

**LEITTEN CONSULTING**  
**BRIAN LEITTEN, PRINCIPAL**

CONSULTING.LEITTEN.COM

### **MONOGRAPH 3 – MEDICARE COST SHIFTING FOR UNTREATED SLEEP APNEA**

*This is the third of three Monographs addressing the cost shifts that occur when Medicare delays providing or fails to provide needed durable medical equipment and supplies (DME) to beneficiaries. This Monograph addresses Chronic Obstructive Pulmonary Disease (COPD) and supplemental oxygen therapy. The 1<sup>st</sup> Monograph addressed Falls and Mobility DME. The 2<sup>nd</sup> monograph addressed Chronic Obstructive Pulmonary Disease (COPD) and supplemental oxygen therapy.*

When Medicare implemented the DMEPOS<sup>1</sup> competitive bidding program, beneficiaries and case managers experienced significant difficulties and delays in obtaining medically necessary durable medical equipment and supplies. The number of DME suppliers has dropped dramatically since the institution of competitive bidding, exacerbating the problem. The inability to obtain or the delay in obtaining needed DME puts beneficiaries at a greater risk for medical complications that could have otherwise been avoided.

This risk can be quantified by understanding the direct impact of the failure to timely get the needed DME to a beneficiary. For example, the lack of CPAP equipment results in untreated patients who suffer from sleep apnea; the lack of mobility equipment results in fall-related injuries that require medical treatment; the lack of supplemental oxygen therapy results in untreated patients who suffer exacerbations from COPD and its comorbidities.

When these complications occur, Medicare ends up paying substantially more for treatment of those complications than it would have spent to pay for the needed DME. DME payments are covered under Medicare Part B. When costs are shifted from prevention to treatment, the increased payment burden is shifted for the most part to Medicare Part A, with much lesser amounts shifted to Medicare Parts C and D. Not surprisingly, after a complication, Medicare still often ends up paying under Part B for the DME it initially failed to provide.

---

<sup>1</sup> DMEPOS is an acronym for Durable Medical Equipment; Prosthesis; Orthotics; and Supplies

## Obstructive Sleep Apnea –

Obstructive Sleep Apnea (OSA) is characterized by repetitive episodes of complete (apnea) or partial (hypopnea) upper airway obstruction occurring during sleep, often accompanied by daytime symptoms (e.g. sleepiness) or a range of comorbid conditions.<sup>2</sup> It is estimated that 40 Million people in the United States suffer with OSA – *approximately 30 Million remain undiagnosed*.<sup>3</sup> A recently published study by the respiratory company ResMed suggests that this number is greatly understated, arguing that 10 times more people suffer with OSA.<sup>4</sup> Of the approximately 30 million undiagnosed OSA sufferers, over 8.4 million are age 65 or over.<sup>5</sup>

The overall economic cost of untreated OSA in the U.S. in 2017 is estimated at over \$170 Billion.<sup>6</sup> Medicare payments resulting from untreated OSA are approximately \$13.7 Billion.<sup>7</sup>

Positive airway pressure machines (mainly CPAP [continuous positive airway pressure] machines), used with a variety of breathing masks, are the most widely used treatment for moderate and

---

<sup>2</sup> *Hidden Health Crisis Costing America Billions – Underdiagnosing and Undertreating Obstructive Sleep Apnea Draining Healthcare System*, Frost & Sullivan (2016) <https://j2vjt3dnbra3ps7ll1clb4q2-wpengine.netdna-ssl.com/wp-content/uploads/2017/10/sleep-apnea-economic-crisis.pdf>, citing *Sleep-Related Breathing Disorders in Adults: Recommendations for Syndrome Definition and Measurement Techniques in Clinical Research*, American Academy of Sleep Medicine Task Force, SLEEP, Vol. 22, No. 5, (1999) <https://bit.ly/2LrRfL8>

<sup>3</sup> *Hidden Health Crisis Costing America Billions – Underdiagnosing and Undertreating Obstructive Sleep Apnea Draining Healthcare System*, Frost & Sullivan (2016) <https://j2vjt3dnbra3ps7ll1clb4q2-wpengine.netdna-ssl.com/wp-content/uploads/2017/10/sleep-apnea-economic-crisis.pdf>, adjusted to 2017 using CMS population data.

<sup>4</sup> *Global Prevalence of Obstructive Sleep Apnea (OSA)*, ResMed Study reported by Business Wire (May 21, 2018) <https://www.nasdaq.com/press-release/nearly-1-billion-people-worldwide-have-sleep-apnea-international-sleep-experts-estimate-20180521-00771>. For the purposes of this analysis, the more conservative 30 Million number was used.

<sup>5</sup> Prevalence estimates in Note 6 applied to U.S. undiagnosed OSA population.

<sup>6</sup> Id., adjusted to 2017 using Healthcare CPI and CMS population data. See also *A Sleepless Nation: What Does The Lack Of Sleep Really Cost Us?*, Forbes (Aug. 23, 2016) <https://www.forbes.com/sites/reenitadas/2016/08/23/a-sleepless-nation-what-does-the-lack-of-sleep-really-cost-us/#33db003c1e48>

<sup>7</sup> Id., further adjusted to approximate the financial burden borne by Medicare, accounting for a 3 times prevalence of OSA in Medicare beneficiaries; the medical cost of traffic accidents; the direct cost of workplace injuries; and the senior portion of the U.S. population. See <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/CMS-Fast-Facts/index.html>; <https://www.ucdmc.ucdavis.edu/publish/news/newsroom/6621>; <https://www.cdc.gov/media/pressrel/2010/r100825.htm>; <https://www.cdc.gov/vitalsigns/crash-injuries/index.html>; [https://www.smr-journal.com/article/S1087-0792\(16\)30064-8/abstract](https://www.smr-journal.com/article/S1087-0792(16)30064-8/abstract) (abstract only); <https://safetymanagementgroup.com/resources/injury-cost-calculator/>. Costs have been adjusted to 2017 using Healthcare CPI and CMS population data.

severe sleep apnea.<sup>8</sup> When Medicare fails to provide or delays in providing needed CPAP equipment (or equivalently when OSA in Medicare beneficiaries goes undiagnosed), beneficiaries suffer airway obstructions; experience a range of comorbidities; and are involved in motor vehicle and workplace accidents.<sup>9</sup> The treatment costs for these issues are typically covered by Medicare Part A, with lesser amounts are paid by Medicare Parts C (prescription drugs) and D (for Medicare Advantage users).

Undiagnosed OSA is also associated with numerous comorbidity exacerbations<sup>10</sup>, including:

- hypertension
- heart failure, ischemic heart disease (i.e., 'heart disease')
- diabetes
- asthma and other breathing disorders
- insomnia
- depression, anxiety and other mental health problems

This means that treatment often involves one or more of these comorbidities. Medicare not only pays for the cost of treating OSA and comorbidity exacerbations but also typically ends up paying for the CPAP equipment it initially failed to provide. The cost to treat OSA and related exacerbations substantially exceeds the cost of the DME that could have avoided the health issues in the first place.<sup>11</sup>

In the year following an exacerbation, the incremental cost of treating OSA-related health issues for Medicare beneficiaries is \$1,631.<sup>12</sup> These costs are determined by summing the direct medical costs of treating OSA and related comorbidities and motor vehicle and workplace injuries and dividing by the estimated number of Medicare recipients who go undiagnosed for OSA. The differential costs were then converted to 2017 dollars.<sup>13</sup>

---

<sup>8</sup> *Sleep Apnea Treatment Options*, American Sleep Apnea Association, <https://www.sleepapnea.org/treat/sleep-apnea-treatment-options/>

<sup>9</sup> *Hidden Health Crisis Costing America Billions – Underdiagnosing and Undertreating Obstructive Sleep Apnea Draining Healthcare System*, Frost & Sullivan (2016) <https://j2vjt3dnbra3ps7ll1clb4q2-wpengine.netdna-ssl.com/wp-content/uploads/2017/10/sleep-apnea-economic-crisis.pdf>

<sup>10</sup> Id.

<sup>11</sup> Leitten, *The Case for Medicare Investment in DME – 2014 Update*, <http://www.vgmdclink.com/uploads/Document-Library/d1306dfcd9db67830ba14d4cd5b3be8c.pdf>

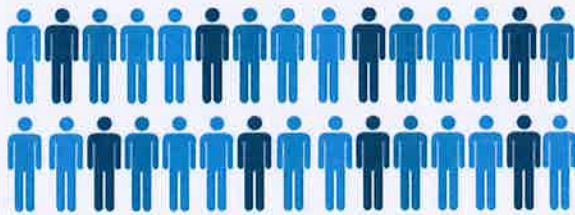
<sup>12</sup> See Note 7.

<sup>13</sup> Id.

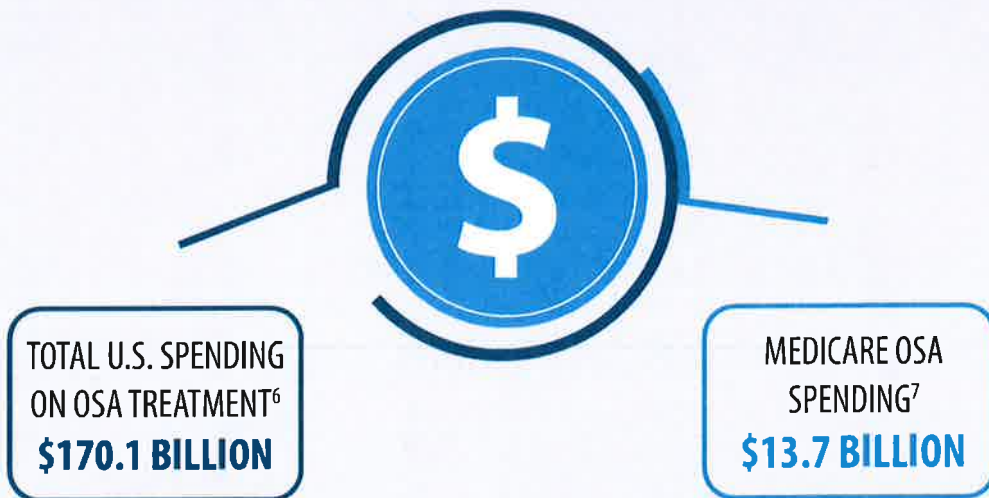
# MEDICARE COST SHIFTING

## MEDICARE COST **SHIFTING** WHEN DME IS DELAYED/NOT PROVIDED RESULTING IN TREATMENT FOR OSA AND RELATED CO-MORBIDITIES AND INJURIES

U.S. ADULTS WITH OSA: 40 MILLION (30 MILLION UNDIAGNOSED)<sup>3</sup>



SENIORS WITH OSA: 8.4 MILLION<sup>5</sup>



MEDICARE COST SHIFT PER BENEFICIARY TO TREAT OSA ISSUES FOR UNDIAGNOSED BENEFICIARIES:

**\$1,631**