Executive Vice President, General Counsel
Justin Denison, Vice President, Strategic Planning & Market Research

Heart Failure Society of America
James C. Fang, MD, FHFSA, President
John D. Barnes, Chief Executive Officer

Heart Rhythm Society
Jodie L. Hurwitz, MD, FHRS, FACC, President
Pat Blake, FASAE, CAE, Chief Executive Officer

Society for Cardiovascular Angiography & Interventions
George D. Dangas, MD, PhD, MSCAI, MACC, President
Francesca M. Dea, CAE, Chief Executive Officer

American Board of Internal Medicine
Rajeev Jain, MD, FACP, FASGE, AGAF, Chair, Board of Directors
Yul D. Ejnes, MD, MACP, Immediate Past Chair, Board of Directors
Robert O. Roswell, MD, Chair-Elect, Board of Directors

Richard J. Baron, MD, MACP, President & CEO
Richard G. Battaglia, MD, FACP, CMO
Rebecca S. Lipner, PhD, SVP, Assessment and Research
Bradley Brossman, PhD, Vice President of Psychometrics
Helene M. Brooks, Director of Strategic Alliances

American Board of Medical Specialties
Richard E. Hawkins, MD, President and CEO
Greg Ogrinc, MD, MS, Senior Vice President, Certification Standards and Programs
Carrie Radabaugh, MPP, Senior Vice President, Governance and Board Relations

2019	
January, 2019	ACC and ABIM collaborate to offer an alternative pathway for board certified physicians in cardiovascular medicine who are participating in Maintenance of Certification (MOC), known as the Collaborative Maintenance Pathway (CMP)
2021	
January, 2021	To keep current with the needs of the cardiovascular physicians and address their feedback, the ACC Board of Trustees outlines a list of enhancements for the CMP to evolve it to better serve diplomates
February – April, 2021	Multiple communications between Dr. Richard Baron and Dr. Athena Poppas or Dr. Dipti Itchhaporia or Ms. Cathy Gates regarding the need to evolve the CMP
May 2021	Dr. Baron attends the ACC Board of Trustees meeting to answer questions and discuss the need to evolve the CMP
May 20, 2021	Dr. Dipti Itchhaporia sends a letter to Dr. Richard Baron documenting the specifics of ACC's request to evolve the CMP
July 13, 2021	ACC/ABIM Operational Team* meets to discuss the details of ACC's request for evolution of the CMP **Operational team includes ACC representatives: Janice Sibley, Joyce Donnellan, Kathleen Donnelly-Bensalah, Kristen Doermann and ABIM representatives: Rick Battaglia, Rebecca Lipner, Brad Brossman, and Helene Brooks*
Summer, 2021	Phone discussions occur with the ACC/ABIM operational team regarding the CMP enhancement requests
October 15, 2021	Letter is sent from Dr. Baron to Dr. Itchhaporia outlining ABIM's response to ACC's request for evolution of the CMP
November, 2021	Phone conversation occurs between Drs. Baron and Itchhaporia
December 3, 2021	Letter is sent from Dr. Itchhaporia responding to Dr. Baron's letter of October 15th

2022	
January, 2022	Additional communications occur between Dr. Richard Baron and Dr. Dipti Itchhaporia as well as Ms. Cathy Gates.
January 20, 2022	Letter is sent from Dr. Baron to Dr. Itchhaporia acknowledging mutual limited agreements so far for enhancing the CMP.
January 21, 2022	ACC/ABIM Operational Team meets to continue detailed discussions on CMP enhancements
January 24, 2022	Dr. Itchhaporia sends a letter in response to Dr. Baron's letter of October 15, 2021, reviewing mutual agreements for enhancing the CMP but emphasizing ACC's desire to continue evolving the CMP to a continuous certification model.
February, 2022	ABIM and ACC reach verbal consensus on several of the requested CMP enhancements; consensus is not reached on some requests. A written agreement is fully executed by March 14, 2022.
May 12, 2022	ACC leadership meets with Dr. Greg Ogrinc from the American Board of Medical Specialties (ABMS) leadership to help ACC interpret the recently released ABMS Standards for Continuing Certification and how they might affect future models for maintaining lifelong professional competence. Participants from ACC are Dr. Edward Fry, Dr. Jeffrey Kuvin and Janice Sibley.
Spring, Summer, Fall, 2022	ACC Board of Trustees drafts the major initiatives of its 2024-2028 Strategic Plan, including strategies for the evolution of current Maintenance of Certification options for cardiologists to a competency-based continuous certification model more closely aligned with the new ABMS Standards.
Beginning in Fall 2022, conversations and meetings shift from a primary focus on the discrete ACC/ABIM CMP partnership to more strategic dialogues engaging external constituents and the broader house of cardiology.	
Fall, 2022	Drs. Fry and Kuvin begin holding conversations with leaders of other CV societies as well as payor representatives, hospital administrators, and non-CV society leaders to exchange ideas and strategies for the evolution of current Maintenance of Certification options for cardiologists to a competency-based continuous certification model more closely aligned with the new ABMS Standards.
November 21, 2022	ACC holds a web-based conversation with ABMS leadership to share elements of ACC's new strategic plan related to continuous certification as well the evolution of cardiology to a distinct and

	separate field of medicine. Participants are, from ACC, Drs. Edward Fry and Jeffrey Kuvin and Ms. Janice Sibley, and from ABMS, Drs. Richard Hawkins and Greg Ogrinc. ABMS asks that ACC continue conversations with ABIM leadership.
December 1, 2022	ACC and ABIM hold a web-based conversation to share elements of ACC's new strategic plan as well as discuss the evolution of cardiology into a distinct field of medicine with unique training and certification needs apart from internal medicine. Participants are from ACC, Drs. Edward Fry, Jeffrey Kuvin, Hadley Wilson, and Ms. Janice Sibley, and from ABIM, Drs. Yul Ejnes and Rajeev Jain.
2023	
January 6, 2023	Follow-up call with ACC and ABMS leadership to continue discussions. Same participants as December 1st call. Agreement is made to set up a three-way meeting with ABIM, ACC, and ABMS leadership to continue discussions.
January 13, 2023	A poll is sent to leadership of ACC, ABIM, and ABMS requesting a joint meeting to align a future strategy for maintaining competence amongst cardiologists with the new ABMS Standards for Continuing Certification. ABIM responds with a request for clarification of the meeting's purpose. A written clarification is sent.
January 23, 2023	Dr. Rich Baron and Ms. Cathy Gates hold a phone conversation to further clarify the purpose of the requested joint meeting. Dr. Baron indicates that ABIM does not see the need for such a joint meeting and therefore declines ABIM's participation. Plans then proceed to schedule the meeting between ACC and ABMS only. Dr. Baron also suggests that ACC leadership speak directly with Drs. Ejnes and Jain as the current leaders of ABIM's Board of Directors.
February 18, 2023	ACC and ABIM leadership hold a web-based conversation. Participants are Drs. Fry and Kuvin from ACC and Drs. Ejnes and Jain from ABIM.
February 16, 2023	A web-based meeting is held with ACC and ABMS leadership to discuss future strategies for maintaining competence amongst cardiologists that align with the new ABMS Standards for Continuing Certification. Information is also requested by ACC about the requirements and process for applying to form an independent ABMS member certifying board for cardiovascular medicine. Meeting participants from ACC are Drs. Edward Fry, Jeffrey Kuvin, Hadley Wilson, Ms. Cathy Gates, Ms. Janice Sibley, and Ms. Joyce Donnellan, and from ABMS, Dr. Greg Ogrinc and Ms. Carrie Radabaugh.

March - May 2023	ACC leadership begins conversations with leadership of other CV societies to gauge their strategic alignment and interest in exploring an effort to form an independent ABMS member certifying board for cardiovascular medicine.
March - May 2023	ACC Board of Trustees requests staff to begin compiling background and feasibility details for a potential application to form an independent ABMS member certifying board for cardiovascular medicine. A CV society work group (with invited representatives named by ACC, AHA, HFSA, HRS, and SCAI) is convened to represent the "house of cardiology" in the ongoing feasibility discussions.
April 2023	A CV society work group (with invited representatives named by the coalition societies) is convened to represent the "house of cardiology" in the ongoing feasibility discussions regarding a new, independent CV board.
May – July, 2023	The CV society work group constructs the overarching philosophies and foundational concepts for an independent ABMS member certifying board for cardiovascular medicine.
July 20, 2023	ACC Board of Trustees approves moving forward with the submission of an application to form an independent ABMS member certifying board for cardiovascular medicine and commits resources for this purpose.
July - September, 2023	The Boards of Trustees of Heart Rhythm Society (HRS), Society for Cardiovascular Angiography & Interventions (SCAI), and Heart Failure Society of America (HFSA) each individually vote to join the application effort as full coalition partners. American Heart Association commits to an official endorsement of the effort and to potentially joining the effort pending their October Board of Directors meeting.
September 7-20, 2023	Pre-announcement phone calls are made to the leadership of several organizations alerting them to the decision to apply to the ABMS to form a new cardiovascular Board: - Dr. Fry (ACC) informs Dr. Rajeev Jain (ABIM) - Dr. Kuvin (ACC) informs Dr. Rob Roswell (ABIM) - Dr. Kuvin (ACC) informs Dr. Greg Ogrinc (ABMS) - Ms. Cathy Gates informs Dr. Rich Baron (ABIM) - Other CV society leaders inform their relevant stakeholders
September 21, 2023	A press release announces that the American College of Cardiology (ACC), Heart Failure Society of America (HFSA), Heart Rhythm Society (HRS) and Society for Cardiovascular Angiography & Interventions (SCAI) are working together to submit a new cardiovascular Board application.

October 30, 2023	The American Heart Association announces that they are formally joining the coalition effort.
2024	
January, 2024	Submission of application

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7.5. BOARD ORGANIZATION

The ABCVM will be formed as an independent 501(c)(6) organization via a filing with the District of Columbia. Evidence of this filing will be provided to the ABMS as soon as it is available. An inter-society coalition of cardiovascular societies are supporting the formation of the new Board and will serve as affiliated sources for continuous certification learning gap assessment, educational programming to satisfy continuous certification requirements, initial Board of Directors appointments, and industry-standards for cardiovascular expertise via published standards and selected operational expertise via shared services.

The ABCVM will initially offer and manage certifications in General Cardiology, Interventional Cardiology, Clinical Cardiac Electrophysiology, Advanced Heart Failure and Transplant Cardiology, and Adult Congenital Heart Disease. A representative Board comprising 15 members will provide the requisite expertise and stature for the effective operation of the Board.

The Board of Directors will be composed as follows:

- 4 individuals with competencies in General Cardiology, filled by 2 representatives of the ACC and 2 representatives of the AHA.
- 2 individuals with competencies in Interventional Cardiology, filled by 2 representatives of SCAI.
- 2 individuals with competencies in Heart Failure, filled by 2 representatives of the HFSA.
- 2 individuals with competencies in Cardiac Electrophysiology, filled by 2 representatives of the HRS.
- 1 individual with competency in Adult Congenital Heart Disease.
- 4 at-large members, who shall fulfill certain competencies as determined by the Board of Directors, which may include expertise in:
  - Cardiovascular team care
  - Cardiovascular education and lifelong learning
  - Advocacy, with a focus on health care issues
  - Patient perspective
  - Technology and innovation relevant to competency assessment
  - Other relevant areas, as defined by the Board.

With the exception of at-large members, ABCVM Directors will have extensive clinical expertise in Cardiovascular Medicine. They will be specialists who are Board-certified in their area of represented expertise, with extensive years of clinical practice experience and in-depth knowledge of the latest advancements, diagnostic techniques, treatment options, and guidelines within the field. A comprehensive understanding of the content areas covered by the certification exams offered will also be crucial. Board member expertise will comprise a deep knowledge of the core concepts, subfields, and evolving trends within Cardiovascular Medicine.

Directors will each serve a single, 4-year term. However, initial Director terms will be staggered to ensure continuity of knowledge and institutional memory. Thus, consideration will be given

to some Directors with slightly shorter or longer terms early in the life of the Board. As additional certificates are approved and offered by the Board, the number and composition of Directors may be expanded to include representation from additional subspecialty organizations. Section 7.6.2 proposes bylaws of the ABCVM, including the election of Directors and fulfilling vacancies on the ABCVM Board of Directors.

The ABCVM Board of Directors will serve as a centralized authority, strategically guiding the mission of the ABCVM, establishing policies, approving bylaws changes, determining the formation and sunsetting of advisory or operating committees, and overseeing the finances of the organization.

Committees, once formed, will practice decentralized decision-making under the centralized authority of the Directors. Advisory committees will at the request of the Directors study specific issues and develop recommendations in a focused, small group structure. Advisory committee members will be appointed by the Board of Directors. Operating committees will perform such tasks as evaluating and approving society-hosted CME activities to qualify as remedial learning opportunities, establishing exam blueprints, writing and reviewing exam questions, making determinations about the certification status of diplomates, and so on. Operating committees will nominate and approve their own committee members.

The CEO and staff will be responsible for carrying out the Board's day-to-day operations, including administrative management of committees and other ABCVM activities, and executing those activities against the budget. The CEO will report directly to the Board of Directors.

The ABCVM recognizes that achieving its primary objective to promote excellence in medical care for cardiovascular patients along the entire arc of their life, from prenatal to the end of life, is dependent on engaging leaders and staff who provide a diversity of backgrounds, experiences, ideas, and perspectives. The ABCVM will operate at the highest level of organizational leadership and play a critical role in prioritizing, supporting, and investing in diversity, inclusion, and equity.

7.5.1. ABCVM Directors and Staff Executive Credentials

Appointment of the director and executive staff is underway. A list of names and credentials will be submitted as soon as they become available.

7.5.2. ABCVM Director Roles, Responsibilities and Competencies

Below is the detailed description of purpose and a listing of competencies provided to the partner societies for their consideration as they select their prospective Directors.

Purpose

The American Board of Cardiovascular Medicine (ABCVM) will serve the public by certifying cardiovascular physicians who demonstrate the knowledge, skills and attitudes essential for excellent patient care as well as the commitment to continuous learning and improvement.

The ABCVM Board of Directors will serve as a central authority, strategically guiding the mission of the ABCVM by:

- Advancing ABCVM's mission and strategic policies, ensuring the primacy, relevance and value of ABCVM Board Certification.
- Setting the direction and strategy for the organization, including setting overall goals and long-range plans for the organization.
- Establishing fiscal policy and providing adequate resources for the activities of the organization.
- Developing and maintaining relationships to its partners and other relevant stakeholders in the training and certification community.
- Exercising ultimate fiduciary responsibility and authority for the ABCVM.

Board Composition

The ABCVM Board of Directors will consist of 15 Directors as follows:

- 4 individuals with competencies in General Cardiology filled by 2 representatives of the American College of Cardiology and 2 representatives of the American Heart Association.
- 2 individuals with competencies in Interventional Cardiology, filled by 2 representatives of the Society for Cardiovascular Angiography and Interventions.
- 2 individuals with competencies in Heart Failure, filled by 2 representatives of the Heart Failure Society of America.
- 2 individuals with competencies in Cardiac Electrophysiology, filled by 2 representatives of the Heart Rhythm Society.
- 1 individual with competency in Adult Congenital Heart Disease.
- 4 at-large members, who shall fulfil certain competencies determined by the Board of Directors, which may include expertise in:
    a) Cardiovascular team care
    a) Cardiovascular education and life-long learning;
    a) Advocacy, with a focus on healthcare issues;
    a) Patient perspective;
    a) Technology and innovation relevant to competency assessment; and/or
    a) Other relevant areas, as defined by the Board.

To ensure the composition of the Board of Directors will continue to be representative of each subspecialty, each society named above shall be asked to designate representatives to fill the Board of Directors seats for the subspecialty as they become vacant. Candidates for the Adult Congenial Heart Disease (ACHD) competency and at-large member positions will be identified by the Nominating Committee (as defined in Article VI of the ABCVM bylaws) and the at-large Directors will be elected by the affirmative vote of a majority of the Board of Directors at their first official annual meeting once the Board is seated. Until that time, the ACHD representative and At-Large positions may be represented by advisors on the Transition Team.

Director Terms

Directors will each serve a single, four-year term. However, initial Director terms will be staggered to ensure continuity of knowledge and institutional memory. Thus, certain Directors may serve slightly shorter or longer terms early in the life of the Board.

NOTE: Director terms will officially begin once the Board is formally convened – serving on the Transition Team will not count as part of any official term.

Director Expertise and Competencies

With the exception of at-large members, ABCVM Directors will have extensive clinical expertise in cardiovascular medicine. They should be specialists with extensive years of practice experience and in-depth knowledge of the latest advancements, diagnostic techniques, treatment options, and guidelines within the field. Comprehensive understanding of the content areas covered by the certification exams offered is also crucial. Board member expertise should comprise a deep knowledge of the core concepts, subfields, and evolving trends within cardiovascular medicine.

Directors should also demonstrate these leadership competencies:

- *Exhibits Influential Leadership*
  Has specialist expertise and is considered a thought-leader in area/s of need.
  Also demonstrates judgment, technical competence and knowledge critical for the role. Leader leverages his / her technical expertise for the 'good of the role', and wider organizational needs.
- *Demonstrates Business-Focused Proficiency*
  Demonstrates awareness and efficiency in addressing diverse business / organizational challenges. Leader reflects upon diverse information / business drivers, to inform decision making.
- *Demonstrates Strategic Leadership*
  Represents ability to influence, guide, and leverage others in alignment to the ABCVM's vision, mission and strategic objectives. Leader achieves success through others, promotes good working relationships and holds colleague's accountable, while also aligning goals, tasks, agenda's to larger strategic vision and direction.
- *Anticipates & Leads Change*
  Demonstrates the ability to manage, lead and enable others, in order to navigate organizational change. Leader serves as a change agent, and maintains a connection to the ABCVM's strategic goals and values during times of change. Promotes shared understanding, collective responsibility and transparency.
- *Maintains Organizational Awareness & Stewardship*
  Appreciates how internal and external issues impact the work of the ABCVM. Leader is aware of the ABCVM's stakeholders, culture, and expectations. Promotes the core values and vision of the ABCVM, when called upon. Considered an ambassador of the organization.

Director Time Commitment

The ABCVM Board of Directors is expected to hold three two-day meetings per year in Washington DC, and may hold additional meetings by virtual means as necessary. Attendance at all meetings will be mandatory.

Special Notice: Appointment to the Transition Team will involve four to six 90-minute virtual meetings in 2024 as well as at least one 2-day in-person meeting held in Washington D.C. Additional work assigned in between planned meetings will also be required. A commitment to completing all requested work and being an active participant in all meetings is expected. The Transition Team will be drafting policies, procedures, protocols, committee charges, officer and leadership job descriptions, and other organizational documents as well as approving plans for the technical and examination content development work necessary to launch the new Board.

ABCVM Board of Directors Commitment to Equity and Diversity

The ABCVM Board of Directors will operate at the highest level of organizational leadership and play a critical role in prioritizing, supporting, and investing in board diversity, inclusion, and equity. The individual leaders who compose the board reflect an organization's values and beliefs. Please consider diversity in gender and ethnicity as well as expertise and competencies when appointing prospective directors.

7.6. PROPOSED ARTICLES OF INCORPORATION AND BYLAWS

7.6.1. Proposed Articles of Incorporation

ARTICLES OF INCORPORATION
OF
AMERICAN BOARD OF CARDIOVASCULAR MEDICINE

FIRST: The name of the corporation is the American Board of Cardiovascular Medicine (the "Corporation").

SECOND: The address of the registered office of the Corporation in the District of Columbia is 1015 15th Street NW, Washington, DC 20005. The name of the Corporation's registered agent at such address is CT Corporation System.

THIRD: This Corporation is organized as a nonprofit corporation under the District of Columbia Nonprofit Corporation Act of 2010 (the "Act"). The Corporation is organized and is operated for exempt purposes within the meaning of Section 501(c)(6) of the Internal Revenue Code of 1986, as amended (the "Code"). Specifically, and without limitation, the Corporation is hereby organized for the following purposes:

a. To evaluate physicians and promote professional development through initial and continuous certification in cardiovascular medicine and its subspecialties; to certify cardiologists who meet the Corporation's educational, professional standing and examination standards and to ensure the highest standards in the specialty of cardiovascular medicine;

b. To otherwise promote, benefit, and advance the quality of cardiovascular care and to serve the medical profession; and

c. To exercise any and all powers conferred upon nonprofit corporations organized pursuant to the provisions of the Act and other applicable laws to the extent that they are not inconsistent with the purposes of the Corporation set forth above.

FOURTH: The Corporation shall not have members.

FIFTH: The number, qualifications, and election of directors and officers shall be as provided in the bylaws of the Corporation (the "Bylaws").

SIXTH: The powers of the Corporation shall be subject to the following terms, provisions, and limitations:

1. No part of the net earnings of the Corporation shall inure to the benefit of any director or officer of the Corporation, or any private person, except that reasonable compensation may be paid for services actually rendered to or for the Corporation, and no director or officer of the Corporation, or any private person shall be entitled to share in the distribution of any of the corporate assets on dissolution of the Corporation.

2. In the event of the liquidation, dissolution, or winding up of the Corporation in any manner or for any reason whatever, except as may be otherwise provided by law, the

assets of the Corporation shall be disposed of in such manner that is not inconsistent with the Act, the Code, or any other applicable law or regulation. Notwithstanding the foregoing, in the event that any of the assets of the Corporation are not disposed of by the Board of Directors under this Article Sixth, any such assets of the Corporation shall be disposed of by a court of competent jurisdiction exclusively for the purposes set forth in Article Third above, or to such organization or organizations, which, in such court's sole determination, are organized and operated exclusively for such purposes.

SEVENTH: A director of the Corporation shall not be personally liable to the Corporation or its members for monetary damages for breach of fiduciary duty as a director, except to the extent such exemption from liability or limitation thereof is not permitted by law or is inconsistent with any provision of the Code applicable to corporations described in Section 501(c)(6) of the Code. To the fullest extent permitted by law, any amendment to or repeal of this Article shall not apply to or have any effect on the liability or alleged liability of any director with respect to any acts or omissions of such director occurring prior to such amendment or repeal.

EIGHTH: The name and mailing address of the incorporator are as follows:

Lisa Hix
2400 N Street NW
Washington, DC 20037

IN WITNESS WHEREOF, the undersigned, being the incorporator herein before named, has executed, signed, and acknowledged this Articles of Incorporation on _____.

_____
Lisa Hix, Incorporator

7.6.2. Proposed Bylaws

BYLAWS

of

THE AMERICAN BOARD OF CARDIOVASCULAR MEDICINE

(A District of Columbia Nonprofit Corporation)

ARTICLE I
Name

The name of this corporation is the American Board of Cardiovascular Medicine (the "Corporation").

ARTICLE II
Purposes and Limitations

Section 1. The Corporation is organized for those purposes set forth in the Corporation's Articles of Incorporation.

Section 2. Notwithstanding any other provision of these Bylaws, the Corporation shall not carry on any other activities not permitted to be carried on by a corporation exempt from federal income tax under Internal Revenue Code ("IRC") Section 501(c)(6), or a corporation formed under the District of Columbia Nonprofit Corporation Act, as the same may be amended or supplemented (the "Act").

ARTICLE III
Offices

The Corporation shall maintain in the District of Columbia a registered office and a registered agent at such office, and may have other offices within or without the District of Columbia as shall be determined by the Board of Directors. The registered office may be, but need not be, identical with the principal office, and the address of the registered office may be changed from time to time by the Board of Directors.

ARTICLE IV
Members

Section 1. Members. The Corporation shall not have members.

ARTICLE V
Board of Directors

Section 1. General Powers. The affairs of the Corporation shall be managed by its Board of Directors. It shall be the Board of Directors' duty to carry out the objectives and purposes of the Corporation, and to this end the Board of Directors may exercise all powers of

the Corporation. The Board of Directors shall be subject to the restrictions and obligations set forth by law and in the Corporation's Articles of Incorporation and these Bylaws.

Section 2. Composition, Election, and Term.

a. Composition. The number of Directors shall be fifteen (15), and shall consist of the following:
   i. 4 individuals with competencies in General Cardiology, filled by 2 representatives of the American College of Cardiology and 2 representatives of the American Heart Association.
   ii. 2 individuals with competencies in Interventional Cardiology, filled by 2 representatives of the Society for Cardiovascular Angiography and Interventions.
   iii. 2 individuals with competencies in Heart Failure, filled by 2 representatives of the Heart Failure Society of America.
   iv. 2 individuals with competencies in Cardiac Electrophysiology, filled by 2 representatives of the Heart Rhythm Society.
   v. 1 individual with competency in Adult Congenital Heart Disease.
   vi. 4 at-large members, who shall fulfill certain competencies determined by the Board of Directors, which may include expertise in:
      i. Cardiovascular team care;
      ii. Cardiovascular education and lifelong learning;
      iii. Advocacy, with a focus on health care issues;
      iv. Patient perspective;
      v. Technology and innovation relevant to competency assessment; and/or
      v. Other relevant areas, as defined by the Board.

b. Amendment to Composition. Any amendment to these Bylaws which would modify the composition of the Board of Director such that any named society's representation would be diluted shall not be effective unless approved by the relevant society.

c. Election. To ensure the ongoing Board of Directors composition will continue to be representative of each subspecialty, each society named above shall be asked to designate representatives to fill the Board of Directors seats for the subspecialty as they become vacant. Candidates for the Adult Congenial Heart Disease competency and at-large member positions shall be identified by the Nominating Committee (as defined in Article VI) and the at-large Directors shall be elected by the affirmative vote of a majority of the Board of Directors at the annual meeting of the Board of Directors at which a quorum is present, or by electronic means.

d. Term. Each Director shall hold office for a single four-year term; provided, however, that Directors shall serve until their successors have been duly elected and have qualified. The Board of Directors may establish staggered terms for the Directors. Notwithstanding, any Director who serves a partial term due to staggered terms or due to filling a vacancy in an unexpired term shall be eligible for re-election for a full four-year term.

Section 3. Annual and Regular Meetings. Annual meetings of the Board of Directors shall be held at such time and place, either within or without the District of Columbia as may be designated by the President. The Board of Directors may provide by resolution the

time and place, either within or without the District of Columbia, for the holding of additional regular meetings of the Board of Directors. Annual and regular meetings may be held without notice if all of the Directors are present in person, or if notice is waived in writing by those not present prior to the meeting.

Section 4. Special Meetings. Special meetings of the Board of Directors may be called by or at the request of the President or any two Directors. The person or persons authorized to call special meetings of the Board of Directors may fix any place, either within or without the District of Columbia, as the place for holding any special meeting of the Board of Directors called by them.

Section 5. Notice. Notice of any special meeting of the Board of Directors shall be received by each Director by mail, overnight courier, telecopier, electronic mail, or other mode of written transmittal, not less than three (3) business days before the time set for such a meeting, and must include the time, date, place (where, if to be held in person, shall be within the continental United States), and purpose of such meeting. Notice may be waived in writing by those not present prior to the meeting.

Section 6. Quorum. A majority of the Board of Directors in office shall constitute a quorum for the transaction of business at any meeting of the Board of Directors, provided, that if less than a majority of the Directors are present at said meeting, a majority of the Directors present may adjourn the meeting from time to time without further notice.

Section 7. Manner of Acting. The act of a majority of the Directors present at a meeting at which a quorum is present shall be the act of the Board of Directors, except as otherwise provided by law, by the Corporation's Articles of Incorporation, or by these Bylaws. Each Director shall have one vote on all matters submitted to a vote of the Board of Directors. No Director voting by proxy shall be permitted.

Section 8. Teleconferencing. To the extent permitted by the Act, any person participating in a meeting of the Board of Directors may participate by means of conference telephone or by any means of communication by which all persons participating in the meeting are able to hear one another, and otherwise fully participate in the meeting. Such participation shall constitute presence in person at the meeting.

Section 9. Action by Unanimous Written Consent. Any action required to be taken at a meeting of the Board of Directors or any action which may be taken at a meeting of the Board of Directors may be taken without a meeting if a consent in writing, setting forth the action so taken, is signed by all of the Directors entitled to vote with respect to the subject matter thereof.

Section 10. Minutes. Full minutes of each meeting of the Board of Directors shall be recorded by the Secretary, containing results of the deliberations of the Board of Directors. The minutes shall be submitted to the Board of Directors for approval at the subsequent meeting of the Board of Directors.

Section 11. Removal or Resignation of Directors. Any Director may be removed from office at any time by the affirmative vote of at least two-thirds of the Board of Directors present at any meeting at which a quorum is present. Any Director may resign at any time by giving written notice to the President, Secretary or to the Board of Directors. Such resignation shall take effect at the time specified in such notice, or, if no time is specified, at the time such resignation is tendered.

Section 12. Vacancies. Any vacancy occurring in the Board of Directors or any Directorship to be filled by reason of an increase in the number of Directors may be filled at any time by the Board of Directors. A Director selected to fill a vacancy shall be elected for the unexpired term of his or her predecessor in office. Vacancies may be filled or new Directorships created and filled at any meeting of the remaining Directors. Such action shall be effected by the affirmative vote of a majority of the remaining Directors, even if less than a quorum of the Board of Directors.

ARTICLE VI
Committees

Section 1. Executive Committee. The Organization shall not have an Executive Committee; all decisions shall be made by the Board.

Section 2. Nominating Committee. The Board of Directors, by resolution adopted by a majority of the Directors present at a meeting at which a quorum is present, shall create a Nominating Committee, which committee, to the extent provided in said resolution, shall have the responsibility to identify candidates for open Adult Congenital Heart Disease and at-large seats on the Board of Directors and for Officer positions. Following completion of these appointments, further responsibilities of the Nominating Committee will be at the discretion of the Board of Directors. The Nominating Committee shall consist of seven (7) members of the Board of Directors, and shall consist of the following:

i. 2 Directors with competencies in General Cardiology, filled by 1 representative of the American College of Cardiology and 1 representative of the American Heart Association.

ii. 1 Director with competencies in Interventional Cardiology, filled by 1 representative of the Society for Cardiovascular Angiography and Interventions.

iii. 1 Director with competencies in Heart Failure, filled by 1 representative of the Heart Failure Society of America.

iv. 1 Director with competencies in Cardiac Electrophysiology, filled by 1 representative of the Heart Rhythm Society.

v. 1 Director with competency in Adult Congenital Heart Disease.

vi. 1 at-large Director, who shall fulfill certain competencies determined by the Board of Directors, which may include expertise in:

   a. Cardiovascular team care

   b. Cardiovascular education and lifelong learning

c. Advocacy, with a focus on health care issues

d. Patient perspective;

e. Technology and innovation relevant to competency assessment; and/or

f. Other relevant areas, as defined by the Board.

Section 3. Other Committees. Other committees not having and exercising the authority of the Board of Directors in the management of the Corporation ("advisory committees") may be designated by a resolution adopted by a majority of the Directors present at a meeting at which a quorum is present or by unanimous written consent.

Section 4. Term of Office. Each member of a committee shall continue as such until his or her successor is appointed, unless the committee shall be sooner terminated, or unless such member shall cease to qualify or shall be removed or shall resign as a member thereof.

Section 5. Removal or Resignation of Committee Members. Any committee member may be removed from office at any time by the affirmative vote of a majority of the Board of Directors present at a meeting at which a quorum is present, whenever in their judgment the best interests of the Corporation would be served thereby. Any committee member may resign at any time by giving written notice to the President, Secretary, or to the Board of Directors. Such resignation shall take effect at the time specified in such notice, or, if no time is specified, at the time such resignation is tendered.

Section 6. Chair. One member of each committee shall be appointed as chair of such committee by resolution of the Board of Directors.

Section 7. Vacancies. Vacancies in the membership of any committee may be filled at any time by appointments made in the same manner as provided in the case of the original appointments.

Section 8. Committee Meetings and Action. Meetings of advisory committees shall conform to the standards for notice, quorum, voting, and manner and method of acting as may be established by the advisory committee chair, with the approval of the advisory committee members, except as otherwise provided by resolution of the Board or other policy pertaining to advisory committees as may be determined from time to time by the Board.

ARTICLE VII
Officers

Section 1. Definition of Officers. The Officers of the Corporation shall be a President, a Treasurer, and a Secretary. All Officers shall first be members of the Board of Directors and shall be held by separate individuals.

Section 2. Election, Term and Qualifications. The Officers of the Corporation shall be elected by the Board of Directors from among the current members of the Board by the

affirmative vote of a majority of the Board of Directors present at any meeting at which a quorum is present. In electing the Officers, the Board of Directors shall strive to ensure that each subspecialty is represented in the Officer positions over time. Each Officer shall hold office for a one-year term; provided, however, that Officers shall serve until their successors have been duly elected and have qualified. Each Officer may serve a maximum of two (2) consecutive one-year terms. The terms of Officers may be staggered, so as to not all expire at the same time, to the extent and as determined by the Board of Directors. To this end, the term(s) of one or more Officers may be extended or abbreviated, to the extent and as determined by the Board of Directors. Officers need not be residents of the District of Columbia.

Section 3. Removal or Resignation of Officers. Any Officer may be removed from office at any time by the affirmative vote of a majority of the Board of Directors present at a meeting at which a quorum is present, whenever in their judgment the best interests of the Corporation would be served thereby. Any Officer may resign at any time by giving written notice to the President, Secretary or to the Board of Directors. Such resignation shall take effect at the time specified in such notice, or, if no time is specified, at the time such resignation is tendered.

Section 4. Vacancies. A vacancy in any Officership because of death, resignation, removal, disqualification, or otherwise, may be filled at any time by the Board of Directors for the unexpired portion of the term. Vacancies may be filled or new offices created and filled at any meeting of the Board of Directors. Such action shall be effected by the affirmative vote of a majority of the Board of Directors present at a meeting at which a quorum is present.

Section 5. President. The President shall be responsible for the management of the Corporation, shall preside at all meetings of the Board of Directors, and shall serve as the Chair of the Board of Directors. The President in general shall perform all duties incident to the office of President and such other duties as may be prescribed by the Board of Directors from time to time.

Section 6. Treasurer. The Treasurer shall exercise oversight over and be responsible for the financial affairs of the Corporation. The Treasurer shall perform such other duties as from time to time may be assigned by the President or by the Board of Directors. If required by the Board of Directors, the Treasurer shall give a bond for the faithful discharge of his or her duties in such sum and with such surety or sureties as the Board of Directors shall determine.

In the absence of the President or in the event of his or her inability or refusal to act, the Treasurer shall perform the duties of the President, and when so acting, shall have and may exercise all the powers of the President. The Treasurer shall perform such other duties as from time to time may be assigned by the President or by the Board of Directors.

Section 7. Secretary. The Secretary shall record the minutes of all meetings of the Board of Directors; maintain such minutes in one or more books provided for such purpose; see that all notices are duly given in accordance with the provisions of these Bylaws or as required by law; be the custodian of the corporate records, including but not limited to all correspondence

of the Corporation; be the custodian of the seal of the Corporation and see that such seal is affixed to all documents where necessary, the execution of which on behalf of the Corporation under its seal is duly authorized in accordance with the provisions of these Bylaws; and in general perform all of the duties incident to the office of Secretary and such other duties as from time to time may be assigned to him or her by the President or by the Board of Directors.

Section 8. Delegation of Duties. One or more duties of any Officer of the Corporation may be expressly delegated by the Board of Directors or by such Officer to one or more other Officers, employees or agents of the Corporation, provided that if such delegation is not to another Officer, then the Officer shall supervise and oversee the actions of such employees or agents.

Section 9. Chief Executive Officer. The Board of Directors shall hire and employ a Chief Executive Officer. Under the direction of the Board of Directors, the Chief Executive Officer shall supervise the activities and business affairs of the Corporation. In accordance with the policies established by the Board of Directors, the Chief Executive Officer shall have responsibility and authority for all operations and staffing associated with the Corporation activities within the budget approved by the Board of Directors, which authority shall include signature authority on behalf of the Corporation. The Chief Executive Officer shall perform such other duties as are assigned by the Board of Directors.

ARTICLE VIII
Limitation of Liability and Indemnification

Section 1. Limitation of Liability. To the fullest extent permitted by the Act and the IRC, the personal liability of the Directors, Officers, committee members, and employees of the Corporation is hereby eliminated.

Section 2. Indemnification. To the fullest extent permitted by the Act and the IRC, the Corporation shall indemnify its Directors, Officers, committee members, and employees.

ARTICLE IX
Amendments

These Bylaws may be altered, amended or repealed at any annual, regular or special meeting of the Board of Directors, provided notice of the intention to amend these Bylaws is provided to each Director at least seven (7) days prior to such meeting.

7.7. INSTITUTIONS PROVIDING TRAINING

According to the American Medical Associations FRIEDA Residency Program Database, there are 293 distinct institutions offering 1,472 first year position fellowships in Cardiovascular Disease, Adult Congenital Heart Disease, Advanced Heart Failure and Transplant Cardiology, Clinical Cardiac Electrophysiology, and Interventional Cardiology.[46]

Table 7.1

Institutions Providing Training

		University-based	Community-based	Community-based University Affiliated	Military-based	Other	Total
ADULT CONGENITAL HEART DISEASE (IM)							
	Number of Institutions	25		1		1	27
	Number of First Year Positions	12		2		1	15
	Accepting Applications	13					13
ADVANCED HEART FAILURE AND TRANSPLANT CARDIOLOGY (IM)							
	Number of Institutions	57	4	20		3	84
	Number of First Year Positions	59	5	28		4	96
	Accepting Applications	22		6			28
CARDIOVASCULAR DISEASE (IM)							
	Number of Institutions	118	48	100	3	3	272
	Number of First Year Positions	498	76	253		20	847
	Accepting Applications	34	25	41	3		103
CLINICAL CARDIAC ELECTROPHYSIOLOGY (IM)							
	Number of Institutions	78	4	31		3	116
	Number of First Year Positions	89	4	38		4	135
	Accepting Applications	28		8			36
INTERVENTIONAL CARDIOLOGY (IM)							
	Number of Institutions	100	15	64		1	180
	Number of First Year Positions	214	27	135		3	379
	Accepting Applications	9		3			12
GRAND TOTALS							
	Number of Institutions	378	71	216	3	11	679
	Number of First Year Positions	872	112	456	0	32	1472
	Accepting Applications	106	25	58	3	0	192

7.8. PHYSICIANS ENGAGED IN CARDIOVASCULAR MEDICINE

In May 2023, according to the American Board of Internal Medicine, the cardiovascular medicine profession had 29,398 valid certificates for cardiovascular disease (general cardiology).[8] For the cardiovascular subspecialties, the same resource lists 474 valid certificates for ACHD, 1,441 in AHFTC, 2,996 in CCEP, and 6,554 in IC.

7.9. INITIAL CERTIFICATION APPLICATION PROCESS

The Board anticipates that more than 1,500 physicians will take an initial certification exam each year. Since these physicians are required to complete an accredited training program, the Board will establish a data feed from ACGME's Accreditation Data System (ADS)* to populate an initial certification application. Using an online tool, Training Program Directors (TPDs) will verify that each fellow has:

- Completed the required training and requisite procedures.
- Received satisfactory ratings in each of the ACGME/ABMS Competencies** during the final year of training.

Once this verification is completed, and the Board has verified the candidate holds a valid medical license, the candidate will become eligible to take the initial certification exam and may register online without completing an application. This automated system will greatly reduce administrative burden on both applicants for initial certification and on the Board.

**In the event that the ADS does not include data from the Royal College of Physicians and Surgeons of Canada, or the College des medecins du Quebec, applications from Canadian candidates will be handled manually.*

***ACGME/ABMS Competencies are: 1) patient care and procedural skills, 2) medical knowledge, 3) practice-based learning and improvement, 4) interpersonal and communication skills, 5) professionalism and 6) systems-based practice.*

7.10. PROVISIONS FOR PHYSICIANS WITHOUT EXAMINATION OR ACCREDITED TRAINING

At inception, the Board will require candidates for certification to have completed training at an ACGME-accredited training program. However, there is one exception:

Full-time faculty members at a Liaison Committee on Medical Education-accredited medical school, or at an ACGME-accredited residency or fellowship program who have successfully

completed training in cardiovascular disease may become eligible to achieve certification as a candidate for special consideration. To be eligible, the candidate must:

- Be nominated by the chief of Cardiology or the program director of the institution where the candidate holds a full-time faculty appointment.
- Have completed 3 years of verified graduate medical education training in cardiovascular disease.
- Hold academic rank of assistant professor or higher.
- Have a full-time faculty appointment for a minimum of 2 consecutive years at the same institution where s/he supervises and teaches trainees in a clinical setting providing direct patient care.
- Hold a valid and unrestricted U.S. license.
- Pass the initial certification exam.

SECTION 8 (APPENDIX B): **EXAMPLE DIPLOMATE REPORTS FOR INITIAL CERTIFICATION AND CONTINUING CERTIFICATION**

Figure 8.1

ABCVM Initial Certification: Score Report for Interventional Cardiology

Your Score: 466

Name: Jane Smith, MD
ABCVM ID#: 111111
Date of Exam: December 9, 2023

Congratulations, you passed the initial certification examination in Interventional Cardiology of the American Board of Cardiovascular Medicine (ABCVM).

This report provides a summary of your overall and domain performances and offers recommendations for areas of further study to address any knowledge gaps. Your results will be posted to your portal. Please note, your examination results are private to you and not available to the public.

1. Overall Performance

Further detailed information regarding your overall performance on the initial certification examination is provided below. Your Overall Performance is expressed in terms of a scaled score. Scores range from 200 to 800. The histogram below represents the distribution of scores in interventional cardiology. The blue vertical bar represents your final scaled score. The red vertical bar is the passing score. The green vertical bar is the average score of the reference group.

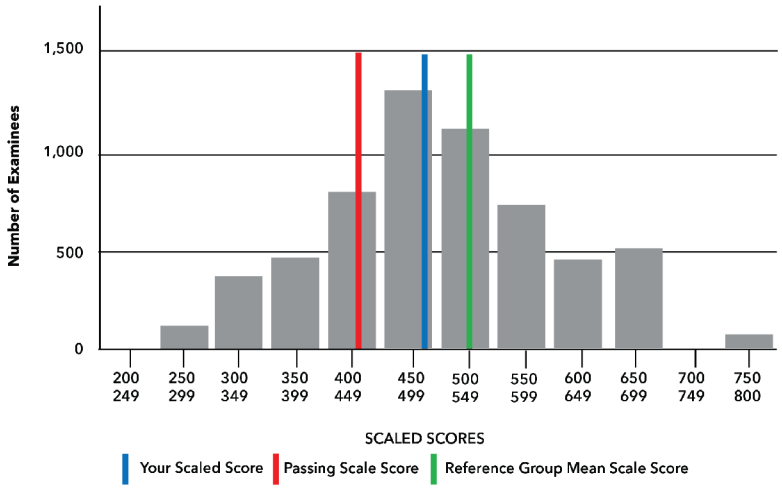

Figure 8.1 (continued)

ABCVM Initial Certification: Score Report for Interventional Cardiology

2. Domain Performance

Your performance in the domains of Interventional Cardiology is provided below using standard deviation units comparing your performance to the reference group. Standard deviation is used rather than scaled scores due to the small number of questions asked per domain. These scores provide an overview of your relative strengths and growth opportunity areas in the respective domains. Because the overall and domain performances are measured using different scales, these should not be compared.

CLINICAL DOMAIN	Standard Deviation
Case Selection & Management	-1
Procedural Techniques I	-2
Complications of Coronary Intervention	0
Basic Science	+1
Catheter-based Management of Noncoronary Disease	-1
Anatomy, Anatomic Variants, Anatomic Pathology	-1
Pharmacology	+1
Cardiac Imaging & Assessment	0
Miscellaneous Topics	+1

3. Recommended Areas for Further Study

Questions on the initial certification examination are aligned with the blueprint and advanced training statement components for Interventional Cardiology. To understand and close your knowledge gaps, please review the list below for questions that you answered incorrectly. If a component is repeated, it means you incorrectly answered multiple questions aligned to it.

BLUEPRINT CLINICAL DOMAIN	ADVANCED TRAINING STATEMENT COMPONENTS
Case Selection & Management	• Consultation and Management (6): Skill to determine risks/benefits of percutaneous coronary intervention (and type of percutaneous coronary intervention) versus alternative revascularization or medical treatments.
Procedural Techniques	• Procedural Techniques (33): Know the levels of sedation, airway management, and medications used for conscious sedation and their reversal agents. • Procedural Techniques (34): Know the indications for placement and management of mechanical circulatory support.
Complications of Coronary Intervention	• Structural Heart Interventions (95): Know the intraprocedural and postprocedural complications of transcatheter interventions in complex congenital heart disease such as tetralogy of Fallot, transposition of the great arteries, Eisenmenger syndrome, and single-ventricle/Fontan physiology.
Catheter-based Management of Noncoronary Disease	• Peripheral Vascular Interventions (42): Skills to perform and interpret external and intravascular noncoronary ultrasound.
Anatomy, Anatomic Variants, Anatomic Pathology	• Anatomy and Pathophysiology of Coronary Ischemia and Intervention (2): Know the anatomy and physiology of congenital and surgical shunts.
Cardiac Imaging & Assessment	• Devices and Equipment (29): Know the x-ray imaging systems and safety measures to minimize radiation exposure of patients, operators, and staff, including during pregnancy.

Figure 8.2

Sustaining Professional Excellence Knowledge Gap Report

2026 Topic(s): Valvular Heart Disease **Jane Smith, MD**

Welcome to your Knowledge Gap Report! This report provides you with your results from the Knowledge Assessment, links to content for questions missed, as well as a curated list of resources related to this year's topics.

KNOWLEDGE GAP SYNOPSIS:

Below is a list of key points for questions missed on the Knowledge Assessment. Direct links are provided to the related self-assessment program (SAP) content of those questions so you can easily reflect and refresh your knowledge. You may also use this information to select continuing medical education activities. Note, if you see the same key point listed several times, it means you missed several questions related to the same content area.

Mitral Valve Disorders

- Asymptomatic patients with mild or moderate rheumatic mitral stenosis should have surveillance echocardiograms every 3-5 years.
- The elevated left atrial pressure due to the valve stenosis causes dyspnea, pulmonary edema, and hemoptysis; the low output causes fatigue.

Aortic Valve Disorders

- The most common case of aortic stenosis is calcification of a congenitally bicuspid or normal trileaflet aortic valve.
- Severe aortic stenosis (AS) may be present with a lower velocity and gradient when transaortic stroke volume is <35 mL/m2. With low-flow, low-gradient severe AS, valve area is ≤1 cm2 or ≤0.6 cm2/m2 when indexed to body surface area.
- Exercise testing is useful in patients with severe asymptomatic aortic stenosis (AS) to determine functional capacity and confirm asymptomatic status. Exercise testing should not be performed in patients with severe symptomatic AS.

RESOURCES:

If you'd like to further refresh your knowledge of Valvular Heart Disease, here is a curated list of educational activities available:

- ACCSAP: Valve Disease (54 CME credits)
- ACC.26: Valve Pathway (8 CME credits)
- SCAI 26: Transcatheter Mitral Valve Repair (4 CME credits)
- Mitral Valve Disease (2 CME credits)
- Tricuspid Valve Disease (2 CME credits)
- Measuring Left Ventricular Outflow (1 CME credit)

Remember to complete your post-knowledge gap assessment this year to demonstrate that you've closed the gaps identified in the Knowledge Gap Assessment. The post knowledge gap assessment will become available in Q3, which gives you time to use the information above to close your gaps.

SECTION 9 (APPENDIX C): **ADVANCED TRAINING STATEMENTS, LIFELONG LEARNING STATEMENTS AND COMPETENCIES IN CARDIOLOGY**

- 2023 ACC/AHA/SCAI Advanced Training Statement on Interventional Cardiology (Coronary, Peripheral Vascular, and Structural Heart Interventions): A Report of the ACC Competency Management Committee
- 2021 ACC/AHA/SVM/ACP Advanced Training Statement on Vascular Medicine (Revision of the 2004 ACC/ACP/SCAI/SVMB/SVS Clinical Competence Statement on Vascular Medicine and Catheter-Based Peripheral Vascular Interventions)
- 2020 ACC Clinical Competencies for Nurse Practitioners and Physician Assistants in Adult Cardiovascular Medicine: A Report of the ACC Competency Management Committee
- 2020 ACC/HFSA/ISHLT Lifelong Learning Statement for Advanced Heart Failure and Transplant Cardiology Specialists: A Report of the ACC Competency Management Committee
- 2019 ACC/AHA/ASE Advanced Training Statement on Echocardiography (Revision of the 23 ACC/AHA Clinical Competence Statement on Echocardiography): A Report of the ACC Competency Management Committee
- 2017 ACC/HRS Lifelong Learning Statement for Clinical Cardiac Electrophysiology Specialists: A Report of the ACC Competency Management Committee
- 2017 ACC/AHA/HFSA/ISHLT/ACP Advanced Training Statement on Advanced Heart Failure and Transplant Cardiology (Revision of the ACCF/AHA/ACP/HFSA/ISHLT 2010 Clinical Competence Statement on Management of Patients With Advanced Heart Failure and Cardiac Transplant): A Report of the ACC Competency Management Committee
- 2016 ACC Lifelong Learning Competencies for General Cardiologists: A Report of the ACC Competency Management Committee
- 2015 ACC/AHA/HRS Advanced Training Statement on Clinical Cardiac Electrophysiology (A Revision of the ACC/AHA 2006 Update of the Clinical Competence Statement on Invasive Electrophysiology Studies, Catheter Ablation, and Cardioversion)
- 2015 SPCTPD/ACC/AAP/AHA Training Guidelines for Pediatric Cardiology Fellowship Programs (Revision of the 2005 Training Guidelines for Pediatric Cardiology Fellowship Programs)
- ACC 2015 Core Cardiovascular Training Statement (COCATS 4) (Revision of COCATS 3): A Report of the ACC Competency Management Committee

SECTION 10 (APPENDIX D): **GUIDELINE STATEMENTS IN THE FIELD OF CARDIOLOGY**

- 2023 AHA/ACC/ACCP/ASPC/NLA/PCNA Guideline for the Management of Patients With Chronic Coronary Disease: A Report of the American Heart Association/American College of Cardiology Joint Committee on Clinical Practice Guidelines
- 2022 ACC/AHA Guideline for the Diagnosis and Management of Aortic Disease: A Report of the American Heart Association/American College of Cardiology Joint Committee on Clinical Practice Guidelines
- 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines
- 2021 ACC/AHA/SCAI Guideline for Coronary Artery Revascularization: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines
- 2021 AHA/ACC/ASE/CHEST/SAEM/SCCT/SCMR Guideline for the Evaluation and Diagnosis of Chest Pain: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines
- 2020 ACC/AHA Guideline for the Management of Patients With Valvular Heart Disease: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines
- 2020 AHA/ACC Guideline for the Diagnosis and Treatment of Patients With Hypertrophic Cardiomyopathy: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines
- Recent Innovations, Modifications, and Evolution of ACC/AHA Clinical Practice Guidelines: An Update for Our Constituencies: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines
- 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines
- 2019 AHA/ACC/HRS Focused Update of the 2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation
- 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Blood Cholesterol
- 2018 ACC/AHA/HRS Guideline on the Evaluation and Management of Patients With Bradycardia and Cardiac Conduction Delay: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society

- 2018 AHA/ACC Guideline for the Management of Adults with Congenital Heart Disease
- 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines
- 2017 AHA/ACC/HRS Guideline for Management of Patients With Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death
- 2017 ACC/AHA/HRS Guideline for the Evaluation and Management of Patients With Syncope: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society
- ACC/AHA Special Report: Clinical Practice Guideline Implementation Strategies: A Summary of Systematic Reviews by the NHLBI Implementation Science Work Group: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines
- 2016 AHA/ACC Guideline on the Management of Patients With Lower Extremity Peripheral Artery Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines
- 2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients With Coronary Artery Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines
- 2015 ACC/AHA/HRS Guideline for the Management of Adult Patients With Supraventricular Tachycardia: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society
- 2014 AHA/ACC Guideline for the Management of Patients With Non–ST-Elevation Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines
- AHA/ACC/HHS Strategies to Enhance Application of Clinical Practice Guidelines in Patients With Cardiovascular Disease and Comorbid Conditions: From the American Heart Association, American College of Cardiology, and U.S. Department of Health and Human Services
- The Evolution and Future of ACC/AHA Clinical Practice Guidelines: A 30-Year Journey: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines
- 2014 ACC/AHA Guideline on Perioperative Cardiovascular Evaluation and Management of Patients Undergoing Noncardiac Surgery: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines
- 2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and the Heart Rhythm Society
- 2013 ACC/AHA Guideline on the Assessment of Cardiovascular Risk: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines
- 2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and The Obesity Society

- 2012 ACCF/AHA/HRS Focused Update Incorporated Into the ACCF/AHA/HRS 2008 Guidelines for Device-Based Therapy of Cardiac Rhythm Abnormalities: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines and the Heart Rhythm Society
- 2012 ACCF/AHA Focused Update Incorporated Into the ACCF/AHA 2007 Guidelines for the Management of Patients With Unstable Angina/Non–ST-Elevation Myocardial Infarction: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines
- Effectiveness-Based Guidelines for the Prevention of Cardiovascular Disease in Women—2011 Update: A Guideline From the American Heart Association
- ACC/AHA/HRS 2008 Guidelines for Device-Based Therapy of Cardiac Rhythm Abnormalities: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines

SECTION 11 (APPENDIX E): **CURRENT ABIM CARDIOLOGY BLUEPRINTS**

Below is a list of the available blueprints for certificates offered by the ABIM in cardiovascular medicine.

Blueprints for Initial Certification

- Adult Congenital Heart Disease
- Advanced Heart Failure and Transplant Cardiology
- Cardiovascular Disease
- Clinical Cardiac Electrophysiology
- Interventional Cardiology

Blueprints for Maintenance of Certification

- Adult Congenital Heart Disease
- Advanced Heart Failure and Transplant Cardiology
- Cardiovascular Disease
- Clinical Cardiac Electrophysiology
- Interventional Cardiology

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A PROPOSAL FOR THE FORMATION OF THE AMERICAN BOARD OF CARDIOVASCULAR MEDICINE

ADDENDUM 1

This addendum provides additional material supplementing the original *"Proposal for the Formation of the American Board of Cardiovascular Medicine"* submitted to the American Board of Medical Specialties on January 22, 2024. Included are details and documents corresponding to the following sections in the original application:

7.5.1. ABCVM Directors and Staff Executive Credentials

The first 10 directors have been appointed, with an expert in adult congenital cardiology and four at-large directors to be named in the weeks ahead. An Interim Executive Director has also been named. This information supplements the material submitted in Section 7.5.1 of the original application.

7.6.1. Proposed Articles of Incorporation

The signed Articles of Incorporation and Certificate from the District of Columbia are included as well as approved organizational actions of incorporators. This material replaces the material submitted in Section 7.6.1 of the original application.

7.6.2. Proposed Bylaws

An updated revision adopted by the incorporators is included. This material replaces the material submitted in Section 7.6.2 of the original application.

7.5.1. ABCVM Directors and Staff Executive Credentials

Board of Directors

The new Board of Cardiovascular Medicine is governed by a Board of Directors comprising cardiovascular professionals spanning the field of cardiology. A total of 15 directors will guide the new Board and will be responsible for strategically developing and implementing the initial certification and supporting continuous certification programs once a decision by the American Board of Medical Specialties has been made. The first 10 directors have been appointed, with an expert in adult congenital cardiology and four at-large directors to be named in the weeks ahead.

Mark H. Drazner, MD

Mark H. Drazner, MD, MSc, is a professor of Internal Medicine with tenure, Clinical Chief of Cardiology, and holds the James M. Wooten Chair in Cardiology at the University of Texas Southwestern Medical Center (UTSWMC).

Drazner previously served as the Medical Director of the Advanced Heart Failure/LVAD/Transplant section at UTSWMC. He was president of the Heart Failure Society of America from 2021-2022. He has published extensively in the field of heart failure and has extensive experience with matters related to subspeciality training.

He completed his medical education at Washington University in St. Louis and his internal medicine training at UTSWMC where he was chief resident. He completed a cardiology fellowship at Duke University Medical Center, and then a Cardiomyopathy/Transplant Cardiology fellowship at Brigham and Women's Hospital. He subsequently received a Master of Science in Epidemiology from the Harvard School of Public Health.

Peter L. Duffy, MD

Peter L. Duffy, MD, MMM, is an interventional cardiologist practicing at McLeod Seacoast Hospital in Little River, SC, as a full time Locum Tenens Interventional Cardiologist focusing on cardiovascular service line development and cath lab quality. He has published extensively on best practices for radial artery interventions, guidelines for clinical excellence in proctoring new technologies, performing PCI in ambulatory surgical centers, optimizing resource utilization in the cath lab, and integrating appropriate use criteria into daily practice. He has performed over 12,000 diagnostic and interventional procedures.

Duffy has served in leadership roles within both SCAI and ACC, most recently serving as treasurer of SCAI from 2018-2021 and on the ACC's NCDR Oversight Committee (formerly Management Board). He also

served on the CMS Hospital Outpatient Payment Program Board and on CMS's Ambulatory Surgical Center/Hospital Outpatient Department Measure Development Committee.

Duffy completed his fellowship in Cardiovascular Diseases at Georgetown University/VA Medical Center in Washington, DC, in 1985. He earned his Master in Medical Management (MMM) degree from Carnegie Mellon University in 2009 focusing on health care quality and physician leadership. He was awarded the Certified Physician Executive (CPE) designation by the American Academy for Physician Leadership in 2012. He holds board certifications in Internal Medicine, Cardiovascular Diseases and Interventional Cardiology.

David P. Faxon, MD

David Faxon, MD, is the past associate chief of cardiology, clinical director of ambulatory cardiovascular services and vice chair of medicine at the Brigham and Women's Hospital (BWH) in Boston, MA.

Prior to his current roles, Faxon started his career at Boston University Medical Center in 1980, where he directed the cath lab and established one of the first angioplasty programs in the U.S. From 1993-2000, he was chief of cardiology and professor of medicine at the University of Southern California and then went on to serve as chief of cardiology and professor of medicine at the University of Chicago until 2006. Upon returning to Boston, Faxon was chief of cardiology at the Boston VA Healthcare System and vice chair of medicine at BWH.

Faxon is past president of SCAI (1997-1998), AHA (2001-2002) and the Vascular Disease Foundation (2013-2015). He has also served on numerous ACC and AHA committees and has been a member of the ABIM Cardiovascular Board and the ACGME Residency Review Committee in Internal Medicine. He was on the Board of the Alliance for a Healthy Generation from 2006 to 2022.

A graduate of Hamilton College, Faxon received his medical degree from Boston University School of Medicine. He did his internship and residency at Dartmouth Hitchcock Medical Center and his Cardiology Fellowship at Boston University Medical Center.

Edward T. A. Fry, MD

Edward T. A. Fry, MD, is chair of the Ascension National CV Service Line at Ascension St. Vincent in Indianapolis, IN.

He is a past president of ACC (2022-2023) and past president and governor of the IN Chapter of the ACC. He has held many leadership positions within the ACC, serving on the Board of Trustees, Board of Governors, MedAxiom Board of Managers and numerous other work groups, task forces and committees. He has been a presenter, moderator, and session chair at multiple national and international meetings and has published over 60 manuscripts. He is an Honorary Fellow of the Royal College of Physicians Ireland.

Fry attended medical school at Washington University School of Medicine in St. Louis, MO, and completed his residency in internal medicine at Barnes-Jewish Hospital. He completed a two-year cardiovascular research fellowship focused on pharmacokinetics/pharmacodynamics of native and genetically modified plasminogen activators. He also completed a general cardiology fellowship at Washington University in St. Louis, where he then served as assistant professor and medical director of the cardiac transplant program before completing an interventional cardiology fellowship at Ascension St. Vincent Hospital – Indianapolis.

Judith S. Hochman, MD

Judith Hochman, MD, is senior associate dean for clinical sciences, founding co-director of the NYU Clinical and Translational Science Institute (CTSI), Harold Snyder Family Professor and Associate Director, Division of Cardiology, and Director, Cardiovascular Clinical Research Center at NYU Langone Health/NYU Grossman School of Medicine.

Hochman was a CCU and step-down unit director for 20 years. She has a successful record in leading large collaborative programs and in training the next generation. As one of two founding CTSI Directors, she has a leadership role in overseeing education and training. She developed and led, as Study Chair, NHLBI-funded international trials testing the role of revascularization in ischemic heart disease, from cardiogenic shock to stable coronary disease. These trials led to new/revised recommendations in Practice Guidelines.

She is the recipient of numerous awards, most recently being recognized with the European Society of Cardiology 2020 Rene Laennec Lectureship and the 2023 AHA CLCD Distinguished Achievement Award and Distinguished Scientist Award.

Dr. Hochman received her MA in cellular and developmental biology from Harvard and MD from Harvard Medical School.

Jodie L. Hurwitz, MD

Jodie L. Hurwitz, MD, is the director of electrophysiology at North Texas Heart Center and the director of the electrophysiology lab at Medical City Heart and Spine Hospital in Dallas.

Dr. Hurwitz is published widely and participates extensively in clinical and device trials and has been named several times to the Best Doctors in Dallas and Texas Super Doctors.

She is president of the Heart Rhythm Society (HRS) and president of the North Texas Electrophysiology Society. She has been involved in multiple HRS activities, including the Women's Leadership Initiative, serving as the HRS representative for the American Medical Association, and chairing the Membership Committee. She was also on the ABIM writing committee for Cardiac Electrophysiology Boards for five years.

Hurwitz received her medical degree from Albert Einstein College of New York. She completed her internship and residency at Parkland Hospital in Dallas, TX, and her fellowship in cardiology and electrophysiology at Duke University Medical School.
Michelle Kittleson, MD, is professor of medicine at Cedars-Sinai and director of education in heart failure and transplantation at the Smidt Heart Institute.

Michelle Maya Kittleson, MD

Kittleson has served as Interim Editor-in-Chief of the Journal of Heart and Lung Transplantation, on writing committees for the ACC/AHA Hypertrophic Cardiomyopathy Guidelines and the ACC/AHA/HFSA HF Guidelines, co-editor-in-chief for the ACC Heart Failure Self-Assessment Program, and on the Board of Directors for HFSA. Her essays have appeared in the New England Journal of Medicine, Annals of Internal Medicine, and JAMA Cardiology and poems in JAMA and Annals of Internal Medicine. Her book, Mastering the Art of Patient Care, is available from Springer publishing.

She graduated from Harvard College and received her medical degree from Yale University. She completed residency training at Brigham and Women's Hospital and cardiology fellowship at Johns Hopkins, where she also received a PhD in Clinical Investigation.

Daniel M. Kolansky, MD

Daniel M. Kolansky, MD, FSCAI is professor of medicine at the Perelman School of Medicine at the University of Pennsylvania, director of the Cardiac Care Unit, and the associate chief for clinical affairs for the Cardiovascular Division at the Hospital of the University of Pennsylvania.

Kolansky has a long interest in quality metrics in Interventional Cardiology and has contributed to the development of the SCAI Core Curriculum in quality assessment for Interventional Fellowship Training programs, as well as SCAI Expert Consensus Statements on Best Practices in the Cath Lab and on Length of Stay following PCI. He has published widely on numerous topics in interventional cardiology and is a member of the SCAI Board of Trustees and sits on the JSCAI Editorial Board.

Kolansky is a graduate of Stanford University and the Yale School of Medicine. He completed his Internship, Residency, and Fellowship in Cardiology and Interventional Cardiology at Yale-New Haven Hospital.

Jeffrey T. Kuvin, MD

Jeffrey T. Kuvin, MD, is the Lorinda and Vincent de Roulet professor of medicine and chair of cardiology at the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, chair of cardiology at North Shore University Hospital and Long Island Jewish Medical Center, co-director of the Sandra Atlas Bass Heart Hospital at North Shore University Hospital, senior vice president of cardiology at Northwell, and co-executive director of Northwell's Cardiovascular Institute.

Kuvin is a member of the ACC's Board of Trustees and is an associate editor of the Journal of the American College of Cardiology. He is past chair of the ACC's Annual Scientific Sessions, past chair of ACC's Lifelong Learning Oversight Committee, initial developer and past chair of ACC's Fellow In-Training Examination, and chair of the ACC's Continuous Cardiovascular Competency Work Group which developed and implemented the initial strategies for a new cardiovascular board.

Kuvin holds a bachelor's degree in Near East and North African Studies from the University of Michigan and medical degree from Emory University. He completed his internal medicine internship, residency, chief residency, and cardiology fellowship at Tufts Medical Center.

Gregory F. Michaud, MD

Gregory F. Michaud, MD is the clinical director of the Demoulas Center for Cardiac Arrhythmias at Massachusetts General Hospital and faculty at Harvard Medical School.

He treats patients with complex arrhythmias using catheter ablation and is credited with at least four separate pacing maneuvers that are now part of core testing during specialty Board examinations for cardiac electrophysiology. As the director of the Center for the Advanced Management of Atrial Fibrillation at Brigham and Women's Hospital, he played a pivotal role in developing better ablation strategies for the treatment of atrial fibrillation.

Michaud speaks at national and international academic conferences on his work in arrhythmia diagnosis and treatment and has authored or co-authored numerous manuscripts. He was recently co-director of the Heart Rhythm Society board review course for clinical cardiac electrophysiology, inaugural chair of the Core Concepts Committee and a member of the Program Committee for the Heart Rhythm Society Scientific Sessions.

He received his MD degree from the University of Maryland in Baltimore. He completed his medical training at Boston University Hospital and Cardiac Electrophysiology Fellowship at Tufts University.

Interim Staff Team

The founding organizations as incorporators have each designated staff representatives to help support the ABCVM in the initial phases. An Interim Executive Director has been named for the effort until permanent staff are in place.

Janice B. Sibley, MS, MA, Interim Executive Director

Janice B. Sibley MS, MA, is an Executive Vice President at the American College of Cardiology. Sibley has been with the ACC for 13 years and has worked in scientific and continuing medical education for more than 30 years. She has published and spoken professionally on a variety of topics including systematic instructional design, competency-based learning and continuing professional development in the healthcare sector. She holds a Master of Science degree in the Biological Sciences as well as a Master of Arts degree in Educational Technology and Instructional Design from San Diego State University, where she pioneered some of the first educational software programs for desktop computer-based learning systems.

John D. Barnes, Interim Staff Representative

John Barnes is CEO of the Heart Failure Society of America.
Before becoming HFSA CEO, John was President of Barnes Association Consultants, consulting with association Boards and CEOs on strategic planning, Board of Directors performance and governance issues.

Before his work at Barnes Association Consultants, John was CEO at the American Physical Therapy Association. John also served as Deputy Executive Director at the American Academy of Dermatology.

John has extensive public policy experience through his years serving on Capitol Hill. John was Chief of Staff to Congressman Greg Ganske of Iowa and served as Special Assistant for Senator Chuck Grassley of Iowa.

Robert Bartel, MSc, Interim Staff Representative

Robert C. Bartel, MSc, CAE, FACEHP, is the Vice President of Education, Publications and Quality for the Society for Cardiovascular Angiography and Interventions. He oversees SCAI's portfolio of educational meetings, online activities, clinical practice recommendations, quality improvement and scientific initiatives, and its official journal, JSCAI. Mr. Bartel has 20 years of experience in medical society management, having previously served as the Director of Education and the Chief Innovation Officer at the Endocrine Society. He has bachelor's degrees in Zoology and French from the University of Rhode Island and a Master's degree in Biology from the University of Michigan. He served as a Peace Corps Volunteer in the Republic of the Fiji Islands.

Justin Denison, Interim Staff Representative

Justin Denison is Vice President, Strategic Planning & Market Research for American Heart Association. Denison holds an MBA from Northwestern University, Kellogg School of Management and a Master of Science degree in Electrical and Computer Engineering from the University of Texas at Austin.

He has over 25 years of experience in corporate strategy, business planning, and product marketing. Denison has been with the AHA since 2019, supporting enterprise-wide strategic planning, market research, and internal business incubation.

Shalen Fairbanks, Interim Staff Representative

Shalen Fairbanks is vice president of the Marketing and Communications Division at the American College of Cardiology, bringing nearly 30 years of communications, media and marketing experience to her role.

A graduate of the University of Puget Sound in Tacoma, WA, Shalen spent nearly a decade working for environmental nonprofits helping to enhance member engagement and develop multi-channel advocacy, membership and media campaigns. She also served as a writer and editor for National Journal's online daily environmental and energy briefings, reporting on the latest news and trends spanning both fields.

At the ACC, Shalen oversees a talented team of individuals responsible for driving global brand growth and recognition; shaping impactful narratives that tie back to the College's mission, vision, values and strategic priorities; and spearheading comprehensive marketing strategies tied to the College's extensive suite of programs. She is a Fellow of the Public Affairs Council and holds a certificate from the Cardiovascular Business and Management Essentials Program from Wharton and MedAxiom.

Lisa Hix, Esq., Interim Staff Representative

Lisa M. Hix, JD, is the General Counsel of the American College of Cardiology. Hix has more than 15 years of experience as a nonprofit and corporate attorney, specializing in a broad range of legal issues affecting charities and health care institutions. Before joining the ACC, she was a partner with Venable, LLP in its Nonprofit and Trade Associations Practice, where she represented numerous health care organizations.

She earned her bachelor's degree from Smith College and a law degree from Duke University School of Law, where she was an editor of the Duke Journal of International and Comparative Law. Hix is a member of the D.C. Bar.

M. Lewis Kinard, Esq., Interim Staff Representative

M. Lewis Kinard is EVP, General Counsel and Chief Ethics & Compliance Officer for the American Heart Association. He joined the AHA 11 years ago with a broad legal and technology business background that included formation, support of, and service in tax exempt organizations, civil litigation, IP rights and international business transactions. Kinard is a graduate of the University of Arkansas and the Dedman School of Law at SMU, as well as Chair of the Texas Committee on Disciplinary Rules & Referenda and a co-author of the Handbook of Texas Lawyer & Judicial Ethics.

Pam Magnani, Interim Staff Representative

As the Chief Development and Innovation Officer (CDIO), Pam is charged with leading the creation and execution of the Society's leadership development, innovation and fundraising strategy and is responsible for identifying and pursuing opportunities to advance the HRS strategic plan. She previously served as the HRS Education Vice President, leading the organization's content development, accreditation and professional development initiatives.

Prior to joining HRS, Pam established herself as a versatile senior leader for several respected global and national associations such as American Gastroenterological Association and National Association of Broadcasters. She has successfully implemented programs from start-ups, to rebrands, to organizational performance improvements. As a fiscally-minded leader, Pam has demonstrated her capacity for developing sustainable revenue models which deliver on an organization's mission and provide meaningful member value.

7.6.1. Proposed Articles of Incorporation

The signed Articles of Incorporation and Certificate from the District of Colombia are included as well as approved organizational actions of incorporators. This material replaces the material submitted in Section 7.6.1 of the original application.

ARTICLES OF INCORPORATION
OF
AMERICAN BOARD OF CARDIOVASCULAR MEDICINE

FIRST: The name of the corporation is the American Board of Cardiovascular Medicine (the "Corporation").

SECOND: The address of the registered office of the Corporation in the District of Columbia is 1015 15th Street NW, Washington, DC 20005. The name of the Corporation's registered agent at such address is CT Corporation System.

THIRD: This Corporation is organized as a nonprofit corporation under the District of Columbia Nonprofit Corporation Act of 2010 (the "Act"). The Corporation is organized and is operated for exempt purposes within the meaning of Section 501(c)(6) of the Internal Revenue Code of 1986, as amended (the "Code"). Specifically, and without limitation, the Corporation is hereby organized for the following purposes:

a. To evaluate physicians and promote professional development through initial and continuous certification in cardiovascular medicine and its subspecialties; to certify cardiologists who meet the Corporation's educational, professional standing and examination standards and to ensure the highest standards in the specialty of cardiovascular medicine;

b. To otherwise promote, benefit, and advance the quality of cardiovascular care and to serve the medical profession; and

c. To exercise any and all powers conferred upon nonprofit corporations organized pursuant to the provisions of the Act and other applicable laws to the extent that they are not inconsistent with the purposes of the Corporation set forth above.

FOURTH: The Corporation shall not have members.

FIFTH: The number, qualifications, and election of directors and officers shall be as provided in the bylaws of the Corporation (the "Bylaws").

SIXTH: The powers of the Corporation shall be subject to the following terms, provisions, and limitations:

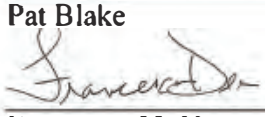
1. No part of the net earnings of the Corporation shall inure to the benefit of any director or officer of the Corporation, or any private person, except that reasonable compensation may be paid for services actually rendered to or for the Corporation, and no director or officer of the Corporation, or any private person shall be entitled to share in the distribution of any of the corporate assets on dissolution of the Corporation.

2. In the event of the liquidation, dissolution, or winding up of the Corporation in any manner or for any reason whatever, except as may be otherwise provided by law, the

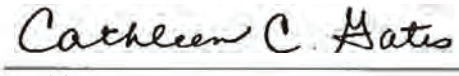
IN WITNESS WHEREOF, the undersigned, each being an incorporator herein before named, has
tion on February __, 2024.

John D. Barnes

Pat Blake



Francesca M. Dea



Cathleen C. Gates

Nancy Brown

Initial File #: N00007970969

GOVERNMENT OF THE DISTRICT OF COLUMBIA

DEPARTMENT OF LICENSING AND CONSUMER PROTECTION
CORPORATIONS DIVISION

C E R T I F I C A T E

THIS IS TO CERTIFY that all applicable provisions of the District of Columbia Business Organizations Code have been complied with and accordingly, this ***CERTIFICATE OF INCORPORATION*** is hereby issued to:

American Board of Cardiovascular Medicine

Effective Date: 3/18/2024

IN WITNESS WHEREOF I have hereunto set my hand and caused the seal of this office to be affixed as of 3/18/2024 3:47 PM

Business and Professional Licensing Administration

Rebecca Janovich

REBECCA JANOVICH
Superintendent of Corporations,
Corporations Division

Muriel Bowser
Mayor

Tracking #: RdcBEeJR

AMERICAN BOARD OF CARDIOVASCULAR MEDICINE

ORGANIZATIONAL ACTIONS BY INCORPORATORS

We, the undersigned, being the incorporators of the American Board of Cardiovascular Medicine ("ABCVM"), a corporation formed under the laws of the District of Columbia (the "**Corporation**"), acting by written consent without a meeting pursuant to Section 29-302.05 of the District of Columbia Code, do hereby consent to the adoption of the following resolutions:

RESOLVED, that the bylaws for the regulation of the Corporation, in the form attached hereto as Exhibit A (the "**Bylaws**"), be, and they hereby are, approved and adopted as the Bylaws of the Corporation;

RESOLVED, that each of the following persons are hereby elected to the Board of Directors of the Corporation as Transitional Directors, to hold such office until such director's successor shall have been duly elected and qualified, or until such director's earlier death, resignation, or removal:

Mark H. Drazner, MD

Peter L. Duffy, MD

David P. Faxon, MD

Edward T.A. Fry, MD

Judith S. Hochman, MD

Jodie L. Hurwitz, MD

Michelle Maya Kittleson, MD

Daniel M. Kolansky, MD

Jeffrey T. Kuvin, MD

Gregory F. Michaud, MD

RESOLVED, that a support team consisting of the following individuals is designated to support the Corporation until such time as the ABCVM elects to hire independent staff, and are directed to begin developing a work plan and financials, for review and approval or rejection by the ABCVM Directors:

John Barnes

Robert Bartel

Justin Denison

Shalen Fairbanks

Lisa Hix, Esq.

Lewis Kinard, Esq.

Pam Magnani

Janice Sibley (acting as Interim Executive Director)

RESOLVED, that the undersigned hereby resign as the incorporators of the Corporation, and the powers and duties of the undersigned incorporators be, and they hereby are, terminated.

[APPROVED BY UNANIMOUS WRITTEN CONSENT]

7.6.2. Proposed Bylaws

An updated revision adopted by the incorporators is included. This material replaces the material submitted in Section 7.6.2 of the original application.

BYLAWS

of

THE AMERICAN BOARD OF CARDIOVASCULAR MEDICINE

(A District of Columbia Nonprofit Corporation)

ARTICLE I
Name

The name of this corporation is the American Board of Cardiovascular Medicine (the "Corporation").

ARTICLE II
Purposes and Limitations

Section 1. The Corporation is organized for those purposes set forth in the Corporation's Articles of Incorporation.

Section 2. Notwithstanding any other provision of these Bylaws, the Corporation shall not carry on any other activities not permitted to be carried on by a corporation exempt from federal income tax under Internal Revenue Code ("IRC") Section 501(c)(6), or a corporation formed under the District of Columbia Nonprofit Corporation Act, as the same may be amended or supplemented (the "Act").

ARTICLE III
Offices

The Corporation shall maintain in the District of Columbia a registered office and a registered agent at such office and may move that office or have other offices within or without the District of Columbia as shall be determined by the Board of Directors. The registered office may be, but need not be, identical with the principal office, and the address of the registered office may be changed from time to time by the Board of Directors.

ARTICLE IV
Members

Section 1. Members. The Corporation shall not have members.

ARTICLE V
Board of Directors

Section 1. General Powers. The affairs of the Corporation shall be managed by its Board of Directors. It shall be the Board of Directors' duty to carry out the objectives and purposes of the Corporation, and to this end the Board of Directors may exercise all powers of the Corporation. The Board of Directors shall be subject to the restrictions and obligations set forth by law and in the Corporation's Articles of Incorporation and these Bylaws.

Section 2. Transitional Board. The incorporators of the Corporation shall name the Transitional Board of Directors of the Corporation with the same composition as described in section 3.a.i.-v. below. The Transitional Board of Directors shall have all powers and duties of the Board of Directors in these Bylaws. Members of the Transitional Board of Directors shall hold office until the earlier of their replacement by a Director elected under this section or their resignation. The terms of Transitional Directors are not otherwise limited in duration. All powers and duties of Director in these Bylaws shall apply to Transitional Directors except term limits provide below.

Section 3. Composition, Election, and Term.

a. Composition. The number of Directors shall be fifteen (15), and shall consist of the following:

i. 4 individuals with competencies in General Cardiology, filled by 2 representatives of the American College of Cardiology and 2 representatives of the American Heart Association.

ii. 2 individuals with competencies in Interventional Cardiology, filled by 2 representatives of the Society for Cardiovascular Angiography and Interventions.

iii. 2 individuals with competencies in Heart Failure, filled by 2 representatives of the Heart Failure Society of America.

iv. 2 individuals with competencies in Cardiac Electrophysiology, filled by 2 representatives of the Heart Rhythm Society.

v. 1 individual with competency in Adult Congenital Heart Disease.

vi. 4 individuals as at-large members, who shall fulfill certain competencies determined by the Board of Directors, which may include expertise in:
    i. Cardiovascular team care;
    ii. Cardiovascular education and lifelong learning;
    iii. Advocacy, with a focus on health care issues;
    iv. Patient perspective;
    v. Technology and innovation relevant to competency assessment; and/or
    v. Other relevant areas, as defined by the Board.

b. Amendment to Composition. Any amendment to these Bylaws which would modify the composition of the Board of Directors such that any named society's representation would be diluted shall not be effective unless approved by the relevant society.

c. Election. To ensure the ongoing Board of Directors composition will continue to be representative of each subspecialty, each society named above shall be asked to designate representatives to fill the Board of Directors seats for the subspecialty as they become vacant. Candidates for the Adult Congenial Heart Disease competency and at-large member positions shall be identified by the Nominating Committee (as defined in Article VI) and the at-large Directors shall be elected by the affirmative vote of a majority of the Board of Directors at the annual meeting of the Board of Directors at which a quorum is present, or by electronic means.

d. Term. Each Director shall hold office for a single four-year term; provided, however, that Directors shall serve until their successors have been duly elected and have qualified. The Board of Directors may establish staggered terms for the Directors. Notwithstanding, any Director who serves a partial term due to staggered terms or due to filling a vacancy in an unexpired term shall be eligible for re-election for a full four-year term.

Section 4. Annual and Regular Meetings. Annual meetings of the Board of Directors shall be held at such time and place, either within or without the District of Columbia as may be designated by the President. The Board of Directors may provide by resolution the time and place, either within or without the District of Columbia, for the holding of additional regular meetings of the Board of Directors. Annual and regular meetings may be held without notice if all of the Directors are present in person, or if notice is waived in writing by those not present prior to the meeting.

Section 5. Special Meetings. Special meetings of the Board of Directors may be called by or at the request of the President or any two Directors. The person or persons authorized to call special meetings of the Board of Directors may fix any place, either within or without the District of Columbia, as the place for holding any special meeting of the Board of Directors called by them.

Section 6. Notice. Notice of any special meeting of the Board of Directors shall be received by each Director by mail, overnight courier, telecopier, electronic mail, or other mode of written transmittal, not less than three (3) business days before the time set for such a meeting, and must include the time, date, place (where, if to be held in person, shall be within the continental United States), and purpose of such meeting. Notice may be waived in writing by those not present prior to the meeting.

Section 7. Quorum. A majority of the Board of Directors in office shall constitute a quorum for the transaction of business at any meeting of the Board of Directors, provided, that if less than a majority of the Directors are present at said meeting, a majority of the Directors present may adjourn the meeting from time to time without further notice.

Section 8. Manner of Acting. The act of a majority of the Directors present at a meeting at which a quorum is present shall be the act of the Board of Directors, except as otherwise provided by law, by the Corporation's Articles of Incorporation, or by these Bylaws. Each Director shall have one vote on all matters submitted to a vote of the Board of Directors. No Director voting by proxy shall be permitted. Any action required by these bylaws to be in writing may be done through electronic means. The word "document" when used in these bylaws includes electronic records of all types that can be reliably stored for the purposes intended.

Section 9. Teleconferencing. To the extent permitted by the Act, any person participating in a meeting of the Board of Directors may participate by means of conference telephone or by any means of communication by which all persons participating in the meeting are able to hear one another, and otherwise fully participate in the meeting. Such participation shall constitute presence in person at the meeting.

Section 10. Action by Unanimous Written Consent. Any action required to be taken at a meeting of the Board of Directors or any action which may be taken at a meeting of the Board of Directors may be taken without a meeting if a consent in writing, setting forth the action so taken, is signed by all of the Directors entitled to vote with respect to the subject matter thereof.

Section 11. Minutes. Full minutes of each meeting of the Board of Directors shall be recorded by the Secretary, containing results of the deliberations of the Board of Directors. The minutes shall be submitted to the Board of Directors for approval at the subsequent meeting of the Board of Directors.

Section 12. Removal or Resignation of Directors. Any Director may be removed from office at any time by the affirmative vote of at least two-thirds of the Board of Directors present at any meeting at which a quorum is present. Any Director may resign at any time by giving written notice to the President, Secretary or to the Board of Directors. Such resignation shall take effect at the time specified in such notice, or, if no time is specified, at the time such resignation is tendered.

Section 13. Vacancies. Any vacancy occurring in the Board of Directors or any Directorship to be filled by reason of an increase in the number of Directors may be filled at any time by the Board of Directors. A Director

ARTICLE VI
Committees

Section 1. Executive Committee. The Organization shall not have an Executive Committee; all decisions shall be made by the Board.

Section 2. Nominating Committee. The Board of Directors, by resolution adopted by a majority of the Directors present at a meeting at which a quorum is present, shall create a Nominating Committee, which committee, to the extent provided in said resolution, shall have the responsibility to identify candidates for open Adult Congenital Heart Disease and at-large seats on the Board of Directors and for Officer positions. Following completion of these appointments, further responsibilities of the Nominating Committee will be at the discretion of the Board of Directors. The Nominating Committee shall consist of seven (7) members of the Board of Directors, and shall consist of the following:

i. 2 Directors with competencies in General Cardiology, filled by 1 representative of the American College of Cardiology and 1 representative of the American Heart Association.

ii. 1 Director with competencies in Interventional Cardiology, filled by 1 representative of the Society for Cardiovascular Angiography and Interventions.

iii. 1 Director with competencies in Heart Failure, filled by 1 representative of the Heart Failure Society of America.

iv. 1 Director with competencies in Cardiac Electrophysiology, filled by 1 representative of the Heart Rhythm Society.

v. 1 Director with competency in Adult Congenital Heart Disease.

vi. 1 at-large Director, who shall fulfill certain competencies determined by the Board of Directors, which may include expertise in:

a. Cardiovascular team care

b. Cardiovascular education and lifelong learning

c. Advocacy, with a focus on health care issues

d. Patient perspective;

e. Technology and innovation relevant to competency assessment; and/or

f. Other relevant areas, as defined by the Board.

Section 3. Other Committees. The Board of Directors may, by resolution duly adopted, create other committees of the board and delegate any powers allowed by law to be delegated to such committee. Other committees not having and exercising the authority of the Board of Directors in the management of the Corporation ("Advisory Committees") may be designated by a resolution adopted by a majority of the Directors present at a meeting at which a quorum is present or by unanimous written consent.

Section 4. Term of Office. Each member of a committee shall continue as such until his or her successor is appointed, unless the committee shall be sooner terminated, or unless such member shall cease to qualify or shall be removed or shall resign as a member thereof.

Section 5. Removal or Resignation of Committee Members. Any committee member may be removed from office at any time by the affirmative vote of a majority of the Board of Directors present at a meeting at which a quorum is present, whenever in their judgment the best interests of the Corporation would be served thereby. Any committee member may resign at any time by giving written notice to the President, Secretary, or to the Board of Directors. Such resignation shall take effect at the time specified in such notice, or, if no time is specified, at the time such resignation is tendered.

Section 6. Chair. One member of each committee shall be appointed as chair of such committee by resolution of the Board of Directors.

Section 7. Vacancies. Vacancies in the membership of any committee may be filled at any time by appointments made in the same manner as provided in the case of the original appointments.

Section 8. Committee Meetings and Action. Meetings of each committee shall conform to the standards for notice, quorum, voting, and manner and method of acting as may be established by the Advisory Committee chair, with the approval of the Advisory Committee members, except as otherwise provided by resolution of the Board or other policy pertaining to Advisory Committees as may be determined from time to time by the Board.

ARTICLE VII
Officers

Section 1. Definition of Officers. The Officers of the Corporation shall be a President, a Treasurer, and a Secretary. All Officers shall first be members of the Board of Directors and shall be held by separate individuals.

Section 2. Election, Term and Qualifications. The Officers of the Corporation shall be elected by the Board of Directors from among the current members of the Board by the affirmative vote of a majority of the Board of Directors present at any meeting at which a quorum is present. In electing the Officers, the Board of Directors shall strive to ensure that each subspecialty is represented in the Officer positions over time. Each Officer shall hold office for a one year term; provided, however, that Officers shall serve until their successors have been duly elected and have qualified. Each Officer may serve a maximum of two (2) consecutive one-year terms. The terms of Officers may be staggered, so as to not all expire at the same time, to the extent and as determined by the Board of Directors. To this end, the term(s) of one or more Officers may be extended or abbreviated, to the extent and as determined by the Board of Directors. Officers need not be residents of the District of Columbia.

Section 3. Removal or Resignation of Officers. Any Officer may be removed from office at any time by the affirmative vote of a majority of the Board of Directors present at a meeting at which a quorum is present, whenever in their judgment the best interests of the Corporation would be served thereby. Any Officer may resign at any time by giving written notice to the President, Secretary or to the Board of Directors. Such resignation shall take effect at the time specified in such notice, or, if no time is specified, at the time such resignation is tendered.

Section 4. Vacancies. A vacancy in any Officership because of death, resignation, removal, disqualification, or otherwise, may be filled at any time by the Board of Directors for the unexpired portion of the term. Vacancies may be filled or new offices created and filled at any meeting of the Board of Directors. Such action shall be effected by the affirmative vote of a majority of the Board of Directors present at a meeting at which a quorum is present.

Section 5. President. The President shall be responsible for the management of the Corporation, shall preside at all meetings of the Board of Directors, and shall serve as the Chair of the Board of Directors. The President in general shall perform all duties incident to the office of President and such other duties as may be prescribed by the Board of Directors from time to time.

Section 6. Treasurer. The Treasurer shall exercise oversight over and be responsible for the financial affairs of the Corporation. The Treasurer shall perform such other duties as from time to time may be assigned by the President or by the Board of Directors. If required by the Board of Directors, the Treasurer shall give a bond for the faithful discharge of his or her duties in such sum and with such surety or sureties as the Board of Directors shall determine.

In the absence of the President or in the event of his or her inability or refusal to act, the Treasurer shall perform the duties of the President, and when so acting, shall have and may exercise all the powers of the President. The Treasurer shall perform such other duties as from time to time may be assigned by the President or by the Board of Directors.

Section 7. Secretary. The Secretary shall record the minutes of all meetings of the Board of Directors; maintain such minutes in one or more books provided for such purpose; see that all notices are duly given in accordance with the provisions of these Bylaws or as required by law; be the custodian of the corporate records, including but not limited to all correspondence of the Corporation; be the custodian of the seal of the Corporation and see that such seal is affixed to all documents where necessary, the execution of which on behalf of the Corporation under its seal is duly authorized in accordance with the provisions of these Bylaws; and in general perform all of the duties incident to the office of Secretary and such other duties as from time to time may be assigned to him or her by the President or by the Board of Directors.

Section 8. Delegation of Duties. One or more duties of any Officer of the Corporation may be expressly delegated by the Board of Directors or by such Officer to one or more other Officers, employees or agents of the Corporation, provided that if such delegation is not to another Officer, then the Officer shall supervise and oversee the actions of such employees or agents.

Section 9. Chief Executive Officer. The Board of Directors shall hire and employ a Chief Executive Officer. Under the direction of the Board of Directors, the Chief Executive Officer shall supervise the activities and business affairs of the Corporation. In accordance with the policies established by the Board of Directors, the Chief Executive Officer shall have responsibility and authority for all operations and staffing associated with the Corporation activities within the budget approved by the Board of Directors, which authority shall include signature authority on behalf of the Corporation. The Chief Executive Officer shall perform such other duties as are assigned by the Board of Directors.

ARTICLE VIII
Limitation of Liability and Indemnification

Section 1. Limitation of Liability. To the fullest extent permitted by the Act and the IRC, the personal liability of the Directors, Officers, committee members, and employees of the Corporation is hereby eliminated.

Section 2. Indemnification. To the fullest extent permitted by the Act and the IRC, the Corporation shall indemnify its Directors, Officers, committee members, and employees.

ARTICLE IX
Amendments

These Bylaws may be altered, amended or repealed at any annual, regular or special meeting of the Board of Directors, if approved by a two-thirds majority of the Directors in office, provided notice of the intention to amend these Bylaws is provided to each Director at least seven (7) days prior to such meeting.