

## EDITORIALS

# A Unified Plan to Strengthen the Sleep Medicine Pipeline and Maximize Our Workforce

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## INTRODUCTION

As part of an ongoing effort to clarify the role of sleep specialists in a health care system that is increasingly focused on coordinated, integrated care, the American Academy of Sleep Medicine (AASM) board of directors recently adopted language stating that, “Board-certified sleep medicine physicians are the most qualified physicians to care for patients with sleep disorders.” This declaration reflects the historic role played by the AASM as the leader in advancing the field of sleep medicine as a medical subspecialty, and it recognizes the unique training and advanced expertise required for the comprehensive care and management of patients with sleep and circadian rhythm sleep-wake disorders.

Rooted in multiple medical specialties, the field of sleep medicine has grown and flourished over the past four decades, branching out to establish an independent identity and garnering widespread recognition as a subspecialty with an intrinsic knowledge base and distinctive domain of clinical skill. While the multiplicity of our medical backgrounds could have been our weakness, the founders of our field viewed it as a strength,<sup>1</sup> and today sleep medicine continues to demonstrate to the medical community that professional unity does not require the absence of diversity. The phrase imprinted on the seal of the United States to describe the union of the colonies into a federal republic is equally descriptive of the field of sleep medicine: *E Pluribus Unum* – “Out of Many, One.”

This unity will be tested as we work together to implement creative strategies and ambitious plans that address the looming challenges facing our field. However, it is only by remaining unified that we will be able to strengthen our pipeline and maximize the sleep medicine workforce to ensure that all patients with a sleep disorder have access to high quality, patient-centered care.

## HISTORIC UNITY

The fact that sleep medicine developed as a multidisciplinary field should come as no surprise, given that sleep is “a basic biologic process that affects all individuals and has significant

impact on the function of all organ systems.”<sup>21</sup> It was this diversity of backgrounds that enabled both our predecessors and contemporaries to realize such disparate breakthroughs in sleep medicine and sleep science, including the identification of rapid eye movement (REM) sleep and REM sleep behavior disorder, the discovery of obstructive sleep apnea (OSA) and development of continuous positive airway pressure (CPAP) therapy, and the delineation of the neurochemical basis for narcolepsy.<sup>2–7</sup> From the beginning, sleep medicine was an all-encompassing specialty, focused not on a single disease or particular behavioral manifestation, but on a comprehensive understanding of sleep and daytime alertness.

The establishment of the AASM in 1975 enabled sleep medicine practitioners from various specialties to coalesce around a shared interest in sleep physiology, circadian biology, and the pathophysiology of sleep disorders. Over the ensuing three decades, the AASM led efforts that successfully gained recognition for sleep medicine as a medical subspecialty by the American Medical Association (AMA), Accreditation Council for Graduate Medical Education (ACGME), and Centers for Medicare & Medicaid Services. These efforts culminated in a decision in 2005 by the American Board of Medical Specialties (ABMS) to establish a sleep medicine certification examination, with responsibility for administering the exam transitioning in 2007 from the independent American Board of Sleep Medicine (ABSMD) to the American Board of Internal Medicine (ABIM).<sup>8</sup>

This board certification examination in sleep medicine is predicated on an understanding that sleep specialists should have, “command of the core knowledge and understanding of... the basic medical sciences relevant to normal sleep and sleep disorders,” as well as advanced expertise such as the “ability to interpret results of polysomnography, multiple sleep latency testing, maintenance of wakefulness testing, actigraphy and portable monitoring related to sleep disorders.”<sup>9,10</sup> As the inaugural ABMS examination approached in 2007, the AASM board of directors reinforced the distinct identity of sleep specialists by adopting the following definition: “A physician who is a sleep specialist is certified in the subspecialty of sleep medicine and specializes in the clinical assessment, physiologic testing, diagnosis, management and prevention of sleep

and circadian rhythm disorders. Sleep specialists treat patients of any age and use multidisciplinary approaches.”<sup>11</sup>

Since the first of the biennial ABMS sleep medicine exams was offered in 2007, more than 6,000 physicians have earned certification in sleep medicine from six ABMS specialty boards. In comparison, the field of sleep medicine today is approximately the same size as rheumatology, a subspecialty with 6,236 currently valid certificates issued by the ABIM, which administered the first rheumatology examination in 1972.<sup>12,13</sup> Clearly, the rise of sleep medicine as a subspecialty has been both swift and pronounced.

## CURRENT REALITY

This rapid growth has been tempered in recent years by the well-documented challenges foisted on the field, including declining reimbursement rates, the regional implementation by insurers of pre-authorization policies for diagnostic testing for obstructive sleep apnea (OSA), and the proliferation of home sleep apnea testing (HSAT).<sup>14</sup> Nationally, the field of sleep medicine has weathered this “perfect storm,” as sleep medicine practices have adapted to the changing health care landscape by adopting new paradigms of care and implementing innovative business models to integrate HSAT.<sup>15</sup> As a result, the number of sleep facilities accredited by the AASM has leveled off, remaining above the threshold of 2,500 since 2012.

While the resilience of our field has been encouraging, we are certain to encounter additional challenges in the years ahead. In fact, a few of our colleagues recently made the ominous assertion that our ranks are “dwindling rapidly,” with the number of board-certified sleep medicine physicians “expected to plummet over the next several years,” leaving our field unable to provide the necessary care for the large population of patients with OSA.<sup>16</sup> To address this problem they proposed that reimbursement policies should eliminate current requirements stipulating that diagnostic sleep studies must be performed in an accredited sleep center and interpreted by a board-certified sleep medicine physician. They also suggested that pulmonologists, along with generalist clinicians, should be empowered to play a greater role in the management of “routine” and “uncomplicated” OSA. While their commentary addressed important issues of relevance to the sustained vitality of sleep medicine, their dire prediction about the future of our field brought to mind the infamous words of Mark Twain that, “The reports of my death have been greatly exaggerated.”

Certainly, the present and future supply of sleep medicine physicians is a valid concern.<sup>17</sup> However, this same concern is shared by primary care as well as every other specialty and subspecialty. The latest report prepared for the Association of American Medical Colleges (AAMC) projects that by 2025 there will be estimated shortages of up to 35,600 primary care physicians; 33,200 surgeons; 10,200 medical specialists such as cardiologists, intensivists and pulmonologists; and 32,600 other specialists, which includes those specialties with the highest attrition rates: emergency medicine, anesthesiology, and radiology.<sup>18</sup> These shortfalls are expected to be driven primarily by population growth and aging, in combination with

physician retirement decisions, with more than one-third of all currently active physicians projected to be 65 years of age or older within the next decade. Clearly, potential workforce shortages are a concern for all of medicine, not just for the subspecialty of sleep medicine.

Therefore, given current circumstances, it is unrealistic to expect primary care physicians to bear the added burden of diagnosing and treating sleep disorders without any involvement of sleep specialists, especially since they are confronted by the increasing demands of caring for an aging population. Data indicate that as many as three out of four older adults have multiple chronic conditions such as hypertension, heart disease, arthritis, and dementia.<sup>19</sup> However, a recent survey found that nearly one in four primary care physicians in the U.S. reported that their practices are ill-prepared to care for patients with complex medical needs.<sup>20</sup> One might argue, however, that generalists could shoulder the responsibility of caring for patients with uncomplicated, routine cases of OSA. Yet the inadequate rate of continuous positive airway pressure (CPAP) therapy adherence that is widely reported in longitudinal studies suggests that seemingly “routine” cases of OSA may be inherently complex, and it indicates that patients need more interaction, not less, with sleep specialists and the team of health care professionals at accredited sleep centers.<sup>21</sup>

Similarly, it would be imprudent for the sleep field to rely solely on the hypothetical anticipation that another specialty, such as pulmonology, would be able to provide substantial reinforcements for sleep disorders care apart from any affiliation with sleep specialists, since that specialty’s workforce capacity is being strained by the same forces of population aging and physician retirement. In the case of pulmonology, it is a specialty that already bears the significant weight of addressing such leading causes of death as lung cancer, chronic obstructive pulmonary disease (COPD), and pneumonia, as well as other prevalent conditions such as asthma, cystic fibrosis, and idiopathic pulmonary fibrosis. This workload is expected to increase as the global burden of respiratory disease rises due to factors such as population aging, poor smoking cessation rates, and air pollution.<sup>22</sup>

Make no mistake about it: We value the important role that both primary care physicians and pulmonologists play in the field of sleep medicine, and we do envision opportunities for them to be more involved in providing sleep disorders care in the years ahead. However, the future vitality of our field requires a more nuanced and multifaceted approach.

## FUTURE STRATEGY

To expand the sleep medicine workforce in the future, we must strengthen our sleep medicine pipeline. The AASM first began to accredit fellowship training programs in sleep medicine in 1989, and in 2004 the AASM’s proposed program requirements for residency education in sleep medicine training were approved by the ACGME, laying the groundwork for the 83 ACGME-accredited sleep medicine fellowship training programs that exist today. The AASM continues to support these programs by organizing the Sleep Medicine Fellowship

Directors Council and administering the sleep medicine in-training exam. The AASM also encourages each of the training programs to participate in the annual Specialties Matching Service Fellowship Match, which is organized by the National Resident Matching Program. The number of sleep medicine programs participating in the Match increased from 53 in 2012 to 72 in the 2016 appointment year, and the number of participating applicants also increased from 103 to 127 during this same period.<sup>23</sup> The Match for the 2017 appointment year opens Aug. 17, 2016, with Match Day taking place Nov. 2.

Although the percentage of sleep medicine positions filled by the Match increased from 72 percent in 2015 to 79 percent in 2016, more work needs to be done to ensure that every fellowship position is filled. To address this need, the AASM has launched a multi-pronged initiative involving mass advertising, targeted marketing, public relations, advocacy, and local engagement. A few elements of this plan that have been implemented recently include launching the ChooseSleep.org website, piloting sleep medicine interest groups at four medical schools, and inviting eligible residents and fellows to receive complimentary registration to attend the SLEEP 2016 30<sup>th</sup> Anniversary Meeting of the Associated Professional Sleep Societies LLC (APSS).

The AASM also is crafting plans to promote an increase in the number of ACGME-accredited sleep medicine fellowship programs. Next steps include involving AASM leaders in proactive outreach to medical schools to encourage sponsorship of a fellowship training program in sleep medicine, while also creating a grant program to provide staff assistance to residency departments for the development of a program application. These efforts, however, are predicated on adequate and sustained funding for graduate medical education (GME). In recent years there has been growing recognition of the need to shape the physician workforce for the future by optimizing how our nation invests in its GME system, which since 1965 has been funded primarily through the Medicare program.<sup>24</sup> Therefore, the AASM also will be advocating for sustained public funding of our fellowship training programs. Lastly, the AASM has begun to consider innovative new models for fellowship training that would augment existing programs by expanding their reach and enhancing programmatic flexibility for fellows.

Simultaneously, the AASM also is fortifying the pipeline of other health care professionals who play a vital role as members of the sleep team. For more than a decade, the AASM's Accredited Sleep Technologist Education Program (A-STEP) has promoted the standardization of sleep technologist education and training through the combination of live instruction and online learning. Recognizing that the clinical roles of sleep technologists are changing,<sup>25</sup> the AASM is in the process of reviewing and evaluating the A-STEP standards and syllabus to ensure that the program remains relevant as the field of sleep medicine evolves. Similarly, the AASM has identified a critical need for standardized education for advanced practice registered nurses (APRNs) and physician assistants (PAs), who tend to receive sleep-specific education primarily through "on the job" training.<sup>26</sup> Therefore, the AASM has tasked a subcommittee with the development of a concise, practical, and

didactic program for APRNs and PAs who are working at accredited sleep facilities.

In addition to strengthening our sleep medicine pipeline, we also must maximize the availability of our current supply of sleep specialists. That is why in January 2016 the AASM launched AASM SleepTM, a state-of-the-art telemedicine platform that was designed specifically for the sleep field.<sup>27</sup> The field of sleep medicine is rife with opportunity for the integration of telemedicine.<sup>28</sup> Indeed, our current use of home sleep apnea testing is a form of "store and forward" telemedicine. Furthermore, a recent study found that patients responded to a comprehensive, telemedicine-based OSA management pathway with "overwhelmingly positive feedback."<sup>29</sup> There also is widespread agreement that telemedicine has unprecedented potential to improve gaps in patient access to care, especially in rural and underserved areas.<sup>30</sup> Therefore, telemedicine can play a key role in helping to balance the uneven geographic distribution of sleep specialists by expanding patient access to the expertise of board-certified sleep medicine physicians and the psychologists, nurses, physician assistants, respiratory therapists, and sleep technologists who work at accredited sleep centers. It is critical for sleep specialists to recognize that this recent innovation will rapidly become a routine method of care delivery.

Early adoption of telemedicine places sleep medicine practices at the forefront of medical care, and AASM SleepTM makes the integration process easy. Custom-designed for sleep medicine, AASM SleepTM features a secure, web-based video platform that facilitates live, interactive patient encounters from a distance. Other sleep-specific features include an interactive sleep diary and sleep log, sleep questionnaires, and the ability for patients to import sleep data directly from wearable consumer sleep monitoring devices. AASM SleepTM is a comprehensive telemedicine system for the sleep field, giving sleep specialists an unparalleled opportunity to reach a much broader patient population.

Reflecting our multidisciplinary heritage, the AASM also is exploring the possibility that telemedicine may open the door for other health care providers—including primary care physicians, pulmonologists, and neurologists—to supplement the sleep medicine workforce, especially in rural areas of states with a limited number of accredited sleep centers. Following a "hub and spoke" model, sleep centers could serve as the regional epicenter for sleep medicine care, sharing expertise with affiliate practices and receiving referrals for complex cases. Such a model could represent the natural progression of our field, from "out of many, one" to "out of one, many."

Sleep medicine is a vital medical subspecialty impacting individual health and well-being as well as population health and public safety. As the physicians who are most qualified to care for patients with sleep disorders, board-certified sleep medicine physicians have an essential role to play in providing direct patient care, leading and overseeing the team of health care professionals at accredited sleep centers, and developing collaborative affiliations to expand patient access to care. By implementing strategies to strengthen the pipeline of sleep medicine specialists, and leveraging telemedicine to maximize and supplement our current sleep medicine workforce, we will

ensure that sleep medicine remains a unified, vigorous subspecialty that is optimized to improve sleep health and promote high quality, patient-centered care in the years ahead.

## CITATION

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## DISCLOSURE STATEMENT

Upon completion of his term as the 2015–2016 President of the American Academy of Sleep Medicine in June 2016, Dr. Watson will transition to the position of 2016–2017 Immediate Past President.