

EDITORIALS

Health Care Savings: The Economic Value of Diagnostic and Therapeutic Care for Obstructive Sleep Apnea

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Two new white papers commissioned by the American Academy of Sleep Medicine (AASM) provide an in-depth, detailed analysis of the vast economic burden associated with undiagnosed and untreated obstructive sleep apnea among adults in the United States. While the individual health benefits of treating OSA are well established, these papers emphasize the value of comprehensive OSA testing and treatment, which can provide dramatic health care savings for payors and large employers.

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BACKGROUND

In 1993 a landmark publication in the *New England Journal of Medicine* by researchers at the University of Wisconsin School of Medicine provided epidemiologic evidence for the high prevalence of undiagnosed obstructive sleep apnea (OSA).¹ In the subsequent years OSA awareness, diagnostic testing, and therapeutic interventions grew. For example, the rate at which OSA was diagnosed among outpatients rose dramatically from about 108,000 in 1990 to more than 1.3 million in 1998, representing a 12-fold increase.² With increased health care utilization came greater scrutiny from payors, leading the AASM to review existing evidence for the cost-effectiveness of OSA diagnosis and treatment. The resulting position statement published by the AASM in 2000 concluded that, “Diagnosis and treatment of sleep-disordered breathing (SDB) are justifiable on the basis of short-term and lifetime cost savings.”³

Since 2000 the number of patients receiving care for OSA has continued to increase, with physician office visits for sleep apnea rising from 2.0 million to 2.7 million from 2000 to 2010.⁴ To meet this rising demand, the field of sleep medicine has grown, as the number of sleep centers accredited by the AASM has increased five-fold from about 500 in 2000 to more than 2,500 today. Although more recent analyses have continued to support the cost-effectiveness of OSA diagnosis and treatment,^{5–8} insurers have continued to scrutinize OSA spending while aggressively implementing cost-containment efforts such as the regional implementation of pre-authorization policies for diagnostic testing for OSA. At the same time, large employers have become more discriminating when purchasing health care, identifying and promoting the use of cost-effective, high-value services.⁹ In response to the ongoing scrutiny of diagnostic services and therapeutic care for OSA,

the AASM commissioned the market research and consulting firm Frost & Sullivan to conduct a comprehensive analysis of the economic impact of OSA and the experience of adult sleep apnea patients in the U.S.

HIDDEN HEALTH CRISIS

The resulting white paper, “Hidden Health Crisis Costing America Billions,” demonstrates the economic impact of undiagnosed and untreated OSA for payors, employers, and patients.¹⁰ Based on longitudinal data suggesting that the estimated prevalence of OSA has increased substantially over the last two decades,¹¹ and utilizing Frost & Sullivan’s modeling and forecasting expertise, the paper estimates that OSA afflicts 29.4 million adults in the U.S., which represents 12% of the adult population. The estimated cost of diagnosing and treating OSA in the U.S. in 2015 was approximately \$12.4 billion—with 50% of these costs attributed to positive airway pressure (PAP) therapy and oral appliance therapy, 43% attributed to surgical treatments, and approximately 7% of these costs attributed to physician office visits and diagnostic testing.

Furthermore, the paper reports that the estimated cost burden of undiagnosed OSA among U.S. adults was an astounding \$149.6 billion in 2015—comprising \$86.9 billion due to lost productivity and absenteeism; \$30 billion due to the increased risk of costly comorbidities such as hypertension, heart disease, diabetes, and depression; \$26.2 billion due to motor vehicle accidents; and \$6.5 billion due to workplace accidents. Finally, the paper estimates that it would cost the health care system an additional \$49.5 billion in order to diagnose and treat every American adult who has OSA. However, this expenditure would produce a projected savings of \$100.1 billion.

POSITIVE PATIENT EXPERIENCE

For the companion white paper, “In an age of constant activity, the solution to improving the nation’s health may lie in helping it sleep better,” Frost & Sullivan surveyed more than 500 U.S. adults who are currently being treated for OSA.¹² Results show that only 12% of respondents initially raised concerns about OSA with their physician, and only 30% of the patients were warned about sleep apnea by their primary care provider. After diagnosis and treatment, patients reported longer average nightly sleep duration, dramatic improvements in sleep quality, and greater productivity. Treatment also was associated with numerous health benefits. For example, 56% of patients reported that their risk for heart disease improved, and 41% of respondents suffering from hypertension reported that their blood pressure slightly or significantly improved, after one year of OSA treatment. Positive behavioral changes also were associated with OSA treatment, including a reduction in average cigarettes smoked per week from 22.3 to 8.5. Overall, the percentage of respondents who stated that their quality of life was “good or very good” nearly tripled from 26% to 76% following treatment.

CONCLUSIONS

The white papers commissioned by the AASM clearly support the adoption of more aggressive and comprehensive OSA diagnosis and treatment programs, which would promote the Institute for Healthcare Improvement’s Triple Aim of better care for individuals, better health for populations, and lower per capita costs.¹³ Not only does treating OSA improve sleep and breathing, it also improves the management of other costly comorbid diseases, reduces overall health care utilization, improves work productivity, and reduces motor vehicle and workplace accidents. Effective OSA management improves individual health and promotes public safety while producing significant cost savings for payors, employers, and patients. However, the challenge is to convince payors and large employers to look beyond short-term health care expenses to see these long-term benefits for health, safety, and performance.

Therefore, the AASM will be sharing these reports with federal policy makers, public and private payors, and large employers to advocate for the field of sleep medicine, and we will be using the findings in our public relations efforts to raise awareness of the importance—and benefits—of OSA diagnosis and treatment. AASM members, other sleep medicine professionals, and sleep apnea patients and advocates are urged to support this effort. The white papers, and a slide presentation that summarizes the findings of both reports, are available in their entirety on the AASM website at <http://www.aasmnet.org/sleep-apnea-economic-impact.aspx>. We encourage the broad dissemination of this information to regional, state, and local stakeholders. As previously described, the AASM also is implementing strategies to ensure that all patients with OSA—and any other sleep disorder—have access to high quality, patient-centered care.¹⁴

Obstructive sleep apnea is a potentially life-threatening, chronic disease that afflicts an estimated 29.4 million U.S.

adults, which is more than the entire population of the state of Texas.¹⁵ Dramatic improvements to individual health and public safety, and significant health care savings, can be achieved through comprehensive diagnosis, treatment, and long-term management of OSA. For a health care system that prioritizes services with lasting value, OSA diagnosis and treatment is a bargain.

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DISCLOSURE STATEMENT

Dr. Watson has indicated no financial conflicts of interest.

Dr. Watson was the 2015–2016 President of the American Academy of Sleep Medicine and currently is on the AASM Board of Directors as the 2016–2017 Immediate Past President.