Executive Summary

The numbers of medical school applicants and enrollees continue to grow, and will continue to do so in the foreseeable future. By 2019-2020, first-year enrollment of medical students is projected to reach 21,304—a 29.2% increase from 2002-2003. A majority of this growth is expected to come from public schools, and much of it is projected to occur in the southern United States.

While the faculties of medical schools have become slightly more diverse in the past decade, for all faculty members for whom gender and race/ethnicity information was available, over 60% were male and over 70% were White.

In 2015, 81% of medical school graduates had at least some educational debt. The mean debt for all graduates was $180,723, up 2% from the previous year. Of all graduates, when including debt accrued premed, 79% graduated with over $100,000 in debt, 45% graduated with over $200,000 in debt, and 12% graduated with over $300,000 in debt.

Projections indicate that if the number of graduate medical education (GME) positions continued to grow for the next decade at the same rate that they had in the past decade, by 2023-2024 there would be roughly 4,500 more GME positions than medical school graduates in that calendar year. This suggests that while the gap between the number of medical school graduates and available GME positions is narrowing, there is no immediate risk for a shortage of GME positions.

An increasing number of medical schools are changing their curricula to emphasize skills necessary in modern health care, such as earlier exposure to patient care, team-based learning and social determinants of health.

Investigations into the mental health of medical students and residents suggest substantial rates of depression and burnout, which are often highest in the first years of medical school and/or residency.

Physicians are spending increasing amounts of time and money on continuing medical education. Maintenance of Certification (MOC) continues to be a controversial topic among physicians, as many argue that the program is overly onerous, expensive and shows little known benefit to improving patient outcomes. A recent study indicated that over ten years, physicians should expect to spend 180 hours on MOC activities, and the combined cost of fees and the dollar value of time spent on activities is estimated to average $23,607.

Some organizations have developed programs aimed at easing physician reentry into the workforce, which may help ease the impending physician shortage in the United States.
Trend: Undergraduate medical education

Medical school applicants and enrollees

- The number of matriculants at MD-granting institutions per year increased 19% from 17,361 in 2006-2007 to 20,631 in 2015-2016.1

- A survey by the Association of American Medical Colleges (AAMC) Center for Workforce Studies projected that in 2019-2020 first year medical student enrollment would reach 21,304—a 29.2% increase from the enrollment level in 2002-2003. Sixty-two percent of the projected growth is projected to come from public medical schools, and 43% of growth is projected to occur in the southern United States. Deans of the medical schools surveyed expressed two main concerns: the number of clinical training opportunities for medical students, and the growth in medical school enrollment surpassing growth in residency opportunities.2

- The number of students enrolled in MD-granting schools in the United States increased 19% from 72,897 in the 2006–2007 school year to 86,746 in the 2015–2016 school year.3,4

- According to the American Osteopathic Association (AOA), the average increase in osteopathic medical school enrollment has been 6.8% per year since 2007, and the number of students working towards a Doctor of Osteopathic Medicine (DO) degree has increased 95% from 13,406 in 2005–2006 to 26,121 in 2015–2016.5

- First-year enrollment in osteopathic medical schools reached 7,219 for the 2015–2016 school year, an 85% increase over 2005–2006 first-year enrollment of 3,908.6 That figure is projected to increase to 8,468 in 2020-2021.7

- Projections indicate that combined first-year enrollment in MD-granting and DO-granting medical schools will reach 30,186 by 2020-2021, a 55% increase compared to 2002-2003.8

- Admission to medical school has become more competitive. There were 29,583 first time applicants to MD-granting institutions in 2006-2007 and this increased 30% to 38,449 in 2015-2016. The number of applicants to DO-granting institutions increased 148% from 8,258 in 2005-2006 to 20,447 in 2015-2016.9

- The average Medical College Admission Test (MCAT) score and grade point average (GPA) of a successful medical school applicant have increased.

  - Among matriculants to MD-granting medical schools, the mean total MCAT score was 31.4 in 2015-2016, up from 30.3 in 2006-2007. Over that same period, the mean total GPA of matriculants increased from 3.64 to 3.70.10
  - The mean total MCAT score of matriculants to DO-granting institutions was 26.38 in 2015, up from a mean score of 24.99 in 2006. The mean GPA of matriculants was 3.44 in 2006, and 3.47 in 2015.11,12
Of the 86,746 enrolled medical students in 2015-2016, 40,634 (46.8%) were female and 46,108 (53.1%) were male. Among those students who reported race/ethnicity information, 47,007 (55.1% of all medical students) selected White; 17,868 (21.0%) selected Asian; 6,836 (8.0%) selected multiple races/ethnicities; 5,505 (6.5%) selected Black or African American; 4,401 (5.2%) selected Hispanic, Latino, or Spanish origin; 214 (0.25%) selected American Indian or Alaska Native; and 110 (0.13%) selected Native Hawaiian or Other Pacific Islander. Race/ethnicity information was not available for 1,482 (1.74%) students, and 1,646 (1.93%) students were Non-U.S. Citizen and Non-Permanent Residents.13,14

Medical school faculty

The following figure shows a breakdown of U.S. medical school faculties by gender and reported ethnicity in 2015. Of the 159,831 faculty members (of which the gender of 138 was unreported), 61.1% were male and 38.7% were female. Race/ethnicity data were available for 142,128 faculty members. Of those members, 70.9% were White, 16.4% were Asian, 3.4% were Black, 3.4% were multiple races (non-Hispanic), 2.4% were multiple races (at least one of which was Hispanic), and 2.4% were of Hispanic, Latino, or of Spanish origin.15

In contrast, in 2004, race/ethnicity data were available for 106,023 U.S. medical school faculty members. Of those members, 77.4% were White, 13.6% were Asian, 4.3% were Hispanic (including those of multiple Hispanic ethnicities), 3.4% were Black and 1.3% were of multiple races. The race/ethnicity of less than one percent of faculty members was reported as Native American/Alaska Native and Native Hawaiian/Other Pacific Islander.16

Figure 1. Distribution of U.S. Medical School Faculty by Sex and Race/Ethnicity.

Trend: Medical School Debt and Funding

In 2015, 81% of medical school graduates had at least some educational debt. The mean debt for all graduates was $180,723, up 2% from the previous year. Of all graduates, when including debt accrued premed, 79% graduated with over $100,000 in debt, 45% graduated with over $200,000 in debt, and 12% graduated with over $300,000 in debt.
Medical students from public universities in 2015 graduated with a mean educational debt of $172,751, an increase of 3% over the previous year. Medical students from private universities graduated with a mean educational debt of $193, 483, an increase of 2% over the previous year.

Among graduates of both public and private universities, 79% graduated with $100,000 or more in debt. Of those graduating from public universities, 41% of medical students carried $200,000 or more in debt, and 8% carried $300,000 or more in debt. Fifty-three percent of medical students from private universities graduated with $200,000 or more in debt, and 18% graduated with $300,000 or more in debt.17

The average cost of attendance for one year of public medical school (including tuition, fees and health insurance) was $35,223 for in-state residents and $60,211 for non-residents. These figures are up from $32,524 and $56,119, respectively, in 2014-2015. At private universities, the average cost of attendance grew from $52,155 for in-state residents and $53,161 for non-residents in 2014-2015 to $55,259 and $56,702, respectively, in 2015-2016.18

**Trend: Graduate medical education**

In the 2014-2015 year, there were 121,599 total residents in 9,645 Accreditation Council for Graduate Medical Education (ACGME)-accredited programs. Since 2010-11, the number of total residents has grown 7.5% (113,142), and the number of ACGME-accredited programs increased 8.5% (8,887). The average number of residents per program now stands at 24.0, up from 23.4 in 2010-2011, a 2.6% increase. The number of residents in ACGME programs with an MD obtained from a U.S. medical school grew from 73,472 in 2010-2011 to 79,142 in 2014-2015, a 7.7% increase. Those residents now make up 65.1% of all resident positions in ACGME programs. The number of residents with a DO from an osteopathic medical school grew from 8,432 to 10,999 over that same period, a 30.4% increase. Residents with DOs now make up 9.0% of all residents in ACGME programs.19

In 2016, 42,370 applicants registered for the National Resident Matching Program (NRMP), the largest figure ever recorded, and the continuation of a trend that has seen an increase in registered applicants every year since 2004. The number of registered applicants increased by 10% over 2012 (38,377). The number of active applicants, those who submitted program preferences, increased 13% from 31,355 in 2012 to 35,476 in 2016. The number of positions offered (30,750) and filled (29,572) were the largest ever recorded in the NRMP.

- Of active NRMP applicants, 8,640 (24.4%) did not match to an ACGME-accredited residency in the first round in 2014. The proportion of unmatched, first-round applicants has decreased each year since 2012, when that figure stood at 26.9%.
- Among seniors graduating from a U.S. allopathic medical school, 1,130 did not match in the first round in 2016. Since 2012, the annual percentage of seniors graduating from U.S. medical school who do not match in the first round has held roughly steady at 5-6%. Among previous graduates of U.S. allopathic medicals, 770 (51.3% of active applicants) went unmatched in the first round.
- In 2016, 586 graduates of osteopathic medical schools applied for an ACGME-accredited residency through the NRMP, but did not match.
The number of U.S. citizens graduating from non-U.S. medical schools and not matching with a residency in the first round increased 12.6% from 2,179 in 2012 to 2,454 in 2016. A driving force behind this increase was an uptick in the number of active applicants to the NRMP who are U.S. citizens attending a medical school outside the United States, which increased by 24.4%—from 4,279 in 2012 to 5,323 in 2016.

The number of U.S. citizen international medical graduates (IMGs) entered into the NRMP was 5,323, a 24.4% increase since 2012. These applicants matched at a rate of 53.9%, the highest rate for such applicants since 2005. The number of non-U.S. citizen IMGs grew to 3,769, the highest number ever recorded, and matched at a rate of 50.5%, which too was the highest rate since 2005.

The number of applicants eligible for the NRMP Match Week Supplemental Offer and Acceptance Program (SOAP) increased to 13,920, 263 more than in 2015. Most of that increase came from U.S. citizen IMGs (247). Of the 513 unfilled positions in the 2015, 454 chose to participate in SOAP, offering 1,097 of the 1,178 positions that were not filled originally by the matching algorithm. Of those programs, 93.2% (1,022) were filled.

The following table shows postgraduate year one (PGY-1) specialties that saw an increase of at least 10 positions and 10% of positions offered in the match in 2016 when compared to 2012, and PGY-1 programs that saw a decrease in the number of positions offered.

<table>
<thead>
<tr>
<th>Specialty</th>
<th>2012</th>
<th>2016</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thoracic Surgery</td>
<td>20</td>
<td>38</td>
<td>90.0%</td>
</tr>
<tr>
<td>Child Neurology</td>
<td>75</td>
<td>116</td>
<td>54.7%</td>
</tr>
<tr>
<td>Neurology</td>
<td>291</td>
<td>443</td>
<td>52.2%</td>
</tr>
<tr>
<td>Plastic Surgery (Integrated)</td>
<td>101</td>
<td>152</td>
<td>50.5%</td>
</tr>
<tr>
<td>Vascular Surgery</td>
<td>41</td>
<td>56</td>
<td>36.6%</td>
</tr>
<tr>
<td>Physical Medicine and Rehabilitation</td>
<td>86</td>
<td>112</td>
<td>30.2%</td>
</tr>
<tr>
<td>Anesthesiology</td>
<td>919</td>
<td>1127</td>
<td>22.6%</td>
</tr>
<tr>
<td>Primary Pediatrics</td>
<td>67</td>
<td>79</td>
<td>17.9%</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>1668</td>
<td>1895</td>
<td>13.6%</td>
</tr>
<tr>
<td>Diagnostic Radiology</td>
<td>135</td>
<td>151</td>
<td>11.9%</td>
</tr>
<tr>
<td>Pathology</td>
<td>521</td>
<td>579</td>
<td>11.1%</td>
</tr>
<tr>
<td>Neurological Surgery</td>
<td>196</td>
<td>216</td>
<td>10.2%</td>
</tr>
<tr>
<td>Transitional Year</td>
<td>941</td>
<td>838</td>
<td>-10.9%</td>
</tr>
<tr>
<td>Preliminary Pediatrics</td>
<td>55</td>
<td>43</td>
<td>-21.8%</td>
</tr>
</tbody>
</table>

Each year in the past five, the number of positions categorized as internal medicine have increased, rising from 5,277 in 2012 to 7,024 in 2016, a 33.1% increase. Over that same period, the number of positions categorized as psychiatry grew from 1,117 to 1,384, a 23.9% increase.

In 2016, 6,587 (38.6% of all U.S. seniors who matched to PGY-1 programs) U.S. seniors matched to positions categorized as Family Medicine, Internal Medicine and Pediatrics.
In early 2014, an agreement was made between the ACGME, the American Osteopathic Association (AOA) and the American Association of Colleges of Osteopathic Medicine (AACOM) to introduce a single accreditation program for graduate medical education by 2020. In 2015, the first AOA-accredited program began transitioning into ACFME accreditation. As of 2015, 18,725 DOs were enrolled in AOA and ACGME postdoctoral training programs.24,25

- Of the total DOs enrolled in postdoctoral training programs, 42% were enrolled in AOA programs and 50% were enrolled in ACGME programs. The total number of AOA GME programs in 2015 was a 1,205 and the total number of ACGME GME programs was 9,645.26

An article published in the New England Journal of Medicine in December 2015 projected that if the number of GME positions continued to grow for the next decade at the same rate that they had in the past decade, by 2023-2024, there would be roughly 4,500 more GME positions than medical school graduates in that calendar year, when compared to AAMC projections of graduates in 2021-2022, and a continued 2.4% annual growth in 2022-2023 and 2023-2024. In 2014-2015 there were 21.7% more GME positions than medical school graduates. If the projections are correct, by 2023-2024, that gap would reduce to 13.5% in 2023-2024.27

Graduate Medical Education Funding

- Included in President Obama’s fiscal year (FY) 2017 budget is a 10% reduction in indirect medical education (IME) from Medicare over the 10-year budget window. The AAMC expressed concern that the cuts would hinder the treatment of vulnerable patients with complex conditions at teaching hospitals, and hinder the quality of training for new doctors.28

- Since the Balanced Budget Act of 1997, the number of allopathic and osteopathic residents counted when calculating IME and direct graduate medical education (DGME) reimbursement through Medicare has been frozen. Thus, teaching hospitals receive no extra IME or DGME funding if the number of residents in training exceed the count on December 31, 1996. These limits inhibit the ability of teaching hospitals to respond to population changes, shortages in particular specialties, and the development of new specialties.29

- According the AAMC Medicaid Graduate Medical Education Payments: A 50-State Survey, Medicaid funding of GME grew to $4.26 billion in 2015. Forty-two states and Washington D.C. currently make Medicaid GME payments, a figure that has not changed since 2012. California and Massachusetts, two of the states that did not make GME payments, are in the top 10 states with the most GME programs. Three states reported that they had recently considered ending Medicaid GME payments. For the first time, Medicaid GME payments under managed care exceeded the proportion of GME payments made under fee-for-service, at 61% and 39%, respectively. Medical schools in Minnesota, Oklahoma and Tennessee were eligible to receive Medicaid GME payments directly, and individual teaching physicians received GME payments in Florida and South Carolina.30
The Teaching Health Center GME (THCGME) program was a 5-year, $230 million initiative created by the Affordable Care Act (ACA) in 2010 to increase the number of primary care physicians and dentists trained in community-based settings. Since its inception, more than 90% of graduates intend to work in primary care, and more than 75% in underserved communities. Graduates from the THCGME program are more than three times more likely than traditional graduates are to take positions in rural settings. Despite evidence of success and increasing applicant interest, funding questions surround the program. Many potential THCGME programs have avoided applying due to concerns about long-term funding, and a survey of leadership of THCGME programs indicated that most programs would not recruit in 2015 due to doubts about funding.31,32

Resident duty hours

In May 2016, it was announced that resident work hours would not be changed for the 2016-2017 academic year. As of that date, the ACGME was developing a proposal that may add more flexibility to current work hour rules that were established in 2011. As of a 2011 reform by the ACGME, duty hours for residents have been restricted to 24 hours (plus 4 hours for transition) for individual shifts, and a guaranteed minimum of 14 hours of time off between 24-hours shifts. Additionally, first-year residents can work no more than 16 consecutive hours.33

- In November 2016, ACGME released a proposal that would abolish the limit of 16 consecutive hours for first-year trainees, allowing them to be assigned shifts of up to 28 hours—the same current limit of all other residents.

- A study, *Flexibility in Duty Hour Requirements for Surgical Trainees* (FIRST), was initially published with results from the 2014-2015 calendar year. The study compared 59 general-surgery training programs that adhered to these new rules, with 59 programs that did not (both groups adhered to a maximum 80-hour workweek). The two groups, after one year of observations, showed essentially equivalent rates of death, overall complications, and specific complications based on risk-adjusted clinical outcomes from the American College of Surgeons National Surgical Quality Improvement Program. Residents in programs that were not required to follow the 2011 ACGME rules were less likely to report dissatisfaction with continuity of care and patient handoffs, and more likely to be dissatisfied with time for rest. There was no significant difference between the two groups in satisfaction with the quality of their training or overall well-being and morale.34

- Certain groups including Public Citizen, a consumer watchdog group, and the American Medical Student Association (which includes residents) have criticized the study as unethical, as informed consent was not obtained from patients or trainees. The study will continue in 2016-2017.35

Trend: The changing structure of medical education

In the fall of 2015, Harvard Medical School (HMS) announced one of the most complete curricular reforms since the Flexner Report in 1910. In contrast to the “two plus two model,” in which the first two years of medical education are focused on basic science in a classroom—memorizing facts, this new curriculum, called “Pathways,” places increased emphasis on
“learning to learn.” The resulting program, resulting from a three-year, faculty-led initiative, begins with a fourteen-month pre-clerkship program designed to provide students with the core medical knowledge necessary to work in hospitals. Critical knowledge will be gained before class through readings, questions to investigate, and 5-8 minute concept videos. Class time will focus on team exercises with the goal of developing thinking and reasoning skills necessary to solve complex problems, an idea referred to as case-based collaborative learning, or CBCL. Additionally, every other Wednesday, students will work in a primary care office, so as to be introduced immediately to working in a medical setting. Students will then resume primarily classroom work in their third and fourth years with some idea of their clinical interest already established when considering residencies.36

The American Medical Association’s (AMA) Accelerating Change in Medical Education (ACE) consortium is comprised of 32 medical schools collaborating to transform physician training for the future. The consortium began in 2013, when 11 medical schools received grants from the AMA for major initiatives in medical education. Twenty-one additional schools were selected to join the consortium in 2015. An estimated 19,000 medical students, approximately 18% of all allopathic and osteopathic medical students in the country, attend consortium member medical schools. The goals of the initiative, outlined by the AMA paper entitled, *Creating the Medical School of the Future*, include:

- Develop new methods for measuring and assessing key competencies for physicians at all training levels to create more flexible, individualized learning plans;
- Promote exemplary methods to achieve patient safety, performance improvement, and patient-centered team care;
- Improve understanding of the health care system and health care financing in medical training; and
- Optimize the learning environment.37, 38

The Mayo Medical School in Rochester, Minnesota (one of the ACE consortium schools) introduced a new core curriculum for first-year medical students in 2015-2016, which focuses on six Science of Health Care Delivery (SHCD) domains. The SHCD curriculum was developed in collaboration with Arizona State University and focuses on the following six domains: high-value care; population-centered care; team-based care; leadership; person-centered care; and health policy, economics and technology. This program uses online learning modules that connect with classroom studies, so that classroom time can be primarily focused on understanding and discussion. Students will have the opportunity to earn a master’s degree in Science of Health Care Delivery in addition to earning their medical degree, with the goal of teaching students to be both physicians and leaders in health care reform.39

Out of the 141 schools that responded to a Liaison Committee on Medical Education (LCME) survey, 130 (88%) required interprofessional education for the 2014-2015 school year—a proportion that has risen every year since 2007-2008, when 44% of schools surveyed required interprofessional education.40

In 2015, changes were applied to the MCAT for the first time since 1991. The test now includes new sections: Psychological, Social, and Biological Foundations of Behavior, Critical Analysis
and Reasoning Skills, and two natural science sections, which test concepts from biology, general and organic chemistry, biochemistry and physics.41

- At Hofstra Northwell, first-year students begin training by working night shifts with emergency medicine technicians, and after the nine-week course, students are certified as Emergency Medical Technicians. Hofstra seeks to prepare students for the changing models of care by emphasizing working as parts of teams and exposing them to the roles played by other health care professionals.42

- Health 2.0 + Digital Literacy is an elective course offered by the University of California, Irvine, School of Medicine to educate students on emerging trends in health care technology and social media. The school also offers training sessions and workshops on emerging technologies, the business of technology and the startup market.43

- An article published in Medical Education examined the concerns and challenges associated with the implementation of Competency-based medical education (CBME) frameworks. It states that CBME programs—based on measurable subcompetencies and milestones—offer numerous advantages, including a focus on outcomes and learner achievement and greater stakeholder accountability through a shared set of expectations and assessments. However, there is yet no consistent, agreed-upon definition for the terms “competence” and “competency” in the medical education community. As such, various definitions CBME exist, which obscure the understanding of competence and competencies and make the implementation of CBME more difficult.44

- As part of an initiative to provide medical resources to underserved areas in the state, the Medical College of Wisconsin (MCW) has developed two new medical schools. MCW-Green Bay and MCW-Central Wisconsin offer a curriculum that eliminates traditional summer, mid-term and holiday breaks, and allow students to graduate in three years—a full year earlier than most medical schools. Both programs focus on training primary care physicians, surgeons and psychiatrists who will remain in the regions to live and practice when they have completed training.45

Trend: Mental health among students and trainees

- An investigation of 31 cross-sectional studies of 9,447 individuals and 23 longitudinal studies of 8,113 individuals published in the Journal of the American Medical Association in December 2015 found the prevalence of depression or depressive symptoms among resident physicians to be 28.8%. Estimates of prevalence ranged from 20.9% to 43.2%. A secondary analysis of the longitudinal studies found that after the start of residency, depressive symptoms among residents increased significantly within the first year of training, with an average increase of 15.8%—ranging from 0.3% to 26.3%.46

- A meta-analysis of 62,278 medical students and 1,845 non-medical students found the worldwide prevalence of depression to be 28.0%, with the average frequency of suicidal ideation of 5.8%. The highest rates of depression were among first year students (33.5%), and decreased gradually to 20.5% in year five. The data showed that only 12.9% of depressed medical students sought
treatment. The study found that the difference in the prevalence of depression between medical students and non-medical students was not significant.47

- The results of a national survey published in March 2016 in Academic Medicine found that 32.4% of medical students met the criteria for alcohol abuse/dependence. This figure is double the rate of peers of the same age who were not medical students (15.6%). Students who experienced burnout, depression, or experienced low mental or emotional quality of life were more likely to abuse or be dependent on alcohol. Students who were younger, single, or had student loan debt greater than $100,000 were also more likely to abuse or be dependent on alcohol.48,49

**Trend: Continuing Medical Education**

The following chart shows the number of physician interactions with Accreditation Council for Continuing Medical Education (ACCME) accredited providers from 2005 to 2015. Interactions refer to participants in CME activities as reported by providers, and represent the total number of participants, not the number of unique participants; physicians who attended multiple activities are counted for each activity they attend. For the first time in 2015, residents have been included with MDs and DOs when calculating physician interactions. From 2005-2015, the number of total interactions with ACCME-accredited providers increased from 10,354,460 to 14,231,863, an increase of 37.4%. In 2015, 148,227 activities were offered, encompassing 1,039,479 hours of instruction.50, 51

**Maintenance of Certification**

Many physicians continue to criticize the American Board of Medical Specialties (ABMS) Maintenance of Certification (MOC) program as being overly onerous, expensive and showing little known benefit to improving patient outcomes.

- A study published in the Annals of Internal Medicine reported that over the course of 10 years (as of February 2015), physicians will spend 35% more in fees and 26% more time in order to meet the requirements of the American Board of Internal Medicine’s (ABIM) updated MOC
requirements. Over that 10 year period, physicians are expected to spend 180 hours on MOC activities, and the combined cost of fees and the dollar value of time spent on activities is estimated to average $23,607. Over those 10 years, internists and internal medicine specialists will spend $5.7 billion dollars, up from $4.3 billion that would have been spent under MOC requirements prior to 2013.52

- To be reported as participating in ABIM MOC, physicians must complete at least one MOC activity every two years. To stay certified, physicians must earn 100 MOC points every five years (20 of which must be medical knowledge), and pass the MOC exam for a given certification within 10 years of having last passed. 53

- A study published in June 2016 in the *Journal of Patient Experience* examined the relationship between active physician participation in MOC and physician’s patient experience national percentile ranking among physicians at the Marshfield Clinic. Of the 376 board-certified physicians analyzed, 270 (73%) reported being enrolled in MOC, and 103 reported not being enrolled, while three did not answer. Of the 270 enrolled in MOC, 121 qualified as active, and 105 did not. Physicians were considered active if they had participated in at least one MOC activity (i.e. self-assessment module, practice assessment module, patient safety module, or peer survey). The results of the survey found no statistically significant difference in patient experience scores between physicians enrolled in MOC and physicians not enrolled. However, the study found that physicians who were enrolled and active in MOC had significantly higher patient experience scores than those physicians who were enrolled in MOC but not active. While the study did not find significant or generally higher patient satisfaction among physicians enrolled and active in MOC, it did find that patients of physicians who were enrolled and active in MOC were more likely to recommend their physician, more confident in their physician’s skills, and felt more informed about their medications compared to patients of physicians who were enrolled but not active. The study noted that most of these comparisons neared but did not reach statistical significance, and suggested the possibilities that (a) patients may perceive an improved care experience from physicians active in MOC, and/or (b) that increased active participation in MOC contributed to higher patient experience scores.54

- In the fall of 2015, the ACCME and the ABIM began allowing physicians to input all the information necessary for CME crediting and MOC points into ACCME’s Program for Activity Reporting System (PARS). This dual-credit system simplifies the process for obtaining MOC points by allowing physicians to earn them through CME activities. In 2016, a web-based tool began allowing physicians to search all CME activities that also offered MOC points. The system transfers data from PARS to ABIM automatically.55,56

**Trend: Physician reentry**

- According to the 2015 Physicians Characteristics and Distribution in the United States, per the most recently available data (2013), there were 147,676 inactive physicians—14.1% of all physicians in the United States. A total of 241,641 were over the age of 65, 130,429 (54.0%) of whom were listed as inactive. 57
The Physician Retraining & Reentry program is an online educational program designed to help counteract the growing physician shortage problem in the United States. Designed by a former professor at the UC San Diego School of Medicine, and presented in collaboration with that University, the program contains 15 online modules covering a wide range of subject matter. Those who complete the courses and final examination receive 180 AMA PRA Category 1 Credits™.

As part of the Physician Reentry into the Workforce Project, the American Academy of Pediatrics Physician Reentry Online Portal for Pediatricians is an online tool for physicians to develop and track personalized reentry plans. The program allows subscribers to keep track of tasks and knowledge that are essential for reentry, and stay up to date on state-specific news regarding physician reentry.

**Predicted Impacts**

- Increasing competition for admission in U.S. medical schools will result in more students attending MD-granting institutions abroad.
- The cuts to IME funding from Medicare will make it more difficult for teaching hospitals to deliver quality care to patients while providing high-quality education to the next generation of physicians.
- The curricula of medical schools will increasingly move toward models in which students are exposed earlier to patient care and that emphasize collaborative problem-solving and team-based care.
- Rising costs of attending medical school will lead to an even greater proportion of medical students to graduate with high levels of debt.
- The ACGME will soon loosen their restrictions on resident work hours.
- The growth in number of medical school graduates will continue to outpace the growth in GME positions, leading to increased competition between IMGs and U.S. medical school graduates.
- The ACGME and ABIM will look for further ways to integrate the CME and MOC programs.
- In the short-term, physicians will be forced to devote more time and money, both in terms of fees and the dollar value of time spent, on MOC.
- An increasing number of programs will emerge in medical schools designed to familiarize students with emerging technologies in medicine, and graduates will be better prepared to utilize these technologies and adapt to those that emerge in the future.
- Applicants to medical school will be evaluated on broader and more socially focused criteria, which may broaden the pool of applicants among less scientifically inclined students.
- Millennials, who value work-life balance more than previous generations, may opt for careers with less demanding training and time requirements. Those who choose medicine will select specialties that offer a better work-life balance.
- Osteopathic schools will produce an increasing proportion of U.S. medical school graduates.
More federal programs will emerge, like the THCGME, with the goal of encouraging students to pursue primary care and practice in underserved areas.

Young physicians exiting training will increasingly gravitate toward employed positions due to the improved work-life balance and the financial challenges of private practice.

References


18. U.S. Medical Schools Tuition and Student Fees - First Year Students. Association of American Medical Colleges.
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