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Underdiagnosed and Overlooked: The OSA Challenge

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OSA is a prevalent yet underdiagnosed disease, currently affecting over 50 million adults in the United States, yet up to 80% of cases remained undiagnosed[1,2] — demanding urgent action to close the care gap.

Obstructive sleep apnea (OSA) is commonplace yet persistently overlooked. In the United States alone, over 50 million adults have OSA, with its prevalence projected to rise to nearly 77 million by 2025 and strikingly, up to 80% of cases remain undiagnosed.[1,2,3] This silent gap delays OSA treatment which eventually leads to serious health complications, including temporary cognitive impairments, increased risk of cardiovascular events and development of diabetes.[4] Addressing this lack of proper diagnosis and associated healthcare risks requires a clear understanding of the challenges behind this gap and urgent, evidence-based action.

Recognition as the catalyst: Making sleep medicine a true specialty

Recognition is the first and most critical step in advancing sleep medicine. Despite the fact that sleep medicine has been established for almost five decades now, in many parts of the world it still lacks the formal recognition needed to build a sustainable and sleep-specialized healthcare workforce.[5]

Without the status as a specialized medicine, the field struggles to expand training, attract resources and scale patient care to meet the growing demand, resulting in widespread underdiagnosis of OSA. The global burden is immense — a — recent study reported an estimated 936 million adults have mild-to-severe OSA.[6] This staggering number underscores the urgent need for the recognition of sleep medicine as a specialty; without a trained and accredited workforce, the healthcare system simply cannot meet the demand for diagnosis and treatment of OSA at scale.

Many regions, such as Southeast Asia, continue to face persistent shortages of sleep clinicians and delays in patient care. These workforce gaps fuel the underdiagnosis of OSA, leaving millions untreated despite proven health risks. In regions like the United States, for example, sleep medicine is one of the multidisciplinary specialties established or recognized through the National Resident Matching Program (NRMP). There, sleep medicine continues to thrive with 203 applicants successfully matched to sleep medicine fellowships in 2025, creating a steady pipeline of board-eligible sleep specialists.[7]

Elevating sleep medicine to a recognized specialty worldwide is therefore not just an administrative milestone, it is a global health imperative to prioritize early OSA diagnosis, enhance capacity-building, strengthen the sleep community, and ensure timely, high-quality patient care.

Taking diagnosis beyond the sleep lab

The current gold standard for diagnosing OSA is in-laboratory polysomnography (PSG), supported by the apnea-hypopnea index (AHI) as the most widely used measure of disease severity.[8] Despite the detailed physiological data provided by PSG, it is costly, labor-intensive and requires patients to spend a night in a dedicated sleep laboratory under technician supervision. These demands create long waiting lists, often stretching months before a diagnosis can be made.

As PSG is highly reliant on AHI, it carries significant clinical limitations. AHI quantifies breathing events, it does not fully capture symptom burden, cardiovascular risk or neurocognitive consequences.[9,10] As a result, diagnosis may not always align with clinical risk, leaving some high-risk patients undetected. Such results cause inefficiencies that further strain already overburdened health systems.

The future of diagnosis lies in simpler and more scalable diagnostic pathways. Tools such as home sleep apnea testing (HSAT), telemedicine consultation, remote monitoring and disposable diagnostic devices make screening more accessible, especially for rural populations. When combined with validated questionnaires and clear triage criteria, these innovations not only enable earlier detection and more efficient use of limited specialist resources but are also more cost-effective compared to traditional lab-based PSG.[11] Importantly, accessibility, precision and clinical relevance must be integrated to advance sleep medicine beyond traditional bottlenecks and finally address the global gap in OSA underdiagnosis. The American Academy of Sleep Medicine (AASM) has already endorsed HSAT as a validated and more accessible alterative to PSG, provided appropriate selection criteria are used.[12] Likewise, studies show that coupling HSAT with pretest screening tools improves diagnostic precision, ensuring that the right patients receive timely care.[13] Together, these advances show how smart, scalable diagnostic strategies can meaningfully close the OSA diagnosis gap.

Breaking the backlog: Resource distribution in primary care

Specialist services are saturated with routine diagnostic work while primary care remains underutilized for early triage, OSA screening and testing. This imbalance fuels long waiting lists and delays in treatment.

In Canada, Alberta Health Services has developed a primary care-led OSA pathway showing that OSA can be managed outside of sleep specialty clinics, using validated screening questionnaires, home sleep apnea testing (HSAT), and clear referral triggers to specialty care.[14] This model highlights that empowering primary care can preserve sleep specialist capacity without compromising care quality.

A tiered pathway should be adopted to replicate this similar model: one that utilizes primary care screens, orders PSG or HSAT when appropriate, and initiates first-line treatment, while specialty centers focus on complex diagnostics and titration. A national OSA clinical pathway with standardized referral criteria and escalation triggers should be established and mandated in primary care settings.[15] Redistributing healthcare resources not only reduces the burden on specialists but also enables earlier diagnosis and faster access to treatment, directly narrowing the OSA diagnosis gap.

Education as foundation securing the future of sleep care

Underdiagnosis is compounded by a thin training pipeline within sleep medicine. Multiple surveys, including one from Harvard Medical School, have reported that on average, less than two hours of formal sleep education are incorporated into a four-year medical school curriculum.[16,17] This striking deficit underscores how ill-prepared new physicians may be to recognize and manage sleep disorders, perpetuating delays in OSA diagnosis and limiting the growth of sleep specialty.

Encouragingly, recent pilot programs have shown that a hybrid curriculum combining classroom teaching, online modules and supervised clinical exposure with

sleep specialists can significantly improve medical students' knowledge of sleep apnea and its clinical evaluation.[18,19] Similarly, education experts have proposed incorporating sleep medicine into core neuroscience and neurology curricula using lectures, flipped-classroom formats, and structured clinical exposure — an approach projected to increase exposure to sleep medicine topics.[20]

Embedding sufficient sleep education in both undergraduate curricula and primary care residencies should therefore be seen as a prerequisite to scaling the sleep specialty sustainably. Urgent action from academic institutions, accreditation bodies and professional societies is needed, and the implementation should be pragmatic. This is how we can begin to address OSA underdiagnosis by building expertise where it matters most.

OSA underdiagnosis is not inevitable. It stems from structural barriers in recognition, access, resources and education. Each of these can be addressed with evidence-based solutions. Only by immediate action can the global sleep community turn the tide on OSA underdiagnosis and ensure millions living with OSA are finally seen, heard and treated.

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