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Mission

To ensure the highest standards in the specialty of Emergency Medicine.

Purposes

- To improve the quality of emergency medical care
- To establish and maintain high standards of excellence in Emergency Medicine and subspecialties
- To enhance medical education in the specialty of Emergency Medicine and related subspecialties
- To evaluate physicians and promote professional development through initial and continuous certification in Emergency Medicine and its subspecialties
- To certify physicians who have demonstrated special knowledge and skills in Emergency Medicine and its subspecialties
- To enhance the value of certification for ABEM diplomates
- To serve the public and medical profession by reporting the certification status of the diplomates of the American Board of Emergency Medicine

1 ABEM holds the interests of patients and their families in the highest standing, particularly with regard to the provision of the safest and highest-quality emergency care. ABEM addresses its commitment to patients by supporting the physicians who provide care to the acutely ill and injured, and by working to transform the specialty of Emergency Medicine.
If indeed there is an ancient curse, “May you live in interesting times,” we have completed a very interesting year without the ill effects that traditionally befall the curse’s victim. Our challenges have been many and varied, and our successes reaffirm that we have continued the proud tradition of ABEM in honoring our mission, “To ensure the highest standards in the specialty of Emergency Medicine.” We serve this mission with our commitment to our diplomates, and through them, our patients.

On the certification front, we have successfully continued the transition to the new enhanced Oral Examination (eOral), which replaces paper stimuli with computer images and PACS-like capability, and adds video and audio clips, dynamic vital signs, and continuous data monitoring on the candidates’ computer screen. We hope to soon replace all of the X-ray viewing light boxes—just in time, as most candidates look at a light box quizzically, as if it were a museum artifact. Even with the many moving parts required to make the eOral a reality, we have made exceptional progress. We have improved the “case drop rate” (cases that cannot be completed or scored due to technical issues) from 1 in 40 at the spring 2015 exam, to 1 in 700 at the spring 2016 exam. In addition, the eOral format has been enthusiastically embraced by both examiners and candidates as a more realistic reflection of the practice of Emergency Medicine (EM). The contributions of volunteer examiners, staff, and technical consultants cannot be overstated. On behalf of the Board of Directors, I offer unbounded gratitude to all of you.

Another success has been the pilot of the online In-training Examination (ITE). This process required participating residency programs to have a testing center with permanent computer stations or a room with reliable wireless Internet access in which residents could use their own computers in a secure fashion. ABEM administered the online pilot at 62 U.S. residency programs involving 2,010 residents. Overall, the online administration went smoothly and was well accepted by a wide majority of programs. It is hoped that the online format will better align the ITE experience with the Qualifying Examination.

This year, there has been significant debate and public discussion about the value of MOC and recertification. Though most of this dissatisfaction is confined to a few specialties within the American Board of Medical Specialties, the challenge for ABEM has been that much of this discussion has been both negative and factually incorrect. ABEM has an MOC Program that is well regarded by our diplomates. However, there seem to be vocal critics of MOC with an inchoate vision of the future of board certification that advocates for continuously lowering the bar in a race to the bottom in MOC requirements, and therefore, quality. Ultimately, I suspect many critics would prefer a return to lifelong certification, which is unacceptable to ABEM.

The ABEM MOC Program has been accepted and its value recognized by diplomates. Respondents to the 2015 ConCert™ Examination survey indicated that there is a career benefit to recertification and the ConCert™ Exam in particular, and that preparing for the exam reinforces and increases medical knowledge (Marco CA, et al. Acad Emerg Med 2016. doi: 10.1111/acem.12971 [Epub ahead of print]).
Other research has indicated that LLSA readings are relevant to the practice of EM and that they change clinical practice (Jones JH, et al. J Emerg Med 2013;45:935-41). Data on diplomate attrition show that the MOC Program has not resulted in early retirement: the average attrition for all physicians is 2-3 percent, while for ABEM-certified physicians in 2015 was 1.6 percent. Moreover, there has been no significant change in certification attrition related to any changes in the ABEM MOC Program.

ABEM continually strives to increase the meaningfulness and value of the ABEM MOC Program to diplomates. The Patient Safety LLSA test was modified and improved in response to diplomate input. In addition, the decision to institute a pilot to not require the communication / professionalism (C/P) activity was made in part based on diplomate feedback. And value has been added by keeping fees for examinations, LLSA tests, and CME activities fixed for at least the past four years.

The modifications to the MOC Program were made with the diplomat in mind, but have not compromised ABEM’s high standards for certification and MOC. Any change must be assessed in terms of meeting the ABEM mission. The pilot to not require the C/P activity does not imply that communication and professionalism are not relevant to clinical practice. To the contrary, the importance of physician/patient communication is reflected in a number of LLSA readings and items on the ConCert™ Examination. However, ABEM recognizes that patient satisfaction surveys do not reflect communication skill or professionalism in any meaningful way for EM. We also recognize the fact that over 90 percent of ABEM diplomates already participate in a PECS or patient satisfaction surveys within their institution, emergency department, or physician group. This, coupled with the inclusion of the component in other aspects of the MOC Program, made the requirement to attest to the activity redundant.

ABEM feels that part of maintaining the highest standards in certification means a comprehensive, clinically relevant, psychometrically valid, rigorous assessment measured against national standards. The ConCert™ Examination does so, and diplomates seem to agree about its appropriateness. ABEM has, however, made a change in when you can take the exam (any administration in years six through ten of certification), which removes some of the high-stakes nature from the experience. Other medical specialty boards have recently begun to explore other means of assessing the knowledge, judgement, and skills of their diplomates in ways other than via a secure examination. ABEM will monitor these activities to see the degree of success they achieve, but will always retain activities that meet the highest standards.

This year as ABEM President has been the highlight of my professional career. I have had the pleasure and honor of working with the most thoughtful, wise, and engaged directors one could hope for. To a person, they are independent thinkers, skilled communicators, and consensus builders; all with grace and integrity. In addition, none of our successes would have been possible without the incredible effort, support, and behind-the-scenes work of our Executive Director, Earl J. Reisdorff, M.D., and the entire staff. By virtue of their enthusiasm, kindness, and exceptional work ethic they always make it easy for us to look good. Because of their dedication to ABEM, they make all of us better.

What strikes me most about ABEM, its directors, and staff is that they care. They care about ABEM, Emergency Medicine, the diplomates, and the candidates. In turn, they know that ABEM board-certified physicians care about their certifications, their continuing education, and their patients. ABEM will always be able to certify that you are a top-notch emergency physician; hopefully that will pave the way for you to always care about who you are, what you do, and every person you touch.
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Professor, Department of Emergency Medicine
Wright State University
Attending Physician, Department of Emergency Medicine
Miami Valley Hospital

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Professor, Department of Emergency Medicine
New York University School of Medicine
Director, Medical Toxicology Fellowship
NYU School of Medicine and New York City Poison Control Center

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Associate Professor (Clinician-Educator), Department of Emergency Medicine
Wayne State University School of Medicine
Attending Physician, Department of Emergency Medicine
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Catherine A. Marco, M.D.
Robert L. Muellerman, M.D.
Lewis S. Nelson, M.D.
Robert P. Wahl, M.D.
Timothy J. Dalton, Staff
Involvement with the ABMS

**ABMS-APPOINTED AND ELECTED POSITIONS**
During 2015-2016, ABEM current and senior directors served in a variety of appointed and elected positions within the ABMS. The following list reflects Emergency Medicine representation within the ABMS as of June 2016.

**Board of Directors**
Michael L. Carius, M.D. (2013-2016)³
John C. Moorhead, M.D.
   Chair Elect ² (2014-2016)
   Chair ³ (2016-2018)

**Executive Committee of the Board of Directors**
John C. Moorhead, M.D.
   Chair Elect ² (2014-2016)
   Chair ³ (2016-2018)

**Ambassadors Network**
J. Mark Meredith, M.D.³
John C. Moorhead, M.D.³
Earl J. Reisdorff, M.D.³

**Certificate of Special Qualification Task Force**
Mary Nan S. Mallory, M.D.

**Committee on Certification (COCERT)**
Mary Nan S. Mallory, M.D. (2014-2017)²

**Committee on Continuing Certification (CCC)**
Terry Kowalenko, M.D. (2014-2018)¹
John C. Moorhead, M.D. (2014-2016)
   Ex-Officio³

**Database and Information Technology Advisory Committee (DITAC)³**
   Chair (2015-2017)

**Finance and Audit Committee (FINCO)**
O. John Ma, M.D. (2015-2018)²
John C. Moorhead, M.D. (2014-2016)
   Ex-Officio¹

**Governance Committee**
Michael L. Carius, M.D. (2012-2018)³
John C. Moorhead, M.D.
   Chair Elect ¹ (2014-2016)
   Chair ³ (2016-2018)

**Health and Public Policy Committee**
John C. Moorhead, M.D. (2014-2016)
   Ex-Officio³

**MOC Part III Task Force**
Terry Kowalenko, M.D.³
   CCC Representative
John C. Moorhead, M.D.³
   Chair Elect
Robert P. Wahl, M.D.³

**Research & Education Foundation (REF) Board of Directors**
Catherine A. Marco, M.D. (2014-2017)³
Benson S. Munger, Ph.D. (2015-2018)²
   Ex-Officio³

¹ Appointed by ABEM
² Elected by ABMS
³ Appointed by ABMS
Senior Directors

* ‡ Gail V. Anderson, Sr., M.D. 1976–1989
† Walter R. Aanyak, Jr., M.D. 1995–2003
Carol D. Berkowitz, M.D. 2003–2006
Howard A. Bessen, M.D. 2002–2010
‡ Paul D. Bruns, M.D. 1980–1983
* Joseph E. Clinton, M.D. 1986–1994
Robert E. Collier, M.D. 2004–2012
Lily C. A. Conrad, M.D. 2002–2010
* Rita Kay Cydulka, M.D. 2002–2010
Steven J. Davidson, M.D. 1986–1995
‡ John H. Davis, M.D. 1979–1984
‡ Frank A. Dran, M.D. 1979–1999
* Lynnette Doan-Wiggs, M.D. 1999–2008
Joel M. Geiderman, M.D. 2003–2011
* Jeffrey G. Graff, M.D. 1996–2005
* ‡ Harris B. Graves, M.D. 1980–1987
† Carl Jelenko, III, M.D. 1976–1980
David A. Kramer, M.D. 2009–2013
* ‡ Ronald L. Krome, M.D. 1976–1988
Jo Ellen Linder, M.D. 2004–2012
Mark A. Malangoni, M.D. 1998–2002
† Henry D. McIntosh, M.D. 1979–1986
W. Kendall McNabney, M.D. 1982–1986
* Harvey W. Meislin, M.D. 1986–1994
J. Mark Meredith, M.D. 2004–2012
† Sheldon I. Miller, M.D. 1999–2006
* John C. Moorhead, M.D. 2004–2014
John F. Murray, M.D. 1986–1989
† Robert C. Neerhout, M.D. 1986–1994
† Thomas K. Oliver, Jr., M.D. 1980–1981
* Debra G. Perina, M.D. 2003–2011
* Nicholas J. Pisacano, M.D. 1979–1986
Roy M. Pitkin, M.D. 1990–1998
* ‡ George Podgorn, M.D. 1976–1988
Peter T. Pons, M.D. 1996–2004
J. David Richardson, M.D. 1994–1998
† Frank N. Ritter, M.D. 1979–1988
Peter Rosen, M.D. 1976–1986
Robert J. Rothstein, M.D. 1996–2004
Earl Schwartz, M.D. 1994–2002
† Roger T. Sherman, M.D. 1984–1988
Rebecca Smith-Coggins, M.D. 2007–2015
* Mark T. Steele, M.D. 2003–2012
Richard M. Steinilbner, M.D. 1979–1980
* Harold A. Thomas, M.D. 2001–2010
† Robert Ulstrom, M.D. 1982–1986
* ‡ John G. Wiegenstein, M.D. 1976–1986

* Past President † Deceased
Presidents – Years of Service


Executive Directors – Years Of Service

Benson S. Munger, Ph.D.  1979–1999
Mary Ann Reinhart, Ph.D.  2000–2010
Earl J. Reisdorff, M.D.  2010–Present
Staff

Earl J. Reisdorff, M.D.  Executive Director
Susan K. Adsit  Associate Executive Director, Organizational & Certification Services
John H. Diephouse, M.L.I.R., SPHR  Associate Executive Director, Operations
Anne L. Harvey, Ph.D.  Associate Executive Director, Evaluation & Research Services
Ashley M. Armstrong  Administrative Assistant, Examination Development
Melissa A. Barton, M.D.  Director of Medical Affairs
Ashleigh A. Booth  Administrative Coordinator, Organizational Services
Cheryl P. Cardamoni, CMP  Meeting/Staff Travel Planner
Laura A. Clark-Roumpz  Coordinator, Certification Services
Andrea M. Coombs, M.S.  Senior Data Administrator, Research
Timothy J. Dalton  Assistant Director, Examination Development & Administration
Susan M. Dunsmore  Assistant, Organizational Services
Lauretta J. Fortune, M.B.A.  Associate, Certification Program Development, Organizational Services
Christa L. Hagelberger, CAP  Operations Coordinator
Erin G. Houroyd  Data Administrator, Certification Services
Kelly R. Johnston  Organizational Services Specialist
Kevin B. Joldersma, Ph.D.  Senior Psychometrician
Julia N. Keebauch  Examination Development Specialist
Stephanie P. LaRue  Administrative Assistant, Certification Services
Angela J. McGoff  Specialist, Certification Services
Stacy R. Mellor  Operations Specialist
Michele C. Miller  Assistant Director, Certification Services
Shannon D. Miller  Administrative Assistant, Certification Services
Dawn M. Patterson  Examination Administrator
Robert G. Puroskey  Data Administrator, Evaluation Systems
Julie A. Renner  Appeals Administrator, Certification Services
Joshua W. Salander, M.B.A., PMP  Business Analyst, Certification Services
Karen A. Sawyer, CMP  Meeting Services Specialist
Karen J. Shannon, CAP  Administrative Assistant, Research & Administration
Deborah L. Schultz, CAP  Administrative Assistant, Certification Services
Caleb D. Seelye  Administrative Coordinator, Examination Development
Stephanie N. Sheehan  Operations Assistant
Karly A. Skym  Business Analyst, Evaluation & Research
Jeffrey S. Smith  Systems Solutions Specialist
Frances M. Spring  Senior Communications Administrator, Organizational Services
Christina L. Tisdale  Subspecialty Coordinator, Certification Services
Linda L. Wainwright  Operations Assistant
Kourtney A. Weidner  Operations Coordinator
Amy E. Will, CMP  Administrative Assistant, Examination Development
Jennifer D. Wise, CPA  Senior Financial Analyst
Andrea J. Wolf  Communications Coordinator, Organizational Services

This includes all staff employed by ABEM during 2015-2016.
BOARD OF DIRECTORS ELECTIONS

In July 2015, the Board elected its 2015-2016 Executive Committee members:

Barry N. Heller, M.D., President
Francis L. Counselman, M.D., Immediate-Past-President
Michael L. Carius, M.D., President-Elect
Terry Kowalenko, M.D., Secretary-Treasurer
Robert L. Mueller, M.D., Member-at-Large

At its winter 2016 meeting, the Board elected two new directors, Wallace A. Carter, M.D., and Samuel M. Keim, M.D. Their terms will begin at the close of the summer 2016 Board of Directors meeting.

ORGANIZATIONAL SERVICES

Resident Photo Contest

In 2015, ABEM sponsored a photography contest themed “EM: From the Inside,” open to all EM residents and subspecialty fellows. The contest sought images that provided the perspective of the emergency physician. Juror’s Choice Awards were presented to two photographers, Jennifer Shangkuan, M.D., for “Ambulance Bay after a Busy Night,” and Benjamin Thomas, M.D., for “Focus.” Both physicians also received Honorable Mentions for their entries, “14 Story Human Chain” (Dr. Shangkuan), and “Pulse” and “Precision” (Dr. Thomas, two awards). The winners were selected from among 50 photos submitted by 18 residents and fellows.

At the time the photos were submitted, Dr. Shangkuan was a third-year EM resident at the New York University School of Medicine in New York, New York. Dr. Thomas was a second-year EM resident at the Alameda Health System–Highland Hospital in Oakland, California. Their photos are prominently displayed at ABEM headquarters, and can be viewed on the ABEM website at www.abem.org/photo-contest.

ABEM National Academy of Medicine Fellowship Awarded

The National Academy of Medicine (formerly the Institute of Medicine) selected its first American Board of Emergency Medicine Fellow:

Hanni M. Stoklosa, M.D., M.P.H.

Dr. Stoklosa received her medical degree from Tufts University, her M.P.H. from the Harvard T. H. Chan School of Public Health, and completed her EM residency at Brigham and Women’s Hospital. An attending physician at Brigham and Women’s Hospital, Dr. Stoklosa is an accomplished scholar, teacher, researcher, and international human rights advocate. ABEM endowed this fellowship in 2014.
Diplomate Recognitions

In recognition of their dedication to the specialty of Emergency Medicine, commitment to continuous professional development, and the provision of compassionate, quality care to all patients, in 2015-2016 ABEM recognized those physicians who marked 30 or more years of being board certified in Emergency Medicine with a special certificate. The year’s recipients included those physicians who had been board certified for 30 years as of December 31, 2014 (470 recipients), and December 31, 2015 (270 recipients). A list of the 2014 recipients was included in the fall 2015 issue of the ABEM Memo, and a list of the 2015 recipients was posted in the spring 2016 issue. Both lists were also posted to the ABEM website. Certificates are awarded annually to diplomates who achieve this milestone.

Also this year, ABEM provided lapel pins that include the ABEM logo surrounded by the words “Board Certified” to current and newly certified diplomates. Over the years ABEM has heard from many diplomates that, because of their practice setting, they have no place to display their ABEM diplomate certificate. The Board Certified pin was designed in direct response to the request for such an item. Going forward, new diplomates will receive a pin at the time that they are certified. The pins recognize all the physicians who work to assure quality, compassionate care to all, 24/7/365.

Director of Medical Affairs

In October 2015, ABEM welcomed Melissa A. Barton, M.D., as Director of Medical Affairs (DMA). As a recent program director, Dr. Barton understands the dynamic changes taking place in resident education, which will allow ABEM to strengthen its engagement with resident-related issues. Dr. Barton is focusing on clinically oriented special projects and represents ABEM’s interests to external organizations, such as the Residency Review Committee for Emergency Medicine.

Residency Visitation Program (RVP)

Since 1997, ABEM has provided the RVP program, through which current and senior ABEM directors deliver information in person to all Accreditation Council for Graduate Medical Education (ACGME)-accredited EM residency programs on a rotating three- or four-year basis. The purposes of the program are to enhance communication between ABEM and residents; to identify ABEM as the premier certifying body in EM; and to answer questions residents have about training, certification, and other issues in EM. Response to the program continues to be positive.

In addition to the RVP presentation, ABEM directors often meet with chief residents, faculty, department chairs, and others to discuss topics of interest. If requested, directors give presentations on ABEM MOC and provide faculty and residents a demonstration of ABEM MOC Online. ABEM directors often work with faculty to present clinical information to residents on topics of their choice. In 2015-2016, ABEM directors gave 53 RVP presentations.
TRAINING PROGRAMS

Emergency Medicine

According to the ACGME, for the 2015-2016 academic year there were 179 ACGME-accredited categorical EM residency programs in the following formats:

- 137 PGY 1-3 (77 percent)
- 42 PGY 1-4 (23 percent)

An estimated 1,800 EM categorical residents will graduate on or before October 31, 2016.

Eleven of the 2015-2016 EM categorical programs were accredited during the academic year and granted an effective date of April 21, 2016. Seven of the 11 EM programs were previously American Osteopathic Association–approved programs; the ACGME accredited them through the Single Graduate Medical Education Accreditation System.

Combined Training Programs

In April 2016, the American Board of Anesthesiology (ABA) and ABEM announced a new option for combined residency training in Emergency Medicine and Anesthesiology. The combined program will require at least five years of residency training and will prepare residents for certification in both specialties. Residency programs seeking to offer this combined training must be approved by both the ABEM and the ABA before residents are recruited.

The addition of Emergency Medicine/Anesthesiology means that there are now five types of approved EM combined training programs:

- Emergency Medicine/Anesthesiology (EM/Anes)
- Emergency Medicine/Family Medicine (EM/FM)
- Emergency Medicine/Internal Medicine (EM/IM)
- Emergency Medicine/Internal Medicine/Critical Care Medicine (EM/IM/CCM)
- Emergency Medicine/Pediatrics (EM/Peds)

Successful graduates of an approved five-year training program in EM/IM are eligible for certification in both EM and IM. Similarly, successful graduates of an approved five-year training program in EM/Peds are eligible for certification in both specialties; successful graduates of an approved five-year EM/FM training program are eligible for certification in EM and FM; and successful graduates of an approved EM/Anes program will be eligible for certification in EM and Anesthesiology. Successful graduates of a six-year EM/IM/CCM training program are eligible for certification in EM and IM, and subspecialty certification in IM-CCM.

Residents in these six-year programs can apply for EM certification in their fifth year of training (see Table 1).

<table>
<thead>
<tr>
<th>Type of Combined Programs</th>
<th>Number of Programs Currently Training Residents</th>
<th>Sponsor Boards</th>
<th>Graduates from Combined Programs Who Have Become ABEM Diplomates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Medicine/Anesthesiology</td>
<td>0*</td>
<td>ABEM, ABA</td>
<td>0</td>
</tr>
<tr>
<td>Emergency Medicine/Family Medicine</td>
<td>2</td>
<td>ABEM, ABFM</td>
<td>7</td>
</tr>
<tr>
<td>Emergency Medicine/Internal Medicine</td>
<td>12**</td>
<td>ABEM, ABIM</td>
<td>304</td>
</tr>
<tr>
<td>Emergency Medicine/Internal Medicine/Critical Care Medicine</td>
<td>4</td>
<td>ABEM, ABIM</td>
<td>20</td>
</tr>
<tr>
<td>Emergency Medicine/Pediatrics</td>
<td>4**</td>
<td>ABEM, AP</td>
<td>97</td>
</tr>
</tbody>
</table>

* There were no programs approved in the 2015-2016 academic year.
** Other previously existing programs have ceased operation.

Table 1. ABEM-approved EM Combined Training Programs, 2015-2016
INTERNAL OPERATIONS

Administrative Report

ABEM staff totaled 41 positions at the end of the year. This is a net growth of three positions over the previous year. Additional staff were added to meet the needs of an increasing number of diplomates, address the growing volume of academic relations, examination development activities, and related systems projects in Organizational Services and Evaluation & Research.

Technology-related projects continue to be a central component of ABEM’s operational activities. This expanding body of work has been successfully supported through an active partnership with Applied Imaging’s NetSmart Division for network infrastructure support, Latitude Consulting Group on database and web interface support and refinements, and Maestro eLearning for development of the enhanced oral examination software. In the past year, significant efforts resulted in refinements to the enhanced oral examination software, and substantial improvements were made to online processes used by certification candidates and diplomates.

Financial

At its February 2016 meeting, the Board of Directors reviewed the final audit report for the fiscal year ending June 30, 2015, prepared by Yeo and Yeo, P.C., ABEM’s external auditing firm. The positive audit report contained no qualifications of generally accepted procedures.

Gross revenue for the year totaled $14,395,084, which was derived from application and examination fees, and $9,679 from miscellaneous revenue. Net revenue for the year totaled $711,931, which included investment income of $622,714, for a revenue margin from operations of 0.6 percent.

2015-2016 marked the fourth year that ABEM kept examination fees fixed. Additionally, LLSA test fees have remained the same for five years, and CME activity fees have remained unchanged for six years.
EM Credentialing, Examination Development, and Evaluation Activities

As of December 31, 2015, there were 33,510 ABEM diplomates (see Chart 1). This includes 847 physicians who passed the fall 2015 Oral Certification Examination and 76 former diplomates who regained certification. An additional 908 physicians earned certification by passing the spring 2016 Oral Certification Examination.

Lists of diplomates who contributed to the creation, administration, and development of Emergency Medicine (EM) examinations, including editors, item writers, and examiners, are provided in the Board Contributors: Emergency Medicine section of this report, which begins on page 34.

Chart 1. Total Number of Active ABEM Diplomates, 1984-2015

IN-TRAINING EXAMINATION

ABEM administered the In-training Examination (ITE) to 6,349 residents on February 24, 2016. There were 5,970 residents from 167 U.S. categorical programs, 184 residents from 22 combined programs, 184 residents from 10 Canadian programs, and 11 advance-match physicians. This represents a 2 percent increase in examinees compared to the 2015 ITE administration.

Online Pilot

The 2016 ITE also included an online pilot administration. The online version was given to 2,010 residents at 62 U.S. residency programs. Detailed feedback was acquired from a resident survey integrated into the administration, and from a post-exam survey of residency program directors and coordinators. This information will be compiled with other data and evaluated by the Board of Directors, who will determine how to proceed with the online version.

INITIAL CERTIFICATION

Credentialing Activity

ABEM received 1,807 applications during the 2015 EM certification application period.
Board Eligibility
As of January 1, 2015, ABEM implemented its Policy on Board Eligibility. ABEM now recognizes the term “board eligible.” Board eligibility starts on the date a physician graduates from an Accreditation Council for Graduate Medical Education– or Royal College of Physicians and Surgeons of Canada–accredited EM residency program, or an ABEM-approved combined residency program. Physicians who graduated before January 1, 2015, are board eligible for five years from January 1, 2015, whether or not they have applied for certification. Physicians will not have any additional eligibility requirements under the policy if they apply for certification, take and pass the first Qualifying Examination available to them, and take and pass the first Oral Certification Examination assigned to them. If there is a delay in any of these three activities, physicians will have additional requirements (LSA tests and CME) until they become board certified. Physicians who lose their board eligibility can regain eligibility by completing additional training. The form that additional training will take is being defined by an internal task force.

Details about ABEM board eligibility are available on the ABEM website at www.abem.org/Board_Eligibility.

Evaluation Activity

Qualifying Examination
A total of 2,114 initial certification candidates took the Qualifying Examination in 2015-2016, which represents a 5 percent increase in the number of test takers from 2014-2015. Of the total number of takers, 2,088 were residency trained, and 27 were non-residency trained. Eighty-four percent of the total initial certification group passed the examination, and 91 percent of residency-trained, first-time takers (the reference group) passed. Chart 2 illustrates the number of physicians in the reference group who took and who passed the Qualifying Examination by calendar year.

Chart 2. Number of Residency-trained, First-time Takers Who Took and Who Passed the Qualifying Examination, 1996-2015

![Chart](chart2.png)

Chart based on calendar-year data. Detailed tables are available in the Appendix.
Oral Certification Examinations
ABEM administered two Oral Certification Examinations during 2015-2016. The October 10-12, 2015, examination was administered to 883 candidates, of whom 877 were residency-trained. Ninety-seven percent of the residency-trained, first-time takers passed the examination, and 96 percent of total candidates passed the examination (see Chart 3).

The spring Oral Certification Examination was administered April 9-12, 2016, to 933 candidates, of whom 931 were residency trained. Ninety-eight percent of the residency-trained, first-time takers passed the examination, and 97 percent of total candidates passed the examination.


MAINTENANCE OF CERTIFICATION

A Continuously Developing Program

ABEM regularly reviews and evaluates the ABEM MOC Program with the goal of making it more meaningful and relevant to diplomates. Some changes are made based on survey responses and direct feedback from diplomates. Such feedback was the impetus for a pilot to no longer require the communication/professionalism activity of the Improvement in Medical Practice component of MOC. Another change allows diplomates to take the ConCert™ Examination during any administration in years six through ten of certification. Taking the exam early has no downside and several potential advantages. Those who take the exam early and pass will remain certified until their certificate end date. Those who take the exam early and do not pass will also remain certified until their certification end date, and will have additional opportunities to take and pass the exam. This change eliminates some of the high-stakes nature of the examination, which allows diplomates to create a safety net for their careers and future.

2015-2016 marked the fourth year that ABEM kept examination fees fixed. Additionally, LLSA test fees have remained the same for five years, and CME activity fees have remained unchanged for six years.

Also this year, all ABEM LLSA tests and their corresponding CME activities were made available to all ABEM diplomates. Any LLSA test—EM, Emergency Medical Services, and Medical Toxicology—can be used to meet the requirements of any ABEM MOC Program. For example, an ABEM diplomate certified in Pediatric Emergency Medicine can take a Medical Toxicology LLSA test to meet his or her MOC requirements.
2015-2016 also marked the phasing-in of Improvement in Medical Practice (IMP) requirements for ABEM subspecialty diplomates certified in Medical Toxicology and Pediatric Emergency Medicine. Diplomates can view their requirements based on their certification end date on the ABEM website.

For a brief period during 2015-2016, registration for the Patient Safety LLSA (PS-LLSA) test and optional CME activity were suspended in order to revise the post-test based on diplomate feedback and test item performance. Access to the PS-LLSA is available via each physician’s MOC Personal Page on the ABEM website.

**Lifelong Learning and Self-Assessment (LLS)**

There were 21,426 LLSA tests completed by 15,649 diplomates and former diplomates in 2015-2016. Related to the LLSA tests, 13,393 diplomates and former diplomates participated in optional LLSA CME activities. (Figures are for June 1, 2015, through May 31, 2016.)

**Assessment of Knowledge, Judgement, and Skills (ConCert™ Examination)**

ABEM administered the ConCert™ Examination on September 21-26, 2015, to 2,626 ABEM diplomates and former diplomates at Pearson VUE Professional Centers across the U.S. and Canada (see Chart 4). This represents a 7 percent increase compared to the number of candidates who took the 2014 examination during the scheduled examination administration. Of the total number of test takers, 2,485 (95 percent) passed the examination.

**Chart 4. Number Who Took and Who Passed the ConCert™ or Recertification Examinations, 1996-2015**

Chart based on calendar-year data. Detailed tables are available in the Appendix.
Improvement in Medical Practice (IMP)

Patient Care Practice Improvement
There were almost 4,000 IMP practice improvement (PI) attestations submitted by 3,666 ABEM diplomates in 2015-2016. The five most commonly attested quality initiatives are reported in Table 2.

Table 2. Most Commonly Reported PI Activities, 2015-2016

<table>
<thead>
<tr>
<th>Measure</th>
<th>Number of Attestations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time-related (throughput time, ED length-of-stay, and other process time measures)</td>
<td>748</td>
</tr>
<tr>
<td>Stroke-related</td>
<td>564</td>
</tr>
<tr>
<td>Infectious disease–related</td>
<td>529</td>
</tr>
<tr>
<td>Other</td>
<td>500</td>
</tr>
<tr>
<td>Cardiac-related</td>
<td>437</td>
</tr>
</tbody>
</table>

Figures are for June 1, 2015 – May 31, 2016.

Communication/Professionalism
There were over 3,500 IMP communication/professionalism (C/P) attestations submitted by 3,408 ABEM diplomates in 2015-2016. The five most commonly attested survey methods are reported in Table 3.

Table 3. Most Commonly Reported C/P Activities, 2015-2016

<table>
<thead>
<tr>
<th>Measure</th>
<th>Number of Attestations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press-Ganey</td>
<td>1,931</td>
</tr>
<tr>
<td>Other</td>
<td>820</td>
</tr>
<tr>
<td>CAHPS / HCAHPS</td>
<td>498</td>
</tr>
<tr>
<td>NRC Picker</td>
<td>215</td>
</tr>
<tr>
<td>MAPPS</td>
<td>73</td>
</tr>
</tbody>
</table>

Figures are for June 1, 2015 – May 31, 2016.

MOC Certification Activity
Beginning in September 2015, ABEM staff contacted diplomates whose certifications were set to expire at the end of the year and had outstanding ABEM MOC requirements. By late November, ABEM identified diplomates who had passed the ConCert™ Examination but still had missing requirements (LLSA tests, CME, and/or IMP activities). Each of these diplomates was notified personally by ABEM staff to let them know what MOC activities they needed to complete in order to renew certification, and to offer their assistance with navigating online processes. Of the diplomates contacted by ABEM, all but eight completed their MOC activities and renewed certification by the end of 2015.

In 2015, 76 former diplomates regained certification.
EXAMINATION ADMINISTRATION ACTIVITIES

Evolving Standards

Emergency Medicine has evolved over the last 35 years, and the examinations for ABEM certification are also evolving. Over the last several years, ABEM has evaluated nearly every aspect of the examination process:

- Advances in the clinical practice of Emergency Medicine, such as increasing use of technology
- The appropriate test content for certification, based on a survey of diplomates
- A detailed description of what a board certified emergency physician knows and is able to do (knowledge, skills, and abilities statements, or KSAs)
- Optimizing the use of computer technology to develop and administer the examinations to better reflect clinical practice

Testing standards and best practices suggest that the passing score for examinations be reviewed after any significant change in exam content, format, or test takers. It is also recommended that passing scores be reviewed approximately every five to seven years, regardless of changes. A new format integrating additional technology into the examination process, and incorporating new specifications, grounded in the EM Model and KSAs, warranted reconsideration of the existing passing score criteria.

Following each EM examination administration—the Qualifying Exam in 2014, each of the Oral Certification Examinations beginning in spring 2015, and the ConCert™ Examination in 2015—a diverse panel of ABEM-certified, clinically active emergency physicians was convened to participate in a structured, systematic process to evaluate each examination. For each question and case, the groups considered how a minimally qualified emergency physician would perform and how that related to the Board’s standards as described in the KSAs. The results of these judgements and subsequent analyses were then provided to the ABEM Board of Directors as a recommended passing score. The processes that were used follow core principles to ensure the reliability and validity of ABEM assessments. ABEM has always applied and will continue to apply psychometric best practices in its testing processes. The examinations will continue to be “criterion referenced.” Curves, quotas, or percentage passing will not be used to set the passing score.

More to Come

The current passing scores for the Medical Toxicology Certification and MOC Cognitive Expertise (recertification) examinations were determined more than seven years ago. The passing standards for both examinations will be revisited following the 2016 administration of the certification examination and following the 2018 administration of the MOC examination. The processes used to review the examinations will mirror those outlined above, except that the panel of physicians will consist of clinically active, board certified, medical toxicologists.
EXAMINATION DEVELOPMENT ACTIVITIES

The ABEM Mission, “To ensure the highest standards in the specialty of Emergency Medicine,” is demonstrable by the rigor of its examination development processes. Each multiple choice question (item) and oral examination case is developed and reviewed according to psychometric best practices. These processes provide evidence for the validity of each examination. Any item or case that does not meet ABEM’s strict testing standards is either revised or discarded.

Defining the Scope of Emergency Medicine Examinations

The Model of the Clinical Practice of Emergency Medicine (EM Model) forms the basis of each of ABEM’s examinations. The EM Model is reviewed every three years to evaluate whether revisions or additions should be made based on current practices in Emergency Medicine (EM). The review is conducted by the EM Model Review Task Force, which is composed of representatives from ABEM and the following organizations:

- American Academy of Emergency Medicine
- American College of Emergency Physicians
- Council of Emergency Medicine Residency Directors
- Emergency Medicine Residents’ Association
- The Residency Review Committee for Emergency Medicine
- Society for Academic Emergency Medicine

This representation provides input from a broad range of perspectives: program directors, residents, and membership organizations, as well as from the board certification viewpoint.

In addition to the Medical Knowledge, Patient Care, and Procedural Skills (Table 4) of the EM Model, ABEM examinations are aligned with the KSAs that are necessary to the practice of EM. The KSAs are also periodically reviewed by the KSA Task Force to:

- Identify potential gaps and recommend additions or deletions to categories, hierarchical scales, and KSAs
- Review the level of the hierarchical scales that defines the standard assessed on ABEM examinations
- Determine if a new survey of the frequency and importance of each KSA is warranted

When changes are made to the EM Model, the KSAs are reviewed as well to keep the two components aligned.

The EM Model, KSAs, and EM Milestones together represent a body of knowledge and skills that EM physicians need to know to stay up-to-date.
Developing Multiple Choice Examination Questions

ABEM’s approach to writing multiple choice questions relies heavily on training question writers. New test-question (item) writers go through a training and orientation process. All writers attend the annual Item Writers’ Workshop to hone their skills and to write and revise new and existing test questions. Writers are assigned to work on a specific examination (i.e., In-training, Qualifying, LLSA, or ConCert™ examination), and each examination has its own editors. All writers are clinically active ABEM diplomates. Members of the Board of Directors, who are all clinically active, serve as examination editors. The requirement that item writers be clinically active, coupled with ongoing training and question revisions, keep examination content relevant and current. Whenever a new question is used on an examination (a field test question) it is subject to statistical analyses to determine how it performed as an assessment tool. All test takers can also comment on individual questions. All of this feedback can result in a question being revised or removed from the question pool. Field test questions are not counted toward a test taker’s examination score.

Oral Examination Case Development

Prior to each administration (spring and fall) of the Oral Certification Examination (OCE), a process is followed to select and test the cases that will be used in that administration. The Case Selection Panel, which consists of current members of the Board of Directors, all of whom are clinically active, selects the set of cases that will be used for that particular administration. Following the selection of cases, mock administrations of field test cases are conducted. In this phase of the process, newly developed cases are administered to emergency physicians who were not involved in the cases’ development, much like a candidate taking the exam would experience. Following the mock administration, cases may be revised based on how the case flowed and comments from the “examinees.” At each stage of the process, cases are refined based on feedback from clinically active physicians. In this way, the exams are kept relevant and at the appropriate level for a recently graduated resident.

As with the development of multiple choice questions, oral exam cases are developed by clinically active ABEM diplomates. Case development is conducted using training and feedback at each step. New case developers are oriented to the process of case development and how cases are written. The entire process is led by oral exam editors who are also members of the ABEM Board of Directors. All of these procedures are in place to ensure that the examination measures, as accurately as possible, what an emergency physician should know and be able to do, and that candidates are tested in the most standardized manner possible.

Throughout the year, the Stimulus Collection and Review Panel oversees the collection, production, and maintenance of a wide variety of stimuli for use on all ABEM examinations.

Activities Related to Examination Development

- 2015 Item Writers’ Workshop: July 16-18, 2015
- Case Development Panel: December 7-9, 2015; June 7-9, 2016
- Case Selection Panel: November 22, 2015; June 6, 2016
- Mock Administrations of Selected Field Test Cases: July 17, 2015; March 1, 2016
- New Case Developer Training: June 2, 2016
Subspecialty Credentialing and Evaluation Activities

In 2015-2016, ABEM offered nine subspecialty certifications: Anesthesiology Critical Care Medicine (ACCM), Emergency Medical Services (EMS), Hospice and Palliative Medicine (HPM), Internal Medicine-Critical Care Medicine (IM-CCM), Medical Toxicology (MedTox), Pain Medicine (Pain), Pediatric Emergency Medicine (PedEM), Sports Medicine (SPM), and Undersea and Hyperbaric Medicine (UHM). Chart 5 provides a breakdown of the 1,596 active ABEM diplomates (4.3 percent of all ABEM diplomates), by subspecialty, who held a subspecialty certificate issued by ABEM as of December 31, 2015.

In addition to ABEM-issued subspecialty certification, ABEM diplomates can also obtain subspecialty certification in Brain Injury Medicine, Clinical Informatics, and Surgical Critical Care through other ABMS Member Boards; in March 2016, Addiction Medicine was approved as another subspecialty that will be available to ABEM diplomates. This section outlines the credentialing and examination administration activities for ABEM-approved subspecialties. Additional information is available in the Appendix.

Lists of diplomates who contributed to the creation and development of subspecialty examinations, including editors and item writers, are provided in the Board Contributors: Subspecialties section of this report, which begins on page 47.

Chart 5. Number of Active ABEM Diplomates Holding an ABEM-issued Subspecialty Certificate, by Subspecialty, 2015-2016

**APPROVED ABEM SUBSPECIALTIES**

**Anesthesiology Critical Care Medicine**

The American Board of Anesthesiology (ABA) and ABEM co-sponsor certification in the subspecialty of ACCM. Upon completion of an ACGME-accredited ACCM training program and additional ABA-approved training, ABEM diplomates are eligible to seek board certification in ACCM. ABEM diplomates submit applications for certification to ABEM, and ABEM issues ACCM certificates to its diplomates. There are two application pathways: a practice-plus-training pathway, which is time limited, and an ACGME-accredited training pathway. The practice pathway for ACCM will close in 2018 on the final date of the 2018 ACCM application cycle.
Credentialing Activity
2015-2016 ACCM credentialing activities are summarized in Table 4.

Table 4. Anesthesiology Critical Care Medicine Credentialing Activity, 2015-2016

<table>
<thead>
<tr>
<th>Examination</th>
<th>Application period</th>
<th>Applications Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Certification</td>
<td>January 5 – May 30, 2015</td>
<td>10</td>
</tr>
<tr>
<td>2016 Certification</td>
<td>January 4 – June 27, 2016</td>
<td>13*</td>
</tr>
</tbody>
</table>

* As of May 31, 2016

Evaluation Activity
The 2015 ACCM Certification Examination was administered August 8, 2015. The examination results are summarized in Table 5.

Table 5. Anesthesiology Critical Care Medicine Evaluation Activity: 2015 Certification Examination

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Pass</th>
<th>Fail</th>
<th>Percent Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Candidates</td>
<td>148</td>
<td>114</td>
<td>34</td>
<td>77</td>
</tr>
<tr>
<td>ABEM Candidates</td>
<td>11</td>
<td>9</td>
<td>2</td>
<td>82</td>
</tr>
</tbody>
</table>

The ACCM Certification Examination is administered annually; the next examination is August 13, 2016.

Emergency Medical Services
ABEM is the sole sponsoring and administrative board for certification in EMS. To be eligible for the EMS Certification Examination, a physician must be certified by one of the 24 ABMS Member Boards and meet the eligibility criteria established by ABEM. There are three application pathways: a practice pathway and a practice-plus-training pathway, which are time limited, and an ACGME-accredited training pathway. The practice pathway for EMS will close in 2019 on the final date of the 2019 EMS application cycle.

Credentialing Activity
2015-2016 EMS credentialing activities are summarized in Table 6.

Table 6. Emergency Medical Services Credentialing Activity, 2015-2016

<table>
<thead>
<tr>
<th>Examination</th>
<th>Application period</th>
<th>Applications Approved</th>
</tr>
</thead>
</table>

Evaluation Activity
The EMS Certification Examination was administered November 9, 2015. The examination results are summarized in Table 7.

Table 7. Emergency Medical Services Evaluation Activity, 2015 Certification Examination

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Pass</th>
<th>Fail</th>
<th>Percent Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Candidates</td>
<td>332</td>
<td>223</td>
<td>109</td>
<td>67</td>
</tr>
<tr>
<td>ABEM Candidates</td>
<td>310</td>
<td>216</td>
<td>94</td>
<td>70</td>
</tr>
</tbody>
</table>

The EMS Certification Examination is administered every two years; the next examination is September 25, 2017.

LLSA Activity
During 2015-2016, there were 73 EMS LLSA tests completed by 73 diplomates and former diplomates. The optional LLSA CME activity associated with the EMS LLSA test was completed by 57 diplomates.
**Hospice and Palliative Medicine**

Ten ABMS Member Boards, including ABEM, offer certification in HPM: American Board of Internal Medicine (ABIM), ABA, American Board of Family Medicine (ABFM), American Board of Obstetrics and Gynecology, American Board of Pediatrics (ABP), American Board of Physical Medicine and Rehabilitation (ABPMR), American Board of Psychiatry and Neurology (ABPN), American Board of Radiology, and American Board of Surgery. Successful completion of ACGME-accredited HPM fellowship training is the only pathway of application for this subspecialty.

**Credentialing Activity**
2015-2016 HPM credentialing activities are summarized in Table 8.

**Table 8. Hospice and Palliative Medicine Credentialing Activity, 2015-2016**

<table>
<thead>
<tr>
<th>Examination</th>
<th>Application period</th>
<th>Applications Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 Certification</td>
<td>February 1 – May 16, 2016</td>
<td>30</td>
</tr>
<tr>
<td>2016 MOC</td>
<td>February 1 – July 11, 2016</td>
<td>1*</td>
</tr>
</tbody>
</table>

* As of May 31, 2016

**Evaluation Activity**
The HPM Certification Examination is administered every two years; the next examination is November 7, 2016.

**Internal Medicine–Critical Care Medicine**

Certification in IM-CCM is co-sponsored by ABEM and ABIM. There were two application pathways for IM-CCM: a practice pathway, which was time limited, and an ACGME-accredited training pathway. ABEM diplomates apply to ABEM and their IM-CCM subspecialty certificates are issued by ABEM. Physicians who wished to apply for certification in IM-CCM through the practice pathway must have completed all requirements and submitted applications by June 30, 2016.

**Credentialing Activity**
2015-2016 IM-CCM credentialing activities are summarized in Table 9.

**Table 9. Internal Medicine-Critical Care Medicine Credentialing Activity, 2015-2016**

<table>
<thead>
<tr>
<th>Examination</th>
<th>Application period</th>
<th>Applications Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Certification</td>
<td>February 17 – June 19, 2015</td>
<td>35</td>
</tr>
<tr>
<td>2016 Certification</td>
<td>February 1 – May 16, 2016</td>
<td>40</td>
</tr>
</tbody>
</table>

**Evaluation Activity**
The IM-CCM Certification Examination was administered October 9, 2015. The examination results are summarized in Table 10.

**Table 10. Internal Medicine-Critical Care Medicine Evaluation Activity, 2015 Certification Examination**

<table>
<thead>
<tr>
<th>Total</th>
<th>Pass</th>
<th>Fail</th>
<th>Percent Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Candidates</td>
<td>649</td>
<td>96</td>
<td>85</td>
</tr>
<tr>
<td>ABEM Candidates</td>
<td>33</td>
<td>5</td>
<td>85</td>
</tr>
</tbody>
</table>

The IM-CCM Certification Examination is administered annually; the next examination is October 6, 2016.
Medical Toxicology

ABEM, ABP, and the American Board of Preventive Medicine (ABPM) co-sponsor subspecialty certification in MedTox. Successful completion of ACGME-accredited MedTox fellowship training is the only pathway of application for this subspecialty.

Credentialing Activity
2015-2016 MedTox credentialing activities are summarized in Table 11.

Table 11. Medical Toxicology Credentialing Activity, 2015-2016

<table>
<thead>
<tr>
<th>Examination</th>
<th>Application period</th>
<th>Applications Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 Certification</td>
<td>January 11 – August 20, 2016</td>
<td>16*</td>
</tr>
</tbody>
</table>

* As of May 31, 2016

Evaluation Activity
The MedTox Certification Examination is administered every two years; the next examination is October 28, 2016.

LLSA Activity
During 2015-2016, there were 234 MedTox LLSA tests completed by 217 diplomates and former diplomates. The optional LLSA CME activity associated with the MedTox LLSA test was completed by 163 diplomates.

The MedTox Maintenance of Certification Examination is administered every two years; the next examination is November 4, 2016.

Pain Medicine

Pain Medicine is co-sponsored by the ABA, ABEM, ABPMR, and ABPN. Successful completion of ACGME-accredited Pain Medicine fellowship training is the only pathway of application for this subspecialty.

Credentialing Activity
2015-2016 Pain Medicine credentialing activities are summarized in Table 12.

Table 12. Pain Medicine Credentialing Activity, 2015-2016

<table>
<thead>
<tr>
<th>Examination</th>
<th>Application period</th>
<th>Applications Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Certification</td>
<td>January 5 – June 30, 2015</td>
<td>1</td>
</tr>
<tr>
<td>2016 Certification</td>
<td>January 4 – August 3, 2016</td>
<td>0*</td>
</tr>
</tbody>
</table>

* As of May 31, 2016

Evaluation Activity
The 2015 Pain Medicine Certification Examination was administered September 19, 2015. The examination results are summarized in Table 13.

Table 13. Pain Medicine Evaluation Activity, 2015 Certification Examination

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Pass</th>
<th>Fail</th>
<th>Percent Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Candidates</td>
<td>362</td>
<td>326</td>
<td>36</td>
<td>90</td>
</tr>
<tr>
<td>ABEM Candidates</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>100</td>
</tr>
</tbody>
</table>

The certification examination is administered annually; the next examination is September 17, 2016.
Pediatric Emergency Medicine

ABEM and ABP co-sponsor the subspecialty of PedEM. There are two pathways of application for the PedEM subspecialty: ACGME-accredited PedEM fellowship training and dual certification. To apply through the dual certification pathway, candidates must have completed the training to meet the primary specialty certification requirements of both ABEM and ABP before January 1, 1999.

Credentialing Activity
2015-2016 PedEM credentialing activities are summarized in Table 14.

Table 14. Pediatric Emergency Medicine MOC Credentialing Activity, 2015-2016

<table>
<thead>
<tr>
<th>Examination</th>
<th>Application period</th>
<th>Applications Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 MOC Cognitive Expertise</td>
<td>January 5 – September 12, 2015</td>
<td>8</td>
</tr>
<tr>
<td>2016 MOC Cognitive Expertise</td>
<td>January 4 – March 14, 2016</td>
<td>3</td>
</tr>
</tbody>
</table>

* As of May 31, 2016

Evaluation Activity
The PedEM Certification Examination is administered every two years; the next examination is in 2017. The fall 2015 PedEM MOC Cognitive Expertise Examination was administered August 15 – September 30, 2015, and the spring 2016 PedEM MOC Cognitive Expertise Examination was administered March 1-31, 2016. The results for both examinations are summarized in Table 15.

Table 15. Pediatric Emergency Medicine Evaluation Activity, 2015-2016 MOC Cognitive Expertise Examinations

<table>
<thead>
<tr>
<th>Total</th>
<th>Pass</th>
<th>Fail</th>
<th>Percent Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 MOC Cognitive Expertise</td>
<td>All Candidates</td>
<td>78</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>ABEM Candidates</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>2016 MOC Cognitive Expertise</td>
<td>All Candidates</td>
<td>119</td>
<td>118</td>
</tr>
<tr>
<td></td>
<td>ABEM Candidates</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

The PedEM MOC Cognitive Expertise examinations are administered biannually; the next examination administration is August 15 – September 30, 2016.

Sports Medicine

ABEM, ABFM, ABIM, ABP, and ABPMR offer certification in SPM. Successful completion of ACGME-accredited SPM fellowship training is the only pathway of application for this subspecialty.

Credentialing Activity
2015-2016 SPM credentialing activities are summarized in Tables 16 and 17.

Table 16. Sports Medicine Initial Certification Credentialing Activity, 2015-2016

<table>
<thead>
<tr>
<th>Examination</th>
<th>Application period</th>
<th>Applications Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 July</td>
<td>January 5 – June 12, 2015</td>
<td>6</td>
</tr>
<tr>
<td>2015 November</td>
<td>January 5 – September 21, 2015</td>
<td>9</td>
</tr>
<tr>
<td>2016 July</td>
<td>February 1 – May 25, 2016</td>
<td>13</td>
</tr>
<tr>
<td>2016 November</td>
<td>February 1 – September 15, 2016</td>
<td>3*</td>
</tr>
</tbody>
</table>

* As of May 31, 2016
The SPM examinations are administered biannually. The next administration is July 13-16, 2016; the fall administration is November 14-19, 2016.

**Undersea and Hyperbaric Medicine**

ABEM and ABPM offer certification in UHM. Successful completion of ACGME-accredited UHM fellowship training is the only pathway for certification in this subspecialty.

**Credentialing Activity**

2015-2016 UHM credentialing activities are summarized in Tables 20 and 21.

**Table 20. Undersea and Hyperbaric Medicine Initial Certification Credentialing Activity, 2015-2016**

<table>
<thead>
<tr>
<th>Examination</th>
<th>Application period</th>
<th>Applications Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Certification</td>
<td>March 2 – July 2, 2015</td>
<td>4</td>
</tr>
<tr>
<td>2016 Certification</td>
<td>January 4 – June 21, 2016</td>
<td>2*</td>
</tr>
</tbody>
</table>

* As of May 31, 2016

**Table 21. Undersea and Hyperbaric Medicine Recertification Credentialing Activity, 2015-2016**

<table>
<thead>
<tr>
<th>Examination</th>
<th>Application period</th>
<th>Applications Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Recertification</td>
<td>January 5, 2015 – 15 days before examination</td>
<td>12</td>
</tr>
<tr>
<td>2016 Recertification</td>
<td>January 4, 2016 – 15 days before examination</td>
<td>2*</td>
</tr>
</tbody>
</table>

* As of May 31, 2016

**Evaluation Activity**

The 2015 SPM Certification and Recertification Examinations were administered July 8-11, and November 16-21, 2015; the results are summarized in Tables 18 and 19.

**Table 18. Sports Medicine Evaluation Activity, 2015 Certification Examinations**

<table>
<thead>
<tr>
<th>Examination</th>
<th>Application period</th>
<th>Total</th>
<th>Pass</th>
<th>Fail</th>
<th>Percent Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td></td>
<td>215</td>
<td>186</td>
<td>29</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>All Candidates</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>ABEM Candidates</td>
<td>65</td>
<td>42</td>
<td>23</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>All Candidates</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>ABEM Candidates</td>
<td>186</td>
<td>134</td>
<td>23</td>
<td>83</td>
</tr>
</tbody>
</table>

**Table 19. Sports Medicine Evaluation Activity, 2015 Recertification Examinations**

<table>
<thead>
<tr>
<th>Examination</th>
<th>Application period</th>
<th>Total</th>
<th>Pass</th>
<th>Fail</th>
<th>Percent Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td></td>
<td>134</td>
<td>111</td>
<td>23</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>All Candidates</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>ABEM Candidates</td>
<td>52</td>
<td>34</td>
<td>18</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>All Candidates</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>ABEM Candidates</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>100</td>
</tr>
</tbody>
</table>
The 2015 UHM Recertification Examinations were administered on various dates between August 27 and November 8, 2015. The examination results are summarized Table 23.

<table>
<thead>
<tr>
<th>Table 22. Undersea and Hyperbaric Medicine Evaluation Activity, 2015 Certification Examination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>All Candidates</td>
</tr>
<tr>
<td>ABEM Candidates</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 23. Undersea and Hyperbaric Medicine Evaluation Activity, 2015 Recertification Examination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>All Candidates</td>
</tr>
<tr>
<td>ABEM Candidates</td>
</tr>
</tbody>
</table>

The UHM examinations are administered annually. The next certification examination administration is October 3-16, 2016; applications were accepted through June 21, 2016. The next two recertification examination administrations are August 25 and October 23, 2016; applications are accepted until 15 days before the examination administration.

### Subspecialty Practice Pathway Closures

2016 was the final year for physicians who wish to apply for certification in Internal Medicine–Critical Care Medicine (IM-CCM) through the practice pathway. All eligibility criteria must have been completed by June 30, 2016, and all practice pathway applications must have been postmarked no later than June 30, 2016. After that date, all applicants for IM-CCM certification must complete an ACGME-accredited IM-CCM fellowship.

The practice pathway for Anesthesiology Critical Care Medicine (ACCM) will close in 2018 on the final date of the 2018 ACCM application cycle.

The practice pathway for Emergency Medical Services (EMS) will close in 2019 on the final date of the 2019 EMS application cycle.

If you have any questions about subspecialty certification, please contact ABEM at subspecialties@abem.org or 517-332-4800, ext. 387.
RESEARCH ACTIVITIES

Benefits of the ConCert™ Examination

ABEM conducted a prospective survey study to better understand emergency physicians’ perceptions of the benefits of preparing for and taking the ConCert™ Examination and the career benefits of staying ABEM certified (Marco CA, et al. Acad Emerg Med 2016. doi: 10.1111/acem.12971. [Epub ahead of print]).

Of the 2,601 on-time test takers, 2,511 respondents participated (96.5 percent participation rate). The majority of participants (92.0 percent) identified a benefit to preparing for the ConCert™ Examination (see Table 24). There was a statistically significant association between the perception of knowledge reinforcement and examination performance (p < 0.001), and between the perception that staying certified created more career opportunities and examination performance (p < 0.001).

Moreover, the belief that preparing for and taking the examination reinforced medical knowledge was associated with better examination performance.

<table>
<thead>
<tr>
<th>Preparation Benefits</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinforced medical knowledge</td>
<td>92.0</td>
</tr>
<tr>
<td>Increased knowledge</td>
<td>73.9</td>
</tr>
<tr>
<td>Made them a better clinician</td>
<td>66.8</td>
</tr>
<tr>
<td>Career Benefits</td>
<td></td>
</tr>
<tr>
<td>More employment options</td>
<td>90.8</td>
</tr>
<tr>
<td>Higher status with peers</td>
<td>73.8</td>
</tr>
<tr>
<td>Better financial options</td>
<td>56.8</td>
</tr>
<tr>
<td></td>
<td>29.8</td>
</tr>
</tbody>
</table>

Residency Training Information

Each year, ABEM collects survey data from all Accreditation Council for Graduate Medical Education (ACGME)-accredited Emergency Medicine (EM) residency programs and accredited EM-sponsored fellowships, the ACGME, the National Resident Match Program, and the Graduate Medical Education report published annually in the *Journal of the American Medical Association*. It analyzes the data and reports selected items in a journal article. The annual publication serves the specialty of EM and the medical community-at-large by documenting the progress of training in Emergency Medicine. It is intended to serve as a reference tool for evaluating the status and growth of EM residency training.

The 2015-2016 study (Marco, CA et al. *Ann Emerg Med* 2016;67:654-66) stratifies information about residents by such variables as age, gender, ethnicity/race, and medical degree; and residency programs by program format (e.g., PGY 1-3, PGY 1-4), location, applications, number of approved positions, length of fellowships, and number of first-year positions. Among the findings included in the article are:

- Since 1975, the number of PGY 1-3 programs has steadily increased, while in 2015-2016, the number of PGY 1-4 programs decreased for the first time.

- The number of non-white residents has risen both in numbers and as a percentage of total residents over the last five years (Chart 6).

**Chart 6. Percent of Men, Women, and Non-white EM Residents, 1997-2015**

**ABEM Hourglass**

An essay in *Academic Emergency Medicine* by Benson S. Munger, Ph.D. (Past Executive Director), and Earl J. Reisdorf, M.D. (Executive Director), reported on how the hourglass came to be the main component of ABEM’s logo, and discusses its relevance to Emergency Medicine today (*Acad Emerg Med* 2016;23:367-8).
Publications


Board Contributors: Emergency Medicine

The individuals listed below have contributed and volunteered their time and expertise to ABEM in a variety of ways during the past year. The Board of Directors recognizes and appreciates the contributions and commitment of these physicians to the specialty of Emergency Medicine and its subspecialties.

EXAMINATION EDITORS

Kerryann B. Broderick, M.D.  
(LLSA)  
Carl R. Chudnofsky, M.D.  
(Oral)  
Francis L. Counselman, M.D.  
(In-training)  
Deepi G. Goyal, M.D.  
(In-training Examination)  
Barry N. Heller, M.D.  
(Oral)  
James H. Jones, M.D.  
(LLSA)  
Terry Kowalenko, M.D.  
(Qualifying)  
O. John Ma, M.D.  
(LLSA)  
Mary Nan S. Mallory, M.D.  
(In-training and Oral)  
Catherine A. Marco, M.D.  
(ConCert™)  
Vincent N. Mosesso, Jr., M.D.  
(EMS LLSA)  
Lewis S. Nelson, M.D.  
(Qualifying and Stimuli)  
Debra G. Perina, M.D.  
(EMS)  
Peter T. Pons, M.D.  
(EMS)  
Ritu Sahni, M.D.  
(EMS LLSA)  
Robert P. Wahl, M.D.  
(ConCert™)

ORAL EXAMINATION CHIEF EXAMINERS

Jill M. Baren, M.D.  
Francis L. Counselman, M.D.  
Barry N. Heller, M.D.  
Terry Kowalenko, M.D.  
Mary Nan S. Mallory, M.D.

ITEM WRITERS

Item writer responsibilities include the timely submission of several annual assignments and participation in the annual Item Writers’ Workshop. The following individuals served as ABEM item writers during the past year. The examination to which each writer contributed is indicated.

Felix Ankel, M.D.  
Roseville, MN  
LLSA  
Michael S. Beeson, M.D.  
Stow, OH  
In-training  
Yvette Calderon, M.D.  
Bronx, NY  
Qualifying  
Carl R. Chudnofsky, M.D.  
Los Angeles, CA  
Qualifying  
Francis J. DeRoos, M.D.  
Newtown Square, PA  
LLSA  
Susan E. Farrell, M.D.  
Newton, MA  
Qualifying
SENIOR ORAL CASE REVIEWERS

Senior oral case reviewers periodically review and edit oral examination cases and participate in the development of new oral cases as needed. The following individuals served as senior oral case reviewers during the past year.

Marc A. Borenstein, M.D.
Mt. Kisco, NY

Kerryann B. Broderick, M.D.
Denver, CO

Amy F. Church, M.D.
Stockton, NJ

Jeff D. Disney, M.D.
Portland, OR

John T. Finnell, II, M.D.
Zionsville, IN

Gus M. Garmel, M.D.
San Francisco, CA

John L. Kendall, M.D.
Denver, CO

Sanford H. Koltonow, M.D.
Beverly Hills, MI

Kris S. Narasimhan, M.D.
Northbrook, IL

Robert E. O’Connor, M.D.
Charlottesville, VA

Saralyn R. Williams, M.D.
Franklin, TN
EXAMINATION, RESEARCH PANEL, AND TASK FORCE APPOINTMENTS

Each year, ABEM selects individuals to participate in meetings related to the development and maintenance of the Board’s multiple choice question and oral examination programs. Participation can require significant meeting preparation as well as participating in the meeting. The following individuals supported ABEM in such a capacity during the past year.

### Case Development Panel

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Role</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jill M. Baren, M.D.</td>
<td>Bryn Mawr, PA</td>
<td></td>
<td>December 2015, June 2016</td>
</tr>
<tr>
<td>Michael S. Beeson, M.D.</td>
<td>Stow, OH</td>
<td></td>
<td>December 2015, June 2016</td>
</tr>
<tr>
<td>Steven H. Bowman, M.D.</td>
<td>Chicago, IL</td>
<td></td>
<td>June 2016</td>
</tr>
<tr>
<td>Carl R. Chudnofsky, M.D.</td>
<td>Los Angeles, CA</td>
<td></td>
<td>December 2015, June 2016</td>
</tr>
<tr>
<td>Amy F. Church, M.D.</td>
<td>Stockton, NJ</td>
<td></td>
<td>December 2015, June 2016</td>
</tr>
<tr>
<td>Francis L. Counselman, M.D.</td>
<td>Norfolk, VA</td>
<td></td>
<td>December 2015, June 2016</td>
</tr>
<tr>
<td>Jorge del Castillo, M.D.</td>
<td>Wilmette, IL</td>
<td></td>
<td>December 2015</td>
</tr>
<tr>
<td>Jeff D. Disney, M.D.</td>
<td>Portland, OR</td>
<td></td>
<td>December 2015</td>
</tr>
<tr>
<td>John T. Finnell, II, M.D.</td>
<td>Zionsville, IN</td>
<td></td>
<td>June 2016</td>
</tr>
<tr>
<td>Diane L. Gorgas, M.D.</td>
<td>Worthington, OH</td>
<td></td>
<td>December 2015</td>
</tr>
<tr>
<td>Deepi G. Goyal, M.D.</td>
<td>Rochester, MN</td>
<td></td>
<td>June 2016</td>
</tr>
<tr>
<td>Barry N. Heller, M.D.</td>
<td>Rolling Hills Estates, CA</td>
<td></td>
<td>December 2015, June 2016</td>
</tr>
<tr>
<td>Terry Kowalenko, M.D.</td>
<td>Brighton, MI</td>
<td></td>
<td>December 2015, June 2016</td>
</tr>
<tr>
<td>Martin E. Lutz, M.D.</td>
<td>Greenville, SC</td>
<td></td>
<td>December 2015</td>
</tr>
<tr>
<td>Mary Nan S. Mallory, M.D.</td>
<td>Louisville, KY</td>
<td></td>
<td>December 2015, June 2016</td>
</tr>
<tr>
<td>Lewis S. Nelson, M.D.</td>
<td>Demarest, NJ</td>
<td></td>
<td>June 2016</td>
</tr>
<tr>
<td>Richard N. Nelson, M.D.</td>
<td>Westerville, OH</td>
<td></td>
<td>December 2015, June 2016</td>
</tr>
<tr>
<td>Kent T. Shoji, M.D.</td>
<td>Rolling Hills Estates, CA</td>
<td></td>
<td>December 2015, June 2016</td>
</tr>
<tr>
<td>Mark T. Steele, M.D.</td>
<td>Olathe, KS</td>
<td></td>
<td>June 2016</td>
</tr>
<tr>
<td>Suzanne R. White, M.D.</td>
<td>Farmington, MI</td>
<td></td>
<td>December 2015, June 2016</td>
</tr>
<tr>
<td>Allan B. Wolfson, M.D.</td>
<td>Pittsburgh, PA</td>
<td></td>
<td>December 2015</td>
</tr>
</tbody>
</table>

### Case Selection Panel

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Role</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jill M. Baren, M.D.</td>
<td>Bryn Mawr, PA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carl R. Chudnofsky, M.D.</td>
<td>Los Angeles, CA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Francis L. Counselman, M.D.</td>
<td>Norfolk, VA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barry N. Heller, M.D.</td>
<td>Rolling Hills Estates, CA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terry Kowalenko, M.D.</td>
<td>Brighton, MI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mary Nan S. Mallory, M.D.</td>
<td>Louisville, KY</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Mock Administrations of Selected Oral Examination Field-test Cases**

<table>
<thead>
<tr>
<th>Brigham R. Temple, M.D.</th>
<th>Ernest E. Wang, M.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highland Park, IL</td>
<td>Chicago, IL</td>
</tr>
</tbody>
</table>

**CME Task Force**

<table>
<thead>
<tr>
<th>O. John Ma, M.D., Chair</th>
<th>Michael L. Carius, M.D.</th>
<th>Kevin M. Klauer, D.O. (ACEP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland, OR</td>
<td>Stratford, CT</td>
<td>Knoxville, TN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kerryann B. Broderick, M.D.</th>
<th>James H. Jones, M.D.</th>
<th>Lillian A. Oshva, M.D. (AAEM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denver, CO</td>
<td>Zionsville, IN</td>
<td>New York, NY</td>
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</table>

**KSA Task Force**

<table>
<thead>
<tr>
<th>Francis L. Counselman, M.D., Chair</th>
<th>Amy F. Church, M.D. (RRC-EM)</th>
<th>Catherine A. Marco, M.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norfolk, VA</td>
<td>Stockton, NJ</td>
<td>Beavercreek, OH</td>
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</table>

<table>
<thead>
<tr>
<th>Michael S. Beeson, M.D.</th>
<th>Deepi G. Goyal, M.D.</th>
<th>Robert L. Muelleman, M.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stow, OH</td>
<td>Rochester, MN</td>
<td>Omaha, NE</td>
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</tbody>
</table>

| Wallace A. Carter, M.D. | | |
|-------------------------| | |
| Bronxville, NY          | | |

**LLSA CME Reading Panel**

<table>
<thead>
<tr>
<th>Aaron N. Barksdale, M.D.</th>
<th>Michael J. Bono, M.D.</th>
<th>Liudvikas Jagminas, M.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elkhorn, NE</td>
<td>Suffolk, VA</td>
<td>East Greenwich, RI</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Andrew Beckman, M.D.</th>
<th>J.F. Donal Conway, M.B., B.Ch</th>
<th>Jillian L. McGrath, M.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indianapolis, IN</td>
<td>Northport, AL</td>
<td>Columbus, OH</td>
</tr>
</tbody>
</table>

**Stimulus Collection and Review Panel**

<table>
<thead>
<tr>
<th>Lewis S. Nelson, M.D., Chair</th>
<th>Gary S. Setnik, M.D.</th>
<th>Jason C. Wagner, M.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demarest, NJ</td>
<td>Winchester, MA</td>
<td>St. Louis, MO</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Michael C. Murphy, M.D.</th>
<th>Todd Tomesen, M.D.</th>
<th>Benson Yeh, M.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winthrop, MA</td>
<td>Milton, MA</td>
<td>Jerico, NY</td>
</tr>
</tbody>
</table>
Oral Examination Standard Setting Panel

David J. Amin, M.D.
Cambridge, MA
May 2016

Eric Anderson, M.D.
Highland Heights, OH
May 2016

Gaurav Arora, M.D.
Indianapolis, IN
May 2016

Jill M. Baren, M.D.
Bryn Mawr, PA
November 2015, May 2016

Beverly H. Bauman, M.D.
Klamath Falls, OR
November 2015

Scott H. Burner, M.D.
St. Louis, MO
November 2015

Wallace A. Carter, Jr., M.D.
Bronxville, NY
May 2016

Jennifer J. Casaletto, M.D.
Mount Holly, MO
May 2016

Lawrence Chu, M.D.
Bellevue, WA
November 2015

Jordan C. Foster, M.D.
Brooklyn, NY
May 2016

Scott B. Freeman, M.D.
Grosse Pointe Woods, MI
May 2016

Michael A. Gertz, M.D.
Agoura Hills, CA
May 2016

Cai Glushak, M.D.
Chicago, IL
May 2016

Kerin A. Jones, M.D.
Ann Arbor, MI
November 2015

Sorabh Khandelwal, M.D.
Dublin, OH
November 2015

Sanford H. Koltonow, M.D.
Beverly Hills, MI
May 2016

Rashmikant U. Kothari, M.D.
Kalamazoo, MI
November 2015

David C. Lee, M.D.
Manhasset, NY
November 2015, May 2016

Horace K. Liang, M.D.
Sarasota, FL
November 2015

Holly C. Liberatore, M.D.
Hattiesburg, MS
November 2015

William M. Maguire, M.D.
Bloomington, MN
November 2015

John P. Marshall, M.D.
Brooklyn, NY
May 2016

John C. Moorhead, M.D.
Portland, OR
May 2016

Tiffany E. Murano, M.D.
New City, NY
May 2016

Peter D. Panagos, M.D.
St. Louis, MO
November 2015

Linda Regan, M.D.
Timonium, MD
May 2016

Edward J. Roe, III, M.D.
Neptune Beach, FL
May 2016

Leon Sanchez, M.D.
Cambridge, MA
November 2015

Osman Sayan, M.D.
Leonia, NJ
May 2016

Peter I. Shearer, M.D.
New York, NY
November 2015

Ralph N. Terpolilli, M.D.
San Antonio, TX
November 2015

John F. Tucker, M.D.
Lake Geneva, WI
May 2016

Ernest E. Wang, M.D.
Chicago, IL
May 2016

Wesley G. Zeger, D.O.
Elkhorn, NE
May 2016

James M. Ziadeh, M.D.
Northville, MI
November 2015
## ConCert™ Examination Standard Setting Panel

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
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<tbody>
<tr>
<td>Hector M. Alonso-Serra, M.D.</td>
<td>Trujillo Alto, PR</td>
</tr>
<tr>
<td>Paul A. Blackburn, D.O.</td>
<td>Phoenix, AZ</td>
</tr>
<tr>
<td>Rhys V. Dapar, M.D.</td>
<td>Scotts Valley, CA</td>
</tr>
<tr>
<td>Francis J. DeRoos, M.D.</td>
<td>Newtown Square, PA</td>
</tr>
<tr>
<td>Steven C. Dronen, M.D.</td>
<td>Sevierville, TN</td>
</tr>
<tr>
<td>Andrew C. Furman, M.D.</td>
<td>Salem, OR</td>
</tr>
<tr>
<td>Diane L. Gorgas, M.D.</td>
<td>Worthington, OH</td>
</tr>
<tr>
<td>Joel S. Hardin, M.D., Ph.D.</td>
<td>Hot Springs, AR</td>
</tr>
<tr>
<td>Barry N. Heller, M.D.</td>
<td>Rolling Hills Estates, CA</td>
</tr>
<tr>
<td>Raymond E. Jackson, M.D.</td>
<td>Bloomfield Hills, MI</td>
</tr>
<tr>
<td>James P. McQuiston, M.D.</td>
<td>Clarksburg, MD</td>
</tr>
<tr>
<td>Edgardo J. Rivera-Rivera, M.D.</td>
<td>Ocoee, FL</td>
</tr>
<tr>
<td>Timothy D. Root, M.D.</td>
<td>Indianapolis, IN</td>
</tr>
<tr>
<td>Robert W. Schafermeyer, M.D.</td>
<td>Charlotte, NC</td>
</tr>
<tr>
<td>Thomas V. Tighe, D.O.</td>
<td>Danville, CA</td>
</tr>
</tbody>
</table>
EXAMINERS FOR THE 2015-2016 ORAL CERTIFICATION EXAMINATIONS

The Oral Certification Examinations were administered in October 2015 and April 2016, and each required a four- or five-day commitment. The following individuals participated as oral examiners at one or both of these examinations as indicated. Examination dates followed with “CE” indicate that the individual served as a chief examiner for that exam, and “TL” indicates that the individual served as a team leader for that examination. Examination dates followed by a “B” indicate the individual served in a back-up role for that examination, but did not attend at the Board’s request. Individuals who received awards during the past year for participation in 8, 16, 24, 32, 40, or 50 oral examinations are noted.

<table>
<thead>
<tr>
<th>Examiners for the 2015-2016 Oral Certification Examinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer A. Abele, M.D.</td>
</tr>
<tr>
<td>McLean, VA</td>
</tr>
<tr>
<td>April 2016</td>
</tr>
<tr>
<td>Azeemuddin Ahmed, M.D.</td>
</tr>
<tr>
<td>Iowa City, IA</td>
</tr>
<tr>
<td>October 2015</td>
</tr>
<tr>
<td>Saadia Akhtar, M.D.</td>
</tr>
<tr>
<td>Flushing, NY</td>
</tr>
<tr>
<td>October 2015</td>
</tr>
<tr>
<td>Janet G. Alteveer, M.D.</td>
</tr>
<tr>
<td>Moorestown, NJ</td>
</tr>
<tr>
<td>April 2016 – TL</td>
</tr>
<tr>
<td>David J. Amin, M.D.</td>
</tr>
<tr>
<td>Cambridge, MA</td>
</tr>
<tr>
<td>April 2016</td>
</tr>
<tr>
<td>James T. Amsterdam, M.D.</td>
</tr>
<tr>
<td>Erie, PA</td>
</tr>
<tr>
<td>October 2015</td>
</tr>
<tr>
<td>Eric Anderson, M.D.</td>
</tr>
<tr>
<td>Highland Heights, OH</td>
</tr>
<tr>
<td>April 2016</td>
</tr>
<tr>
<td>Felix Ankel, M.D.</td>
</tr>
<tr>
<td>Roseville, MN</td>
</tr>
<tr>
<td>April 2016</td>
</tr>
<tr>
<td>James V. Antinori, M.D.</td>
</tr>
<tr>
<td>Park City, UT</td>
</tr>
<tr>
<td>October 2015</td>
</tr>
<tr>
<td>Christian Arbelaez, M.D.</td>
</tr>
<tr>
<td>Needham, MA</td>
</tr>
<tr>
<td>October 2015</td>
</tr>
<tr>
<td>Gaurav Arora, M.D.</td>
</tr>
<tr>
<td>Indianapolis, IN</td>
</tr>
<tr>
<td>April 2016</td>
</tr>
<tr>
<td>Nader Bahadory, D.O.</td>
</tr>
<tr>
<td>Norwich, CT</td>
</tr>
<tr>
<td>October 2015</td>
</tr>
<tr>
<td>John Bailitz, M.D.</td>
</tr>
<tr>
<td>River Forest, IL</td>
</tr>
<tr>
<td>April 2016</td>
</tr>
<tr>
<td>Jill M. Baren, M.D.</td>
</tr>
<tr>
<td>Bryn Mawr, PA</td>
</tr>
<tr>
<td>October 2015 – CE, April 2016 – CE (16 exams)</td>
</tr>
<tr>
<td>Kevin S. Barlotta, M.D.</td>
</tr>
<tr>
<td>Birmingham, AL</td>
</tr>
<tr>
<td>April 2016</td>
</tr>
<tr>
<td>James D. Barry, M.D.</td>
</tr>
<tr>
<td>Virginia Beach, VA</td>
</tr>
<tr>
<td>October 2015, April 2016</td>
</tr>
<tr>
<td>William G. Barsan, M.D.</td>
</tr>
<tr>
<td>Dexter, MI</td>
</tr>
<tr>
<td>October 2015</td>
</tr>
<tr>
<td>Joel M. Bartfield, M.D.</td>
</tr>
<tr>
<td>Slingerlands, NY</td>
</tr>
<tr>
<td>April 2016</td>
</tr>
<tr>
<td>Aveh Bastani, M.D.</td>
</tr>
<tr>
<td>Franklin, MI</td>
</tr>
<tr>
<td>October 2015</td>
</tr>
<tr>
<td>Ralph C. Battels, M.D.</td>
</tr>
<tr>
<td>Bayfield, CO</td>
</tr>
<tr>
<td>October 2015</td>
</tr>
<tr>
<td>Beverly H. Bauman, M.D.</td>
</tr>
<tr>
<td>Klamath Falls, OR</td>
</tr>
<tr>
<td>October 2015</td>
</tr>
<tr>
<td>Michael R. Baumann, M.D.</td>
</tr>
<tr>
<td>Falmouth, ME</td>
</tr>
<tr>
<td>October 2015, April 2016</td>
</tr>
<tr>
<td>Michael S. Beeson, M.D.</td>
</tr>
<tr>
<td>Stow, OH</td>
</tr>
<tr>
<td>October 2015 – TL, April 2016 – TL</td>
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<tr>
<td>Laurel R. Berge, M.D.</td>
</tr>
<tr>
<td>Portland, OR</td>
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<tr>
<td>October 2015</td>
</tr>
<tr>
<td>Steven L. Bernstein, M.D.</td>
</tr>
<tr>
<td>Woodbridge, CT</td>
</tr>
<tr>
<td>October 2015</td>
</tr>
<tr>
<td>Kenneth S. Bishop, D.O.</td>
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<tr>
<td>Franklin, MI</td>
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<tr>
<td>October 2015</td>
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<tr>
<td>Brooks E. Bock, M.D.</td>
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<tr>
<td>Vail, CO</td>
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<tr>
<td>October 2015</td>
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<tr>
<td>Michael E. Boczar, D.O.</td>
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<tr>
<td>Clarkston, MI</td>
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<tr>
<td>October 2015</td>
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<tr>
<td>Dominic A. Borgialli, D.O.</td>
</tr>
<tr>
<td>Haslett, MI</td>
</tr>
<tr>
<td>October 2015</td>
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<tr>
<td>Steven H. Bowman, M.D.</td>
</tr>
<tr>
<td>Chicago, IL</td>
</tr>
<tr>
<td>April 2016</td>
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<tr>
<td>Kerryann B. Broderick, M.D.</td>
</tr>
<tr>
<td>Denver, CO</td>
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<tr>
<td>October 2015 – TL</td>
</tr>
<tr>
<td>Michael D. Brown, M.D.</td>
</tr>
<tr>
<td>Grand Rapids, MI</td>
</tr>
<tr>
<td>April 2016</td>
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<tr>
<td>Patrick H. Brunett, M.D.</td>
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<tr>
<td>Portland, OR</td>
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<td>October 2015</td>
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<tr>
<td>David S. Bullard, M.D.</td>
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<tr>
<td>North Kingstown, RI</td>
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<tr>
<td>April 2016</td>
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<tr>
<td>David B. Burbulys, M.D.</td>
</tr>
<tr>
<td>Encino, CA</td>
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<tr>
<td>October 2015</td>
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<tr>
<td>Brian E. Burgess, M.D.</td>
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<tr>
<td>Hockessin, DE</td>
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<td>October 2015 – TL, April 2016 – TL</td>
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<tr>
<td>Scott H. Burner, M.D.</td>
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<tr>
<td>St. Louis, MO</td>
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<tr>
<td>October 2015, April 2016</td>
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<tr>
<td>Joseph M. Bustamante, III, D.O.</td>
</tr>
<tr>
<td>Williamston, MI</td>
</tr>
<tr>
<td>April 2016</td>
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<tr>
<td>Philip M. Buttaravoli, M.D.</td>
</tr>
<tr>
<td>West Palm Beach, FL</td>
</tr>
<tr>
<td>October 2015</td>
</tr>
</tbody>
</table>
Donald V. Byars, II, M.D.
Suffolk, VA
April 2016

Jeffrey P. Caporossi, M.D.
Charleston, SC
April 2016

Michael L. Carius, M.D.
Stratford, CT
October 2015 – TL, April 2016 – TL

Gail N. Carruthers, M.D.
Manhattan Beach, CA
October 2015 (24 exams)

Wallace A. Carter, Jr., M.D.
Bronxville, NY
April 2016

Jennifer J. Casaletto, M.D.
Mount Holly, NC
April 2016

Douglas M. Char, M.D.
St. Louis, MO
October 2015

David Cheng, M.D.
Strongsville, OH
October 2015

William K. Chiang, M.D.
Closter, NJ
April 2016 (16 exams)

Robert G. Chin, M.D.
West Nyack, NY
October 2015, April 2016

Michael C. Choo, M.D.
Centerville, OH
October 2015

Lawrence Chu, M.D.
Bellevue, WA
October 2015 (8 exams)

Carl R. Chudnofsky, M.D.
Los Angeles, CA
October 2015 – TL, April 2016 – TL (24 exams)

Amy F. Church, M.D.
Stockton, NJ
April 2016 – TL (16 exams)

Carol L. Clark, M.D.
Bloomfield Hills, MI
October 2015 (8 exams)

James A. Comes, M.D.
Clovis, CA
April 2016

Alessandra Conforto, M.D.
Long Beach, CA
October 2015

Randolph J. Cordle, M.D.
Fort Mill, SC
April 2016

Melissa W. Costello, M.D.
Mobile, AL
October 2015

Francis L. Counselman, M.D.
Norfolk, VA
October 2015 – CE, April 2016 – CE

Robert Cowan, M.D.
Moorestown, NJ
October 2015

Kathleen M. Cowling, D.O.
Saginaw, MI
October 2015

Catherine A. Cummings, M.D.
Providence, RI
April 2016

Carol A. Cunningham, M.D.
Kirtland, OH
October 2015

Mark J.K. Dalton, M.D.
Farmington, NJ
April 2016

Michelle M. Davitt, M.D.
Bellmore, NY
October 2015

Christian R. DeFazio, M.D.
Buffalo, NY
April 2016

Jorge del Castillo, M.D.
Wilmette, IL
October 2015 – TL

Mini R. DeLashaw, M.D.
Dallas, TX
October 2015, April 2016

Theodore R. Delbridge, M.D.
Greenville, NC
October 2015, April 2016 (8 exams)

Deborah B. Diercks, M.D.
Dallas, TX
October 2015

Jeff D. Disney, M.D.
Portland, OR
October 2015 – TL, April 2016

David M. Donaldson, D.O.
Oakland, MI
October 2015

Steven C. Dronen, M.D.
Sevierville, TN
April 2016

Jeffrey P. Druck, M.D.
Aurora, CO
October 2015

Linda M. Drueing, M.D.
Lemont, IL
October 2015

Susan E. Dufel, M.D.
Hartford, CT
October 2015

Joanne M. Edney, M.D.
Golden, CO
April 2016

Daniel Egan, M.D.
New York, NY
April 2016

Matthew T. Emery, M.D.
Grand Rapids, MI
October 2015

Stephen K. Epstein, M.D.
Needham, MA
April 2016

Michael L. Epter, D.O.
Scottsdale, AZ
April 2016

Thomas B. Ettinger, M.D.
Cashmere, WA
October 2015

Brian D. Euerle, M.D.
Millersville, MD
October 2015, April 2016

Susan E. Farrell, M.D.
Newton, MA
October 2015

Kim M. Feldhaus, M.D.
Lafayette, CO
April 2016

Richard M. Feldman, M.D.
Chicago, IL
October 2015

William B. Felegi, D.O.
Bridgewater, NJ
October 2015, April 2016
<table>
<thead>
<tr>
<th>Name</th>
<th>City, State</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madonna Fernandez-Frackelton, M.D.</td>
<td>Torrance, CA</td>
<td>October 2015</td>
<td>April 2016</td>
</tr>
<tr>
<td>Anthony Ferrara, M.D.</td>
<td>Atlanta, GA</td>
<td>April 2016</td>
<td>April 2016</td>
</tr>
<tr>
<td>Albert B. Fiorello, M.D.</td>
<td>Tucson, AZ</td>
<td>October 2015</td>
<td></td>
</tr>
<tr>
<td>James S. Fishkin, M.D.</td>
<td>Pacific Palisades, CA</td>
<td>October 2015</td>
<td></td>
</tr>
<tr>
<td>Michelle A. Flemmings, M.D.</td>
<td>Bayfield, CO</td>
<td>October 2015</td>
<td></td>
</tr>
<tr>
<td>John L. Fogle, M.D.</td>
<td>Madison, WI</td>
<td>October 2015</td>
<td></td>
</tr>
<tr>
<td>Jordan C. Foster, M.D.</td>
<td>Brooklyn, NY</td>
<td>October 2015, April 2016</td>
<td></td>
</tr>
<tr>
<td>Thomas W. Fowle, Jr., M.D.</td>
<td>Belle Mead, NJ</td>
<td>October 2015</td>
<td></td>
</tr>
<tr>
<td>Anthony J. Frank, Jr., M.D.</td>
<td>Greenville, NC</td>
<td>April 2016</td>
<td></td>
</tr>
<tr>
<td>Scott B. Freeman, M.D.</td>
<td>Grosse Pointe Woods, MI</td>
<td>April 2016</td>
<td></td>
</tr>
<tr>
<td>Theodore J. Gaeta, D.O.</td>
<td>West Harrison, NY</td>
<td>April 2016</td>
<td></td>
</tr>
<tr>
<td>Fiona Gallahue, M.D.</td>
<td>Seattle, WA</td>
<td>October 2015</td>
<td></td>
</tr>
<tr>
<td>Gus M. Carmel, M.D.</td>
<td>San Francisco, CA</td>
<td>April 2016 – TL</td>
<td></td>
</tr>
<tr>
<td>Victoria E. Garrett, M.D.</td>
<td>Miami, Fl.</td>
<td>April 2016</td>
<td></td>
</tr>
<tr>
<td>Joseph H. Gatewood, M.D.</td>
<td>St. Louis, MO</td>
<td>April 2016</td>
<td></td>
</tr>
<tr>
<td>Medley Gatewood, M.D.</td>
<td>Seattle, WA</td>
<td>April 2016</td>
<td></td>
</tr>
<tr>
<td>Marianne Gausche-Hill, M.D.</td>
<td>Hermosa Beach, CA</td>
<td>October 2015</td>
<td></td>
</tr>
<tr>
<td>Thomas G. Germano, M.D.</td>
<td>Barrington, RI</td>
<td>October 2015</td>
<td></td>
</tr>
<tr>
<td>Michael A. Gertz, M.D.</td>
<td>Agoura Hills, CA</td>
<td>April 2016</td>
<td></td>
</tr>
<tr>
<td>Kenneth A. Gibb, M.D.</td>
<td>Zephyr Cove, NV</td>
<td>October 2015</td>
<td></td>
</tr>
<tr>
<td>Mark S. Gibson, M.D.</td>
<td>Barrington, IL</td>
<td>October 2015, April 2016 (24 exams)</td>
<td></td>
</tr>
<tr>
<td>Susan L. Gin-Shaw, M.D.</td>
<td>Phoenix, AZ</td>
<td>October 2015</td>
<td></td>
</tr>
<tr>
<td>Cai Glushak, M.D.</td>
<td>Chicago, IL</td>
<td>October 2015, April 2016</td>
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<tr>
<td>Theodore Glynn, M.D.</td>
<td>Williamston, MI</td>
<td>October 2015</td>
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<tr>
<td>Peter E. Gordon, M.D.</td>
<td>Chatham, NY</td>
<td>April 2016</td>
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<tr>
<td>Diane L. Gorgas, M.D.</td>
<td>Worthington, OH</td>
<td>October 2015 – TL</td>
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<tr>
<td>Deepi G. Goyal, M.D.</td>
<td>Rochester, MN</td>
<td>April 2016 – TL</td>
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<tr>
<td>Matthew C. Gratton, M.D.</td>
<td>Shawnee Mission, KS</td>
<td>October 2015</td>
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<tr>
<td>Matthew Griffin, M.D.</td>
<td>Livonia, MI</td>
<td>October 2015</td>
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<tr>
<td>Eric A. Gross, M.D.</td>
<td>Roseville, CA</td>
<td>April 2016</td>
<td></td>
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<tr>
<td>Kama Guluma, M.D.</td>
<td>San Diego, CA</td>
<td>April 2016</td>
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<tr>
<td>Dean E. Gushee, M.D.</td>
<td>Shelton, WA</td>
<td>April 2016</td>
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<tr>
<td>Leon L. Haley, Jr., M.D.</td>
<td>Mableton, GA</td>
<td>April 2016</td>
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<tr>
<td>Gregory E. Hallert, M.D.</td>
<td>Los Angeles, CA</td>
<td>October 2015, April 2016</td>
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<tr>
<td>Mary E. Hancock, M.D.</td>
<td>Elyria, OH</td>
<td>April 2016</td>
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<tr>
<td>Richard F. Handin, M.D.</td>
<td>Santa Barbara, CA</td>
<td>October 2015</td>
<td></td>
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<tr>
<td>Thomas J. Haronian, M.D.</td>
<td>Warwick, RI</td>
<td>April 2016</td>
<td></td>
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<tr>
<td>Sari L. Hart, M.D.</td>
<td>Glencoe, IL</td>
<td>April 2016</td>
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<tr>
<td>Christine L. Hein, M.D.</td>
<td>North Yarmouth, ME</td>
<td>October 2015, April 2016</td>
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<tr>
<td>Barry N. Heller, M.D.</td>
<td>Rolling Hills Estates, CA</td>
<td>October 2015 – CE</td>
<td>April 2016 – CE (40 exams)</td>
</tr>
<tr>
<td>Philip L. Henneman, M.D.</td>
<td>Sunapee, NH</td>
<td>October 2015 – TL</td>
<td></td>
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<tr>
<td>Glendon C. Henry, M.D.</td>
<td>Port Chester, NY</td>
<td>April 2016</td>
<td></td>
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<tr>
<td>Aaron H. Hexdall, M.D.</td>
<td>Florence, MA</td>
<td>April 2016</td>
<td></td>
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<tr>
<td>Cherri D. Hobgood, M.D.</td>
<td>Indianapolis, IN</td>
<td>October 2015</td>
<td></td>
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<tr>
<td>Mark S. Holcomb, M.D.</td>
<td>Olathe, KS</td>
<td>October 2015, April 2016</td>
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<tr>
<td>Brian R. Holroyd, M.D.</td>
<td>Edmonton, AB, Canada</td>
<td>October 2015 – TL</td>
<td>April 2016 – TL</td>
</tr>
<tr>
<td>Laura Hopson, M.D.</td>
<td>Ann Arbor, MI</td>
<td>October 2015</td>
<td></td>
</tr>
</tbody>
</table>
Margaret Hsieh, M.D.
Murrysville, PA
October 2015, April 2016

John S. Huff, M.D.
Charlottesville, VA
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October 2015, April 2016

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Culver City, CA
April 2016

Andrew D. Jenis, M.D.
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Ilse M. Jenouri, M.D.
Providence, RI
April 2016 (8 exams)

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October 2015 – TL

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October 2015, April 2016

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October 2015

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October 2015

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October 2015, April 2016

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Douglas A. Propp, M.D.
Glenview, IL
October 2015

Les M. Puretz, D.O.
Monument, CO
April 2016 (24 exams)

Danielle S. Ray, M.D.
Summerfield, NC
April 2016

Thomas A. Rebbecchi, M.D.
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October 2015

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James A. Richardson, M.D.
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October 2015, April 2016

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April 2016 (32 exams)

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October 2015

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Cambridge, MA
October 2015 (8 exams)

Sally A. Santen, M.D.
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October 2015

Osman Sayan, M.D.
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April 2016 (8 exams)

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October 2015 (32 exams)

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October 2015

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October 2015

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April 2016

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October 2015

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October 2015 – TL (40 exams)

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October 2015, April 2016

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April 2016

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October 2015

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October 2015, April 2016

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October 2015 (16 exams)

Mitchell C. Sokolosky, M.D.
Winston-Salem, NC
October 2015

Steven P. Spilger, M.D.
Granger, IN
October 2015
<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Dates</th>
</tr>
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<tbody>
<tr>
<td>Keith D. Stammer, M.D.</td>
<td>Palos Verdes Peninsula, CA</td>
<td>April 2016</td>
</tr>
<tr>
<td>Mark T. Steele, M.D.</td>
<td>Olathe, KS</td>
<td>April 2016 - B</td>
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<tr>
<td>Richard L. Stennes, M.D.</td>
<td>La Jolla, CA</td>
<td>October 2015, April 2016</td>
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<tr>
<td>Lawrence M. Stock, M.D.</td>
<td>Malibu, CA</td>
<td>October 2015</td>
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<tr>
<td>Jason P. Stopyra, M.D.</td>
<td>Rural Hall, NC</td>
<td>October 2015</td>
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<tr>
<td>Robert W. Strauss, Jr., M.D.</td>
<td>Cincinnati, OH</td>
<td>October 2015 – TL</td>
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<tr>
<td>David M. Sullivan, M.D.</td>
<td>Charlotte, NC</td>
<td>October 2015</td>
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<tr>
<td>Elizabeth M. Sutton, M.D.</td>
<td>Warwick, RI</td>
<td>October 2015 (8 exams), April 2016</td>
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<tr>
<td>Robert A. Swor, D.O.</td>
<td>Beverly Hills, MI</td>
<td>April 2016 (16 exams)</td>
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<tr>
<td>John A. Tafuri, M.D.</td>
<td>Westlake, OH</td>
<td>October 2015, April 2016</td>
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<tr>
<td>Ralph N. Terpolilli, M.D.</td>
<td>San Antonio, TX</td>
<td>October 2015, April 2016</td>
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<tr>
<td>James D. Thomas, M.D.</td>
<td>Wareham, MA</td>
<td>October 2015, April 2016 – TL</td>
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<tr>
<td>Liza DiLeo Thomas, M.D.</td>
<td>New Orleans, LA</td>
<td>October 2015, April 2016</td>
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<tr>
<td>Todd Thomsen, M.D.</td>
<td>Milton, MA</td>
<td>October 2015</td>
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<tr>
<td>Irene Y. Tien, M.D.</td>
<td>Cambridge, MA</td>
<td>October 2015</td>
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<tr>
<td>Christian A. Tomaszewski, M.D.</td>
<td>La Jolla, CA</td>
<td>April 2016</td>
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<tr>
<td>Sam S. Torbati, M.D.</td>
<td>Encino, CA</td>
<td>October 2015</td>
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<tr>
<td>John F. Tucker, M.D.</td>
<td>Lake Geneva, WI</td>
<td>April 2016</td>
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<tr>
<td>Michael A. Turturro, M.D.</td>
<td>Pittsburgh, PA</td>
<td>April 2016</td>
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<tr>
<td>Andrew S. Ulrich, M.D.</td>
<td>New Haven, CT</td>
<td>April 2016</td>
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<tr>
<td>Henry D. Unger, M.D.</td>
<td>Wyncote, PA</td>
<td>October 2015</td>
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<tr>
<td>Vikram M. Varma, M.D.</td>
<td>Holmdel, NJ</td>
<td>October 2015</td>
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<tr>
<td>Katrina R. Wade, M.D.</td>
<td>Creve Coeur, MO</td>
<td>April 2016</td>
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<tr>
<td>Michael C. Wadman, M.D.</td>
<td>Omaha, NE</td>
<td>October 2015</td>
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<tr>
<td>Robert P. Wahl, M.D.</td>
<td>Dearborn Heights, MI</td>
<td>April 2016 – TL</td>
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<tr>
<td>Gregory L. Walker, M.D.</td>
<td>Mason, MI</td>
<td>April 2016</td>
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<tr>
<td>Ernest E. Wang, M.D.</td>
<td>Chicago, IL</td>
<td>October 2015, April 2016</td>
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<tr>
<td>Anthony J. Weekes, M.D.</td>
<td>Weddington, NC</td>
<td>April 2016</td>
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<tr>
<td>Jennifer L. White, M.D.</td>
<td>Rochester, MN</td>
<td>April 2016</td>
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<td>Suzanne R. White, M.D.</td>
<td>Farmington, MI</td>
<td>April 2016 – TL</td>
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<tr>
<td>Herbert N. Wigder, M.D.</td>
<td>West Chicago, IL</td>
<td>April 2016</td>
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<tr>
<td>Joseph A. Wilkinson, M.D.</td>
<td>Greenwich, CT</td>
<td>October 2015</td>
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<td>Saralyn R. Williams, M.D.</td>
<td>Franklin, TN</td>
<td>October 2015 (16 exams), April 2016 – TL</td>
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<tr>
<td>Lori D. Winston, M.D.</td>
<td>Exeter, CA</td>
<td>October 2015</td>
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<tr>
<td>Andrew G. Wittenberg, M.D.</td>
<td>Long Beach, CA</td>
<td>October 2015</td>
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<tr>
<td>Michael D. Witting, M.D.</td>
<td>Millersville, MD</td>
<td>October 2015</td>
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<tr>
<td>Stephen J. Wolf, M.D.</td>
<td>Charlottesville, VA</td>
<td>October 2015</td>
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<tr>
<td>Allan B. Wolfson, M.D.</td>
<td>Pittsburgh, PA</td>
<td>April 2016</td>
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<tr>
<td>John B. Woodland, M.D.</td>
<td>Vail, CO</td>
<td>October 2015</td>
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<tr>
<td>Charles C. Worrilow, M.D.</td>
<td>Fogelsville, PA</td>
<td>April 2016</td>
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<tr>
<td>Barbara N. Wynn, M.D.</td>
<td>E. Grand Rapids, MI</td>
<td>April 2016</td>
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<tr>
<td>Donald M. Yealy, M.D.</td>
<td>Pittsburgh, PA</td>
<td>April 2016</td>
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<tr>
<td>Benson Yeh, M.D.</td>
<td>Jericho, NY</td>
<td>October 2015, April 2016</td>
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<tr>
<td>William V. Yount, M.D.</td>
<td>Knoxville, TN</td>
<td>April 2016</td>
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<tr>
<td>Wesley G. Zeger, D.O.</td>
<td>Elkhorn, NE</td>
<td>April 2016</td>
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<tr>
<td>Stacie J. Zelman, M.D.</td>
<td>Winston-Salem, NC</td>
<td>October 2015</td>
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<tr>
<td>James M. Ziadeh, M.D.</td>
<td>Northville, MI</td>
<td>October 2015</td>
</tr>
<tr>
<td>Gary D. Zimmer, M.D.</td>
<td>Bryn Mawr, PA</td>
<td>April 2016</td>
</tr>
</tbody>
</table>
Board Contributors: Subspecialties

Clinical Ultrasonography Task Force
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(1/12 – 12/18)
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(1/10 - 12/15)
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Mary Jo Wagner, M.D. (7/15-6/21)
Earl J. Reisdorff, M.D.,
Ex-Officio (5/10-1/16)
Melissa A. Barton, M.D.,
Ex-Officio (2/16– )

1 Appointed by ABEM
2 Appointed by ACGME
The following milestones highlight events that shaped ABEM’s history.

**ABEM IN THE 1960s AND 1970s**

In the early 1960s, the public began to demand improved quality in emergency care. In response, hospitals developed full-time emergency services. As a result, a number of physicians began developing the training and practice of Emergency Medicine (EM).

To support this growing physician group, new organizations formed, such as ACEP and the University Association for Emergency Medical Services (UA/EMS), which is now SAEM. These organizations became the focal point for emergency physician education.

ABEM was incorporated in 1976. During this same period, there was increased interest in residency training in EM. The UA/EMS and ACEP established the Liaison Residency Endorsement Committee, whose endorsement process patterned the Liaison Committee for Graduate Medical Education and used AMA-approved standards for reviewing and accrediting residency training programs.

In 1976, ABEM submitted an application to ABMS seeking primary board status. The application was referred to the Liaison Committee for Specialty Boards (LCSB), comprised of AMA and ABMS representatives. The LCSB conducted open hearings to review the application. At the close of these hearings, the LCSB recommended primary board approval and sent the recommendation to its parent bodies. The AMA Council on Medical Education approved this recommendation, but the ABMS defeated it by a vote of 5 to 100.

In 1977, ABEM administered a full-scale field test for emergency physicians. This examination used a written item format and a unique case simulation oral examination.

At the suggestion of various ABMS members, representatives from other specialty boards held a lengthy series of discussions from which a recommendation emerged for a second application, this time seeking approval for a conjoint board (modified). Both the AMA Council on Medical Education and the ABMS approved this application. In September 1979, EM became the 23rd recognized medical specialty.

**ABEM IN THE 1980s**

ABEM offered the first EM certification examinations and certified its first diplomates in 1980. In May 1987, ABEM submitted an application to the ABMS for conversion to primary board status. The ABMS Assembly defeated this application by a vote of 52-48, with six abstentions (a two-thirds vote was needed for approval). On May 1, 1989, ABEM submitted a new application, and on September 21, 1989, the ABMS Assembly voted unanimously to approve the ABEM application.

ABEM offered recertification for the first time in 1989.

**ABEM IN THE 1990s**

In 1990, soon after receiving primary board status, ABEM began working to develop subspecialty certification for its diplomates.

In June 1994, ABEM initiated the Longitudinal Study of Emergency Physicians (LSEP) and recruited 1,008 emergency physicians to be
lifetime participants. The study gathers information on professional interests, attitudes, and goals; training, certification, and licensing; professional experience; well-being and leisure activities; and demographic information. In 1996, ABEM initiated the Longitudinal Study of Emergency Medicine Residents (LSEM R).

In the fall of 1997, ABEM established a program through which directors deliver information in person to all ACGME-accredited EM residency training programs on a rotating three- or four-year basis. The purpose of the presentation is to enhance communication between ABEM and residents; clearly identify ABEM as the premier certifying body in EM; and answer the most important questions residents have about certification, training, and other issues in EM.

Also in 1997, a task force was appointed to define the context and processes by which a new Core Content for Emergency Medicine could be created. The task force eventually included representatives from ABEM, ACEP, CORD, EMRA, RRC-EM, and SAEM. ABEM was designated as the administrative organization for the project.

In February 1999, ABEM and the American Board of Internal Medicine approved guidelines for a six-year combined training program that, upon successful completion, provides physicians the option for triple certification in EM, Internal Medicine, and Critical Care Medicine (CCM).

In December 1999, after 20 years of service to ABEM, Benson S. Munger, Ph.D., retired his position as the first Executive Director of ABEM. In March 2000, Mary Ann Reinhart, Ph.D., was selected as the new ABEM Executive Director. Dr. Reinhart joined ABEM in 1988 and served as Deputy Executive Director from 1995-2000.

The Board of Directors commissioned the Maintenance of Certification (MOC) Task Force in 1999 to evaluate current needs and trends in medical specialty recertification in order to develop a new approach to recertification. From the work of the Task Force, ABEM developed the Emergency Medicine Continuous Certification (EMCC) program.

The following ABEM subspecialties were approved in the 1990s: Medical Toxicology, Pediatric Emergency Medicine, and Sports Medicine.

**ABEM IN THE 2000s**

The Core Content Task Force II received approval of The Model of the Clinical Practice of Emergency Medicine (EM Model) from the sponsor organizations in February 2001. ABEM adapted the EM Model for use as an examination blueprint for all ABEM examinations. The fall 2002 written certification and recertification examinations were constructed in accordance with the EM Model.

In January 2004, ABEM implemented the first three components of EMCC (MOC).

Also in 2004, ABEM implemented the Residency Visitation Program (RVP) to replace the prior program for visiting all EM residencies.

In January 2005, the bylaws were changed to create a Board of Directors comprised entirely of emergency physicians. (The original Board included representatives from other medical specialties.)

The 2005 LLSA test was posted on April 1, 2005, and retired on March 31, 2008. This was the first LLSA test to be developed in support of the ABEM MOC Program. An MOC program in Medical Toxicology was developed and implemented in January 2006. The first MedTox LLSA test was launched in June 2009.

In 2005, ABEM began development of a computer-delivered examination, to be administered in testing centers in November 2006. The name of the “written” certification examination was changed to the “Qualifying” Examination, a label that reflects its essential purpose in the certification process.

In February 2008, an Initial Certification Task
Force (IC TF) was established to review the initial certification process to assure that the content and methods used to determine whether candidates meet current standards of practice remain relevant and effective.

The following ABEM subspecialties were approved in the 2000s: Hospice and Palliative Medicine, and Undersea and Hyperbaric Medicine.

**ABEM IN THE 2010s**

In January 2010, APP, the fourth component of the ABEM MOC Program, was introduced.

On March 31, 2010, after almost 23 years of service to ABEM, Mary Ann Reinhart, Ph.D., retired her position as the second ABEM Executive Director. On May 1, 2010, Earl J. Reisdorff, M.D., began as the third ABEM Executive Director.

On April 1, 2011, ABEM diplomates were able to apply for CME credit for completing the 2011 LLSA CME Activity. This opportunity was the result of an unprecedented collaboration between AAEM, ABEM, and Acep.

In November and December 2011, a pilot multiple choice question examination was administered. The purpose of this examination was to explore the use of new stimulus types on ABEM examinations. A pilot oral examination was administered in June 2012.

In January 2012, the ABMS adopted a new policy defining "board eligibility." The policy required all ABMS Member Boards to implement their own policies that define the acceptable period of time between the completion of residency training and the attainment of board certification, during which, candidates could refer to themselves as being board eligible. ABEM established five years as its time limit. Beginning January 1, 2015, board eligible physicians have requirements they must meet to maintain board eligible status.

In June 2012, ABEM was approved by the Centers for Medicare and Medicaid Services to participate in the Physician Quality Reporting System (PQRS) MOC additional incentive program in 2012. ABEM diplomates who participated in the program received an additional 0.5 percent reimbursement on their Medicare billings if they met their basic PQRS reporting requirements. ABEM was approved to participate in the program again in 2013 and 2014.

In September 2012, the Emergency Medicine Milestones were approved. The EM Milestones are a matrix of the knowledge, skills, abilities, attitudes, and experiences that should be acquired at different points during EM training. The EM Milestones Project was a joint initiative of the ACGME and ABEM, and was supported by representatives of the Association of Academic Chairs of Emergency Medicine (AAEM), GAEM, ACEP, CORD, EMRA, RRC-EM, and SAEM.

Beginning in 2013, the ConCert™ examination was no longer the final step in renewing certification; the four parts of MOC became de-linked. Diplomates could therefore register for and take the ConCert™ examination in any of the last five years of certification, even if they have not completed all of their MOC requirements. However, at the end of a diplomate’s ten-year certification, any outstanding MOC requirements would result in loss of certification.

In May 2013, the Board of Directors of the ACGME approved allowing emergency physicians to formally enter Surgical Critical Care (SCC) fellowships, thus providing a pathway for EM diplomates to train for and take the SCC subspecialty certification examination. Certification in SCC is through the American Board of Surgery (ABS).

The first certification examination in EMS took place in October 2013. The first EMS LLSA reading list was posted in July 2013, and the first EMS LLSA test was posted in June 2014.
The first certification examination in Clinical Informatics, which is open to diplomates of all ABMS Member Boards, took place in the fall of 2013, and 44 ABEM diplomates took the exam. Subspecialty certification in Pain Medicine, which had been open to diplomates of any ABMS Member Board, became available only to diplomates of a co-sponsoring board. In April 2014, ABEM was approved by the ABMS to become a co-sponsor, thus allowing ABEM diplomates to continue to have access to the examination.

In spring 2014, ABEM launched a Patient Safety LLSA, jointly developed by ABEM and ACEP. The activity, which has an optional CME activity, is required during the first five years of certification, counts toward the LLSA test requirement, and can be used toward fulfilling the Part II CME requirement, including the self-assessment credit requirement.

In the fall of 2014, ABEM recognized physicians who had marked 30 or more years of being certified by ABEM in Emergency Medicine with a special certificate. Over 950 diplomates had accomplished this milestone. Certificates are awarded annually to diplomates who achieve this milestone.

In October 2014, ABEM convened a summit of representatives from AACEM, AAEM, AAEM Resident Student Association, ACEP, CORD, EMRA, RRC-EM, and SAEM to review the ABEM MOC Program. One purpose of the summit was to provide current information about the ABEM MOC Program to the EM community, and solicit ways in which the program might be improved.

The EMS Task Force transitioned to the EMS Examination Committee and held its first meeting on November 18, 2014. The Committee is charged with writing the EMS Certification Examination and EMS LLSA tests, overseeing the EMS certification eligibility criteria, crafting the EMS MOC Program, and maintaining the Core Content of EMS Medicine.

2014 marked the third and final year of ABEM’s participation in the PQRS MOC additional incentive program. During the three-year period, ABEM diplomates made over 11,500 applications to the program, and received an estimated $3.8 million in additional Medicare reimbursement.

The Policy on Board Eligibility took effect on January 1, 2015. Physicians who have applied to ABEM but have not achieved certification are considered board eligible on that date or, going forward, the date that a physician graduates from an ACGME-accredited EM program. They remain board eligible for five years after that date whether or not they have applied for certification. Physicians who delay any certification activity have additional requirements (LLSA tests and CME) until they become board certified.

A new format integrating dynamic stimuli into the testing process was introduced in the November 2014 Qualifying Examination and the spring 2015 Oral Certification Examination. In addition, the examinations incorporated new specifications, grounded in the EM Model and a detailed description of what a board certified emergency physician knows and is able to do (their knowledge, skills, and abilities, or KSAs). The revised testing formats and specifications warranted reconsideration of the existing passing score criteria. After deliberation on several factors, the Board approved a new passing score of 76 on a scale of 0 to 100 for the Qualifying Examination. Standard-setting studies were also conducted following the fall 2015 and spring 2016 administrations of the Oral Certification Examination, and will continue to be conducted in the near future. Both examinations continue to be criterion referenced.

During 2014-2015, ABEM endowed a fellowship within the National Academy of Medicine (NAM), formerly the Institute of Medicine (IOM). The ABEM Fellowship is a two-year fellowship that provides early-career, health-
science scholars the opportunity to experience and participate in evidence-based health care or public health studies that affect the nation’s health. The first ABEM NAM fellowship was awarded to Hanni B. Stoklosa, M.D., M.P.H.

In response to feedback and questions ABEM received from EM residents following Residency Visitation Program presentations, ABEM expanded its website to include a section devoted to residents. Organized according to a training timeline, it provides residents information and resources to use during the course of their training.

The 2015 ConCert™ Examination incorporated the 2013 EM Model and a detailed description of what a board certified emergency physician knows and is able to do (their knowledge, skills, and abilities, or KSAs). The revised testing specifications warranted reconsideration of the existing passing score criteria. Following a standard-setting study, the Board set a passing score of 75 percent.

Beginning in fall 2015, diplomates certified in Emergency Medicine or any ABEM-sponsored subspecialty could take any ABEM LLSA test (EM, EMS, or Medical Toxicology) and use it toward meeting the requirements of any ABEM MOC Program.

ABEM convened a summit of EM organizations November 22-23, 2015, to explore ways in which the “additional training” requirement within the board eligibility policy could be met. Starting in 2015, every ABMS Member Board implemented a policy that defines board eligibility. Should a physician fail to become board certified by ABEM in five years, certain criteria to regain board eligibility status must be met, one which could be additional training.

The purpose of the Summit was to explore the potential design and implementation of additional training. The Summit was led by ABEM directors, with participant representatives from AACEM, AAEM, AAEM/RSA, ACEP, CORD, EMRA, RRC-EM, and SAEM.

The 2016 administration of the In-training Examination included an online pilot. The online version was given to 2,010 residents at 62 U.S. residency programs. These programs administered the online version of the ITE while holding paper exam materials in reserve as a backup. The online pilot was administered to about 2,010 residents. Overall, the online administration went smoothly.

In March 2016, Addiction Medicine was approved by the ABMS as another subspecialty that will be available to ABEM diplomates.

In 2016, the ABA and ABEM approved guidelines for a combined training program in Anesthesiology and Emergency Medicine. Upon completion of these training programs, physicians can access the certification examinations in both specialties. To date, there have been no applications for a combined training program.

Also in 2016, recognizing that over 90 percent of its diplomates already participate in a patient experience of care survey, ABEM launched a time-limited pilot program to not require the communication / professionalism activity of the IMP component of MOC. Communication / professionalism is included in other MOC activities, and ABEM is exploring alternative means of assessing professionalism.

The following subspecialties were made available to ABEM diplomates in the 2010s: Anesthesiology Critical Care Medicine, Emergency Medical Services, Internal Medicine-Critical Care Medicine, and Pain Medicine.
APPENDIX: EXAMINATION AND DIPLOMATE STATISTICS

Application and Examination Activity — Certification

<table>
<thead>
<tr>
<th>Qualifying Examination</th>
<th>Oral Certification Examination</th>
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<td><strong>Date</strong></td>
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</tr>
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<td></td>
<td><strong>App’s Rec’d</strong></td>
</tr>
<tr>
<td>1980 and prior</td>
<td>-</td>
</tr>
<tr>
<td>1981</td>
<td>1,035</td>
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<td>1982</td>
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<tr>
<td>2015</td>
<td>1,811</td>
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<td><strong>Total</strong></td>
<td>47,479</td>
</tr>
</tbody>
</table>

1 1995 was the first year that a reference group of EM residency-eligible, first-time test takers was used to construct the written certification examination, now known as the qualifying examination.
2 Number indicates the percent of the total that passed.
3 Candidates do not include former diplomates attempting to regain certification through the qualifying and/or oral examination.
Application and Examination Activity — Recertification

Prior to the implementation of MOC, diplomates were required to pass a recertification examination to maintain their certification. Following are the statistics for the recertification examinations taken between 1989 through 2003.

<table>
<thead>
<tr>
<th>Method Chosen</th>
<th>Written Recertification</th>
<th>Oral Recertification</th>
<th>Written Certification</th>
<th>Oral Certification</th>
</tr>
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<td>Date</td>
<td>Apps Rec'd</td>
<td># Took</td>
<td># Pass</td>
</tr>
<tr>
<td></td>
<td>1989 and prior</td>
<td>275</td>
<td>88</td>
<td>83</td>
</tr>
<tr>
<td></td>
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<td>258</td>
<td>247</td>
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<td>Total</td>
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<td>13,080</td>
<td>11,986</td>
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ConCert™ Examination

<table>
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<tr>
<th>ConCert</th>
<th>Diplomates</th>
<th>Former Diplomates</th>
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<td>Year</td>
<td># Took</td>
<td># Pass</td>
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<td>1,264</td>
<td>1,169</td>
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<td>Total</td>
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1 Number indicates the percent of the total who passed.

Statistics are reported by calendar year. The statistics accurately reflect the examinations administered during the designated periods, and all examination data are included. Candidates who took more than one examination are included more than once.

Total number of active diplomates on 12/31/2015 was 33,510.
### Application and Examination Activity

#### Subspecialties

Number of ABEM Diplomates Achieving ABEM-issued Subspecialty Certification by Subspecialty, 1993-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>ACCM</th>
<th>EMS</th>
<th>HPM</th>
<th>IM-CCM</th>
<th>MedTox</th>
<th>Pain</th>
<th>PedEM</th>
<th>SPM</th>
<th>UHM</th>
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**Total Certificates Issued**: 21,445, 115, 97, 404, 7, 294, 172, 200, 1,596

**Total Active Diplomates**: 21, 445, 109, 97, 367, 7, 245, 151, 154, 1,596

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### Acronyms Used in this Report

- **ACCM**: Anesthesiology Critical Care Medicine
- **EMS**: Emergency Medical Services
- **HPM**: Hospice and Palliative Medicine
- **IM-CCM**: Internal Medicine - Critical Care Medicine
- **MedTox**: Medical Toxicology
- **Pain**: Pain Medicine
- **PedEM**: Pediatric Emergency Medicine
- **SPM**: Sports Medicine
- **UHM**: Undersea and Hyperbaric Medicine

Statistics are reported by calendar year.

- **AAEM**: American Academy of Emergency Medicine
- **AACEM**: Association of Academic Chairs of Emergency Medicine
- **ABEM**: American Board of Emergency Medicine
- **ABMS**: American Board of Medical Specialties
- **ACCM**: Anesthesiology Critical Care Medicine
- **ACEP**: American College of Emergency Physicians
- **ACGME**: Accreditation Council for Graduate Medical Education
- **AMA**: American Medical Association
- **CCE**: Committee on Continuing Certification
- **CME**: Continuing Medical Education
- **CMS**: Centers for Medicare and Medicaid Services
- **COCCERT**: Committee on Certification
- **ContCert**: Continuous Certification
- **CORD**: Council of Emergency Medicine Residency Directors
- **EM**: Emergency Medicine
- **EM/EM**: Emergency Medicine/Family Medicine
- **EM/IM**: Emergency Medicine / Internal Medicine
- **EM Model**: The Model of the Clinical Practice of Emergency Medicine
- **EM/Peds**: Emergency Medicine/Pediatrics
- **EMRA**: Emergency Medicine Residents’ Association
- **EMS**: Emergency Medical Services
- **HPM**: Hospice and Palliative Medicine
- **IMP**: Improvement in Medical Practice
- **IM-CCM**: Internal Medicine-Critical Care Medicine
- **ITE**: In-training Examination
- **KSA**: Knowledge, Skills, and Abilities
- **LILS**: Lifelong Learning and Self-Assessment (component of MOC)
- **LLSA**: Lifelong Learning and Self-Assessment (MOC activity)
- **MedTox**: Medical Toxicology
- **MOC**: Maintenance of Certification
- **NAAEM**: National Association of EMS Physicians
- **NBME**: National Board of Medical Examiners
- **OCE**: Oral Certification Examination
- **PedEM**: Pediatric Emergency Medicine
- **PCx**: Postgraduate Year
- **PQRS**: Physician Quality Reporting Initiative/Physician Quality Reporting System
- **PS-LILS**: Patient Safety Lifelong Learning and Self Assessment
- **RRC-EM**: Residency Review Committee for Emergency Medicine
- **RVP**: Residency Visitation Program
- **SAEM**: Society for Academic Emergency Medicine
- **SCC**: Surgical Critical Care Medicine
- **SPM**: Sports Medicine
- **UHM**: Undersea and Hyperbaric Medicine

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